



KILLARK[®]

Harsh and Hazardous Products

Full Line Catalog

www.hubbell.com/killark





Established in 1913, Killark, a member of the Hubbell Harsh & Hazardous group of companies, has become a global provider of harsh and hazardous location products. Our range encompasses industrial and explosion proof equipment engineered to perform in the most extreme environments.

Safety and reliability has been the cornerstone of our business for more than a century. We are dedicated to exceed customer needs with engineering solutions, new product development, and worldwide product accreditation.

Our dedication goes beyond products and services. Our Quality Systems conform to ISO 9001 : 2015. We are committed to sustainability, which is defined as **“meeting the needs of the present without compromising the ability of the future generations to meet their own needs.”** In 2010, Hubbell announced HSI – the Hubbell Sustainability Initiative – which is an enterprise-wide commitment to develop sustainable products and business practices.

Our mission is to:

Achieve an ongoing culture of environmental responsibility with our employees, community, and industry, implementing educational programs and sustainable practices.

Hubbell Harsh & Hazardous Brands

All of our brands are long established and well respected within each of their industries. Our primary products include lighting, control devices, motor control, power distribution systems, and connection products. Can't find exactly what you want in the catalog? We have a long history of manufacturing products to specific requirements, simply tell us what you need.

Chalmit[®]

HAWKE
International

KILLARK[®]

RIGPOWER

Vantage[®]
Technology

About this catalog

This Killark catalog is organized to help you quickly locate product and application information. Each product section begins with a contents page that lists all the items in the section. Each section is color coded. The table of contents is below.

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Innovative thinking has made Killark an industry leader.

Killark is known for providing individual client solutions to complex environmental requirements. Reliable and proven technology, coupled with value added engineering enables lower total installation costs with a lifetime of savings.

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470	F18	DURALOY 7 Series	1FBC	F83	FS/FD Series	2FSD-2M	F77	2FS/2FD Series
570	F18	DURALOY 7 Series	1FG	F83	FS/FD Series	2FSRG	F83	FS/FD Series
670	F18	DURALOY 7 Series	1FGC	F83	FS/FD Series	2FST	F84	FZ/FCL-GF/FST Series
870	F18	DURALOY 7 Series	1FR	F83	FS/FD Series	2FT	F83	FS/FD Series
970	F18	DURALOY 7 Series	1FRC	F83	FS/FD Series	2FTA	F83	FS/FD Series
1430	L59	NVL Series	1FT	F83	FS/FD Series	2FTAC	F83	FS/FD Series
4041	L42, L44, L46, L48	Floodlight Accessories	1FTC	F83	FS/FD Series	2FTC	F83	FS/FD Series
6038	E79	GR Series	1FT-CP	F21	K-PAK	2GOU	F129	GE Series
6053	E79	GR Series	270C	F18	DURALOY 7 Series	2GRB	E79, E80	GR Series
6058	E79	GR Series	270CG	F18	DURALOY 7 Series	2GRBD	E79	GR Series
6064	E79	GR Series	270CGSA	F18	DURALOY 7 Series	2HKB	E44	HK/2HK Series
6074	E79	GR Series	270CSA	F18	DURALOY 7 Series	2HKB-B-2D	E44	HK/2HK Series
15515	E69	EXB / EXBLT Series	270G	F18	DURALOY 7 Series	2HKB-B-2GLD	E44	HK/2HK Series
15516	E69	EXB / EXBLT Series	270GSA	F18	DURALOY 7 Series	2HKB-B-4D	E44	HK/2HK Series
15517	E69	EXB / EXBLT Series	270SA	F18	DURALOY 7 Series	2HKB-B-B	E44	HK/2HK Series
17596	E69	EXB / EXBLT Series	280F	F27	DURALOY 8 Series	2HKB-BC-2DC	E44	HK/2HK Series
17617	E69	EXB / EXBLT Series	280S	F27	DURALOY 8 Series	2HKB-BC-2GLDC	E44	HK/2HK Series
17618	E69	EXB / EXBLT Series	2FA	F83	FS/FD Series	2HKB-BC-4DC	E44	HK/2HK Series
17619	E69	EXB / EXBLT Series	2FAC	F83	FS/FD Series	2HKB-BC-BC	E44	HK/2HK Series
17620	E69	EXB / EXBLT Series	2FB	F83	FS/FD Series	2HKB-BC-GLC	E44	HK/2HK Series
17621	E69	EXB / EXBLT Series	2FBC	F83	FS/FD Series	2HKB-B-GL	E44	HK/2HK Series
17622	E69	EXB / EXBLT Series	2FD-1	F77	2FS/2FD Series	2KRS-215-120	CN55	KR Series
17623	E69	EXB / EXBLT Series	2FD-1M	F77	2FS/2FD Series	2KRS-215-220	CN55	KR Series
17624	E69	EXB / EXBLT Series	2FD-2	F77	2FS/2FD Series	2KRS-215-320	CN55	KR Series
20567	E69	EXB / EXBLT Series	2FD-2M	F77	2FS/2FD Series	2KRS-218-120	CN55	KR Series
22061	E69	EXB / EXBLT Series	2FD-2M	F77	2FS/2FD Series	2KRS-218-220	CN55	KR Series
4GRHD	E79	GR Series	2FDC-1	F77	2FS/2FD Series	2KRS-218-320	CN55	KR Series
8GRHD	E79	GR Series	2FDC-1M	F77	2FS/2FD Series	370C	F18	DURALOY 7 Series
00891896	C69	X/XS/XCS Series	2FDC-2	F77	2FS/2FD Series	370CG	F18	DURALOY 7 Series
00891898	C69	X/XS/XCS Series	2FDC-2M	F77	2FS/2FD Series	370CGSA	F18	DURALOY 7 Series
150 W A-21 LAMP	L83	V Series	2FDC-2M	F77	2FS/2FD Series	370CSA	F18	DURALOY 7 Series
15722AAAB	E41	HKBX-TB Series	2FG	F83	FS/FD Series	370G	F18	DURALOY 7 Series
15722JABB	E39	HKBX Series	2FGC	F83	FS/FD Series	370GSA	F18	DURALOY 7 Series
15722LABB	E44	HK/2HK Series	2FR	F83	FS/FD Series	370SA	F18	DURALOY 7 Series
15871AABB	L83	V Series	2FRC	F83	FS/FD Series	380F	F27	DURALOY 8 Series
170C	F18	DURALOY 7 Series	2FS-1	F77	2FS/2FD Series	380S	F27	DURALOY 8 Series
170CG	F18	DURALOY 7 Series	2FS-1M	F77	2FS/2FD Series	3FA	F83	FS/FD Series
170CGSA	F18	DURALOY 7 Series	2FS-2	F77	2FS/2FD Series	3FB	F83	FS/FD Series
170CSA	F18	DURALOY 7 Series	2FS-2M	F77	2FS/2FD Series	3FSBC	F84	FZ/FCL-GF/FST Series
170G	F18	DURALOY 7 Series	2FS-3	F77	2FS/2FD Series	3FSRG	F83	FS/FD Series
170GSA	F18	DURALOY 7 Series	2FS-3M	F77	2FS/2FD Series	3FST	F84	FZ/FCL-GF/FST Series
170SA	F17	DURALOY 7 Series	2FSBC	F84	FZ/FCL-GF/FST Series	3FT	F83	FS/FD Series
17505AAAB	L95	EBB Series	2FSBCM	F84	FZ/FCL-GF/FST Series	3GRMD	F129	GE Series
180F	F27	DURALOY 8 Series	2FSC-1	F77	2FS/2FD Series	470C	F18	DURALOY 7 Series
180S	F27	DURALOY 8 Series	2FSC-1M	F77	2FS/2FD Series			
1FA	F83	FS/FD Series	2FSC-2	F77	2FS/2FD Series			
			2FSC-2M	F77	2FS/2FD Series			

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Part #	SEC./PG	PROD. GRP.
470CG	F18	DURALOY 7 Series
470CGSA	F18	DURALOY 7 Series
470CSA	F18	DURALOY 7 Series
470G	F18	DURALOY 7 Series
470GSA	F18	DURALOY 7 Series
470SA	F18	DURALOY 7 Series
480F	F27	DURALOY 8 Series
480S	F27	DURALOY 8 Series
4GOU	F129	GE Series
4GRB	E79, E80	GR Series
4GRBD	E79	GR Series
4GRH	E79, E80	GR Series
4GRHA	E79, E80	GR Series
4GRHC	E79, E80	GR Series
4GRHD	E79	GR Series
4GRK	E79, E80	GR Series
4GRKD	E79	GR Series
51698-1	E69	EXB / EXBLT Series
51705-1	E69	EXB / EXBLT Series
570C	F18	DURALOY 7 Series
570CG	F18	DURALOY 7 Series
570CGSA	F18	DURALOY 7 Series
570CSA	F18	DURALOY 7 Series
570G	F18	DURALOY 7 Series
570GSA	F18	DURALOY 7 Series
570SA	F18	DURALOY 7 Series
580F	F27	DURALOY 8 Series
580S	F27	DURALOY 8 Series
5GRM	E79, E80	GR Series
5GRMD	E79, F129	GR Series, GE Series
6086PAN	E79	GR Series
670C	F18	DURALOY 7 Series
670CG	F18	DURALOY 7 Series
670CGSA	F18	DURALOY 7 Series
670CSA	F18	DURALOY 7 Series
670G	F18	DURALOY 7 Series
670GSA	F18	DURALOY 7 Series
670SA	F18	DURALOY 7 Series
680F	F27	DURALOY 8 Series
680S	F27	DURALOY 8 Series
75 W A-19 LAMP	L83	V Series
7988-1	E69	EXB / EXBLT Series
7988-4	E69	EXB / EXBLT Series
7995-1	E69	EXB / EXBLT Series
7995-2	E69	EXB / EXBLT Series
7996-1	E69	EXB / EXBLT Series
7996-2	E69	EXB / EXBLT Series
7997-1	E69	EXB / EXBLT Series
7997-5	E69	EXB / EXBLT Series

Part #	SEC./PG	PROD. GRP.
7997-6	E69	EXB / EXBLT Series
8000-1	E69	EXB / EXBLT Series
870C	F18	DURALOY 7 Series
870CG	F18	DURALOY 7 Series
870CGSA	F18	DURALOY 7 Series
870CSA	F18	DURALOY 7 Series
870G	F18	DURALOY 7 Series
870GSA	F18	DURALOY 7 Series
870SA	F18	DURALOY 7 Series
880F	F27	DURALOY 8 Series
880S	F27	DURALOY 8 Series
8GRH	E79, E80	GR Series
8GRHA	E79, E80	GR Series
8GRHC	E79, E80	GR Series
8GRHD	E79	GR Series
970C	F18	DURALOY 7 Series
970CG	F18	DURALOY 7 Series
970CGSA	F18	DURALOY 7 Series
970CSA	F18	DURALOY 7 Series
970G	F18	DURALOY 7 Series
970GSA	F18	DURALOY 7 Series
970SA	F18	DURALOY 7 Series
980F	F27	DURALOY 8 Series
980S	F27	DURALOY 8 Series
ADUP-01	F157	R/RE/ADUP Series
ADUP-12	F157	R/RE/ADUP Series
ADUP-23	F157	R/RE/ADUP Series
AF-100	F58	AF/AF8 Series
AF-125	F58	AF/AF8 Series
AF-150	F58	AF/AF8 Series
AF-200	F58	AF/AF8 Series
AF-250	F58	AF/AF8 Series
AF-300	F58	AF/AF8 Series
AF-350	F58	AF/AF8 Series
AF-400	F58	AF/AF8 Series
AF-50	F58	AF/AF8 Series
AF-500	F58	AF/AF8 Series
AF-75	F58	AF/AF8 Series
AF8-100	F58	AF/AF8 Series
AF8-125	F58	AF/AF8 Series
AF8-150	F58	AF/AF8 Series
AF8-200	F58	AF/AF8 Series
AF8-250	F58	AF/AF8 Series
AF8-300	F58	AF/AF8 Series
AF8-350	F58	AF/AF8 Series
AF8-400	F58	AF/AF8 Series
AF8-50	F58	AF/AF8 Series
AF8-75	F58	AF/AF8 Series
AF-B1516-612SL-XX	CN66	Explosionproof Starline

Part #	SEC./PG	PROD. GRP.
AF-B1516-621SL-XX	CN66	Explosionproof Starline
AF-B1516-633SL-XX	CN66	Explosionproof Starline
AF-B1516-640SL-XX	CN66	Explosionproof Starline
AF-B1516-655SL-XX	CN66	Explosionproof Starline
AF-B1516-676SL-XX	CN66	Explosionproof Starline
AF-B1516-677SL-XX	CN66	Explosionproof Starline
AF-B1516-681SL-XX	CN66	Explosionproof Starline
AF-B1520-613SL-XX	CN66	Explosionproof Starline
AF-B1520-632SL-XX	CN66	Explosionproof Starline
AF-B1520-650SL-XX	CN66	Explosionproof Starline
AF-B1520-676SL-XX	CN66	Explosionproof Starline
AF-B1520-686SL-XX	CN66	Explosionproof Starline
AF-B1520-687SL-XX	CN66	Explosionproof Starline
AF-B1520-688SL-XX	CN66	Explosionproof Starline
AF-B1524-613SL-XX	CN66	Explosionproof Starline
AF-B1716-612SL- FH	CN65	Explosionproof Starline
AF-B1716-612SL-L36	CN66	Explosionproof Starline
AF-B1716-621SL- FH	CN65	Explosionproof Starline
AF-B1716-621SL-L36	CN66	Explosionproof Starline
AF-B1716-633SL- FH	CN65	Explosionproof Starline
AF-B1716-633SL-L36	CN66	Explosionproof Starline
AF-B1716-640SL- FH	CN65	Explosionproof Starline
AF-B1716-640SL-L36	CN66	Explosionproof Starline
AF-B1716-655SL- FH	CN65	Explosionproof Starline
AF-B1716-655SL-L36	CN66	Explosionproof Starline
AF-B1716-676SL- FH	CN65	Explosionproof Starline
AF-B1716-676SL-L36	CN66	Explosionproof Starline
AF-B1716-677SL- FH	CN65	Explosionproof Starline
AF-B1716-677SL-L36	CN66	Explosionproof Starline
AF-B1716-681SL-FH	CN65	Explosionproof Starline

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
AF-B1716-681SL-L36 . . .	CN66	Explosionproof Starline	AF-B1920-687SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-687PL-XX . . .	CN65	Explosionproof Starline
AF-B1720-613SL- FH . . .	CN65	Explosionproof Starline	AF-B1920-688SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-688PL-TC . . .	CN65	Explosionproof Starline
AF-B1720-613SL-L36 . . .	CN66	Explosionproof Starline	AF-B1924-613SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-688PL-XX . . .	CN65	Explosionproof Starline
AF-B1720-632SL- FH . . .	CN65	Explosionproof Starline	AF-D1016-612PL-TC	CN65	Explosionproof Starline	AF-D1024-613PL-TC	CN65	Explosionproof Starline
AF-B1720-632SL-L36 . . .	CN66	Explosionproof Starline	AF-D1016-612PL-XX	CN65	Explosionproof Starline	AF-D1024-613PL-XX	CN65	Explosionproof Starline
AF-B1720-650SL- FH . . .	CN65	Explosionproof Starline	AF-D1016-621PL-TC	CN65	Explosionproof Starline	AFDF-100	F65	AFDF Combo Series
AF-B1720-650SL-L36 . . .	CN66	Explosionproof Starline	AF-D1016-621PL-XX	CN65	Explosionproof Starline	AFDF-125	F65	AFDF Combo Series
AF-B1720-676SL- FH . . .	CN65	Explosionproof Starline	AF-D1016-633PL-TC	CN65	Explosionproof Starline	AFDF-150	F65	AFDF Combo Series
AF-B1720-676SL-L36 . . .	CN66	Explosionproof Starline	AF-D1016-633PL-XX	CN65	Explosionproof Starline	AFDF-200	F65	AFDF Combo Series
AF-B1720-686SL- FH . . .	CN65	Explosionproof Starline	AF-D1016-640PL-TC	CN65	Explosionproof Starline	AFDF-250	F65	AFDF Combo Series
AF-B1720-686SL-L36 . . .	CN66	Explosionproof Starline	AF-D1016-640PL-XX	CN65	Explosionproof Starline	AFDF-300	F65	AFDF Combo Series
AF-B1720-687SL- FH . . .	CN65	Explosionproof Starline	AF-D1016-655PL-TC	CN65	Explosionproof Starline	AFDF-350	F65	AFDF Combo Series
AF-B1720-687SL-L36 . . .	CN66	Explosionproof Starline	AF-D1016-655PL-XX	CN65	Explosionproof Starline	AFDF-400	F65	AFDF Combo Series
AF-B1720-688SL- FH . . .	CN65	Explosionproof Starline	AF-D1016-676PL-TC	CN65	Explosionproof Starline	AFDF-50	F65	AFDF Combo Series
AF-B1720-688SL-L36 . . .	CN66	Explosionproof Starline	AF-D1016-676PL-XX	CN65	Explosionproof Starline	AFDF-500	F65	AFDF Combo Series
AF-B1724-613SL-BK	CN65	Explosionproof Starline	AF-D1016-677PL-TC	CN65	Explosionproof Starline	AFDF-75	F65	AFDF Combo Series
AF-B1724-613SL-L36 . . .	CN66	Explosionproof Starline	AF-D1016-677PL-XX	CN65	Explosionproof Starline	AJ-100125-14	F58, F60	AF/AF8, AJ/AJE Series
AF-B1916-612SL-L48 . . .	CN66	Explosionproof Starline	AF-D1016-681PL-TC	CN65	Explosionproof Starline	AJ-100125-24	F58, F59, F60	AF/AF8, TAF, AJ/AJE Series
AF-B1916-621SL-L48 . . .	CN66	Explosionproof Starline	AF-D1016-681PL-XX	CN65	Explosionproof Starline	AJ-150200-14	F58, F60	AF/AF8, AJ/AJE Series
AF-B1916-633SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-613PL-TC	CN65	Explosionproof Starline	AJ-150200-24	F58, F59, F60	AF/AF8, TAF, AJ/AJE Series
AF-B1916-640SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-613PL-XX	CN65	Explosionproof Starline	AJ-250300-14	F58, F60	AF/AF8, AJ/AJE Series
AF-B1916-655SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-632PL-TC	CN65	Explosionproof Starline	AJ-250300-24	F58, F59, F60	AF/AF8, TAF, AJ/AJE Series
AF-B1916-676SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-632PL-XX	CN65	Explosionproof Starline	AJ-350400-14	F58, F60	AF/AF8, AJ/AJE Series
AF-B1916-677SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-650PL-TC	CN65	Explosionproof Starline	AJ-350400-24	F58, F59, F60	AF/AF8, TAF, AJ/AJE Series
AF-B1916-681SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-650PL-XX	CN65	Explosionproof Starline	AJ-500600-14	F58, F60	AF/AF8, AJ/AJE Series
AF-B1920-613SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-676PL-TC	CN65	Explosionproof Starline	AJ-500600-24	F58, F60	AF/AF8, AJ/AJE Series
AF-B1920-632SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-676PL-XX	CN65	Explosionproof Starline	AJ-5075-14	F58, F60	AF/AF8, AJ/AJE Series
AF-B1920-650SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-686PL-TC	CN65	Explosionproof Starline	AJ-5075-24	F58, F59, F60	AF/AF8, TAF, AJ/AJE Series
AF-B1920-676SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-686PL-XX	CN65	Explosionproof Starline	AJAC-4	CN57	KR Series
AF-B1920-686SL-L48 . . .	CN66	Explosionproof Starline	AF-D1020-687PL-TC	CN65	Explosionproof Starline	AJAC-5	CN57	KR Series
						AJAC-6	CN57	KR Series
						AJAT-4	CN57	KR Series
						AJAT-5	CN57	KR Series
						AJC-2	CN55, CN56	KR Series
						AJC-3	CN55, CN56	KR Series
						AJE-100125-16	F60	AJ/AJE Series
						AJE-100125-24	F60	AJ/AJE Series
						AJE-150200-16	F60	AJ/AJE Series
						AJE-150200-24	F60	AJ/AJE Series

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AJE-250300-16	F60	AJ/AJE Series	AN-7-EX	F150	AN Series	B7021HBCF	S5	B7 Series
AJE-250300-24	F60	AJ/AJE Series	AN-7S	F150	AN Series	B7021HGCF	S5	B7 Series
AJE-350400-16	F60	AJ/AJE Series	AN-7S-EX	F150	AN Series	B7021HKCF	S5	B7 Series
AJE-350400-24	F60	AJ/AJE Series	AN-8	F150	AN Series	B7021HMCF	S5	B7 Series
AJE-500600-16	F60	AJ/AJE Series	AN-8-EX	F150	AN Series	B7022	S7	B7 Series
AJE-500600-24	F60	AJ/AJE Series	AN-8S	F150	AN Series	B7022HBCK	S5	B7 Series
AJE-5075-16	F60	AJ/AJE Series	AN-8S-EX	F150	AN Series	B7022HBCM	S5	B7 Series
AJE-5075-24	F60	AJ/AJE Series	AN-9	F150	AN Series	B7022HGCK	S5	B7 Series
AN-1	F150	AN Series	AN-9-EX	F150	AN Series	B7022HGCM	S5	B7 Series
AN-10	F150	AN Series	AN-9S	F150	AN Series	B7022HKCK	S5	B7 Series
AN-10-EX	F150	AN Series	AN-9S-EX	F150	AN Series	B7022HMCK	S5	B7 Series
AN-10S	F150	AN Series	AUX	S23	EXB70 Series	B7023	S7	B7 Series
AN-10S-EX	F150	AN Series	B7010HB	S4	B7 Series	B7023HBCQ	S5	B7 Series
AN-11	F150	AN Series	B7010HG	S4	B7 Series	B7023HGCG	S5	B7 Series
AN-11S	F150	AN Series	B7010HK	S4	B7 Series	B7023HKCQ	S5	B7 Series
AN-12	F150	AN Series	B7010HM	S4	B7 Series	B7023HMCQ	S5	B7 Series
AN-12S	F150	AN Series	B7011	S7	B7 Series	B7024	S7	B7 Series
AN-1B	F150	AN Series	B7011HB	S4	B7 Series	B7024HBCT	S5	B7 Series
AN-1B-EX	F150	AN Series	B7011HG	S4	B7 Series	B7024HGCT	S5	B7 Series
AN-1BS	F150	AN Series	B7011HK	S4	B7 Series	B7024HKCT	S5	B7 Series
AN-1BS-EX	F150	AN Series	B7011HM	S4	B7 Series	B7024HMCT	S5	B7 Series
AN-1-EX	F150	AN Series	B7012	S7	B7 Series	B7025A2	S6	B7 Series
AN-1S	F150	AN Series	B7012HB	S4	B7 Series	B7025A4	S6	B7 Series
AN-1S-EX	F150	AN Series	B7012HG	S4	B7 Series	B7025C2	S6	B7 Series
AN-2	F150	AN Series	B7012HK	S4	B7 Series	B7025C4	S6	B7 Series
AN-2B	F150	AN Series	B7012HM	S4	B7 Series	B7025CBCMCPJ250	S5	B7 Series
AN-2B-EX	F150	AN Series	B7013	S7	B7 Series	B7025CBCMCPK400	S5	B7 Series
AN-2BS	F150	AN Series	B7013HB	S4	B7 Series	B7025CGCMCPJ250	S5	B7 Series
AN-2BS-EX	F150	AN Series	B7013HG	S4	B7 Series	B7025CGCMCPK400	S5	B7 Series
AN-2-EX	F150	AN Series	B7013HK	S4	B7 Series	B7025CKCMCPJ250	S5	B7 Series
AN-2S	F150	AN Series	B7013HM	S4	B7 Series	B7025CKCMCPK400	S5	B7 Series
AN-2S-EX	F150	AN Series	B7014	S7	B7 Series	B7025CMCMCPJ250	S5	B7 Series
AN-3	F150	AN Series	B7014HB	S4	B7 Series	B7025CMCMCPK400	S5	B7 Series
AN-3-EX	F150	AN Series	B7014HG	S4	B7 Series	B7025G2	S6	B7 Series
AN-3S	F150	AN Series	B7014HK	S4	B7 Series	B7025G4	S6	B7 Series
AN-3S-EX	F150	AN Series	B7014HM	S4	B7 Series	B7025S2	S6	B7 Series
AN-4	F150	AN Series	B7020HBCA	S5	B7 Series	B7025S4	S6	B7 Series
AN-4-EX	F150	AN Series	B7020HBCB	S5	B7 Series	B7025W2	S6	B7 Series
AN-4S	F150	AN Series	B7020HBCC	S5	B7 Series	B7025W4	S6	B7 Series
AN-4S-EX	F150	AN Series	B7020HGCB	S5	B7 Series	B7AD020H6CA	S9	B7 Series
AN-5	F150	AN Series	B7020HGCC	S5	B7 Series	B7AD020H6CB	S9	B7 Series
AN-5-EX	F150	AN Series	B7020HKCA	S5	B7 Series	B7AD020H6CC	S9	B7 Series
AN-5S	F150	AN Series	B7020HKCB	S5	B7 Series	B7AD021H6CF	S9	B7 Series
AN-5S-EX	F150	AN Series	B7020HKCC	S5	B7 Series	B7AD022H6CK	S9	B7 Series
AN-6	F150	AN Series	B7020HMCA	S5	B7 Series	B7AD023H6CQ	S9	B7 Series
AN-6-EX	F150	AN Series	B7020HMCB	S5	B7 Series	B7AD024H6CT	S9	B7 Series
AN-6S	F150	AN Series	B7020HMCC	S5	B7 Series	B7AD025H6K400	S9	B7 Series
AN-6S-EX	F150	AN Series	B7021	S7	B7 Series	B7BLA1000	DE23, DE29	B7L, D2LC Series
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B7BLA1025	DE29	D2LC Series	B7BLC1025	DE29	D2LC Series	B7BLG1025	DE29	D2LC Series
B7BLA1030	DE23, DE29	B7L, D2LC Series	B7BLC1030	DE23, DE29	B7L, D2LC Series	B7BLG1030	DE29	D2LC Series
B7BLA1035	DE29	D2LC Series	B7BLC1040	DE23, DE29	B7L, D2LC Series	B7BLG1035	DE29	D2LC Series
B7BLA1040	DE23, DE29	B7L, D2LC Series	B7BLC2000	DE23, DE30	B7L, D2LC Series	B7BLG1040	DE29	D2LC Series
B7BLA1045	DE29	D2LC Series	B7BLC2015	DE23, DE30	B7L, D2LC Series	B7BLG1045	DE29	D2LC Series
B7BLA1050	DE23, DE29	B7L, D2LC Series	B7BLC2020	DE23, DE30	B7L, D2LC Series	B7BLG1050	DE29	D2LC Series
B7BLA1055	DE29	D2LC Series	B7BLC2025	DE30	D2LC Series	B7BLG1055	DE29	D2LC Series
B7BLA1060	DE23, DE29	B7L, D2LC Series	B7BLC2030	DE23, DE30	B7L, D2LC Series	B7BLG1060	DE29	D2LC Series
B7BLA1070	DE23, DE29	B7L, D2LC Series	B7BLC2040	DE23, DE30	B7L, D2LC Series	B7BLG1070	DE29	D2LC Series
B7BLA1100	DE23, DE29	B7L, D2LC Series	B7BLC2050	DE23, DE30	B7L, D2LC Series	B7BLG2000	DE30	D2LC Series
B7BLA2000	DE23, DE30	B7L, D2LC Series	B7BLD1000	DE23, DE29	B7L, D2LC Series	B7BLG2010	DE30	D2LC Series
B7BLA2010	DE30	D2LC Series	B7BLD1015	DE23, DE29	B7L, D2LC Series	B7BLG2010H	DE30	D2LC Series
B7BLA2015	DE23, DE30	B7L, D2LC Series	B7BLD1020	DE23, DE29	B7L, D2LC Series	B7BLG2015	DE30	D2LC Series
B7BLA2020	DE23, DE30	B7L, D2LC Series	B7BLD1030	DE23, DE29	B7L, D2LC Series	B7BLG2015H	DE30	D2LC Series
B7BLA2025	DE30	D2LC Series	B7BLD1040	DE23, DE29	B7L, D2LC Series	B7BLG2020	DE30	D2LC Series
B7BLA2030	DE23, DE30	B7L, D2LC Series	B7BLD1050	DE23, DE29	B7L, D2LC Series	B7BLG2020H	DE30	D2LC Series
B7BLA2035	DE30	D2LC Series	B7BLD1060	DE23, DE29	B7L, D2LC Series	B7BLG2025	DE30	D2LC Series
B7BLA2040	DE23, DE30	B7L, D2LC Series	B7BLD2000	DE23, DE30	B7L, D2LC Series	B7BLG2025H	DE30	D2LC Series
B7BLA2045	DE30	D2LC Series	B7BLD2015	DE23, DE30	B7L, D2LC Series	B7BLG2030	DE30	D2LC Series
B7BLA2050	DE23, DE30	B7L, D2LC Series	B7BLD2020	DE23, DE30	B7L, D2LC Series	B7BLG2030H	DE30	D2LC Series
B7BLA2055	DE30	D2LC Series	B7BLD2030	DE23, DE30	B7L, D2LC Series	B7BLG2035	DE30	D2LC Series
B7BLA2060	DE23, DE30	B7L, D2LC Series	B7BLD2040	DE23, DE30	B7L, D2LC Series	B7BLG2035H	DE30	D2LC Series
B7BLA2070	DE23, DE30	B7L, D2LC Series	B7BLD2050	DE23, DE30	B7L, D2LC Series	B7BLG2040	DE30	D2LC Series
B7BLA2080	DE30	D2LC Series	B7BLD2060	DE23, DE30	B7L, D2LC Series	B7BLG2040H	DE30	D2LC Series
B7BLA2090	DE23, DE30	B7L, D2LC Series	B7BLE1000	DE23, DE29	B7L, D2LC Series	B7BLG2045	DE30	D2LC Series
B7BLA2100	DE23, DE30	B7L, D2LC Series	B7BLE1015	DE23, DE29	B7L, D2LC Series	B7BLG2045H	DE30	D2LC Series
B7BLA2110	DE30	D2LC Series	B7BLE1020	DE23, DE29	B7L, D2LC Series	B7BLG2050	DE30	D2LC Series
B7BLA2125	DE30	D2LC Series	B7BLE1025	DE29	D2LC Series	B7BLG2050H	DE30	D2LC Series
B7BLB3000	DE23, DE30	B7L, D2LC Series	B7BLE1030	DE23, DE29	B7L, D2LC Series	B7BLG2055	DE30	D2LC Series
B7BLB3010	DE30	D2LC Series	B7BLE1040	DE23, DE29	B7L, D2LC Series	B7BLG2055H	DE30	D2LC Series
B7BLB3015	DE23, DE30	B7L, D2LC Series	B7BLE2000	DE23, DE30	B7L, D2LC Series	B7BLG2060	DE30	D2LC Series
B7BLB3020	DE23, DE30	B7L, D2LC Series	B7BLE2015	DE23, DE30	B7L, D2LC Series	B7BLG2060H	DE30	D2LC Series
B7BLB3025	DE30	D2LC Series	B7BLE2020	DE23, DE30	B7L, D2LC Series	B7BLG2070	DE30	D2LC Series
B7BLB3030	DE23, DE30	B7L, D2LC Series	B7BLE2025	DE30	D2LC Series	B7BLG2070H	DE30	D2LC Series
B7BLB3035	DE30	D2LC Series	B7BLE2030	DE23, DE30	B7L, D2LC Series	B7BLG2080	DE30	D2LC Series
B7BLB3040	DE23, DE30	B7L, D2LC Series	B7BLE2040	DE23, DE30	B7L, D2LC Series	B7BLG2080H	DE30	D2LC Series
B7BLB3045	DE30	D2LC Series	B7BLE2050	DE23, DE30	B7L, D2LC Series	B7BLG2090	DE30	D2LC Series
B7BLB3050	DE23, DE30	B7L, D2LC Series	B7BLF2000	DE23, DE30	B7L, D2LC Series	B7BLG2090H	DE30	D2LC Series
B7BLB3055	DE30	D2LC Series	B7BLF2015	DE23, DE30	B7L, D2LC Series	B7BLG2100	DE30	D2LC Series
B7BLB3060	DE23, DE30	B7L, D2LC Series	B7BLF2020	DE23, DE30	B7L, D2LC Series	B7BLG2100H	DE30	D2LC Series
B7BLB3070	DE23, DE30	B7L, D2LC Series	B7BLF2030	DE23, DE30	B7L, D2LC Series	B7BLG2110	DE30	D2LC Series
B7BLB3080	DE30	D2LC Series	B7BLF3000	DE23, DE30	B7L, D2LC Series	B7BLG2110H	DE30	D2LC Series
B7BLB3090	DE23, DE30	B7L, D2LC Series	B7BLF3015	DE23, DE30	B7L, D2LC Series	B7BLG2125	DE30	D2LC Series
B7BLB3100	DE23, DE30	B7L, D2LC Series	B7BLF3020	DE23, DE30	B7L, D2LC Series	B7BLG2125H	DE30	D2LC Series
B7BLB3110	DE30	D2LC Series	B7BLF3030	DE23, DE30	B7L, D2LC Series	B7BLG3000	DE30	D2LC Series
B7BLB3125	DE30	D2LC Series	B7BLG1000	DE29	D2LC Series	B7BLG3010H	DE30	D2LC Series
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B7BLG3025H	DE30	D2LC Series
B7BLG3030H	DE30	D2LC Series
B7BLG3035H	DE30	D2LC Series
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B7BLG3045H	DE30	D2LC Series
B7BLG3050H	DE30	D2LC Series
B7BLG3055H	DE30	D2LC Series
B7BLG3060H	DE30	D2LC Series
B7BLG3070H	DE30	D2LC Series
B7BLG3080H	DE30	D2LC Series
B7BLG3090H	DE30	D2LC Series
B7BLG3100H	DE30	D2LC Series
B7BLG3110H	DE30	D2LC Series
B7BLG3125H	DE30	D2LC Series
B7CA	DE5, DE7	B7C Series
B7CA-AXTI-43015	DE6	B7C Series
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B7CA-AXTI-63015	DE6	B7C Series
B7CA-AXTI-63020	DE6	B7C Series
B7CA-AXTI-63025	DE6	B7C Series
B7CA-AXTI-63030	DE6	B7C Series
B7CA-AXTI-63035	DE6	B7C Series
B7CA-AXTI-63040	DE6	B7C Series
B7CA-AXTI-63050	DE6	B7C Series
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B7CA-AXTI-63070	DE6	B7C Series
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B7CA-AXTI-64015	DE6	B7C Series
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B7CA-AXTI-64035	DE6	B7C Series
B7CA-AXTI-64040	DE6	B7C Series
B7CA-AXTI-64050	DE6	B7C Series
B7CA-AXTI-64060	DE6	B7C Series
B7CA-AXTI-64070	DE6	B7C Series
B7CA-AXTI-64080	DE6	B7C Series
B7CA-AXTI-64090	DE6	B7C Series
B7CA-AXTI-64100	DE6	B7C Series
B7CA-SHDL-42015	DE6	B7C Series
B7CA-SHDL-42020	DE6	B7C Series
B7CA-SHDL-42025	DE6	B7C Series
B7CA-SHDL-42030	DE6	B7C Series
B7CA-SHDL-42035	DE6	B7C Series
B7CA-SHDL-42040	DE6	B7C Series
B7CA-SHDL-42050	DE6	B7C Series

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B7CA-SHDL-42060	DE6	B7C Series
B7CA-SHDL-42070	DE6	B7C Series
B7CA-SHDL-42080	DE6	B7C Series
B7CA-SHDL-42090	DE6	B7C Series
B7CA-SHDL-42100	DE6	B7C Series
B7CA-SHDL-43015	DE6	B7C Series
B7CA-SHDL-43020	DE6	B7C Series
B7CA-SHDL-43025	DE6	B7C Series
B7CA-SHDL-43030	DE6	B7C Series
B7CA-SHDL-43035	DE6	B7C Series
B7CA-SHDL-43040	DE6	B7C Series
B7CA-SHDL-43050	DE6	B7C Series
B7CA-SHDL-43060	DE6	B7C Series
B7CA-SHDL-43070	DE6	B7C Series
B7CA-SHDL-43080	DE6	B7C Series
B7CA-SHDL-43090	DE6	B7C Series
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B7CA-SHDL-62035	DE6	B7C Series
B7CA-SHDL-62040	DE6	B7C Series
B7CA-SHDL-62050	DE6	B7C Series
B7CA-SHDL-62060	DE6	B7C Series
B7CA-SHDL-62070	DE6	B7C Series
B7CA-SHDL-62080	DE6	B7C Series
B7CA-SHDL-62090	DE6	B7C Series
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B7CA-SHDL-63015	DE6	B7C Series
B7CA-SHDL-63020	DE6	B7C Series
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B7CA-SHDL-63035	DE6	B7C Series
B7CA-SHDL-63040	DE6	B7C Series
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B7CA-SHDL-63060	DE6	B7C Series
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B7CA-WEHD-42050	DE6	B7C Series
B7CA-WEHD-42060	DE6	B7C Series

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B7CA-WEHD-42070	DE6	B7C Series
B7CA-WEHD-42080	DE6	B7C Series
B7CA-WEHD-42090	DE6	B7C Series
B7CA-WEHD-42100	DE6	B7C Series
B7CA-WEHD-43015	DE6	B7C Series
B7CA-WEHD-43020	DE6	B7C Series
B7CA-WEHD-43025	DE6	B7C Series
B7CA-WEHD-43030	DE6	B7C Series
B7CA-WEHD-43035	DE6	B7C Series
B7CA-WEHD-43040	DE6	B7C Series
B7CA-WEHD-43050	DE6	B7C Series
B7CA-WEHD-43060	DE6	B7C Series
B7CA-WEHD-43070	DE6	B7C Series
B7CA-WEHD-43080	DE6	B7C Series
B7CA-WEHD-43090	DE6	B7C Series
B7CA-WEHD-43100	DE6	B7C Series
B7CA-WFDB-62015	DE6	B7C Series
B7CA-WFDB-62020	DE6	B7C Series
B7CA-WFDB-62025	DE6	B7C Series
B7CA-WFDB-62030	DE6	B7C Series
B7CA-WFDB-62035	DE6	B7C Series
B7CA-WFDB-62040	DE6	B7C Series
B7CA-WFDB-62050	DE6	B7C Series
B7CA-WFDB-62060	DE6	B7C Series
B7CA-WFDB-62070	DE6	B7C Series
B7CA-WFDB-62080	DE6	B7C Series
B7CA-WFDB-62090	DE6	B7C Series
B7CA-WFDB-62100	DE6	B7C Series
B7CA-WFDB-63015	DE6	B7C Series
B7CA-WFDB-63020	DE6	B7C Series
B7CA-WFDB-63025	DE6	B7C Series
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B7CA-WFDB-63035	DE6	B7C Series
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B7CA-WFDB-63080	DE6	B7C Series
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B7CB-AXTI-64125	DE6	B7C Series
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B7CB-SHDL-62150	DE6	B7C Series
B7CB-SHDL-63125	DE6	B7C Series
B7CB-SHDL-63150	DE6	B7C Series
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B7CB-WFDB-62150	DE6	B7C Series

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B7CB-WFDB-63150	DE6	B7C Series	B7CD-WKD-63350	DE6	B7C Series	B7EP	E73, E76	B7E, B7EP, B7EQ Series
B7CC	DE5, DE7	B7C Series	B7CD-WKD-63400	DE6	B7C Series	B7EQ	E73, E76	B7E, B7EP, B7EQ Series
B7CC-AXT3N-63150	DE6	B7C Series	B7CE	DE5, DE7	B7C Series	B7EYEBOLT	DE23, DE26	B7L, D2LC Series
B7CC-AXT3N-63175	DE6	B7C Series	B7CE-SLDL-62600	DE6	B7C Series	B7GSN	DE23, DE26	B7L, D2LC Series
B7CC-AXT3N-63200	DE6	B7C Series	B7CE-SLDL-63600	DE6	B7C Series	B7L20 - 112 - ML100	DE22	B7L Series
B7CC-AXT3N-63225	DE6	B7C Series	B7CE-WLD-62400	DE6	B7C Series	B7L20 - 312 - ML100	DE22	B7L Series
B7CC-AXT3N-64150	DE6	B7C Series	B7CE-WLD-62500	DE6	B7C Series	B7L29 - 112 - MBB100	DE22	B7L Series
B7CC-AXT3N-64175	DE6	B7C Series	B7CE-WLD-62600	DE6	B7C Series	B7L29 - 112 - MBE100	DE22	B7L Series
B7CC-AXT3N-64200	DE6	B7C Series	B7CE-WLD-63400	DE6	B7C Series	B7L29 - 118 - MBB100	DE22	B7L Series
B7CC-AXT3N-64225	DE6	B7C Series	B7CE-WLD-63500	DE6	B7C Series	B7L29 - 118 - ML100	DE22	B7L Series
B7CC-SJDL-62150	DE6	B7C Series	B7CE-WLD-63600	DE6	B7C Series	B7L29 - 118 - ML225	DE22	B7L Series
B7CC-SJDL-62175	DE6	B7C Series	B7CF	DE5, DE7	B7C Series	B7L29 - 124 - ML100	DE22	B7L Series
B7CC-SJDL-62200	DE6	B7C Series	B7CF-AT6N-63600	DE6	B7C Series	B7L29 - 312 - MBB100	DE22	B7L Series
B7CC-SJDL-62225	DE6	B7C Series	B7CF-AT6N-63800	DE6	B7C Series	B7L29 - 312 - MBE100	DE22	B7L Series
B7CC-SJDL-62250	DE6	B7C Series	B7CF-AT6N-64600	DE6	B7C Series	B7L29 - 318 - MBB100	DE22	B7L Series
B7CC-SJDL-63150	DE6	B7C Series	B7CF-AT6N-64800	DE6	B7C Series	B7L29 - 318 - ML100	DE22	B7L Series
B7CC-SJDL-63175	DE6	B7C Series	B7CF-AT7N-631000	DE6	B7C Series	B7L29 - 318 - ML225	DE22	B7L Series
B7CC-SJDL-63200	DE6	B7C Series	B7CF-AT7N-631200	DE6	B7C Series	B7L29 - 324 - ML100	DE22	B7L Series
B7CC-SJDL-63225	DE6	B7C Series	B7CF-AT7N-641000	DE6	B7C Series	B7L41 - 118 - MBE100	DE22	B7L Series
B7CC-SJDL-63250	DE6	B7C Series	B7CF-AT7N-641200	DE6	B7C Series	B7L41 - 124 - MBB100	DE22	B7L Series
B7CC-WJDB-62125	DE6	B7C Series	B7CF-SPDL-621200	DE6	B7C Series	B7L41 - 124 - MBC225	DE22	B7L Series
B7CC-WJDB-62150	DE6	B7C Series	B7CF-SPDL-631200	DE6	B7C Series	B7L41 - 124 - MBE100	DE22	B7L Series
B7CC-WJDB-62175	DE6	B7C Series	B7CF-WND-621000	DE6	B7C Series	B7L41 - 124 - ML225	DE22	B7L Series
B7CC-WJDB-62200	DE6	B7C Series	B7CF-WND-621200	DE6	B7C Series	B7L41 - 130 - MBB100	DE22	B7L Series
B7CC-WJDB-62225	DE6	B7C Series	B7CF-WND-62600	DE6	B7C Series	B7L41 - 130 - MBC225	DE22	B7L Series
B7CC-WJDB-62250	DE6	B7C Series	B7CF-WND-62700	DE6	B7C Series	B7L41 - 130 - MBE100	DE22	B7L Series
B7CC-WJDB-63125	DE6	B7C Series	B7CF-WND-62800	DE6	B7C Series	B7L41 - 130 - ML100	DE22	B7L Series
B7CC-WJDB-63150	DE6	B7C Series	B7CF-WND-62800	DE6	B7C Series	B7L41 - 130 - ML225	DE22	B7L Series
B7CC-WJDB-63175	DE6	B7C Series	B7CF-WND-631000	DE6	B7C Series	B7L41 - 136 - ML225	DE22	B7L Series
B7CC-WJDB-63200	DE6	B7C Series	B7CF-WND-631200	DE6	B7C Series	B7L41 - 142 - ML225	DE22	B7L Series
B7CC-WJDB-63225	DE6	B7C Series	B7CF-WND-63600	DE6	B7C Series	B7L41 - 318 - MBE100	DE22	B7L Series
B7CC-WJDB-63250	DE6	B7C Series	B7CF-WND-63700	DE6	B7C Series	B7L41 - 324 - MBB100	DE22	B7L Series
B7CD	DE5, DE7	B7C Series	B7CF-WND-63800	DE6	B7C Series	B7L41 - 324 - MBE100	DE22	B7L Series
B7CD-AT5N-63300	DE6	B7C Series	B7CGRND	DE7	B7C Series	B7L41 - 324 - ML225	DE22	B7L Series
B7CD-AT5N-63400	DE6	B7C Series	B7C-SN1	DE7	B7C Series	B7L41 - 330 - MBB100	DE22	B7L Series
B7CD-AT5N-64300	DE6	B7C Series	B7C-SN2	DE7	B7C Series	B7L41 - 330 - MBE100	DE22	B7L Series
B7CD-AT5N-64400	DE6	B7C Series	B7C-SN3	DE7	B7C Series	B7L41 - 330 - ML100	DE22	B7L Series
B7CD-AXT4N-63250	DE6	B7C Series	B7C-SN4	DE7	B7C Series	B7L41 - 330 - ML225	DE22	B7L Series
B7CD-AXT4N-64250	DE6	B7C Series	B7EA	E73	B7E Series	B7L41 - 342 - ML225	DE22	B7L Series
B7CD-SJDL-62250	DE6	B7C Series	B7EB	E73	B7E Series	B7L50 - 136 - MBC225	DE22	B7L Series
B7CD-SJDL-63250	DE6	B7C Series	B7EC	E73	B7E Series	B7L50 - 142 - MBC225	DE22	B7L Series
B7CD-SLDL-62400	DE6	B7C Series	B7ED	E73	B7E Series	B7L50 - 336 - MBC225	DE22	B7L Series
B7CD-SLDL-63400	DE6	B7C Series	B7EE	E73	B7E Series	B7ML225	DE23	B7L Series
B7CD-WKD-62250	DE6	B7C Series	B7EF	E73	B7E Series			
B7CD-WKD-62300	DE6	B7C Series	B7EG	E73	B7E Series			
B7CD-WKD-62350	DE6	B7C Series	B7EH	E73	B7E Series			
B7CD-WKD-62400	DE6	B7C Series	B7EK	E73	B7E Series			
B7CD-WKD-63250	DE6	B7C Series	B7EL	E73	B7E Series			
			B7EM	E73	B7E Series			

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Part #	SEC./PG	PROD. GRP.
B7MLBTM	DE23	B7L Series
B7MS1	S14	B7MS Series
B7MS1PS-1	S15	B7MS Series
B7MS1PS-10	S15	B7MS Series
B7MS1PS-11	S15	B7MS Series
B7MS1PS-2	S15	B7MS Series
B7MS1PS-3	S15	B7MS Series
B7MS1PS-4	S15	B7MS Series
B7MS1PS-5	S15	B7MS Series
B7MS1PS-6	S15	B7MS Series
B7MS1PS-7	S15	B7MS Series
B7MS1PS-8	S15	B7MS Series
B7MS1PS-9	S15	B7MS Series
B7MS1RA-1	S15	B7MS Series
B7MS1RA-10	S15	B7MS Series
B7MS1RA-2	S15	B7MS Series
B7MS1RA-3	S15	B7MS Series
B7MS1RA-4	S15	B7MS Series
B7MS1RA-5	S15	B7MS Series
B7MS1RA-6	S15	B7MS Series
B7MS1RA-7	S15	B7MS Series
B7MS1RA-8	S15	B7MS Series
B7MS1RA-9	S15	B7MS Series
B7MS1RS-1	S15	B7MS Series
B7MS1RS-10	S15	B7MS Series
B7MS1RS-2	S15	B7MS Series
B7MS1RS-3	S15	B7MS Series
B7MS1RS-4	S15	B7MS Series
B7MS1RS-5	S15	B7MS Series
B7MS1RS-6	S15	B7MS Series
B7MS1RS-7	S15	B7MS Series
B7MS1RS-8	S15	B7MS Series
B7MS1RS-9	S15	B7MS Series
B7MS2	S14	B7MS Series
B7MS2RA-12	S15	B7MS Series
B7MS2RA-13	S15	B7MS Series
B7MS2RA-14	S15	B7MS Series
B7MS2RA-15	S15	B7MS Series
B7MS2RA-16	S15	B7MS Series
B7MS2RA-17	S15	B7MS Series
B7MS2RA-18	S15	B7MS Series
B7MS2RS-11	S15	B7MS Series
B7MS2RS-12	S15	B7MS Series
B7MS2RS-13	S15	B7MS Series
B7MS2RS-14	S15	B7MS Series
B7MS2RS-15	S15	B7MS Series
B7MS2RS-16	S15	B7MS Series
B7MS2RS-17	S15	B7MS Series
B7MS2RS-18	S15	B7MS Series

Part #	SEC./PG	PROD. GRP.
B7MSN2P	S17	B7MSN Series
B7MSN2PCOB	S17	B7MSN Series
B7MSN2PCOC	S17	B7MSN Series
B7MSN2PCIB	S17	B7MSN Series
B7MSN2PCIC	S17	B7MSN Series
B7MSN2PSOB	S17	B7MSN Series
B7MSN2PSOC	S17	B7MSN Series
B7MSN2PSOV	S17	B7MSN Series
B7MSN2PSIB	S17	B7MSN Series
B7MSN2PSIC	S17	B7MSN Series
B7MSN2PSIV	S17	B7MSN Series
B7MSN2PSDB	S17	B7MSN Series
B7NFD1	DE13	B7NFD Series
B7NFD13A	DE13	B7NFD Series
B7NFD16A	DE13	B7NFD Series
B7NFD2	DE13	B7NFD Series
B7NFD21A	DE13	B7NFD Series
B7NFD25A	DE13	B7NFD Series
B7NFD26A	DE13	B7NFD Series
B7NFD32A	DE13	B7NFD Series
B7NFD63A	DE13	B7NFD Series
B7NFD80A	DE13	B7NFD Series
B7PLR220	C106	G Series
B7PLR440	C106	G Series
B7PLR550	C106	G Series
B7SF	DE7, DE23, DE26	B7C, B7L, D2LC Series
B7SPNPT	DE7, DE23	B7C, B7L Series
BKF131830	L72	NV2 Series
BKF26324230	L72	NV2 Series
BL-90-1	F159	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-1-EX	F160	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-1M	F159	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-1M-EX	F160	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-2	F159	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-2-EX	F160	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-2M	F159	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-2M-EX	F160	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-3	F159	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-3-EX	F160	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-3M	F159	FF/MF/MM/BL/ GUF5/Y/EYMF Series
BL-90-3M-EX	F160	FF/MF/MM/BL/ GUF5/Y/EYMF Series

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BUIG1	F89	RIGID/IMC
BUIG10	F89	RIGID/IMC
BUIG11	F89	RIGID/IMC
BUIG12	F89	RIGID/IMC
BUIG2	F89	RIGID/IMC
BUIG3	F89	RIGID/IMC
BUIG4	F89	RIGID/IMC
BUIG5	F89	RIGID/IMC
BUIG6	F89	RIGID/IMC
BUIG7	F89	RIGID/IMC
BUIG8	F89	RIGID/IMC
BUIG9	F89	RIGID/IMC
C107	F16	DURALOY 7 Series
C107SA	F16	DURALOY 7 Series
C17	F16	DURALOY 7 Series
C17SA	F16	DURALOY 7 Series
C18	F23	DURALOY 8 Series
C27	F16	DURALOY 7 Series
C27SA	F16	DURALOY 7 Series
C28	F23	DURALOY 8 Series
C28SS	F36	Stainless Steel Conduit Bodies
C37	F16	DURALOY 7 Series
C37SA	F16	DURALOY 7 Series
C38	F23	DURALOY 8 Series
C38SS	F36	Stainless Steel Conduit Bodies
C448	F23	DURALOY 8 Series
C47	F16	DURALOY 7 Series
C47SA	F16	DURALOY 7 Series
C57	F16	DURALOY 7 Series
C57SA	F16	DURALOY 7 Series
C58	F23	DURALOY 8 Series
C58SS	F36	Stainless Steel Conduit Bodies
C67	F16	DURALOY 7 Series
C67SA	F16	DURALOY 7 Series
C68	F23	DURALOY 8 Series
C68SS	F36	Stainless Steel Conduit Bodies
C77	F16	DURALOY 7 Series
C77SA	F16	DURALOY 7 Series
C78	F23	DURALOY 8 Series
C87	F16	DURALOY 7 Series
C87SA	F16	DURALOY 7 Series
C88	F23	DURALOY 8 Series
C97	F16	DURALOY 7 Series
C97SA	F16	DURALOY 7 Series
CG100100S	F174	CG Series
CG100125S	F174	CG Series
CG112125S	F174	CG Series

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
CG115150S.....	F174	CG Series	CGB455.....	F199	CGB Series	COLR-4CG.....	F30	CO & TW Series
CG1238S.....	F174	CG Series	CGB486.....	F199	CGB Series	COLR-5CG.....	F30	CO & TW Series
CG1250S.....	F174	CG Series	CGB5102.....	F199	CGB Series	COLR-6CG.....	F30	CO & TW Series
CG125125S.....	F174	CG Series	CGB5138.....	F199	CGB Series	COT-1CG.....	F21, F31	K-PAK, CO & TW Series
CG1275S.....	F174	CG Series	CGB586.....	F199	CGB Series	COT-2CG.....	F21, F31	K-PAK, CO & TW Series
CG128150S.....	F174	CG Series	CGB6102.....	F199	CGB Series	COT-3CG.....	F21, F31	K-PAK, CO & TW Series
CG137125S.....	F174	CG Series	CGB6138.....	F199	CGB Series	COT-4CG.....	F31	CO & TW Series
CG153200S.....	F174	CG Series	CGB6181.....	F199	CGB Series	COT-5CG.....	F31	CO & TW Series
CG1838S.....	F174	CG Series	CGB7138.....	F199	CGB Series	COT-6CG.....	F31	CO & TW Series
CG1850S.....	F174	CG Series	CGB7181.....	F199	CGB Series	CS-444-B.....	CN115	QUICK STAB Series
CG1965250S.....	F174	CG Series	CGB7236.....	F199	CGB Series	CS-444-C.....	CN115	QUICK STAB Series
CG2060200S.....	F174	CG Series	CGB8181.....	F199	CGB Series	CS-444-H.....	CN115	QUICK STAB Series
CG2187250S.....	F174	CG Series	CGB8236.....	F199	CGB Series	CS-535-B.....	CN115	QUICK STAB Series
CG2360250S.....	F174	CG Series	CGB8295.....	F199	CGB Series	CS-535-C.....	CN115	QUICK STAB Series
CG2365300S.....	F174	CG Series	CJB-AL.....	F97	SPARTAN POLE	CS-535-H.....	CN115	QUICK STAB Series
CG2565250S.....	F174	CG Series	CL-1.....	F68	CL/CLM/SOLB Series	CS-646-B.....	CN115	QUICK STAB Series
CG2575S.....	F174	CG Series	CL-2.....	F68	CL/CLM/SOLB Series	CS-646-C.....	CN115	QUICK STAB Series
CG2755300S.....	F174	CG Series	CL-3.....	F68	CL/CLM/SOLB Series	CS-646-H.....	CN115	QUICK STAB Series
CG2985300S.....	F174	CG Series	CLM-1.....	F68	CL/CLM/SOLB Series	CS-777-B.....	CN115	QUICK STAB Series
CG3138S.....	F174	CG Series	CLM-2.....	F68	CL/CLM/SOLB Series	CS-777-C.....	CN115	QUICK STAB Series
CG31501S.....	F174	CG Series	CLM-3.....	F68	CL/CLM/SOLB Series	CS-777-H.....	CN115	QUICK STAB Series
CG3150S.....	F174	CG Series	COC-1CG.....	F21, F29	K-PAK, CO & TW Series	CUP-0.....	F146	CUP/PLUG Series
CG3220300S.....	F174	CG Series	COC-2CG.....	F21, F29	K-PAK, CO & TW Series	CUP-1.....	F146	CUP/PLUG Series
CG37100S.....	F174	CG Series	COC-3CG.....	F21, F29	K-PAK, CO & TW Series	CUP-1-EX.....	F147	CUP/PLUG Series
CG3750S.....	F174	CG Series	COC-4CG.....	F29	CO & TW Series	CUP-2.....	F146	CUP/PLUG Series
CG3775S.....	F174	CG Series	COC-5CG.....	F29	CO & TW Series	CUP-2-EX.....	F147	CUP/PLUG Series
CG50100S.....	F174	CG Series	COC-6CG.....	F29	CO & TW Series	CUP-3.....	F146	CUP/PLUG Series
CG5050S.....	F174	CG Series	COLB-1CG.....	F21, F29	K-PAK, CO & TW Series	CUP-375.....	F146	CUP/PLUG Series
CG5075S.....	F174	CG Series	COLB-2CG.....	F21, F29	K-PAK, CO & TW Series	CUP-3-EX.....	F147	CUP/PLUG Series
CG62100S.....	F174	CG Series	COLB-3CG.....	F21, F29	K-PAK, CO & TW Series	CUP-4.....	F146	CUP/PLUG Series
CG6250S.....	F174	CG Series	COLB-4CG.....	F29	CO & TW Series	CUP-4-EX.....	F147	CUP/PLUG Series
CG6275S.....	F174	CG Series	COLB-5CG.....	F29	CO & TW Series	CUP-5.....	F146	CUP/PLUG Series
CG75100S.....	F174	CG Series	COLB-6CG.....	F29	CO & TW Series	CUP-5-EX.....	F147	CUP/PLUG Series
CG75125S.....	F174	CG Series	COLL-1CG.....	F21, F30	K-PAK, CO & TW Series	CUP-6.....	F146	CUP/PLUG Series
CG7575S.....	F174	CG Series	COLL-2CG.....	F21, F30	K-PAK, CO & TW Series	CUP-6-EX.....	F147	CUP/PLUG Series
CG87100S.....	F174	CG Series	COLL-3CG.....	F21, F30	K-PAK, CO & TW Series	CUP-7.....	F146	CUP/PLUG Series
CG87125S.....	F174	CG Series	COLL-4CG.....	F30	CO & TW Series	CUP-7-EX.....	F147	CUP/PLUG Series
CGB0236.....	F199	CGB Series	COLL-5CG.....	F30	CO & TW Series	CUP-8.....	F146	CUP/PLUG Series
CGB0295.....	F199	CGB Series	COLL-6CG.....	F30	CO & TW Series	CUP-8-EX.....	F147	CUP/PLUG Series
CGB0334.....	F199	CGB Series	COLR-1CG.....	F21, F30	K-PAK, CO & TW Series	CUP-9.....	F146	CUP/PLUG Series
CGB115.....	F199	CGB Series	COLR-2CG.....	F21, F30	K-PAK, CO & TW Series	CUPX-0.....	F148	CUP/PLUG Series
CGB139.....	F199	CGB Series	COLR-3CG.....	F21, F30	K-PAK, CO & TW Series	CUPX-1.....	F148	CUP/PLUG Series
CGB215.....	F199	CGB Series	COLR-4CG.....	F21, F30	K-PAK, CO & TW Series	CUPX-2.....	F148	CUP/PLUG Series
CGB239.....	F199	CGB Series	COLR-5CG.....	F21, F30	K-PAK, CO & TW Series	CUPX-250.....	F148	CUP/PLUG Series
CGB255.....	F199	CGB Series	COLR-6CG.....	F21, F30	K-PAK, CO & TW Series	CUPX-3.....	F148	CUP/PLUG Series
CGB339.....	F199	CGB Series	COLR-1CG.....	F21, F30	K-PAK, CO & TW Series	CUPX-4.....	F148	CUP/PLUG Series
CGB355.....	F199	CGB Series	COLR-2CG.....	F21, F30	K-PAK, CO & TW Series	CUPX-5.....	F148	CUP/PLUG Series
CGB386.....	F199	CGB Series	COLR-3CG.....	F21, F30	K-PAK, CO & TW Series			
CGB4102.....	F199	CGB Series						

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CUPX-6	F148	CUP/PLUG Series	DF-350	F63	DF Series	EAC	L37	EAC/EACH Series
CUPX-7	F148	CUP/PLUG Series	DF-400	F63	DF Series	EAC/EACH	L32	EML Series
CUPX-8	F148	CUP/PLUG Series	DF-50	F63	DF Series	EAC-1	F48	E Series
CUPX-9	F148	CUP/PLUG Series	DF-500	F63	DF Series	EAC-10	F48	E Series
D2CL-142-MB225	DE27	D2LC Series	DF-600	F63	DF Series	EAC-10CG	F54	E Series
D2CL-142-ML225	DE27	D2LC Series	DF-75	F63	DF Series	EAC-1CGN	F54	E Series
D2CL-342-MB225	DE27	D2LC Series	DS-350-B	CN115	QUICK STAB Series	EAC-2	F48	E Series
D2CL-342-ML225	DE27	D2LC Series	DS-350-C	CN115	QUICK STAB Series	EAC-2CGN	F54	E Series
D2LC-112-MB100	DE27	D2LC Series	DS-350-H	CN115	QUICK STAB Series	EAC-3	F48	E Series
D2LC-112-ML100	DE27	D2LC Series	DT-002	CN102	RMPIII Series	EAC-3CGN	F54	E Series
D2LC-118-MB225	DE27	D2LC Series	DVA1	L69	DVL Series	EAC-4	F48	E Series
D2LC-118-ML225	DE27	D2LC Series	DVA-110	L85	DV Series	EAC-4CGN	F54	E Series
D2LC-124-MB225	DE27	D2LC Series	DVA-120	L85	DV Series	EAC-5	F48	E Series
D2LC-124-ML225	DE27	D2LC Series	DVA2	L69	DVL Series	EAC-5CGN	F54	E Series
D2LC-130-MB225	DE27	D2LC Series	DVA-210	L85	DV Series	EAC-6	F48	E Series
D2LC-130-ML225	DE27	D2LC Series	DVA-220	L85	DV Series	EAC-6CGN	F54	E Series
D2LC-136-MB225	DE27	D2LC Series	DVB1	L69	DVL Series	EAC-7	F48	E Series
D2LC-136-ML225	DE27	D2LC Series	DVB2	L69	DVL Series	EAC-7CG	F54	E Series
D2LC-312-MB100	DE27	D2LC Series	DVL 1327	L69	DVL Series	EAC-8	F48	E Series
D2LC-312-ML100	DE27	D2LC Series	DVL 1330	L69	DVL Series	EAC-8CG	F54	E Series
D2LC-318-MB225	DE27	D2LC Series	DVL 1627	L69	DVL Series	EAC-9	F48	E Series
D2LC-318-ML225	DE27	D2LC Series	DVL 1630	L69	DVL Series	EAC-9CG	F54	E Series
D2LC-324-MB225	DE27	D2LC Series	DVL1330	L69	DVL Series	EACH12	L37	EAC/EACH Series
D2LC-324-ML225	DE27	D2LC Series	DVL1330A1G	L69	DVL Series	EACH16	L37	EAC/EACH Series
D2LC-330-MB225	DE27	D2LC Series	DVL1330A2G	L69	DVL Series	EALB-1	F48	E Series
D2LC-330-ML225	DE27	D2LC Series	DVL1330B1G	L69	DVL Series	EALB-10	F48	E Series
D2LC-336-MB225	DE27	D2LC Series	DVL1330B2G	L69	DVL Series	EALB-10	F49	E Series
D2LC-336-ML225	DE27	D2LC Series	DVL1330X1G	L69	DVL Series	EALB-10CG	F55	E Series
DAG-100	L69, L85	DVL, DV Series	DVL1330X2G	L69	DVL Series	EALB-10CGN	F54	E Series
DAG-200	L85	DV Series	DVL1630	L69	DVL Series	EALB-1CGN	F54	E Series
DCGE-10	L69, L85	DVL, DV Series	DVL1630A1G	L69	DVL Series	EALB-2	F48	E Series
DCGE-20	L85	DV Series	DVL1630A2G	L69	DVL Series	EALB-2CGN	F54	E Series
DEDS-100	DE9	DEDS Series	DVL1630B1G	L69	DVL Series	EALB-3	F48	E Series
DEDS-100A	DE9	DEDS Series	DVL1630B2G	L69	DVL Series	EALB-3CGN	F54	E Series
DEDS-100AA	DE9	DEDS Series	DVL1630X1G	L69	DVL Series	EALB-4	F48	E Series
DEDS-30	DE9	DEDS Series	DVL1630X2G	L69	DVL Series	EALB-4CGN	F54	E Series
DEDS-30A	DE9	DEDS Series	DVX1	L69	DVL Series	EALB-5	F48	E Series
DEDS-30AA	DE9	DEDS Series	DVX-110	L85	DV Series	EALB-5CGN	F54	E Series
DEDS-60	DE9	DEDS Series	DVX-120	L85	DV Series	EALB-6	F48	E Series
DEDS-60A	DE9	DEDS Series	DVX2	L69	DVL Series	EALB-6CGN	F54	E Series
DEDS-60AA	DE9	DEDS Series	DVX-210	L85	DV Series	EALB-7	F48	E Series
DEDS-A	DE9	DEDS Series	DVX-220	L85	DV Series	EALB-7CGN	F54	E Series
DEDS-B	DE9	DEDS Series	E17	F15	DURALOY 7 Series	EALB-8	F48	E Series
DF-100	F63	DF Series	E17SA	F15	DURALOY 7 Series	EALB-8CGN	F54	E Series
DF-125	F63	DF Series	E27	F15	DURALOY 7 Series	EALB-9	F48	E Series
DF-150	F63	DF Series	E27SA	F15	DURALOY 7 Series	EALB-9CGN	F54	E Series
DF-200	F63	DF Series	E37	F15	DURALOY 7 Series	EALL-1	F49	E Series
DF-250	F63	DF Series	E37SA	F15	DURALOY 7 Series	EALL-10	F49	E Series
DF-300	F63	DF Series	EAAP-C2	L37	EAC/EACH Series	EALL-10CG	F55	E Series

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
EALL-1CGN	F55	E Series	EAT-4	F49	E Series	EBLR-6	F51	E Series
EALL-2	F49	E Series	EAT-4CGN	F55	E Series	EBS23DH	L56	EBS Series
EALL-2CGN	F55	E Series	EAT-5	F49	E Series	EBS23DH-PNA	L54	EBS Series
EALL-3	F49	E Series	EAT-5CGN	F55	E Series	EBS23DH-PNBE	L54	EBS Series
EALL-3CGN	F55	E Series	EAT-6	F49	E Series	EBS23DH-PNBG	L54	EBS Series
EALL-4	F49	E Series	EAT-6CGN	F55	E Series	EBS23DH-PNCE	L54	EBS Series
EALL-4CGN	F55	E Series	EAT-7	F49	E Series	EBS23DH-PNCG	L54	EBS Series
EALL-5	F49	E Series	EAT-7CG	F55	E Series	EBS23DH-PNN	L54	EBS Series
EALL-5CGN	F55	E Series	EAT-8	F49	E Series	EBS23DH-PTA	L54	EBS Series
EALL-6	F49	E Series	EAT-8CG	F55	E Series	EBS23DH-PTBE	L54	EBS Series
EALL-6CGN	F55	E Series	EAT-9	F49	E Series	EBS23DH-PTBG	L54	EBS Series
EALL-7	F49	E Series	EAT-9CG	F55	E Series	EBS23DH-PTCE	L54	EBS Series
EALL-7CG	F55	E Series	EBB32010A2	L95	EBB Series	EBS23DH-PTCG	L54	EBS Series
EALL-8	F49	E Series	EBB32010A3	L95	EBB Series	EBS23DH-PTN	L54	EBS Series
EALL-8CG	F55	E Series	EBB32010B2	L95	EBB Series	EBS23DH-RNA	L54	EBS Series
EALL-9	F49	E Series	EBB32010B3	L95	EBB Series	EBS23DH-RNBE	L54	EBS Series
EALL-9CG	F55	E Series	EBB32010X3	L95	EBB Series	EBS23DH-RNBG	L54	EBS Series
EALR-1	F49	E Series	EBB-BC	L95	EBB Series	EBS23DH-RNCE	L54	EBS Series
EALR-10	F49	E Series	EBB-L12	L95	EBB Series	EBS23DH-RNCG	L54	EBS Series
EALR-10CG	F55	E Series	EBB-PL	L95	EBB Series	EBS23DH-RNN	L54	EBS Series
EALR-1CGN	F55	E Series	EBB-RB	L95	EBB Series	EBS23DH-RTA	L54	EBS Series
EALR-2	F49	E Series	EBB-TRANS	L95	EBB Series	EBS23DH-RTBE	L54	EBS Series
EALR-2CGN	F55	E Series	EBC-1	F50	E Series	EBS23DH-RTBG	L54	EBS Series
EALR-3	F49	E Series	EBC-2	F50	E Series	EBS23DH-RTCE	L54	EBS Series
EALR-3CGN	F55	E Series	EBC-3	F50	E Series	EBS23DH-RTCG	L54	EBS Series
EALR-4	F49	E Series	EBC-4	F50	E Series	EBS23DH-RTN	L54	EBS Series
EALR-4CGN	F55	E Series	EBC-5	F50	E Series	EBS-AHFS	L55	EBS Series
EALR-5	F49	E Series	EBC-6	F50	E Series	EBSEL1030	L55	EBS Series
EALR-5CGN	F55	E Series	EBLB-1	F50	E Series	EBSHK1030	L56	EBS Series
EALR-6	F49	E Series	EBLB-10	F50	E Series	EBS-PTT	L55	EBS Series
EALR-6CGN	F55	E Series	EBLB-2	F50	E Series	EBS-PTT-LO	L55	EBS Series
EALR-7	F49	E Series	EBLB-3	F50	E Series	EBS-VC	L55	EBS Series
EALR-7CG	F55	E Series	EBLB-4	F50	E Series	EBT-1	F51	E Series
EALR-8	F49	E Series	EBLB-5	F50	E Series	EBT-2	F51	E Series
EALR-8CG	F55	E Series	EBLB-6	F50	E Series	EBT-3	F51	E Series
EALR-9	F49	E Series	EBLB-7	F50	E Series	EBT-4	F51	E Series
EALR-9CG	F55	E Series	EBLB-8	F50	E Series	EBT-5	F51	E Series
EASLB-1	F52	E Series	EBLB-9	F50	E Series	EBT-6	F51	E Series
EASLB-2	F52	E Series	EBLL-1	F51	E Series	ECC050	F197	PCC/ECC/RACC Series
EASLB-3	F52	E Series	EBLL-2	F51	E Series	ECC075	F197	PCC/ECC/RACC Series
EASLB-4	F52	E Series	EBLL-3	F51	E Series	ECC100	F197	PCC/ECC/RACC Series
EASLB-5	F52	E Series	EBLL-4	F51	E Series	ECC125	F197	PCC/ECC/RACC Series
EASLB-6	F52	E Series	EBLL-5	F51	E Series	ECC150	F197	PCC/ECC/RACC Series
EAT-1	F49	E Series	EBLL-6	F51	E Series	ECC200	F197	PCC/ECC/RACC Series
EAT-1CGN	F55	E Series	EBLR-1	F51	E Series	ECC250	F197	PCC/ECC/RACC Series
EAT-2	F49	E Series	EBLR-2	F51	E Series			
EAT-2CGN	F55	E Series	EBLR-3	F51	E Series			
EAT-3	F49	E Series	EBLR-4	F51	E Series			
EAT-3CGN	F55	E Series	EBLR-5	F51	E Series			

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ECC300	F197	PCC/ECC/RACC Series	ECFUF-224	F164	ECF/EKJ Series	EKJ-112	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-110	F162	ECF/EKJ Series	ECFUF-230	F164	ECF/EKJ Series	EKJ-112SS-EX	F167	EKJ Series
ECF-112	F162	ECF/EKJ Series	ECFUF-236	F164	ECF/EKJ Series	EKJ-115	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-115	F162	ECF/EKJ Series	ECFUF-24	F164	ECF/EKJ Series	EKJ-116SS-EX	F167	EKJ Series
ECF-118	F162	ECF/EKJ Series	ECFUF-26	F164	ECF/EKJ Series	EKJ-118	F162, L107	ECF/EKJ Series, HXB/XFH/EKJ Series
ECF-121	F162	ECF/EKJ Series	ECFUF-28	F164	ECF/EKJ Series	EKJ-120SS-EX	F167	EKJ Series
ECF-124	F162	ECF/EKJ Series	ECFUF-310	F164	ECF/EKJ Series	EKJ-124SS-EX	F167	EKJ Series
ECF-130	F162	ECF/EKJ Series	ECFUF-312	F164	ECF/EKJ Series	EKJ-128SS-EX	F167	EKJ Series
ECF-136	F162	ECF/EKJ Series	ECFUF-315	F164	ECF/EKJ Series	EKJ-132SS-EX	F167	EKJ Series
ECF-14	F162	ECF/EKJ Series	ECFUF-318	F164	ECF/EKJ Series	EKJ-136SS-EX	F167	EKJ Series
ECF-16	F162	ECF/EKJ Series	ECFUF-321	F164	ECF/EKJ Series	EKJ-14	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-18	F162	ECF/EKJ Series	ECFUF-324	F164	ECF/EKJ Series	EKJ-14SS-EX	F167	EKJ Series
ECF-210	F162	ECF/EKJ Series	ECFUF-328	F164	ECF/EKJ Series	EKJ-16	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-212	F162	ECF/EKJ Series	ECFUF-330	F164	ECF/EKJ Series	EKJ-18	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-215	F162	ECF/EKJ Series	ECFUF-336	F164	ECF/EKJ Series	EKJ-18SS-EX	F167	EKJ Series
ECF-218	F162	ECF/EKJ Series	ECFUF-36	F164	ECF/EKJ Series	EKJ-210	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-221	F162	ECF/EKJ Series	ECFUF-38	F164	ECF/EKJ Series	EKJ-211SS-EX	F167	EKJ Series
ECF-224	F162	ECF/EKJ Series	EEQ0026E30A2G	L92	EEQ Series	EKJ-212	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-230	F162	ECF/EKJ Series	EEQ0026E30B2G	L92	EEQ Series	EKJ-215	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-236	F162	ECF/EKJ Series	EEQ0026E30D4G	L92	EEQ Series	EKJ-215SS-EX	F167	EKJ Series
ECF-24	F162	ECF/EKJ Series	EEQ0026E30X2G	L92	EEQ Series	EKJ-218	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-26	F162	ECF/EKJ Series	EEQ0032E30A2G	L92	EEQ Series	EKJ-219SS-EX	F167	EKJ Series
ECF-28	F162	ECF/EKJ Series	EEQ0032E30B2G	L92	EEQ Series	EKJ-223SS-EX	F167	EKJ Series
ECF-310	F162	ECF/EKJ Series	EEQ0032E30D4G	L92	EEQ Series	EKJ-227SS-EX	F167	EKJ Series
ECF-312	F162	ECF/EKJ Series	EEQ0032E30X2G	L92	EEQ Series	EKJ-231SS-EX	F167	EKJ Series
ECF-315	F162	ECF/EKJ Series	EEQ0042E30A2G	L92	EEQ Series	EKJ-235SS-EX	F167	EKJ Series
ECF-318	F162	ECF/EKJ Series	EEQ0042E30B2G	L92	EEQ Series	EKJ-24	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-321	F162	ECF/EKJ Series	EEQ0042E30D4G	L92	EEQ Series	EKJ-26	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-324	F162	ECF/EKJ Series	EEQ0042E30X2G	L92	EEQ Series	EKJ-27SS-EX	F167	EKJ Series
ECF-330	F162	ECF/EKJ Series	EEQ2626E30A2G	L92	EEQ Series	EKJ-28	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series
ECF-336	F162	ECF/EKJ Series	EEQ2626E30B2G	L92	EEQ Series	EKJ-310	F162	ECF/EKJ Series
ECF-36	F162	ECF/EKJ Series	EEQ2626E30D4G	L92	EEQ Series	EKJ-311SS-EX	F167	EKJ Series
ECF-38	F162	ECF/EKJ Series	EEQ2626E30X2G	L92	EEQ Series	EKJ-312	F162	ECF/EKJ Series
ECFUF-110	F164	ECF/EKJ Series	EEQ3232E30A2G	L92	EEQ Series	EKJ-315	F162	ECF/EKJ Series
ECFUF-112	F164	ECF/EKJ Series	EEQ3232E30B2G	L92	EEQ Series	EKJ-315SS-EX	F167	EKJ Series
ECFUF-115	F164	ECF/EKJ Series	EEQ3232E30D4G	L92	EEQ Series	EKJ-318	F162	ECF/EKJ Series
ECFUF-118	F164	ECF/EKJ Series	EEQ3232E30X2G	L92	EEQ Series	EKJ-319SS-EX	F167	EKJ Series
ECFUF-121	F164	ECF/EKJ Series	EEQ4242E30A2G	L92	EEQ Series	EKJ-321	F162	ECF/EKJ Series
ECFUF-124	F164	ECF/EKJ Series	EEQ4242E30B2G	L92	EEQ Series	EKJ-323SS-EX	F167	EKJ Series
ECFUF-130	F164	ECF/EKJ Series	EEQ4242E30D4G	L92	EEQ Series	EKJ-324	F162	ECF/EKJ Series
ECFUF-136	F164	ECF/EKJ Series	EEQ4242E30X2G	L92	EEQ Series	EKJ-327SS-EX	F167	EKJ Series
ECFUF-14	F164	ECF/EKJ Series	EF-500	F58	AF/AF8 Series			
ECFUF-16	F164	ECF/EKJ Series	EGKN-1	F53	E Series			
ECFUF-18	F164	ECF/EKJ Series	EGKN-2	F53	E Series			
ECFUF-210	F164	ECF/EKJ Series	EGKN-3	F53	E Series			
ECFUF-212	F164	ECF/EKJ Series	EGKN-4	F53	E Series			
ECFUF-215	F164	ECF/EKJ Series	EGKN-5	F53	E Series			
ECFUF-218	F164	ECF/EKJ Series	EGKN-6	F53	E Series			
ECFUF-221	F164	ECF/EKJ Series	EGKN-7	F53	E Series			
			EKJ-110	F162, L107	ECF/EKJ, HXB/XFH/EKJ Series			

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
EKJ-330	F162	ECF/EKJ Series	EKJUF-521	F164	ECF/EKJ Series	ENY40-6	F109	ENY40/EYD40 Series
EKJ-331SS-EX	F167	EKJ Series	EKJUF-524	F164	ECF/EKJ Series	ENY40-6M	F109	ENY40/EYD40 Series
EKJ-335SS-EX	F167	EKJ Series	EKJUF-530	F164	ECF/EKJ Series	ENY40-7	F109	ENY40/EYD40 Series
EKJ-336	F162	ECF/EKJ Series	EKJUF-536	F164	ECF/EKJ Series	ENY40-7M	F109	ENY40/EYD40 Series
EKJ-36	F162	ECF/EKJ Series	EKJUF-612	F164	ECF/EKJ Series	ENY40-8	F109	ENY40/EYD40 Series
EKJ-37SS-EX	F167	EKJ Series	EKJUF-615	F164	ECF/EKJ Series	ENY40-8M	F109	ENY40/EYD40 Series
EKJ-38	F162	ECF/EKJ Series	EKJUF-618	F164	ECF/EKJ Series	ENY40-9	F109	ENY40/EYD40 Series
EKJ-412	F162	ECF/EKJ Series	EKJUF-624	F164	ECF/EKJ Series	ENY40-9M	F109	ENY40/EYD40 Series
EKJ-415	F162	ECF/EKJ Series	EKJUF-630	F164	ECF/EKJ Series	ENY-4M	F107	ENY/EYS Series
EKJ-418	F162	ECF/EKJ Series	EKJUF-636	F164	ECF/EKJ Series	ENY-4-T	F107	ENY/EYS Series
EKJ-421	F162	ECF/EKJ Series	EMG1	L55, L88	EBS, EM/EQ Series	ENY-4TM	F107	ENY/EYS Series
EKJ-424	F162	ECF/EKJ Series	EMG1-R	L55	EBS Series	ENY-5	F107	ENY/EYS Series
EKJ-430	F162	ECF/EKJ Series	EMG2	L32, L88	EML, EM/EQ Series	ENY-5M	F107	ENY/EYS Series
EKJ-436	F162	ECF/EKJ Series	EMGS1	L55, L93	EBS, EM/EQ Series	ENY-5-T	F107	ENY/EYS Series
EKJ-512	F162	ECF/EKJ Series	EMGS2	L32, L99	EML, ESX Series	ENY-5TM	F107	ENY/EYS Series
EKJ-513SS-EX	F167	EKJ Series	EMGS2 EMGS3	L93	EM/EQ Series	ENY-6	F107	ENY/EYS Series
EKJ-515	F162	ECF/EKJ Series	EMGS3	L32	EML Series	ENY-6M	F107	ENY/EYS Series
EKJ-517SS-EX	F167	EKJ Series	EMII5	L88	EM/EQ Series	ENY-6-T	F107	ENY/EYS Series
EKJ-518	F162	ECF/EKJ Series	EMI20	L88	EM/EQ Series	ENY-6TM	F107	ENY/EYS Series
EKJ-521	F162	ECF/EKJ Series	EMI30	L88	EM/EQ Series	EQF2630	L88	EM/EQ Series
EKJ-521SS-EX	F167	EKJ Series	EML4030	L32	EML Series	EQF3230	L88	EM/EQ Series
EKJ-524	F162	ECF/EKJ Series	EML4033	L32	EML Series	EQF4230	L88	EM/EQ Series
EKJ-525SS-EX	F167	EKJ Series	EML5030	L32	EML Series	EQF5230	L88	EM/EQ Series
EKJ-529SS-EX	F167	EKJ Series	EMRS	L93	EM/EQ Series	EQF6430	L88	EM/EQ Series
EKJ-530	F162	ECF/EKJ Series	ENY-1	F107	ENY/EYS Series	EQF8430	L88	EM/EQ Series
EKJ-533SS-EX	F167	EKJ Series	ENY-1M	F107	ENY/EYS Series	ERA15	L55	EBS Series
EKJ-536	F162	ECF/EKJ Series	ENY-1-T	F107	ENY/EYS Series	ERA30	L32	EML Series
EKJ-612	F162	ECF/EKJ Series	ENY-1TM	F107	ENY/EYS Series	ERSD15	L55, L88	EBS, EM/EQ Series
EKJ-614SS-EX	F167	EKJ Series	ENY-2	F107	ENY/EYS Series	ERSD30	L32, L88	EML, EM/EQ Series
EKJ-615	F162	ECF/EKJ Series	ENY-2M	F107	ENY/EYS Series	ESCV-1	F53	E Series
EKJ-618	F162	ECF/EKJ Series	ENY-2-T	F107	ENY/EYS Series	ESCV-2	F53	E Series
EKJ-618SS-EX	F167	EKJ Series	ENY-2TM	F107	ENY/EYS Series	ESCV-3	F53	E Series
EKJ-622SS-EX	F167	EKJ Series	ENY-3	F107	ENY/EYS Series	ESCV-4	F53	E Series
EKJ-624	F162	ECF/EKJ Series	ENY-3M	F107	ENY/EYS Series	ESCV-5	F53	E Series
EKJ-626SS-EX	F167	EKJ Series	ENY-3-T	F107	ENY/EYS Series	ESCV-6	F53	E Series
EKJ-630	F162	ECF/EKJ Series	ENY-3TM	F107	ENY/EYS Series	ESCV-7	F53	E Series
EKJ-630SS-EX	F167	EKJ Series	ENY-4	F107	ENY/EYS Series	ESX120PS	L99	ESX Series
EKJ-634SS-EX	F167	EKJ Series	ENY40-0	F109	ENY40/EYD40 Series	ESX1274PS	L99	ESX Series
EKJ-636	F162	ECF/EKJ Series	ENY40-0M	F109	ENY40/EYD40 Series	ESX240PS	L99	ESX Series
EKJUF-412	F164	ECF/EKJ Series	ENY40-1	F109	ENY40/EYD40 Series	ESXAL	L99	ESX Series
EKJUF-415	F164	ECF/EKJ Series	ENY40-1M	F109	ENY40/EYD40 Series	ESXBL	L99	ESX Series
EKJUF-418	F164	ECF/EKJ Series	ENY40-2	F109	ENY40/EYD40 Series	ESXCL	L99	ESX Series
EKJUF-421	F164	ECF/EKJ Series	ENY40-2M	F109	ENY40/EYD40 Series	ESXGL	L99	ESX Series
EKJUF-424	F164	ECF/EKJ Series	ENY40-3	F109	ENY40/EYD40 Series	ESXRL	L99	ESX Series
EKJUF-430	F164	ECF/EKJ Series	ENY40-3M	F109	ENY40/EYD40 Series	EVXB/20L/LE	L111	EVOLUTION X
EKJUF-436	F164	ECF/EKJ Series	ENY40-4	F109	ENY40/EYD40 Series	EVXB/20L/LE/PE	L113	EVOLUTION X Pendant
EKJUF-512	F164	ECF/EKJ Series	ENY40-4M	F109	ENY40/EYD40 Series	EVXB/30L/LE	L111	EVOLUTION X
EKJUF-515	F164	ECF/EKJ Series	ENY40-5	F109	ENY40/EYD40 Series	EVXB/30L/LE/PE	L113	EVOLUTION X Pendant
EKJUF-518	F164	ECF/EKJ Series	ENY40-5M	F109	ENY40/EYD40 Series			

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EVXB/40L/LE	L111	EVOLUTION X	EXB-12368 N34 SU1	DE20	EXB-NFD, EXB-FDS Series	EXB-24368	DE34	EXPB2 Series
EVXB/40L/LE/PE	L113	EVOLUTION X Pendant	EXB-14146	E71	EXB / EXBLT Series	EXB-24368	DE38	EXPB3 Series
EXB/EXBLTC-10106	E71	EXB / EXBLT Series	EXB-14146 N34	E64-E66, E68	EXB Series	EXB-24368	DE39	EXPB3 Series
EXB/EXBLTC-10108	E71	EXB / EXBLT Series	EXB-14148 N34	E64-E66, E68	EXB Series	EXB-24368	E71	EXB / EXBLT Series
EXB/EXBLTC-10146	E71	EXB / EXBLT Series	EXB-16166	E71	EXB / EXBLT Series	EXB-24368 N34	DE45, E64-E66, E68	EXBLI/EXBSPI, EXB Series
EXB/EXBLTC-10148	E71	EXB / EXBLT Series	EXB-16166 N34	DE45, E64-E66, E68	EXBLI/EXBSPI, EXB Series	EXB-664 N34	E64-E66, E68	EXB Series
EXB/EXBLTC-12126	E71	EXB / EXBLT Series	EXB-16168 N34	E64-E66, E68	EXB Series	EXB-664 N34 SU1	DE20	EXB-NFD, EXB-FDS Series
EXB/EXBLTC-12128	E71	EXB / EXBLT Series	EXB-162410	E71	EXB / EXBLT Series	EXB701009 TO EXB701030	S23	EXB70 Series
EXB/EXBLTC-12186	E71	EXB / EXBLT Series	EXB-162410 N34	E64-E66, E68	EXB Series	EXB701040 TO EXB701096	S23	EXB70 Series
EXB/EXBLTC-12188	E71	EXB / EXBLT Series	EXB-16248 N34	DE45, E64-E66, E68	EXBLI/EXBSPI, EXB Series	EXB701140	S23	EXB70 Series
EXB/EXBLTC-12246	E71	EXB / EXBLT Series	EXB-18186	E71	EXB / EXBLT Series	EXB702009 TO EXB702030	S23	EXB70 Series
EXB/EXBLTC-12248	E71	EXB / EXBLT Series	EXB-18186 N34	E64-E66, E68	EXB Series	EXB702065	S23	EXB70 Series
EXB/EXBLTC-14148	E71	EXB / EXBLT Series	EXB-18188	E71	EXB / EXBLT Series	EXB702096 TO EXB702140	S23	EXB70 Series
EXB/EXBLTC-16168	E71	EXB / EXBLT Series	EXB-18188 N34	E64-E66, E68	EXB Series	EXB72SH251	S23	EXB70 Series
EXB/EXBLTC-16248	E71	EXB / EXBLT Series	EXB-182410	E71	EXB / EXBLT Series	EXB72SH252	S23	EXB70 Series
EXB/EXBLTC-8104	E71	EXB / EXBLT Series	EXB-182410 N34	E64-E66, E68	EXB Series	EXB72SH254	S23	EXB70 Series
EXB/EXBLTC-8106	E71	EXB / EXBLT Series	EXB-18248	DE34, E71	EXPB2, EXB / EXBLT Series	EXB72SH501	S23	EXB70 Series
EXB/EXBLTC-8126	E71	EXB / EXBLT Series	EXB-18248 N34	DE45, E64-E66, E68	EXBLI/EXBSPI, EXB Series	EXB72SH502	S23	EXB70 Series
EXB/EXBLTC-8128	E71	EXB / EXBLT Series	EXB-18308	DE34, E71	EXPB2, EXB / EXBLT Series	EXB72SH504	S23	EXB70 Series
EXB/EXBLTC-886	E71	EXB / EXBLT Series	EXB-18308 N34	E64-E66, E68	EXB Series	EXB72SS	S23	EXB70 Series
EXB-10106 N34	E64-E66, E68	EXB Series	EXB-183610	E71	EXB / EXBLT Series	EXB7APL-120	S23	EXB70 Series
EXB-10106 N34 SU1	DE20	EXB-NFD, EXB-FDS Series	EXB-183610 N34	E64-E66, E68	EXB Series	EXB7APL-24	S23	EXB70 Series
EXB-10108 N34	E64-E66, E68	EXB Series	EXB-18368	DE34, DE38, DE39, E71	EXPB2, EXPB3, EXB / EXBLT Series	EXB7CT100	S23	EXB70 Series
EXB-10146 N34	DE45, E64-E66, E68	EXBLI/EXBSPI, EXB Series	EXB-18368 N34	DE45, E64-E66, E68	EXBLI/EXBSPI, EXB Series	EXB7CT100-24	S23	EXB70 Series
EXB-10148 N34	E64-E66, E68	EXB Series	EXB-18368 N34 SU1	DE20	EXB-NFD, EXB-FDS Series	EXB7CT150	S23	EXB70 Series
EXB-12126 N34	E64-E66, E68	EXB Series	EXB-203611	E71	EXB / EXBLT Series	EXB7CT150-24	S23	EXB70 Series
EXB-12128 N34	E64-E66, E68	EXB Series	EXB-203611 N34	E64-E66, E68	EXB Series	EXB7CT200	S23	EXB70 Series
EXB-12186 N34	DE45, E64-E66, E68	EXBLI/EXBSPI, EXB Series	EXB-242410	E71	EXB / EXBLT Series	EXB7CT200-24	S23	EXB70 Series
EXB-12188 N34	E64-E66, E68	EXB Series	EXB-242410 N34	E64-E66, E68	EXB Series	EXB7CT250	S23	EXB70 Series
EXB-12188 N34 SU1	DE20	EXB-NFD, EXB-FDS Series	EXB-24248	E71	EXB / EXBLT Series	EXB7CT250-24	S23	EXB70 Series
EXB-122412	E71	EXB / EXBLT Series	EXB-24248 N34	E64-E66, E68	EXB Series	EXB7CT300	S23	EXB70 Series
EXB-122412 N34	E64-E66, E68	EXB Series	EXB-24308	E71	EXB / EXBLT Series	EXB7CT300-24	S23	EXB70 Series
EXB-12246 N34	DE45, E64-E66, E68	EXBLI/EXBSPI, EXB Series	EXB-24308 N34	E64-E66, E68	EXB Series	EXB7CT50	S23	EXB70 Series
EXB-12248 N34	E64-E66, E68	EXB Series	EXB-243610	E71	EXB / EXBLT Series	EXB7CT50-24	S23	EXB70 Series
EXB-12248 N34 SU1	DE20	EXB-NFD, EXB-FDS Series	EXB-243610 N34	E64-E66, E68	EXB Series	EXB7CT75	S23	EXB70 Series
EXB-123610	E71	EXB / EXBLT Series	EXB-244240	E71	EXB / EXBLT Series	EXB7CT75-24	S23	EXB70 Series
EXB-123610 N34	E64-E66, E68	EXB Series	EXB-244240 N34	E64-E66, E68	EXB Series	EXB7DBP	S23	EXB70 Series
EXB-12368	E71	EXB / EXBLT Series	EXB-244248	E71	EXB / EXBLT Series	EXB7GPL-120	S23	EXB70 Series
EXB-12368 N34	E64-E66, E68	EXB Series	EXB-244248 N34	E64-E66, E68	EXB Series	EXB7GPL-24	S23	EXB70 Series
			EXB-24308	E71	EXB / EXBLT Series	EXB7LPBA	S23	EXB70 Series
			EXB-24308 N34	E64-E66, E68	EXB Series	EXB7LPBA-24	S23	EXB70 Series
			EXB-243610	E71	EXB / EXBLT Series	EXB7LPBG	S23	EXB70 Series
			EXB-243610 N34	E64-E66, E68	EXB Series	EXB7LPBG-24	S23	EXB70 Series
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EXB7PLXF440	S23	EXB70 Series	EXBLI-36ML80	DE42	EXBLI/EXBSPI Series	EXBLTP-686 N4	DE15	EXBLTP-FDS Series
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EXB7RPL-24	S23	EXB70 Series	EXBLI-372ML260	DE42	EXBLI/EXBSPI Series	EXBLTP-886 N4	DE15	EXBLTP-FDS Series
EXB7SF	S23	EXB70 Series	EXBLT-10106 N4		EXBLT Series	EXBLTP-FDS-0303P	DE14	EXBLTP-FDS Series
EXB7SSHOA	S23	EXB70 Series			.E58-E60, E62	EXBLTP-FDS-0603P	DE14	EXBLTP-FDS Series
EXB7TB	S23	EXB70 Series	EXBLT-10108 N4		EXBLTP-FDS, EXBLT Series	EXBLTP-FDS-1003P	DE14	EXBLTP-FDS Series
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		.E64-E66, E68	EXBLT-10146 N4		EXBLT Series	EXBLTP-NFD-0303PDT	DE17	EXBLTP-NFD Series
EXB-8106 N34		EXB Series			.E58-E60, E62	EXBLTP-NFD-0306P	DE17	EXBLTP-NFD Series
		.E64-E66, E68	EXBLT-10148 N4		EXBLT Series	EXBLTP-NFD-0603P	DE17	EXBLTP-NFD Series
EXB-8106 N34 SU1	DE20	EXB-NFD, EXB-FDS Series	EXBLT-12126 N4		EXBLT Series	EXBLTP-NFD-0603PDT	DE17	EXBLTP-NFD Series
					.E58-E60, E62	EXBLTP-NFD-0606P	DE17	EXBLTP-NFD Series
EXB-8126 N34		EXBLI/EXBSPI, EXB Series	EXBLT-12128 N4		EXBLT Series	EXBLTP-NFD-1003P	DE17	EXBLTP-NFD Series
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					.E58-E60, E62	EXBLTP-NFD-2503P	DE17	EXBLTP-NFD Series
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					.E58-E60, E62	EXBLTP-NFD-3203P	DE17	EXBLTP-NFD Series
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					.E58-E60, E62	EXBLTP-NFD-6303P	DE17	EXBLTP-NFD Series
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					.E58-E60, E62	EXBLTP-NFD-8003P	DE17	EXBLTP-NFD Series
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					.E58-E60, E62	EXB-NFD-0303P	DE19	EXB-NFD, EXB-FDS Series
EXB-FDS-4003P	DE19	EXB-NFD, EXB-FDS Series	EXBLT-16168 N4		EXBLT Series			EXB-NFD-0303PDT
					.E58-E60, E62			DE19
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EXBLI-118MB	DE42	EXBLI/EXBSPI Series	EXBLT-6124 N4		EXBLT Series	EXB-NFD-0603PDT	DE19	EXB-NFD, EXB-FDS Series
EXBLI-118ML130	DE42	EXBLI/EXBSPI Series			.E58-E60, E62	EXB-NFD-0606P	DE19	EXB-NFD, EXB-FDS Series
EXBLI-124MB	DE42	EXBLI/EXBSPI Series	EXBLT-6126 N4		EXBLT Series	EXB-NFD-1003P	DE19	EXB-NFD, EXB-FDS Series
EXBLI-124ML260	DE42	EXBLI/EXBSPI Series			.E58-E60, E62	EXB-NFD-1003PDT	DE19	EXB-NFD, EXB-FDS Series
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EXBSPI-124ML260	DE43	EXBLI/EXBSPI Series	EXPB2-FS-324-MB225 . .	DE32	EXPB2 Series	EXPB3-NFS-312-MB100 .	DE38	EXPB3 Series
EXBSPI-136MB	DE43	EXBLI/EXBSPI Series	EXPB2-FS-324-ML225 . .	DE32	EXPB2 Series	EXPB3-NFS-312-ML100 .	DE38	EXPB3 Series
EXBSPI-136ML260	DE43	EXBLI/EXBSPI Series	EXPB2-FS-330-MB225 . .	DE32	EXPB2 Series	EXPB3-NFS-318-MB225 .	DE38	EXPB3 Series
EXBSPI-154MB	DE43	EXBLI/EXBSPI Series	EXPB2-FS-330-ML225 . .	DE32	EXPB2 Series	EXPB3-NFS-318-ML225 .	DE38	EXPB3 Series
EXBSPI-154ML260	DE43	EXBLI/EXBSPI Series	EXPB2-FS-336-MB225 . .	DE32	EXPB2 Series	EXPB3-NFS-324-MB225	EXPB3 Series	
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EXBSPI-372ML260	DE43	EXBLI/EXBSPI Series	EXPB2-NFS-318-MB225 .	DE33	EXPB2 Series	EY-100	F108	EY/EYD Series
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EXH2C10	E84	EXH Breaker Handles	EXPB2-NFS-330-MB225	EXPB2 Series		EY-4-T	F108	EY/EYD Series
EXH2C8	E84	EXH Breaker Handles	DE33		EY-4TM	F108	EY/EYD Series
EXH3D10	E84	EXH Breaker Handles	EXPB2-NFS-330-ML225	EXPB2 Series		EY-5	F108	EY/EYD Series
EXH3D8	E84	EXH Breaker Handles	DE33		EY-50	F108	EY/EYD Series
EXH3E10	E84	EXH Breaker Handles	EXPB2-NFS-336-MB225	EXPB2 Series		EY-50M	F108	EY/EYD Series
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EXPB2-FS-312-ML100	DE32	EXPB2 Series	EXPB3-FS-330-MB225 . .	DE37	EXPB3 Series	EY-75TM	F108	EY/EYD Series
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EY-8	F108	EY/EYD Series	EYD-6M	F108	EY/EYD Series	EYS-9	F107	ENY/EYS Series
EY-8M	F108	EY/EYD Series	EYD-6-T	F108	EY/EYD Series	EYS-9M	F107	ENY/EYS Series
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EYD-4	F108	EY/EYD Series	EYD-9M	F108	EY/EYD Series	EZB3 . L27, L32, L35, L55, L88		VMLX, EML, EZL, EBS, EM/EQ Series
EYD40-0	F109	ENY40/EYD40 Series	EYD-9-T	F108	EY/EYD Series	EZBA12	L37	EAC/EACH Series
EYD40-0M	F109	ENY40/EYD40 Series	EYD-9TM	F108	EY/EYD Series	EZCB	L93, L97	EM/EQ, EZ Series
EYD40-1	F109	ENY40/EYD40 Series	EYMF-1	F159	FF/MF/MM/BL/GUFS/Y/EYMF Series	EZD4L32, L35, L55, L88		EML, EZL, EBS, EM/EQ Series
EYD40-1M	F109	ENY40/EYD40 Series	EYMF-1-EX	F160	FF/MF/MM/BL/GUFS/Y/EYMF Series	EZD4A	L27	VMLX Series
EYD40-2	F109	ENY40/EYD40 Series	EYMF-2	F159	FF/MF/MM/BL/GUFS/Y/EYMF Series	EZGI	L95, L97	EBB, EZ Series
EYD40-2M	F109	ENY40/EYD40 Series	EYMF-2-EX	F160	FF/MF/MM/BL/GUFS/Y/EYMF Series	EZL10030	L35	EZL Series
EYD40-3	F109	ENY40/EYD40 Series	EYS-0	F107	ENY/EYS Series	EZL12530	L35	EZL Series
EYD40-3M	F109	ENY40/EYD40 Series	EYS-0M	F107	ENY/EYS Series	EZL5530	L35	EZL Series
EYD40-4	F109	ENY40/EYD40 Series	EYS-0-T	F107	ENY/EYS Series	EZL6530	L35	EZL Series
EYD40-4M	F109	ENY40/EYD40 Series	EYS-0TM	F107	ENY/EYS Series	EZL9030	L35	EZL Series
EYD40-5	F109	ENY40/EYD40 Series	EYS-1	F107	ENY/EYS Series	EZL9530	L35	EZL Series
EYD40-5M	F109	ENY40/EYD40 Series	EYS-1-T	F107	ENY/EYS Series	EZMO	L97	EZ Series
EYD40-6	F109	ENY40/EYD40 Series	EYS-2	F107	ENY/EYS Series	EZTB	L93, L97	EM/EQ, EZ Series
EYD40-6M	F109	ENY40/EYD40 Series	EYS-2-T	F107	ENY/EYS Series	EZX2 . L27, L32, L35, L55, L88		VMLX, EML, EZL, EBS, EM/EQ Series
EYD40-7	F109	ENY40/EYD40 Series	EYS-3	F107	ENY/EYS Series	EZX3 . L27, L32, L35, L55, L88		VMLX, EML, EZL, EBS, EM/EQ Series
EYD40-7M	F109	ENY40/EYD40 Series	EYS-3-T	F107	ENY/EYS Series	FB-707	F70	FB/STFB Series
EYD40-8	F109	ENY40/EYD40 Series	EYS-4	F107	ENY/EYS Series	FB-714	F70	FB/STFB Series
EYD40-8M	F109	ENY40/EYD40 Series	EYS-4-T	F107	ENY/EYS Series	FB-724	F70	FB/STFB Series
EYD40-9	F109	ENY40/EYD40 Series	EYS-5	F107	ENY/EYS Series	FB-734	F70	FB/STFB Series
EYD40-9M	F109	ENY40/EYD40 Series	EYS-5-T	F107	ENY/EYS Series	FB-745	F70	FB/STFB Series
EYD-4M	F108	EY/EYD Series	EYS-6	F107	ENY/EYS Series	FB-755	F70	FB/STFB Series
EYD-4-T	F108	EY/EYD Series	EYS-6-T	F107	ENY/EYS Series	FB-765	F70	FB/STFB Series
EYD-4TM	F108	EY/EYD Series	EYS-7	F107	ENY/EYS Series	FB-787	F70	FB/STFB Series
EYD-5	F108	EY/EYD Series	EYS-7M	F107	ENY/EYS Series	FCLA	F84	FZ/FCL-GF/FST Series
EYD-50	F108	EY/EYD Series	EYS-7-T	F107	ENY/EYS Series	FCLA-CP	F21	K-PAK
EYD-50M	F108	EY/EYD Series	EYS-7TM	F107	ENY/EYS Series			
EYD-50T	F108	EY/EYD Series	EYS-8	F107	ENY/EYS Series			
EYD-50TM	F108	EY/EYD Series	EYS-8M	F107	ENY/EYS Series			
EYD-5M	F108	EY/EYD Series						
EYD-5-T	F108	EY/EYD Series						

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FCLG	F84	FZ/FCL-GF/FST Series	FF-45-2M	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FS-2M	F72	FS/FD/FSC Series
FCL-GF	F84, F85	FZ/FCL-GF/FST Series	FF-45-2M-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FS-3	F72	FS/FD/FSC Series
FCLM	F84	FZ/FCL-GF/FST Series	FF-45-3	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FS-3M	F72	FS/FD/FSC Series
FCLN	F84	FZ/FCL-GF/FST Series	FF-45-3-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSA-1	F75	FSX/FSA/FDA/FSLB Series
FCLR	F84	FZ/FCL-GF/FST Series	FF-45-3M	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSA-2	F75	FSX/FSA/FDA/FSLB Series
FCLT	F84	FZ/FCL-GF/FST Series	FF-45-3M-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSBC	F84	FZ/FCL-GF/FST Series
FCL-VG	F84, F85	FZ/FCL-GF/FST Series	FF-45-6	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSBC-CP	F21	K-PAK
FD-1	F72	FS/FD/FSC Series	FF-45-6-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSBCM	F84	FZ/FCL-GF/FST Series
FD-1-CP	F21	K-PAK	FF-45-6M	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSC-1	F72	FS/FD/FSC Series
FD-1M	F72	FS/FD/FSC Series	FF-45-6M-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSC-1-CP	F21	K-PAK
FD-2	F72	FS/FD/FSC Series	FF-45-8	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSC-1M	F72	FS/FD/FSC Series
FD-2-CP	F21	K-PAK	FF-45-8-Ex	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSC-2	F72	FS/FD/FSC Series
FD-2M	F72	FS/FD/FSC Series	FF-45-8M	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSC-2-CP	F21	K-PAK
FD-3	F72	FS/FD/FSC Series	FF-45-8M-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSC-2M	F72	FS/FD/FSC Series
FD-3M	F72	FS/FD/FSC Series	FF-90-1	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSC-3	F72	FS/FD/FSC Series
FDA-2	F75	FSX/FSA/FDA/FSLB Series	FF-90-1-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSC-3M	F72	FS/FD/FSC Series
FDC-1	F73	FDC/FSOC/FSL Series	FF-90-1M	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCA-1	F78	FSCA/FSCT Series
FDC-1-CP	F21	K-PAK	FF-90-1M-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCA-1M	F78	FSCA/FSCT Series
FDC-1M	F73	FDC/FSOC/FSL Series	FF-90-2	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCA-2	F78	FSCA/FSCT Series
FDC-2	F73	FDC/FSOC/FSL Series	FF-90-2-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCA-2M	F78	FSCA/FSCT Series
FDC-2-CP	F21	K-PAK	FF-90-2M	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCC-1	F76	FSS/FSCC/FDCC Series
FDC-2M	F73	FDC/FSOC/FSL Series	FF-90-2M-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCC-1M	F76	FSS/FSCC/FDCC Series
FDC-3	F73	FDC/FSOC/FSL Series	FF-90-3	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCC-2	F76	FSS/FSCC/FDCC Series
FDC-3M	F73	FDC/FSOC/FSL Series	FF-90-3-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCC-2M	F76	FSS/FSCC/FDCC Series
FDCC-2	F76	FSS/FSCC/FDCC Series	FF-90-3M	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCT-1	F78	FSCA/FSCT Series
FDCC-2M	F76	FSS/FSCC/FDCC Series	FF-90-3M-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FSCT-1M	F78	FSCA/FSCT Series
FDS-2	F76	FSS/FSCC/FDCC Series	FH-2	L105	FH/VX Series	FSCT-2	F78	FSCA/FSCT Series
FDS-2M	F76	FSS/FSCC/FDCC Series	FKA-22	L103	FKA/LOOP	FSCT-2M	F78	FSCA/FSCT Series
FF-45-1	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FS-1	F72	FS/FD/FSC Series	FSL-1	F73	FDC/FSOC/FSL Series
FF-45-1-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FS-1-CP	F21	K-PAK	FSL-1M	F73	FDC/FSOC/FSL Series
FF-45-1M	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FS-1M	F72	FS/FD/FSC Series	FSL-2	F73	FDC/FSOC/FSL Series
FF-45-1M-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FS-2	F72	FS/FD/FSC Series	FSL-2M	F73	FDC/FSOC/FSL Series
FF-45-2	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	FS-2-CP	F21	K-PAK	FSLB-1	F75	FSX/FSA/FDA/FSLB Series
FF-45-2-EX	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series				FSLB-2	F75	FSX/FSA/FDA/FSLB Series
						FSOC-1	F73	FDC/FSOC/FSL Series
						FSPT	F84	FZ/FCL-GF/FST Series
						FSR-1	F74	FRS/FST Series
						FSR-1M	F74	FRS/FST Series
						FSR-2	F74	FRS/FST Series

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FSR-2M	F74	FRS/FST Series	FXCS-OB24RL	C54	FXCS Series	FXCS-1B30CL-M	C48	SEAL-XM Series
FSRG	F83	FS/FD Series	FXCS-OB3	C54	FXCS Series	FXCS-1B30-GL	C55	FXCS Series
FSS-1	F76	FSS/FSCC/FDCC Series	FXCS-OB30CL	C55	FXCS Series	FXCS-1B30GL-M	C48	SEAL-XM Series
FSS-1M	F76	FSS/FSCC/FDCC Series	FXCS-OB30GL	C55	FXCS Series	FXCS-1B30-RL	C55	FXCS Series
FSS-2	F76	FSS/FSCC/FDCC Series	FXCS-OB30RL	C55	FXCS Series	FXCS-1B30RL-GL	C55	FXCS Series
FSS-2M	F76	FSS/FSCC/FDCC Series	FXCS-OB30RL-GL	C55	FXCS Series	FXCS-1B30RL-GL-M	C48	SEAL-XM Series
FST	F84	FZ/FCL-GF/FST Series	FXCS-OB4	C54	FXCS Series	FXCS-1B30RL-M	C48	SEAL-XM Series
FST-1	F74	FRS/FST Series	FXCS-OB4U	C54	FXCS Series	FXCS-1B3-M	C47	SEAL-XM Series
FST-1M	F74	FRS/FST Series	FXCS-OB5	C54	FXCS Series	FXCS-1B4	C54	FXCS Series
FST-2	F74	FRS/FST Series	FXCS-OB7	C54	FXCS Series	FXCS-1B4-M	C47	SEAL-XM Series
FST-2M	F74	FRS/FST Series	FXCS-OK2A1	C56	FXCS Series	FXCS-1B4-U	C54	FXCS Series
FST-CP	F21	K-PAK	FXCS-OK2A5	C56	FXCS Series	FXCS-1B5	C54	FXCS Series
FSTG	F84	FZ/FCL-GF/FST Series	FXCS-OK2L3F22D	C56	FXCS Series	FXCS-1B5-M	C47	SEAL-XM Series
FSX-1	F75	FSX/FSA/FDA/FSLB Series	FXCS-OK3C4	C56	FXCS Series	FXCS-1B7	C54	FXCS Series
FSX-1M	F75	FSX/FSA/FDA/FSLB Series	FXCS-OK3C5	C56	FXCS Series	FXCS-1B7-M	C47	SEAL-XM Series
FSX-2	F75	FSX/FSA/FDA/FSLB Series	FXCS-OK3L6G32D	C56	FXCS Series	FXCS-1K2A1	C56	FXCS Series
FSX-2M	F75	FSX/FSA/FDA/FSLB Series	FXCS-OK3M6G32D	C56	FXCS Series	FXCS-1K2A1-M	C50	SEAL-XM Series
FX-10	C52	FXB Series	FXCS-OK3R6G32D	C56	FXCS Series	FXCS-1K2A5	C56	FXCS Series
FXB075SPCR	C52	FXB Series	FXCS-OK3M6G32D	C56	FXCS Series	FXCS-1K2A5-M	C50	SEAL-XM Series
FXB-1	C52, C59	FXB, FXS Series	FXCS-OKMMG3	C55	FXCS Series	FXCS-1K2L3F22D	C56	FXCS Series
FXB-10	C52	FXB Series	FXCS-OKMMK3	C55	FXCS Series	FXCS-1K2L3F22D-M	C50	SEAL-XM Series
FXB105PCR	C52	FXB Series	FXCS-OMMR3	C55, C69	FXCS, X/XS/XCS Series	FXCS-1K3C4	C56	FXCS Series
FXB-11	C52	FXB Series	FXCS-OMMR3-LOM	C55	FXCS Series	FXCS-1K3C4-M	C50	SEAL-XM Series
FXB-12	C52	FXB Series	FXCS-OS2A1	C56	FXCS Series	FXCS-1K3C5	C56	FXCS Series
FXB155PCR	C52	FXB Series	FXCS-OS2A5	C56	FXCS Series	FXCS-1K3C5-M	C50	SEAL-XM Series
FXB-2	C52, C59	FXB, FXS Series	FXCS-OS2L3F	C56	FXCS Series	FXCS-1K3L6G32D	C56	FXCS Series
FXB205PCR	C52	FXB Series	FXCS-OS3C4	C56	FXCS Series	FXCS-1K3L6G32D-M	C50	SEAL-XM Series
FXB-3	C52, C59	FXB, FXS Series	FXCS-OS3C5	C56	FXCS Series	FXCS-1K3M6G32D	C56	FXCS Series
FXB-4	C52, C59	FXB, FXS Series	FXCS-OS3L6G	C56	FXCS Series	FXCS-1K3M6G32D-M	C50	SEAL-XM Series
FXB-5	C52, C59	FXB, FXS Series	FXCS-OS3M6G	C56	FXCS Series	FXCS-1K3R6G32D	C56	FXCS Series
FXB-6	C52, C59	FXB, FXS Series	FXCS-OS3R6G	C56	FXCS Series	FXCS-1K3R6G32D-M	C50	SEAL-XM Series
FXB-7	C52	FXB Series	FXCS-1A15	C55	FXCS Series	FXCS-1MMG3-M	C48	SEAL-XM Series
FXB-8	C52	FXB Series	FXCS-1B1	C54	FXCS Series	FXCS-1MMK3-M	C48	SEAL-XM Series
FXB-9	C52	FXB Series	FXCS-1B13-0	C55	FXCS Series	FXCS-1MMR3-M	C48	SEAL-XM Series
FXCS-2S3L6G	C56	FXCS Series	FXCS-1B13-0-M	C48	SEAL-XM Series	FXCS-1S2A1	C56	FXCS Series
FXCS-0A15	C55	FXCS Series	FXCS-1B13-C	C55	FXCS Series	FXCS-1S2A1-M	C49	SEAL-XM Series
FXCS-OB1	C54	FXCS Series	FXCS-1B13-C-M	C48	SEAL-XM Series	FXCS-1S2A5	C56	FXCS Series
FXCS-OB13-0	C55	FXCS Series	FXCS-1B13-U	C55	FXCS Series	FXCS-1S2A5-M	C49	SEAL-XM Series
FXCS-OB13-C	C55	FXCS Series	FXCS-1B13-U-M	C48	SEAL-XM Series	FXCS-1S2L3F	C56	FXCS Series
FXCS-OB13-U	C55	FXCS Series	FXCS-1B1-M	C47	SEAL-XM Series	FXCS-1S2L3F-M	C49	SEAL-XM Series
FXCS-OB2	C54	FXCS Series	FXCS-1B2	C54	FXCS Series	FXCS-1S3C4	C56	FXCS Series
FXCS-OB24CL	C54	FXCS Series	FXCS-1B24-CL	C54	FXCS Series	FXCS-1S3C4-M	C49	SEAL-XM Series
FXCS-OB24GL	C54	FXCS Series	FXCS-1B24CL-M	C47	SEAL-XM Series	FXCS-1S3C5	C56	FXCS Series
			FXCS-1B24-GL	C54	FXCS Series	FXCS-1S3C5-M	C49	SEAL-XM Series
			FXCS-1B24GL-M	C47	SEAL-XM Series	FXCS-1S3L6G	C56	FXCS Series
			FXCS-1B24-RL	C54	FXCS Series	FXCS-1S3L6G-M	C49	SEAL-XM Series
			FXCS-1B24RL-M	C47	SEAL-XM Series	FXCS-1S3M6G	C56	FXCS Series
			FXCS-1B2-M	C47	SEAL-XM Series	FXCS-1S3M6G-M	C49	SEAL-XM Series
			FXCS-1B3	C54	FXCS Series	FXCS-1S3R6G	C56	FXCS Series
			FXCS-1B30-CL	C55	FXCS Series			

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FXCS-1S3R6G-M	C49	SEAL-XM Series	FXCS-2K3R6G32D	C56	FXCS Series	FXCS-4B4-U	C54	FXCS Series
FXCS-2A15	C55	FXCS Series	FXCS-2K3R6G32D-M	C50	SEAL-XM Series	FXCS-4B5	C54	FXCS Series
FXCS-2B1	C54	FXCS Series	FXCS-2MMG3-M	C48	SEAL-XM Series	FXCS-4B5-M	C47	SEAL-XM Series
FXCS-2B13-0	C55	FXCS Series	FXCS-2MMK3-M	C48	SEAL-XM Series	FXCS-4B7	C54	FXCS Series
FXCS-2B13-0-M	C48	SEAL-XM Series	FXCS-2MMR3-M	C48	SEAL-XM Series	FXCS-4B7-M	C47	SEAL-XM Series
FXCS-2B13-C	C55	FXCS Series	FXCS-2S2A1	C56	FXCS Series	FXCS-4K2A1	C56	FXCS Series
FXCS-2B13-C-M	C48	SEAL-XM Series	FXCS-2S2A1-M	C49	SEAL-XM Series	FXCS-4K2A1-M	C50	SEAL-XM Series
FXCS-2B13-U	C55	FXCS Series	FXCS-2S2A5	C56	FXCS Series	FXCS-4K2A5	C56	FXCS Series
FXCS-2B13-U-M	C48	SEAL-XM Series	FXCS-2S2A5-M	C49	SEAL-XM Series	FXCS-4K2A5-M	C50	SEAL-XM Series
FXCS-2B1-M	C47	SEAL-XM Series	FXCS-2S2L3F	C56	FXCS Series	FXCS-4K2L3F22D	C56	FXCS Series
FXCS-2B2	C54	FXCS Series	FXCS-2S2L3F-M	C49	SEAL-XM Series	FXCS-4K2L3F22D-M	C50	SEAL-XM Series
FXCS-2B24-CL	C54	FXCS Series	FXCS-2S3C4	C56	FXCS Series	FXCS-4K3C4	C56	FXCS Series
FXCS-2B24CL-M	C47	SEAL-XM Series	FXCS-2S3C4-M	C49	SEAL-XM Series	FXCS-4K3C4-M	C50	SEAL-XM Series
FXCS-2B24-GL	C54	FXCS Series	FXCS-2S3C5	C56	FXCS Series	FXCS-4K3C5	C56	FXCS Series
FXCS-2B24GL-M	C47	SEAL-XM Series	FXCS-2S3C5-M	C49	SEAL-XM Series	FXCS-4K3C5-M	C50	SEAL-XM Series
FXCS-2B24-RL	C54	FXCS Series	FXCS-2S3L6G-M	C49	SEAL-XM Series	FXCS-4K3L6G32D	C56	FXCS Series
FXCS-2B24RL-M	C47	SEAL-XM Series	FXCS-2S3M6G	C56	FXCS Series	FXCS-4K3L6G32D-M	C50	SEAL-XM Series
FXCS-2B2-M	C47	SEAL-XM Series	FXCS-2S3M6G-M	C49	SEAL-XM Series	FXCS-4K3M6G32D	C56	FXCS Series
FXCS-2B3	C54	FXCS Series	FXCS-2S3R6G	C56	FXCS Series	FXCS-4K3M6G32D-M	C50	SEAL-XM Series
FXCS-2B30-CL	C55	FXCS Series	FXCS-2S3R6G-M	C49	SEAL-XM Series	FXCS-4K3R6G32D	C56	FXCS Series
FXCS-2B30CL-M	C48	SEAL-XM Series	FXCS-4A15	C55	FXCS Series	FXCS-4K3R6G32D-M	C50	SEAL-XM Series
FXCS-2B30-GL	C55	FXCS Series	FXCS-4B1	C54	FXCS Series	FXCS-4MMG3-M	C48	SEAL-XM Series
FXCS-2B30GL-M	C48	SEAL-XM Series	FXCS-4B13-0	C55	FXCS Series	FXCS-4MMK3-M	C48	SEAL-XM Series
FXCS-2B30-RL	C55	FXCS Series	FXCS-4B13-0-M	C48	SEAL-XM Series	FXCS-4MMR3-M	C48	SEAL-XM Series
FXCS-2B30RL-GL	C55	FXCS Series	FXCS-4B13-C	C55	FXCS Series	FXCS-4S2A1	C56	FXCS Series
FXCS-2B30RL-GL-M	C48	SEAL-XM Series	FXCS-4B13-C-M	C48	SEAL-XM Series	FXCS-4S2A1-M	C49	SEAL-XM Series
FXCS-2B30RL-M	C48	SEAL-XM Series	FXCS-4B13-U	C55	FXCS Series	FXCS-4S2A5	C56	FXCS Series
FXCS-2B3-M	C47	SEAL-XM Series	FXCS-4B13-U-M	C48	SEAL-XM Series	FXCS-4S2A5-M	C49	SEAL-XM Series
FXCS-2B4	C54	FXCS Series	FXCS-4B1-M	C47	SEAL-XM Series	FXCS-4S2L3F	C56	FXCS Series
FXCS-2B4-M	C47	SEAL-XM Series	FXCS-4B2	C54	FXCS Series	FXCS-4S2L3F-M	C49	SEAL-XM Series
FXCS-2B4-U	C54	FXCS Series	FXCS-4B24-CL	C54	FXCS Series	FXCS-4S3C4	C56	FXCS Series
FXCS-2B5	C54	FXCS Series	FXCS-4B24CL-M	C47	SEAL-XM Series	FXCS-4S3C4-M	C49	SEAL-XM Series
FXCS-2B5-M	C47	SEAL-XM Series	FXCS-4B24-GL	C54	FXCS Series	FXCS-4S3C5	C56	FXCS Series
FXCS-2B7	C54	FXCS Series	FXCS-4B24GL-M	C47	SEAL-XM Series	FXCS-4S3C5-M	C49	SEAL-XM Series
FXCS-2B7-M	C47	SEAL-XM Series	FXCS-4B24-RL	C54	FXCS Series	FXCS-4S3L6G	C56	FXCS Series
FXCS-2K2A1	C56	FXCS Series	FXCS-4B24RL-M	C47	SEAL-XM Series	FXCS-4S3L6G-M	C49	SEAL-XM Series
FXCS-2K2A1-M	C50	SEAL-XM Series	FXCS-4B2-M	C47	SEAL-XM Series	FXCS-4S3M6G	C56	FXCS Series
FXCS-2K2A5	C56	FXCS Series	FXCS-4B3	C54	FXCS Series	FXCS-4S3M6G-M	C49	SEAL-XM Series
FXCS-2K2A5-M	C50	SEAL-XM Series	FXCS-4B30-CL	C55	FXCS Series	FXCS-4S3R6G	C56	FXCS Series
FXCS-2K2L3F22D	C56	FXCS Series	FXCS-4B30CL-M	C48	SEAL-XM Series	FXCS-4S3R6G-M	C49	SEAL-XM Series
FXCS-2K2L3F22D-M	C50	SEAL-XM Series	FXCS-4B30-GL	C55	FXCS Series	FXCS-5A15	C55	FXCS Series
FXCS-2K3C4	C56	FXCS Series	FXCS-4B30GL-M	C48	SEAL-XM Series	FXCS-5B1	C54	FXCS Series
FXCS-2K3C4-M	C50	SEAL-XM Series	FXCS-4B30-RL	C55	FXCS Series	FXCS-5B13-0	C55	FXCS Series
FXCS-2K3C5	C56	FXCS Series	FXCS-4B30RL-GL	C55	FXCS Series	FXCS-5B13-0-M	C48	SEAL-XM Series
FXCS-2K3C5-M	C50	SEAL-XM Series	FXCS-4B30RL-GL-M	C48	SEAL-XM Series	FXCS-5B13-C	C55	FXCS Series
FXCS-2K3L6G32D	C56	FXCS Series	FXCS-4B30RL-M	C48	SEAL-XM Series	FXCS-5B13-C-M	C48	SEAL-XM Series
FXCS-2K3L6G32D-M	C50	SEAL-XM Series	FXCS-4B3-M	C47	SEAL-XM Series	FXCS-5B13-U	C55	FXCS Series
FXCS-2K3M6G32D	C56	FXCS Series	FXCS-4B4	C54	FXCS Series	FXCS-5B13-U-M	C48	SEAL-XM Series
FXCS-2K3M6G32D-M	C50	SEAL-XM Series	FXCS-4B4-M	C47	SEAL-XM Series	FXCS-5B1-M	C47	SEAL-XM Series

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FXCS-5B2	C54	FXCS Series	FXCS-5S2L3F-M	C49	SEAL-XM Series	FXS-5C	C58	FXS Series
FXCS-5B24-CL	C54	FXCS Series	FXCS-5S3C4	C56	FXCS Series	FXS-6C	C58	FXS Series
FXCS-5B24CL-M	C47	SEAL-XM Series	FXCS-5S3C4-M	C49	SEAL-XM Series	FXS-8C	C58	FXS Series
FXCS-5B24-GL	C54	FXCS Series	FXCS-5S3C5	C56	FXCS Series	FXSD01	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B24GL-M	C47	SEAL-XM Series	FXCS-5S3C5-M	C49	SEAL-XM Series	FXSD02	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B24-RL	C54	FXCS Series	FXCS-5S3L6G	C56	FXCS Series	FXSD11	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B24RL-M	C47	SEAL-XM Series	FXCS-5S3L6G-M	C49	SEAL-XM Series	FXSD12	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B2-M	C47	SEAL-XM Series	FXCS-5S3M6G	C56	FXCS Series	FXSD21	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B3	C54	FXCS Series	FXCS-5S3M6G-M	C49	SEAL-XM Series	FXSD22	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B30-CL	C55	FXCS Series	FXCS-5S3R6G	C56	FXCS Series	FXSD41	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B30CL-M	C48	SEAL-XM Series	FXCS-5S3R6G-M	C49	SEAL-XM Series	FXSD42	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B30-GL	C55	FXCS Series	FXS-11C	C58	FXS Series	FXSD51	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B30GL-M	C48	SEAL-XM Series	FXS-11D	C58	FXS Series	FXSD52	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B30-RL	C55	FXCS Series	FXS-12C	C58	FXS Series	FXS-GFI03	C59	FXS Series
FXCS-5B30RL-GL	C55	FXCS Series	FXS-12D	C58	FXS Series	FXS-GFI-1020	C59	FXS Series
FXCS-5B30RL-GL-M	C48	SEAL-XM Series	FXS-13C	C58	FXS Series	FXS-GFI-1120	C59	FXS Series
FXCS-5B30RL-M	C48	SEAL-XM Series	FXS-15C	C58	FXS Series	FXS-GFI-2020	C59	FXS Series
FXCS-5B3-M	C47	SEAL-XM Series	FXS-16C	C58	FXS Series	FXS-GFI-2120	C59	FXS Series
FXCS-5B4	C54	FXCS Series	FXS-18C	C58	FXS Series	FXS-GFI-3020	C59	FXS Series
FXCS-5B4-M	C47	SEAL-XM Series	FXS-1C	C58	FXS Series	FXS-GFI-3120	C59	FXS Series
FXCS-5B4-U	C54	FXCS Series	FXS-1D	C58	FXS Series	FXSX02	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B5	C54	FXCS Series	FXS-21C	C58	FXS Series	FXSX03	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B5-M	C47	SEAL-XM Series	FXS-21D	C58	FXS Series	FXSX12	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B7	C54	FXCS Series	FXS-22C	C58	FXS Series	FXSX13	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5B7-M	C47	SEAL-XM Series	FXS-22D	C58	FXS Series	FXSX22	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5K2A1	C56	FXCS Series	FXS-23C	C58	FXS Series	FXSX23	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5K2A1-M	C50	SEAL-XM Series	FXS-25C	C58	FXS Series	FXSX42	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5K2A5	C56	FXCS Series	FXS-26C	C58	FXS Series	FXSX43	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5K2A5-M	C50	SEAL-XM Series	FXS-28C	C58	FXS Series	FXSX52	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5K2L3F22D	C56	FXCS Series	FXS-2C	C58	FXS Series	FXSX53	S11	XSD/XSX/FXSD/ FXSX Series
FXCS-5K2L3F22D-M	C50	SEAL-XM Series	FXS-2D	C58	FXS Series	FZ	F85	FCL/FZ Series
FXCS-5K3C4	C56	FXCS Series	FXS-3C	C58	FXS Series	FZB647	F84, F85	FZ/FCL-GF/FST Series
FXCS-5K3C4-M	C50	SEAL-XM Series	FXS-41C	C58	FXS Series	FZB648	F84, F85	FZ/FCL-GF/FST Series
FXCS-5K3C5	C56	FXCS Series	FXS-41D	C58	FXS Series	G014-OG N34	C102	G Series
FXCS-5K3C5-M	C50	SEAL-XM Series	FXS-42C	C58	FXS Series	G014-6G N34	C102	G Series
FXCS-5K3L6G32D	C56	FXCS Series	FXS-42D	C58	FXS Series	G015-OG N34	C102	G Series
FXCS-5K3L6G32D-M	C50	SEAL-XM Series	FXS-43C	C58	FXS Series			
FXCS-5K3M6G32D	C56	FXCS Series	FXS-45C	C58	FXS Series			
FXCS-5K3M6G32D-M	C50	SEAL-XM Series	FXS-46C	C58	FXS Series			
FXCS-5K3R6G32D	C56	FXCS Series	FXS-48C	C58	FXS Series			
FXCS-5K3R6G32D-M	C50	SEAL-XM Series	FXS-4C	C58	FXS Series			
FXCS-5MMG3-M	C48	SEAL-XM Series	FXS-51C	C58	FXS Series			
FXCS-5MMK3-M	C48	SEAL-XM Series	FXS-51D	C58	FXS Series			
FXCS-5MMR3-M	C48	SEAL-XM Series	FXS-52C	C58	FXS Series			
FXCS-5S2A1	C56	FXCS Series	FXS-52D	C58	FXS Series			
FXCS-5S2A1-M	C49	SEAL-XM Series	FXS-53C	C58	FXS Series			
FXCS-5S2A5	C56	FXCS Series	FXS-55C	C58	FXS Series			
FXCS-5S2A5-M	C49	SEAL-XM Series	FXS-56C	C58	FXS Series			
FXCS-5S2L3F	C56	FXCS Series	FXS-58C	C58	FXS Series			

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G015-6G N34	C102	G Series	G07-6G N34	C102	G Series	GASK852N	F27	DURALOY 8 Series
G025-2A0F	C102	G Series	G08-2A0F22D N34	C103	G Series	GASK853N	F27	DURALOY 8 Series
G025-2A3F	C102	G Series	G08-2A3F22D N34	C103	G Series	GASK854N	F27	DURALOY 8 Series
G025-3COG	C102	G Series	G08-3COG32D N34	C103	G Series	GCS-13	C105	GCS/SWBC Series
G025-3C3G	C102	G Series	G08-3C3G32D N34	C103	G Series	GCS-131	C105	GCS/SWBC Series
G025-4H0H	C102	G Series	GOL14	C102	G Series	GCS-14	C105	GCS/SWBC Series
G025-4H8H	C102	G Series	GOL146	C102	G Series	GCS-141	C105	GCS/SWBC Series
G026-0F	C102	G Series	GOL15	C102	G Series	GCS-15	C105	GCS/SWBC Series
G026-3F	C102	G Series	GOL156	C102	G Series	GCS-152	C105	GCS/SWBC Series
G027-0G	C102	G Series	GOL36L022D	C103	G Series	GCS-16	C105	GCS/SWBC Series
G027-6G	C102	G Series	GOL36L322D	C103	G Series	GCS-163	C105	GCS/SWBC Series
G028-2A0F22D	C103	G Series	GOL37C032D	C103	G Series	GCS-83	C105	GCS/SWBC Series
G028-2A3F22D	C103	G Series	GOL37C632D	C103	G Series	GCS-834	C105	GCS/SWBC Series
G028-3COG32D	C103	G Series	GOL38L032D	C103	G Series	GCS-835	C105	GCS/SWBC Series
G028-3C3G32D	C103	G Series	GOL38L632D	C103	G Series	GCS-85	C105	GCS/SWBC Series
G02-GR00D N34	C99	G Series	GOL39R032D	C103	G Series	GD-B1516-23SL-TC	CN64	Explosionproof Starline
G02-GR12D N34	C99	G Series	GOL39R632D	C103	G Series	GD-B1516-23SL-XX	CN64	Explosionproof Starline
G02-GR33D N34	C99	G Series	GOL52A	C102	G Series	GD-B1516-51SL-TC	CN64	Explosionproof Starline
G02-KK00D N34	C99	G Series	GOL52A3	C102	G Series	GD-B1516-51SL-XX	CN64	Explosionproof Starline
G02-KK12D N34	C99	G Series	GOL53C	C102	G Series	GD-B1520-36SL-TC	CN64	Explosionproof Starline
G02-KK33D N34	C99	G Series	GOL53C3	C102	G Series	GD-B1520-36SL-XX	CN64	Explosionproof Starline
G034-0G	C102	G Series	GOL54H	C102	G Series	GD-B1520-40SL-TC	CN64	Explosionproof Starline
G034-6G	C102	G Series	GOL54H8	C102	G Series	GD-B1520-40SL-XX	CN64	Explosionproof Starline
G035-0G	C102	G Series	GOL6	C102	G Series	GD-B1520-56SL-TC	CN64	Explosionproof Starline
G035-6G	C102	G Series	GOL63	C102	G Series	GD-B1520-56SL-XX	CN64	Explosionproof Starline
G036-2L0F22D N34	C103	G Series	GOL7	C102	G Series	GD-B1520-61SL-TC	CN64	Explosionproof Starline
G036-2L3F22D N34	C103	G Series	GOL76	C102	G Series	GD-B1520-61SL-XX	CN64	Explosionproof Starline
G037-3COG32D N34	C103	G Series	GOL82A022D	C103	G Series	GD-B1524-29SL-TC	CN64	Explosionproof Starline
G037-3C6G32D N34	C103	G Series	GOL82A322D	C103	G Series	GD-B1524-29SL-XX	CN64	Explosionproof Starline
G038-3L6G32D N34	C103	G Series	GOL83C032D	C103	G Series	GD-B1524-32SL-TC	CN64	Explosionproof Starline
G038-3LOG32D N34	C103	G Series	GOL83C332D	C103	G Series	GD-B1524-32SL-XX	CN64	Explosionproof Starline
G039-3R0G32D N34	C103	G Series	G16-20	CN110	HP20 Series	GD-B1524-39SL-TC	CN64	Explosionproof Starline
G039-3R6G32D N34	C103	G Series	G18-20	CN110	HP20 Series	GD-B1524-39SL-XX	CN64	Explosionproof Starline
G05-2A0F N34	C102	G Series	G20-20	CN110	HP20 Series	GD-B1524-60SL-TC	CN64	Explosionproof Starline
G05-2A3F N34	C102	G Series	G22-20	CN110	HP20 Series	GD-B1524-60SL-XX	CN64	Explosionproof Starline
G05-3COG N34	C102	G Series	G24-20	CN110	HP20 Series	GD-B1528-23SL-TC	CN64	Explosionproof Starline
G05-3C3G N34	C102	G Series	GASK571	F19	DURALOY 7 Series			
G05-4H0H N34	C102	G Series	GASK572	F19	DURALOY 7 Series			
G05-4H8H N34	C102	G Series	GASK573	F19	DURALOY 7 Series			
G056-2L0F22D	C103	G Series	GASK574	F19	DURALOY 7 Series			
G056-2L3F22D	C103	G Series	GASK575	F19	DURALOY 7 Series			
G057-3COG32D	C103	G Series	GASK576	F19	DURALOY 7 Series			
G057-3C6G32D	C103	G Series	GASK578	F19	DURALOY 7 Series			
G058-3LOG32D	C103	G Series	GASK579	F19	DURALOY 7 Series			
G058-3L6G32D	C103	G Series	GASK805N	F27	DURALOY 8 Series			
G059-3R6G32D	C103	G Series	GASK806N	F27	DURALOY 8 Series			
G06-0F N34	C102	G Series	GASK808N	F27	DURALOY 8 Series			
G06-3F N34	C102	G Series	GASK809N	F27	DURALOY 8 Series			
G07-0G N34	C102	G Series	GASK851N	F27	DURALOY 8 Series			

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
GD-B1528-23SL-XX	CN64	Explosionproof Starline	GD-B1924-32SL-L48	CN64	Explosionproof Starline	GDT-B1928-42SL-L48	CN64	Explosionproof Starline
GD-B1716-23SL- FH	CN64	Explosionproof Starline	GD-B1924-39SL-L48	CN64	Explosionproof Starline	GDT-D1028-42PL-TC	CN64	Explosionproof Starline
GD-B1716-23SL-L36	CN64	Explosionproof Starline	GD-B1924-60SL-L48	CN64	Explosionproof Starline	GDT-D1028-42PL-XX	CN64	Explosionproof Starline
GD-B1716-51SL-FH	CN64	Explosionproof Starline	GD-B1928-23SL-L48	CN64	Explosionproof Starline	GDU-B1528-30SL-TC	CN64	Explosionproof Starline
GD-B1716-51SL-L36	CN64	Explosionproof Starline	GD-D1016-23PL-TC	CN64	Explosionproof Starline	GDU-B1528-30SL-XX	CN64	Explosionproof Starline
GD-B1720-36SL- FH	CN64	Explosionproof Starline	GD-D1016-23PL-XX	CN64	Explosionproof Starline	GDU-B1528-31SL-TC	CN64	Explosionproof Starline
GD-B1720-36SL-L36	CN64	Explosionproof Starline	GD-D1016-51PL-TC	CN64	Explosionproof Starline	GDU-B1528-31SL-XX	CN64	Explosionproof Starline
GD-B1720-40SL- FH	CN64	Explosionproof Starline	GD-D1016-51PL-XX	CN64	Explosionproof Starline	GDU-B1728-30SL-BL	CN64	Explosionproof Starline
GD-B1720-40SL-L36	CN64	Explosionproof Starline	GD-D1020-36PL-TC	CN64	Explosionproof Starline	GDU-B1728-30SL-L36	CN64	Explosionproof Starline
GD-B1720-56SL-FH	CN64	Explosionproof Starline	GD-D1020-36PL-XX	CN64	Explosionproof Starline	GDU-B1728-31SL-BL	CN64	Explosionproof Starline
GD-B1720-56SL-L36	CN64	Explosionproof Starline	GD-D1020-40PL-TC	CN64	Explosionproof Starline	GDU-B1728-31SL-L36	CN64	Explosionproof Starline
GD-B1720-61SL- FH	CN64	Explosionproof Starline	GD-D1020-40PL-XX	CN64	Explosionproof Starline	GDU-B1928-30SL-L48	CN64	Explosionproof Starline
GD-B1720-61SL-L36	CN64	Explosionproof Starline	GD-D1020-56PL-TC	CN64	Explosionproof Starline	GDU-B1928-31SL-L48	CN64	Explosionproof Starline
GD-B1724-29SL-BK	CN64	Explosionproof Starline	GD-D1020-56PL-XX	CN64	Explosionproof Starline	GDU-D1028-30PL-TC	CN64	Explosionproof Starline
GD-B1724-29SL-L36	CN64	Explosionproof Starline	GD-D1020-61PL-TC	CN64	Explosionproof Starline	GDU-D1028-30PL-XX	CN64	Explosionproof Starline
GD-B1724-32SL-BK	CN64	Explosionproof Starline	GD-D1020-61PL-XX	CN64	Explosionproof Starline	GDU-D1028-31PL-TC	CN64	Explosionproof Starline
GD-B1724-32SL-L36	CN64	Explosionproof Starline	GD-D1024-29PL-TC	CN64	Explosionproof Starline	GDU-D1028-31PL-XX	CN64	Explosionproof Starline
GD-B1724-39SL-BK	CN64	Explosionproof Starline	GD-D1024-29PL-XX	CN64	Explosionproof Starline	GEBC-1-EX	F121	GEB Series
GD-B1724-39SL-L36	CN64	Explosionproof Starline	GD-D1024-32PL-TC	CN64	Explosionproof Starline	GEBC-2	F118	GEB Series
GD-B1724-60SL-BK	CN64	Explosionproof Starline	GD-D1024-32PL-XX	CN64	Explosionproof Starline	GEBC-2-10TBZD-EX	E51	GEB Series
GD-B1724-60SL-L36	CN64	Explosionproof Starline	GD-D1024-39PL-TC	CN64	Explosionproof Starline	GEBC-2-6TBMK-EX	E51	GEB Series
GD-B1728-23SL-BL	CN64	Explosionproof Starline	GD-D1024-39PL-XX	CN64	Explosionproof Starline	GEBC-2-8TBMK-EX	E51	GEB Series
GD-B1728-23SL-L36	CN64	Explosionproof Starline	GD-D1024-60PL-TC	CN64	Explosionproof Starline	GEBC-2-EX	F121	GEB Series
GD-B1916-23SL-L48	CN64	Explosionproof Starline	GD-D1024-60PL-XX	CN64	Explosionproof Starline	GEBC-3	F118	GEB Series
GD-B1916-51SL-L48	CN64	Explosionproof Starline	GD-D1028-23PL-TC	CN64	Explosionproof Starline	GEBC-310TBZD-EX	E51	GEB Series
GD-B1920-36SL-L48	CN64	Explosionproof Starline	GD-D1028-23PL-XX	CN64	Explosionproof Starline	GEBC-3-6TBMK-EX	E51	GEB Series
GD-B1920-40SL-L48	CN64	Explosionproof Starline	GDT-B1528-42SL-TC	CN64	Explosionproof Starline	GEBC-3-8TBMK-EX	E51	GEB Series
GD-B1920-56SL-L48	CN64	Explosionproof Starline	GDT-B1528-42SL-XX	CN64	Explosionproof Starline	GEBC-3-EX	F121	GEB Series
GD-B1920-61SL-L48	CN64	Explosionproof Starline	GDT-B1728-42SL-BL	CN64	Explosionproof Starline	GEBC-4	F118	GEB Series
GD-B1924-29SL-L48	CN64	Explosionproof Starline	GDT-B1728-42SL-L36	CN64	Explosionproof Starline	GEBC-4-EX	F121	GEB Series
						GEBC-5	F118	GEB Series
						GEBC-5-EX	F121	GEB Series
						GEBL-1-EX	F121	GEB Series
						GEBL-2	F118	GEB Series
						GEBL-2-EX	F121	GEB Series
						GEBL-3	F118	GEB Series
						GEBL-3-EX	F121	GEB Series
						GEBL-4	F118	GEB Series
						GEBL-4-EX	F121	GEB Series

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Part #	SEC./PG	PROD. GRP.
GEBL-5	F118	GEB Series
GEBL-5-EX	F121	GEB Series
GEBT-1-EX	F121	GEB Series
GEBT-2	F119	GEB Series
GEBT-2-10TBZD-EX	E51	GEB Series
GEBT-24	F119	GEB Series
GEBT-24-EX	F121	GEB Series
GEBT-25	F119	GEB Series
GEBT-25-EX	F121	GEB Series
GEBT-2-6TBMK-EX	E51	GEB Series
GEBT-2-8TBMK-EX	E51	GEB Series
GEBT-2-EX	F121	GEB Series
GEBT-3	F119	GEB Series
GEBT-310TBZD-EX	E51	GEB Series
GEBT-3-6TBMK-EX	E51	GEB Series
GEBT-3-8TBMK-EX	E51	GEB Series
GEBT-3-EX	F121	GEB Series
GEBT-4	F119	GEB Series
GEBT-4-EX	F121	GEB Series
GEBT-5	F119	GEB Series
GEBT-5-EX	F121	GEB Series
GEBX-1-EX	F121	GEB Series
GEBX-2	F119	GEB Series
GEBX-2-10TBZD-EX	E51	GEB Series
GEBX-25	F119	GEB Series
GEBX-25-EX	F121	GEB Series
GEBX-2-6TBMK-EX	E51	GEB Series
GEBX-2-8TBMK-EX	E51	GEB Series
GEBX-2-EX	F121	GEB Series
GEBX-3	F119	GEB Series
GEBX-310TBZD-EX	E51	GEB Series
GEBX-3-6TBMK-EX	E51	GEB Series
GEBX-3-8TBMK-EX	E51	GEB Series
GEBX-3-EX	F121	GEB Series
GEBX-4	F119	GEB Series
GEBX-4-EX	F121	GEB Series
GEBX-5	F119	GEB Series
GEBX-5-EX	F121	GEB Series
GECBC	F129	GE Series
GECBCB	F129	GE Series
GECBCM	F129	GE Series
GECCAT-1	F126	GE Series
GECCAT-1M	F126	GE Series
GECCT-1	F124	GE Series
GECCT-1M	F124	GE Series
GECCT-2	F124	GE Series
GECCT-2-6TB	E49	GE Series
GECCT-2M	F124	GE Series
GECCT-3	F124	GE Series

Part #	SEC./PG	PROD. GRP.
GECCT-3M	F124	GE Series
GECEAT-2	F126	GE Series
GECEAT-2M	F126	GE Series
GECET-1	F123	GE Series
GECET-1M	F123	GE Series
GECET-2	F123	GE Series
GECET-2M	F123	GE Series
GECET-3	F123	GE Series
GECET-3M	F123	GE Series
GECEY	F129	GE Series
GECLBT-1	F125	GE Series
GECLBT-1M	F125	GE Series
GECLBT-2	F125	GE Series
GECLBT-2M	F125	GE Series
GECLBT-3	F125	GE Series
GECLBT-3M	F125	GE Series
GECLT-1	F124	GE Series
GECLT-1M	F124	GE Series
GECLT-2	F124	GE Series
GECLT-2M	F124	GE Series
GECLT-3	F124	GE Series
GECLT-3M	F124	GE Series
GEC-ORG	F129	GE Series
GEC-RG	F129, F133-F134	GE, GR Series
GECTAT-2	F126	GE Series
GECTAT-2M	F126	GE Series
GECTT-1	F125	GE Series
GECTT-1M	F125	GE Series
GECTT-2	F125	GE Series
GECTT-2-6TB	E49	GE Series
GECTT-2M	F125	GE Series
GECTT-3	F125	GE Series
GECTT-3M	F125	GE Series
GECUET-2	F128	GEC Series
GECUET-2M	F128	GEC Series
GECXAT-1	F126	GE Series
GECXAT-1M	F126	GE Series
GECXAT-2	F126	GE Series
GECXAT-2M	F126	GE Series
GECXAT-3	F126	GE Series
GECXAT-3M	F126	GE Series
GECXT-1	F125	GE Series
GECXT-1M	F125	GE Series
GECXT-2	F125	GE Series
GECXT-2-6TB	E49	GE Series
GECXT-2M	F125	GE Series
GECXT-3	F125	GE Series
GECXT-3M	F125	GE Series
GECXTF-1	F128	GEC Series

Part #	SEC./PG	PROD. GRP.
GECXTF-1M	F128	GEC Series
GECXTF-2	F128	GEC Series
GECXTF-2-6TB	E49	GE Series
GECXTF-2M	F128	GEC Series
GECXTF-3	F128	GEC Series
GECXTF-3M	F128	GEC Series
GEJCT-5	F124	GE Series
GEJCT-5M	F124	GE Series
GEJCT-6	F124	GE Series
GEJCT-6M	F124	GE Series
GEJET-5	F123	GE Series
GEJET-5M	F123	GE Series
GEJEY	F129	GE Series
GEJLBT-5	F125	GE Series
GEJLBT-5M	F125	GE Series
GEJLBT-6	F125	GE Series
GEJLBT-6M	F125	GE Series
GEJLT-5	F124	GE Series
GEJLT-5M	F124	GE Series
GEJLT-6	F124	GE Series
GEJLT-6M	F124	GE Series
GEJTT-5	F125	GE Series
GEJTT-5M	F125	GE Series
GEJTT-6	F125	GE Series
GEJTT-6M	F125	GE Series
GEJXT-5	F125	GE Series
GEJXT-5M	F125	GE Series
GEJXT-6	F125	GE Series
GEJXT-6M	F125	GE Series
GEMBC	F129	GE Series
GEMC-1	F124	GE Series
GEMC-2	F124	GE Series
GEMCA-1	F126	GE Series
GEMCA-2	F126	GE Series
GEMEY	F129	GE Series
GEML-1	F124	GE Series
GEML-2	F124	GE Series
GEMLA-1	F126	GE Series
GEMLA-2	F126	GE Series
GEMLB-1	F125	GE Series
GEMLB-2	F125	GE Series
GEM-RG	F129	GE Series
GEMT-1	F125	GE Series
GEMT-2	F125	GE Series
GEMTA-1	F126	GE Series
GEMTA-2	F126	GE Series
GEMX-1	F125	GE Series
GEMX-2	F125	GE Series
GESBC	F129	GE Series

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
GESCAT-4	F126	GE Series	GLXR13	E70	EXB / EXBLT Series	GO22-GR12D	C99	G Series
GESCAT-4M	F126	GE Series	GLXR24	E70	EXB / EXBLT Series	GO22-GR33D	C99	G Series
GESCT-3	F124	GE Series	GLXR27	E70	EXB / EXBLT Series	GO22-KK00D	C99	G Series
GESCT-3M	F124	GE Series	GLXR34	E70	EXB / EXBLT Series	GO22-KK12D	C99	G Series
GESCT-4	F124	GE Series	GLXR36	E70	EXB / EXBLT Series	GO22-KK33D	C99	G Series
GESCT-4M	F124	GE Series	GLXR47	E70	EXB / EXBLT Series	GO30-31F	C104	G Series
GESEY	F129	GE Series	GLXR59	E70	EXB / EXBLT Series	GO30-33F	C104	G Series
GESLBT-3	F125	GE Series	GLXR99	E70	EXB / EXBLT Series	GO40-KX2C	C104	G Series
GESLBT-3M	F125	GE Series	GO10-31F N34	C104	G Series	GO-51	C104	G Series
GESLBT-4	F125	GE Series	GO10-33F N34	C104	G Series	GO567-LOK	C69, C106	X/XS/XCS, G Series
GESLBT-4M	F125	GE Series	GO10502	L55	EBS Series	GO59-3R0G32D	C103	G Series
GESLT-3	F124	GE Series	GO-10502	C106	G Series	GO-8176-1	C106	G Series
GESLT-3M	F124	GE Series	GO113 N34	C104	G Series	GO-8176-2	C106	G Series
GESLT-4	F124	GE Series	GO-11372-093	C104	G Series	GO-8176-3	C106	G Series
GESLT-4M	F124	GE Series	GO-11388-078	C104	G Series	GO-8177	C106	G Series
GES-RG	F129	GE Series	GO114 N34	C104	G Series	GO-8222	C106	G Series
GESTT-3	F125	GE Series	GO133	C104	G Series	GO-8665	C106	G Series
GESTT-3M	F125	GE Series	GO134	C104	G Series	GO-8670-32	C106	G Series
GESTT-4	F125	GE Series	GO15726-A	C106	G Series	GO-8670-34	C106	G Series
GESTT-4M	F125	GE Series	GO15726-B	C106	G Series	GO-8671-42	C106	G Series
GESXAT-4	F126	GE Series	GO15726-C	C106	G Series	GO-8671-44	C106	G Series
GESXAT-4M	F126	GE Series	GO15726-F	C106	G Series	GO-8673-BJE	C70, C107	XCS, G Series
GESXT-3	F125	GE Series	GO15726-G	C106	G Series	GO-8673-BJH	C70, C107	XCS, G Series
GESXT-3M	F125	GE Series	GO15726-R	C106	G Series	GO-8673-BJJ	C70, C107	XCS, G Series
GESXT-4	F125	GE Series	GO16	C104	G Series	GO-8673-BJK	C70, C107	XCS, G Series
GESXT-4M	F125	GE Series	GO17	C104	G Series	GO-8673-BJKJ	C70, C107	XCS, G Series
GEUEAT-2	F128	GEC Series	GO18	C104	G Series	GO-9824	C106	G Series
GEUEAT-2M	F128	GEC Series	GO19	C104	G Series	GOB3-A23C N34	C100	G Series
GFCS05151	DE47	GFCS Series	GO1-GX0C N34	C99	G Series	GOB3-A23C N34 LED	C100	G Series
GFCS05152	DE47	GFCS Series	GO1-GX1B N34	C99	G Series	GOB3-A23C N34CN	C101	G Series
GFCS05201	DE47	GFCS Series	GO1-GX3C N34	C99	G Series	GOB3-A23C N34LEDCN	C101	G Series
GFCS05202	DE47	GFCS Series	GO1-KX0C N34	C99	G Series	GOB3-B23C N34	C100	G Series
GFCS05301	DE47	GFCS Series	GO1-KX1C N34	C99	G Series	GOB3-B23C N34CN	C101	G Series
GFCS05302	DE47	GFCS Series	GO1-KX2C N34	C99	G Series	GOB3-C23C N34	C100	G Series
GFCS30151	DE47	GFCS Series	GO1-KX3C N34	C99	G Series	GOB3-C23C N34CN	C101	G Series
GFCS30152	DE47	GFCS Series	GO1-RX0C N34	C99	G Series	GOB3-F23C N34	C100	G Series
GFCS30201	DE47	GFCS Series	GO1-RX2B N34	C99	G Series	GOB3-F23C N34CN	C101	G Series
GFCS30202	DE47	GFCS Series	GO1-RX3C N34	C99	G Series	GOB3-G23C N34	C100	G Series
GFCS30301	DE47	GFCS Series	GO21-GZ0C	C99	G Series	GOB3-G23C N34 LED	C100	G Series
GFCS30302	DE47	GFCS Series	GO21-GZ1B	C99	G Series	GOB3-G23C N34CN	C101	G Series
GL-275	E79	GR Series	GO21-GZ3C	C99	G Series	GOB3-G23C N34LEDCN	C101	G Series
GL-300	E79	GR Series	GO21-KZ0C	C99	G Series	GOB3-R23C N34	C100	G Series
GL-375	E79	GR Series	GO21-KZ1C	C99	G Series	GOB3-R23C N34 LED	C100	G Series
GL-375	F129	GE Series	GO21-KZ2C	C99	G Series	GOB3-R23C N34CN	C101	G Series
GL-537	E79	GR Series	GO21-KZ3C	C99	G Series	GOB3-R23C N34LEDCN	C101	G Series
GL-600	E79	GR Series	GO21-RZ0C	C99	G Series	GOB4-A230C N34	C100	G Series
GL-775	E79	GR Series	GO21-RZ2B	C99	G Series	GOB4-A230C N34 LED	C100	G Series
GL-775	E79	GR Series	GO21-RZ3C	C99	G Series	GOB4-A230CN34CN	C101	G Series
GL-775	E79	GR Series	GO22-GR00D	C99	G Series	GOB4-A230CN34LEDCN	C101	G Series

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Part #	SEC./PG	PROD. GRP.
GOB4-A233C N34	C100	G Series
GOB4-A233C N34 LED	C100	G Series
GOB4-A233CN34CN	C101	G Series
GOB4-A233CN34LEDCN	C101	G Series
GOB4-B230C N34	C100	G Series
GOB4-B230CN34CN	C101	G Series
GOB4-B233C N34	C100	G Series
GOB4-B233CN34CN	C101	G Series
GOB4-C230C N34	C100	G Series
GOB4-C230CN34CN	C101	G Series
GOB4-C233C N34	C100	G Series
GOB4-C233CN34CN	C101	G Series
GOB4-F230C N34	C100	G Series
GOB4-F230CN34CN	C101	G Series
GOB4-F233C N34	C100	G Series
GOB4-F233CN34CN	C101	G Series
GOB4-G230C N34	C100	G Series
GOB4-G230C N34 LED	C100	G Series
GOB4-G230CN34CN	C101	G Series
GOB4-G230CN34LEDCN	C101	G Series
GOB4-G233C N34	C100	G Series
GOB4-G233C N34 LED	C100	G Series
GOB4-G233CN34CN	C101	G Series
GOB4-G233CN34LEDCN	C101	G Series
GOB4-R230C N34	C100	G Series
GOB4-R230C N34 LED	C100	G Series
GOB4-R230CN34CN	C101	G Series
GOB4-R230CN34LEDCN	C101	G Series
GOB4-R233C N34	C100	G Series
GOB4-R233C N34 LED	C100	G Series
GOB4-R233CN34CN	C101	G Series
GOB4-R233CN34LEDCN	C101	G Series
GOL1I3	C104	G Series
GOL1I4	C104	G Series
GOL1G	C99	G Series
GOL1G1	C99	G Series
GOL1G3	C99	G Series
GOL1K	C99	G Series
GOL1K1	C99	G Series
GOL1K2	C99	G Series
GOL1K3	C99	G Series
GOL1R	C99	G Series
GOL1R2	C99	G Series
GOL1R3	C99	G Series
GOL2GR	C99	G Series
GOL2GR12	C99	G Series

Part #	SEC./PG	PROD. GRP.
GOL2GR33	C99	G Series
GOL2KK	C99	G Series
GOL2KK12	C99	G Series
GOL2KK33	C99	G Series
GOL3A	C100	G Series
GOL3A LED	C100	G Series
GOL3ACN	C101	G Series
GOL3ALEDCN	C101	G Series
GOL3B	C100	G Series
GOL3BCN	C101	G Series
GOL3C	C100	G Series
GOL3CCN	C101	G Series
GOL3F	C100	G Series
GOL3FCN	C101	G Series
GOL3G	C100	G Series
GOL3G LED	C100	G Series
GOL3GCN	C101	G Series
GOL3GLEDCN	C101	G Series
GOL3R	C100	G Series
GOL3R LED	C100	G Series
GOL3RCN	C101	G Series
GOL3RLEDCN	C101	G Series
GOL4A	C100	G Series
GOL4A LED	C100	G Series
GOL4A0CN	C101	G Series
GOL4A0LEDCN	C101	G Series
GOL4A3	C100	G Series
GOL4A3 LED	C100	G Series
GOL4A3CN	C101	G Series
GOL4A3LEDCN	C101	G Series
GOL4B	C100	G Series
GOL4B0CN	C101	G Series
GOL4B3	C100	G Series
GOL4B3CN	C101	G Series
GOL4C	C100	G Series
GOL4C0CN	C101	G Series
GOL4C3	C100	G Series
GOL4C3CN	C101	G Series
GOL4F	C100	G Series
GOL4FOCN	C101	G Series
GOL4F3	C100	G Series
GOL4F3CN	C101	G Series
GOL4G	C100	G Series
GOL4G LED	C100	G Series
GOL4G0CN	C101	G Series
GOL4GOLEDCN	C101	G Series
GOL4G3	C100	G Series
GOL4G3 LED	C100	G Series
GOL4G3CN	C101	G Series

Part #	SEC./PG	PROD. GRP.
GOL4G3LEDCN	C101	G Series
GOL4R	C100	G Series
GOL4R LED	C100	G Series
GOL4ROCN	C101	G Series
GOL4ROLEDCN	C101	G Series
GOL4R3	C100	G Series
GOL4R3 LED	C100	G Series
GOL4R3CN	C101	G Series
GOL4R3LEDCN	C101	G Series
GOLED-A110	C70, C107	XCS, G Series
GOLED-B110	C70, C107	XCS, G Series
GOLED-G110	C70, C107	XCS, G Series
GOLED-R110	C70, C107	XCS, G Series
GOLED-W110	C70, C107	XCS, G Series
GOLED-W24	C70, C107	XCS, G Series
GOLED-W240	C70, C107	XCS, G Series
GOLRST	C104	G Series
GOMI-GM0C N34	C99	G Series
GOMI-GM3C N34	C99	G Series
GOMI-KM0C N34	C99	G Series
GOMI-KM3C N34	C99	G Series
GOMI-RM0C N34	C99	G Series
GOMI-RM3C N34	C99	G Series
GOM2I-GM0C	C99	G Series
GOM2I-GM3C	C99	G Series
GOM2I-KM0C	C99	G Series
GOM2I-KM3C	C99	G Series
GOM2I-RM0C	C99	G Series
GOM2I-RM3C	C99	G Series
GOMJUR	C107	G Series
GOML1G	C99	G Series
GOML1G3	C99	G Series
GOML1K	C99	G Series
GOML1K3	C99	G Series
GOML1R	C99	G Series
GOML1R3	C99	G Series
GOMLOCK	C93, C107	GZ, G Series
GOMSRD	C93, C107	GZ, G Series
GOMSTG	C107	G Series
GOMSTK	C107	G Series
GOMSTR	C107	G Series
GOR11-GR0D N34	C99	G Series
GOR11-GR6D N34	C99	G Series
GOR11-GR7D N34	C99	G Series
GOR11-GR8D N34	C99	G Series
GO-RL	C93, C106	GZ, G Series
GO-RST	C104	G Series
GRB	E78-E80	GR Series
GRB-275L	E78-E79	GR Series

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
GRBB.....	E79	GR Series	GRSS-2L.....	F134	GR Series	GUMFS-1-EX.....	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series
GRB-BC.....	E79	GR Series	GRSS-2M.....	F134	GR Series	GUMFS-1M.....	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series
GRB-RG.....	E79	GR Series	GRSS-3.....	F134	GR Series	GUMFS-1M-EX.....	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series
GRCEX-O.....	F133-F134	GR Series	GRSS-3L.....	F134	GR Series	GUMFS-2.....	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series
GRE.....	E78-E80	GR Series	GRSS-3M.....	F134	GR Series	GUMFS-2-EX.....	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series
GRE-300L.....	E78-E79	GR Series	GRSSA-1.....	F134	GR Series	GUMFS-2M.....	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series
GREB.....	E79	GR Series	GRSSA-2.....	F134	GR Series	GUMFS-2M-EX.....	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series
GRE-BC.....	E79	GR Series	GRUC-SC.....	F131	GRUE Series	GUML-1.....	F141	UNF/UNY Unions
GRE-RG.....	E79	GR Series	GRUC-SCA.....	F131	GRUE Series	GUML-1-EX.....	F142	GU/UN Series
GRH.....	E78-E80	GR Series	GRUE-100.....	F131	GRUE Series	GUML-1M.....	F141	UNF/UNY Unions
GRH-775L.....	E78-E79	GR Series	GRUE-100A.....	F131	GRUE Series	GUML-1M-EX.....	F142	GU/UN Series
GRH-775L52B.....	E81	GR Series	GRUE-50.....	F131	GRUE Series	GUML-2.....	F141	UNF/UNY Unions
GRHA.....	E78-E80	GR Series	GRUE-50A.....	F131	GRUE Series	GUML-2-EX.....	F142	GU/UN Series
GRHA-775L.....	E78-E79	GR Series	GRUE-75.....	F131	GRUE Series	GUML-2M.....	F141	UNF/UNY Unions
GRHAB.....	E79	GR Series	GRUE-75A.....	F131	GRUE Series	GUML-2M-EX.....	F142	GU/UN Series
GRHB.....	E79	GR Series	GUF-0-EX.....	F142	GU/UN Series	GUML451.....	F141	UNF/UNY Unions
GRH-BC.....	E79	GR Series	GUF-1-EX.....	F142	GU/UN Series	GUML452.....	F141	UNF/UNY Unions
GRHC.....	E78-E80	GR Series	GUF-2-EX.....	F142	GU/UN Series	GW24-20.....	CN110	HP20 Series
GRHC-775L.....	E78-E79	GR Series	GUF-3-EX.....	F142	GU/UN Series	GZ113-100K.....	C90	GZ Series
GRHCB.....	E79	GR Series	GUF-4-EX.....	F142	GU/UN Series	GZ113-10K.....	C90	GZ Series
GRH-RG.....	E79	GR Series	GUF-5-EX.....	F142	GU/UN Series	GZ113-1K.....	C90	GZ Series
GRK.....	E78-E80	GR Series	GUF-6-EX.....	F142	GU/UN Series	GZ113-1M.....	C90	GZ Series
GRK-537L.....	E78, E79	GR Series	GUF-7-EX.....	F142	GU/UN Series	GZ113-220K.....	C90	GZ Series
GRK-537L52A.....	E81	GR Series	GUF-8-EX.....	F142	GU/UN Series	GZ113-220R.....	C90	GZ Series
GRK-537L52B.....	E81	GR Series	GUF-9-EX.....	F142	GU/UN Series	GZ113-22K.....	C90	GZ Series
GRKB.....	E79	GR Series	GUFY-1.....	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ113-2K2.....	C90	GZ Series
GRK-BC.....	E79	GR Series	GUFY-1-EX.....	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ113-470K.....	C90	GZ Series
GRK-RG.....	E79	GR Series	GUFY-1M.....	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ113-470R.....	C90	GZ Series
GRL.....	E78-E80	GR Series	GUFY-1M-EX.....	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ113-47K.....	C90	GZ Series
GRL-600L.....	E78-E79	GR Series	GUFY-2.....	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ114-100K.....	C91	GZ Series
GRL-600L52B.....	E81	GR Series	GUFY-2-EX.....	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ114-100R.....	C91	GZ Series
GRL-600L52C.....	E81	GR Series	GUFY-2M.....	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ114-10K.....	C91	GZ Series
GRLB.....	E79	GR Series	GUFY-2M-EX.....	F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ114-1K.....	C91	GZ Series
GRL-BC.....	E79	GR Series	GUM-0-EX.....	F142	GU/UN Series	GZ114-200R.....	C91	GZ Series
GRL-RG.....	E79	GR Series	GUM-1-EX.....	F142	GU/UN Series	GZ114-20K.....	C91	GZ Series
GRM.....	E78-E80	GR Series	GUM-2-EX.....	F142	GU/UN Series	GZ114-2K.....	C91	GZ Series
GRM-375L.....	E78-E79	GR Series	GUM-3-EX.....	F142	GU/UN Series	GZ114-500R.....	C91	GZ Series
GRM-375L52.....	E81	GR Series	GUM-4-EX.....	F142	GU/UN Series	GZ114-50K.....	C91	GZ Series
GRMB.....	E79	GR Series	GUM-5-EX.....	F142	GU/UN Series	GZ114-5K.....	C91	GZ Series
GRM-BC.....	E79, F129	GR, GE Series	GUM-6-EX.....	F142	GU/UN Series	GZ133-100K.....	C90	GZ Series
GRM-RG.....	E79, F129	GR, GE Series	GUM-7-EX.....	F142	GU/UN Series	GZ133-10K.....	C90	GZ Series
GRR-1.....	F133	GR Series	GUM-8-EX.....	F142	GU/UN Series	GZ133-1K.....	C90	GZ Series
GRR-2.....	F133	GR Series	GUM-9-EX.....	F142	GU/UN Series	GZ133-1M.....	C90	GZ Series
GRR-3.....	F133	GR Series	GUMFS-1.....	F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	GZ133-220K.....	C90	GZ Series
GRSA.....	F133	GR Series						
GRSS-1.....	F134	GR Series						
GRSS-1L.....	F134	GR Series						
GRSS-1M.....	F134	GR Series						
GRSS-2.....	F134	GR Series						

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GZ133-220R	C90	GZ Series	GZ23-A4	C80, C95	GZ Series	GZ25-4H8	C83	GZ Series
GZ133-22K	C90	GZ Series	GZ23-A48	C80, C95	GZ Series	GZ25-4H88	C84	GZ Series
GZ133-2K2	C90	GZ Series	GZ23-B12	C80, C95	GZ Series	GZ26-3	C88	GZ Series
GZ133-470K	C90	GZ Series	GZ23-B23	C80, C95	GZ Series	GZ27-6	C88	GZ Series
GZ133-470R	C90	GZ Series	GZ23-B24	C80, C95	GZ Series	GZ28-2A3	C85	GZ Series
GZ133-47K	C90	GZ Series	GZ23-B4	C80, C95	GZ Series	GZ28-2A322	C85	GZ Series
GZ133-4K7	C90	GZ Series	GZ23-B48	C80, C95	GZ Series	GZ28-2A6	C85	GZ Series
GZ134-100K	C91	GZ Series	GZ23-C12	C80, C95	GZ Series	GZ28-2A8	C86	GZ Series
GZ134-100R	C91	GZ Series	GZ23-C23	C80, C95	GZ Series	GZ28-3C3	C85	GZ Series
GZ134-10K	C91	GZ Series	GZ23-C24	C80, C95	GZ Series	GZ28-3C332	C85	GZ Series
GZ134-1K	C91	GZ Series	GZ23-C4	C80, C95	GZ Series	GZ28-3C8	C86	GZ Series
GZ134-200R	C91	GZ Series	GZ23-C48	C80, C95	GZ Series	GZ28-3G3	C86	GZ Series
GZ134-20K	C91	GZ Series	GZ23-G12	C80, C95	GZ Series	GZ28-3G8	C86	GZ Series
GZ134-2K	C91	GZ Series	GZ23-G23	C80, C95	GZ Series	GZ2-GR12	C77	GZ Series
GZ134-500R	C91	GZ Series	GZ23-G24	C80, C95	GZ Series	GZ2-KK11	C77	GZ Series
GZ134-50K	C91	GZ Series	GZ23-G4	C80, C95	GZ Series	GZ2-KK12	C77	GZ Series
GZ134-5K	C91	GZ Series	GZ23-G48	C80, C95	GZ Series	GZ34-6	C88	GZ Series
GZ14-6	C88	GZ Series	GZ23-R12	C80, C95	GZ Series	GZ35-6	C88	GZ Series
GZ15-6	C88	GZ Series	GZ23-R23	C80, C95	GZ Series	GZ36-2L3	C89	GZ Series
GZ1-AX3	C76	GZ Series	GZ23-R24	C80, C95	GZ Series	GZ37-3C6	C89	GZ Series
GZ1B-AX3	C76	GZ Series	GZ23-R4	C80, C95	GZ Series	GZ38-3L6	C89	GZ Series
GZ1B-BX3	C76	GZ Series	GZ23-R48	C80, C95	GZ Series	GZ39-3R6	C89	GZ Series
GZ1B-GX3	C76	GZ Series	GZ24-A123	C81, C95	GZ Series	GZ5-2A3	C83	GZ Series
GZ1B-KX3	C76	GZ Series	GZ24-A233	C81, C95	GZ Series	GZ5-2A6	C83	GZ Series
GZ1B-RX3	C76	GZ Series	GZ24-A243	C81, C95	GZ Series	GZ5-2A8	C84	GZ Series
GZ1B-WX3	C76	GZ Series	GZ24-A43	C81, C95	GZ Series	GZ5-3C3	C83	GZ Series
GZ1-BX3	C76	GZ Series	GZ24-B123	C81, C95	GZ Series	GZ5-3C8	C84	GZ Series
GZ1-GX3	C76	GZ Series	GZ24-B233	C81, C95	GZ Series	GZ5-3G3	C83	GZ Series
GZ1-KX3	C76	GZ Series	GZ24-B243	C81, C95	GZ Series	GZ5-3G8	C84	GZ Series
GZ1-RX3	C76	GZ Series	GZ24-B43	C81, C95	GZ Series	GZ5-4H8	C83	GZ Series
GZ1-WX3	C76	GZ Series	GZ24-C123	C81, C95	GZ Series	GZ5-4H88	C84	GZ Series
GZ21-AZ3	C76	GZ Series	GZ24-C233	C81, C95	GZ Series	GZ56-2L3	C89	GZ Series
GZ21B-AZ3	C76	GZ Series	GZ24-C243	C81, C95	GZ Series	GZ57-3C6	C89	GZ Series
GZ21B-BZ3	C76	GZ Series	GZ24-C43	C81, C95	GZ Series	GZ58-3L6	C89	GZ Series
GZ21B-GZ3	C76	GZ Series	GZ24-G123	C81, C95	GZ Series	GZ59-3R6	C89	GZ Series
GZ21B-KZ3	C76	GZ Series	GZ24-G233	C81, C95	GZ Series	GZ6-3	C88	GZ Series
GZ21B-RZ3	C76	GZ Series	GZ24-G243	C81, C95	GZ Series	GZ7-6	C88	GZ Series
GZ21B-WZ3	C76	GZ Series	GZ24-G43	C81, C95	GZ Series	GZ8-2A3	C85	GZ Series
GZ21-BZ3	C76	GZ Series	GZ24-R123	C81, C95	GZ Series	GZ8-2A322	C85	GZ Series
GZ21-GZ3	C76	GZ Series	GZ24-R233	C81, C95	GZ Series	GZ8-2A6	C85	GZ Series
GZ21-KZ3	C76	GZ Series	GZ24-R243	C81, C95	GZ Series	GZ8-2A8	C86	GZ Series
GZ21-RZ3	C76	GZ Series	GZ24-R43	C81, C95	GZ Series	GZ8-3C3	C85	GZ Series
GZ21-WZ3	C76	GZ Series	GZ25-2A3	C83	GZ Series	GZ8-3C332	C85	GZ Series
GZ22-GR12	C77	GZ Series	GZ25-2A6	C83	GZ Series	GZ8-3C8	C86	GZ Series
GZ22-KK11	C77	GZ Series	GZ25-2A8	C84	GZ Series	GZ8-3G3	C86	GZ Series
GZ22-KK12	C77	GZ Series	GZ25-3C3	C83	GZ Series	GZ8-3G8	C86	GZ Series
GZ23-A12	C80, C95	GZ Series	GZ25-3C8	C84	GZ Series	GZB3-A12	C80, C95	GZ Series
GZ23-A23	C80, C95	GZ Series	GZ25-3G3	C83	GZ Series	GZB3-A23	C80, C95	GZ Series
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GZB3-A4	C80, C95	GZ Series	GZL113-1K	C90	GZ Series	GZL3C48	C80, C95	GZ Series
GZB3-A48	C80, C95	GZ Series	GZL113-1M	C90	GZ Series	GZL3G12	C80, C95	GZ Series
GZB3-B12	C80, C95	GZ Series	GZL113-220K	C90	GZ Series	GZL3G23	C80, C95	GZ Series
GZB3-B23	C80, C95	GZ Series	GZL113-220R	C90	GZ Series	GZL3G24	C80, C95	GZ Series
GZB3-B24	C80, C95	GZ Series	GZL113-22K	C90	GZ Series	GZL3G4	C80, C95	GZ Series
GZB3-B4	C80, C95	GZ Series	GZL113-2K2	C90	GZ Series	GZL3G48	C80, C95	GZ Series
GZB3-B48	C80, C95	GZ Series	GZL113-470K	C90	GZ Series	GZL3R12	C80, C95	GZ Series
GZB3-C12	C80, C95	GZ Series	GZL113-470R	C90	GZ Series	GZL3R23	C80, C95	GZ Series
GZB3-C23	C80, C95	GZ Series	GZL113-47K	C90	GZ Series	GZL3R24	C80, C95	GZ Series
GZB3-C24	C80, C95	GZ Series	GZL113-4K7	C90	GZ Series	GZL3R4	C80, C95	GZ Series
GZB3-C4	C80, C95	GZ Series	GZL114-100K	C91	GZ Series	GZL3R48	C80, C95	GZ Series
GZB3-C48	C80, C95	GZ Series	GZL114-100R	C91	GZ Series	GZL4A123	C81, C95	GZ Series
GZB3-G12	C80, C95	GZ Series	GZL114-10K	C91	GZ Series	GZL4A233	C81, C95	GZ Series
GZB3-G23	C80, C95	GZ Series	GZL114-1K	C91	GZ Series	GZL4A243	C81, C95	GZ Series
GZB3-G24	C80, C95	GZ Series	GZL114-200R	C91	GZ Series	GZL4A43	C81, C95	GZ Series
GZB3-G4	C80, C95	GZ Series	GZL114-20K	C91	GZ Series	GZL4B123	C81, C95	GZ Series
GZB3-G48	C80, C95	GZ Series	GZL114-2K	C91	GZ Series	GZL4B233	C81, C95	GZ Series
GZB3-R12	C80, C95	GZ Series	GZL114-500R	C91	GZ Series	GZL4B243	C81, C95	GZ Series
GZB3-R23	C80, C95	GZ Series	GZL114-50K	C91	GZ Series	GZL4B43	C81, C95	GZ Series
GZB3-R24	C80, C95	GZ Series	GZL114-5K	C91	GZ Series	GZL4C123	C81, C95	GZ Series
GZB3-R4	C80, C95	GZ Series	GZL146	C88	GZ Series	GZL4C233	C81, C95	GZ Series
GZB3-R48	C80, C95	GZ Series	GZL156	C88	GZ Series	GZL4C243	C81, C95	GZ Series
GZB4-A123	C81, C95	GZ Series	GZL1A3	C76	GZ Series	GZL4C43	C81, C95	GZ Series
GZB4-A233	C81, C95	GZ Series	GZL1B3	C76	GZ Series	GZL4G123	C81, C95	GZ Series
GZB4-A243	C81, C95	GZ Series	GZL1G3	C76	GZ Series	GZL4G233	C81, C95	GZ Series
GZB4-A43	C81, C95	GZ Series	GZL1K3	C76	GZ Series	GZL4G243	C81, C95	GZ Series
GZB4-B123	C81, C95	GZ Series	GZL1R3	C76	GZ Series	GZL4G43	C81, C95	GZ Series
GZB4-B233	C81, C95	GZ Series	GZL1W3	C76	GZ Series	GZL4R123	C81, C95	GZ Series
GZB4-B243	C81, C95	GZ Series	GZL2GR12	C77	GZ Series	GZL4R233	C81, C95	GZ Series
GZB4-B43	C81, C95	GZ Series	GZL2KK11	C77	GZ Series	GZL4R243	C81, C95	GZ Series
GZB4-C123	C81, C95	GZ Series	GZL2KK12	C77	GZ Series	GZL4R43	C81, C95	GZ Series
GZB4-C233	C81, C95	GZ Series	GZL36L3	C89	GZ Series	GZL52A3	C83	GZ Series
GZB4-C243	C81, C95	GZ Series	GZL37C6	C89	GZ Series	GZL52A6	C83	GZ Series
GZB4-C43	C81, C95	GZ Series	GZL38L6	C89	GZ Series	GZL52A8	C84	GZ Series
GZB4-G123	C81, C95	GZ Series	GZL39R6	C89	GZ Series	GZL53C3	C83	GZ Series
GZB4-G233	C81, C95	GZ Series	GZL3A12	C80, C95	GZ Series	GZL53C8	C84	GZ Series
GZB4-G243	C81, C95	GZ Series	GZL3A23	C80, C95	GZ Series	GZL53G3	C83	GZ Series
GZB4-G43	C81, C95	GZ Series	GZL3A24	C80, C95	GZ Series	GZL53G8	C84	GZ Series
GZB4-R123	C81, C95	GZ Series	GZL3A4	C80, C95	GZ Series	GZL54H8	C83	GZ Series
GZB4-R233	C81, C95	GZ Series	GZL3A48	C80, C95	GZ Series	GZL54H88	C84	GZ Series
GZB4-R243	C81, C95	GZ Series	GZL3B12	C80, C95	GZ Series	GZL63	C88	GZ Series
GZB4-R43	C81, C95	GZ Series	GZL3B23	C80, C95	GZ Series	GZL76	C88	GZ Series
GZDBLPBMMDO	C93	GZ Series	GZL3B24	C80, C95	GZ Series	GZL82A3	C85	GZ Series
GZK1-3	C79	GZ Series	GZL3B4	C80, C95	GZ Series	GZL82A322	C85	GZ Series
GZK21-3	C79	GZ Series	GZL3B48	C80, C95	GZ Series	GZL82A6	C85	GZ Series
GZKL13	C79	GZ Series	GZL3C12	C80, C95	GZ Series	GZL82A8	C86	GZ Series
GZKXL13	C79	GZ Series	GZL3C23	C80, C95	GZ Series	GZL83C3	C85	GZ Series
GZL113-100K	C90	GZ Series	GZL3C24	C80, C95	GZ Series	GZL83C332	C85	GZ Series
GZL113-10K	C90	GZ Series	GZL3C4	C80, C95	GZ Series	GZL83C8	C86	GZ Series

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GZL83G3	C86	GZ Series	GZMPL1R3	C78	GZ Series	GZ-RST-KX120	C92	GZ Series
GZL83G8	C86	GZ Series	GZMPXL1G3	C78	GZ Series	GZ-RST-KX300	C92	GZ Series
GZLENS-A	C94	GZ Series	GZMPXL1K3	C78	GZ Series	GZ-RST-RX100	C92	GZ Series
GZLENS-B	C94	GZ Series	GZMPXL1R3	C78	GZ Series	GZ-RST-RX120	C92	GZ Series
GZLENS-C	C94	GZ Series	GZMRPPBLO	C93	GZ Series	GZ-RST-RX300	C92	GZ Series
GZLENS-G	C94	GZ Series	GZMRTPBLO	C93	GZ Series	GZ-RST-WX100	C92	GZ Series
GZLENS-R	C94	GZ Series	GZMRYLBP	C93	GZ Series	GZ-RST-WX120	C92	GZ Series
GZLRST-AX100	C92	GZ Series	GZMT1-RM3	C78	GZ Series	GZ-RST-WX300	C92	GZ Series
GZLRST-AX120	C92	GZ Series	GZMT21-RM3	C78	GZ Series	GZ-S2CPG	C93	GZ Series
GZLRST-AX300	C92	GZ Series	GZMTL1R3	C78	GZ Series	GZ-S2CPGBIG	C93	GZ Series
GZLRST-BX100	C92	GZ Series	GZMTXL1R3	C78	GZ Series	GZSSLO	C93	GZ Series
GZLRST-BX120	C92	GZ Series	GZ-NP	C93	GZ Series	GZXL113-100K	C90	GZ Series
GZLRST-BX300	C92	GZ Series	GZPBMMDHLO	C93	GZ Series	GZXL113-10K	C90	GZ Series
GZLRST-GX100	C92	GZ Series	GZPBMMRHLO	C93	GZ Series	GZXL113-1K	C90	GZ Series
GZLRST-GX120	C92	GZ Series	GZ-POTMT-1	C91	GZ Series	GZXL113-1M	C90	GZ Series
GZLRST-GX300	C92	GZ Series	GZ-POTMT-10	C91	GZ Series	GZXL113-220K	C90	GZ Series
GZLRST-KX100	C92	GZ Series	GZ-POTMT-100	C91	GZ Series	GZXL113-220R	C90	GZ Series
GZLRST-KX120	C92	GZ Series	GZ-POTMT-100R	C91	GZ Series	GZXL113-22K	C90	GZ Series
GZLRST-KX300	C92	GZ Series	GZ-POTMT-2	C91	GZ Series	GZXL113-2K2	C90	GZ Series
GZLRST-RX100	C92	GZ Series	GZ-POTMT-20	C91	GZ Series	GZXL113-470K	C90	GZ Series
GZLRST-RX120	C92	GZ Series	GZ-POTMT-200R	C91	GZ Series	GZXL113-470R	C90	GZ Series
GZLRST-RX300	C92	GZ Series	GZ-POTMT-5	C91	GZ Series	GZXL113-47K	C90	GZ Series
GZLRST-WX100	C92	GZ Series	GZ-POTMT-50	C91	GZ Series	GZXL113-4K7	C90	GZ Series
GZLRST-WX120	C92	GZ Series	GZ-POTMT-500R	C91	GZ Series	GZXL114-100K	C91	GZ Series
GZLRST-WX300	C92	GZ Series	GZ-POTST-1	C90	GZ Series	GZXL114-100R	C91	GZ Series
GZMK1-RM3	C79	GZ Series	GZ-POTST-10	C90	GZ Series	GZXL114-10K	C91	GZ Series
GZMK21-RM3	C79	GZ Series	GZ-POTST-100	C90	GZ Series	GZXL114-1K	C91	GZ Series
GZMKL1R3	C79	GZ Series	GZ-POTST-1M	C90	GZ Series	GZXL114-200R	C91	GZ Series
GZMKXL1R3	C79	GZ Series	GZ-POTST-2.2	C90	GZ Series	GZXL114-20K	C91	GZ Series
GZMM1-RG3	C77	GZ Series	GZ-POTST-22	C90	GZ Series	GZXL114-2K	C91	GZ Series
GZMM1-RK3	C77	GZ Series	GZ-POTST-220	C90	GZ Series	GZXL114-500R	C91	GZ Series
GZMM1-RY3	C77	GZ Series	GZ-POTST-220	C90	GZ Series	GZXL114-50K	C91	GZ Series
GZMM21-RG3	C77	GZ Series	GZ-POTST-4.7	C90	GZ Series	GZXL114-5K	C91	GZ Series
GZMM21-RK3	C77	GZ Series	GZ-POTST-47	C90	GZ Series	GZXL146	C88	GZ Series
GZMM21-RM3	C77	GZ Series	GZ-POTST-470	C90	GZ Series	GZXL156	C88	GZ Series
GZMML1-RG3	C77	GZ Series	GZ-POTST-470	C90	GZ Series	GZXL1A3	C76	GZ Series
GZMML1-RK3	C77	GZ Series	GZ-RG	C93	GZ Series	GZXL1B3	C76	GZ Series
GZMML1-RY3	C77	GZ Series	GZ-RK0	C93	GZ Series	GZXL1G3	C76	GZ Series
GZMMXL1-RG3	C77	GZ Series	GZ-RKX	C93	GZ Series	GZXL1K3	C76	GZ Series
GZMMXL1-RK3	C77	GZ Series	GZ-RST-AX100	C92	GZ Series	GZXL1R3	C76	GZ Series
GZMMXL1-RY3	C77	GZ Series	GZ-RST-AX120	C92	GZ Series	GZXL1W3	C76	GZ Series
GZMP1-GM3	C78	GZ Series	GZ-RST-AX300	C92	GZ Series	GZXL2GR12	C77	GZ Series
GZMP1-KM3	C78	GZ Series	GZ-RST-BX100	C92	GZ Series	GZXL2KK11	C77	GZ Series
GZMP1-RM3	C78	GZ Series	GZ-RST-BX120	C92	GZ Series	GZXL2KK12	C77	GZ Series
GZMP21-GM3	C78	GZ Series	GZ-RST-BX300	C92	GZ Series	GZXL36L3	C89	GZ Series
GZMP21-KM3	C78	GZ Series	GZ-RST-GX100	C92	GZ Series	GZXL37C6	C89	GZ Series
GZMP21-RM3	C78	GZ Series	GZ-RST-GX120	C92	GZ Series	GZXL38L6	C89	GZ Series
GZMPL1G3	C78	GZ Series	GZ-RST-GX300	C92	GZ Series	GZXL39R6	C89	GZ Series
GZMPL1K3	C78	GZ Series	GZ-RST-KX100	C92	GZ Series	GZXL3A12	C80, C95	GZ Series

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GZXL3A24	C80, C95	GZ Series	GZXL53G8	C84	GZ Series	HJB-HG	F97	SPARTAN POLE
GZXL3A4	C80, C95	GZ Series	GZXL54H8	C83	GZ Series	HJB-SS	F97	SPARTAN POLE
GZXL3A48	C80, C95	GZ Series	GZXL54H88	C84	GZ Series	HK1D	E44	HK/2HK Series
GZXL3B12	C80, C95	GZ Series	GZXL63	C88	GZ Series	HK1GLD	E44	HK/2HK Series
GZXL3B23	C80, C95	GZ Series	GZXL76	C88	GZ Series	HK2D	E44	HK/2HK Series
GZXL3B24	C80, C95	GZ Series	GZXL82A3	C85	GZ Series	HK2GLD	E44	HK/2HK Series
GZXL3B4	C80, C95	GZ Series	GZXL82A322	C85	GZ Series	HK4D	E44	HK/2HK Series
GZXL3B48	C80, C95	GZ Series	GZXL82A6	C85	GZ Series	HK4GLD	E44	HK/2HK Series
GZXL3C12	C80, C95	GZ Series	GZXL82A8	C86	GZ Series	HKB	E44	HK/2HK Series
GZXL3C23	C80, C95	GZ Series	GZXL83C3	C85	GZ Series	HKB-2D	E44	HK/2HK Series
GZXL3C24	C80, C95	GZ Series	GZXL83C332	C85	GZ Series	HKB-2DC	E44	HK/2HK Series
GZXL3C4	C80, C95	GZ Series	GZXL83C8	C86	GZ Series	HKB-2GLD	E44	HK/2HK Series
GZXL3C48	C80, C95	GZ Series	GZXL83G3	C86	GZ Series	HKB-2GLDC	E44	HK/2HK Series
GZXL3G12	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKB-4D	E44	HK/2HK Series
GZXL3G23	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKB-4DC	E44	HK/2HK Series
GZXL3G24	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKB-B	E44	HK/2HK Series
GZXL3G4	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKB-BC	E44	HK/2HK Series
GZXL3G48	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBD	E44	HK/2HK Series
GZXL3R12	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBD-2D	E44	HK/2HK Series
GZXL3R23	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBD-2GLD	E44	HK/2HK Series
GZXL3R24	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBD-4D	E44	HK/2HK Series
GZXL3R4	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBD-B	E44	HK/2HK Series
GZXL3R48	C80, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBD-GL	E44	HK/2HK Series
GZXL4A123	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKB-GL	E44	HK/2HK Series
GZXL4A233	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKB-GLC	E44	HK/2HK Series
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GZXL4B123	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBX-2GLDC	E39	HKBX Series
GZXL4B233	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBX-BC	E39	HKBX Series
GZXL4B243	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBX-GLC	E39	HKBX Series
GZXL4B43	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKBX-GRD	E39, E41	HKBX, HKBX-TB Series
GZXL4C123	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKGL	E44	HK/2HK Series
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GZXL4G233	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKH1AND2K540K8	C7	HKH Series
GZXL4G243	C81, C95	GZ Series	GZXL83G8	C86	GZ Series	HKH1AND2K640K8	C7	HKH Series
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GZXL52A8	C84	GZ Series	GZXL83G8	C86	GZ Series	HKH1AND2M310K8	C4	HKH Series
GZXL53C3	C83	GZ Series	GZXL83G8	C86	GZ Series	HKH1AND2M41BK8	C4	HKH Series
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HKH1BNPAS349	C10	HKH Series	HKH1BSDAM51A	C23	HKH Series	HKH1BSPAM21A	C22	HKH Series
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HKHPBTMTMR1	C43	HKH Series
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HP20-5M	CN110	HP20 Series	JLX-11	F138, L109	JL/JAL/ENY Series	K12591	F170	K Series
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HP20-7M	CN110	HP20 Series	JLX-21	F138, L109	JL/JAL/ENY Series	K1501-G	F172	K Series
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HP20-MBB	CN110	HP20 Series	K038	F169	K Series	K15041	F170	K Series
HQS-014 ML	F204	MC2X Series	K0381	F169	K Series	K15041-G	F172	K Series
HQS-024 ML	F204	MC2X Series	K0381-G	F172	K Series	K1509	F170	K Series
HQS-050 ML	F204	MC2X Series	K0384	F170	K Series	K15091	F170	K Series
HRD400	L35, L97	EZL, EZ Series	K03841	F170	K Series	K15091-G	F172	K Series
HRD400ALZ	L35, L97	EZL, EZ Series	K03841-G	F172	K Series	K16-20	CN110	HP20 Series
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HUB2PC227	L27	VMLX Series	K03891-G	F172	K Series	K2001	F169	K Series
HUB2PC347	L27	VMLX Series	K050	F169	K Series	K2001-G	F172	K Series
HXB-11	L107	HXB/XFH/EKJ Series	K0501	F169	K Series	K2004	F170	K Series
HXB-12	L107	HXB/XFH/EKJ Series	K0501-G	F172	K Series	K20041	F170	K Series
HXB-21	L107	HXB/XFH/EKJ Series	K0504	F170	K Series	K20041-G	F172	K Series
HXB-22	L107	HXB/XFH/EKJ Series	K05041	F170	K Series	K2009	F170	K Series
HXBC	L107	HXB/XFH/EKJ Series	K05041-G	F172	K Series	K20091	F170	K Series
JABC	F138	JL/JAL Series	K0509	F170	K Series	K20091-G	F172	K Series
JAH-1	F138	JL/JAL Series	K05091	F170	K Series	K20-20	CN110	HP20 Series
JAH-2	F138	JL/JAL Series	K05091-G	F172	K Series	K22-20	CN110	HP20 Series
JALX-10	F138	JL/JAL Series	K075	F169	K Series	K24-20	CN110	HP20 Series
JALX-11	F138, L109	JL/JAL/ENY Series	K0751	F169	K Series	K250	F169	K Series
JALX-12	F138, L109	JL/JAL/ENY Series	K0751-G	F172	K Series	K2501	F169	K Series
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JALX-21	F138, L109	JL/JAL/ENY Series	K07541	F170	K Series	K2509	F170	K Series
JALX-22	F138, L109	JL/JAL/ENY Series	K07541-G	F172	K Series	K25091	F170	K Series
JALX-3	CN57	KR Series	K0759	F170	K Series	K25091-G	F172	K Series
JALX-30	F138	JL/JAL Series	K07591	F170	K Series	K300	F169	K Series
JALX-31	F138, L109	JL/JAL/ENY Series	K07591-G	F172	K Series	K3001	F169	K Series
JALX-32	F138, L109	JL/JAL/ENY Series	K100	F169	K Series	K3001-G	F172	K Series
JALX-4	CN57	KR Series	K1001	F169	K Series	K3009	F170	K Series
JALX-40	F138	JL/JAL Series	K1001-G	F172	K Series	K30091	F170	K Series
JCB	F138	JL/JAL Series	K1004	F170	K Series	K30091-G	F172	K Series
JH-1	F138	JL/JAL Series	K10041	F170	K Series	K350	F169	K Series
JH-2	F138	JL/JAL Series	K10041-G	F172	K Series	K3501	F169	K Series
JLC-1	CN55-CN56	KR Series	K1009	F170	K Series	K3501-G	F172	K Series
JLC-10	F138	JL/JAL Series	K10091	F170	K Series	K400	F169	K Series
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JLC-12	F138, L109	JL/JAL/ENY Series	K125	F169	K Series	K4001-G	F172	K Series
JLC-2	CN55-CN56	KR Series	K1251	F169	K Series	K4009	F170	K Series
JLC-20	F138	JL/JAL Series	K1251-G	F172	K Series	K40091	F170	K Series
JLC-21	F138, L109	JL/JAL/ENY Series	K1254	F170	K Series	K40091-G	F172	K Series

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KB022	S18	B7MSN Series	KB485	S18	B7MSN Series	KDEGF0M25	F154	KDE Series
KB025	S18	B7MSN Series	KB550	S18	B7MSN Series	KDES60050	F154	KDE Series
KB032	S18	B7MSN Series	KB625	S18	B7MSN Series	KDES60075	F154	KDE Series
KB036	S18	B7MSN Series	KB690	S18	B7MSN Series	KDES60M20	F154	KDE Series
KB040	S18	B7MSN Series	KB770	S18	B7MSN Series	KDES60M25	F154	KDE Series
KB044	S18	B7MSN Series	KB820	S18	B7MSN Series	KFILO9030	L48	KFIL Series
KB045	S18	B7MSN Series	KB910	S18	B7MSN Series	KFILO9033	L48	KFIL Series
KB050	S18	B7MSN Series	KBM20BCEN	E83, F153	KB Series	KFILO9034	L48	KFIL Series
KB051	S18	B7MSN Series	KBM20BCEN BREATHER	F152	KDB/KB Series	KFIL10530	L48	KFIL Series
KB057	S18	B7MSN Series	KBM20BSS6CEN	E83, F153	KB Series	KFIL10533	L48	KFIL Series
KB063	S18	B7MSN Series	KBM20DCEN	E83, F153	KB Series	KFIL10534	L48	KFIL Series
KB071	S18	B7MSN Series	KBM20DCEN DRAIN	F152	KDB/KB Series	KFIL11030	L48	KFIL Series
KB081	S18	B7MSN Series	KBM20DSS6CEN	E83, F153	KB Series	KFIL11033	L48	KFIL Series
KB092	S18	B7MSN Series	KBM20FA25	E84, F152	KDB/KB Series	KFIL11034	L48	KFIL Series
KB102	S18	B7MSN Series	KBM20FA25SS6	E84, F152	KDB/KB Series	KFIL12530	L48	KFIL Series
KB103	S18	B7MSN Series	KBM20FAM16	E84, F152	KDB/KB Series	KFIL12533	L48	KFIL Series
KB115	S18	B7MSN Series	KBM20FAM16SS6	E84, F152	KDB/KB Series	KFIL12534	L48	KFIL Series
KB116	S18	B7MSN Series	KBQAAL0050	E83, F153, F155	KB, KQBA Series	KFIL19530	L48	KFIL Series
KB128	S18	B7MSN Series	KBQAS60050	E83, F153, F155	KB, KQBA Series	KFIL-DARK	L48	KFIL Series
KB130	S18	B7MSN Series	KD1	F32	KD Ordinary Drain	KFIL-DOOR	L48	KFIL Series
KB145	S18	B7MSN Series	KD1SA	F32	KD Ordinary Drain	KFCB	L42, L44, L46, L48	Floodlight Accessories
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KB155	S18	B7MSN Series	KDB-1 DRAIN / BREATHER	F152	KDB/KB Series	KFL1430-GREEN	L41	KFL-X Series
KB167	S18	B7MSN Series	KDB-250 DRAIN / BREATHER	F152	KDB/KB Series	KFL1430-TURTLE	L41	KFL-X Series
KB175	S18	B7MSN Series	KDB-250CEN DRAIN / BREATHER	F152	KDB/KB Series	KFL141E0530	L41	KFL-X Series
KB188	S18	B7MSN Series	KDB-375 DRAIN / BREATHER	F152	KDB/KB Series	KFL141E130	L41	KFL-X Series
KB195	S18	B7MSN Series	KDB-375CEN DRAIN / BREATHER	F152	KDB/KB Series	KFL2030	L41	KFL-X Series
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KB1B BREATHER	F152	KDB/KB Series	KDEAL0075	F154	KDE Series	KFL2H34033	L46	KFL2H Series
KB1BCEN	E83, F153, S23	KB, EXB70 Series	KDEAL0M20	F154	KDE Series	KFL2H34034	L46	KFL2H Series
KB1BCEN BREATHER	F152	KDB/KB Series	KDEAL0M25	F154	KDE Series	KFL2H42030	L46	KFL2H Series
KB1D	E83, F153	KB Series	KDEBR0050	F154	KDE Series	KFL2H42033	L46	KFL2H Series
KB1D DRAIN	F152	KDB/KB Series	KDEBR0075	F154	KDE Series	KFL2H42034	L46	KFL2H Series
KB1DCEN	E83, F153, S23	KB, EXB70 Series	KDEBR0M20	F154	KDE Series	KFL2H44030	L46	KFL2H Series
KB1DCEN DRAIN	F152	KDB/KB Series	KDEBR0M25	F154	KDE Series	KFL2H44033	L46	KFL2H Series
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KB1FA25	E84, F152	KDB/KB Series	KDEBR1075	F154	KDE Series	KFL2H50030	L46	KFL2H Series
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KB1FAM16	E84, F152	KDB/KB Series	KDEBR1M25	F154	KDE Series	KFL2H50034	L46	KFL2H Series
KB1FAM16SS6	E84	KB Flame Arrestors	KDEGF0050	F154	KDE Series	KFL2H60030	L46	KFL2H Series
KB210	S18	B7MSN Series				KFL2H78030	L46	KFL2H Series
KB240	S18	B7MSN Series				KFL3030	L41	KFL-X Series
KB265	S18	B7MSN Series				KFL730	L41	KFL-X Series
KB280	S18	B7MSN Series				KFL7IE0530	L41	KFL-X Series
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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
KFLG	L44, L46, L48	KFLH, KFL2H, KFIL Series	KILLN2		Z Series	KOR-4	F180, F182, F188, F190	Z Series
KFLH17030	L44	KFLH Series	F180, F182, F188, F190			KOR-5	F180, F182, F188, F190	Z Series
KFLH17033	L44	KFLH Series	KILLN3		Z Series	KOR-6	F180, F182, F188, F190	Z Series
KFLH17034	L44	KFLH Series	F180, F182, F188, F190			KP-20ABC	CN55	KR Series
KFLH21030	L44	KFLH Series	KILLN375		Z Series	KP-303D23	CN56	KR Series
KFLH21033	L44	KFLH Series	F180, F182, F188, F190			KP-303D45	CN56	KR Series
KFLH21034	L44	KFLH Series	KILLN4		Z Series	KP-303E45	CN56	KR Series
KFLH22030	L44	KFLH Series	F180, F182, F188, F190			KP-303E67	CN56	KR Series
KFLH22033	L44	KFLH Series	KILLN5		Z Series	KP-304D23	CN56	KR Series
KFLH22034	L44	KFLH Series	F180, F182, F188, F190			KP-304D45	CN56	KR Series
KFLH25030	L44	KFLH Series	KILLN6		Z Series	KP-304E45	CN56	KR Series
KFLH25033	L44	KFLH Series	F180, F182, F188, F190			KP-304E67	CN56	KR Series
KFLH25034	L44	KFLH Series	KILLN7		Z Series	KP-603D345	CN57	KR Series
KFLH30030	L44	KFLH Series	F180, F182, F188, F190			KP-603E45	CN57	KR Series
KFLH39030	L44	KFLH Series	KILLN8		Z Series	KP-603E67	CN57	KR Series
KFLH-DARK	L44, L46	KFLH, KFL2H Series	F180, F182, F188, F190			KP-604D345	CN57	KR Series
KFLH-DOOR	L44, L46	KFLH, KFL2H Series	KIT-232	C74	XAL/XAS Series	KP-604E45	CN57	KR Series
KFLX-DARK	L42	Floodlight Accessories	KIT-251	DE23, DE26	B7L, D2LC Series	KP-604E67	CN57	KR Series
KFLX-GUARD	L42	Floodlight Accessories	KIT-252	DE23, DE26	B7L, D2LC Series	KP-604F34	CN57	KR Series
KFS-6	L42, L44, L46, L48	Floodlight Accessories	KIT-263	C69	X/XS/XCS Series	KP-604F56	CN57	KR Series
KFWB	L42, L44, L46, L48	Floodlight Accessories	KIT-264	C69	X/XS/XCS Series	KQS-050 GUN	F105, F114	EZ, CELOX KQS Series
KH2001B-3	S6	B7 Series	KIT-265	C69	X/XS/XCS Series	KQS-050 ML	F105, F114	EZ, CELOX KQS Series
KH2002B-3	S6	B7 Series	KIT-266	C69	X/XS/XCS Series	KQS-050 NOZ	F114	CELOX KQS Series
KH2003B-3	S6	B7 Series	KIT-354	C106	G Series	KQS-250 GUN	F105, F114	EZ, CELOX KQS Series
KH2004B-3	S6	B7 Series	KIT-355	C106	G Series	KQS-250 ML	F105, F114, F204	EZ, CELOX KQS, MC2X Series
KH2005B-3	S6	B7 Series	KIT-356	C106	G Series	KRAJAC-4603	CN57	KR Series
KH2006B-3	S6	B7 Series	KIT-357	C106	G Series	KRAJAC-4604	CN57	KR Series
KH2007B-3	S6	B7 Series	KIT-358	C106	G Series	KRAJAC-5603	CN57	KR Series
KH2008B-3	S6	B7 Series	KIT-359	C106	G Series	KRAJAC-5604	CN57	KR Series
KH2009B-3	S6	B7 Series	KIT-62	C69	X/XS/XCS Series	KRAJAC-6603	CN57	KR Series
KH2010B-3	S6	B7 Series	KIT-63	C69	X/XS/XCS Series	KRAJAC-6604	CN57	KR Series
KH2011B-3	S6	B7 Series	KIT-64	C69	X/XS/XCS Series	KRAJAT-4603	CN57	KR Series
KH2012B-3	S6	B7 Series	KIT-66	C69	X/XS/XCS Series	KRAJAT-4604	CN57	KR Series
KH2013B-3	S6	B7 Series	KIT-67	C69	X/XS/XCS Series	KRAJAT-5603	CN57	KR Series
KH2014B-3	S6	B7 Series	KIT-68	C69	X/XS/XCS Series	KRAJAT-5604	CN57	KR Series
KH2015B-3	S6	B7 Series	KIT-69	C69	X/XS/XCS Series	KRAJC-220	CN55	KR Series
KH2016B-3	S6	B7 Series	KIT-70	C69	X/XS/XCS Series	KRAJC-2303	CN56	KR Series
KH2017B-3	S6	B7 Series	KIT-72	C69	X/XS/XCS Series	KRAJC-2304	CN56	KR Series
KH2018-3	S6	B7 Series	KIT-73	C69	X/XS/XCS Series	KRAJC-320	CN55	KR Series
KH2019-3	S6	B7 Series	KIT-74	C69	X/XS/XCS Series	KRAJC-3303	CN56	KR Series
KH2020-3	S6	B7 Series	KIT-75	C69	X/XS/XCS Series	KRAJC-3304	CN56	KR Series
KH2021-3	S6	B7 Series	KIT-76	C69	X/XS/XCS Series	KRJ-20	CN55	KR Series
KH2022-3	S6	B7 Series	KIT-77	C69	X/XS/XCS Series	KRJ-303	CN56	KR Series
KH2023-3	S6	B7 Series	KIT-78	C69	X/XS/XCS Series	KRJ-304	CN56	KR Series
KH2024-3	S6	B7 Series	KIT-GOMG	C107	G Series	KRJ-603	CN57	KR Series
KILLN1	F180, F182, F188, F190	Z Series	KIT-GOMK	C107	G Series	KRJ-604	CN57	KR Series
			KIT-GOMR	C107	G Series			
			KIT-GOMRJ	C107	G Series			
			KIT-GOTB	C106	G Series			
			KLBP01	L55	EBS Series			
			KOR-1	F180, F182, F188, F190	Z Series			
			KOR-2	F180, F182, F188, F190	Z Series			
			KOR-3	F180, F182, F188, F190	Z Series			

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
KRJC-120	CN55	KR Series	KWPL833	L50	KWPL Series	LAL2830C	L4	LAL/LALXE/LALC Series
KRJC-1303	CN56	KR Series	KWPL834	L50	KWPL Series	LAL2830D	L5	LAL/LALXE/LALC Series
KRJC-1304	CN56	KR Series	KWPLENS.	L50	KWPL Series	LAL28E1330D	L5	LAL/LALXE/LALC Series
KRJC-220	CN55	KR Series	L17	F14	DURALOY 7 Series	LAL4530C	L4	LAL/LALXE/LALC Series
KRJC-2303	CN56	KR Series	L17SA	F14	DURALOY 7 Series	LAL4530D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1030D	L15	L1L Series	LAL45E1330D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1033D	L15	L1L Series	LAL6030C	L4	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1034D	L15	L1L Series	LAL6030D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L101E0530D	L15	L1L Series	LAL60E1330D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L101E130D	L15	L1L Series	LAL8030C	L4	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1230D	L15	L1L Series	LAL8030D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1233D	L15	L1L Series	LAL80E1330D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1234D	L15	L1L Series	LAL80E2630D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L121E0530D	L15	L1L Series	LAL-BC	L7, L12	LAL/LALXE/LALC, LALFP Series
KRJC-2304	CN56	KR Series	L1L121E130D	L15	L1L Series	LALC1527D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1430D	L15	L1L Series	LALC1530D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1433D	L15	L1L Series	LALC1534D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L1434D	L15	L1L Series	LALC15E1330D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L141E0530D	L15	L1L Series	LALC2027D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L141E130D	L15	L1L Series	LALC2030D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L730D	L15	L1L Series	LALC2034D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L733D	L15	L1L Series	LALC20E1330D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L734D	L15	L1L Series	LALC2527D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L71E0530D	L15	L1L Series	LALC2530D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L1L71E130D	L15	L1L Series	LALC2534D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L27	F14	DURALOY 7 Series	LALC3030D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L27SA	F14	DURALOY 7 Series	LALC30E1330D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L37	F14	DURALOY 7 Series	LALC3530D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L37SA	F14	DURALOY 7 Series	LALC4030D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L47	F14	DURALOY 7 Series	LALC40E1330D	L5	LAL/LALXE/LALC Series
KRJC-2304	CN56	KR Series	L47SA	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	L57	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	L57SA	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	L67	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	L67SA	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	L77	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	L77SA	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	L87	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	L87SA	F14	DURALOY 7 Series			
KRJC-2304	CN56	KR Series	LAL12030D	L5	LAL/LALXE/LALC Series			
KRJC-2304	CN56	KR Series	LAL120E1330D	L5	LAL/LALXE/LALC Series			
KRJC-2304	CN56	KR Series	LAL120E2630D	L5	LAL/LALXE/LALC Series			
KRJC-2304	CN56	KR Series	LAL1830C	L4	LAL/LALXE/LALC Series			
KRJC-2304	CN56	KR Series	LAL1830D	L5	LAL/LALXE/LALC Series			
KRJC-2304	CN56	KR Series	LAL18E1330D	L5	LAL/LALXE/LALC Series			

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
LALC4530D	L5	LAL/LALXE/LALC Series	LB47SA	F17	DURALOY 7 Series	LL87SA	F17	DURALOY 7 Series
LALC5030D	L5	LAL/LALXE/LALC Series	LB57	F17	DURALOY 7 Series	LL888	F24	DURALOY 8 Series
LALCG	L7, L12	LAL/LALXE/LALC, LALFP Series	LB57SA	F17	DURALOY 7 Series	LL97	F17	DURALOY 7 Series
LALC-LENSDIF	L7, L12	LAL/LALXE/LALC, LALFP Series	LB58	F24	DURALOY 8 Series	LL97SA	F17	DURALOY 7 Series
LAL-EB	L7, L12	LAL/LALXE/LALC, LALFP Series	LB58SS	F35	Stainless Steel Conduit Bodies	LN-1CR	F184, F192, F194	Z Series
LALFP1130L5C	L10	LALFP Series	LB67	F17	DURALOY 7 Series	LN-2CR	F184, F192, F194	Z Series
LALFP1130L5D	L11	LALFP Series	LB67SA	F17	DURALOY 7 Series	LN-375CR	F184, F192, F194	Z Series
LALFP1630L5D	L11	LALFP Series	LB68	F24	DURALOY 8 Series	LN-3CR	F184, F192, F194	Z Series
LALFP230L1D	L11	LALFP Series	LB68SS	F35	Stainless Steel Conduit Bodies	LNZ10-050NPT	F195	SWZ/LNZ/ZHLN Series
LALFP230L3C	L10	LALFP Series	LB77	F17	DURALOY 7 Series	LNZ10-075NPT	F195	SWZ/LNZ/ZHLN Series
LALFP230L3D	L11	LALFP Series	LB77SA	F17	DURALOY 7 Series	LNZ10-100NPT	F195	SWZ/LNZ/ZHLN Series
LALFP230L4D	L11	LALFP Series	LB78	F24	DURALOY 8 Series	LNZ10-125NPT	F195	SWZ/LNZ/ZHLN Series
LALFP430L1D	L11	LALFP Series	LB87	F17	DURALOY 7 Series	LNZ10-150NPT	F195	SWZ/LNZ/ZHLN Series
LALFP430L3C	L10	LALFP Series	LB87SA	F17	DURALOY 7 Series	LNZ10-200NPT	F195	SWZ/LNZ/ZHLN Series
LALFP430L3D	L11	LALFP Series	LB888	F24	DURALOY 8 Series	LNZ10-250NPT	F195	SWZ/LNZ/ZHLN Series
LALFP430L4D	L11	LALFP Series	LB97	F17	DURALOY 7 Series	LNZ10-300NPT	F195	SWZ/LNZ/ZHLN Series
LALFP630L1D	L11	LALFP Series	LB97SA	F17	DURALOY 7 Series	LR107	F13	DURALOY 7 Series
LALFP630L3D	L11	LALFP Series	LB98	F24	DURALOY 8 Series	LR107SA	F13	DURALOY 7 Series
LALFP630L4D	L11	LALFP Series	LL107	F17	DURALOY 7 Series	LR17	F13	DURALOY 7 Series
LALFP830L3C	L10	LALFP Series	LL107SA	F17	DURALOY 7 Series	LR17SA	F13	DURALOY 7 Series
LALFP830L3D	L11	LALFP Series	LL17	F17	DURALOY 7 Series	LR18	F25	DURALOY 8 Series
LALFP830L4D	L11	LALFP Series	LL17SA	F17	DURALOY 7 Series	LR27	F13	DURALOY 7 Series
LALG	L7, L12	LAL/LALXE/LALC, LALFP Series	LL18	F24	DURALOY 8 Series	LR27SA	F13	DURALOY 7 Series
LAL-LENSCLR	L7, L12	LAL/LALXE/LALC, LALFP Series	LL27	F17	DURALOY 7 Series	LR28	F25	DURALOY 8 Series
LAL-LENSDIF	L7, L12	LAL/LALXE/LALC, LALFP Series	LL27SA	F17	DURALOY 7 Series	LR28SS	F35	Stainless Steel Conduit Bodies
LAL-SB	L7, L12	LAL/LALXE/LALC, LALFP Series	LL28	F24	DURALOY 8 Series	LR37	F13	DURALOY 7 Series
LB107	F17	DURALOY 7 Series	LL28SS	F35	Stainless Steel Conduit Bodies	LR37SA	F13	DURALOY 7 Series
LB107SA	F17	DURALOY 7 Series	LL37	F17	DURALOY 7 Series	LR38	F25	DURALOY 8 Series
LB108	F24	DURALOY 8 Series	LL37SA	F17	DURALOY 7 Series	LR38SS	F35	Stainless Steel Conduit Bodies
LB17	F17	DURALOY 7 Series	LL38	F24	DURALOY 8 Series	LR448	F25	DURALOY 8 Series
LB17SA	F17	DURALOY 7 Series	LL38SS	F35	Stainless Steel Conduit Bodies	LR47	F13	DURALOY 7 Series
LB18	F24	DURALOY 8 Series	LL448	F24	DURALOY 8 Series	LR47SA	F13	DURALOY 7 Series
LB27	F17	DURALOY 7 Series	LL47	F17	DURALOY 7 Series	LR57	F13	DURALOY 7 Series
LB27SA	F17	DURALOY 7 Series	LL47SA	F17	DURALOY 7 Series	LR57SA	F13	DURALOY 7 Series
LB28	F24	DURALOY 8 Series	LL57	F17	DURALOY 7 Series	LR58	F25	DURALOY 8 Series
LB28SS	F35	Stainless Steel Conduit Bodies	LL57SA	F17	DURALOY 7 Series	LR58SS	F35	Stainless Steel Conduit Bodies
LB37	F17	DURALOY 7 Series	LL58	F24	DURALOY 8 Series	LR67	F13	DURALOY 7 Series
LB37SA	F17	DURALOY 7 Series	LL58SS	F35	Stainless Steel Conduit Bodies	LR67SA	F13	DURALOY 7 Series
LB38	F24	DURALOY 8 Series	LL67	F17	DURALOY 7 Series	LR68	F25	DURALOY 8 Series
LB38SS	F35	Stainless Steel Conduit Bodies	LL67SA	F17	DURALOY 7 Series	LR68SS	F35	Stainless Steel Conduit Bodies
LB448	F24	DURALOY 8 Series	LL68	F24	DURALOY 8 Series	LR77	F13	DURALOY 7 Series
LB47	F17	DURALOY 7 Series	LL68SS	F35	Stainless Steel Conduit Bodies	LR77SA	F13	DURALOY 7 Series
			LL77	F17	DURALOY 7 Series			
			LL77SA	F17	DURALOY 7 Series			
			LL78	F24	DURALOY 8 Series			
			LL87	F17	DURALOY 7 Series			

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
LR78	F25	DURALOY 8 Series	MC2X1B	F204, L44, L46, L48	MC2X, KFLH, KFL2H, KFIL Series	MHK-RAS	F39, F100	TET, SPARTAN POLE
LR87	F13	DURALOY 7 Series	MC2X1C	F204, L44, L46, L48	MC2X, KFLH, KFL2H, KFIL Series	MHK-RTG	F39, F100	TET, SPARTAN POLE
LR87SA	F13	DURALOY 7 Series	MC2X2	F204, L44, L46, L48	MC2X, KFLH, KFL2H, KFIL Series	MHK-RTS	F39, F100	TET, SPARTAN POLE
LR888	F25	DURALOY 8 Series	MC2X3	F204	MC2X Series	MHK-WMBG	F100	SPARTAN POLE
LR97	F13	DURALOY 7 Series	MC2X4	F204	MC2X Series	MKH-FMBG	F100	SPARTAN POLE
LR97SA	F13	DURALOY 7 Series	MC2X5	F204	MC2X Series	MKH-JFMBG	F100	SPARTAN POLE
LUBG-6	F115	LUBG/LUBT Series	MC2X6	F204	MC2X Series	MKH-PL514BCD-WDU6-421A	F100	SPARTAN POLE
LUBT-2	F115	LUBG/LUBT Series	MC2X7	F204	MC2X Series	MKH-PL514BCD-WDU6-423A	F100	SPARTAN POLE
LZCB	L7, L12	LAL/LALXE/LALC, LALFP Series	MC2X8	F204	MC2X Series	MLB-12	F44	MOL Series
LZWB	L7, L12	LAL/LALXE/LALC, LALFP Series	MC2X9	F204	MC2X Series	MM-90-1	F159	FF/MF/MM/BL/ GUFY/YEYMF Series
MBA-2	L21	MBL Series	MC3	F201	MC Series	MM-90-1-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series
MBA-3	L21	MBL Series	MC4	F201	MC Series	MM-90-1M	F159	FF/MF/MM/BL/ GUFY/YEYMF Series
MBAG	L21	MBL Series	MC5	F201	MC Series	MM-90-1M-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series
MBB-2	L21	MBL Series	MC6	F201	MC Series	MM-90-2	F159	FF/MF/MM/BL/ GUFY/YEYMF Series
MBB-3	L21	MBL Series	MC7	F201	MC Series	MM-90-2-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series
MBD-4	L21	MBL Series	MC8	F201	MC Series	MM-90-2M	F159	FF/MF/MM/BL/ GUFY/YEYMF Series
MBD-5	L21	MBL Series	MC9	F201	MC Series	MM-90-2M-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series
MBG (GL)	L21	MBL Series	MCX14C	F208	MCX 45°/90° Series	MOC-0	F41	MO Series
MBL1427	L20	MBL Series	MCX19C	F208	MCX 45°/90° Series	MOC-0M	F41	MO Series
MBL1430	L20	MBL Series	MCX24	F208	MCX 45°/90° Series	MOC-3	F41	MO Series
MBL1434	L20	MBL Series	MCX29	F208	MCX 45°/90° Series	MOC-3M	F41	MO Series
MBL1727	L20	MBL Series	MF-45-1	F159	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-4	F41	MO Series
MBL1730	L20	MBL Series	MF-45-1-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-4M	F41	MO Series
MBL1734	L20	MBL Series	MF-45-1M	F159	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-5	F41	MO Series
MBL2027	L20	MBL Series	MF-45-1M-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-5M	F41	MO Series
MBL2030	L20	MBL Series	MF-45-2	F159	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-6	F41	MO Series
MBL2034	L20	MBL Series	MF-45-2-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-6M	F41	MO Series
MBL2227	L20	MBL Series	MF-45-2M	F159	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-7	F41	MO Series
MBL2230	L20	MBL Series	MF-45-2M-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-7M	F41	MO Series
MBL2234	L20	MBL Series	MF-90-1	F159	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-8	F41	MO Series
MBL2527	L20	MBL Series	MF-90-1-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-8M	F41	MO Series
MBL2530	L20	MBL Series	MF-90-1M	F159	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-9	F41	MO Series
MBL2534	L20	MBL Series	MF-90-1M-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series	MOC-9M	F41	MO Series
MBL4030	L20	MBL Series	MF-90-2	F159	FF/MF/MM/BL/ GUFY/YEYMF Series	MOL-560	F44	MOL Series
MBL5030	L20	MBL Series	MF-90-2-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series	MOL-780	F44	MOL Series
MBX-2	L21	MBL Series	MF-90-2M	F159	FF/MF/MM/BL/ GUFY/YEYMF Series	MOL-900	F44	MOL Series
MBX-3	L21	MBL Series	MF-90-2M-EX	F160	FF/MF/MM/BL/ GUFY/YEYMF Series	MOLB-0	F44	MOL Series
MBX-8	L21	MBL Series	MHK-RAG	F39, F100	TET, SPARTAN POLE	MOLB-4	F44	MOL Series
MC0	F201	MC Series				MOLB-5	F44	MOL Series
MC14C	F206	MC 45°/90° Series				MOLB-6	F44	MOL Series
MC19C	F206	MC 45°/90° Series				MOLB-6CG	F44	MOL Series
MC1B	F201	MC Series				MOLB-7	F44	MOL Series
MC1C	F201	MC Series				MOLB-8	F44	MOL Series
MC2	F201	MC Series						
MC24-20	CN110	HP20 Series						
MC24C	F206	MC 45°/90° Series						
MC29	F206	MC 45°/90° Series						
MC2X0	F204	MC2X Series						

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MOLB-9	F44	MOL Series	MOUB-8	F42	MO Series	NVPIG40AG	L75	NVPI/NVPF Series
MOLBD-0	F41	MO Series	MOUB-8M	F42	MO Series	NVPIG40BG	L75	NVPI/NVPF Series
MOLBD-0M	F41	MO Series	MOUB-9	F42	MO Series	NVPIG40XG	L75	NVPI/NVPF Series
MOLBD-1	F41	MO Series	MOUB-9M	F42	MO Series	NVPSD12	L59, L72	NVL, NV2 Series
MOLBD-1M	F41	MO Series	MQL13	L72	NV2 Series	NVSLCFG25A	L102	NVS Series
MOLBD-2	F41	MO Series	MQL18	L72	NV2 Series	NVSLCFG25B	L102	NVS Series
MOLBD-2M	F41	MO Series	MQL26	L72, L93	NV2, EM/EQ Series	NVSLCFG25C	L102	NVS Series
MOLBD-3	F41	MO Series	MQL32	L72, L93	NV2, EM/EQ Series	NVSLCFG25G	L102	NVS Series
MOLBD-3M	F41	MO Series	MQL42	L72, L93	NV2, EM/EQ Series	NVSLCFG25R	L102	NVS Series
MOLBD-4	F41	MO Series	MXB-13207	DE24	B7L Series	NVSLCFG26A	L102	NVS Series
MOLBD-4M	F41	MO Series	MXB-13297	DE24	B7L Series	NVSLCFG26B	L102	NVS Series
MOLBD-5	F41	MO Series	MXB-13417	DE24	B7L Series	NVSLCFG26C	L102	NVS Series
MOLBD-5M	F41	MO Series	MXB-13507	DE24	B7L Series	NVSLCFG26G	L102	NVS Series
MOLBD-6	F41	MO Series	NECLB-3	F46	NECLB Series	NVSLCFG26R	L102	NVS Series
MOLBD-6M	F41	MO Series	NECLB-30	F46	NECLB Series	NVSLCSG25A	L102	NVS Series
MOLBD-7	F41	MO Series	NECLB-4	F46	NECLB Series	NVSLCSG25B	L102	NVS Series
MOLBD-7M	F41	MO Series	NECLB-40	F46	NECLB Series	NVSLCSG25C	L102	NVS Series
MOLBD-8	F41	MO Series	NECLB-5	F46	NECLB Series	NVSLCSG25G	L102	NVS Series
MOLBD-8M	F41	MO Series	NECLB-50	F46	NECLB Series	NVSLCSG25R	L102	NVS Series
MOLBD-9	F41	MO Series	NECLB-6	F46	NECLB Series	NVSLCSG26A	L102	NVS Series
MOLBD-9M	F41	MO Series	NECLB-60	F46	NECLB Series	NVSLCSG26B	L102	NVS Series
MOT-0	F42	MO Series	NPRO4-0008	L124, L127	PROTECTA X	NVSLCSG26C	L102	NVS Series
MOT-0M	F42	MO Series	NV2AG	L59, L72, L75, L102	NVL, NV2, NVPI/ NVPF, NVS Series	NVSLCSG26G	L102	NVS Series
MOT-3	F42	MO Series	NV2BG	L59, L72, L75, L102	NVL, NV2, NVPI/ NVPF, NVS Series	NVSLCSG26R	L102	NVS Series
MOT-3M	F42	MO Series	NV2FG13	L72	NV2 Series	NVSMC	L102	NVS Series
MOT-4	F42	MO Series	NV2FG18	L72	NV2 Series	NVSMG	L102	NVS Series
MOT-4M	F42	MO Series	NV2FG26	L72	NV2 Series	NVSMR	L102	NVS Series
MOT-5	F42	MO Series	NV2FG32	L72	NV2 Series	NVSZ-LAMP	L102	NVS Series
MOT-5M	F42	MO Series	NV2FG42	L72	NV2 Series	NVSZMFG01	L102	NVS Series
MOT-6	F42	MO Series	NV2GG	L72, L75, L102	NV2, NVPI/NVPF, NVS Series	NVSZMFG08	L102	NVS Series
MOT-6M	F42	MO Series	NV2IG15	L72	NV2 Series	NVSZMFG26	L102	NVS Series
MOT-7	F42	MO Series	NV2MG	L59, L72, L102	NVL, NV2, NVS Series	OC-0	F8	O Series / DURALOY 5 Series
MOT-7M	F42	MO Series	NV2XG	L59, L72, L75, L102	NVL, NV2, NVPI/ NVPF, NVS Series	OC-0M	F8	O Series / DURALOY 5 Series
MOT-8	F42	MO Series	NVEXTG	L59, L72	NVL, NV2 Series	OC-1	F8	O Series / DURALOY 5 Series
MOT-8M	F42	MO Series	NVPFG13	L75	NVPI/NVPF Series	OC-1CG	F21	K-PAK
MOT-9	F42	MO Series	NVPFG13AG	L75	NVPI/NVPF Series	OC-1M	F8	O Series / DURALOY 5 Series
MOT-9M	F42	MO Series	NVPFG13BG	L75	NVPI/NVPF Series	OC-2	F8	O Series / DURALOY 5 Series
MOUB-0	F42	MO Series	NVPFG13XG	L75	NVPI/NVPF Series	OC-2CG	F21	K-PAK
MOUB-0M	F42	MO Series	NVPFG18	L75	NVPI/NVPF Series	OC-2M	F8	O Series / DURALOY 5 Series
MOUB-3	F42	MO Series	NVPFG18AG	L75	NVPI/NVPF Series	OC-3	F8	O Series / DURALOY 5 Series
MOUB-3M	F42	MO Series	NVPFG18BG	L75	NVPI/NVPF Series	OC-3CG	F21	K-PAK
MOUB-4	F42	MO Series	NVPFG18XG	L75	NVPI/NVPF Series	OC-3M	F8	O Series / DURALOY 5 Series
MOUB-4M	F42	MO Series	NVPFG26	L75	NVPI/NVPF Series			
MOUB-5	F42	MO Series	NVPFG26AG	L75	NVPI/NVPF Series			
MOUB-5M	F42	MO Series	NVPFG26BG	L75	NVPI/NVPF Series			
MOUB-6	F42	MO Series	NVPFG26XG	L75	NVPI/NVPF Series			
MOUB-6M	F42	MO Series	NVPIG40	L75	NVPI/NVPF Series			
MOUB-7	F42	MO Series						
MOUB-7M	F42	MO Series						

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
OC-4	.F8	O Series / DURALOY 5 Series	OL-30CM	.F11	O Series / DURALOY 5 Series	OL-90CM	.F11	O Series / DURALOY 5 Series
OC-4CG	.F21	K-PAK	OL-30G	.F11	O Series / DURALOY 5 Series	OL-90M	.F11	O Series / DURALOY 5 Series
OC-4M	.F8	O Series / DURALOY 5 Series	OL-30M	.F11	O Series / DURALOY 5 Series	OL-90MG	.F11	O Series / DURALOY 5 Series
OC-5	.F8	O Series / DURALOY 5 Series	OL-30MG	.F11	O Series / DURALOY 5 Series	OL-90-RG	.F11, F31	O Series / DURALOY 5, CO & TW Series
OC-5CG	.F21	K-PAK	OL-450	.F11, F31	O Series / DURALOY 5, CO & TW Series	OL-90-VG	.F11	O Series / DURALOY 5 Series
OC-5M	.F8	O Series / DURALOY 5 Series	OL-450G	.F11	O Series / DURALOY 5 Series	OLB-0	.F8	O Series / DURALOY 5 Series
OC-6	.F8	O Series / DURALOY 5 Series	OL-45CM	.F11	O Series / DURALOY 5 Series	OLB-0CG	.F21	K-PAK
OC-6CG	.F21	K-PAK	OL-45M	.F11	O Series / DURALOY 5 Series	OLB-0M	.F8	O Series / DURALOY 5 Series
OC-6M	.F8	O Series / DURALOY 5 Series	OL-45MG	.F11	O Series / DURALOY 5 Series	OLB-1	.F8	O Series / DURALOY 5 Series
OC-7	.F8	O Series / DURALOY 5 Series	OL-45-RG	.F11, F31	O Series / DURALOY 5, CO & TW Series	OLB-1CG	.F21	K-PAK
OC-7M	.F8	O Series / DURALOY 5 Series	OL-45-SG	.F11	O Series / DURALOY 5 Series	OLB-1M	.F8	O Series / DURALOY 5 Series
OC-8	.F8	O Series / DURALOY 5 Series	OL-45-VG	.F11	O Series / DURALOY 5 Series	OLB-2	.F8	O Series / DURALOY 5 Series
OC-8M	.F8	O Series / DURALOY 5 Series	OL-60	.F11, F31	O Series / DURALOY 5, CO & TW Series	OLB-2CG	.F21	K-PAK
OC-9	.F8	O Series / DURALOY 5 Series	OL-60CM	.F11	O Series / DURALOY 5 Series	OLB-2M	.F8	O Series / DURALOY 5 Series
OC-9M	.F8	O Series / DURALOY 5 Series	OL-60G	.F11	O Series / DURALOY 5 Series	OLB-3	.F8	O Series / DURALOY 5 Series
OE-1	.F7	O Series / DURALOY 5 Series	OL-60M	.F11	O Series / DURALOY 5 Series	OLB-3CG	.F21	K-PAK
OE-1M	.F7	O Series / DURALOY 5 Series	OL-60MG	.F11	O Series / DURALOY 5 Series	OLB-3M	.F8	O Series / DURALOY 5 Series
OE-2	.F7	O Series / DURALOY 5 Series	OL-6-RG	.F11, F31	O Series / DURALOY 5, CO & TW Series	OLB-4	.F8	O Series / DURALOY 5 Series
OE-2M	.F7	O Series / DURALOY 5 Series	OL-6-SG	.F11	O Series / DURALOY 5 Series	OLB-4CG	.F21	K-PAK
OE-3	.F7	O Series / DURALOY 5 Series	OL-6-VG	.F11	O Series / DURALOY 5 Series	OLB-4M	.F8	O Series / DURALOY 5 Series
OE-3M	.F7	O Series / DURALOY 5 Series	OL-780	.F11, F31	O Series / DURALOY 5, CO & TW Series	OLB-5	.F8	O Series / DURALOY 5 Series
OL-10	.F11, F31	O Series / DURALOY 5, CO & TW Series	OL-780G	.F11	O Series / DURALOY 5 Series	OLB-5CG	.F21	K-PAK
OL-10CM	.F11	O Series / DURALOY 5 Series	OL-78CM	.F11	O Series / DURALOY 5 Series	OLB-5M	.F8	O Series / DURALOY 5 Series
OL-10G	.F11	O Series / DURALOY 5 Series	OL-78M	.F11	O Series / DURALOY 5 Series	OLB-6	.F8	O Series / DURALOY 5 Series
OL-10M	.F11	O Series / DURALOY 5 Series	OL-78MG	.F11	O Series / DURALOY 5 Series	OLB-6CG	.F21	K-PAK
OL-10MG	.F11	O Series / DURALOY 5 Series	OL-78-RG	.F11, F31	O Series / DURALOY 5, CO & TW Series	OLB-6M	.F8	O Series / DURALOY 5 Series
OL-20	.F11, F31	O Series / DURALOY 5, CO & TW Series	OL-78-SG	.F11	O Series / DURALOY 5 Series	OLB-7	.F8	O Series / DURALOY 5 Series
OL-20CM	.F11	O Series / DURALOY 5 Series	OL-78-VG	.F11	O Series / DURALOY 5 Series	OLB-7CG	.F21	K-PAK
OL-20G	.F11	O Series / DURALOY 5 Series	OL-900	.F11, F31	O Series / DURALOY 5, CO & TW Series	OLB-7M	.F8	O Series / DURALOY 5 Series
OL-20M	.F11	O Series / DURALOY 5 Series	OL-900G	.F11	O Series / DURALOY 5 Series	OLB-8	.F8	O Series / DURALOY 5 Series
OL-20MG	.F11	O Series / DURALOY 5 Series				OLB-8CG	.F21	K-PAK
OL-30	.F11, F31	O Series / DURALOY 5, CO & TW Series				OLB-8M	.F8	O Series / DURALOY 5 Series

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OLB-9M.....	F8	O Series / DURALOY 5 Series	OLL-8M.....	F7	O Series / DURALOY 5 Series	OT-1M.....	F9	O Series / DURALOY 5 Series
OLK-1RG.....	F11, F31	O Series / DURALOY 5, CO & TW Series	OLL-9.....	F7	O Series / DURALOY 5 Series	OT-2.....	F9	O Series / DURALOY 5 Series
OLK-1-SG.....	F11	O Series / DURALOY 5 Series	OLL-9M.....	F7	O Series / DURALOY 5 Series	OT-2CG.....	F21	K-PAK
OLK-1VG.....	F11	O Series / DURALOY 5 Series	OLR-0.....	F9	O Series / DURALOY 5 Series	OT-2M.....	F9	O Series / DURALOY 5 Series
OLK-2RG.....	F11, F31	O Series / DURALOY 5, CO & TW Series	OLR-0M.....	F9	O Series / DURALOY 5 Series	OT-3.....	F9	O Series / DURALOY 5 Series
OLK-2-SG.....	F11	O Series / DURALOY 5 Series	OLR-1.....	F9	O Series / DURALOY 5 Series	OT-3CG.....	F21	K-PAK
OLK-2VG.....	F11	O Series / DURALOY 5 Series	OLR-1CG.....	F21	K-PAK	OT-3M.....	F9	O Series / DURALOY 5 Series
OLK-3RG.....	F11, F31	O Series / DURALOY 5, CO & TW Series	OLR-1M.....	F9	O Series / DURALOY 5 Series	OT-4.....	F9	O Series / DURALOY 5 Series
OLK-3-SG.....	F11	O Series / DURALOY 5 Series	OLR-2.....	F9	O Series / DURALOY 5 Series	OT-4CG.....	F21	K-PAK
OLK-3VG.....	F11	O Series / DURALOY 5 Series	OLR-2CG.....	F21	K-PAK	OT-4M.....	F9	O Series / DURALOY 5 Series
OLL-0.....	F7	O Series / DURALOY 5 Series	OLR-2M.....	F9	O Series / DURALOY 5 Series	OT-5.....	F9	O Series / DURALOY 5 Series
OLL-0M.....	F7	O Series / DURALOY 5 Series	OLR-3.....	F9	O Series / DURALOY 5 Series	OT-5CG.....	F21	K-PAK
OLL-1.....	F7	O Series / DURALOY 5 Series	OLR-3CG.....	F21	K-PAK	OT-5M.....	F9	O Series / DURALOY 5 Series
OLL-1CG.....	F21	K-PAK	OLR-3M.....	F9	O Series / DURALOY 5 Series	OT-6.....	F9	O Series / DURALOY 5 Series
OLL-1M.....	F7	O Series / DURALOY 5 Series	OLR-4.....	F9	O Series / DURALOY 5 Series	OT-6CG.....	F21	K-PAK
OLL-2.....	F7	O Series / DURALOY 5 Series	OLR-4CG.....	F21	K-PAK	OT-6M.....	F9	O Series / DURALOY 5 Series
OLL-2CG.....	F21	K-PAK	OLR-4M.....	F9	O Series / DURALOY 5 Series	OT-7.....	F9	O Series / DURALOY 5 Series
OLL-2M.....	F7	O Series / DURALOY 5 Series	OLR-5.....	F9	O Series / DURALOY 5 Series	OT-7M.....	F9	O Series / DURALOY 5 Series
OLL-3.....	F7	O Series / DURALOY 5 Series	OLR-5CG.....	F21	K-PAK	OT-8.....	F9	O Series / DURALOY 5 Series
OLL-3CG.....	F21	K-PAK	OLR-5M.....	F9	O Series / DURALOY 5 Series	OT-8M.....	F9	O Series / DURALOY 5 Series
OLL-3M.....	F7	O Series / DURALOY 5 Series	OLR-6.....	F9	O Series / DURALOY 5 Series	OT-9.....	F9	O Series / DURALOY 5 Series
OLL-4.....	F7	O Series / DURALOY 5 Series	OLR-6CG.....	F21	K-PAK	OT-9M.....	F9	O Series / DURALOY 5 Series
OLL-4CG.....	F21	K-PAK	OLR-6M.....	F9	O Series / DURALOY 5 Series	OTA-1.....	F10	O Series / DURALOY 5 Series
OLL-4M.....	F7	O Series / DURALOY 5 Series	OLR-7.....	F9	O Series / DURALOY 5 Series	OTA-1M.....	F10	O Series / DURALOY 5 Series
OLL-5.....	F7	O Series / DURALOY 5 Series	OLR-7M.....	F9	O Series / DURALOY 5 Series	OTA-2.....	F10	O Series / DURALOY 5 Series
OLL-5CG.....	F21	K-PAK	OLR-8.....	F9	O Series / DURALOY 5 Series	OTA-2M.....	F10	O Series / DURALOY 5 Series
OLL-5M.....	F7	O Series / DURALOY 5 Series	OLR-8M.....	F9	O Series / DURALOY 5 Series	OTA-3M.....	F10	O Series / DURALOY 5 Series
OLL-6.....	F7	O Series / DURALOY 5 Series	OLR-9.....	F9	O Series / DURALOY 5 Series	OTB-1.....	F10	O Series / DURALOY 5 Series
OLL-6CG.....	F21	K-PAK	OLR-9M.....	F9	O Series / DURALOY 5 Series	OTB-1M.....	F10	O Series / DURALOY 5 Series
OLL-6M.....	F7	O Series / DURALOY 5 Series	OT-0.....	F9	O Series / DURALOY 5 Series	OTB-2.....	F10	O Series / DURALOY 5 Series
OLL-7.....	F7	O Series / DURALOY 5 Series	OT-0M.....	F9	O Series / DURALOY 5 Series	OTB-2M.....	F10	O Series / DURALOY 5 Series
OLL-7M.....	F7	O Series / DURALOY 5 Series	OT-1.....	F9	O Series / DURALOY 5 Series	OTB-3.....	F10	O Series / DURALOY 5 Series
OLL-8.....	F7	O Series / DURALOY 5 Series	OT-1CG.....	F21	K-PAK			

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OTB-3M.....	F10	O Series / DURALOY 5 Series	PGPS.....	L50	KWPL Series	R-108.....	F157	R/RE/ADUP Series
OTB-4.....	F10	O Series / DURALOY 5 Series	PGWG.....	L50	KWPL Series	R-108-EX.....	F157	R/RE/ADUP Series
OTB-4M.....	F10	O Series / DURALOY 5 Series	PL511.....	E30	PL5 Series	R-109.....	F157	R/RE/ADUP Series
OTB-5.....	F10	O Series / DURALOY 5 Series	PL513.....	E30	PL5 Series	R-109-EX.....	F157	R/RE/ADUP Series
OTB-5M.....	F10	O Series / DURALOY 5 Series	PL514.....	E30	PL5 Series	R-10-EX.....	F157	R/RE/ADUP Series
OTB-6.....	F10	O Series / DURALOY 5 Series	PL520.....	E30	PL5 Series	R-20.....	F157	R/RE/ADUP Series
OTB-6M.....	F10	O Series / DURALOY 5 Series	PL612.....	E34	PL6 Series	R-20-EX.....	F157	R/RE/ADUP Series
OX-1.....	F10	O Series / DURALOY 5 Series	PL615.....	E34	PL6 Series	R-21.....	F157	R/RE/ADUP Series
OX-1M.....	F10	O Series / DURALOY 5 Series	PL620.....	E34	PL6 Series	R-21-EX.....	F157	R/RE/ADUP Series
OX-2.....	F10	O Series / DURALOY 5 Series	PL626.....	E34	PL6 Series	R-30.....	F157	R/RE/ADUP Series
OX-2M.....	F10	O Series / DURALOY 5 Series	PL630.....	E34	PL6 Series	R-30-EX.....	F157	R/RE/ADUP Series
OX-3.....	F10	O Series / DURALOY 5 Series	PLUG1.....	F146	CUP/PLUG Series	R-31.....	F157	R/RE/ADUP Series
OX-3M.....	F10	O Series / DURALOY 5 Series	PLUG10.....	F146	CUP/PLUG Series	R-31-EX.....	F157	R/RE/ADUP Series
OX-4.....	F10	O Series / DURALOY 5 Series	PLUG10-EX.....	F147	CUP/PLUG Series	R-32.....	F157	R/RE/ADUP Series
OX-4M.....	F10	O Series / DURALOY 5 Series	PLUG1-EX.....	F147	CUP/PLUG Series	R-32-EX.....	F157	R/RE/ADUP Series
OX-5.....	F10	O Series / DURALOY 5 Series	PLUG2.....	F146	CUP/PLUG Series	R-41.....	F157	R/RE/ADUP Series
OX-5M.....	F10	O Series / DURALOY 5 Series	PLUG2-EX.....	F147	CUP/PLUG Series	R-41-EX.....	F157	R/RE/ADUP Series
OX-6.....	F10	O Series / DURALOY 5 Series	PLUG3.....	F146	CUP/PLUG Series	R-42.....	F157	R/RE/ADUP Series
OX-6M.....	F10	O Series / DURALOY 5 Series	PLUG375.....	F146	CUP/PLUG Series	R-42-EX.....	F157	R/RE/ADUP Series
PCC050.....	F197	PCC/ECC/RACC Series	PLUG3-EX.....	F147	CUP/PLUG Series	R-43.....	F157	R/RE/ADUP Series
PCC075.....	F197	PCC/ECC/RACC Series	PLUG4.....	F146	CUP/PLUG Series	R-43-EX.....	F157	R/RE/ADUP Series
PCC100.....	F197	PCC/ECC/RACC Series	PLUG4-EX.....	F147	CUP/PLUG Series	R-51.....	F157	R/RE/ADUP Series
PCC125.....	F197	PCC/ECC/RACC Series	PLUG5.....	F146	CUP/PLUG Series	R-51-EX.....	F157	R/RE/ADUP Series
PCC150.....	F197	PCC/ECC/RACC Series	PLUG5-EX.....	F147	CUP/PLUG Series	R-52.....	F157	R/RE/ADUP Series
PCC200.....	F197	PCC/ECC/RACC Series	PLUG6.....	F146	CUP/PLUG Series	R-52-EX.....	F157	R/RE/ADUP Series
PCC250.....	F197	PCC/ECC/RACC Series	PLUG6-EX.....	F147	CUP/PLUG Series	R-53.....	F157	R/RE/ADUP Series
PCC300.....	F197	PCC/ECC/RACC Series	PLUG7.....	F146	CUP/PLUG Series	R-53-EX.....	F157	R/RE/ADUP Series
PCC350.....	F197	PCC/ECC/RACC Series	PLUG7-EX.....	F147	CUP/PLUG Series	R-54.....	F157	R/RE/ADUP Series
PCC400.....	F197	PCC/ECC/RACC Series	PLUG8.....	F146	CUP/PLUG Series	R-54-EX.....	F157	R/RE/ADUP Series
PF-16.....	F111	SC/PF Series	PLUG8-EX.....	F147	CUP/PLUG Series	R-61.....	F157	R/RE/ADUP Series
PF-2.....	F111	SC/PF Series	PLUG9.....	F146	CUP/PLUG Series	R-61-EX.....	F157	R/RE/ADUP Series
PF-4.....	F111	SC/PF Series	PLUG9-EX.....	F147	CUP/PLUG Series	R-62.....	F157	R/RE/ADUP Series
			PRXB/02L/LE.....	L127	PROTECTA X Z1	R-62-EX.....	F157	R/RE/ADUP Series
			PRXB/02L/LE/EM.....	L127	PROTECTA X Z1	R-63.....	F157	R/RE/ADUP Series
			PRXB/05L/LE.....	L127	PROTECTA X Z1	R-63-EX.....	F157	R/RE/ADUP Series
			PRXB/05L/LE/EM.....	L127	PROTECTA X Z1	R-64.....	F157	R/RE/ADUP Series
			PRXI/02L/LE.....	L124	PROTECTA X	R-64-EX.....	F157	R/RE/ADUP Series
			PRXI/02L/LE/EM.....	L124	PROTECTA X	R-65.....	F157	R/RE/ADUP Series
			PRXI/05L/LE.....	L124	PROTECTA X	R-65-EX.....	F157	R/RE/ADUP Series
			PRXI/05L/LE/EM.....	L124	PROTECTA X	R-73.....	F157	R/RE/ADUP Series
			PVLV.....	L50	KWPL Series	R-73-EX.....	F157	R/RE/ADUP Series
			QS-535-L.....	CN102, CN110	RMPIII, HP20 Series	R-74.....	F157	R/RE/ADUP Series
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			QS-777-L.....	CN102, CN110	RMPIII, HP20 Series	R-75.....	F157	R/RE/ADUP Series
			R-10.....	F157	R/RE/ADUP Series	R-75-EX.....	F157	R/RE/ADUP Series
			R-106.....	F157	R/RE/ADUP Series	R-76.....	F157	R/RE/ADUP Series
			R-106-EX.....	F157	R/RE/ADUP Series	R-76-EX.....	F157	R/RE/ADUP Series
			R-107.....	F157	R/RE/ADUP Series	R-84.....	F157	R/RE/ADUP Series
			R-107-EX.....	F157	R/RE/ADUP Series	R-84-EX.....	F157	R/RE/ADUP Series

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R-87-EX.....	F157	R/RE/ADUP Series
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RACC075.....	F197	PCC/ECC/RACC Series
RACC100.....	F197	PCC/ECC/RACC Series
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RE51S-EX.....	F157	R/RE/ADUP Series
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RE53S.....	F157	R/RE/ADUP Series
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RE54S-EX.....	F157	R/RE/ADUP Series
RE61S.....	F157	R/RE/ADUP Series
RE61S-EX.....	F157	R/RE/ADUP Series
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RE62S-EX.....	F157	R/RE/ADUP Series
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RE63S-EX.....	F157	R/RE/ADUP Series
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RE64S-EX.....	F157	R/RE/ADUP Series
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RE65S-EX.....	F157	R/RE/ADUP Series
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RMP-BMC-BR.....	CN102	RMPIII Series
RMP-BMC-G.....	CN102	RMPIII Series
RMP-BMC-GY.....	CN102	RMPIII Series
RMP-BMC-OR.....	CN102	RMPIII Series
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RMP-C-373F.....	CN102	RMPIII Series
RMP-C-373M.....	CN102	RMPIII Series
RMP-C-3F.....	CN102	RMPIII Series
RMP-C-3M.....	CN102	RMPIII Series
RMP-C-4/ØF.....	CN102	RMPIII Series
RMP-C-4/ØM.....	CN102	RMPIII Series
RMP-C-4F.....	CN102	RMPIII Series
RMP-C-4M.....	CN102	RMPIII Series
RMP-C-5F.....	CN102	RMPIII Series
RMP-C-5M.....	CN102	RMPIII Series
RMP-C-6F.....	CN102	RMPIII Series

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RMP-C-7F.....	CN102	RMPIII Series
RMP-C-7M.....	CN102	RMPIII Series
RMP-CMP-F-BK.....	CN102	RMPIII Series
RMP-CMP-F-BL.....	CN102	RMPIII Series
RMP-CMP-F-BR.....	CN102	RMPIII Series
RMP-CMP-F-G.....	CN102	RMPIII Series
RMP-CMP-F-GY.....	CN102	RMPIII Series
RMP-CMP-F-OR.....	CN102	RMPIII Series
RMP-CMP-F-P.....	CN102	RMPIII Series
RMP-CMP-F-R.....	CN102	RMPIII Series
RMP-CMP-F-W.....	CN102	RMPIII Series
RMP-CMP-F-Y.....	CN102	RMPIII Series
RMP-CMP-M-BK.....	CN102	RMPIII Series
RMP-CMP-M-BL.....	CN102	RMPIII Series
RMP-CMP-M-BR.....	CN102	RMPIII Series
RMP-CMP-M-G.....	CN102	RMPIII Series
RMP-CMP-M-GY.....	CN102	RMPIII Series
RMP-CMP-M-OR.....	CN102	RMPIII Series
RMP-CMP-M-P.....	CN102	RMPIII Series
RMP-CMP-M-R.....	CN102	RMPIII Series
RMP-CMP-M-W.....	CN102	RMPIII Series
RMP-CMP-M-Y.....	CN102	RMPIII Series
RMP-CMR-AL.....	CN102	RMPIII Series
RMP-CMR-BK.....	CN102	RMPIII Series
RMP-CMR-BL.....	CN102	RMPIII Series
RMP-CMR-BR.....	CN102	RMPIII Series
RMP-CMR-G.....	CN102	RMPIII Series
RMP-CMR-GY.....	CN102	RMPIII Series
RMP-CMR-OR.....	CN102	RMPIII Series
RMP-CMR-P.....	CN102	RMPIII Series
RMP-CMR-R.....	CN102	RMPIII Series
RMP-CMR-W.....	CN102	RMPIII Series
RMP-CMR-Y.....	CN102	RMPIII Series
RMP-FGP-4.....	CN102	RMPIII Series
RMP-FGR.....	CN102	RMPIII Series
RMPIII-CMP-262F-BK.....	CN101	RMPIII Series
RMPIII-CMP-262F-BL.....	CN101	RMPIII Series
RMPIII-CMP-262F-BR.....	CN101	RMPIII Series
RMPIII-CMP-262F-G.....	CN101	RMPIII Series
RMPIII-CMP-262F-GY.....	CN101	RMPIII Series
RMPIII-CMP-262F-OR.....	CN101	RMPIII Series
RMPIII-CMP-262F-P.....	CN101	RMPIII Series
RMPIII-CMP-262F-R.....	CN101	RMPIII Series
RMPIII-CMP-262F-W.....	CN101	RMPIII Series
RMPIII-CMP-262F-Y.....	CN101	RMPIII Series
RMPIII-CMP-262M-BK.....	CN101	RMPIII Series
RMPIII-CMP-262M-BL.....	CN101	RMPIII Series
RMPIII-CMP-262M-BR.....	CN101	RMPIII Series

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RMP111-PMR-SS-F-W	CN96	RMP111 Series	SD-B1524-29SL-TC	CN67	Explosionproof Starline	SD-B1728-23SL-BL	CN67	Explosionproof Starline
RMP111-PMR-SS-F-Y	CN96	RMP111 Series	SD-B1524-29SL-XX	CN67	Explosionproof Starline	SD-B1728-23SL-L36	CN67	Explosionproof Starline
RMP111-PMR-SS-M-BK	CN96	RMP111 Series	SD-B1524-32SL-TC	CN67	Explosionproof Starline	SD-B1916-23SL-L48	CN67	Explosionproof Starline
RMP111-PMR-SS-M-BL	CN96	RMP111 Series	SD-B1524-32SL-XX	CN67	Explosionproof Starline	SD-B1916-51SL-L48	CN67	Explosionproof Starline
RMP111-PMR-SS-M-BR	CN96	RMP111 Series	SD-B1524-39SL-TC	CN67	Explosionproof Starline	SD-B1920-36SL-L48	CN67	Explosionproof Starline
RMP111-PMR-SS-M-G	CN96	RMP111 Series	SD-B1524-39SL-XX	CN67	Explosionproof Starline	SD-B1920-40SL-L48	CN67	Explosionproof Starline
RMP111-PMR-SS-M-O	CN96	RMP111 Series	SD-B1524-60SL-TC	CN67	Explosionproof Starline	SD-B1920-56SL-L48	CN67	Explosionproof Starline
RMP111-PMR-SS-M-R	CN96	RMP111 Series	SD-B1524-60SL-XX	CN67	Explosionproof Starline	SD-B1920-61SL-L48	CN67	Explosionproof Starline
RMP111-PMR-SS-M-W	CN96	RMP111 Series	SD-B1528-23SL-TC	CN67	Explosionproof Starline	SD-B1924-29SL-L48	CN67	Explosionproof Starline
RMP111-PMR-SS-M-Y	CN96	RMP111 Series	SD-B1528-23SL-XX	CN67	Explosionproof Starline	SD-B1924-32SL-L48	CN67	Explosionproof Starline
RMP-LOC-Y	CN102	RMP111 Series	SD-B1716-23SL- FH	CN67	Explosionproof Starline	SD-B1924-39SL-L48	CN67	Explosionproof Starline
RMP-LOS-X	CN102	RMP111 Series	SD-B1716-23SL-L36	CN67	Explosionproof Starline	SD-B1924-60SL-L48	CN67	Explosionproof Starline
RMP-MGP-4	CN102	RMP111 Series	SD-B1716-51SL-FH	CN67	Explosionproof Starline	SD-B1928-23SL-L48	CN67	Explosionproof Starline
RMP-MGR	CN102	RMP111 Series	SD-B1716-51SL-L36	CN67	Explosionproof Starline	SD-D1016-23PL-TC	CN67	Explosionproof Starline
RMP-PMR-BK	CN102	RMP111 Series	SD-B1720-36SL- FH	CN67	Explosionproof Starline	SD-D1016-23PL-XX	CN67	Explosionproof Starline
RMP-PMR-BL	CN102	RMP111 Series	SD-B1720-36SL-L36	CN67	Explosionproof Starline	SD-D1016-51PL-TC	CN67	Explosionproof Starline
RMP-PMR-BR	CN102	RMP111 Series	SD-B1720-40SL- FH	CN67	Explosionproof Starline	SD-D1016-51PL-XX	CN67	Explosionproof Starline
RMP-PMR-G	CN102	RMP111 Series	SD-B1720-40SL-L36	CN67	Explosionproof Starline	SD-D1020-36PL-TC	CN67	Explosionproof Starline
RMP-PMR-GY	CN102	RMP111 Series	SD-B1720-56SL-FH	CN67	Explosionproof Starline	SD-D1020-36PL-XX	CN67	Explosionproof Starline
RMP-PMR-OR	CN102	RMP111 Series	SD-B1720-56SL-L36	CN67	Explosionproof Starline	SD-D1020-40PL-TC	CN67	Explosionproof Starline
RMP-PMR-P	CN102	RMP111 Series	SD-B1720-61SL- FH	CN67	Explosionproof Starline	SD-D1020-40PL-XX	CN67	Explosionproof Starline
RMP-PMR-R	CN102	RMP111 Series	SD-B1720-61SL-L36	CN67	Explosionproof Starline	SD-D1020-56PL-TC	CN67	Explosionproof Starline
RMP-PMR-W	CN102	RMP111 Series	SD-B1724-29SL-BK	CN67	Explosionproof Starline	SD-D1020-56PL-XX	CN67	Explosionproof Starline
RMP-PMR-Y	CN102	RMP111 Series	SD-B1724-29SL-L36	CN67	Explosionproof Starline	SD-D1020-61PL-TC	CN67	Explosionproof Starline
SC-1 LB	F105, F111	EZ, SC/PF Series	SD-B1724-32SL-BK	CN67	Explosionproof Starline	SD-D1020-61PL-XX	CN67	Explosionproof Starline
SC11W	F111	SC/PF Series	SD-B1724-32SL-L36	CN67	Explosionproof Starline	SD-D1024-29PL-TC	CN67	Explosionproof Starline
SC-4 OZ	F105, F111	EZ Series, SC/PF Series	SD-B1724-39SL-BK	CN67	Explosionproof Starline	SD-D1024-29PL-XX	CN67	Explosionproof Starline
SC-5 LB	F105, F111	EZ, SC/PF Series	SD-B1724-39SL-L36	CN67	Explosionproof Starline	SD-D1024-32PL-TC	CN67	Explosionproof Starline
SC5W	F111	SC/PF Series	SD-B1724-39SL-XX	CN67	Explosionproof Starline	SD-D1024-32PL-XX	CN67	Explosionproof Starline
SC-8 OZ	F105, F111	EZ, SC/PF Series	SD-B1516-23SL-TC	CN67	Explosionproof Starline			
SD-B1516-23SL-TC	CN67	Explosionproof Starline	SD-B1516-23SL-XX	CN67	Explosionproof Starline			
SD-B1516-23SL-XX	CN67	Explosionproof Starline	SD-B1516-51SL-TC	CN67	Explosionproof Starline			
SD-B1516-51SL-TC	CN67	Explosionproof Starline	SD-B1516-51SL-XX	CN67	Explosionproof Starline			
SD-B1516-51SL-XX	CN67	Explosionproof Starline	SD-B1520-36SL-TC	CN67	Explosionproof Starline			
SD-B1520-36SL-TC	CN67	Explosionproof Starline	SD-B1520-36SL-XX	CN67	Explosionproof Starline			
SD-B1520-36SL-XX	CN67	Explosionproof Starline	SD-B1520-40SL-TC	CN67	Explosionproof Starline			
SD-B1520-40SL-TC	CN67	Explosionproof Starline	SD-B1520-40SL-XX	CN67	Explosionproof Starline			
SD-B1520-40SL-XX	CN67	Explosionproof Starline	SD-B1520-56SL-TC	CN67	Explosionproof Starline			
SD-B1520-56SL-TC	CN67	Explosionproof Starline	SD-B1520-56SL-XX	CN67	Explosionproof Starline			
SD-B1520-56SL-XX	CN67	Explosionproof Starline	SD-B1724-60SL-BK	CN67	Explosionproof Starline			
SD-B1520-61SL-TC	CN67	Explosionproof Starline						

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SD-D1024-39PL-TC	CN67	Explosionproof Starline	SF-B1516-621SL-XX	CN69	Explosionproof Starline	SF-B1716-681SL-L36	CN69	Explosionproof Starline
SD-D1024-39PL-XX	CN67	Explosionproof Starline	SF-B1516-633SL-XX	CN69	Explosionproof Starline	SF-B1720-613SL- FH	CN68	Explosionproof Starline
SD-D1024-60PL-TC	CN67	Explosionproof Starline	SF-B1516-640SL-XX	CN69	Explosionproof Starline	SF-B1720-613SL-L36	CN69	Explosionproof Starline
SD-D1024-60PL-XX	CN67	Explosionproof Starline	SF-B1516-655SL-XX	CN69	Explosionproof Starline	SF-B1720-632SL- FH	CN68	Explosionproof Starline
SD-D1028-23PL-TC	CN67	Explosionproof Starline	SF-B1516-676SL-XX	CN69	Explosionproof Starline	SF-B1720-632SL-L36	CN69	Explosionproof Starline
SD-D1028-23PL-XX	CN67	Explosionproof Starline	SF-B1516-677SL-XX	CN69	Explosionproof Starline	SF-B1720-650SL- FH	CN68	Explosionproof Starline
SDT-B1528-42SL-TC	CN67	Explosionproof Starline	SF-B1516-681SL-XX	CN69	Explosionproof Starline	SF-B1720-650SL-L36	CN69	Explosionproof Starline
SDT-B1528-42SL-XX	CN67	Explosionproof Starline	SF-B1520-613SL-XX	CN69	Explosionproof Starline	SF-B1720-676SL- FH	CN68	Explosionproof Starline
SDT-B1728-42SL-BL	CN67	Explosionproof Starline	SF-B1520-632SL-XX	CN69	Explosionproof Starline	SF-B1720-676SL-L36	CN69	Explosionproof Starline
SDT-B1728-42SL-L36	CN67	Explosionproof Starline	SF-B1520-650SL-XX	CN69	Explosionproof Starline	SF-B1720-686SL- FH	CN68	Explosionproof Starline
SDT-B1928-42SL-L48	CN67	Explosionproof Starline	SF-B1520-676SL-XX	CN69	Explosionproof Starline	SF-B1720-686SL-L36	CN69	Explosionproof Starline
SDT-D1028-42PL-TC	CN67	Explosionproof Starline	SF-B1520-686SL-XX	CN69	Explosionproof Starline	SF-B1720-687SL- FH	CN68	Explosionproof Starline
SDT-D1028-42PL-XX	CN67	Explosionproof Starline	SF-B1520-687SL-XX	CN69	Explosionproof Starline	SF-B1720-687SL-L36	CN69	Explosionproof Starline
SDU-B1528-30SL-TC	CN67	Explosionproof Starline	SF-B1520-688SL-XX	CN69	Explosionproof Starline	SF-B1720-688SL- FH	CN68	Explosionproof Starline
SDU-B1528-30SL-XX	CN67	Explosionproof Starline	SF-B1524-613SL-XX	CN69	Explosionproof Starline	SF-B1720-688SL-L36	CN69	Explosionproof Starline
SDU-B1528-31SL-TC	CN67	Explosionproof Starline	SF-B1716-612SL- FH	CN68	Explosionproof Starline	SF-B1724-613SL-BK	CN68	Explosionproof Starline
SDU-B1528-31SL-XX	CN67	Explosionproof Starline	SF-B1716-612SL-L36	CN69	Explosionproof Starline	SF-B1724-613SL-L36	CN69	Explosionproof Starline
SDU-B1728-30SL-BL	CN67	Explosionproof Starline	SF-B1716-621SL- FH	CN68	Explosionproof Starline	SF-B1916-612SL-L48	CN69	Explosionproof Starline
SDU-B1728-30SL-L36	CN67	Explosionproof Starline	SF-B1716-621SL-L36	CN69	Explosionproof Starline	SF-B1916-621SL-L48	CN69	Explosionproof Starline
SDU-B1728-31SL-BL	CN67	Explosionproof Starline	SF-B1716-633SL- FH	CN68	Explosionproof Starline	SF-B1916-633SL-L48	CN69	Explosionproof Starline
SDU-B1728-31SL-L36	CN67	Explosionproof Starline	SF-B1716-633SL-L36	CN69	Explosionproof Starline	SF-B1916-640SL-L48	CN69	Explosionproof Starline
SDU-B1928-30SL-L48	CN67	Explosionproof Starline	SF-B1716-640SL- FH	CN68	Explosionproof Starline	SF-B1916-655SL-L48	CN69	Explosionproof Starline
SDU-B1928-31SL-L48	CN67	Explosionproof Starline	SF-B1716-640SL-L36	CN69	Explosionproof Starline	SF-B1916-676SL-L48	CN69	Explosionproof Starline
SDU-D1028-30PL-TC	CN67	Explosionproof Starline	SF-B1716-655SL- FH	CN68	Explosionproof Starline	SF-B1916-677SL-L48	CN69	Explosionproof Starline
SDU-D1028-30PL-XX	CN67	Explosionproof Starline	SF-B1716-655SL-L36	CN69	Explosionproof Starline	SF-B1916-681SL-L48	CN69	Explosionproof Starline
SDU-D1028-31PL-TC	CN67	Explosionproof Starline	SF-B1716-676SL- FH	CN68	Explosionproof Starline	SF-B1920-613SL-L48	CN69	Explosionproof Starline
SDU-D1028-31PL-XX	CN67	Explosionproof Starline	SF-B1716-676SL-L36	CN69	Explosionproof Starline	SF-B1920-632SL-L48	CN69	Explosionproof Starline
SEVO4-0001	L111, L113	EVOLUTION X	SF-B1716-677SL- FH	CN68	Explosionproof Starline	SF-B1920-650SL-L48	CN69	Explosionproof Starline
SEVX4-0001	L111, L113	EVOLUTION X	SF-B1716-677SL-L36	CN69	Explosionproof Starline	SF-B1920-676SL-L48	CN69	Explosionproof Starline
SEVX4-0002	L111, L113	EVOLUTION X	SF-B1716-681SL-FH	CN68	Explosionproof Starline			
SEVX4-0003	L111, L113	EVOLUTION X						

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SF-B1920-687SL-L48... CN69		Explosionproof Starline	SF-D1020-687PL-XX... CN68		Explosionproof Starline	SGE-LEDXAM02..... C95		GZ Series
SF-B1920-688SL-L48... CN69		Explosionproof Starline	SF-D1020-688PL-TC... CN68		Explosionproof Starline	SGE-LEDXAM03..... C95		GZ Series
SF-B1924-613SL-L48... CN69		Explosionproof Starline	SF-D1020-688PL-XX... CN68		Explosionproof Starline	SGE-LEDXAM04..... C95		GZ Series
SF-D1016-612PL-TC... CN68		Explosionproof Starline	SF-D1024-613PL-TC... CN68		Explosionproof Starline	SGE-LEDXAZ01..... C95		GZ Series
SF-D1016-612PL-XX... CN68		Explosionproof Starline	SF-D1024-613PL-XX... CN68		Explosionproof Starline	SGE-LEDXAZ02..... C95		GZ Series
SF-D1016-621PL-TC... CN68		Explosionproof Starline	SGE-C11L..... C94		GZ Series	SGE-LEDXAZ03..... C95		GZ Series
SF-D1016-621PL-XX... CN68		Explosionproof Starline	SGE-CLP001..... C94		GZ Series	SGE-LEDXAZ04..... C95		GZ Series
SF-D1016-633PL-TC... CN68		Explosionproof Starline	SGE-CLP101..... C94		GZ Series	SGE-LEDXBR01..... C95		GZ Series
SF-D1016-633PL-XX... CN68		Explosionproof Starline	SGE-CLP110..... C94		GZ Series	SGE-LEDXBR02..... C95		GZ Series
SF-D1016-640PL-TC... CN68		Explosionproof Starline	SGE-E101SG..... C93		GZ Series	SGE-LEDXBR03..... C95		GZ Series
SF-D1016-640PL-XX... CN68		Explosionproof Starline	SGE-E102S..... C93		GZ Series	SGE-LEDXBR04..... C95		GZ Series
SF-D1016-655PL-TC... CN68		Explosionproof Starline	SGE-E102SG..... C93		GZ Series	SGE-LEDXVD01..... C95		GZ Series
SF-D1016-655PL-XX... CN68		Explosionproof Starline	SGE-E110SG..... C93		GZ Series	SGE-LEDXVD02..... C95		GZ Series
SF-D1016-676PL-TC... CN68		Explosionproof Starline	SGE-E111S..... C93		GZ Series	SGE-LEDXVD03..... C95		GZ Series
SF-D1016-676PL-XX... CN68		Explosionproof Starline	SGE-E111SG..... C93		GZ Series	SGE-LEDXVD04..... C95		GZ Series
SF-D1016-677PL-TC... CN68		Explosionproof Starline	SGE-E120S..... C93		GZ Series	SGE-LEDXVM01..... C95		GZ Series
SF-D1016-677PL-XX... CN68		Explosionproof Starline	SGE-E120SG..... C93		GZ Series	SGE-LEDXVM02..... C95		GZ Series
SF-D1016-681PL-TC... CN68		Explosionproof Starline	SGE-GIN1220..... C93		GZ Series	SGE-LEDXVM03..... C95		GZ Series
SF-D1016-681PL-XX... CN68		Explosionproof Starline	SGE-GIN2220..... C93		GZ Series	SGE-LEDXVM04..... C95		GZ Series
SF-D1020-613PL-TC... CN68		Explosionproof Starline	SGE-GRC1320SJ..... C93		GZ Series	SGE-LEDYAM01..... C95		GZ Series
SF-D1020-613PL-XX... CN68		Explosionproof Starline	SGE-GRC2320SJ..... C93		GZ Series	SGE-LEDYAM02..... C95		GZ Series
SF-D1020-632PL-TC... CN68		Explosionproof Starline	SGE-GRID1320SJ..... C93		GZ Series	SGE-LEDYAM03..... C95		GZ Series
SF-D1020-632PL-XX... CN68		Explosionproof Starline	SGE-GRIE1320SJ..... C93		GZ Series	SGE-LEDYAM04..... C95		GZ Series
SF-D1020-650PL-TC... CN68		Explosionproof Starline	SGE-GRP1320SJ..... C93		GZ Series	SGE-LEDYAZ01..... C95		GZ Series
SF-D1020-650PL-XX... CN68		Explosionproof Starline	SGE-GRS1220SJ..... C93		GZ Series	SGE-LEDYAZ02..... C95		GZ Series
SF-D1020-676PL-TC... CN68		Explosionproof Starline	SGE-GRS2220SJ..... C93		GZ Series	SGE-LEDYAZ03..... C95		GZ Series
SF-D1020-676PL-XX... CN68		Explosionproof Starline	SGE-GRSE1220SJ..... C93		GZ Series	SGE-LEDYAZ04..... C95		GZ Series
SF-D1020-686PL-TC... CN68		Explosionproof Starline	SGE-L001SG..... C94		GZ Series	SGE-LEDYBR01..... C95		GZ Series
SF-D1020-686PL-XX... CN68		Explosionproof Starline	SGE-LC240SG..... C94		GZ Series	SGE-LEDYBR02..... C95		GZ Series
SF-D1020-687PL-TC... CN68		Explosionproof Starline	SGE-LC480SG..... C94		GZ Series	SGE-LEDYBR03..... C95		GZ Series
			SGE-LEDLAM01..... C95		GZ Series	SGE-LEDYBR04..... C95		GZ Series
			SGE-LEDLAM02..... C95		GZ Series	SGE-LEDYVD01..... C95		GZ Series
			SGE-LEDLAM03..... C95		GZ Series	SGE-LEDYVD02..... C95		GZ Series
			SGE-LEDLAZ01..... C95		GZ Series	SGE-LEDYVD03..... C95		GZ Series
			SGE-LEDLAZ02..... C95		GZ Series	SGE-LEDYVD04..... C95		GZ Series
			SGE-LEDLAZ03..... C95		GZ Series	SGE-LEDYVM01..... C95		GZ Series
			SGE-LEDLBR01..... C95		GZ Series	SGE-LEDYVM02..... C95		GZ Series
			SGE-LEDLBR02..... C95		GZ Series	SGE-LEDYVM03..... C95		GZ Series
			SGE-LEDLBR03..... C95		GZ Series	SGE-LEDYVM04..... C95		GZ Series
			SGE-LEDLVD01..... C95		GZ Series	SGE-LEDZAM01..... C95		GZ Series
			SGE-LEDLVD02..... C95		GZ Series	SGE-LEDZAM02..... C95		GZ Series
			SGE-LEDLVD03..... C95		GZ Series	SGE-LEDZAM03..... C95		GZ Series
			SGE-LEDLVM01..... C95		GZ Series	SGE-LEDZAM04..... C95		GZ Series
			SGE-LEDLVM02..... C95		GZ Series	SGE-LEDZAZ01..... C95		GZ Series
			SGE-LEDLVM03..... C95		GZ Series	SGE-LEDZAZ02..... C95		GZ Series
			SGE-LEDXAM01..... C95		GZ Series	SGE-LEDZAZ03..... C95		GZ Series
						SGE-LEDZAZ04..... C95		GZ Series
						SGE-LEDZBR01..... C95		GZ Series
						SGE-LEDZBR02..... C95		GZ Series

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SGE-LEDZBR03	C95	GZ Series	SJIC6141206-JB	E8	SJIC Series	SJICH-CS-121006	C34	USF-CS / SJICH-CS Series
SGE-LEDZBR04	C95	GZ Series	SJIC6161406	E20	SJIC Series	SJICH-CS-121206	C34	USF-CS / SJICH-CS Series
SGE-LEDZVD01	C95	GZ Series	SJIC6161406-JB	E8	SJIC Series	SJICH-CS-141206	C34	USF-CS / SJICH-CS Series
SGE-LEDZVD02	C95	GZ Series	SJIC6-GPO404	E26	USF/SJIC(H) Series	SJICH-CS-161406	C34	USF-CS / SJICH-CS Series
SGE-LEDZVD03	C95	GZ Series	SJIC6-GPO604	E26	USF/SJIC(H) Series	SJIC-INTGRD	E28	USF/SJIC(H) Series
SGE-LEDZVD04	C95	GZ Series	SJIC6-GPO606	E26	USF/SJIC(H) Series	SL-535-AL	CN102, CN110	RMPIII, HP20 Series
SGE-LEDZVM01	C95	GZ Series	SJIC6-GPO804	E26	USF/SJIC(H) Series	SL-646-AL	CN102, CN110	RMPIII, HP20 Series
SGE-LEDZVM02	C95	GZ Series	SJIC6-GPO806	E26	USF/SJIC(H) Series	SL-777-AL	CN102, CN110	RMPIII, HP20 Series
SGE-LEDZVM03	C95	GZ Series	SJIC6-GPI004	E26	USF/SJIC(H) Series	SLB-1	F67	SLB/SLBM/SOLB/MLB Series
SGE-LEDZVM04	C95	GZ Series	SJIC6-GPI005	E26	USF/SJIC(H) Series	SLB-1-CP	F21	K-PAK
SHDL1-000002	L115	HDL106N	SJIC6-GPI006	E26	USF/SJIC(H) Series	SLB-2	F67	SLB/SLBM/SOLB/MLB Series
SHDL1-000003	L115	HDL106N	SJIC6-GPI206	E26	USF/SJIC(H) Series	SLB-2-CP	F21	K-PAK
SJIC1010P	E8, E10	SJIC, SJICH Series	SJIC6-GPI406	E26	USF/SJIC(H) Series	SLB-3	F67	SLB/SLBM/SOLB/MLB Series
SJIC1210P	E8, E10	SJIC, SJICH Series	SJIC-CVGRD	E28	USF/SJIC(H) Series	SLB-3-CP	F21	K-PAK
SJIC1212P	E8, E10	SJIC, SJICH Series	SJIC-EXTGRD	E28	USF/SJIC(H) Series	SLB-4	F67	SLB/SLBM/SOLB/MLB Series
SJIC1412P	E8, E10	SJIC, SJICH Series	SJIC-GB10N10-17	E27	USF/SJIC(H) Series	SLB-5	F67	SLB/SLBM/SOLB/MLB Series
SJIC1614P	E8, E10	SJIC, SJICH Series	SJIC-GB10N4-26	E27	USF/SJIC(H) Series	SLB-6	F67	SLB/SLBM/SOLB/MLB Series
SJIC6040404	E20	SJIC Series	SJIC-GB12N10-23	E27	USF/SJIC(H) Series	SLB-7	F67	SLB/SLBM/SOLB/MLB Series
SJIC6040404A14	E20	SJIC Series	SJIC-GB12N4-36	E27	USF/SJIC(H) Series	SLBM-4	F67	SLB/SLBM/SOLB/MLB Series
SJIC6040404-JB	E8	SJIC Series	SJIC-GB14N10-30	E27	USF/SJIC(H) Series	SLBM-6	F67	SLB/SLBM/SOLB/MLB Series
SJIC6060404	E20	SJIC Series	SJIC-GB14N4-45	E27	USF/SJIC(H) Series	SM-B-BK	CN114	SECURE MOUNT Series
SJIC6060404-JB	E8	SJIC Series	SJICH6080606	E20, E21	SJIC, SJICH Series	SM-B-BL	CN114	SECURE MOUNT Series
SJIC6060604	E20	SJIC Series	SJICH6080606-JB	E10	SJICH Series	SM-B-BR	CN114	SECURE MOUNT Series
SJIC6060604A14	E20	SJIC Series	SJICH6080804	E20, E21	SJIC, SJICH Series	SM-B-G	CN114	SECURE MOUNT Series
SJIC6060604-JB	E8	SJIC Series	SJICH6080804-JB	E10	SJICH Series	SM-B-GY	CN114	SECURE MOUNT Series
SJIC6060606	E20	SJIC Series	SJICH6080806	E20, E21	SJIC, SJICH Series	SM-BNC-BK	CN114	SECURE MOUNT Series
SJIC6060606-JB	E8	SJIC Series	SJICH6080806-JB	E10	SJICH Series	SM-BNC-BL	CN114	SECURE MOUNT Series
SJIC6080606	E20	SJIC Series	SJICH6100804	E20, E21	SJIC, SJICH Series	SM-BNC-BR	CN114	SECURE MOUNT Series
SJIC6080606-JB	E8	SJIC Series	SJICH6100804-JB	E10	SJICH Series	SM-BNC-G	CN114	SECURE MOUNT Series
SJIC6080804	E20	SJIC Series	SJICH6101006	E20, E21	SJIC, SJICH Series	SM-BNC-GY	CN114	SECURE MOUNT Series
SJIC6080804-JB	E8	SJIC Series	SJICH6101006-JB	E10	SJICH Series	SM-BNC-OR	CN114	SECURE MOUNT Series
SJIC6080806	E20	SJIC Series	SJICH6121005	E20, E21	SJIC, SJICH Series	SM-BNC-P	CN114	SECURE MOUNT Series
SJIC6080806-JB	E8	SJIC Series	SJICH6121005-JB	E10	SJICH Series	SM-BNC-R	CN114	SECURE MOUNT Series
SJIC6100804	E20	SJIC Series	SJICH6121006	E20, E21	SJIC, SJICH Series			
SJIC6100804-JB	E8	SJIC Series	SJICH6121006-JB	E10	SJICH Series			
SJIC6100806	E20	SJIC Series	SJICH6141206	E20, E21	SJIC, SJICH Series			
SJIC6100806A14	E20	SJIC Series	SJICH6141206-JB	E10	SJICH Series			
SJIC6100806-JB	E8	SJIC Series	SJICH6161406	E20, E21	SJIC, SJICH Series			
SJIC6101006	E20	SJIC Series	SJICH6161406-JB	E10	SJICH Series			
SJIC6101006A24	E20	SJIC Series	SJICH-CS-080606	C34	USF-CS / SJICH-CS Series			
SJIC6101006-JB	E8	SJIC Series	SJICH-CS-080806	C34	USF-CS / SJICH-CS Series			
SJIC6121005	E20	SJIC Series	SJICH-CS-100806	C34	USF-CS / SJICH-CS Series			
SJIC6121005-JB	E8	SJIC Series	SJICH-CS-101006	C34	USF-CS / SJICH-CS Series			
SJIC6121006	E20	SJIC Series						
SJIC6121006-JB	E8	SJIC Series						
SJIC6121206	E20	SJIC Series						
SJIC6121206A24	E20	SJIC Series						
SJIC6121206-JB	E8	SJIC Series						
SJIC6141206	E20	SJIC Series						

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SM-BNC-W.....	CN114	SECURE MOUNT Series	SM-R1-N5-G.....	CN113	SECURE MOUNT Series	SM-R1-N-G.....	CN114	SECURE MOUNT Series
SM-BNC-Y.....	CN114	SECURE MOUNT Series	SM-R1-N5-GY.....	CN113	SECURE MOUNT Series	SM-R1-N-GY.....	CN114	SECURE MOUNT Series
SM-B-OR.....	CN114	SECURE MOUNT Series	SM-R1-N5-OR.....	CN113	SECURE MOUNT Series	SM-R1-N-OR.....	CN114	SECURE MOUNT Series
SM-B-P.....	CN114	SECURE MOUNT Series	SM-R1-N5-P.....	CN113	SECURE MOUNT Series	SM-R1-N-P.....	CN114	SECURE MOUNT Series
SM-B-R.....	CN114	SECURE MOUNT Series	SM-R1-N5-R.....	CN113	SECURE MOUNT Series	SM-R1-N-R.....	CN114	SECURE MOUNT Series
SM-B-W.....	CN114	SECURE MOUNT Series	SM-R1-N5-W.....	CN113	SECURE MOUNT Series	SM-R1-N-W.....	CN114	SECURE MOUNT Series
SM-B-Y.....	CN114	SECURE MOUNT Series	SM-R1-N5-Y.....	CN113	SECURE MOUNT Series	SM-R1-N-Y.....	CN114	SECURE MOUNT Series
SM-R1-N3-BK.....	CN113	SECURE MOUNT Series	SM-R1-N6-BK.....	CN113	SECURE MOUNT Series	SM-R2-N3-BK.....	CN113	SECURE MOUNT Series
SM-R1-N3-BL.....	CN113	SECURE MOUNT Series	SM-R1-N6-BL.....	CN113	SECURE MOUNT Series	SM-R2-N3-BL.....	CN113	SECURE MOUNT Series
SM-R1-N3-BR.....	CN113	SECURE MOUNT Series	SM-R1-N6-BR.....	CN113	SECURE MOUNT Series	SM-R2-N3-BR.....	CN113	SECURE MOUNT Series
SM-R1-N3-G.....	CN113	SECURE MOUNT Series	SM-R1-N6-G.....	CN113	SECURE MOUNT Series	SM-R2-N3-G.....	CN113	SECURE MOUNT Series
SM-R1-N3-GY.....	CN113	SECURE MOUNT Series	SM-R1-N6-GY.....	CN113	SECURE MOUNT Series	SM-R2-N3-GY.....	CN113	SECURE MOUNT Series
SM-R1-N3-OR.....	CN113	SECURE MOUNT Series	SM-R1-N6-OR.....	CN113	SECURE MOUNT Series	SM-R2-N3-OR.....	CN113	SECURE MOUNT Series
SM-R1-N3-P.....	CN113	SECURE MOUNT Series	SM-R1-N6-P.....	CN113	SECURE MOUNT Series	SM-R2-N3-P.....	CN113	SECURE MOUNT Series
SM-R1-N3-R.....	CN113	SECURE MOUNT Series	SM-R1-N6-R.....	CN113	SECURE MOUNT Series	SM-R2-N3-R.....	CN113	SECURE MOUNT Series
SM-R1-N3-W.....	CN113	SECURE MOUNT Series	SM-R1-N6-W.....	CN113	SECURE MOUNT Series	SM-R2-N3-W.....	CN113	SECURE MOUNT Series
SM-R1-N3-Y.....	CN113	SECURE MOUNT Series	SM-R1-N6-Y.....	CN113	SECURE MOUNT Series	SM-R2-N3-Y.....	CN113	SECURE MOUNT Series
SM-R1-N4-BK.....	CN113	SECURE MOUNT Series	SM-R1-N7-BK.....	CN113	SECURE MOUNT Series	SM-R2-N4-BK.....	CN113	SECURE MOUNT Series
SM-R1-N4-BL.....	CN113	SECURE MOUNT Series	SM-R1-N7-BL.....	CN113	SECURE MOUNT Series	SM-R2-N4-BL.....	CN113	SECURE MOUNT Series
SM-R1-N4-BR.....	CN113	SECURE MOUNT Series	SM-R1-N7-BR.....	CN113	SECURE MOUNT Series	SM-R2-N4-BR.....	CN113	SECURE MOUNT Series
SM-R1-N4-G.....	CN113	SECURE MOUNT Series	SM-R1-N7-G.....	CN113	SECURE MOUNT Series	SM-R2-N4-G.....	CN113	SECURE MOUNT Series
SM-R1-N4-GY.....	CN113	SECURE MOUNT Series	SM-R1-N7-GY.....	CN113	SECURE MOUNT Series	SM-R2-N4-GY.....	CN113	SECURE MOUNT Series
SM-R1-N4-OR.....	CN113	SECURE MOUNT Series	SM-R1-N7-OR.....	CN113	SECURE MOUNT Series	SM-R2-N4-OR.....	CN113	SECURE MOUNT Series
SM-R1-N4-P.....	CN113	SECURE MOUNT Series	SM-R1-N7-P.....	CN113	SECURE MOUNT Series	SM-R2-N4-P.....	CN113	SECURE MOUNT Series
SM-R1-N4-R.....	CN113	SECURE MOUNT Series	SM-R1-N7-R.....	CN113	SECURE MOUNT Series	SM-R2-N4-R.....	CN113	SECURE MOUNT Series
SM-R1-N4-W.....	CN113	SECURE MOUNT Series	SM-R1-N7-W.....	CN113	SECURE MOUNT Series	SM-R2-N4-W.....	CN113	SECURE MOUNT Series
SM-R1-N4-Y.....	CN113	SECURE MOUNT Series	SM-R1-N7-Y.....	CN113	SECURE MOUNT Series	SM-R2-N4-Y.....	CN113	SECURE MOUNT Series
SM-R1-N5-BK.....	CN113	SECURE MOUNT Series	SM-R1-N-BK.....	CN114	SECURE MOUNT Series	SM-R2-N5-BK.....	CN113	SECURE MOUNT Series
SM-R1-N5-BL.....	CN113	SECURE MOUNT Series	SM-R1-N-BL.....	CN114	SECURE MOUNT Series	SM-R2-N5-BL.....	CN113	SECURE MOUNT Series
SM-R1-N5-BR.....	CN113	SECURE MOUNT Series	SM-R1-N-BR.....	CN114	SECURE MOUNT Series	SM-R2-N5-BR.....	CN113	SECURE MOUNT Series

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SM-R2-N5-G	CN113	SECURE MOUNT Series	SM-R2-N-G	CN114	SECURE MOUNT Series	SM-SBA-5-G	CN114	SECURE MOUNT Series
SM-R2-N5-GY	CN113	SECURE MOUNT Series	SM-R2-N-GY	CN114	SECURE MOUNT Series	SM-SBA-5-GY	CN114	SECURE MOUNT Series
SM-R2-N5-OR	CN113	SECURE MOUNT Series	SM-R2-N-OR	CN114	SECURE MOUNT Series	SM-SBA-5-OR	CN114	SECURE MOUNT Series
SM-R2-N5-P	CN113	SECURE MOUNT Series	SM-R2-N-P	CN114	SECURE MOUNT Series	SM-SBA-5-P	CN114	SECURE MOUNT Series
SM-R2-N5-R	CN113	SECURE MOUNT Series	SM-R2-N-R	CN114	SECURE MOUNT Series	SM-SBA-5-R	CN114	SECURE MOUNT Series
SM-R2-N5-W	CN113	SECURE MOUNT Series	SM-R2-N-W	CN114	SECURE MOUNT Series	SM-SBA-5-W	CN114	SECURE MOUNT Series
SM-R2-N5-Y	CN113	SECURE MOUNT Series	SM-R2-N-Y	CN114	SECURE MOUNT Series	SM-SBA-5-Y	CN114	SECURE MOUNT Series
SM-R2-N6-BK	CN113	SECURE MOUNT Series	SM-SBA-3-BK	CN114	SECURE MOUNT Series	SM-SBA-6-BK	CN114	SECURE MOUNT Series
SM-R2-N6-BL	CN113	SECURE MOUNT Series	SM-SBA-3-BL	CN114	SECURE MOUNT Series	SM-SBA-6-BL	CN114	SECURE MOUNT Series
SM-R2-N6-BR	CN113	SECURE MOUNT Series	SM-SBA-3-BR	CN114	SECURE MOUNT Series	SM-SBA-6-BR	CN114	SECURE MOUNT Series
SM-R2-N6-G	CN113	SECURE MOUNT Series	SM-SBA-3-G	CN114	SECURE MOUNT Series	SM-SBA-6-G	CN114	SECURE MOUNT Series
SM-R2-N6-GY	CN113	SECURE MOUNT Series	SM-SBA-3-GY	CN114	SECURE MOUNT Series	SM-SBA-6-GY	CN114	SECURE MOUNT Series
SM-R2-N6-OR	CN113	SECURE MOUNT Series	SM-SBA-3-OR	CN114	SECURE MOUNT Series	SM-SBA-6-OR	CN114	SECURE MOUNT Series
SM-R2-N6-P	CN113	SECURE MOUNT Series	SM-SBA-3-P	CN114	SECURE MOUNT Series	SM-SBA-6-P	CN114	SECURE MOUNT Series
SM-R2-N6-R	CN113	SECURE MOUNT Series	SM-SBA-3-R	CN114	SECURE MOUNT Series	SM-SBA-6-R	CN114	SECURE MOUNT Series
SM-R2-N6-W	CN113	SECURE MOUNT Series	SM-SBA-3-W	CN114	SECURE MOUNT Series	SM-SBA-6-W	CN114	SECURE MOUNT Series
SM-R2-N6-Y	CN113	SECURE MOUNT Series	SM-SBA-3-Y	CN114	SECURE MOUNT Series	SM-SBA-6-Y	CN114	SECURE MOUNT Series
SM-R2-N7-BK	CN113	SECURE MOUNT Series	SM-SBA-4-BK	CN114	SECURE MOUNT Series	SM-SBA-7-BK	CN114	SECURE MOUNT Series
SM-R2-N7-BL	CN113	SECURE MOUNT Series	SM-SBA-4-BL	CN114	SECURE MOUNT Series	SM-SBA-7-BL	CN114	SECURE MOUNT Series
SM-R2-N7-BR	CN113	SECURE MOUNT Series	SM-SBA-4-BR	CN114	SECURE MOUNT Series	SM-SBA-7-BR	CN114	SECURE MOUNT Series
SM-R2-N7-G	CN113	SECURE MOUNT Series	SM-SBA-4-G	CN114	SECURE MOUNT Series	SM-SBA-7-G	CN114	SECURE MOUNT Series
SM-R2-N7-GY	CN113	SECURE MOUNT Series	SM-SBA-4-GY	CN114	SECURE MOUNT Series	SM-SBA-7-GY	CN114	SECURE MOUNT Series
SM-R2-N7-OR	CN113	SECURE MOUNT Series	SM-SBA-4-OR	CN114	SECURE MOUNT Series	SM-SBA-7-OR	CN114	SECURE MOUNT Series
SM-R2-N7-P	CN113	SECURE MOUNT Series	SM-SBA-4-P	CN114	SECURE MOUNT Series	SM-SBA-7-P	CN114	SECURE MOUNT Series
SM-R2-N7-R	CN113	SECURE MOUNT Series	SM-SBA-4-R	CN114	SECURE MOUNT Series	SM-SBA-7-R	CN114	SECURE MOUNT Series
SM-R2-N7-W	CN113	SECURE MOUNT Series	SM-SBA-4-W	CN114	SECURE MOUNT Series	SM-SBA-7-W	CN114	SECURE MOUNT Series
SM-R2-N7-Y	CN113	SECURE MOUNT Series	SM-SBA-4-Y	CN114	SECURE MOUNT Series	SM-SBA-7-Y	CN114	SECURE MOUNT Series
SM-R2-N-BK	CN114	SECURE MOUNT Series	SM-SBA-5-BK	CN114	SECURE MOUNT Series	SM-SC-313	CN114	SECURE MOUNT Series
SM-R2-N-BL	CN114	SECURE MOUNT Series	SM-SBA-5-BL	CN114	SECURE MOUNT Series	SM-SC-313-R	CN114	SECURE MOUNT Series
SM-R2-N-BR	CN114	SECURE MOUNT Series	SM-SBA-5-BR	CN114	SECURE MOUNT Series	SM-SC-444	CN114	SECURE MOUNT Series

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SM-SC-444-R	CN114	SECURE MOUNT Series	SWB-21	C61	SWB Series	T-104-CT-K	CN74	Explosionproof Starline
SM-SC-535	CN114	SECURE MOUNT Series	SWB-3	C61, CN55-CN56	SWB, KR Series	T-105-HE	CN74	Explosionproof Starline
SM-SC-535-R	CN114	SECURE MOUNT Series	SWB-32	C61	SWB Series	T-106-10	CN74	Explosionproof Starline
SM-SC-646	CN114	SECURE MOUNT Series	SWB-33	C61	SWB Series	T-106-12	CN74	Explosionproof Starline
SM-SC-646-R	CN114	SECURE MOUNT Series	SWB-34	C61	SWB Series	T-106-16	CN74	Explosionproof Starline
SM-SC-777	CN114	SECURE MOUNT Series	SWB-38	C61	SWB Series	T-106-18	CN74	Explosionproof Starline
SM-SC-777-R	CN114	SECURE MOUNT Series	SWB-4	C61, CN55-CN56	SWB, KR Series	T107	F14	DURALOY 7 Series
SOLB-0	F67	SLB/SLBM/SOLB/MLB Series	SWB-42	C61	SWB Series	T107SA	F14	DURALOY 7 Series
SOLB-8	F67	SLB/SLBM/SOLB/MLB Series	SWB-45	C61	SWB Series	T17	F14	DURALOY 7 Series
SOLB-9	F67	SLB/SLBM/SOLB/MLB Series	SWB-48	C61	SWB Series	T17SA	F14	DURALOY 7 Series
SPARTAN-CRT	F101	SPARTAN POLE	SWB-49	C61	SWB Series	T18	F25	DURALOY 8 Series
SPOL4-100001	L124, L127	PROTECTA X	SWB-5	C61, CN55-CN56	SWB, KR Series	T27	F14	DURALOY 7 Series
SPOL4-100002	L124, L127	PROTECTA X	SWB-6	C61, CN55-CN56	SWB, KR Series	T27SA	F14	DURALOY 7 Series
SPOL4-100003	L124, L127	PROTECTA X	SWB-7	C61, CN55	SWB, KR Series	T28	F25	DURALOY 8 Series
SPRO4-0002	L124, L127	PROTECTA X	SWB-8	C61, CN55	SWB, KR Series	T28SS	F36	Stainless Steel Conduit Bodies
SPRO4-0005	L124, L127	PROTECTA X	SWB-9	C61, CN55	SWB, KR Series	T37	F14	DURALOY 7 Series
SPRO4-0006	L124, L127	PROTECTA X	SWBC-13	C105	GCS/SWBC Series	T37SA	F14	DURALOY 7 Series
SPRO5-0005	L124, L127	PROTECTA X	SWBC-14	C105	GCS/SWBC Series	T38	F25	DURALOY 8 Series
SPRO5-0006	L124, L127	PROTECTA X	SWBC-15	C105	GCS/SWBC Series	T38SS	F36	Stainless Steel Conduit Bodies
SSC01-000009	L42	Floodlight Accessories	SWBC-16	C105	GCS/SWBC Series	T448	F25	DURALOY 8 Series
STFB-0	F70	FB/STFB Series	SWBC-83	C105	GCS/SWBC Series	T47	F14	DURALOY 7 Series
STFB-2	F70	FB/STFB Series	SWZ60-050NPT	F195	SWZ/LNZ/ZHLN Series	T47SA	F14	DURALOY 7 Series
STFB-3	F70	FB/STFB Series	SWZ60-075NPT	F195	SWZ/LNZ/ZHLN Series	T57	F14	DURALOY 7 Series
STFB-4	F70	FB/STFB Series	SWZ60-100NPT	F195	SWZ/LNZ/ZHLN Series	T57SA	F14	DURALOY 7 Series
STFB-5	F70	FB/STFB Series	SWZ60-125NPT	F195	SWZ/LNZ/ZHLN Series	T58	F25	DURALOY 8 Series
STFB-6	F70	FB/STFB Series	SWZ60-150NPT	F195	SWZ/LNZ/ZHLN Series	T58SS	F36	Stainless Steel Conduit Bodies
STFB-7	F70	FB/STFB Series	SWZ60-200NPT	F195	SWZ/LNZ/ZHLN Series	T67	F14	DURALOY 7 Series
STFB-8	F70	FB/STFB Series	SWZ60-250NPT	F195	SWZ/LNZ/ZHLN Series	T67SA	F14	DURALOY 7 Series
SU-10B-4X	DE7, DE23	B7C, B7L Series	SWZ60-300NPT	F195	SWZ/LNZ/ZHLN Series	T68	F25	DURALOY 8 Series
SU-11B-4X	DE7, DE23	B7C, B7L Series	SWZ60-350NPT	F195	SWZ/LNZ/ZHLN Series	T68SS	F36	Stainless Steel Conduit Bodies
SU-3B-4X	DE7, DE23	B7C, B7L Series	T-101-16A	CN74	Explosionproof Starline	T77	F14	DURALOY 7 Series
SWB-1	C61, CN55-CN56	SWB, KR Series	T-101-20A	CN74	Explosionproof Starline	T77SA	F14	DURALOY 7 Series
SWB-10	C61, CN55	SWB, KR Series	T-101-24A	CN74	Explosionproof Starline	T78	F25	DURALOY 8 Series
SWB-11	C61, CN55	SWB, KR Series	T-101-28A	CN74	Explosionproof Starline	T87	F14	DURALOY 7 Series
SWB-12	C61, CN55	SWB, KR Series	T-102-16R	CN74	Explosionproof Starline	T87SA	F14	DURALOY 7 Series
SWB-13	C61	SWB Series	T-102-20R	CN74	Explosionproof Starline	T88	F25	DURALOY 8 Series
SWB-14	C61	SWB Series	T-102-24R	CN74	Explosionproof Starline	T97	F14	DURALOY 7 Series
SWB-17	C61	SWB Series	T-102-28R	CN74	Explosionproof Starline	T97SA	F14	DURALOY 7 Series
SWB-18	C61	SWB Series				TA17	F15	DURALOY 7 Series
SWB-19	C61	SWB Series				TA17SA	F15	DURALOY 7 Series
SWB-2	C61, CN55-CN56	SWB, KR Series				TA27	F15	DURALOY 7 Series
SWB-20	C61	SWB Series				TA27SA	F15	DURALOY 7 Series
						TA37	F15	DURALOY 7 Series

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TA37SA	F15	DURALOY 7 Series	TWOC-7CG	F29	CO & TW Series	UGR11-20231QW	CN27	ACCEPTOR Series
TA47	F15	DURALOY 7 Series	TWOC-8CG	F29	CO & TW Series	UGR11-20232QW	CN27	ACCEPTOR Series
TA47SA	F15	DURALOY 7 Series	TWOC-9CG	F29	CO & TW Series	UGR11C-15231QW	CN27	ACCEPTOR Series
TA57	F15	DURALOY 7 Series	TWOLB-0CG	F29	CO & TW Series	UGR11C-15232QW	CN27	ACCEPTOR Series
TA57SA	F15	DURALOY 7 Series	TWOLB-7CG	F29	CO & TW Series	UGR1-20231QW	CN27	ACCEPTOR Series
TA67	F15	DURALOY 7 Series	TWOLB-8CG	F29	CO & TW Series	UGR1-20232QW	CN27	ACCEPTOR Series
TA67SA	F15	DURALOY 7 Series	TWOLB-9CG	F29	CO & TW Series	UGR12-20231QW	CN27	ACCEPTOR Series
TAF-100	F59	TAF Series	TWOLL-0CG	F30	CO & TW Series	UGR12-20232QW	CN27	ACCEPTOR Series
TAF-125	F59	TAF Series	TWOLL-7CG	F30	CO & TW Series	UGR12C-15231QW	CN27	ACCEPTOR Series
TAF-150	F59	TAF Series	TWOLL-8CG	F30	CO & TW Series	UGR12C-15232QW	CN27	ACCEPTOR Series
TAF-200	F59	TAF Series	TWOLL-9CG	F30	CO & TW Series	UGR1C-15231QW	CN27	ACCEPTOR Series
TAF-250	F59	TAF Series	TWOLR-0CG	F30	CO & TW Series	UGR1C-15232QW	CN27	ACCEPTOR Series
TAF-300	F59	TAF Series	TWOLR-7CG	F30	CO & TW Series	UGR2-20231QW	CN27	ACCEPTOR Series
TAF-350	F59	TAF Series	TWOLR-8CG	F30	CO & TW Series	UGR2-20232QW	CN27	ACCEPTOR Series
TAF-400	F59	TAF Series	TWOLR-9CG	F30	CO & TW Series	UGR2C-15231QW	CN27	ACCEPTOR Series
TAF-50	F59	TAF Series	TWOT-0CG	F31	CO & TW Series	UGR2C-15232QW	CN27	ACCEPTOR Series
TAF-75	F59	TAF Series	TWOT-7CG	F31	CO & TW Series	UGR3-20231QW	CN27	ACCEPTOR Series
TB17	F15	DURALOY 7 Series	TWOT-8CG	F31	CO & TW Series	UGR3-20232QW	CN27	ACCEPTOR Series
TB17SA	F15	DURALOY 7 Series	TWOT-9CG	F31	CO & TW Series	UGR3C-15231QW	CN27	ACCEPTOR Series
TB18	F26	DURALOY 8 Series	UGFI152AD	CN37	ACCEPTOR Series	UGR3C-15232QW	CN27	ACCEPTOR Series
TB27	F15	DURALOY 7 Series	UGFI152C1	CN37	ACCEPTOR Series	UGR4-20231QW	CN27	ACCEPTOR Series
TB27SA	F15	DURALOY 7 Series	UGFI152C2	CN37	ACCEPTOR Series	UGR4-20232QW	CN27	ACCEPTOR Series
TB28	F26	DURALOY 8 Series	UGFI152C3	CN37	ACCEPTOR Series	UGR4C-15231QW	CN27	ACCEPTOR Series
TB28SS	F36	Stainless Steel Conduit Bodies	UGFI15AD	CN37	ACCEPTOR Series	UGR4C-15232QW	CN27	ACCEPTOR Series
TB37	F15	DURALOY 7 Series	UGFI15C1	CN37	ACCEPTOR Series	UGR5-20231QW	CN27	ACCEPTOR Series
TB37SA	F15	DURALOY 7 Series	UGFI15C2	CN37	ACCEPTOR Series	UGR5-20232QW	CN27	ACCEPTOR Series
TB38	F26	DURALOY 8 Series	UGFI15C3	CN37	ACCEPTOR Series	UGR5C-15231QW	CN27	ACCEPTOR Series
TB38SS	F36	Stainless Steel Conduit Bodies	UGFI202AD	CN37	ACCEPTOR Series	UGR5C-15232QW	CN27	ACCEPTOR Series
TB448	F26	DURALOY 8 Series	UGFI202C1	CN37	ACCEPTOR Series	UGR6-20231QW	CN27	ACCEPTOR Series
TB47	F15	DURALOY 7 Series	UGFI202C2	CN37	ACCEPTOR Series	UGR6-20232QW	CN27	ACCEPTOR Series
TB47SA	F15	DURALOY 7 Series	UGFI202C3	CN37	ACCEPTOR Series	UGR6C-15231QW	CN27	ACCEPTOR Series
TB57	F15	DURALOY 7 Series	UGFI20AD	CN37	ACCEPTOR Series	UGR6C-15232QW	CN27	ACCEPTOR Series
TB57SA	F15	DURALOY 7 Series	UGFI20C1	CN37	ACCEPTOR Series	UGR7-20231QW	CN27	ACCEPTOR Series
TB58	F26	DURALOY 8 Series	UGFI20C2	CN37	ACCEPTOR Series	UGR7-20232QW	CN27	ACCEPTOR Series
TB58SS	F36	Stainless Steel Conduit Bodies	UGFI20C3	CN37	ACCEPTOR Series	UGR7C-15231QW	CN27	ACCEPTOR Series
TB67	F15	DURALOY 7 Series	UGP-15231QW		ACCEPTOR Series	UGR7C-15232QW	CN27	ACCEPTOR Series
TB67SA	F15	DURALOY 7 Series	UGP-15231QW	CN23, CN29, CN31, CN33	ACCEPTOR Series	UGR8-20231QW	CN27	ACCEPTOR Series
TB68	F26	DURALOY 8 Series	UGP-20231QW	CN23, CN29, CN31, CN33	ACCEPTOR Series	UGR8-20232QW	CN27	ACCEPTOR Series
TB68SS	F36	Stainless Steel Conduit Bodies	UGP-20232QW	CN23, CN29, CN31, CN33	ACCEPTOR Series	UGR8C-15231QW	CN27	ACCEPTOR Series
TET07575SS	F39	TET Series	UGP-20232QW	CN23, CN29, CN31, CN33	ACCEPTOR Series	UGR8C-15232QW	CN27	ACCEPTOR Series
TET100100SS	F39	TET Series	UGRO-20231QW	CN27	ACCEPTOR Series	UGR9-20231QW	CN27	ACCEPTOR Series
TET150150SS	F39	TET Series	UGRO-20232QW	CN27	ACCEPTOR Series	UGR9-20232QW	CN27	ACCEPTOR Series
TET15075A	F39	TET Series	UGROC-15231QW	CN27	ACCEPTOR Series	UGR9C-15231QW	CN27	ACCEPTOR Series
TET15075ABD	F39	TET Series	UGROC-15232QW	CN27	ACCEPTOR Series	UGR9C-15232QW	CN27	ACCEPTOR Series
TET15075AD	F39	TET Series	UGR10-20231QW	CN27	ACCEPTOR Series	UGRA-20231	CN26	ACCEPTOR Series
TET15075SS	F39	TET Series	UGR10-20232QW	CN27	ACCEPTOR Series	UGRA-20232	CN26	ACCEPTOR Series
TWOC-0CG	F29	CO & TW Series	UGR10C-15231QW	CN27	ACCEPTOR Series	UGRB1-20231QW	CN27	ACCEPTOR Series
			UGR10C-15232QW	CN27	ACCEPTOR Series	UGRB1-20232QW	CN27	ACCEPTOR Series
						UGRB1C-15231QW	CN27	ACCEPTOR Series

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UGRB1C-15232QW	CN27	ACCEPTOR Series	UGRS-15232BD2QW	CN33	ACCEPTOR Series	UNFS3	F144	UNF/UNY Series
UGRB2-20231QW	CN27	ACCEPTOR Series	UGRS-15232BE2QW	CN33	ACCEPTOR Series	UNY0-EX	F142	GU/UN Series
UGRB2-20232QW	CN27	ACCEPTOR Series	UGRS-15232BQW	CN33	ACCEPTOR Series	UNY100	F141	UNF/UNY Unions
UGRB2C-15231QW	CN27	ACCEPTOR Series	UGRS-15232FQW	CN33	ACCEPTOR Series	UNY100AL	F141	UNF/UNY Unions
UGRB2C-15232QW	CN27	ACCEPTOR Series	UGRS-20231BC2QW	CN33	ACCEPTOR Series	UNY125	F141	UNF/UNY Unions
UGRB3-20231QW	CN27	ACCEPTOR Series	UGRS-20231BD2QW	CN33	ACCEPTOR Series	UNY125AL	F141	UNF/UNY Unions
UGRB3-20232QW	CN27	ACCEPTOR Series	UGRS-20231BE2QW	CN33	ACCEPTOR Series	UNY150	F141	UNF/UNY Unions
UGRB3C-15231QW	CN27	ACCEPTOR Series	UGRS-20231BQW	CN33	ACCEPTOR Series	UNY150AL	F141	UNF/UNY Unions
UGRB3C-15232QW	CN27	ACCEPTOR Series	UGRS-20231FQW	CN33	ACCEPTOR Series	UNY1-EX	F142	GU/UN Series
UGRB4-20231QW	CN27	ACCEPTOR Series	UGRS-20232BC2QW	CN33	ACCEPTOR Series	UNY200	F141	UNF/UNY Unions
UGRB4-20232QW	CN27	ACCEPTOR Series	UGRS-20232BD2QW	CN33	ACCEPTOR Series	UNY200AL	F141	UNF/UNY Unions
UGRB4C-15231QW	CN27	ACCEPTOR Series	UGRS-20232BE2QW	CN33	ACCEPTOR Series	UNY250	F141	UNF/UNY Unions
UGRB4C-15232QW	CN27	ACCEPTOR Series	UGRS-20232BQW	CN33	ACCEPTOR Series	UNY250AL	F141	UNF/UNY Unions
UGRB5-20231QW	CN27	ACCEPTOR Series	UGRS-20232FQW	CN33	ACCEPTOR Series	UNY2-EX	F142	GU/UN Series
UGRB5-20232QW	CN27	ACCEPTOR Series	UNF L3	F144	UNF/UNY Series	UNY300	F141	UNF/UNY Unions
UGRB5C-15231QW	CN27	ACCEPTOR Series	UNF0-EX	F142	GU/UN Series	UNY300AL	F141	UNF/UNY Unions
UGRB5C-15232QW	CN27	ACCEPTOR Series	UNF100	F141	UNF/UNY Unions	UNY350	F141	UNF/UNY Unions
UGRB6-20231QW	CN27	ACCEPTOR Series	UNF100AL	F141	UNF/UNY Unions	UNY350AL	F141	UNF/UNY Unions
UGRB6-20232QW	CN27	ACCEPTOR Series	UNF125	F141	UNF/UNY Unions	UNY3-EX	F142	GU/UN Series
UGRB6C-15231QW	CN27	ACCEPTOR Series	UNF125AL	F141	UNF/UNY Unions	UNY400	F141	UNF/UNY Unions
UGRB6C-15232QW	CN27	ACCEPTOR Series	UNF150	F141	UNF/UNY Unions	UNY400AL	F141	UNF/UNY Unions
UGRC-15231BQW	CN29	ACCEPTOR Series	UNF150AL	F141	UNF/UNY Unions	UNY4-EX	F142	GU/UN Series
UGRC-15231FQW	CN29	ACCEPTOR Series	UNF1-EX	F142	GU/UN Series	UNY50	F141	UNF/UNY Unions
UGRC-15232BQW	CN29	ACCEPTOR Series	UNF200	F141	UNF/UNY Unions	UNY50AL	F141	UNF/UNY Unions
UGRC-15232FQW	CN29	ACCEPTOR Series	UNF200AL	F141	UNF/UNY Unions	UNY5-EX	F142	GU/UN Series
UGRC-20231BQW	CN29	ACCEPTOR Series	UNF250	F141	UNF/UNY Unions	UNY6-EX	F142	GU/UN Series
UGRC-20231FQW	CN29	ACCEPTOR Series	UNF250AL	F141	UNF/UNY Unions	UNY75	F141	UNF/UNY Unions
UGRC-20232BQW	CN29	ACCEPTOR Series	UNF2-EX	F142	GU/UN Series	UNY75AL	F141	UNF/UNY Unions
UGRC-20232FQW	CN29	ACCEPTOR Series	UNF300	F141	UNF/UNY Unions	UNY7-EX	F142	GU/UN Series
UGRGF107	CN37	ACCEPTOR Series	UNF300AL	F141	UNF/UNY Unions	UNY8-EX	F142	GU/UN Series
UGRGF108	CN37	ACCEPTOR Series	UNF350	F141	UNF/UNY Unions	UNY9-EX	F142	GU/UN Series
UGRGF109	CN37	ACCEPTOR Series	UNF350AL	F141	UNF/UNY Unions	UNYL1	F144	UNF/UNY Series
UGRGF110	CN37	ACCEPTOR Series	UNF3-EX	F142	GU/UN Series	UNYL2	F144	UNF/UNY Series
UGRGF111	CN37	ACCEPTOR Series	UNF400	F141	UNF/UNY Unions	UNYL3	F144	UNF/UNY Series
UGRGF112	CN37	ACCEPTOR Series	UNF400AL	F141	UNF/UNY Unions	UNYS1	F144	UNF/UNY Series
UGRP-15231BQW	CN31	ACCEPTOR Series	UNF4-EX	F142	GU/UN Series	UNYS2	F144	UNF/UNY Series
UGRP-15231FQW	CN31	ACCEPTOR Series	UNF50	F141	UNF/UNY Unions	UNYS3	F144	UNF/UNY Series
UGRP-15232BQW	CN31	ACCEPTOR Series	UNF50AL	F141	UNF/UNY Unions	USF121206	E14-E15	USF Series
UGRP-15232FQW	CN31	ACCEPTOR Series	UNF5-EX	F142	GU/UN Series	USF121206-JB	E4-E5	USF Series
UGRP-20231BQW	CN31	ACCEPTOR Series	UNF6-EX	F142	GU/UN Series	USF1212P	E6	USF Series
UGRP-20231FQW	CN31	ACCEPTOR Series	UNF75	F141	UNF/UNY Unions	USF161206	E14-E15	USF Series
UGRP-20232BQW	CN31	ACCEPTOR Series	UNF75AL	F141	UNF/UNY Unions	USF161206-JB	E4-E5	USF Series
UGRP-20232FQW	CN31	ACCEPTOR Series	UNF7-EX	F142	GU/UN Series	USF161208	E14-E15	USF Series
UGRS-15231BC2QW	CN33	ACCEPTOR Series	UNF8-EX	F142	GU/UN Series	USF161208-JB	E4-E5	USF Series
UGRS-15231BD2QW	CN33	ACCEPTOR Series	UNF9-EX	F142	GU/UN Series	USF161210	E14-E15	USF Series
UGRS-15231BE2QW	CN33	ACCEPTOR Series	UNFL1	F144	UNF/UNY Series	USF161210-JB	E4-E5	USF Series
UGRS-15231BQW	CN33	ACCEPTOR Series	UNFL2	F144	UNF/UNY Series	USF1612P	E6	USF Series
UGRS-15231FQW	CN33	ACCEPTOR Series	UNFS1	F144	UNF/UNY Series	USF161606	E14-E15	USF Series
UGRS-15232BC2QW	CN33	ACCEPTOR Series	UNFS2	F144	UNF/UNY Series	USF161606-JB	E4-E5	USF Series

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USF161608	E14-E15	USF Series	USF242420-JB	E4-E5	USF Series	USF-CS-242006	C34	USF-CS / SJICH-CS Series
USF161608-JB	E4-E5	USF Series	USF-24248		EXPB2, EXPB3 Series	USF-CS-242008	C34	USF-CS / SJICH-CS Series
USF161610	E14-E15	USF Series		DE34, DE38-DE39		USF-CS-242406	C34	USF-CS / SJICH-CS Series
USF161610-JB	E4-E5	USF Series	USF2424P	E6	USF Series	USF-CS-242408	C34	USF-CS / SJICH-CS Series
USF1616P	E6	USF Series	USF302008	E14-E15	USF Series	USF-CS-242408	C34	USF-CS / SJICH-CS Series
USF-18188	DE34, DE38-DE39	EXPB2, EXPB3 Series	USF302008-JB	E4-E5	USF Series	USF-CS-302008	C34	USF-CS / SJICH-CS Series
USF201606	E14-E15	USF Series	USF302010	E14-E15	USF Series	USF-CS-302408	C34	USF-CS / SJICH-CS Series
USF201606-JB	E4-E5	USF Series	USF302010-JB	E4-E5	USF Series	USF-CS-303008	C34	USF-CS / SJICH-CS Series
USF201608	E14-E15	USF Series	USF3020P	E6	USF Series	USF-CS-362408	C34	USF-CS / SJICH-CS Series
USF201608-JB	E4-E5	USF Series	USF302408	E14-E15	USF Series	USF-CVGRD	E28	USF/SJIC(H) Series
USF201610	E14-E15	USF Series	USF302408-JB	E4-E5	USF Series	USF-DC	E28	USF/SJIC(H) Series
USF201610-JB	E4-E5	USF Series	USF302410	E14-E15	USF Series	USF-GB12N10-22	E27	USF/SJIC(H) Series
USF2016P	E6	USF Series	USF302410-JB	E4-E5	USF Series	USF-GB12N4-35	E27	USF/SJIC(H) Series
USF202006	E14-E15	USF Series	USF302412	E14-E15	USF Series	USF-GB16N10-35	E27	USF/SJIC(H) Series
USF202006-JB	E4-E5	USF Series	USF302412-JB	E4-E5	USF Series	USF-GB16N4-54	E27	USF/SJIC(H) Series
USF202008	E14-E15	USF Series	USF302420	E14-E15	USF Series	USF-GB18N10-41	E27	USF/SJIC(H) Series
USF202008-JB	E4-E5	USF Series	USF302420-JB	E4-E5	USF Series	USF-GB18N4-63	E27	USF/SJIC(H) Series
USF202010	E14-E15	USF Series	USF3024P	E6	USF Series	USF-GB20N10-48	E27	USF/SJIC(H) Series
USF202010-JB	E4-E5	USF Series	USF303008	E14-E15	USF Series	USF-GB20N4-73	E27	USF/SJIC(H) Series
USF202012	E14-E15	USF Series	USF303008-JB	E4-E5	USF Series	USF-GB24N10-61	E27	USF/SJIC(H) Series
USF202012-JB	E4-E5	USF Series	USF303010	E14-E15	USF Series	USF-GB24N4-92	E27	USF/SJIC(H) Series
USF2020P	E6	USF Series	USF303010-JB	E4-E5	USF Series	USF-GB30N10-75	E27	USF/SJIC(H) Series
USF241606	E14-E15	USF Series	USF303012	E14-E15	USF Series	USF-GB30N4-114	E27	USF/SJIC(H) Series
USF241606-JB	E4-E5	USF Series	USF303012-JB	E4-E5	USF Series	USF-GP12X10	E26	USF/SJIC(H) Series
USF241608	E14-E15	USF Series	USF3030P	E6	USF Series	USF-GP12X6	E26	USF/SJIC(H) Series
USF241608-JB	E4-E5	USF Series	USF362408	E14-E15	USF Series	USF-GP12X8	E26	USF/SJIC(H) Series
USF241610	E14-E15	USF Series	USF362408-JB	E4-E5	USF Series	USF-GP16X10	E26	USF/SJIC(H) Series
USF241610-JB	E4-E5	USF Series	USF362410	E14-E15	USF Series	USF-GP16X6	E26	USF/SJIC(H) Series
USF2416P	E6	USF Series	USF362410-JB	E4-E5	USF Series	USF-GP16X8	E26	USF/SJIC(H) Series
USF242006	E14-E15	USF Series	USF3624P	E6	USF Series	USF-GP20X10	E26	USF/SJIC(H) Series
USF242006-JB	E4-E5	USF Series	USF-BOXGRD	E28	USF/SJIC(H) Series	USF-GP20X12	E26	USF/SJIC(H) Series
USF242008	E14-E15	USF Series	USF-CS-121206	C34	USF-CS / SJICH-CS Series	USF-GP20X6	E26	USF/SJIC(H) Series
USF242008-JB	E4-E5	USF Series	USF-CS-161206	C34	USF-CS / SJICH-CS Series	USF-GP24X10	E26	USF/SJIC(H) Series
USF242010	E14-E15	USF Series	USF-CS-161208	C34	USF-CS / SJICH-CS Series	USF-GP24X12	E26	USF/SJIC(H) Series
USF242010-JB	E4-E5	USF Series	USF-CS-161606	C34	USF-CS / SJICH-CS Series	USF-GP24X16	E26	USF/SJIC(H) Series
USF242012	E14-E15	USF Series	USF-CS-161608	C34	USF-CS / SJICH-CS Series	USF-GP24X20	E26	USF/SJIC(H) Series
USF242012-JB	E4-E5	USF Series	USF-CS-201606	C34	USF-CS / SJICH-CS Series	USF-GP24X6	E26	USF/SJIC(H) Series
USF2420P	E6	USF Series	USF-CS-201608	C34	USF-CS / SJICH-CS Series	USF-GP24X8	E26	USF/SJIC(H) Series
USF242406	E14-E15	USF Series	USF-CS-202006	C34	USF-CS / SJICH-CS Series	USF-GP30X10	E26	USF/SJIC(H) Series
USF242406-JB	E4-E5	USF Series	USF-CS-202008	C34	USF-CS / SJICH-CS Series	USF-GP30X12	E26	USF/SJIC(H) Series
USF242408	E14-E15	USF Series	USF-CS-241606	C34	USF-CS / SJICH-CS Series	USF-GP30X16	E26	USF/SJIC(H) Series
USF242408-JB	E4-E5	USF Series	USF-CS-241608	C34	USF-CS / SJICH-CS Series	USF-GP30X20	E26	USF/SJIC(H) Series
USF242410	E14-E15	USF Series	USF-CS-242406	C34	USF-CS / SJICH-CS Series	USF-GP30X8	E26	USF/SJIC(H) Series
USF242410-JB	E4-E5	USF Series	USF-CS-242410	E14-E15	USF Series	USF-GP36X10	E26	USF/SJIC(H) Series
USF242412	E14-E15	USF Series	USF242412	E14-E15	USF Series			
USF242412-JB	E4-E5	USF Series	USF242416	E14-E15	USF Series			
USF242416	E14-E15	USF Series	USF242416-JB	E4-E5	USF Series			
USF242416-JB	E4-E5	USF Series	USF242420	E14-E15	USF Series			

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USF-GP36X12	E26	USF/SJIC(H) Series	VBQ3023CH30	CN44	VERSAMATE Series	VBQ6023SN60	CN44	VERSAMATE Series
USF-GP36X8	E26	USF/SJIC(H) Series	VBQ3023CH40	CN44	VERSAMATE Series	VBQ6023SN70	CN44	VERSAMATE Series
USF-MTGFEET	E28	USF/SJIC(H) Series	VBQ3023CH50	CN44	VERSAMATE Series	VBQ6023SN90	CN44	VERSAMATE Series
VAG-100	L66, L83	VSL, V Series	VBQ3023CN20	CN44	VERSAMATE Series	VBQ6034CH100	CN44	VERSAMATE Series
VAG-100R	L66	VSL Series	VBQ3023CN30	CN44	VERSAMATE Series	VBQ6034CH50	CN44	VERSAMATE Series
VAG-200	L83	V Series	VBQ3023CN40	CN44	VERSAMATE Series	VBQ6034CH60	CN44	VERSAMATE Series
VAMG-200	L83	V Series	VBQ3023CN50	CN44	VERSAMATE Series	VBQ6034CH70	CN44	VERSAMATE Series
VAMGP-100	L66, L83	VSL, V Series	VBQ3023SH20	CN44	VERSAMATE Series	VBQ6034CH90	CN44	VERSAMATE Series
VB-1	L65, L82	VSL, V Series	VBQ3023SH30	CN44	VERSAMATE Series	VBQ6034CN100	CN44	VERSAMATE Series
VB-2	L65, L82	VSL, V Series	VBQ3023SH40	CN44	VERSAMATE Series	VBQ6034CN50	CN44	VERSAMATE Series
VBA	L65, L82	VSL, V Series	VBQ3023SH50	CN44	VERSAMATE Series	VBQ6034CN60	CN44	VERSAMATE Series
VBC-1	L65, L82	VSL, V Series	VBQ3023SN20	CN44	VERSAMATE Series	VBQ6034CN70	CN44	VERSAMATE Series
VBC-2	L65, L82	VSL, V Series	VBQ3023SN30	CN44	VERSAMATE Series	VBQ6034CN90	CN44	VERSAMATE Series
VBGP-100	L66, L83	VSL, V Series	VBQ3023SN40	CN44	VERSAMATE Series	VBQ6034GFI60	CN44	VERSAMATE Series
VBNB	F87, L83	VJ, V Series	VBQ3023SN50	CN44	VERSAMATE Series	VBQ6034SH100	CN44	VERSAMATE Series
VBQ1023CH100	CN44	VERSAMATE Series	VBQ3034CH20	CN44	VERSAMATE Series	VBQ6034SH50	CN44	VERSAMATE Series
VBQ1023CH50	CN44	VERSAMATE Series	VBQ3034CH30	CN44	VERSAMATE Series	VBQ6034SH60	CN44	VERSAMATE Series
VBQ1023CH70	CN44	VERSAMATE Series	VBQ3034CH40	CN44	VERSAMATE Series	VBQ6034SH70	CN44	VERSAMATE Series
VBQ1023CH90	CN44	VERSAMATE Series	VBQ3034CH50	CN44	VERSAMATE Series	VBQ6034SH90	CN44	VERSAMATE Series
VBQ1023CN100	CN44	VERSAMATE Series	VBQ3034CN20	CN44	VERSAMATE Series	VBQ6034SN100	CN44	VERSAMATE Series
VBQ1023CN50	CN44	VERSAMATE Series	VBQ3034CN30	CN44	VERSAMATE Series	VBQ6034SN50	CN44	VERSAMATE Series
VBQ1023CN70	CN44	VERSAMATE Series	VBQ3034CN40	CN44	VERSAMATE Series	VBQ6034SN60	CN44	VERSAMATE Series
VBQ1023CN90	CN44	VERSAMATE Series	VBQ3034CN50	CN44	VERSAMATE Series	VBQ6034SN70	CN44	VERSAMATE Series
VBQ1023SH100	CN44	VERSAMATE Series	VBQ3034GFI30	CN44	VERSAMATE Series	VBQ6034SN90	CN44	VERSAMATE Series
VBQ1023SH50	CN44	VERSAMATE Series	VBQ3034SH20	CN44	VERSAMATE Series	VBQ-HANDLEASSEMBLY		VERSAMATE Series
VBQ1023SH70	CN44	VERSAMATE Series	VBQ3034SH30	CN44	VERSAMATE Series		CN44	
VBQ1023SH90	CN44	VERSAMATE Series	VBQ3034SH40	CN44	VERSAMATE Series	VBQRA1023	CN44	VERSAMATE Series
VBQ1023SN100	CN44	VERSAMATE Series	VBQ3034SH50	CN44	VERSAMATE Series	VBQRA1034	CN44	VERSAMATE Series
VBQ1023SN50	CN44	VERSAMATE Series	VBQ3034SN20	CN44	VERSAMATE Series	VBQRA3023	CN44	VERSAMATE Series
VBQ1023SN70	CN44	VERSAMATE Series	VBQ3034SN30	CN44	VERSAMATE Series	VBQRA3034	CN44	VERSAMATE Series
VBQ1023SN90	CN44	VERSAMATE Series	VBQ3034SN40	CN44	VERSAMATE Series	VBQRA6023	CN44	VERSAMATE Series
VBQ1034CH100	CN44	VERSAMATE Series	VBQ3034SN50	CN44	VERSAMATE Series	VBQRA6034	CN44	VERSAMATE Series
VBQ1034CH50	CN44	VERSAMATE Series	VBQ6023CH100	CN44	VERSAMATE Series	VCA15034	CN90	VERSAMATE Series
VBQ1034CH70	CN44	VERSAMATE Series	VBQ6023CH50	CN44	VERSAMATE Series	VCA15044	CN90	VERSAMATE Series
VBQ1034CH90	CN44	VERSAMATE Series	VBQ6023CH60	CN44	VERSAMATE Series	VCGP-100	L66, L72, L83	VSL, NV2, V Series
VBQ1034CN100	CN44	VERSAMATE Series	VBQ6023CH70	CN44	VERSAMATE Series	VCGP-200	L83	V Series
VBQ1034CN50	CN44	VERSAMATE Series	VBQ6023CH90	CN44	VERSAMATE Series	VCGPT-100	L83	V Series
VBQ1034CN70	CN44	VERSAMATE Series	VBQ6023CN100	CN44	VERSAMATE Series	VD-4	L65, L82	VSL, V Series
VBQ1034CN90	CN44	VERSAMATE Series	VBQ6023CN50	CN44	VERSAMATE Series	VD-410G	L79	V Series
VBQ1034GFI100	CN44	VERSAMATE Series	VBQ6023CN60	CN44	VERSAMATE Series	VD-410GG	L79	V Series
VBQ1034SH100	CN44	VERSAMATE Series	VBQ6023CN70	CN44	VERSAMATE Series	VD-410GGPX	L81	V Series
VBQ1034SH50	CN44	VERSAMATE Series	VBQ6023CN90	CN44	VERSAMATE Series	VD-420G	L79	V Series
VBQ1034SH70	CN44	VERSAMATE Series	VBQ6023SH100	CN44	VERSAMATE Series	VD-420GG	L79	V Series
VBQ1034SH90	CN44	VERSAMATE Series	VBQ6023SH50	CN44	VERSAMATE Series	VD-420GGPX	L81	V Series
VBQ1034SN100	CN44	VERSAMATE Series	VBQ6023SH60	CN44	VERSAMATE Series	VEXA100B	L21	MBL Series
VBQ1034SN50	CN44	VERSAMATE Series	VBQ6023SH70	CN44	VERSAMATE Series	VFBG-110	L79	V Series
VBQ1034SN70	CN44	VERSAMATE Series	VBQ6023SH90	CN44	VERSAMATE Series	VFBG-1-100	L79	V Series
VBQ1034SN90	CN44	VERSAMATE Series	VBQ6023SN100	CN44	VERSAMATE Series	VFBG-120	L79	V Series
VBQ3023CH20	CN44	VERSAMATE Series	VBQ6023SN50	CN44	VERSAMATE Series	VFBG-1-200	L79	V Series
						VFBG-210	L79	V Series

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VFBG-2-100	L79	V Series	VLJSX-1M	F87	VJ Series	VML2X1233	L26	VMLX Series
VFBG-220	L79	V Series	VLJSX-2	F87	VJ Series	VML2X1234	L26	VMLX Series
VFBG-2-200	L79	V Series	VLJSX-2M	F87	VJ Series	VML2X15(XX)(YY)	L26	VMLX Series
VFBGG-110	L79	V Series	VLJX-1	F87	VJ Series	VML2X1530	L26	VMLX Series
VFBGG-1-100	L79	V Series	VLJX-1M	F87	VJ Series	VML2X1533	L26	VMLX Series
VFBGG-1-100PX	L81	V Series	VLJX-2	F87	VJ Series	VML2X1534	L26	VMLX Series
VFBGG-120	L79	V Series	VLJX-2M	F87	VJ Series	VML2X18(XX)(YY)	L26	VMLX Series
VFBGG-1-200	L79	V Series	VLJX-3	F87	VJ Series	VML2X1830	L26	VMLX Series
VFBGG-1-200PX	L81	V Series	VLJX-3M	F87	VJ Series	VML2X1833	L26	VMLX Series
VFBGG-210	L79	V Series	VMA2B	L27	VMLX Series	VML2X1834	L26	VMLX Series
VFBGG-2-100	L79	V Series	VMA3B	L27	VMLX Series	VML2X530 HA	L26	VMLX Series
VFBGG-2-100PX	L81	V Series	VMAG40S	L97	EZ Series	VML2X533 HA	L26	VMLX Series
VFBGG-220	L79	V Series	VMB2B	L27	VMLX Series	VML2X534 HA	L26	VMLX Series
VFBGG-2-200	L79	V Series	VMB3B	L27	VMLX Series	VML2X730 HA	L26	VMLX Series
VFBGG-2-200PX	L81	V Series	VMC2B	L27	VMLX Series	VML2X733 HA	L26	VMLX Series
VFC-100	L82	V Series	VMC3B	L27	VMLX Series	VML2X734 HA	L26	VMLX Series
VFC-200	L82	V Series	VMCHVM	L30	VMLX Series	VML2X930 HA	L26	VMLX Series
VFCA-100	L78	V Series	VMCHVM-DEEP	L30	VMLX Series	VML2X933 HA	L26	VMLX Series
VFCA-200	L78	V Series	VMD4B	L27	VMLX Series	VML2X934 HA	L26	VMLX Series
VFCAG-100	L78	V Series	VMD5B	L27	VMLX Series	VML3X1230 HA	L26	VMLX Series
VFCAG-200	L78	V Series	VMF2B	L27	VMLX Series	VML3X1233 HA	L26	VMLX Series
VFL	L65, L82	VSL, V Series	VMF3B	L27	VMLX Series	VML3X1234 HA	L26	VMLX Series
VFPS	L65, L82	VSL, V Series	VMFSPC1	L21, L27, L50	MBL, VMLX, KWPL Series	VML3X1530 HA	L26	VMLX Series
VG-2	L105	FH/VX Series	VMFSPC2	L21, L27, L50	MBL, VMLX, KWPL Series	VML3X1533 HA	L26	VMLX Series
VGA-1	L65, L82	VSL, V Series	VMFSPC3	L50	KWPL Series	VML3X1534 HA	L26	VMLX Series
VGA-2	L65, L82	VSL, V Series	VMGEH2	L30	VMLX Series	VML3X1830 HA	L26	VMLX Series
VGC-1	L65, L82	VSL, V Series	VMHKPC1	L32, L88	EML, EM/EQ Series	VML3X1833 HA	L26	VMLX Series
VGC-2	L65, L82	VSL, V Series	VMHKPC2	L32, L88	EML, EM/EQ Series	VML3X1834 HA	L26	VMLX Series
VGG-200	L83	V Series	VMHKPC3	L88	EM/EQ Series	VML3X23(XX)(YY)	L26	VMLX Series
VGGP-100	L66, L83	VSL, V Series	VMHKXPC1	L17	L1L Series	VML3X2330	L26	VMLX Series
VGGP-200	L83	V Series	VMHKXPC2	L17	L1L Series	VML3X2333	L26	VMLX Series
VGH-1	L65, L82	VSL, V Series	VMHKXPC3	L17	L1L Series	VML3X2334	L26	VMLX Series
VGH-2	L65, L82	VSL, V Series	VMHLD5	L30	VMLX Series	VML3X28(XX)(YY)	L26	VMLX Series
VGX-1	L65, L82	VSL, V Series	VMHPP2	L30	VMLX Series	VML3X2830	L26	VMLX Series
VGX-2	L65, L82	VSL, V Series	VML1X5(XX)(YY)	L26	VMLX Series	VML3X2833	L26	VMLX Series
VJ57	CN89	VERSAMATE Series	VML1X530	L26	VMLX Series	VML3X2834	L26	VMLX Series
VJ67	CN90	VERSAMATE Series	VML1X533	L26	VMLX Series	VMLXAR	L27	VMLX Series
VJ78	CN91	VERSAMATE Series	VML1X534	L26	VMLX Series	VMLXDR	L27	VMLX Series
VJA100	CN89, CN90	VERSAMATE Series	VML1X7(XX)(YY)	L26	VMLX Series	VMLXGL	L27	VMLX Series
VJA200	CN91	VERSAMATE Series	VML1X730	L26	VMLX Series	VMLXGRD	L27	VMLX Series
VJBC	F87	VJ Series	VML1X733	L26	VMLX Series	VMLXPC	L27	VMLX Series
VJC57	CN89	VERSAMATE Series	VML1X734	L26	VMLX Series	VMM2LP	L30	VMLX Series
VJC67	CN90	VERSAMATE Series	VML1X9(XX)(YY)	L26	VMLX Series	VMM3KP	L30	VMLX Series
VJC78	CN91	VERSAMATE Series	VML1X930	L26	VMLX Series	VMPA-17	L21	MBL Series
VJH-1	F87	VJ Series	VML1X933	L26	VMLX Series	VMPA40	L35, L97	EZL, EZ Series
VJH-2	F87	VJ Series	VML1X934	L26	VMLX Series	VMPSPD-17	L21	MBL Series
VLJDX-2	F87	VJ Series	VML2X12(XX)(YY)	L26	VMLX Series	VMPSPD40	L35, L95, L97	EZL, EBB, EZ Series
VLJDX-3	F87	VJ Series	VML2X1230	L26	VMLX Series	VMRWGS	L21	MBL Series
VLJSX-1	F87	VJ Series				VMS4B	L27	VMLX Series

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VMS5B	L27	VMLX Series	VPLCG100G	L75	NVPI/NVPF Series	VR20412C7	CN91	VERSAMATE Series
VMSC10	L7, L12, L27, L42, L44, L46, L48	Floodlight Accessories	VPLCG-100G	L66	VSL Series	VR20412E6	CN91	VERSAMATE Series
VMX2B	L27	VMLX Series	VPLCG100R	L75	NVPI/NVPF Series	VR20422	CN91	VERSAMATE Series
VMX3B	L27	VMLX Series	VPLCG-100R	L66	VSL Series	VR20422C7	CN91	VERSAMATE Series
VMX6B	L27	VMLX Series	VPLCG-100W	L66	VSL Series	VR20422E6	CN91	VERSAMATE Series
VMX7B	L27	VMLX Series	VPLCG-200	L83	V Series	VR3022	CN87	VERSAMATE Series
VMX8B	L27	VMLX Series	VPR1022	CN89	VERSAMATE Series	VR3022C2	CN87	VERSAMATE Series
VMX9B	L27	VMLX Series	VPR1023	CN89	VERSAMATE Series	VR3022D2	CN87	VERSAMATE Series
VOB-100	L78	V Series	VPR1033	CN89	VERSAMATE Series	VR3022E2	CN87	VERSAMATE Series
VOB-200	L78	V Series	VPR1034	CN89	VERSAMATE Series	VR3023	CN87	VERSAMATE Series
VOBG-100	L78	V Series	VPR1044	CN89	VERSAMATE Series	VR3023C2	CN87	VERSAMATE Series
VOBG-200	L78	V Series	VPR203112	CN91	VERSAMATE Series	VR3023D2	CN87	VERSAMATE Series
VOBL-100	L79	V Series	VPR203212	CN91	VERSAMATE Series	VR3023E2	CN87	VERSAMATE Series
VOBL-200	L79	V Series	VPR204113	CN91	VERSAMATE Series	VR3033	CN87	VERSAMATE Series
VOBLG-100	L79	V Series	VPR204212	CN91	VERSAMATE Series	VR3033C2	CN87	VERSAMATE Series
VOBLG-200	L79	V Series	VPR3022	CN87	VERSAMATE Series	VR3033D2	CN87	VERSAMATE Series
VPI022	CN89	VERSAMATE Series	VPR3023	CN87	VERSAMATE Series	VR3033E2	CN87	VERSAMATE Series
VPI023	CN89	VERSAMATE Series	VPR3033	CN87	VERSAMATE Series	VR3034	CN87	VERSAMATE Series
VPI033	CN89	VERSAMATE Series	VPR3034	CN87	VERSAMATE Series	VR3034C2	CN87	VERSAMATE Series
VPI034	CN89	VERSAMATE Series	VPR3044	CN87	VERSAMATE Series	VR3034D2	CN87	VERSAMATE Series
VPI044	CN89	VERSAMATE Series	VPR6022	CN88	VERSAMATE Series	VR3034E2	CN87	VERSAMATE Series
VP203512	CN91	VERSAMATE Series	VPR6023	CN88	VERSAMATE Series	VR3044	CN87	VERSAMATE Series
VP203612	CN91	VERSAMATE Series	VPR6033	CN88	VERSAMATE Series	VR3044C2	CN87	VERSAMATE Series
VP204513	CN91	VERSAMATE Series	VPR6034	CN88	VERSAMATE Series	VR3044D2	CN87	VERSAMATE Series
VP204612	CN91	VERSAMATE Series	VPR6044	CN88	VERSAMATE Series	VR3044E2	CN87	VERSAMATE Series
VP3022	CN87	VERSAMATE Series	VPRSD-100	L83	V Series	VR6022	CN88	VERSAMATE Series
VP3023	CN39, CN41, CN87	VERSAMATE Series	VPRSD-200	L83	V Series	VR6022C4	CN88	VERSAMATE Series
VP3033	CN87	VERSAMATE Series	VR1022	CN89	VERSAMATE Series	VR6022D4	CN88	VERSAMATE Series
VP3034	CN39, CN41, CN87	VERSAMATE Series	VR1022C5	CN89	VERSAMATE Series	VR6022E4	CN88	VERSAMATE Series
VP3044	CN87	VERSAMATE Series	VR1022E5	CN89	VERSAMATE Series	VR6023	CN88	VERSAMATE Series
VP6022	CN88	VERSAMATE Series	VR1023	CN89	VERSAMATE Series	VR6023C4	CN88	VERSAMATE Series
VP6023	CN39, CN41, CN88	VERSAMATE Series	VR1023C5	CN89	VERSAMATE Series	VR6023D4	CN88	VERSAMATE Series
VP6033	CN88	VERSAMATE Series	VR1023E5	CN89	VERSAMATE Series	VR6023E4	CN88	VERSAMATE Series
VP6034	CN39, CN41, CN88	VERSAMATE Series	VR1033	CN89	VERSAMATE Series	VR6033	CN88	VERSAMATE Series
VP6044	CN88	VERSAMATE Series	VR1033C5	CN89	VERSAMATE Series	VR6033C4	CN88	VERSAMATE Series
VPA15034	CN90	VERSAMATE Series	VR1033E5	CN89	VERSAMATE Series	VR6033D4	CN88	VERSAMATE Series
VPA15044	CN90	VERSAMATE Series	VR1034	CN89	VERSAMATE Series	VR6033E4	CN88	VERSAMATE Series
VPFH-2	L105	FH/VX Series	VR1034C5	CN89	VERSAMATE Series	VR6034	CN88	VERSAMATE Series
VPFHA-12	L105	FH/VX Series	VR1034E5	CN89	VERSAMATE Series	VR6034C4	CN88	VERSAMATE Series
VPFHA-22	L105	FH/VX Series	VR1044	CN89	VERSAMATE Series	VR6034D4	CN88	VERSAMATE Series
VPFHC-12	L105	FH/VX Series	VR1044C5	CN89	VERSAMATE Series	VR6034E4	CN88	VERSAMATE Series
VPFHC-22	L105	FH/VX Series	VR1044E5	CN89	VERSAMATE Series	VR6044	CN88	VERSAMATE Series
VPFHH-12	L105	FH/VX Series	VR20312	CN91	VERSAMATE Series	VR6044C4	CN88	VERSAMATE Series
VPFHH-22	L105	FH/VX Series	VR20312C7	CN91	VERSAMATE Series	VR6044D4	CN88	VERSAMATE Series
VPFHX-12	L105	FH/VX Series	VR20312E6	CN91	VERSAMATE Series	VR6044E4	CN88	VERSAMATE Series
VPFHX-22	L105	FH/VX Series	VR20322	CN91	VERSAMATE Series	VRA15034	CN90	VERSAMATE Series
VPLCG100	L75	NVPI/NVPF Series	VR20322C7	CN91	VERSAMATE Series	VRA15034C6	CN90	VERSAMATE Series
VPLCG-100	L66, L83	VSL, V Series	VR20322E6	CN91	VERSAMATE Series	VRA15034E6	CN90	VERSAMATE Series
VPLCG-100A	L66	VSL Series	VR20412	CN91	VERSAMATE Series	VRA15044	CN90	VERSAMATE Series

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VRA15044C6CN90	VERSAMATE Series	VS130R407CN47	VERSAMATE Series	VSIH20R406CN51	VSIH Series
VRA15044E6	.....CN90	VERSAMATE Series	VS130R409	.....CN47	VERSAMATE Series	VSIH20R407	.....CN51	VSIH Series
VRC23	.....CN87	VERSAMATE Series	VS130R505	.....CN47	VERSAMATE Series	VSIH20R409	.....CN51	VSIH Series
VRC46	.....CN88	VERSAMATE Series	VS130R507	.....CN47	VERSAMATE Series	VSIH20R505	.....CN51	VSIH Series
VRD23	.....CN87	VERSAMATE Series	VS130R509	.....CN47	VERSAMATE Series	VSIH20R506	.....CN51	VSIH Series
VRD46	.....CN88	VERSAMATE Series	VSI63801140	.....CN48	VERSAMATE Series	VSIH20R507	.....CN51	VSIH Series
VRE23	.....CN87	VERSAMATE Series	VSI63P405	.....CN48	VERSAMATE Series	VSIH20R509	.....CN51	VSIH Series
VRE46	.....CN88	VERSAMATE Series	VSI63P407	.....CN48	VERSAMATE Series	VSIH32P304	.....CN51	VSIH Series
VRG-200	.....L83	V Series	VSI63P409	.....CN48	VERSAMATE Series	VSIH32P306	.....CN51	VSIH Series
VRGP-100	.....L66, L83	VSL, V Series	VSI63P505	.....CN48	VERSAMATE Series	VSIH32P405	.....CN51	VSIH Series
VRGP-200	.....L83	V Series	VSI63P507	.....CN48	VERSAMATE Series	VSIH32P406	.....CN51	VSIH Series
VRME	.....L83, L85	V, DV Series	VSI63P509	.....CN48	VERSAMATE Series	VSIH32P407	.....CN51	VSIH Series
VSII25P405	.....CN48	VERSAMATE Series	VSI63R405	.....CN48	VERSAMATE Series	VSIH32P409	.....CN51	VSIH Series
VSII25P407	.....CN48	VERSAMATE Series	VSI63R407	.....CN48	VERSAMATE Series	VSIH32P505	.....CN51	VSIH Series
VSII25P409	.....CN48	VERSAMATE Series	VSI63R409	.....CN48	VERSAMATE Series	VSIH32P506	.....CN51	VSIH Series
VSII25P505	.....CN48	VERSAMATE Series	VSI63R505	.....CN48	VERSAMATE Series	VSIH32P507	.....CN51	VSIH Series
VSII25P507	.....CN48	VERSAMATE Series	VSI63R507	.....CN48	VERSAMATE Series	VSIH32P509	.....CN51	VSIH Series
VSII25P509	.....CN48	VERSAMATE Series	VSI63R509	.....CN48	VERSAMATE Series	VSIH32R304	.....CN51	VSIH Series
VSII25R405	.....CN48	VERSAMATE Series	VSIH125P405	.....CN51	VSIH Series	VSIH32R306	.....CN51	VSIH Series
VSII25R407	.....CN48	VERSAMATE Series	VSIH125P406	.....CN51	VSIH Series	VSIH32R405	.....CN51	VSIH Series
VSII25R409	.....CN48	VERSAMATE Series	VSIH125P407	.....CN51	VSIH Series	VSIH32R406	.....CN51	VSIH Series
VSII25R505	.....CN48	VERSAMATE Series	VSIH125P409	.....CN51	VSIH Series	VSIH32R407	.....CN51	VSIH Series
VSII25R507	.....CN48	VERSAMATE Series	VSIH125P505	.....CN51	VSIH Series	VSIH32R409	.....CN51	VSIH Series
VSII25R509	.....CN48	VERSAMATE Series	VSIH125P506	.....CN51	VSIH Series	VSIH32R505	.....CN51	VSIH Series
VS120P304	.....CN47	VERSAMATE Series	VSIH125P507	.....CN51	VSIH Series	VSIH32R506	.....CN51	VSIH Series
VS120P306	.....CN47	VERSAMATE Series	VSIH125P509	.....CN51	VSIH Series	VSIH32R507	.....CN51	VSIH Series
VS120P307	.....CN47	VERSAMATE Series	VSIH125R405	.....CN51	VSIH Series	VSIH32R509	.....CN51	VSIH Series
VS120P405	.....CN47	VERSAMATE Series	VSIH125R406	.....CN51	VSIH Series	VSIH63P405	.....CN51	VSIH Series
VS120P407	.....CN47	VERSAMATE Series	VSIH125R407	.....CN51	VSIH Series	VSIH63P406	.....CN51	VSIH Series
VS120P409	.....CN47	VERSAMATE Series	VSIH125R409	.....CN51	VSIH Series	VSIH63P407	.....CN51	VSIH Series
VS120P505	.....CN47	VERSAMATE Series	VSIH125R505	.....CN51	VSIH Series	VSIH63P409	.....CN51	VSIH Series
VS120P507	.....CN47	VERSAMATE Series	VSIH125R506	.....CN51	VSIH Series	VSIH63P505	.....CN51	VSIH Series
VS120P509	.....CN47	VERSAMATE Series	VSIH125R507	.....CN51	VSIH Series	VSIH63P506	.....CN51	VSIH Series
VS120R304	.....CN47	VERSAMATE Series	VSIH125R509	.....CN51	VSIH Series	VSIH63P507	.....CN51	VSIH Series
VS120R306	.....CN47	VERSAMATE Series	VSIH20P304	.....CN51	VSIH Series	VSIH63P509	.....CN51	VSIH Series
VS120R307	.....CN47	VERSAMATE Series	VSIH20P306	.....CN51	VSIH Series	VSIH63R405	.....CN51	VSIH Series
VS120R405	.....CN47	VERSAMATE Series	VSIH20P307	.....CN51	VSIH Series	VSIH63R406	.....CN51	VSIH Series
VS120R407	.....CN47	VERSAMATE Series	VSIH20P405	.....CN51	VSIH Series	VSIH63R407	.....CN51	VSIH Series
VS120R409	.....CN47	VERSAMATE Series	VSIH20P406	.....CN51	VSIH Series	VSIH63R409	.....CN51	VSIH Series
VS120R505	.....CN47	VERSAMATE Series	VSIH20P407	.....CN51	VSIH Series	VSIH63R505	.....CN51	VSIH Series
VS120R507	.....CN47	VERSAMATE Series	VSIH20P409	.....CN51	VSIH Series	VSIH63R506	.....CN51	VSIH Series
VS120R509	.....CN47	VERSAMATE Series	VSIH20P505	.....CN51	VSIH Series	VSIH63R507	.....CN51	VSIH Series
VS130P405	.....CN47	VERSAMATE Series	VSIH20P506	.....CN51	VSIH Series	VSIH63R509	.....CN51	VSIH Series
VS130P407	.....CN47	VERSAMATE Series	VSIH20P507	.....CN51	VSIH Series	VSL1330	.....L65-L66	VSL Series
VS130P409	.....CN47	VERSAMATE Series	VSIH20P509	.....CN51	VSIH Series	VSL1630	.....L65-L66	VSL Series
VS130P505	.....CN47	VERSAMATE Series	VSIH20R304	.....CN51	VSIH Series	VSQ3023	.....CN39	VERSAMATE Series
VS130P507	.....CN47	VERSAMATE Series	VSIH20R306	.....CN51	VSIH Series	VSQ3023FS	.....CN41	VERSAMATE Series
VS130P509	.....CN47	VERSAMATE Series	VSIH20R307	.....CN51	VSIH Series	VSQ3034	.....CN39	VERSAMATE Series
VS130R405CN47	VERSAMATE Series	VSIH20R405CN51	VSIH Series	VSQ3034FSCN41	VERSAMATE Series

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
VSQ6023	CN39	VERSAMATE Series	VT-5020-30E	CN73	Explosionproof Starline	VT-6316-16C	CN73	Explosionproof Starline
VSQ6023FS	CN41	VERSAMATE Series	VT-5020-31E	CN73	Explosionproof Starline	VT-6316-18C	CN73	Explosionproof Starline
VSQ6034	CN39	VERSAMATE Series	VT-5024-16E	CN73	Explosionproof Starline	VT-6316-20C	CN73	Explosionproof Starline
VSQ6034FS	CN41	VERSAMATE Series	VT-5024-18E	CN73	Explosionproof Starline	VT-6316-22C	CN73	Explosionproof Starline
VT-4016-50MF / PIN	CN75	Explosionproof Starline	VT-5024-20E	CN73	Explosionproof Starline	VT-6316-23C	CN73	Explosionproof Starline
VT-4016-50NF / PIN	CN75	Explosionproof Starline	VT-5024-22E	CN73	Explosionproof Starline	VT-6316-6C	CN73	Explosionproof Starline
VT-4016-50PO / PIN	CN75	Explosionproof Starline	VT-5024-24E	CN73	Explosionproof Starline	VT-6316-8C	CN73	Explosionproof Starline
VT-4016-50RO / PIN	CN75	Explosionproof Starline	VT-5024-26E	CN73	Explosionproof Starline	VT-6320-10C	CN73	Explosionproof Starline
VT-4116-50MF / SOCKET	CN75	Explosionproof Starline	VT-5024-28E	CN73	Explosionproof Starline	VT-6320-12C	CN73	Explosionproof Starline
VT-4116-50NF / SOCKET	CN75	Explosionproof Starline	VT-5024-30E	CN73	Explosionproof Starline	VT-6320-14C	CN73	Explosionproof Starline
VT-4116-50PO / SOCKET	CN75	Explosionproof Starline	VT-5024-32E	CN73	Explosionproof Starline	VT-6320-16C	CN73	Explosionproof Starline
VT-4116-50RO / SOCKET	CN75	Explosionproof Starline	VT-5024-34E	CN73	Explosionproof Starline	VT-6320-18C	CN73	Explosionproof Starline
VT-5016-10E	CN73	Explosionproof Starline	VT-5024-36E	CN73	Explosionproof Starline	VT-6320-20C	CN73	Explosionproof Starline
VT-5016-12E	CN73	Explosionproof Starline	VT-5024-38E	CN73	Explosionproof Starline	VT-6320-22C	CN73	Explosionproof Starline
VT-5016-14E	CN73	Explosionproof Starline	VT-5024-39E	CN73	Explosionproof Starline	VT-6320-24C	CN73	Explosionproof Starline
VT-5016-16E	CN73	Explosionproof Starline	VT-5028-24E	CN73	Explosionproof Starline	VT-6320-26C	CN73	Explosionproof Starline
VT-5016-18E	CN73	Explosionproof Starline	VT-5028-26E	CN73	Explosionproof Starline	VT-6320-28C	CN73	Explosionproof Starline
VT-5016-20E	CN73	Explosionproof Starline	VT-5028-28E	CN73	Explosionproof Starline	VT-6320-30C	CN73	Explosionproof Starline
VT-5016-22E	CN73	Explosionproof Starline	VT-5028-30E	CN73	Explosionproof Starline	VT-6320-31C	CN73	Explosionproof Starline
VT-5016-23E	CN73	Explosionproof Starline	VT-5028-32E	CN73	Explosionproof Starline	VT-6324-16C	CN73	Explosionproof Starline
VT-5016-6E	CN73	Explosionproof Starline	VT-5028-34E	CN73	Explosionproof Starline	VT-6324-18C	CN73	Explosionproof Starline
VT-5016-8E	CN73	Explosionproof Starline	VT-5028-36E	CN73	Explosionproof Starline	VT-6324-20C	CN73	Explosionproof Starline
VT-5020-10E	CN73	Explosionproof Starline	VT-5028-38E	CN73	Explosionproof Starline	VT-6324-22C	CN73	Explosionproof Starline
VT-5020-12E	CN73	Explosionproof Starline	VT-5028-40E	CN73	Explosionproof Starline	VT-6324-24C	CN73	Explosionproof Starline
VT-5020-14E	CN73	Explosionproof Starline	VT-5028-42E	CN73	Explosionproof Starline	VT-6324-26C	CN73	Explosionproof Starline
VT-5020-16E	CN73	Explosionproof Starline	VT-5028-44E	CN73	Explosionproof Starline	VT-6324-28C	CN73	Explosionproof Starline
VT-5020-18E	CN73	Explosionproof Starline	VT-5028-46E	CN73	Explosionproof Starline	VT-6324-30C	CN73	Explosionproof Starline
VT-5020-20E	CN73	Explosionproof Starline	VT-6316-10C	CN73	Explosionproof Starline	VT-6324-32C	CN73	Explosionproof Starline
VT-5020-22E	CN73	Explosionproof Starline	VT-6316-12C	CN73	Explosionproof Starline	VT-6324-34C	CN73	Explosionproof Starline
VT-5020-24E	CN73	Explosionproof Starline	VT-6316-14C	CN73	Explosionproof Starline	VT-6324-36C	CN73	Explosionproof Starline
VT-5020-26E	CN73	Explosionproof Starline						
VT-5020-28E	CN73	Explosionproof Starline						

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VT-6324-38C	CN73	Explosionproof Starline	VT-8020-24E	CN73	Explosionproof Starline	VUAGG-2-100	L77	V Series
VT-6324-39C	CN73	Explosionproof Starline	VT-8020-28E	CN73	Explosionproof Starline	VUAGG-2-100PX	L81	V Series
VT-6328-24C	CN73	Explosionproof Starline	VT-8020-31E	CN73	Explosionproof Starline	VUAGG-2-200	L77	V Series
VT-6328-26C	CN73	Explosionproof Starline	VT-8024-16E	CN73	Explosionproof Starline	VUAGG-2-200PX	L81	V Series
VT-6328-28C	CN73	Explosionproof Starline	VT-8024-20E	CN73	Explosionproof Starline	VUHG-1-100	L78	V Series
VT-6328-30C	CN73	Explosionproof Starline	VT-8024-24E	CN73	Explosionproof Starline	VUHG-1-200	L78	V Series
VT-6328-32C	CN73	Explosionproof Starline	VT-8024-28E	CN73	Explosionproof Starline	VUHG-2-100	L78	V Series
VT-6328-34C	CN73	Explosionproof Starline	VT-8024-32E	CN73	Explosionproof Starline	VUHG-2-200	L78	V Series
VT-6328-36C	CN73	Explosionproof Starline	VT-8024-36E	CN73	Explosionproof Starline	VUHGG-1-100	L78	V Series
VT-6328-38C	CN73	Explosionproof Starline	VT-8024-39E	CN73	Explosionproof Starline	VUHGG-1-200	L78	V Series
VT-6328-40C	CN73	Explosionproof Starline	VT-8028-24E	CN73	Explosionproof Starline	VUHGG-2-100	L78	V Series
VT-6328-42C	CN73	Explosionproof Starline	VT-8028-28E	CN73	Explosionproof Starline	VUHGG-2-200	L78	V Series
VT-6328-44C	CN73	Explosionproof Starline	VT-8028-32E	CN73	Explosionproof Starline	VUXBGG-1-100PX	L81	V Series
VT-6328-46C	CN73	Explosionproof Starline	VT-8028-36E	CN73	Explosionproof Starline	VUXBGG-1-200PX	L81	V Series
VT-70065-1012K	CN75	Explosionproof Starline	VT-8028-40E	CN73	Explosionproof Starline	VUXBGG-2-100PX	L81	V Series
VT-70065-1014K	CN75	Explosionproof Starline	VT-8028-44E	CN73	Explosionproof Starline	VUXBGG-2-200PX	L81	V Series
VT-70065-1016K	CN75	Explosionproof Starline	VT-8028-46E	CN73	Explosionproof Starline	VUXG-1-100	L77	V Series
VT-70065-1216K	CN75	Explosionproof Starline	VT-AF10-2516-12A	CN71	Explosionproof Starline	VUXG-1-200	L77	V Series
VT-70065-1218K	CN75	Explosionproof Starline	VT-AF10-2520-12A	CN71	Explosionproof Starline	VUXG-2-100	L77	V Series
VT-70065-1220K	CN75	Explosionproof Starline	VT-AF10-2524-12A	CN71	Explosionproof Starline	VUXG-2-200	L77	V Series
VT-70065-1620K	CN75	Explosionproof Starline	VT-AF10-2528-12A	CN71	Explosionproof Starline	VUXGG-1-100	L77	V Series
VT-70065-1622K	CN75	Explosionproof Starline	VTG	L83	V Series	VUXGG-1-100PX	L81	V Series
VT-8016-12E	CN73	Explosionproof Starline	VTGG	L83	V Series	VUXGG-1-200	L77	V Series
VT-8016-16E	CN73	Explosionproof Starline	VTGG1-S	L66, L83	VSL, V Series	VUXGG-1-200PX	L81	V Series
VT-8016-20E	CN73	Explosionproof Starline	VTGG2-S	L83	V Series	VUXGG-2-100	L77	V Series
VT-8016-23E	CN73	Explosionproof Starline	VTG-S	L66, L83	VSL, V Series	VUXGG-2-100PX	L81	V Series
VT-8016-8E	CN73	Explosionproof Starline	VTR-1	L61	VTR Series	VUXGG-2-200	L77	V Series
VT-8020-12E	CN73	Explosionproof Starline	VTR-2	L61	VTR Series	VUXGG-2-200PX	L81	V Series
VT-8020-16E	CN73	Explosionproof Starline	VUAG-1-100	L77	V Series	VWGP-100	L66, L83	VSL, V Series
VT-8020-20E	CN73	Explosionproof Starline	VUAG-1-200	L77	V Series	VWSQ3023	CN39	VERSAMATE Series
			VUAG-2-100	L77	V Series	VWSQ3034	CN39	VERSAMATE Series
			VUAG-2-200	L77	V Series	VWSQ6023	CN39	VERSAMATE Series
			VUAGG-1-100	L77	V Series	VWSQ6034	CN39	VERSAMATE Series
			VUAGG-1-100PX	L81	V Series	VXA-1	L65, L82	VSL, V Series
			VUAGG-1-200	L77	V Series	VXA-2	L65, L82	VSL, V Series
			VUAGG-1-200PX	L81	V Series	VXAB	L65, L82	VSL, V Series
			VUAGG-1-200PX	L81	V Series	VXAG-110	L78	V Series
						VXAG-120	L78	V Series
						VXAG-210	L78	V Series
						VXAG-220	L78	V Series
						VXAGG-110	L78	V Series
						VXAGG-120	L78	V Series
						VXAGG-210	L78	V Series
						VXAGG-220	L78	V Series
						VXFC-100 N34	L82	V Series
						VXFC-200 N34	L82	V Series
						VZRP175 (P5)	L21	MBL Series
						WH-0	F91	WH Series
						WH-0A	F91	WH Series

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
WH-0AG	F91	WH Series	WTR-2	L62	WTR Series	XCS-0B4	C64	XCS Series
WH-0G	F91	WH Series	X-10	C69	X/XS/XCS Series	XCS-0B4-U	C64	XCS Series
WH-0SSG	F93	WH Series	X17	F16	DURALOY 7 Series	XCS-0B5	C64	XCS Series
WH-1	F21, F91	WH Series	X17SA	F16	DURALOY 7 Series	XCS-0B7	C64	XCS Series
WH-1A	F91	WH Series	X18	F26	DURALOY 8 Series	XCS-0K2A1	C66	XCS Series
WH-1AG	F91	WH Series	X27	F16	DURALOY 7 Series	XCS-0K2A5	C66	XCS Series
WH-1G	F91	WH Series	X27SA	F16	DURALOY 7 Series	XCS-0K2L3F22D	C68	XCS Series
WH-1SSG	F93	WH Series	X28	F26	DURALOY 8 Series	XCS-0K3C4	C66	XCS Series
WH-2	F21, F91	WH Series	X37	F16	DURALOY 7 Series	XCS-0K3C5	C66	XCS Series
WH-2A	F91	WH Series	X37SA	F16	DURALOY 7 Series	XCS-0K3L6G32D	C68	XCS Series
WH-2AG	F91	WH Series	X38	F26	DURALOY 8 Series	XCS-0K3M6G32D	C68	XCS Series
WH-2G	F91	WH Series	X448	F26	DURALOY 8 Series	XCS-0K3R6G32D	C68	XCS Series
WH-2SSG	F93	WH Series	X47	F16	DURALOY 7 Series	XCS-0MMG3	C64	XCS Series
WH-3	F21, F91	WH Series	X47SA	F16	DURALOY 7 Series	XCS-0MMK3	C64	XCS Series
WH-3A	F91	WH Series	X57	F16	DURALOY 7 Series	XCS-0MMR3	C64, C69	X/XS/XCS Series
WH-3AG	F91	WH Series	X57SA	F16	DURALOY 7 Series	XCS-0S2A1	C66	XCS Series
WH-3G	F91	WH Series	X58	F26	DURALOY 8 Series	XCS-0S2A5	C66	XCS Series
WH-3SSG	F93	WH Series	X-60	C69	X/XS/XCS Series	XCS-0S2L3F	C67	XCS Series
WH-4	F91	WH Series	X-64	C69	X/XS/XCS Series	XCS-0S3C4	C66	XCS Series
WH-4A	F91	WH Series	X67	F16	DURALOY 7 Series	XCS-0S3C5	C66	XCS Series
WH-4AG	F91	WH Series	X67SA	F16	DURALOY 7 Series	XCS-0S3L6G	C67	XCS Series
WH-4G	F91	WH Series	X68	F26	DURALOY 8 Series	XCS-0S3M6G	C67	XCS Series
WH-4SSG	F93	WH Series	XAL-458	C74	XAL/XAS Series	XCS-0S3R6G	C67	XCS Series
WH-5	F91	WH Series	XAL-53	C74	XAL/XAS Series	XCS-1A15	C65	XCS Series
WH-5A	F91	WH Series	XALB-4	F136	X/XALB Series	XCS-1A8	C64	XCS Series
WH-5AG	F91	WH Series	XALB-5	F136	X/XALB Series	XCS-1A9	C64	XCS Series
WH-5G	F91	WH Series	XALB-6	F136	X/XALB Series	XCS-1B1	C64	XCS Series
WH-5SSG	F93	WH Series	XALB-7	F136	X/XALB Series	XCS-1B13-0	C65	XCS Series
WH-6	F91	WH Series	XALB-8	F136	X/XALB Series	XCS-1B13-C	C65	XCS Series
WH-6A	F91	WH Series	XAS-53	C74	XAL/XAS Series	XCS-1B13-U	C65	XCS Series
WH-6AG	F91	WH Series	XC-1	F136	X/XALB Series	XCS-1B2	C64	XCS Series
WH-6G	F91	WH Series	XC-2	F136	X/XALB Series	XCS-1B24-CL	C65	XCS Series
WH-6SSG	F93	WH Series	XC-3	F136	X/XALB Series	XCS-1B24-GL	C65	XCS Series
WH-7	F91	WH Series	XCS-0A15	C65	XCS Series	XCS-1B24-RL	C65	XCS Series
WH-7A	F91	WH Series	XCS-0A8	C64	XCS Series	XCS-1B3	C64	XCS Series
WH-7AG	F91	WH Series	XCS-0A9	C64	XCS Series	XCS-1B30-CL	C65	XCS Series
WH-7G	F91	WH Series	XCS-0B1	C64	XCS Series	XCS-1B30-GL	C65	XCS Series
WH-7SSG	F93	WH Series	XCS-0B13-0	C65	XCS Series	XCS-1B30-RL	C65	XCS Series
WH-8	F91	WH Series	XCS-0B13-C	C65	XCS Series	XCS-1B30RL-GL	C65	XCS Series
WH-8A	F91	WH Series	XCS-0B13-U	C65	XCS Series	XCS-1B4	C64	XCS Series
WH-8AG	F91	WH Series	XCS-0B2	C64	XCS Series	XCS-1B4-U	C64	XCS Series
WH-8G	F91	WH Series	XCS-0B24-CL	C65	XCS Series	XCS-1B5	C64	XCS Series
WH-8SSG	F93	WH Series	XCS-0B24-GL	C65	XCS Series	XCS-1B7	C64	XCS Series
WH-9	F91	WH Series	XCS-0B24-RL	C65	XCS Series	XCS-1K2A1	C66	XCS Series
WH-9A	F91	WH Series	XCS-0B3	C64	XCS Series	XCS-1K3C4	C66	XCS Series
WH-9AG	F91	WH Series	XCS-0B30-CL	C65	XCS Series	XCS-1S2A1	C66	XCS Series
WH-9G	F91	WH Series	XCS-0B30-GL	C65	XCS Series	XCS-1S3C4	C66	XCS Series
WH-9SSG	F93	WH Series	XCS-0B30-RL	C65	XCS Series	XCS-2A15	C65	XCS Series
WTR-1	L62	WTR Series	XCS-0B30RL-GL	C65	XCS Series	XCS-2A8	C64	XCS Series

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Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.	Part #	SEC./PG	PROD. GRP.
XCS-2A9	C64	XCS Series	XCS-4B13-0	C65	XCS Series	XCSNP-BLANK-3P	C70	XCS Series
XCS-2B1	C64	XCS Series	XCS-4B13-C	C65	XCS Series	XCSNP-CLOSE	C70	XCS Series
XCS-2B13-0	C65	XCS Series	XCS-4B13-U	C65	XCS Series	XCSNP-DOWN	C70	XCS Series
XCS-2B13-C	C65	XCS Series	XCS-4B2	C64	XCS Series	XCSNP-ESTOP	C70	XCS Series
XCS-2B13-U	C65	XCS Series	XCS-4B24-CL	C65	XCS Series	XCSNP-FAST	C70	XCS Series
XCS-2B2	C64	XCS Series	XCS-4B24-GL	C65	XCS Series	XCSNP-FORWARD	C70	XCS Series
XCS-2B24-CL	C65	XCS Series	XCS-4B24-RL	C65	XCS Series	XCSNP-FWD-OFF-REV	C70	XCS Series
XCS-2B24-GL	C65	XCS Series	XCS-4B3	C64	XCS Series	XCSNP-FWD-REV	C70	XCS Series
XCS-2B24-RL	C65	XCS Series	XCS-4B30-CL	C65	XCS Series	XCSNP-HAND-AUTO	C70	XCS Series
XCS-2B3	C64	XCS Series	XCS-4B30-GL	C65	XCS Series	XCSNP-HAND-OFF-AUT	C70	XCS Series
XCS-2B30-CL	C65	XCS Series	XCS-4B30-RL	C65	XCS Series	XCSNP-HAND-OFF-REM	C70	XCS Series
XCS-2B30-GL	C65	XCS Series	XCS-4B30RL-GL	C65	XCS Series	XCSNP-HIGH	C70	XCS Series
XCS-2B30-RL	C65	XCS Series	XCS-4B4	C64	XCS Series	XCSNP-HIGH-LOW	C70	XCS Series
XCS-2B30RL-GL	C65	XCS Series	XCS-4B4-U	C64	XCS Series	XCSNP-IN	C70	XCS Series
XCS-2B4	C64	XCS Series	XCS-4B5	C64	XCS Series	XCSNP-INCH	C70	XCS Series
XCS-2B4-U	C64	XCS Series	XCS-4B7	C64	XCS Series	XCSNP-JOG	C70	XCS Series
XCS-2B5	C64	XCS Series	XCS-4K2A1	C66	XCS Series	XCSNP-JOG-FORWARD	C70	XCS Series
XCS-2B7	C64	XCS Series	XCS-4K3C4	C66	XCS Series	XCSNP-JOG-OFF-RUN	C70	XCS Series
XCS-2K2A1	C66	XCS Series	XCS-4S2A1	C66	XCS Series	XCSNP-JOG-REVERSE	C70	XCS Series
XCS-2K3C4	C66	XCS Series	XCS-4S3C4	C66	XCS Series	XCSNP-JOG-RUN	C70	XCS Series
XCS-2S2A1	C66	XCS Series	XCS-5A15	C65	XCS Series	XCSNP-LOCL-OFF-REM	C70	XCS Series
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XCS-42K2L3F22D	C68	XCS Series	XCS-5B1	C64	XCS Series	XCSNP-LOW-OFF-HIGH	C70	XCS Series
XCS-42K3C5	C66	XCS Series	XCS-5B13-0	C65	XCS Series	XCSNP-MANUAL-AUTO	C70	XCS Series
XCS-42K3L6G32D	C68	XCS Series	XCS-5B13-C	C65	XCS Series	XCSNP-MOTOR-RUN	C70	XCS Series
XCS-42K3M6G32D	C68	XCS Series	XCS-5B13-U	C65	XCS Series	XCSNP-MOTOR-STOP	C70	XCS Series
XCS-42K3R6G32D	C68	XCS Series	XCS-5B2	C64	XCS Series	XCSNP-OFF	C70	XCS Series
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XCS-45K2L3F22D	C68	XCS Series	XCS-5B30RL-GL	C65	XCS Series	XCSNP-POWER-ON	C70	XCS Series
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XCS-45K3R6G32D	C68	XCS Series	XCS-5B5	C64	XCS Series	XCSNP-RAISE-LOWER	C70	XCS Series
XCS-45S2A5	C66	XCS Series	XCS-5B7	C64	XCS Series	XCSNP-RAS-OFF-LOWR	C70	XCS Series
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XCS-4A15	C65	XCS Series	XCSNP-AUT-OFF-HAND	C70	XCS Series	XCSNP-RUN-JOG	C70	XCS Series
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XECE-154A3.....	DE3	XEC Series
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XECF-506A3.....	DE3	XEC Series
XECF-604A1.....	DE3	XEC Series
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XECF-606A3.....	DE3	XEC Series
XECF-6A.....	DE3	XEC Series
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XECF-704A3.....	DE3	XEC Series
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XECF-806A3.....	DE3	XEC Series
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XECF-904A2.....	DE3	XEC Series
XECF-904A3.....	DE3	XEC Series
XECF-906A2.....	DE3	XEC Series
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XMSW-1BT.....	S20	XMSW Series
XMSW-1CT.....	S20	XMSW Series
XMSW-DBT.....	S20	XMSW Series
XNS-1C.....	C72	XS/XST Series
XNS-1D.....	C72	XS/XST Series
XNS-2C.....	C72	XS/XST Series
XNS-2D.....	C72	XS/XST Series
XNS-3C.....	C72	XS/XST Series
XNS-5C.....	C72	XS/XST Series
XNS-6C.....	C72	XS/XST Series
XNS-7C.....	C72	XS/XST Series
XNS-8C.....	C72	XS/XST Series
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XS-12C.....	C72	XS/XST Series
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XS-21C.....	C72	XS/XST Series
XS-21D.....	C72	XS/XST Series
XS-22C.....	C72	XS/XST Series
XS-22D.....	C72	XS/XST Series
XS-23C.....	C72	XS/XST Series
XS-25C.....	C72	XS/XST Series
XS-26C.....	C72	XS/XST Series
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XS-28C.....	C72	XS/XST Series
XS-2C.....	C72	XS/XST Series
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XS-51C	.C72	XS/XST Series	XSX-22	.S11	XSD/XSX/FXSD/ FXSX Series	YOKK-10287	.C106	G Series
XS-51D	.C72	XS/XST Series	XSX-23	.S11	XSD/XSX/FXSD/ FXSX Series	YOKK-10291	.C106	G Series
XS-52C	.C72	XS/XST Series	XSX-3	.S11	XSD/XSX/FXSD/ FXSX Series	YOKK15214	.C74	XAL/XAS Series
XS-52D	.C72	XS/XST Series	XSX-42	.S11	XSD/XSX/FXSD/ FXSX Series	YOKK-9484-2	.C106	G Series
XS-53C	.C72	XS/XST Series	XSX-43	.S11	XSD/XSX/FXSD/ FXSX Series	YOSD-A.49	.S12	XSD/XSX/FXSD/ FXSX Series
XS-55C	.C72	XS/XST Series	XSX-52	.S11	XSD/XSX/FXSD/ FXSX Series	YOSD-A.54	.S12	XSD/XSX/FXSD/ FXSX Series
XS-56C	.C72	XS/XST Series	XSX-53	.S11	XSD/XSX/FXSD/ FXSX Series	YOSD-A.59	.S12	XSD/XSX/FXSD/ FXSX Series
XS-57C	.C72	XS/XST Series	XT-1	.F136	X/XALB Series	YOSD-A.65	.S12	XSD/XSX/FXSD/ FXSX Series
XS-58C	.C72	XS/XST Series	XT-2	.F136	X/XALB Series	YOSD-A.71	.S12	XSD/XSX/FXSD/ FXSX Series
XS-5C	.C72	XS/XST Series	XT-3	.F136	X/XALB Series	YOSD-A.78	.S12	XSD/XSX/FXSD/ FXSX Series
XS-6C	.C72	XS/XST Series	Y-1	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A.86	.S12	XSD/XSX/FXSD/ FXSX Series
XS-7C	.C72	XS/XST Series	Y-1-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A.95	.S12	XSD/XSX/FXSD/ FXSX Series
XS-8C	.C72	XS/XST Series	Y-1M	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.02	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-01	.S11	XSD/XSX/FXSD/ FXSX Series	Y-1M-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.16	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-02	.S11	XSD/XSX/FXSD/ FXSX Series	Y-2	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.25	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-11	.S11	XSD/XSX/FXSD/ FXSX Series	Y-2-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.39	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-12	.S11	XSD/XSX/FXSD/ FXSX Series	Y-2M	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.54	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-21	.S11	XSD/XSX/FXSD/ FXSX Series	Y-2M-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.63	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-22	.S11	XSD/XSX/FXSD/ FXSX Series	Y-3	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.75	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-41	.S11	XSD/XSX/FXSD/ FXSX Series	Y-3-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.86	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-42	.S11	XSD/XSX/FXSD/ FXSX Series	Y-3M	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A1.99	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-51	.S11	XSD/XSX/FXSD/ FXSX Series	Y-3M-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A11.0	.S12	XSD/XSX/FXSD/ FXSX Series
XSD-52	.S11	XSD/XSX/FXSD/ FXSX Series	Y-4	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A11.9	.S12	XSD/XSX/FXSD/ FXSX Series
XST15-21C	.C72	XS/XST Series	Y-4-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A13.2	.S12	XSD/XSX/FXSD/ FXSX Series
XST15-23C	.C72	XS/XST Series	Y-4M	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A14.1	.S12	XSD/XSX/FXSD/ FXSX Series
XST15-31C	.C72	XS/XST Series	Y-4M-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A14.8	.S12	XSD/XSX/FXSD/ FXSX Series
XST15-33C	.C72	XS/XST Series	Y-5	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A16.2	.S12	XSD/XSX/FXSD/ FXSX Series
XST15-51C	.C72	XS/XST Series	Y-5-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A17.9	.S12	XSD/XSX/FXSD/ FXSX Series
XST15-53C	.C72	XS/XST Series	Y-5M	.F159	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A19.8	.S12	XSD/XSX/FXSD/ FXSX Series
XST15-61C	.C72	XS/XST Series	Y-5M-EX	.F160	FF/MF/MM/BL/ GUFY/Y/EYMF Series	YOSD-A2.15	.S12	XSD/XSX/FXSD/ FXSX Series
XST15-63C	.C72	XS/XST Series	YOKK-10285	.C106	G Series	YOSD-A2.31	.S12	XSD/XSX/FXSD/ FXSX Series
XST20-21C	.C72	XS/XST Series						
XST20-23C	.C72	XS/XST Series						
XST20-31C	.C72	XS/XST Series						
XST20-33C	.C72	XS/XST Series						
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YOSD-A2.81	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH25	S18, S20	B7MSN, XMSW Series	ZN102CR-EX	F192	Z Series
YOSD-A21.3	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH26	S18, S20	B7MSN, XMSW Series	ZN102-EX	F188	Z Series
YOSD-A25.2	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH27	S18, S20	B7MSN, XMSW Series	ZN103	F180	Z Series
YOSD-A3.61	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH28	S18, S20	B7MSN, XMSW Series	ZN103CR	F184	Z Series
YOSD-A3.95	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH29	S18, S20	B7MSN, XMSW Series	ZN103CR-EX	F192	Z Series
YOSD-A4.32	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH30	S18, S20	B7MSN, XMSW Series	ZN103-EX	F188	Z Series
YOSD-A4.79	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH31	S18, S20	B7MSN, XMSW Series	ZN103-EX-MG	F190	Z Series
YOSD-A5.30	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH32	S18, S20	B7MSN, XMSW Series	ZN103-MG	F182	Z Series
YOSD-A5.78	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH33	S18, S20	B7MSN, XMSW Series	ZN103ZP	F176	Z Series STD
YOSD-A6.20	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH34	S18, S20	B7MSN, XMSW Series	ZN105	F180	Z Series
YOSD-A6.99	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH35	S18, S20	B7MSN, XMSW Series	ZN105CR	F184	Z Series
YOSD-A7.65	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH36	S18, S20	B7MSN, XMSW Series	ZN105CR-EX	F192	Z Series
YOSD-A8.38	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH37	S18, S20	B7MSN, XMSW Series	ZN105CR-EX-MG	F194	Z Series
YOSD-A9.25	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH38	S18, S20	B7MSN, XMSW Series	ZN105-EX	F188	Z Series
YOSD-A9.85	S12	XSD/XSX/FXSD/ FXSX Series	YOWEA200-FH39	S18, S20	B7MSN, XMSW Series	ZN105-EX-MG	F190	Z Series
YOSY120MB	C107	G Series	YOWEA200-FH40	S18, S20	B7MSN, XMSW Series	ZN105-MG	F182	Z Series
YOSY24MB	C107	G Series	YOWEA200-FH41	S18, S20	B7MSN, XMSW Series	ZN105ZP	F176	Z Series STD
YOWEA200-FH03	S18, S20	B7MSN, XMSW Series	YOWEA200-FH42	S18, S20	B7MSN, XMSW Series	ZN108	F180	Z Series
YOWEA200-FH04	S18, S20	B7MSN, XMSW Series	YOWEA200-FH43	S18, S20	B7MSN, XMSW Series	ZN108CR	F184	Z Series
YOWEA200-FH05	S18, S20	B7MSN, XMSW Series	YOWEA200-FH44	S18, S20	B7MSN, XMSW Series	ZN108CR-EX	F192	Z Series
YOWEA200-FH06	S18, S20	B7MSN, XMSW Series	YOWEA200-FH45	S18, S20	B7MSN, XMSW Series	ZN108CR-EX-MG	F194	Z Series
YOWEA200-FH07	S18, S20	B7MSN, XMSW Series	YOWEA200-FH46	S18, S20	B7MSN, XMSW Series	ZN108-EX	F188	Z Series
YOWEA200-FH08	S18, S20	B7MSN, XMSW Series	YOWEA200-FH47	S18, S20	B7MSN, XMSW Series	ZN108-EX-MG	F190	Z Series
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Hazardous Locations

Hazardous Locations include areas where the risk of a fire or explosion may exist due to the presence of flammable gases, vapors or liquids, combustible dust, or easily ignitable fibers or flyings. While these materials can be found almost anywhere, they are usually present in quantities far less than what is required for a fire or explosion hazard to occur.

Since the broad definition of hazardous location includes any location where these materials are processed, handled, or used areas are defined based on a risk assessment that considers the amount of material that may be present in the air in sufficient quantities for an explosion to occur. A simple example would be an outdoor propane grill that “uses” propane cylinders as the heat source, the grill and surrounding areas are not classified as a hazardous location because the risk of an explosion occurring is negligible. However, a facility that fills propane cylinders would be due to the filling process and volume of gas present.

The terms used to define hazardous areas identified in Codes and Standards for electrical installations:

- International Electrotechnical Commission® (IEC) uses the term “Explosive Atmospheres”.
- The National Electrical Code® (NEC) uses the term “Hazardous (Classified) Locations”.
* US Standards use the term “Explosive Atmospheres” for Zone Equipment and Hazardous Locations for Class/Division Equipment.
- Canadian Electrical Code® (CE Code) uses the term “Explosive Atmospheres” for the Zone System (Sections 18 and 20) and equipment and Hazardous Locations for the Class/Division System (in Annex J18 and J20) and equipment.

From an electrical installation perspective, areas identified as hazardous locations do not include all “explosive materials”. The NEC®, CE Code® and IEC® specifically exclude high explosives such as propellants, explosives, munitions, peroxides, oxidizers, pyrophoric, and pyrotechnics materials (such as fireworks) and water-reactive elements or compounds.

NOTE: There are National regulations that address the manufacturing, handling and use of high explosives. While some regulations may mandate the use of electrical equipment suitable for hazardous locations, it is simply to provide a higher level of safety than general-purpose equipment. Hazardous location electrical equipment is not designed or tested to withstand the risks associated with high explosives.

Area Classification

All facilities that process, handle, or use flammable gases, vapors or liquids, combustible dusts, or ignitable fibers or flyings are required to have an area classification performed and documented. (The specific rules, applicable Codes and Standards, other requirements and legislation depends on the local authority having jurisdiction over such facilities).

Area classification is essentially a risk assessment. It is a detailed evaluation that considers multiple factors such as the materials expected to be present, their physical properties, ignition temperatures, sources of release, velocity of release, dispersion patterns, mitigation measures (such as ventilation and gas detection), surrounding atmosphere and wind patterns, etc. and lightning protection.

Several industry guidelines recommend area classification be carried out by those who understand the properties of flammable materials and those familiar with the process and the equipment in consultation with safety, electrical, mechanical and other qualified engineering personnel. In some jurisdictions, those performing the area classification are required to have third party credentials (e.g., IECEx CoPC, CompEx, etc.) to verify that they are competent to perform this task. In all cases, common sense, experience and sound engineering judgement are extremely important when defining and documenting an area classification.

An accurate area classification is critical for selecting electrical equipment that is suitable for the location, determining the appropriate installation requirements, defining any mandatory maintenance procedures, personnel health and safety requirements, issuing work permits, vehicle access, etc.

While not a complete list, the following are examples of commonly used documents that provide guidance on area classification:

- **FOR EXPLOSIVE GAS ATMOSPHERES:** American Petroleum Institute (API) RP 500 and RP 505, National Fire Protection Association (NFPA) 497, IEC 60079-10-1, Energy Institute Code of Practice (Part 15)
- **FOR EXPLOSIVE DUST ATMOSPHERES:** NFPA 499, 654, and IEC 6007910-2
- **FOR SPECIFIC TYPES OF FACILITIES WITH EXPLOSIVE ATMOSPHERES:** NFPA 664 (Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities), NFPA 829 (Standard for Fire Protection in Wastewater Treatment and Collection Facilities). ANSI/CAN/UL/ULC 1389 (Plant Oil Extraction Facilities i.e., Cannabis Operations).

General Information on Hazardous Locations

Electrical codes and equipment standards for hazardous locations have evolved into two different systems.

In North America, hazardous areas were first identified in the electrical codes in the 1920s and in the 1930s the “Class/Division System” was introduced. Similar systems emerged in other countries around the same time. Work began by the International Electrotechnical Commission® (IEC) on a different system in the 1960s that used the term “Zone” that is different than the Class/Division systems.

The Class/Division System separates hazardous locations into three “Classes” based on physical properties of the material that may be present. Each “Class” is separated into two “Divisions” based on the risk that the explosive material is present in sufficient quantities for an explosion to occur. It further separates the materials into multiple “Groups” based on their physical properties. In contrast, the Zone System separates the same materials into two material types, “gases” and “dusts”, and defines three areas of risk that the explosive material is present in sufficient quantities for an explosion to occur.

While there are some slight country specific differences, the rest of the world uses the “Zone System” which is based on the IEC 60079 Series of Standards.

The United States and Canada are similar (but not identical) in their hazardous area requirements, including area classification, product standards and acceptable wiring methods. While specific requirements differ, both the United States and Canada have incorporated the IEC Zone System of Area Classification into their electrical codes.

Both the Class/Division system and Zone system provide effective solutions for electrical equipment used in hazardous locations and both have excellent safety records.

In the United States, NEC Articles 500 through 517 contain the installation Rules for Hazardous (Classified) Locations which permits the use of either the Division System or Zone System.

INTRODUCTION

HAZARDOUS LOCATION DATA

In Canada, the Canadian Electrical Code (CE Code), Part 1 - Section 18 contains the installation Rules for Explosive Atmospheres and mandates the use of the Zone system for all new construction. Facilities constructed before the introduction of the Zone System, are permitted to continue using the CE Code, Part 1 - Annex J18 that addresses the Class/Division System.

The introduction of the Zone System into both the NEC and CE Code identified areas using "Class-Zone" to align with "Class/Division". In 2015, the CE Code removed the term "Class" when referring to the "Zone" System, the NEC followed in 2020. Both Codes continue to use "Class" when referring to Class/Division locations.

Class/Division System - Material Definition

CLASS I - locations are those in which flammable gases, flammable liquid-produced vapors, or combustible liquid-produced vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

CLASS II - locations that are hazardous because of the presence of combustible dust.

CLASS III - location in which easily ignitable fibers/flyings are handled, manufactured, or used.

Zone System - Material Definition

EXPLOSIVE ATMOSPHERES - mixture with air, under atmospheric conditions, of flammable substances in the form of gas, vapor, dust, fibers, or flyings which, after ignition, permits self-sustaining propagation.

EXPLOSIVE GAS ATMOSPHERES - a mixture with air, under atmospheric conditions, of flammable substances in the form of gas, vapor, or mist in which, after ignition, combustion spreads throughout the unconsumed mixture.

EXPLOSIVE DUST ATMOSPHERE - mixture with air, under atmospheric conditions, of flammable substances in the form of dust, fibers, or flyings which, after ignition, permits self-sustaining propagation.

NOTE: The Zone System for Explosive Dust Atmospheres incorporates Class III easily ignitable fibers/flyings.

The table below provides a simple comparison between the "Class/Division" System and the "Zone" System.

EXPLOSIVE ATMOSPHERE	CLASS/DIVISION SYSTEM	ZONE SYSTEM
Gases and Vapors	Class I	Explosive Gas Atmospheres, Zones 0, 1 and 2
Combustible Dusts	Class II	Explosive Dust Atmospheres, Zones 20, 21 and 22
Easily Ignited Fibers & Flyings	Class III	

General Properties of Hazardous Location Materials

Simply because hazardous location materials are present does not mean that the conditions necessary for an explosion to occur also exist. With explosive materials several other factors must occur simultaneously to result in an explosion. Larger dust particles are referred to as fibers and flyings. While there is no serious risk of an explosion with fibers and flyings, if sufficient material is present, there is the risk of a flash fire, which spreads at near explosive speeds.

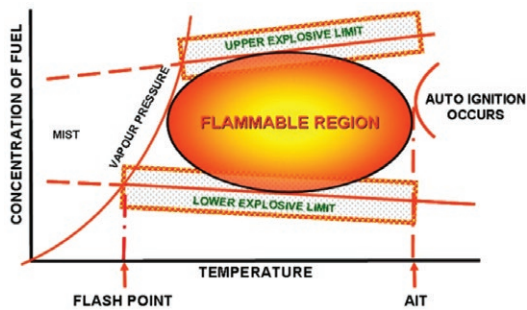
Although there is the risk of an explosion with both explosive gas and dust materials, the factors required for that to occur are somewhat different. In both cases the material needs to mix with air (to provide the oxygen required), be in specific fuel to air concentrations (flammable limits), and then encounter an ignition source with sufficient energy to start an explosion.

The physical properties of gases and vapors allow them to easily mix with air whereas dusts tend to settle on surfaces. If gas is released into the atmosphere it can rise, settle, or linger in the air around, based on the vapor density, and dispersion depends on the air movement in the area. For a dust to form an explosive cloud it needs to be suspended. This can take place in process equipment, leaking equipment, or by strong air movement which could be caused by a smaller explosion.

HAZARDOUS LOCATION DATA

Flammable Limits

With all flammable gases or vapors there is a minimum and maximum concentration in oxygen (air) beyond at which an explosion cannot occur. These minimum and maximum concentrations are called the flammable or explosive limits. If the mixture has too little fuel (a lean mixture) or if there is too much fuel (a rich mixture), it cannot be ignited or cause an explosion. The flammable limits of gases and vapors are usually measured in percentage in air, by volume and referred to as the lower explosive limit (LEL) and upper explosive limit (UEL). Some materials have very broad flammable limits, whereas others have very narrow flammable limits.



While combustible dusts suspended in air have measurable lower flammable limits, there is no finite upper limit; even as the dust approaches the density of the solid material from which it originates. The lower explosive limit for combustible dust suspended in air is usually so dense that visibility beyond one or two meters is impossible. The lower flammable limit of dust air mixtures is usually measured in ounces per cubic foot.

Oxygen

For an explosion to occur oxygen must be present and be mixed within the explosive limits of a fuel. While sufficient oxygen is usually available in the air around us, it is not the only source. For example, a mixture of the (now seldom used) aesthetic gases, ethyl ether, and nitrous oxide can produce violent explosions because oxygen is provided by the nitrous oxide.

If the oxygen concentration exceeds that normally found in air (21% by volume) flammable limits are normally expanded and the ignition energy needed to cause an ignition decreases. An explosion with increased oxygen is often considerably more violent than if the oxygen concentration had been the same as in air.

The Fire Triangle

For a fire or explosion to occur, three conditions must exist in the correct combination.

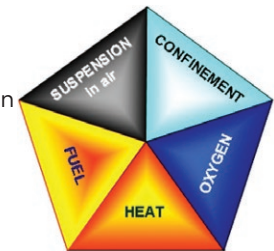


- There must be a fuel (flammable gas or vapor) in ignitable quantities
- There must be an ignition source (heat or a spark) with sufficient energy to cause the material to ignite
- There must be oxygen present (e.g., oxygen in air)

By removing any one or more of these three components, it is impossible for a fire or explosion to occur. This is the basis of the various methods of protection used in the design of electrical equipment permitted for use in hazardous locations.

The Dust Pentagon

The fire triangle indicates the conditions required for combustion for gases and vapors. Dust explosions however require two other factors to sustain an explosion: suspension and containment. This is called the Dust Pentagon.



- There must be a fuel (combustible dust) in ignitable quantities
- There must be an ignition source (heat or spark) with sufficient energy to cause the material to ignite
- There must be oxygen present (e.g., oxygen in air)
- The dust must be suspended in air
- The area must be confined (e.g., inside a building)

While dust that is not suspended in air may pose fire risk, it will not normally explode. Catastrophic dust explosions differ from those involving gases and vapors. With dust, a fire could result in an initial explosion in processing equipment or confined location (such as a dust collection system). This can cause any accumulations of dust in the area to become dispersed in the air which would result in a secondary, far more powerful explosion. Should subsequent explosions occur, the dust dispersion could increase, and intensity of the explosions also increases.

As with the Fire Triangle, eliminating of one of the components of the Dust Explosion Pentagon can prevent an explosion from happening. In most Class II locations, the elimination of oxygen or confinement by buildings or process equipment is difficult to eliminate. However, the other components of the Dust Pentagon can be controlled through proper design, operation and maintenance. Good housekeeping is extremely important in the prevention of dust explosions.

Hazardous Location – Area Classification for Explosive Gas Atmospheres

Class I locations are those in which flammable gases vapors or mists are, or may be, present in the air in quantities sufficient to produce explosive or ignitable mixtures.

Hazardous Locations or Explosive Gas Atmospheres are defined as those in which flammable gases or vapors are, or may be, present in the air in quantities sufficient to produce an explosive gas atmosphere. The use of the two similar terms, 'gas' and 'vapor' is intended to differentiate between a gas as being in the gaseous state such as hydrogen or methane, and a vapor that flashes off (rises) from a liquid such as gasoline under normal atmospheric conditions.

General

The subdivision of Class I locations into Zones or Divisions is based on the probability of an explosive material being present in sufficient quantities for an explosion to occur. If the risk is extremely low, the location may be considered a non-hazardous location. A good example of a low-risk area is a family residence that uses a natural gas or propane furnace for heating. The gas could, and on extremely rare occasions does, leak into the home and encounter an ignition source which can result in an explosion, often with devastating consequences. However, since the risk is so low, because of the safety systems built into the gas supply and equipment, these areas are not classified as "hazardous locations".

Unclassified Locations

The NEC defines these locations as those *"determined to be neither Class I, Division 1; Class I, Division 2; Zone 0; Zone 1; Zone 2; Class II, Division 1; Class II, Division 2; Class III, Division 1; Class III, Division 2; Zone 20; Zone 21; Zone 22; nor any combination thereof."*

The American Petroleum Institute (API) adds to this, *"there are locations that contain explosive gases or vapors that are not necessarily classified. This would include all-welded closed piping systems or continuous metallic tubing without valves, flanges and containers or vessels used for storage or transport of materials that are Department of Transport (DOT) approved for that purpose."*

Ordinary locations (CE Code)

The Canadian Electrical Code uses the term "Ordinary Locations" instead of "Unclassified Locations". The CE Code defines "Ordinary Locations" as "a dry location in which, at normal atmospheric pressure and under normal conditions or use, electrical equipment is not unduly exposed to damage from mechanical causes, excessive dust, moisture, or extreme temperatures, and in which electrical equipment is entirely free from the possibility of damage through corrosive, flammable, or explosive atmospheres."

The CE Code also identifies Damp, Dry, Outdoor and Wet Locations which are also "unclassified locations".

Class I, Division System Area Classification Definitions

Class I, Division 1

Class I, Division 1 locations are defined as those in which hazardous concentrations of flammable gases or vapors exist continuously, intermittently, or periodically under normal operating conditions. This is a very broad definition as there are no times associated with (intermittently) or (periodically), so it is open to interpretation.

Class I, Division 1 also includes areas where explosive material may exist frequently due to regular repair or maintenance operations, normal leakage, and locations where the breakdown or faulty operation of electrical equipment or processes may release ignitable concentrations of flammable gases or vapors.

An example of such a location might be an area where a flammable liquid is stored under cryogenic conditions. A leak of the extremely low temperature liquid directly onto electrical equipment could cause failure of the electrical equipment. Simultaneously, vapors from the evaporating liquid could be within the flammable range.

HAZARDOUS LOCATION DATA

Class I, Division 2

Class I Division 2 areas are defined as “areas where flammable volatile liquids, flammable gases, or vapors are, processed, handled or used, but in which the liquids, gases, or vapors are normally confined within closed containers or closed systems from which they can escape only as a result of accidental rupture or breakdown of the containers or systems or the abnormal operation of the equipment”. Or, “where hazardous concentrations of gases or vapors are normally prevented by positive mechanical ventilation, but which may become hazardous as the result of failure or abnormal operation of the ventilating equipment”.

Zone System (Explosive Gas Atmospheres) Area Classification Definitions

Zone 0

Areas in which an explosive gas atmosphere is present continuously, or for long periods, or frequently

NOTE: Zone 0 would include the most dangerous areas defined as Class I, Division 1. Some documents recommend against the use of electrical equipment in certain Class I, Division 1 locations.

Zone 1

Areas in which an explosive gas atmosphere is likely to occur occasionally in normal operation

NOTE: Zone 1 is similar to the majority of Class I, Division 1 locations but excludes the highest risk locations. By omitting Zone 0 locations, Zone 1 allows for other types of equipment protection to be used.

Zone 2

Areas in which an explosive gas atmosphere is not likely to occur in normal operation, but if it does occur, will persist for a short period only

NOTE: These locations are basically identical to Class I, Division 2 locations.

Comparing the Class/Division and Zone System Area Classification for Explosive Gas Atmospheres

Both Class/Division and Zone area classification is based on “normal operation” and do not consider “catastrophic failures”.

Class I, Division 1, Zone 0, and Zone 1 all represent the areas with highest probability that an explosive gas atmosphere may develop in normal operation. Class I, Division 1 identifies areas where the hazard is expected to occur during normal operation and will be present continuously, periodically, or intermittently.

The Zone System Area Classification separates Class I, Division 1 into two different Zones based on how long the material is expected to be present and the associated risks. Zone 0 areas are those where the material is expected to be present continuously. Zone 1 areas are those where the material is expected to be present periodically or intermittently.

NOTE: The definitions for continuously, periodically, and intermittently are somewhat subjective. There are multiple documents to assist users in developing an area classification for the Class/Division System. Some documents for the Zone System include guidelines based on hours per year to define the various Zones. In all cases, sound engineering judgement and experience are important.

The lower risk areas of Class I, Division 2 and Zone 2 are basically identical. Both consider areas where the material is not expected to be present in sufficient quantities for an explosion to occur under “normal operating conditions” and if a release does occur it will exist only for a “short period of time”. Again, what constitutes abnormal conditions and short period of time can be somewhat subjective.

Although the hours identified in the Zone System could be applied to the Class/Division system, these are not intended as absolute numbers. For example, while an area where the material is in explosive range more than 1000 hours per year would be identified as Zone 0, that doesn't mean an area that is likely to be in the same range for over 900 hours per year should be identified as Zone 1. Similarly, if the probability of a gas release in a building was extremely low, it would likely be identified as Zone 2 based on the 10 hours per year limit. However, for unmanned facilities in remote locations, it would likely take longer than ten hours for personnel to reach the location to take corrective action which would justify a higher area classification.

INTRODUCTION HAZARDOUS LOCATION DATA

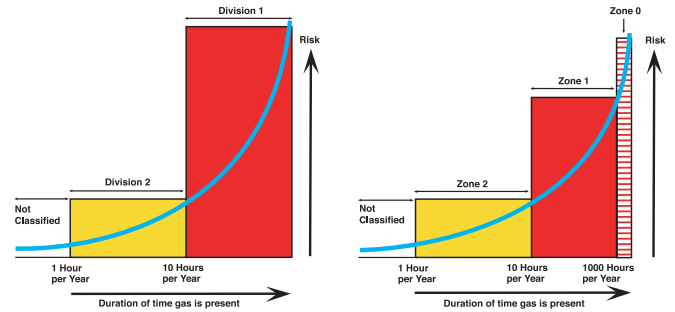
It is also important to consider the boundaries between hazardous areas. Zone 2 or Division 2 locations normally exist adjacent to Zone 1 or Division 1 locations (unless separated by an impervious barrier or partition). If the area classification depends on artificial ventilation, a failure of the system would allow the flammable material to migrate into lower classified or even unclassified locations.

TYPE OR GRADE OF RELEASE	ZONE	FLAMMABLE MIXTURE PRESENT
Continuous	0	1000 hours per year or more (10%)
Primary	1	Between 10 and 1000 hours per year or more (0.1% to 10%)
Secondary	2	Less than 10 hours per year (0.01% to 0.1%)
Unclassified		Less than 1 hour per year (Less than 0.01%)*

The above is a combination of Tables 2 and 3 from API RP505

**Some controversy surrounds the 1 hour per year figure. The IEC does not define hours per year.*

The illustrations below compare the similarities and differences between the Division System and the Zone System. Essentially, the greater the amount of material involved or longer the time it is present, the higher the risk.



The key difference between the two systems is that the Zone system looks at the areas with the highest level of risk. Over 1000 hours per year is identified as “Zone 0”, and 10 to 1000 hours per year as “Zone 1”. The Class I, Division 1 higher risk areas are the combination of Zones 0 and 1. The criteria used to identify the lower risk areas of Zone 2 and Division 2 is virtually identical.

The table below provides a comparison between the “Class/Division” System and the “Zone” System.

CLASS I	DIVISION SYSTEM	ZONE SYSTEM	NOTES:
Gases and Vapors	Division 1	Zone 0	Zone 0 locations are a typically less than 1% of hazardous locations in a facility.
		Zone 1	While the wiring practices and acceptable products differ, Zone 1 encompasses most of Class I, Division 1.
	Division 2	Zone 2	Zone 2 and Class I, Division 2 are essentially the same

Hazardous Location – Gas Material Groups

In terms of physical properties, each gas has specific properties that includes ignition temperature, flash point, flammable limits, minimum ignition energy and specific gravities (how they move in air). Gases or vapors are categorized by two common factors; the minimum amount of energy required for them to ignite, and the maximum gap, between two flat surfaces, an exploding gas can pass through without igniting a surrounding atmosphere of the same gas.

Minimum Ignition Energy (MIE) is the minimum energy input required to initiate combustion. This is the smallest amount of energy stored in a capacitor that when discharged across a spark gap can ignite a stoichiometric mixture of the gas. All hazardous location materials have a minimum ignition energy that is specific to its chemical or mixture, the concentration, pressure, and temperature.

Minimum Ignition Current (MIC) is the smallest amount of current flowing in a circuit that will cause a spark when the current flow is interrupted which cause an explosion in a fuel oxygen mixture. Minimum ignition current can come from multiple sources which includes discharge of a capacitive circuit, interruption of an inductive circuit, intermittent making and breaking of a resistive circuit, or hot wire fusing. If the MIC of a material is known, electrical circuits can be designed so that any sparks created do not have enough energy to cause an explosion. Controlling the spark energy is the basic concept in intrinsically safe and non-inductive equipment.

Maximum Experimental Safe Gap (MESG) is maximum spacing between flat surfaces of a specified width in experimental test equipment that will prevent the propagation of an explosion from inside the explosion test chamber to a surrounding flammable atmosphere. The MESG is determined using a testing chamber such as the Westerberg Explosion Test Vessel. A similar, but not identical, method to determine MESG is defined in IEC 60079-20-1 (*Material characteristics for gas and vapor classification - Test methods and data*).

While there are slight discrepancies between the North American and IEC values, the intent is basically the same. The reasons for the differences are the introduction of new test parameters and rounding. When North America adjusted their evaluation methods, the definition for some materials also changed. The committees responsible for those changes decided not to reclassify the materials. This is the primary reason some gases in the division system are not aligned with those in the Zone system.

While an area classification is based on the specific types of material present, electrical equipment is tested and approved for use in multiple explosive gas atmospheres. Without gas groups, the certification of electrical equipment would be extremely difficult, and the cost would be prohibitive.

This allows multiple gasses and vapors to be “grouped” together based on their “Minimum Igniting Current (MIC) Ratio” and the “Maximum Experimental Safe Gap (MESG)” between surfaces that will allow an explosion to propagate from a contained atmosphere, such as an enclosure, to an outer atmosphere. These are measured based on the “most easily ignited” or “stoichiometric” gas-air mixture ratio. The ignition energy required increases as the percent air/mixture ratio deviates from the stoichiometric ratio.

The grouping is therefore based on the two key factors; maximum gap an exploding gas can pass through is based on laboratory tests performed in an apparatus, which varies both the width and gap of a joint and the pressure rise caused by an explosion.

HAZARDOUS LOCATION DATA

Class/Division – Material (Gas) Groups (Groups A, B, C, & D)

Material identification

Group A

The highest explosion pressures of the materials grouped are generated by acetylene, the only material in Group A. Thus, explosionproof equipment designed for Group A must be very strong to withstand the explosion pressures generated and must have a very small gap between joint surfaces. Equipment suitable for Group A is more difficult to design, resulting in less explosionproof equipment listed for this Group than other Groups.

Group B

Group B materials produce lower explosion pressures than acetylene. This allows explosionproof enclosures for Group B to be less robust than those designed for Group A. Because of the high explosion pressures in Groups A and B, and the small gaps permitted between mating surfaces to prevent propagation of an explosion, there are no explosionproof motors listed for use in either Group A or B locations.

Group C

The chemical materials in Group C fall within the range between Groups B and D in both the explosion pressures generated and the gap between mating surfaces of explosion proof equipment that will prevent an explosion.

Group D

Group D is the most common group encountered in the field, and there is more equipment available for this group than for any other group.

Zone System – Material (Gas) Groups (IIC, IIB, IIB+H2 & IIA)

Zone Gas Groups General information

The Zone gas groups are based on the IEC and prefixed by “II” which means equipment intended for surface industries. The prefix “I” identifies equipment intended for underground coal mining. Since the NEC does not deal with mining; references to “I” are excluded.

Group IIC

(Basically, the combination of the Division system Groups A and B) includes materials such as acetylene, butadiene, propylene oxide, carbon disulphide or hydrogen or other gases or vapors of equivalent hazard. The majority of Zone equipment is designed for IIC.

Group IIB

(Basically, the same as Division System Group C) includes materials such as cyclopropane, diethyl ether, ethylene, ethylene oxide, hydrogen sulfide, or unsymmetrical dimethyl hydrazine (UDMH), or other gases or vapors of equivalent hazard.

Group IIB +Hydrogen (or IIB+H2)

The identification of Group IIB +Hydrogen excludes acetylene and equates to the Division System Group B definition. The issue was that acetylene explosion will propagate through any flat joint. Group IIB+H2 was introduced to allow for enclosure for hydrogen atmospheres that do not propagate through properly designed flat joints.

Group IIA

(Basically, the same as Division System Group D) includes materials such as acetaldehyde, acetone, alcohol, ammonia, benzene, butane, gasoline, hexane, isoprene, lacquer solvent vapors, natural gas, propane, propylene, styrene, vinyl chloride, xylenes, or other gases or vapor of equivalent hazard.

HAZARDOUS LOCATION DATA

Comparing Class/Division & Zone System Gas groups

The first definitions of flammable gases in North American Standards appeared in 1935 and were based on theoretical calculations. In the 1960s an engineer at UL developed an instrument called the Westerberg Explosion Test Vessel that could vary gap and joint width dimensions of a chamber to perform an actual test. In the early 1970s, the IEC® developed a different test vessel that could perform the same test. Although most of the results were similar, they were not identical. Both Systems grouped materials based on the test results.

In the 1997 Edition of NFPA 497 a new method to estimate the group classification of a mixture was introduced. While some materials, mostly Groups C and D, no longer met the new definitions exactly, based on the safety of historical practices, the standard committee decided not to reclassify them.

This results in slight differences in how gases are identified in the Zone system versus the same gas in the Division System. For purposes of increasing equipment selection in North America, the area classification should identify both the Zone and Division gas group.

GAS GROUPS	
DIVISION	ZONE
A	IIC
B	
B*	(IIB + H ₂)
C	IIB
D	IIA

* Added to accommodate equipment that excluded acetylene atmospheres

COMPARISON OF DIVISION AND ZONE SYSTEM GAS GROUPS EVALUATION					
DIVISION SYSTEM			ZONE SYSTEM		
Group	MESG (mm)	MIC Ratio	Group	MESG (mm)	MIC
Not Classified	< 0.076 (e.g. Carbon Disulphide)		IIC	≤ 0.50	≤ 0.45
A	Acetylene (Has same MESG and MIC Ratio as group B, but generates much higher explosive pressures)				
B	> 0.076	≤ 0.40			
	≤ 0.45				
C	> 0.45	> 0.40	IIB	> 0.50	> 0.45
	≤ 0.75	≤ 0.80		≤ 0.90	≤ 0.80
D	> 0.75	> 0.80	IIA	> 0.90	> 0.80

HAZARDOUS LOCATION DATA

Hazardous Location – Temperature Considerations

Ambient Temperature

The ambient temperature is the surrounding temperature of the environment in which a piece of equipment is installed, whether it is indoors or outdoors. Certain heat producing equipment such as lighting fixtures list a Temperature Code or T-Code at a given ambient temperature. (See below)

A heat producing product is considered acceptable for the location, provided the minimum ignition temperature of the hazardous material present and the ambient temperature of the location do not exceed the limits set by the manufacturer. If the ambient temperature is higher than the maximum stated on the name plate, it might still be acceptable to use the product under certain conditions, provided the minimum ignition temperature of the hazardous material has not been exceeded. In all cases, consult the factory for assistance.

Operating Temperature

The rated operating temperature for hazardous (classified) products is determined by conducting laboratory test in an ambient temperature of 40°C. Products certified by the various agencies consider products certified to their standards to be suitable for different temperature ranges. The range for the range for UL is -25°C to +40°C, the range for CSA is -50°C to +40°C, and the range for IEC is -20°C to +40°C.

Temperature Code or T-Code

The “Temperature Code” or “T-Code” identifies the hottest surfaces of a product, measured during testing, that could encounter an explosive atmosphere.

The autoignition temperature (AIT) is the minimum temperature that will cause an explosive material to ignite without a spark or flame. The lowest published ignition temperature for a material is used to determine the acceptability of equipment.

Use of the T-Code allows the user to select equipment for multiple hazardous materials that may have different autoignition temperatures. In some cases, the NEC requires the T-Code marked on a product to be reduced by 80% for additional safety. In North America, a T-Code must be marked on all equipment where any exposed surface exceeds 100°C. This is different to IEC (Zone) equipment where the T-Code is always marked on the product.

There is a relationship between the ambient temperature where the equipment is being used and the T-Code and the various product Standards identify a specific ambient temperature range for which the equipment is suitable. Products are often tested for a different ambient temperature based on market need. For example, the standard ambient temperature range for Zone equipment is -20°C to +40°C but it is common to find equipment suitable for a different range such as -50°C to +60°C.

All heat-producing electrical equipment such as lighting fixtures, motors, electrical trace heating, etc. must operate below the autoignition temperature of the explosive materials in the surrounding area.

Where a product does not align with ambient range, there is a somewhat linear relationship between it and T-Code that is occasionally considered. For example, a product that indicates T-2 (300°C) at a 40°C ambient would increase the surface temperatures to approximately 310°C at a 50°C ambient, which might be acceptable to the user in certain cases. This is only a rule of thumb and does not consider the effect of a higher ambient on the performance or life of the product. Operating equipment above the maximum ambient temperature marked on the product should not be done without consulting the manufacturer.

The T-Codes used in the Division System are slightly different from those in the Zone System. While the basic numeric values are identical, the Division System has additional temperature levels which are not used in the Zone System. Internationally only Canada permits the use of the additional levels for both Division and Zone locations.

TEMPERATURE CODES NEC (DIV.) & CEC (DIV./ ZONE)	TEMPERATURE CODES (ZONES) NEC/IEC/ ATEX	MAXIMUM TEMPERATURE	
		°C	°F
T1	T1	450	842
T2	T2	300	572
T2A	–	280	536
T2B	–	260	500
T2C	–	230	446
T2D	–	215	419
T3	T3	200	392
T3A	–	180	356
T3B	–	165	329
T3C	–	160	320
T4	T4	135	275
T4A	–	120	248
T5	T5	100	212
T6	T6	85	185

Hazardous Location – Area Classification for Explosive Dust Atmospheres

North America – General Information

The NEC and CE Code contain two systems that deal with combustible or explosive dusts. Similar to the Rules for explosive gas atmospheres, the NEC allows the user to use either the Class/Division System or Zone System. The CE Code mandates use of the Zone System for all new construction, with facilities constructed before the introduction of the Zone System for dust atmospheres being permitted to continue using the Class/Division Rules.

NEC Article 502 contains the Rules for areas classified using the Division System and Article 506 contains the Rules for the Zone System. The CE Code uses Section 18 for the Zone Rules and Annex J18 for the Division Rules.

Similar to Class I locations, Class II locations are separated into Divisions or Zones based on the likelihood combustible dust being suspended in the atmosphere in sufficient quantities to produce ignitable mixtures or where a failure or abnormal operation of equipment might produce a hazardous concentration of dust.

Unlike gases and vapors, particle size is a key factor in identifying Class II materials. The definition of a Class II dust is any finely divided solid material that is 420 microns or smaller in diameter (material passing through a No. 40 Standard Sieve) and presents a fire or explosion hazard when dispersed and ignited in air.

An example of the importance of particle size is wood; a log could burn but not explode, and the size of the wood decreases so does its ability to burn. When the wood reaches the size of a fine sawdust is it easier for it to become suspended in air at which point it can become highly explosive.

Class II, Division System Area Classification Definitions

Class II, Division 1

A Class II, Division 1 location is one where combustible dust is normally in suspension in the air in sufficient quantities to produce ignitable mixtures, or where mechanical failure or abnormal operation of equipment or machinery might cause an explosive or ignitable dust-air mixture to be produced and might also provide a source of ignition through simultaneous failure of electrical equipment.



Typical Class II Dust Location

Class II, Division 2

A Class II, Division 2 location is one where combustible dust is not normally in the air in quantities sufficient to produce explosive or ignitable mixtures, and dust accumulations are not normally sufficient to interfere with the normal operation of electrical equipment, such as clogging ventilating openings or causing bearing failure. It includes locations where combustible dust may be in suspension in the air only as a result of infrequent malfunctioning of handling or processing equipment, and those locations where dust accumulation may be on or in the vicinity of the electrical equipment and may be sufficient to interfere with the safe dissipation of heat from the equipment, or may be ignitable by abnormal operation or failure of the electrical equipment.

GUIDE TO CLASSIFICATION OF CLASS II LOCATIONS BY DIVISION*		
THICKNESS OF DUST LAYER ON EQUIPMENT**	DUST GROUP	DIVISION
Greater than 1/8 in.	E, F, G	1
1/8 in or less but surface color not discernible	E	1
1/8 in or less but surface color not discernible	F, G	2
1/8 in or less and surface color discernible under dust layer	E, F, G	non-classified

* From NFPA 497B

** Based on build-up of dust level in a 24-hr period on the major portions of the horizontal surfaces.

HAZARDOUS LOCATION DATA

Zone System (Explosive Dust Atmospheres) Area Classification Definitions

The North American Class/Division system for dusts (Class II) is quite different to the IEC system for Explosive Dust Atmospheres. In 2005 the NEC added Rules for Explosive Dust Atmospheres in Article 506, and in 2015 the CE Code similar Rules to Section 18. Similar to how the adoption of IEC System for Explosive Gas Atmospheres the NEC permits use of either the Class/Division System or Zone System, whereas in Section 18 the CE Code mandates the use of the Zone System for all new construction and allows existing facilities to continue to use the Class/Division Rules in Annex J.

Perhaps the most significant difference between the systems is that the Zone system includes both Class II (dusts) and Class III (easily ignited fibers and flyings).

Like the system for Explosive Gas Atmospheres, the Zone system for combustible dusts has three levels of hazard as opposed to the 2 levels of hazard in the Class/Division system.

Zone 20

Area in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously, or for long periods or frequently.

Zone 21

Area in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.

Zone 22

Area in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

CLASS II SYSTEM DUST AND CLASS III FIBERS AND FLYINGS	ZONE SYSTEM FOR EXPLOSIVE DUST ATMOSPHERES
Class II, Divisions 1 & 2	Zones 20, 21, 22
Class III, Divisions 1 & 2	



Hazardous Location – Gas Material Groups

Class II – Material (Dust) Groups (E, F and G)

Class II substances are divided into three groups for similar reasons to those of Class I materials, equipment design and area classification. Class II groups are based on different characteristics than those of Class I, given the requirements for an explosion to occur and the protection methods required for equipment. In Class II locations the ignition temperature, the electrical conductivity, and the thermal blanketing effect of the dust are critical when dealing with heat-producing equipment, such as lighting fixtures and motors. It is these factors which are the deciding factors in determining the Class II groups.

Group E

This includes metal dusts, such as aluminums and magnesium. These dusts are highly abrasive and can cause overheating in equipment such as motor bearings, and if allowed to enter an enclosure, metal dusts are likely to cause an electrical fault in the equipment. Since Group E dust have the potential to be the source of the equipment failure, source of ignition and fuel for an explosion simultaneously, any accumulation is normally considered to be Division 1.

Group F

These are carbonaceous, the primary dust in this group being coal dust. These dusts have somewhat lower ignition temperatures than those in Group E and a higher thermal insulating value than a layer of a Group E dust. Therefore, Group F dusts require careful control of the temperature on the surface of electrical equipment to prevent an explosion. Such dusts are semi-conductive, which is not usually an issue when dealing with equipment rated 600 volts or less.

Group G

This includes plastic dusts, most chemical dusts, and food and grain dusts. These are not electrically conductive. Group G dusts generally have the highest thermal insulating characteristics and the lowest ignition temperatures. Electrical equipment for use in Group G atmospheres must have very low surface temperatures to prevent ignition of a dust layer by the heat generated within the equipment.

While it is common for Class I products to be certified for use in Class II locations, it is not always the case. Given the different design requirements, equipment suitable for Class I locations are not necessarily suitable for Class II locations, nor is equipment suitable for Class II locations necessarily suitable for Class I locations. Equipment must be designed, approved and marked for use in specific hazardous locations.

Manufacturers typically develop equipment to suit a wide range of hazardous locations to be more cost effective. The equipment is marked as such and may have different temperature limitations on heat producing devices for different types of hazardous material. As always, care must be taken in selecting equipment for any hazardous location.

Temperature Restrictions

In Class II areas all products must operate at temperatures as shown below based on whether they are heat producing or subject to overloading or not and based on the Group which they fall under. Class III products in all cases must operate below 165°C.

TEMPERATURE RESTRICTIONS						
Class II Groups	EQUIPMENT THAT IS NOT SUBJECT TO OVERLOADING		EQUIPMENT (SUCH AS MOTORS OR POWER TRANSFORMERS)			
	°C	°F	NORMAL OPERATION		ABNORMAL OPERATION	
	°C	°F	°C	°F	°C	°F
E	200	392	200	392	200	392
F	200	392	150	302	200	392
G	165	329	120	248	165	329

HAZARDOUS LOCATION DATA

Zone System – Material (Dust) Groups (IIA, IIB, IIC)

Zone Dust Groups General information

The Zone explosive dust groups are based on the IEC and prefixed by “III”. Underground mining uses the same Dust Groups.

Note: the NEC does not deal with mining; references to “I” are excluded.

Group IIIC

Combustible dust with electrical resistivity equal to or less than 103 Ω·m

NOTE: Metal dust is treated as conductive dust because it is assumed that surface oxidation cannot be depended upon to always ensure electrical resistivity greater than $1 \times 10^3 \Omega \cdot m$.

Group III includes metal dusts, such as aluminums and magnesium. These dusts are highly abrasive and can cause overheating in equipment such as motor bearings, and

if allowed to enter an enclosure, metal dusts are likely to cause an electrical fault in the equipment. Since Group IIIC dusts have the potential to be the source of the equipment failure, source of ignition and fuel for an explosion simultaneously, any accumulation is normally considered to be Zone 0.

Group IIB

Non-conductive dust with electrical resistivity greater than 103 Ω·m

Group IIIB includes all non-conductive dust. This equates to most of the dusts identified as Class II Groups F and G.

Group IIA

Easily ignited fibers and flyings. Essentially this is “big” dust and includes all the materials identified as Class III. Group IIIA materials are not likely to be suspended in the air in sufficient quantities to produce an ignitable mixture. Group IIIA materials do not present an explosion hazard but they can support a flash fire.

Hazardous Location – Area Classification for Easily Ignitable Fibers or Flyings

Class III locations address the presence of easily ignitable fibers or flyings, but in which the fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures. While easily ignitable fibers and flyings do not present an explosion hazard, their presence increases the risk of a “flash fire” which can progress at near explosive speed. A typical example of this type of material is the cotton lint that accumulates in the lint trap of clothes dryers. Listed clothes dryers are designed so that even if the lint ignites, the fire will be contained within the dryer enclosure.

NOTE: Applies only to the Class/Division System. The equivalent to “Class III” locations are identified as a “Group IIIA” Explosive Dust Atmospheres in the Zone system

Class III, Division 1 Locations

Typical locations include facilities with equipment that produces ignitable fibers or flyings (textile mill machinery, for example) or where the material is collected and packaged (for example, where the material is placed into bags).

Class III, Division 2 Locations

Typical locations include facilities where easily ignitable fibers are stored or handled, that are separate from the manufacturing process.

Class III Material Groups

There are no Material Groups identified in the Class III System.

Explosive Dust Atmospheres – Comparing Division and Zone Dust Groups

The main difference between the two systems for combustible or explosive dusts is that the Zone System has only two dust groups as opposed to the Class/Division system that has three. The Zone system also includes what the Class/Division system identifies as Class III simply as a third Dust Group (IIIA). This means installation Rules in the NEC and CE Code for explosive dust atmospheres become the same for Class II and Class III. Using the Class/Division system, the Rules for Class III installations and equipment are less stringent than those used for Class II.

ZONE DUST GROUPS		
TYPE OF DUST	DIVISION DUST GROUP	ZONE DUST GROUP
Conductive dust	Class II, Group E	IIIC
Non-conductive dust	Class II, Groups F, G	IIIB
Combustible flyings	Class III Locations	IIIA

Equipment Standards for Hazardous Locations

Determining which type of equipment is acceptable for a specific hazardous location is predicated by a combination of the installation codes, certification requirements, user requirements and the authority having jurisdictions. The following is a brief outline of the types of equipment for each location. Details on equipment construction are provided in the next section.

Class/Division Equipment

Electrical equipment must be designed and manufactured so that it does not become a source of ignition when installed in a hazardous location. The NEC and CE Code are very specific on which types of equipment are permitted to be installed in the various hazardous locations and equipment must be certified or approved by a Nationally Recognized third-party Certification Body. The certification of equipment also addresses any NEC and CE Code installation requirements that may apply.

The US Occupational Health and Safety Administration (OSHA) registers Nationally Accredited Testing Laboratories (NRTL) that are approved to test and certify equipment to ANSI and other hazardous location Standards. The Standards Council of Canada (SCC) registers Certification Bodies (CB) to test and certify equipment to Canadian hazardous location Standards. In many cases, NRTLs and CBs are registered with both OSHA and SCC to simplify North American approvals. In both cases, acceptance of an NRTL or CB is determined by the Authority Having Jurisdiction (AHJ) responsible for the installation (AHJs do not always accept every NRTL or CB).

While Class/Division products are predominantly used in Canada and the US, other jurisdictions may permit their use. In some countries, North American companies are permitted to construct facilities using the Class/Division system and equipment. This needs to be confirmed with the local AHJ.

Class I, Division 1 Equipment

For Class I, Division 1 locations, most devices that produce ignition-capable arcs or temperatures must be installed in an explosionproof enclosure. The wiring system connected to these enclosures must be sealed (using explosionproof sealing fittings or cable glands) to prevent any internal ignition from escaping through the wiring connection(s). While the exceptions to this requirement are rare (examples such as oil immersed transformers, purged systems (to NFPA 496), submerged pumps with additional protective controls, etc.), and different product certification, installation rules and maintenance requirements often apply.

Low energy systems often specify Intrinsically Safe (or Intrinsic Safety) technology. The “Intrinsically Safe” or “Intrinsic Safety” (IS) concept involves more than simply the purchasing and installing of a single product. IS systems are an engineered solution which evaluates everything from the power source to the end device (including all components and wiring). Intrinsic Safety installations are addressed in NEC Articles 504 and 505 and CE Code Appendix F.

Class I, Division 2 Equipment

There are more options for equipment design in Class I, Division 2 locations. Certain types of industrial or “non-hazardous” equipment, such as terminals and

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non-sparking motors are permitted. This type of equipment does not need to be marked as suitable for use in Class I, Division 2 locations. For equipment that produces ignition-capable arcs or temperatures such as lighting fixture and control devices, a Class I, Division 2 approval is required. There are standards that are specific to Class I, Division 2 equipment and products approved for Zones (using CSA/UL 60079 standards) are permitted.

NOTE: Equipment that produces ignition-capable arcs or temperatures is often installed in Explosionproof or Flameproof (Ex d) enclosures to simplify certification. If such equipment is installed in a Class I, Division 2 location, it is important to understand that the installation Rules for Class I, Division 1 normally apply.

Class II, Division 1 Equipment

Class II, Division 1 equipment is designed to exclude dust from entering an enclosure and control the surface temperatures. There are multiple tests for gaskets, heat dissipation, impact, etc. that ensure the equipment can be safely used. The sealing requirements for equipment are quite different than those for explosionproof equipment since the objective is to keep dust out of the enclosure, not to prevent an internal explosion from escaping.

NOTE: The CSA and UL requirements for Class II certification are somewhat different. Although UL 1203 and CSA C22.2 No 25 are aligned, both include specific joint dimensions and testing requirements. The CSA Standard permits the use of IEC/CSA 60079-31 (which has different joint requirements and test requirements) as an alternate to those in CSA C22.2 No 25. Currently, UL 1203 does not accept UL 60079-31 in place of the legacy requirements.

Class II, Division 2 Equipment

The equipment requirements are much less stringent than those for Class II, Division 1. Both the NEC and CE Code permit devices that produce ignition-capable arcs or temperatures to be installed in “dust-tight” enclosures although the definition varies slightly. The NEC identifies Types 3, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, and 13 enclosures as acceptable, whereas CSA only permits Types 4, 4X and 5 enclosures. For some products (such as lighting fixtures) the requirements for Class II, Division 1 and Class II, Division 2 products are basically the same, so products tend to be approved for both locations.

Class III, Equipment

There are no US or Canadian Standards that specifically address Class III locations. The key determination is to prevent materials entering equipment and temperature control. The Class III temperature maximum is 165°C and gasketed enclosure/equipment that operates below that temperature could be approved.

Zone Equipment Standards

The IEC technical committee TC 31 is responsible for developing and maintaining approximately 100 IEC standards related to explosive atmospheres. This includes equipment standards, installation, maintenance and refurbishment requirements, non-electrical standards, area classification, material test methods, etc. Most of these standards are in the IEC 60079 Series and IEC 80079 Series.

Globally, Zone equipment is designed, tested and approved to the IEC 60079 Series of Standards. However, not all versions of these standards are identical. Many countries adopt IEC Standards but include “National Deviations” to address issues such as installation, certification, and other safety requirements which result in multiple versions of the same standard.

North American versions of the IEC 60079 Series include additional safety requirements and ensure products comply with the installation rules. The Canadian and US committees responsible for adopting the IEC 60079 Series attempt, whenever possible, to avoid any technical differences between the CSA and UL versions.

The EU uses parallel voting that allows them to adopt IEC standards as EN Standards which rarely include National Deviations.

Recently, requirements for mechanical protection were included in the IEC 80079 Series of Standards (based on EN Standards). These are used in conjunction with IEC 60079 Series for product certification. North America has not included these requirements at this time.

Zone Equipment based on IEC 60079 Series

The Zone system is a bit different to the Class/Division system. The Class/Division system marks product with the specific location where it may be used whereas the Zone system isn't always as clear. Zone products are approved for a “Type of Protection” and marked accordingly. The installation Codes then identify which Types of Protection are suitable for each hazardous location. This means a product approved for example as “flameproof” Ex d would be marked with the protection method, material Group and T-Code (e.g., Ex d IIC T6) and the user determines where it may be used. This becomes complicated when multiple Types of Protection are used in a single product (e.g., Ex d,e,m,q IIC T6). (US Standards require the addition of appropriate Zone suitability, Canada does not.)

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To simplify the marking, the IEC 60079 Standards added “Equipment Protection Levels” (EPL) which includes a “Level of Protection” to identify which Zone the equipment is suitable for. EPL uses “G” for Explosive Gas Atmospheres and “D” for Explosive Dust Atmospheres. There are three Levels of Protection that define the Zone suitability (a, b, c). (Unlike the material classification where “C” is the highest level of protection, with EPL “a” is the highest level of protection).

NOTE: IEC 60079 Standards also identify an EPL equipment for use in Explosive Atmospheres in Mines Susceptible to Firedamp as “M”. Mining installations are not included in the NEC or CEC.

- **EPL GA** — equipment for Explosive gas Atmospheres, having a “very high” level of protection, which is not a source of ignition in normal operation, during expected malfunctions or during rare malfunctions
- **EPL GB** — equipment for Explosive gas Atmospheres, having a “high” level of protection, which is not a source of ignition in normal operation or during expected malfunctions
- **EPL GC** — equipment for Explosive gas Atmospheres, having an “enhanced” level of protection, which is not a source of ignition in normal operation, and which may have some additional protection to ensure that it remains inactive as an ignition source in the case of regular expected occurrences (for example failure of a lamp)
- **EPL DA** — equipment for Explosive dust Atmospheres, having a “very high” level of protection, which is not a source of ignition in normal operation, during expected malfunctions, or during rare malfunctions
- **EPL DB** — equipment for Explosive dust Atmospheres, having a “high” level of protection, which is not a source of ignition in normal operation or during expected malfunctions
- **EPL DC** — equipment for Explosive dust Atmospheres, having an “enhanced” level of protection, which is not a source of ignition in normal operation, and which may have some additional protection to ensure that it remains inactive as an ignition source in the case of regular expected occurrences (for example failure of a lamp)

EPL	ZONE SUITABILITY
Ga	Zone 0
Gb	Zone 1
Gc	Zone 2
Da	Zone 20
Db	Zone 21
Dc	Zone 22

Levels of Protection for Ex Equipment

To align with the EPL marking system, current IEC 60079 Series Standards have added “Levels of Protection” in addition to each “Type of Protection”. At this time, the addition of this to all IEC 60079 Series Standards may not be complete and products approved to earlier versions of a standard might not be marked with a Level of Protection or EPL. As products evolve and certifications are updated this will be corrected.

Original Marking



New Marking



ATEX Zone Equipment Category of Use

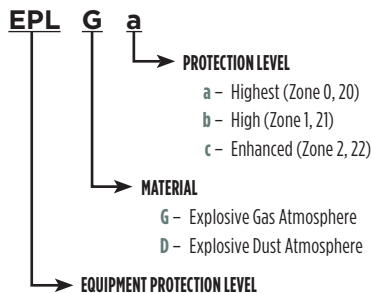
Unlike the IEC System that identifies the Type and Level of protection to indicate the area in which a product may be installed (e.g., Gb or Db), ATEX uses the term “Category of Use”.

There are three Category of Use designations

- 1 = Zone 0 or 20
- 2 = Zone 1 or 21
- 3 = Zone 2 or 22

The Category of Use is prefaced by the same industry/area designation used in IEC

- I = Mines susceptible to fire damp
- II = Surface areas where explosive gas may be present
- III = Surface areas where explosive dust may be present



Equipment Construction and Approval for use in Hazardous Locations

There are two basic concepts used in the construction and design of electrical equipment to prevent the ignition of an explosive atmosphere, “Containment” and “Prevention (elimination or mitigation)”:

- “Containment” places all the elements of the fire triangle into an enclosure (such as an explosion-proof or flameproof enclosure) to contain an internal explosion and prevents an ignition of the surrounding atmosphere. For dust atmospheres it is more common to exclude the dust pentagon from entering enclosures and prevent any heat generated by the equipment from becoming a source of ignition.
- “Prevention” (elimination or mitigation) basically eliminates the explosion risk by removing one or more components of the fire triangle or dust pentagon. It is impossible to ignite an explosive gas or dust atmosphere unless the “fuel” is mixed with oxygen, or a to ignite fuel-air mixture without an ignition source.

Explosion Proof or Flameproof (Type of Protection ‘d’, ‘da’, ‘db’, ‘dc’) (contains the fire triangle in an enclosure)

(Related Standards; Explosionproof - UL 1203 or CSA C22.2 No. 30. Flameproof - IEC/UL/CSA 60079-1)

While basic protection concepts of explosionproof and flameproof are the same, the standards, testing, certification and installation requirements are different. Both are designed to contain an internal explosion of gas or vapor and prevent any hot or burning materials from escaping to prevent an ignition of the surrounding atmosphere.

Explosionproof and flameproof enclosures permit multiple joint types in their construction and each has slightly different requirements.

- **THREADED JOINTS** used for conduit entries and enclosure covers.
- **FLAT JOINTS** between two mating surfaces that are typically bolted together.
- **CYLINDRICAL (SPIGOT) JOINTS** two concentric surfaces to allow movement for actuators (e.g., pushbuttons, selector switches), shafts for electric motors, etc.
- **RABBET JOINTS** typically used for larger diameter, cylindrical parts, (e.g., between a motor end bell and the main frame).
- **LABYRINTH JOINTS** used for both rectangular and cylindrical parts, these joints force hot gases to make several right-angle turns to cool them before exiting an enclosure.

Since enclosures can “breathe” due to environmental changes, flammable gases and vapors are expected to enter an enclosure and therefore must be capable of withstanding an internal explosion. Enclosures are constructed to prevent hot gases generated during an explosion to cool sufficiently as they escape through the joints of the enclosure, preventing the ignition of a surrounding explosive atmosphere.

While many of the testing requirements for explosionproof and flameproof are similar, the specific values are different. The explosion or flame propagation tests involve filling an enclosure with a specific gas/oxygen mixture and surrounding it with the same gas. The gas inside is ignited and if the enclosure doesn’t rupture or deform and the outer gas doesn’t ignite, the product passes the test. The explosion test is repeated multiple times to establish a safety factor and the maximum pressure generated inside the enclosure is recorded. In the overpressure test, a hydrostatic pressure is applied at multiple times that of the recorded explosion pressure, and if the enclosure doesn’t rupture or deform during this test, the product passes.

Key differences between Explosionproof and Flameproof Equipment

- The explosion or flame propagation tests in UL 1203 or CSA C22.2 No. 30 are technically harmonized. This test requires a length of rigid metal conduit (with size requirements) to be attached to the equipment and a sparking device (e.g., spark plug) at the end of the conduit is used to ignite the mixture. The resulting explosion pressurizes the gas ahead of it, increasing the gas pressure inside the enclosure which results in a higher explosion inside the enclosure (this is referred to as pressure piling).

NOTE: Until recently, there were several differences in the UL and CSA standards, and that passed one standard wouldn’t always pass the other. This was corrected in the 2019 edition of C22.2 No. 30 for most products. The CSA standard allows special construction methods not permitted by UL 1203.

- The explosion or flame propagation tests in IEC/UL/CSA 60079-1 are similar to those used for explosionproof, except the rigid conduit isn’t used and the sparking device is inside the enclosure. Since the effect of the pressure piling is eliminated, the test typically result in lower explosion pressures during testing.

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- Hydrostatic pressure tests required by the explosionproof standard are higher than those in the flameproof standards.
- Joint minimum width dimensions are larger, and the maximum gap between joint surfaces is smaller in the explosionproof Standards than those in the flameproof Standard.

The result is Explosionproof enclosures typically have a heavier wall construction than Flameproof (Ex d) products.

There are also differences in the NEC and CE Code on how these products are installed. In both Codes, explosionproof enclosures require conduit seals to be installed within 450mm (18") from the enclosure (or as marked on the product, some specify a shorter distance). Flameproof enclosures require conduit seals to be installed within 50mm (2") from the enclosure.

The installation rules for installing explosionproof equipment using cable are slightly different in the NEC and CE Code. The NEC allows cable seals to be installed up to 450mm (18") from the enclosure, whereas CE Code requires cable seals to be installed within 50mm (2"). Both Codes also require that cables entering an explosionproof enclosure that is marked "factory sealed" or "seals not required" to seal the cable at the point of entry.

For flameproof equipment, both the NEC and CE Code require cable seals to be installed within 50mm (2") of the enclosure.

NOTE: Ex 'da' is only permitted for certain types of gas detection equipment, Ex 'dc' is not commonly used in North America.

ENCAPSULATION - TYPE OF PROTECTION ('M', 'MA', 'MB' AND 'MC') (removes fuel from the fire triangle.)

(Related Standards; IEC/UL/CSA 60079-18)

Encapsulation is a type of protection in which the parts that can ignite an explosive atmosphere are enclosed in a resin (plastic). The resin must be sufficiently resistant to environmental influences that the explosive atmosphere cannot be ignited by either sparking or heating, which may occur within the device. This is typically used with small contacts such as used in relays or electronic devices.

HERMETICALLY SEALED (removes fuel from the fire triangle.)

Common examples of hermetically sealed equipment include contact blocks or reed switches. With these methods, the arcing components of the switch are encased in a glass tube. The connecting wires are fused to the glass, sealing the unit to prevent any ingress of flammable gases and limits the heat generated. Hermetically sealed equipment is suitable for Class I, Division 2 or Class II, Division 1.

INCREASED SAFETY - TYPE OF PROTECTION ('E', 'EB', 'EC') (removes heat from the fire triangle.)

(Related Standards; IEC/UL/CSA 60079-7)

This protection system is for equipment that, under normal operating conditions, does not produce ignition-capable arcs, sparks, or high temperatures. It provides special increased spacing between live parts and live parts of opposite polarity or grounded metal parts. Special insulating materials are used to reduce the likelihood of arc tracking along with special terminals to reduce the likelihood of high temperatures caused by loose connections and temperature control on heat producing equipment. Ex 'e' or Ex 'eb' is commonly used for protection of squirrel cage motors, terminals, and connection boxes (junction boxes). However, it does not allow the approval of LED luminaires due to risk of the components generating an ignition capable arc when they fail.

Ex 'ec' has less stringent requirements for enclosures and other devices and does allow for the approval of LED luminaires.

INTRINSICALLY SAFE ('I', OR 'IS') INTRINSIC SAFETY - Type of Protection ('ia', 'ib' and 'ic') (removes heat from the fire triangle.)

(Related Standards; UL 915, C22.2 No. 157 (being withdrawn replaced by CSA 60079-11), IEC/UL/CSA 60079-11)

The Intrinsic Safety concept limits the amount of energy in a circuit so that any spark caused by a short circuit or overvoltage is incapable of igniting a gas-air mixture. North American 'i' and 'IS' concepts were based on IEC Standards therefore they are basically identical to Ex and 'ia'. Types 'i', 'IS' and 'ia' are suitable for use in Zone 0 locations, Type "Ex ib" is suitable for use in Zone 1 locations, and the recently introduced Ex 'ic' is suitable for use in Zone 2 locations.

The Intrinsic Safety concept limits the amount of fault current or the energy within the entire circuit to a level below that which could ignite the surrounding atmosphere. For testing purposes, the most easily ignited gas mixture is used. Barrier devices are commonly used in the circuit to limit the energy (often called a Zener Diode Barrier although other barriers are available). While this type of device controls the energy feeding a circuit, they do not prevent other components such as capacitors, cables, etc. from storing energy which could be an issue on the complete system. Therefore, Intrinsic Safety is a "system approach" and no single device provides total protection.

NON-SPARKING - TYPE OF PROTECTION ('NX', NR)
(removes fuel or heat from the fire triangle.)

(Related Standards; UL 121201 and C22.2 No. 213. IEC/UL/CSA 60079-15)

The original IEC 60079-15 Standard Type “n” contained the requirements for all equipment suitable for use in Zone 2 locations. For several reasons, IEC 60079 Standards decided to move sections of 60079-15 into the other Standards that better addressed the concept, (for example, the Ex nL requirements for energy limitation devices, was moved to IEC 60079-11). This led to the introduction of the “Level of Protection” to the various “Types of Protection” and “Equipment Protection Level” marking discussed earlier.

IEC 60079-15 also contains the requirements for Restricted breathing Ex ‘nR’ equipment.

NON-INCENDIVE EQUIPMENT (removes heat from the fire triangle.)

(Related Standards; UL 121201 and C22.2 No. 213)

Non-Incendive is similar to Intrinsic Safety Ex ‘ic’ in that it addresses spark energy. It is intended for Class I, Division 2 or Class II, Division 1 locations. It also considers contacts for making or breaking an incendive circuit where the contact mechanism is constructed so that the component is incapable of igniting the specified flammable gas or vapor-air mixture. The housing of a non-incendive component is not intended to exclude the flammable atmosphere or contain an explosion.

OIL IMMERSION - TYPE OF PROTECTION ('O', 'OB', 'OC')
(removes fuel and oxygen from the fire triangle.)

(Related Standards; IEC/UL/CSA 60079-6)

This concept involves immersing any device that produces ignition-capable arcs or sparks or high temperatures in an oil that prevent them from coming into contact with the outer atmosphere. Historically, large transformers or circuit breakers used this technique however its use today is limited.

PURGED AND PRESSURIZED TYPE OF PROTECTION ('P', 'PX', 'PXB', 'PY', 'PYB', 'PZ', 'PZC') (removes fuel from the fire triangle.)

(Related Standards; NFPA 496. IEC/UL/CSA 60079-2 and IEC/UL/CSA 60079-13)

This type of protection prevents the surrounding atmosphere from entering an enclosure by maintaining a positive pressure within the unit. Clean air or inert gas is used to maintain a higher pressure than the surrounding atmosphere. In purging, the electrical equipment is interlocked with a system which cycles clean air within the unit to remove explosive gases prior to start up.

The IEC Standard has become quite complicated and has multiple levels of protection identified.

There is also the NFPA 496 Standard used for the Division system and Zone 2.

NFPA 496 Identifies three types of pressurization as follows: (removes fuel from the fire triangle.)

TYPE	EXPLANATION
X	Changes the area within the unit from Class I, Division 1 to non-hazardous
Y	Changes the area within the unit from Class I, Division 1 to Class I, Division 2
Z	Changes the area within the unit from Class I, Division 2 to non-hazardous

POWDER FILLED APPARATUS Type of Protection ('q', 'qb', 'qc') (confines all the elements in the fire triangle in an enclosure)

(Related Standards; IEC/UL/CSA 60079-5)

This type of protection requires surrounding electrical apparatus with a material in finely granulated quartz (or very small glass beads) to prevent any arc which may occur within the enclosure from igniting the surrounding atmosphere. The material has two purposes, it reduces the amount of explosive gas that can accumulate and provides a flamepath to quench any explosion. Equipment can have no moving parts, which are in direct contact with the filling materials, and the enclosure must have a minimum protection of IP 54.

DUST- IGNITION-PROOF EQUIPMENT (removes fuel from the fire triangle.)

(Related Standards; Explosionproof - UL 1203 or CSA C22.2 No. 25)

This concept is similar to Dust-Tight however enclosures are designed to contain an internal dust explosion. Since the explosive pressures generated by gases, therefore dust-ignition proof enclosures typically have thinner walls than explosion-proof equipment. In most equipment used today, dust tight provides a more cost-effective option.

DUST-TIGHT EQUIPMENT (removes fuel from the fire triangle.)

(Related Standards; Explosionproof - UL 1203 or CSA C22.2 No. 25)

The objective of Dust-Tight is to prevent dust from entering an enclosure and limits the maximum surface temperature while in operation. Since combustible cannot enter the enclosure, it is not required to withstand an internal explosion, but it does need to withstand impact testing. Dust-tight equipment can require testing for internal arcing faults if required to ensure the circuit over-

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current protection will activate to prevent an increase in temperature. Flat joints in Dust-Tight equipment can be gasketed and have minimum width requirements. The primary requirement of all joints is to prevent dust from entering an enclosure.

Dust layers can build up on equipment which can decrease the heat dissipation generated by the equipment inside. This would increase the surface temperature even under normal operating conditions. The surface temperature tests are conducted with the equipment covered with as much dust as can possibly remain on the equipment.

The applicable testing standards for North America are UL 1203 and CSA C22.2 No. 25. While these standards were aligned in 2017, there remains a couple of key differences. UL 1203 has different dust penetration tests than IEC 60079-31 and specific joint dimension requirements. C22.2 No. 25 permits the same dust penetration tests and joint requirements used in IEC 60079-31 as an alternative to those in UL 1203.

EQUIPMENT DUST IGNITION PROTECTION BY ENCLOSURE “T” (‘TA’, ‘TB’, ‘TC’) (removes fuel from the fire triangle.)

(Related Standards; IEC/UL/CSA 60079-31)

Much like North American dust tight requirements, the objective of the IEC 60079-31 is to prevent dust from entering the enclosure and limiting surface temperatures. All joints must meet IP 6X for Zone 20 and Zone 21, and IP 5X for Zone 22. Unlike UL 1203, there are no minimum joint dimensions that must be met.

NON-ELECTRICAL REQUIREMENTS “H” (removes heat from the fire triangle.)

(Related Standards; IEC/UL/CSA 80079 Series)

The IEC 80079 Series of Standards address the non-electrical methods and types of protection for non-electrical equipment. Currently these requirements do not apply in North America. The IEC 80079 Series Standard was based on the (EU) EN 13463 series that was used in the ATEX System. The IEC 80079 identifies Type of Protection (Ex ‘h’). Older ATEX equipment used “c”, “b” and “k”. These symbols are still used internally within ISO 80079-37, but they do not appear in the equipment marking.



Environmental Protection of Enclosures

North America Environmental Protection Standards

The following are environmental protection designations, which are specified in addition to electrical or hazardous location requirements. Many people refer to the NEMA (National Electrical Manufacturers Association) when requesting enclosure types, however the NEMA 250 Standard is for reference only. In North America products are tested and approved to UL 50/CSA C22.2 No. 94 (harmonized Standard) and identified as enclosure "Type" followed by the appropriate number as defined below.

NOTE: Canada has never had an equivalent standard to NEMA 250 (some think there is and incorrectly change "NEMA" to "CEMA").

Type 1 Enclosures

Intended for indoor use primarily to provide a degree of protection against limited amounts of falling dirt.

Type 2 Enclosures

Intended for indoor use primarily to provide a degree of protection against limited amounts of falling water and dirt.

Type 3 Enclosures

Intended for outdoor use primarily to provide a degree of protection against rain, sleet, windblown dust; and damage from external ice formation.

Type 3R Enclosures

Intended for outdoor use primarily to provide a degree of protection against rain, sleet; and damage from external ice formation, and must have a drain hole.

Type 3S Enclosures

Intended for outdoor use primarily to provide a degree of protection against rain, sleet, windblown dust; and to provide for operation of external mechanisms when ice laden.

Type 4 Enclosures

Intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, hose directed water; and damage from external ice formation.

Type 4X Enclosures

Intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, hose directed water; and damage from external ice formation.

Type 5 Enclosures

Intended for indoor use primarily to provide a degree of protection against settling airborne dust, falling dirt, and dripping non-corrosive liquids.

Type 6 Enclosures

Enclosures constructed for either indoor or outdoor use to protect against hose-directed water, damage from external ice formation, and the entry of water during occasional temporary submersion at a limited depth.

Type 6P Enclosures

Enclosures constructed for either indoor or outdoor use to provide a degree of protection against hose-directed water, damage from external ice formation, and the entry of water during occasional prolonged submersion at a limited depth.

Type 12 Enclosures

Intended for indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping non-corrosive liquids.

Type 12K Enclosures

Intended knockouts are intended for indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping non-corrosive liquids.

Type 13 Enclosures

Intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil, and non-corrosive coolant.

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COMPARISON OF THE TYPICAL DEGREES OF PROTECTION PROVIDED BY UL 50/CSA C22.2 NO. 94 ENCLOSURES										
PROVIDES A DEGREE OF PROTECTION AGAINST THE FOLLOWING CONDITIONS	TYPE OF ENCLOSURE									
	1*	2*	4	4X	5	6	6P	12	12K	13
Access to hazardous parts	X	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (falling dirt)	X	X	X	X	X	X	X	X	X	X
Ingress of water (Dripping and light splashing)	—	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (Circulating dust, lint, fibers, and flyings**)	—	—	X	X	—	X	X	X	X	X
Ingress of solid foreign objects (Settling airborne dust, lint, fibers, and flyings**)	—	—	X	X	X	X	X	X	X	X
Ingress of water (Hosedown and splashing water)	—	—	X	X	—	X	X	—	—	—
Oil and coolant seepage	—	—	—	—	—	—	—	X	X	X
Oil or coolant spraying and splashing	—	—	—	—	—	—	—	—	—	X
Corrosive agents	—	—	—	X	—	—	X	—	—	—
Ingress of water (Occasional temporary submersion)	—	—	—	—	—	X	X	—	—	—
Ingress of water (Occasional prolonged submersion)	—	—	—	—	—	—	X	—	—	—

* For additional information refer to www.nema.org

DEGREES OF PROTECTION PROVIDED BY NEMA 7, 8, 9 AND 10 FOR INDOOR HAZARDOUS LOCATIONS										
For outdoor locations, these will require additional approval to the applicable UL 50/CSA C22.2 No. 94 Standards										
PROVIDES A DEGREE OF PROTECTION AGAINST ATMOSPHERES TYPICALLY CONTAINING	ENCLOSURE TYPES 7 AND 8, CLASS I GROUPS**					ENCLOSURE TYPE 9, CLASS II GROUPS				
	(See NFPA 497M for Complete Listing)	CLASS	A	B	C	D	E	F	G	10
Acetylene	I	X	—	—	—	—	—	—	—	—
Hydrogen, manufactured gas	I	—	X	—	—	—	—	—	—	—
Diethyl ether, ethylene, cyclopropane	I	—	—	X	—	—	—	—	—	—
Gasoline, hexane, butane, naphtha, propane, acetone, toluene, isoprene	I	—	—	—	X	—	—	—	—	—
Metal dust	II	—	—	—	—	X	—	—	—	—
Carbon black, coal dust, coke dust	II	—	—	—	—	—	X	—	—	—
Flour, starch, grain dust	II	—	—	—	—	—	—	X	—	—
Fibers, flyings*	III	—	—	—	—	—	—	—	X	—
Methane with or without coal dust	MSHA	—	—	—	—	—	—	—	—	X

* For Class III locations, see the requirements NEC and CE Code.

** The enclosures must also be suitable for the specific area classification in terms of Class, Division and Temperature Code.

NEMA Definitions for Hazardous Location Enclosures (not identified in UL 50/CSA C22.2 No. 94)

NEMA type enclosures occasionally appear in specifications or on product literature and are specific to the US only. These enclosure Types are not identified in the UL 50/CSA C22.2 No. 94 Standard. The following is a reference from NEMA type to Class Designation.

NEMA 7 Enclosures

Intended for indoor use in locations classified as Class I, Groups A, B, C, or D, as defined in the NEC.

NEMA 8 Enclosures

Intended indoor or outdoor use in locations classified as Class I, Groups A, B, C, or D, as defined in the NEC.

NEMA 9 Enclosures

Intended for indoor use in locations classified as Class II, Groups E, F, and G, as defined in the NEC.

NEMA 10 Enclosures

Are constructed to meet the applicable requirements of the Mine Safety and Health Administration (MSHA).

HAZARDOUS LOCATION DATA

IEC Environmental Protection Standards

Like the North American CSA/UL Type enclosure standards, the international system is based on the IEC 60529 Standard that defines the tests used to identify the degree of protection provided by an enclosure. The IEC uses an “Ingress Protection Rating” (IP code) to define the type of protection provided by equipment using the letters ‘IP’ followed by two numeric digits (and an optional letter). The IP Rating defines the effectiveness of the enclosures against intrusion of solid materials and liquids.

- The first digit indicates the level of human protection from moving or hazardous parts, as well as the protection of the enclosed equipment from other materials such as dirt, grit and dust.
- The second digit defines the protection level that the enclosure has from the harmful ingress of water (liquids) from sprays or drips, moisture (humidity), or from submersion.

IP Type of Protection Chart (to IEC 60529)

SOLID OBJECTS OR DUST		LIQUIDS OR DUST	
0	No protection against contact and ingress of objects or Dust	0	No Protection – against the ingress of any liquids or dust
1	>50 mm – such as any large surface of the body, such as the back of the hand, but no protection against deliberate contact with a body part	1	Dripping Water – Protected against vertically falling water drops.
2	>12.5 mm – such as fingers or similar objects	2	Dripping water when tilted up to 15° – Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.
3	>2.5 mm – such as Tools, thick wires, etc.	3	Spraying Water – Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.
4	>1 mm – such as most wires, screws, etc.	4	Splashing Water – Water splashing against the enclosure from any direction shall have no harmful effect.
5	Dust Protected – Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact	5	Water Jets – Water projected by a nozzle (6.3mm) against enclosure from any direction shall have no harmful effects.
6	Dust Tight – No ingress of dust; complete protection against contact	6	Powerful Water Jets – Water projected in powerful jets (12.5mm nozzle) against the enclosure from any direction shall have no harmful effects.
		7	Immersion up to 1m – Protected against the effects of temporary immersion between 15cm and 1m. Duration of the test is 30 minutes.
		8	Immersion Beyond 1m – The equipment is suitable for continuous immersion in water under conditions which are specified by the manufacturer. There are no defined tests for this rating. The depth can be whatever is required for the application. For example, subsea electrical connectors are available that are suitable for use at depths up to 13,000 m

Example

6 = DUST PROTECTED

(No dust ingress allowed)

5 = PROTECTION AGAINST WATER JETS

(Some moisture may enter that would not affect equipment)

6 5

NOTE: An enclosure that can protect against water ingress when submersed, even at extreme depths an IP68 enclosure that passes the ingress test at 100m, could fail the tests using powerful water jets since one test compresses the enclosure opening (door) while the does the opposite. Therefore, it would be incorrect to use an IP 67 or IP 68 enclosure when the installation requires an IP 66.

The IEC 60529 Ratings do not align with the CSA/UL Type dust to differences in the other tests performed such. door and cover securement, corrosion resistance, effects of icing, gasket aging and oil resistance and coolant effects. The following table is an approximation only between IEC 60529 and UL 50/ CSA C22.2 No. 94 from an ingress protection perspective. The table does not consider the additional tests required in UL 50/ CSA C22.2 No. 94 or the any additional tests for enclosure required in the IEC 60079 Series of Standards for Ex Equipment.

UL 50/CSA C22.2 NO. 94 ENCLOSURE TYPE	IEC 60529 IP PROTECTION
1	IP 10
2	IP 11
3, 3R, 3S	IP 54
4, 4X	IP 55
5	IP 52
6, 6P	IP 67
12, 12K	IP 52
13	IP 54

Hazardous Location Equipment Certification

North American System

While CSA, FM and UL Standards are similar, some technical differences in specific product standards do exist. While Canada has one National Standard for each type of equipment, the US System can have multiple Standards. In the US there is one ANSI Standard and there can be various non-ANSI versions. In the US, the AHJ has discretion over which Standards they accept.

For equipment suitable for use in hazardous locations or explosive atmospheres, there are two approaches. Products may be certified to either Class/Division Standards or IEC Zone based Standards. The UL Standard Technical Panel (STP 60079) and CSA Integrated Committee on Hazardous Location Products (ICHL) are responsible for adopting the IEC 60079 Standards which includes adding National Deviations to address specific safety issues and accommodate electrical Code requirements. UL STP 60079 and ICHL work closely to minimize any deviations that would cause technical barriers to trade between the two countries. Similarly, ICHL has removed technical barriers between the Class/Division standards wherever possible.

NOTE: Some differences remain between Canadian and US in the standards for wire and cable, plugs and receptacles and cable glands for use in hazardous locations due to differences in the applicable Electrical Codes

The certification of equipment using Class/Division or CSA/UL 60079 Standards for Zones includes testing and approval to all applicable “ordinary location” Standards. (For example, an empty explosionproof outlet box would need to meet the standards for general requirements, threading in addition to the hazardous location requirements.) Both Canada and the US certification system follows the ISO/IEC Guide 17067 “*Conformity assessment - Fundamentals of Product Certification and guidelines for product certification schemes*” and are defined as 3rd party conformity assessment system.

Acceptance of product certification is up to the “Authority Having Jurisdiction” (AHJ) responsible for electrical installations in a specific location.

IECEx Certified Equipment Scheme.

The IECEx System is one of four international conformity assessment systems operated under the International Electrotechnical Commission (IEC) – Conformity Assessment Board (CAB). The objective of the IECEx is to facilitate international trade in equipment and services for use in explosive atmospheres, while maintaining the required level of safety.

The IECEx System operates three International Certification Schemes:

- IECEx Certified Equipment Scheme
- IECEx Certified Services Scheme
- IECEx Certificate of Personal Competence Scheme

IECEx Certified Equipment Scheme accredits certification bodies (Ex CB) to perform the evaluation and testing of equipment for explosive atmospheres (Ex Equipment) and the issuing of IECEx Certificates of Conformity (CoC). The Ex CBs are regularly audited as part of the “peer assessment” process to confirm they continue to follow the IECEx rules and testing procedures. The IECEx follows various ISO/IEC 17000 series of Standards such as ISO/IEC Guide 17067 “*Conformity assessment - Fundamentals of Product Certification and guidelines for product certification schemes*” and are defined as a 3rd party conformity assessment system.

Should there be any questions or discrepancies on how Ex CBs are applying the Standards, IEC TC 31 is asked to investigate and where necessary issue a “formal Interpretation sheet”. Separate to this process, IECEx can issue “ExTAG Decision Sheets” which record a decision on how all ExCBs will apply a certain requirement of the Standard and provides a quick means to achieve a resolution for industry, instead of waiting for the standard to be revised/updated.

An IECEx Certification of Equipment has three parts:

- Quality Assessment Report (**QAR**) which assesses and monitors the manufacturer’s processes
- Ex Test Reports (**ExTR**) documenting the testing performed.
- IECEx Certificate of Conformity (**CoC**)

HAZARDOUS LOCATION DATA

The QAR demonstrates that all manufacturing locations where an “IECEX certified” product is manufactured have been audited and have been confirmed as capable of manufacturing product identical in design and performance to the tested sample. Regular “Surveillance Audits” are to confirm manufacturers continue to meet the requirements of their QAR and a Full Audit, and updated QAR is required every three years. If issues or problems are identified during the audit, corrective actions must be taken or the QAR can be withdrawn.

The ExTR confirms that Ex Equipment sample, representative of production, was tested and passed all the applicable IEC or ISO Standards requirements and records the actual results of those tests. Regular audits are conducted at the manufacturing location(s) to confirm the equipment in production continues to meet all relevant requirements of the ExTr.

When the ExTR and QAR are completed satisfactorily, the IECEX CoC can be issued by the Ex CB to confirm the equipment has met all the requirements and is suitable for use in explosive atmospheres. The IECEX CoC authorizes the manufacturer to include the IECEX CoC reference number on the product label. The Ex CBs places these results of the QAR, ExTR and CoC into the IECEX system and the applicable documents are issued. The CoC is issued via the IECEX “On-Line” Certificate system via the IECEX official website, and fully available for public viewing. The On-Line electronic version of the CoC is the “Master Controlled” version of the CoC and is issued in “real-time” see <https://www.iecex-certs.com/#/home>.

Acceptance of the IECEX CoC is determined by the local Authority Having Jurisdiction (AHJ) that is responsible for hazardous location installations. The acceptance varies by economic region, country, (or areas within each) and to some extent the user.

NOTE: Other IECEX Schemes, the IECEX Certified services Scheme and IECEX Certificate of Personal Competence are not subject to such regulations and as such have very wide acceptance.

Several countries have no regulations that prevent direct market acceptance of IECEX certified equipment, and currently Australia, Israel, Malaysia, New Zealand and Singapore accept an IECEX CoC with no additional requirements. The US Coast Guard (USCG) and India accept an IECEX CoC but may have other limitations. In all cases, the user must confirm with their local AHJ what approvals are required.

Many other countries do not accept the IECEX CoC alone and require additional evaluation. Specific country requirements vary and typically administrative (e.g., non-tariff trade barriers) or technical (additional requirements to address safety concerns and regulatory issues) are added to obtain a specific “country approval”. For example, In North America all Ex Equipment is tested and approved to all the applicable ordinary location equipment standards and must comply with the Electrical Codes Rules. Currently there are 63 IECEX Certification Bodies, 68 IECEX Test laboratories and 4 IECEX authorized Test Facilities (with additional new ExCB, ExTL and ExATF applications in process).

The IECEX CoC along with the supporting ExTR and QAR offer a “Fast-Track” way to obtain multiple national approvals which can significantly reduce testing and certification costs, as well as the time to market. The unique advantage of the IECEX Certified Equipment Scheme is that QARs, ExTrs and CoCs are transferable between the member certification bodies. That means the relevant information from one Ex CB can be used another Ex CB for other certification purposes. For example, in North America, an NRTL or SCC CB can accept (depending on National Deviations) an IECEX QAR and ExTr, issued by any Ex CB, to satisfy their Ex requirements and only need to address the ordinary location requirements and address any Electrical Code issues. Similarly, for an ATEX approval, the IECEX CoC can be used for the technical requirements and then only the EU ESHRs need be addressed.

NOTE: While an IECEX CoC can be used to obtain an ATEX DoC, the reverse is not usually true. The primary objective of ATEX is to meet the EU Essential Health and Safety Requirements, not the standards requirements. An ATEX DoC **cannot be used to obtain** an IECEX CoC (or other most approvals). For global certification of electrical equipment, it is best to start with an IECEX CoC. IECEX Guide IECEX OIA provides a simple explanation of the differences between the IECEX and ATEX systems for product approval. This free publication is available in at <https://www.iecex.com/publications/guides/>.

Most IECEX Member Countries have an Ex CB and/or Ex TL and most North American OSHA and SCC accredited CBs (for hazardous location equipment) are also IECEX CBs. For further information on member countries and organizations, see www.iecex.com. The site also includes a series of IECEX Guides on each of the IECEX Schemes.

HAZARDOUS LOCATION DATA

ATEX System (European Union)

The European Committee for Electrotechnical Standardization (CENELEC) is responsible for standardization in the electrotechnical engineering field. CENELEC Standards are intended to eliminate any potential trade barriers to facilitate trade between member countries, cut compliance costs, and support the development of the Single European Market. CENELEC Standards are referred to as “Euro Norms” (EN) Standards and the EN 60079 Series is harmonized with IEC 60079 Standards through parallel voting.

European Union’s (EU) Directive 2014/34/EU (which replaced Directive 94/9/EC) is commonly referred to as ATEX (from the French for **AT**mosphères **EX**plosibles).

ATEX addresses Equipment and Protective systems intended for use in Potentially Explosive Atmospheres. ATEX is a Regulatory Framework (**NOT** a Certification system) through which the EU Commission allows suppliers to offer Ex products for sale in the EU based on the seller’s declaration of product compliance with the Essential Health and Safety Requirements (EHSR) of Annex II of the ATEX Directive.

ATEX is not a traditional certification system since conformity assessment principles are not consistently applied and compliance to Standards used is not a mandatory requirement. An ATEX Certificate does not confirm compliance with any particular Standard, EN or other Standards such as UL or CSA can be used in the assessment to demonstrate compliance with the ESHRs. (Most manufacturers use relevant Standards to demonstrate compliance with the applicable ESHRs.)

Depending on the type equipment multiple EU directives may apply such as the Equipment and Protective Systems intended for Use in Potentially Explosive Atmospheres Regulations, Electrical Equipment Safety Regulations, Electromagnetic Compatibility Directive, Low Voltage Directive, Machinery Directive, Personal Protective Equipment Directive 89/686/EEC, Pressure Equipment Directive, Simple Pressure Vessels Directive, Radio Equipment Directive, Gas Appliances Directive, Construction Products Regulation and Marine Equipment Directive. The primary objective of ATEX is not about safety, it is to confirm equipment complies with the EU Essential Health and Safety Requirements (EHSR) to facilitate trade between the member states.

In the EU “New Approach Notified and Designated Organizations” (NANDO) System, member countries authorize “Notified Bodies” (NB). ATEX 2014/34/EU introduced requirements for a Notified Body to have national accreditation, previously this was not required. (Many NBs are also IECEx CBs that has a more rigorous assessment process).

NOTE: There are multiple NANDO accredited Notified Bodies operating in the EEA. Under the Canada-Europe Free Trade Agreement, the following Canadian Certification Organizations can issue an ATEX DoC; CSA Group Testing Certification Inc., LabTest Certification Inc., Intertek Testing Services Na Inc., NEMKO North America Inc., QPS Evaluation Services, Inc. This is important for manufacturers and OEM organizations as these organization can issue multiple approvals (Canada, US, IECEx and ATEX) from a single office.

The manufacturer (which could be a seller, trade agent, distributor, etc.) must involve a NB to assess electrical equipment intended for use Zones 0, 1, 20, 21. However, NBs are not involved in the assessment of equipment suitable for use in Zone 2 and Zone 22; this is solely the responsibility of the manufacturer to determine if the equipment complies with the applicable ESHRs to claim ATEX compliance. Manufacturers are also responsible confirming ordinary location standards (and ESHR) compliance for all Ex Equipment.

ATEX Declaration of Conformity (DoC) consist of multiple parts:

- **Ex Quality Assessment Notifications (QAN)** - these document the suitability of the manufacturer’s QA system as related to ISO/IEC 80079-34. (This follows a similar process used for an IECEx QAR).
- **EU Type Examination Certificates** - document the evaluation and testing of the equipment to the applicable Standards used.

Based on the QAN and the EU Type Examination assessments (Issued by NB for Zones 0, 1, 20, 21 only) the manufacturer can issue a Declaration of Conformity (DoC). The DoC is, theoretically, issued the day the equipment is “placed on the market” (shipped or sold). (For Zone 2 and Zone 22 equipment the manufacturer is responsible for the QAN and EU Type Examination information). Notified Bodies are not permitted to issue DoCs (and no central database exists for this information, as is done by IECEx). In all cases, it is the sole responsibility of the manufacturer to issue the DoC and they must have a technical file to support the document.

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Since the primary objective of the ATEX DoC is to confirm compliance with EU ESHRs and it permits the use of different standards (and 100% compliance is not mandatory), an ATEX DoC is not accepted by all jurisdictions. It is not usually possible to use an ATEX DoC to obtain an IECEX CoC or accepted for other country approvals. For example, the USCG has specifically banned vessels with equipment certified to ATEX only from operating in US waters, Australia does not accept ATEX equipment and an ATEX DoC cannot be used as proof of compliance to obtain an IECEX CoC or for any North American approvals. (However, an IECEX CoC can be used to support an ATEX DoC).

NOTE: ATEX compliance is mandatory for members of the European Economic Area (EEA) which includes the EU countries (Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden) the three European Free Trade EFTA European Free Trade Association (EFTA) states (Iceland, Liechtenstein, and Norway) as well as two countries under Mutual Recognition Agreements (Switzerland and Turkey).

NOTE: At the time of writing, with the United Kingdom's (UK) departure from the EU (Brexit) and their status within the EEA is not complete. (See information under UK and Northern Ireland).

UK System

UK CA The UK (or Great Britain (GB)) refers to the landmass encompassing England, Scotland and Wales and their associated islands. The UK does not include Northern Ireland which is treated differently. UK officially severed its membership in the EU January 1, 2020. There was a transition period that ended on January 1, 2021, and products were ready to ship (fully manufactured) before that date, the CE mark can be applied, and the exemption ends 31 December 2022 at which point the UK Conformity Assessment mark is mandatory.

The new UK requirements for equipment suitable for use in explosive atmospheres and the applicable ESHRs are essentially identical to those used under EU ATEX system. Only the approval mark changes.

The "new" UKCA conformity assessment mark replaces CE mark and is required on similar lists of items. Most UK based "EU NBS" have been approved as "UK NBS" and are authorized to assess equipment and issue a UK DoC (same process as used under ATEX). The same manufacturer declarations of conformity apply for Zone 2 and 22 as those used in the ATEX System.

NOTE: For companies the build assemblies, all the equipment and components must bear a UKCA mark; a CE mark (alone) is no longer acceptable.

NOTE: The UK has accredited several UK Notified Bodies. Under the Canada-UK Free Trade Agreement several applications have been submitted for Canadian CBs to become UK NBS. This will be important to manufacturers and OEM companies since these organization would be able to issue multiple approvals (ATEX, Canada, IECEX, UK and US) from a single office.

Northern Ireland (UK) System

UK NI The requirements in Northern Ireland are "complicated" to say the least. Addressing the unique issues and concerns relating to Northern Ireland post-Brexit has been a major issue in negotiations between the UK government and the European Union. Technically, Northern Ireland is part of England, but not part of the UK (GB). And Northern Ireland has a close economic and social relationship with the Republic of Ireland, which is an independent state and EU member.

Under the current EU-UK (Brexit) agreement, Northern Ireland continues to follow EU rules on product standards, and goods can move freely between the Northern Ireland border with the Republic of Ireland border and all EU countries. For the movement of goods between and Great Brittan (and to secure the EU border) inspections and document checking is performed in Great Britain. (This continues to be of some concern in GB). Northern Ireland will continue to accept CE marked products and can issue ATEX DoCs. They can also import and use UKCA marked products but cannot apply the UKCA mark to goods. This created the need for a separate mark (UKNI) for goods produced in Northern Ireland that are exported to the UK.

NOTE: The use of the UKNI may be confusing, see <https://www.gov.uk/guidance/using-the-ukni-marking> for further information.

The Northern Ireland requirements for equipment suitable for use in explosive atmospheres can be either identical to ATEX or the UK Systems. Only the approval marks change.

Hazardous Location Equipment Class/Division Equipment Marking

Both the NEC and CE Code require equipment approved to Class/Division Standards to be marked with the location it permitted to be used. The minimum marking includes the Class, Division and Material Group. A Temperature Code is included on products that have a surface temperature above 100°C in normal operation and any environmental ratings that apply. If the product was tested for an environmental rating (as explained above, e.g., Type 4), those are included on the label.

Most Product Standard(s) identify the maximum and minimum ambient temperature range in which equipment may be safely used. There are differences in the North American ambient temperature range in several Class/Division Standards such as explosionproof where UL specifies -25°C to + 40°C and CSA specifies -50°C to + 40°C. Since multiple Standards typically apply to a single product, and the difference in US and CA Standards, it is common to include the ambient temperature range on the product label.

For Class I, Division 1, equipment can be marked in multiple ways. At a minimum it must include the Class, the Material Group(s) and if the equipment is expected to have a surface temperature at or above 100°C in normal service, a Temperature Code. Variations include.

- Class I, Groups B, C, D*
- Class I, Division 1, Groups B, C, D*
- Class I, Division 1 and 2, Groups B, C, D*
 - » *Note: The Gas Groups are specific to the approvals (this could be (A, B, C, D, (B, C, D), (C, D) or simply (D).
 - » *Note: If the equipment operates above 100°C, it must include the T-Code (T-5 to T1)
 - » Class II equipment would include Division 1 or 2 and the Dust Groups (E, F, G)
 - » Class III would include Division 1 or 2 but has no material Groups

It is common for there to be difference between the Class I, Division 1 and Class I, Division 2 markings. For example, a Class I, Division 1, Groups B, C, D could also be marked as Class I, Division 2, Groups A, B, C, D due to differences in the standards. Products may be specifically approved for Class I, Division 2, only (which would include the Material Group(s) and T-Code as applicable).

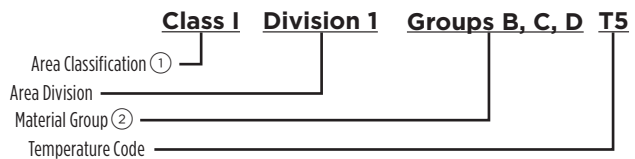
Empty enclosures for use as junction boxes for wire terminations are available for use in Class I, Division 1 locations. However, when other equipment, such as control devices, relays etc., are installed the completed assembly normally requires additional assessment by a certification body or the AHL (the explosionproof enclosure isn't re-evaluated, just the component spacing, wire access, etc.).

There are no "empty enclosures" rated for Class I, Division 2 since it is the components that determine the suitability for the location, not the enclosure. Products suitable for use in Class I, Division 2 locations do not necessarily require any hazardous location markings, such as non-sparking motors, terminal boxes, cable glands and fittings. This type of equipment is identified in the NEC and CE Code.

NOTE: Historically, some certification bodies had incorrectly approved empty enclosures for Class I, Division 2 but have been corrected (de-listed)

NEC (Article 500) and CE Code (Section 18) Marking for Class/Division Equipment

The basic marking for Division product is as follows. Abbreviations may be used for example "CI." Or "C", instead of the word "Class" or "Div." or "D" instead of the word "Division". In all cases, the equipment is suitable for Class I, II or III, **Division 1** is suitable for use in Class I, II or III, **Division 2** locations (providing the Material Group(s) and T-Code are acceptable). Equipment marked with **Division 2** is never suitable for **Division 1**.



① Class I = Gas, Class II = Dust, Class III = Fibers and Flyings

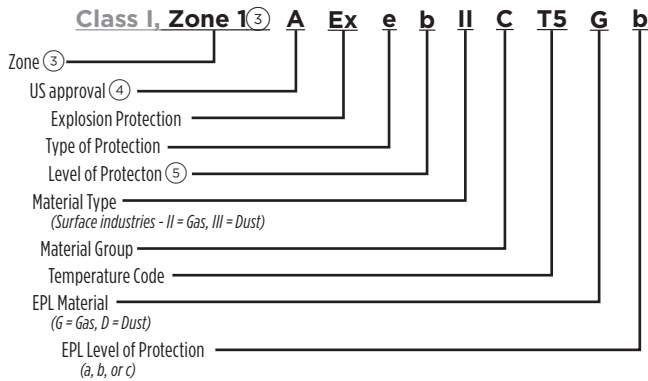
② Class I, Gasses and Vapors (A, B, C, D), Class II, Combustible Dust (E, F, G) Class III, Fibers and Flyings has no material Groups

North American Zone Equipment Marking

NEC Zone Equipment Marking

The US marking requirements for equipment approved for Zone equipment are unique. Much like the Class/Division system, equipment approved to Zone Standards (UL 60079 Series) must be marked with the Zone in which they are suitable to be used as well as the Type of Protection. The “Ex” marking required in the IEC/CSA 60079 Standards is prefaced with the letter “A” or “AEx” to indicate the equipment is certified to US Standards. Prior to 2020, the NEC it was mandatory to include the applicable “Class” and “Zone” on equipment. This changed in the NEC 2020 Edition to remove the “Class” marking with only the Zone marking being required. The US deviations to the IEC Standards permit the inclusion of “additional marking” for convenience (for example, Class/Division marking).

NOTE: The CE Code does not recognize the “AEx” marking, However the CE Code recognize the use of “(A)Ex” where products are approved to both the CSA and UL versions of IEC 60079 Standards.



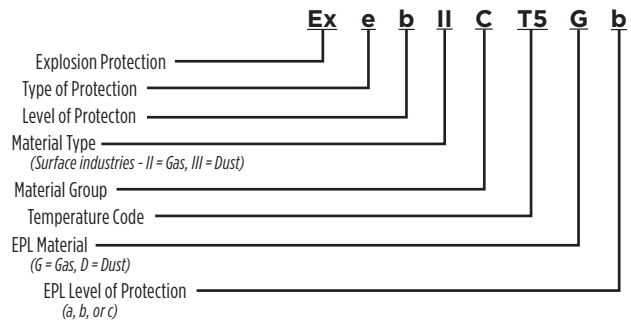
⁽³⁾ Prior to 2021, NEC required equipment to be marked with both Class and Zone, the applicable Zone marking is still required.

⁽⁴⁾ “AEx” identifies to US Standards.

⁽⁵⁾ Level of Protection was not required on older products. For example, both AEx e and AEx eb identify the same Type of Protection

CE Code Marking for Zone Equipment

The CE Code uses the same marking system identified in the IEC 60079 Series of Standard. The Canadian deviations to the IEC Standards permit the inclusion of “additional marking” for convenience (for example, Class/Division and Zone location marking and (A)Ex, etc.). Users need to confirm the Type of Protection and Level of Protection is suitable for the location where the equipment is installed. The CE Code contains notes in Appendix B to recommend the used of the Equipment Protection Level (EPL) to determine the appropriate location of use.





Certification Marking of Equipment for use in Explosive Atmospheres

North American Certification Marks

In the US, equipment certification is issued by a “Nationally Recognized Testing Laboratory” (NRTL) approved by the Occupational Health and Safety Administration (OSHA). In Canada, equipment certification is issued by a “laboratory and certification body” (CB) accredited by the Standards Council of Canada (SCC). Both the NEC and CE Code require products include a “certification mark” issued by an accredited NRTL or CB. Final acceptance of specific certification marks is at the discretion of the AHJs (some jurisdictions may not accept all certification marks).

Most NRTLs and CBs use the terms “approved” and “certified” when referring to equipment that meets the requirements of the applicable Standards. Only Underwriter Laboratories Inc. (UL) identifies three different levels of certification as follows.

 Listed means the same as certified or approved. This means a product has been fully investigated to a specific set of construction standards. In hazardous locations, Zone type products must be specifically “Listed” for the location.

 Classified products are different than listed products. Products carrying this mark have been evaluated for specific properties. Although UL has a Canadian mark, CSA has no equivalent certification process.

Most NRTLs and CBs test and approve component products that are incomplete or restricted in performance capabilities. Components are intended to be used with other certified equipment (for example, an actuator may be approved as a component but cannot be used unless it is installed in an appropriate (approved) enclosure). Components are not intended for separate installation in the field, most AHJs require assemblies containing multiple components to be submitted to a CB for additional approvals. (This is similar to the “U” certificates in the IECEx and ATEX systems)

Several NRTLs and CBs are listed with both OSHA and SCC to approve products for both Canada and the US. This can simplify the approval process for original equipment manufacturers (OEMs) and panel builders as it allows them to provide a single product that complies with the NEC and CE Code.

USA OSHA NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL)	CANADA SCC ACCREDITED CERTIFICATION BODY
CSA	CSA
FM	FM
Intertek	Intertek
LabTest	LabTest
MET	MET
QPS	QPS
UL	UL
DEKRA*	ESAFE*
SGS*	

NOTE: OSHA and SCC define the specific Standards to which these agencies can test and certify products to. There can be differences the Scope of Accreditation of some organizations.

* Not accredited in both countries

The certification mark of each agency may include the letters “US” or “C” to identify suitability for each country. Logos that include “US” on the right side and “C” on the left identify the product is approved for use in both countries. The CB logos can be confusing since the certification logos themselves remain the same, only the “US” and “C” inclusions change.

Most NRTLs issue component listing of products which means that selected products may be offered in modular form, which the customer may assemble without affecting the listing.

Certification Marks for the USA only



Certification Marks for Canada only



Certification Marks for both Canada and US

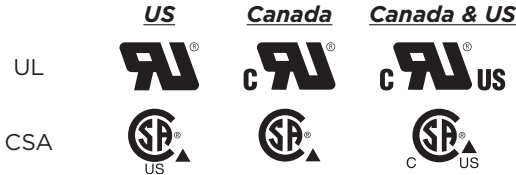


CERTIFICATION MARKINGS

Similar to equipment marking, country specific marks are used by UL and CSA to identify approved components.

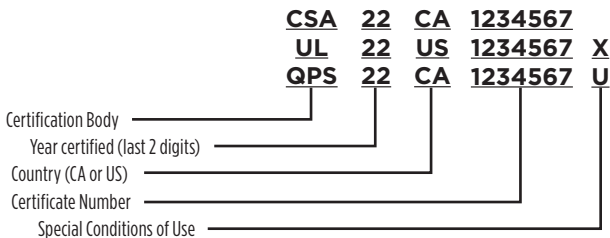
Component Marks

(products must be installed with other equipment)



North American Certification Marking Specific to Zone Locations

In addition to the information above, equipment certified to the CSA/UL/IEC 60079 Standards must also include the certification file number. Some Class/Division product will also include the certification file number, but the format is different.



There are two “special conditions of use”:

- “X” indicates there are special instructions for the safe installation and use of a product contained in the manufacturers’ instructions that must be followed.
- “U” indicates the product is an Ex Component that must be installed in or with other Ex Equipment. An additional certification is required for the completed assembly

International Certification Marks

IECEX Marking

Until recently, IECEX used two separate graphical symbols



for brand identification and marketing purposes. This included both the registered trademarks of IEC® and IECEX®.

A different graphic symbol was used to indicate “IECEX



Approval” that could be used much like the certification agency marks in North America. The use of the IECEX approval logo is authorized under the IECEX Mark

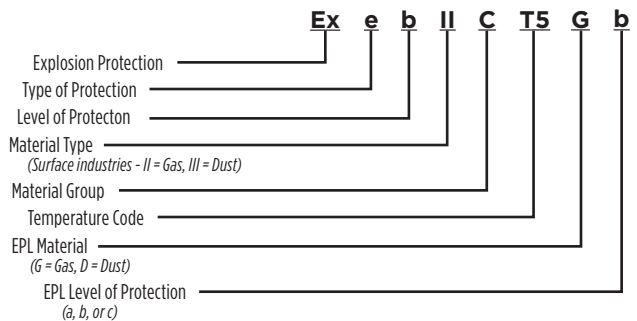
Licensing Scheme and is connected to an IECEX CoC. The IECEX mark is optional and not commonly used at this time.



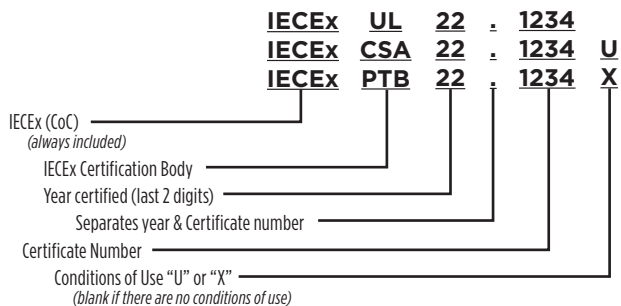
After a review in 2020, IECEX decided to use a single mark for both marketing purposes and to indicate equipment compliance. When used in print material (including literature, website, media publication, etc.) there are no licensing requirements. However, the mark cannot be used on equipment, product packaging, business cards, letterhead, stationary, etc. (except for certain IECEX members) unless a license is obtained through the IECEX Mark licensing Scheme.

The requirements for equipment marking include those identified in The IEC 60079 Series and the inclusion of the IECEX Certificate of Compliance Number.

Ex Equipment Marking (Based on IEC 60079)



IECEX Certificate of Compliance Number



CERTIFICATION MARKINGS

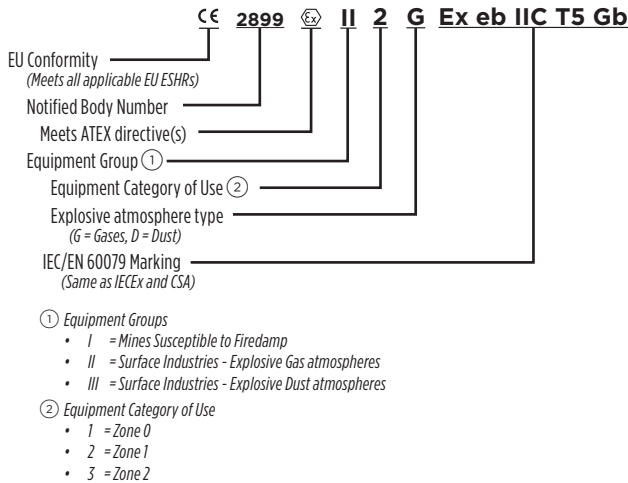
ATEX Marking for the EUROPEAN ECONOMIC AREA (EEA)

When the ATEX assessment has been completed, the manufacturer can place the CE Mark and other information on the product and issue the DoC at time of shipment. The marking is placed either on the equipment, packaging or instructions (often used for very small parts). The letters must be vertically equal in dimensions and must not be smaller than 5 millimeters. If there are other Directives which cover the product as well, the CE marking must be affixed only when all the Directives have been met.

CE The CE mark indicates a specific product complies with all the applicable European Union (EU) directives that apply to it. Directives for a particular type of product such as electromagnetic compatibility (EMC) or electromagnetic interference (EMI). This mark is self declared by the manufacturer.

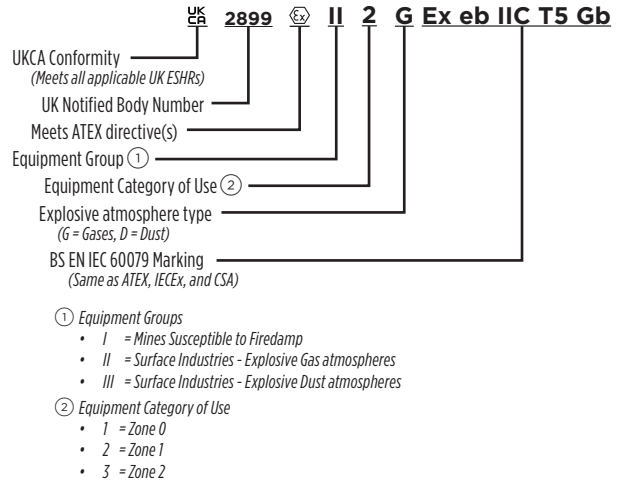
Ex The “Hex EX” mark identifies the equipment complies with all the applicable ATEX Directive. All equipment for use in explosive atmospheres, for use in the EU, include the CE and EX logos as well as the specific equipment marking.

Specific Equipment Marking



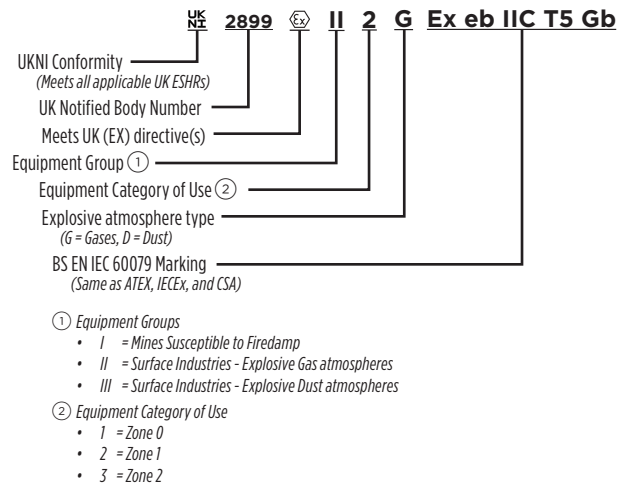
UKCA Marking for the UK (GB)

The UKCA marking is identical to the CE marking with just the CE replaced by the UKCA symbol. Currently, the UK will continue to follow the basic ATEX marking system, with the only differences being the Standards used are the BS EN IEC 60079 and BS EN 80079 Series.



UKNI Marking for Northern Ireland (UK)

Products produced in Northern Ireland intended for shipment to the UK would follow the UKNI marking system. Therefore, the UKNI mark would simply replace the UKCA mark shown above.



Other country specific certification and marking requirements

Many other countries have specific requirements for approval to be used in their country. In some cases, this is merely an administration procedure, in others additional technical requirements must be met. Some Countries require the use of a certification mark or logo as evidence of compliance. In most cases, the specific country approval can be based on an IECEx CoC.

Some examples include:

- Brazil all Ex equipment requires Inmetro approval.
- China requires a China Compulsory Certificate (CCC) mark issued by the Certification and Accreditation Administration of the People's Republic of China
- India has a combination of the PESO (Petroleum and Explosives Safety Organization) and DGMS (Director General of Mines Safety) approvals to import product.



- United Emirates Conformity used the Emirates Assessment Scheme (ECAS) requires an ECAS Certificate of Conformity and the Emirates Quality Mark (EQM)
- Saudi Arabia requires a Saudi Standards, Metrology and Quality Organization (SASO) Recognition Certificate (SIRC). SASO requires both IECEx CoC and IECEE (IEC Conformity Assessment Scheme for Electrical and Electronic Equipment) CoC (or an ExTr and EETr)
- South Africa requires a South African Bureau of Standards (SABS) mark on Ex equipment



For specific details on specific requirements for each contact the country organization or your Certification Body for additional information. Or contact Killark for assistance in understanding the global requirements for product certification.

Various Hubbell organizations (including Austdac, Chalmit, GaiTronics, Hawke and Killark) offer a wide range of products for use in explosive atmospheres, many of which include multi-country certification



North American Use of Equipment marked For Class/Division or Zones

Both the NEC and CE Code permit the use of Class/Division marked equipment to be used in Zone Locations and Zone marked equipment to be used in Class/Division locations. The CE Code includes Table 18 whereas the NEC currently has this information in text. (The 2023 NEC Edition is expected to add a similar table to that used in the CE Code)

CLASS/DIVISION SYSTEM		ZONE SYSTEM	
AREA CLASSIFICATION	SUITABLE EQUIPMENT	AREA CLASSIFICATION	SUITABLE EQUIPMENT
CLASS I, GASSES AND VAPORS		EXPLOSIVE GAS ATMOSPHERES	
Class I, Division 1	Equipment marked Class I, Division 1 Purged equipment to NFPA 496 Intrinsic safety Encapsulation Flameproof Inherently safe optical radiation Optical system with interlock	Zone 0	Intrinsically safe, IS, I.S., Exi, Exia Encapsulation ma ① Flameproof da ①② Equipment marked EPL Ga
		Zone 1	Equipment suitable for use in Zone 0 Equipment marked Class I, Division 1 Purged equipment to NFPA 496 Intrinsic safety Encapsulation Flameproof Intrinsic safety Increased safety Pressurized enclosure Powder filling Liquid immersion Electrical resistance trace heating 60079-30-1, EPL Gb Inherently safe optical radiation Optical system with interlock Protected optical radiation Equipment marked
Class I, Division 2	Equipment suitable for use in Class I, Division 1 Equipment suitable for use in Zone 0 Equipment suitable for use in in Zone 1 Equipment to NFPA 496 Type of Protection "n" (Group II) Intrinsic safety Encapsulation Flameproof Intrinsic safety Increased safety Pressurized enclosure Liquid immersion Electrical resistance trace heating 60079-30-1, EPL Gc Skin effect trace heating Impedance heating Inherently safe optical radiation Optical system with interlock Protected optical radiation Equipment marked Other electrical apparatus†	Zone 2	Equipment suitable for use in Zone 0 Equipment suitable for use in Zone 1 Equipment suitable for use in Class I, Division 1 Equipment suitable for use in Class I, Division 1 Equipment to NFPA 496 Type of Protection "n" (Group II) Intrinsic safety Encapsulation Flameproof Intrinsic safety Increased safety Pressurized enclosure Liquid immersion Electrical resistance trace heating 60079-30-1, EPL Gc Skin effect trace heating Impedance heating Inherently safe optical radiation Optical system with interlock Protected optical radiation Equipment marked Other electrical apparatus†

INTRODUCTION

HAZARDOUS LOCATION DATA

CLASS/DIVISION SYSTEM		ZONE SYSTEM		
AREA CLASSIFICATION	SUITABLE EQUIPMENT	AREA CLASSIFICATION	SUITABLE EQUIPMENT	
CLASS II, COMBUSTIBLE DUSTS		EXPLOSIVE DUST ATMOSPHERES		
Class II, Division 1	Equipment suitable for use in Class II, Division 1 Purged equipment to NFPA 496 Intrinsic safety Encapsulation Protection by Enclosure Inherently safe optical radiation Optical system with interlock	Types X, Y ia ma ta op is, with EPL Da** op sh, with EPL Da**	Equipment suitable for use in Class II, Division 1 Intrinsic safety (Group III) Intrinsically safe, Encapsulation Protection by enclosure (Group III) Inherently safe optical radiation Optical system with interlock Equipment marked	ia IS, I.S., Exi, Exia ma ① ta op is, with EPL Da** op sh, with EPL Da** EPL Da
			Equipment suitable for use in Zone 20 Equipment suitable for use in Class II, Division 1 Intrinsic safety (Group III) Protection by enclosure (Group III) Pressurized enclosure (Group III) Encapsulation Inherently safe optical radiation Optical system with interlock Protected optical radiation Electrical resistance trace heating 60079-30-1, EPL Db Skin effect trace heating Equipment marked	ib tb p, px, pxb, py, pyb mb op is, with EPL Db** op sh, with EPL Db** op pr, with EPL Db** with EPL Db** EPL Db
Class II, Division 2	Equipment suitable for use in Class II, Division 1 Equipment suitable for use in Class II, Division 2 Equipment suitable for use in Zone 20 Equipment suitable for use in Zone 21 Other electrical apparatus† <u>Suitable enclosures:</u> (CE Code) Types 4, 4X and 5 (NEC) Type 3, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, and 13	Zone 22	Equipment suitable for use in Zone 20 Equipment suitable for use in Zone 21 Equipment suitable for use in Class II, Division 1 Equipment suitable for use in Class II, Division 2 Intrinsic safety (Group III) Encapsulation Protection by enclosure (Group III) Electrical resistance trace heating 60079-30-1, EPL Dc Skin effect trace heating Impedance heating Inherently safe optical radiation Optical system with interlock Protected optical radiation Equipment marked Other electrical apparatus† <u>Suitable enclosures:</u> (CE Code) Types 4, 4X and 5 (NEC) Type 3, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, and 13	ic mc tc with EPL Dc** with EPL Dc** op is, with EPL Dc** op sh, with EPL Dc* op pr, with EPL Dc** EPL Dc
CLASS III, EASILY IGNITED FIBERS AND FLYINGS				
Class III, Division 1	Class II, Division 1 Class II, Division 2 Class III, Division 1 EPL Da, Db or Dc Other electrical apparatus† <u>Suitable enclosures:</u> (CE Code) Types 4, 4X and 5 (NEC) Type 3, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, and 13	Note: The Zone System incorporates the requirements for Class III materials Class III, Division 1 equates to Zone 20 and Zone 21 Class III, Division 1 equates to Zone 22		
Class III, Division 2	Same as above			

① Must be wired as intrinsically safe

② For Gas Detection products only

† Other acceptable equipment

- For Class I, Division 1 & Zone 1, examples include a submersible pump with a float switch that disconnects the power before it reaches the motor or pressurized systems Type X or Y
- For Class I, Division 2, & Zone 2 examples include; non-sparking motors, Type 4 enclosure with terminals, ordinary location fittings and cable glands, etc.
- For Class II, Division 1 & Zone 21, examples include pressurized systems Type X or Y
- For Class II, Division 2 & Zone 22, examples include, switches, controllers, circuit breakers, and fuses or terminals installed in (CE Code Type 4 or 5) or (NEC Type 3, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, and 13) enclosures and ordinary location fittings and cable glands, etc.
- Class III, Division 1 and Division 2, switches, controllers, circuit breakers, fuses, control transformers, resistors, utilization equipment (fixed and portable), electric cranes, hoists, or similar equipment installed in (CE Code Type 4 or 5) or (NEC Type 3, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, and 13) enclosures and ordinary location fittings and cable glands, etc..

HAZARDOUS LOCATION DATA

A more basic comparison is as follows:

BASIC MARKING REQUIRED FOR EQUIPMENT USED IN HAZARDOUS LOCATIONS			
CLASS DIVISION SYSTEM ①		ZONE SYSTEM ①	
CLASS I, GASSES AND VAPORS		EXPLOSIVE GAS ATMOSPHERES	
Class I, Division 1	Class I, Division 1 EPL Ga ② Other acceptable equipment	Zone 0	EPL Ga
		Zone 1	Class I, Division 1 EPL Ga or Gb
Class I, Division 2	Class I, Division 1 Class I, Division 2 EPL Ga, Gb or Gc ② Other acceptable equipment	Zone 2	Class I, Division 1 Class I, Division 2 EPL Ga, Gb or Gc ② Other acceptable equipment
CLASS II, COMBUSTIBLE DUSTS		EXPLOSIVE DUST ATMOSPHERES	
Class II, Division 1	Class II, Division 1 EPL Da ② Other acceptable equipment	Zone 20	Class II, Division 1 EPL Da
		Zone 21	Class II, Division 1 EPL Da or Db ② Other acceptable equipment
Class II, Division 1	Class II, Division 1 Class II, Division 2 EPL Da, Db or Dc ② Other acceptable equipment	Zone 22	Class II, Division 1 Class II, Division 2 EPL Da, Db or Dc ② Other acceptable equipment
CLASS III, EASILY IGNITED FIBERS & FLYINGS			
Class III, Division 1	Class II, Division 1 Class II, Division 2 Class III, Division 1 EPL Da, Db or Dc Enclosure See notes ② Other acceptable equipment	Same as Zone 22	
Class III, Division 2	Class II, Division 1 Class II, Division 2 Class III, Division 1 Class III, Division 2 EPL Da, Db or Dc Enclosure See notes ② Other acceptable equipment	Same as Zone 22	

NOTE: EPL marking will include the "Ex" Type of Protection and Level of Protection used in the construction of the product. This information may identify specific installation requirements. For example, Ex 'd' or 'db' enclosures require an explosion seal to be installed within 50mm. or Ex 'e' or 'eb' enclosure require the use of an Ex 'e' or 'eb' cable gland.

① Equipment marking must include the applicable Material (Gas or Dust), Group(s) and T-Code

② Other acceptable equipment

- For Class I, Division 1 & Zone 1, examples include a submersible pump with a float switch that disconnects the power before it reaches the motor or pressurized systems Type X or Y
- For Class I, Division 2, & Zone 2 examples include: non-sparking motors, Type 4 enclosure with terminals, ordinary location fittings and cable glands, etc.
- For Class II, Division 1 & Zone 21, examples include pressurized systems Type X or Y
- For Class II, Division 2 & Zone 22, examples include, switches, controllers, circuit breakers, and fuses or terminals installed in (CE Code Type 4 or 5) or (NEC Type 3, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, and 13) enclosures and ordinary location fittings and cable glands, etc.
- Class III, Division 1 and Division 2, switches, controllers, circuit breakers, fuses, control transformers, resistors, utilization equipment (fixed and portable), electric cranes, hoists, or similar equipment installed in (CE Code Type 4 or 5) or (NEC Type 3, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, and 13) enclosures and ordinary location fittings and cable glands, etc.

Trademarks

The designs of Killark products are original and proprietary and in many instances are covered by patents.

Killark products are designed to be installed as governed by the National Electric Code. The products are designed to conform with suitable Third Party Certifier standards where such standards exist. Most Killark standard cataloged products are covered by third party certification reports and inspection procedures. These certifications are a matter of record and are indicated by the product identification marking and the certifier's logo. Generally, the marking is required on the product itself, however, under certain circumstances, the marking may be applied to the carton only.

In general, products are Third Party Certified as complete assemblies, however, exceptions do exist. One such exception would be separate shipment of control station cover assemblies and the splice boxes. In some instances, components may be covered (i.e., UL Recognized) for

use in other equipment which will be submitted for certification of the complete assembly. The nature of the agreements with Third Party Certifiers requires that product deviations from the originally submitted design be resubmitted for evaluation prior to application of the logo. It is not uncommon for re-submittals to take a substantial length of time.

Generally, Killark's standard cataloged products are covered by one or more of the following Third Party certifiers: Underwriters Laboratories Inc., Factory Mutual Research Corporation, Canadian Standards Association, and other ATEX/IECEX third party certifiers. Products covered are indicated by the Third Party Certifiers logo and file number on the individual catalog pages. There may be instances where not all products on a particular page containing a logo are listed. When certification information is required, consult the factory or refer to the appropriate certifier for listings.



KILLARK

Registered Logotype and Trademark of: Killark
 A Division of Hubbell Incorporated (Delaware)
 St. Louis, MO USA

Manufacturer of Electrical Products for Hazardous and Non-Hazardous Locations: Fittings, Enclosures, Distribution Equipment, Plugs and Receptacles, Controls and Lighting Fixtures.

ACCEPTOR® Plugs and Receptacles

ACCEPTOR is a registered trademark identifying Killark Interchangeable Plug and Receptacle System.



Always-Thread is a registered trademark identifying Killark Lubricant.

CELOX®

CELOX is a registered trademark identifying Killark epoxy resin.

CorroSAFE™ Electrical Conduit Fittings

CorroSAFE is a trademark identifying a protective coating.

CLENGHER® Cable Connectors

CLENGHER is a registered trademark identifying Killark Cable Connectors.

DURALOY® Electrical Conduit Fittings

DURALOY is a trademark identifying a Tri-Coat protective finish used on Iron Electrical Conduit Fittings.

EXPB™

EXPB is a trademark identifying Killark Panelboards.

HAZCON® Controls

HAZCON is a registered trademark identifying Killark Factory Sealed Control Stations.

HP20®

HP20 is a registered trademark identifying RigPower connectors.

K-PAK®

Is a registered trademark identifying Killark Shelf packaging.

MCC-1™

MCC-1 is a trademark identifying RigPower connectors.

PRISM® Enclosures

PRISM is a registered trademark identifying Killark Enclosures, Motor Controls, Disconnect Switches and Panelboards.

QUANTUM® Enclosures for Hazardous & Hostile Locations

QUANTUM is a registered trademark identifying Killark Electrical Junction Boxes and Enclosures.

RMP® II

RMP is a registered trademark identifying RigPower connectors.

SEAL-X® Control Stations

SEAL-X is a registered trademark identifying Killark Factory Sealed Control Stations.

SEAL-XM® Factory Sealed Control Stations

SEAL-XM is a registered trademark identifying Killark Control Stations.

Secure Mount®

Secure Mount is a registered trademark identifying RigPower connectors.

StrateLine™

StrateLine is a trademark identifying Vantage connectors.

TECHNeTERM® Terminal Enclosures

TECHNeTERM is a registered trademark identifying Killark Increased Safety Terminal Enclosures.

Vantage® Technology Connectors

Vantage Technology is a trademark identifying Vantage Connectors

VersaMATE® Plugs & Receptacles

VersaMATE is a registered trademark identifying Killark Pin & Sleeve Plugs and Receptacles.

**Cord and Cable Connectors**

Z-SERIES is a registered trademark identifying Killark Cord and Cable Connectors.



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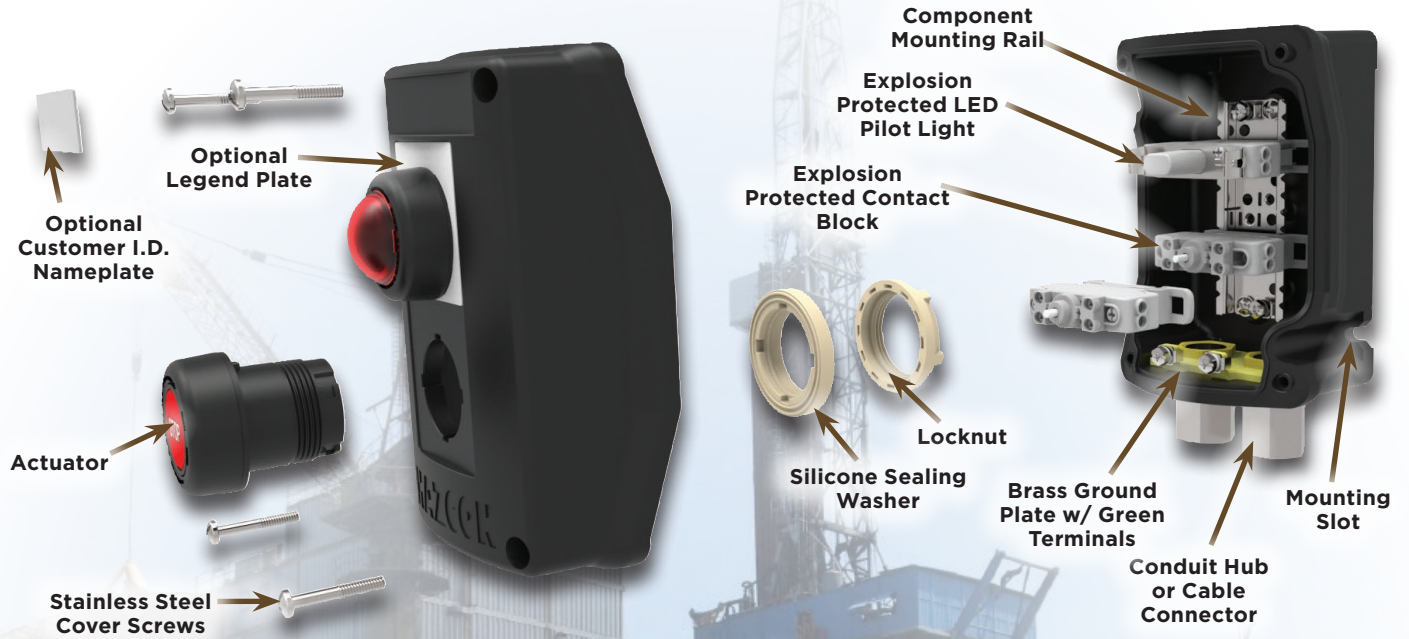


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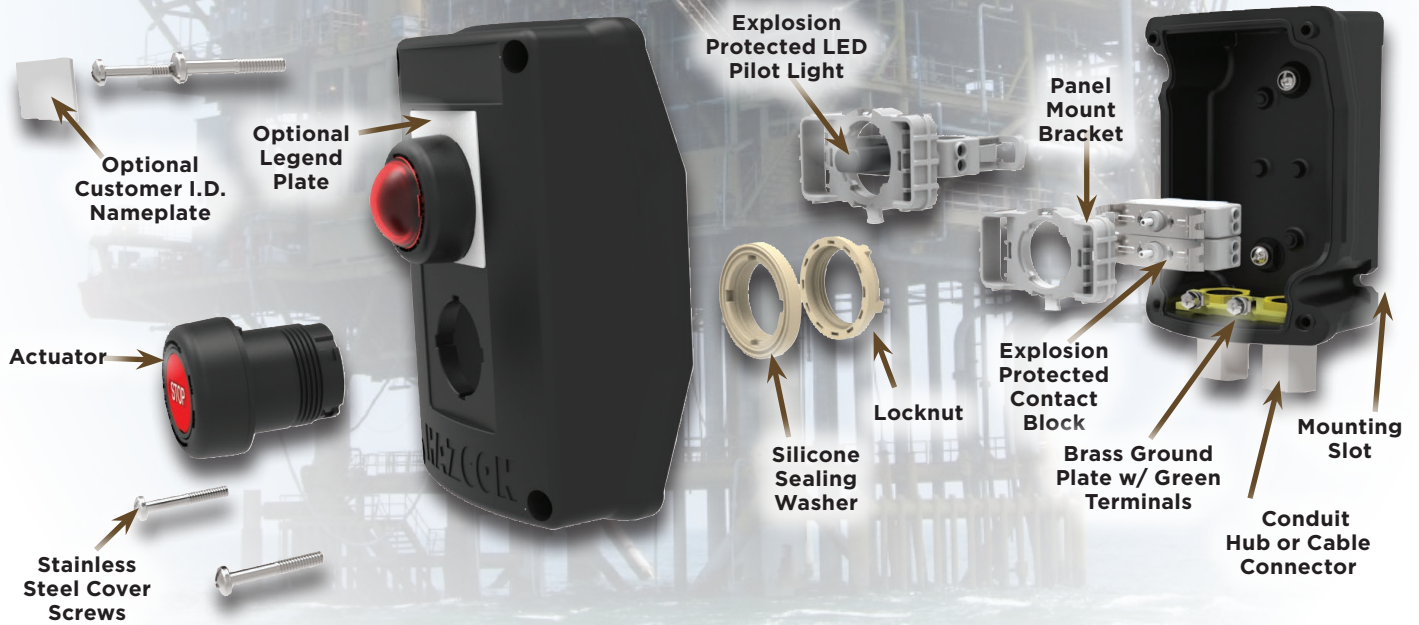


CONTROLS HKH SERIES

NON-METALLIC DIN RAIL MOUNT



NON-METALLIC PANEL MOUNT





Non-Metallic Configurations

HAZCON®



ATEX/IECEx Certified

CE 0518 Ex II 2 G Ex db eb IIC T6...
T4 Gb
0518 Ex II 2 D Ex tb IIIC T6...T4
Db IP66

DEMKO 15 ATEX 1405X
Ex db eb IIC T6...T4 Gb
Ex tb IIIC T85°C...T135°C Db IP66
IECEx UL 15.0054X
Ambient Range: -50°C < Ta < 60°C

cULus Certified

Class I, Zone 1, AEx db eb IIC T6...
T4 Gb / Ex db eb IIC T6...T4 Gb X
Zone 21, AEx tb IIIC T85°C...T135°C
Db IP66 / Ex tb IIIC T85°C...
T135°C Db IP66 X

Class I, Division 2, Groups A, B, C,
D

Class II, Division 1, Groups E, F, G
(Canada Only)

Class II, Division 2, Groups E, F, G
Class III

UL50, 50E, 508, UL60079-0, -1,
-7, -31

Type 3, 4, 4X, 12, 13

Ambient Range: -50°C < Ta < 60°C

Complies with RoHS, WEEE, ATEX and Low Voltage
directives.



FEATURES-SPECIFICATIONS

Features

- Size 1 Control Stations available as 1A, 1B, and 1C as standard catalog number offerings for 1, 2, and 3 device openings and will accept 2-M20 entries in either end. Ammeters available in 1B and 1C. Size 2 Enclosures available as 2A and 2C for 2, 4, and 6 device entries in cover with ability to accept 2-M25 entries in either end.
- Operating Temperature of -50°C to +60°C
- Contacts & Pilot lights can be mounted inside enclosure on Din Rail or Panel Mount in cover to the actuator.
- Accessories available for Lockout/Tag Out functions made in 316 stainless steel.

Materials

- Impact Resistant Non-Metallic PA6 Glass Reinforced Antistatic Material with f1 UV protection (protected against the most severe sunlight) and with a Flame Retardant rating of V-0.
- Silicone gasketing on all enclosures and operators throughout.
- Brass gland plates available for metric size applications.

Electrical Ratings

- Explosion Protected Contact Blocks, available in Normally Open (NO) or Normally Closed (NC) configurations, are rated for up to 690VAC, up to 20A Switching duty, and up to 1HP.
- Explosion Protected Pilot Lights rated for 12-250V AC/DC for UL applications and 12-254 V AC/DC for IEC applications.



CONTROLS HKH SERIES

Standard Size 1A Non-Metallic Configurations



Momentary
Push Button



Momentary &
Maintained Mushroom
P.B.



Pilot
Light

The control stations on this page are the most commonly used configurations of pilot lights and push buttons. One entry listed is located at bottom.

HKH MOMENTARY SINGLE PUSH BUTTON							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1AND2P11K8	HKH1ANP2P11K8	3/4" NPT SS HUB			1 N.O. / 1 N.C.	Green: Start/(I)/Blank Red: Stop/(O)/Blank Black: Blank	None
HKH1ANDAP11	HKH1ANPAP11	M20 Clearance hole					
supplied with 7 colored and marked discs – see button color							

HKH MOMENTARY SINGLE PUSH BUTTON - MUSHROOM							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1AND2M11BK8 HKH1AND2M21AK8 HKH1AND2M310K8	HKH1ANP2M11BK8 HKH1ANP2M21AK8 HKH1ANP2M310K8	3/4" NPT SS HUB			1 N.O. / 1 N.C.	Red Green Black	Stop Start Blank
HKH1ANDAM11B HKH1ANDAM21A HKH1ANDAM310	HKH1ANPAM11B HKH1ANPAM21A HKH1ANPAM310	M20 Clearance hole				Red Green Black	Stop Start Blank

HKH MAINTAINED SINGLE PUSH PULL BUTTON - MUSHROOM							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1AND2M41BK8 HKH1AND2M51AK8 HKH1AND2M610K8	HKH1ANP2M41BK8 HKH1ANP2M51AK8 HKH1ANP2M610K8	3/4" NPT SS HUB			1 N.O. / 1 N.C.	Red Green Black	Stop Start Blank
HKH1ANDAM41B HKH1ANDAM51A HKH1ANDAM610	HKH1ANPAM41B HKH1ANPAM51A HKH1ANPAM610	M20 Clearance hole				Red Green Black	Stop Start Blank

HKH SINGLE PILOT LIGHT								
3/4" NPT SS HUB SUPPLIED		M20 CLEARANCE HOLE SUPPLIED		CONTACT ARRANGEMENT		LAMP VOLTAGE	COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT	DIN RAIL MOUNT	PANEL MOUNT	IEC	NEMA			
HKH1AND2LRL0K8 HKH1AND2LGL0K8 HKH1AND2LAL0K8 HKH1AND2LCL0K8 HKH1AND2LBL0K8	HKH1ANP2LRL0K8 HKH1ANP2LGL0K8 HKH1ANP2LAL0K8 HKH1ANP2LCL0K8 HKH1ANP2LBL0K8	HKH1ANDALRL0 HKH1ANDALGL0 HKH1ANDALAL0 HKH1ANDALCL0 HKH1ANDALBL0	HKH1ANPALRL0 HKH1ANPALGL0 HKH1ANPALAL0 HKH1ANPALCL0 HKH1ANPALBL0			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	Red LED Green LED Amber LED Clear LED Blue LED	Blank



Standard Size 1A Non-Metallic Configurations



Maintained
Mushroom P.B.
Pull Release



Maintained
Mushroom P.B.
Twist Release



Double
Momentary
Push Button

The control stations on this page are the most commonly used configurations of mushroom push buttons and double push buttons.

One entry listed is located at bottom.

HKH MAINTAINED MUSHROOM STAY PUT E-STOP							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1AND2M41EK8 (Pull Release) HKH1AND2M71EK8 (Twist Release)	HKH1ANP2M41EK8 (Pull Release) HKH1ANP2M71EK8 (Twist Release)	3/4" NPT SS HUB			1N.O./1N.C.	Red	Emergency Stop
HKH1ANDAM41E (Pull Release) HKH1ANDAM71E (Twist Release)	HKH1ANPAM41E (Pull Release) HKH1ANPAM71E (Twist Release)	M20 Clearance hole					

HKH DOUBLE MOMENTARY PUSH BUTTON, 1 N.O. START/1 N.C. STOP							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1AND2P21K8	HKH1ANP2P21K8	3/4" NPT SS HUB		START STOP	1N.O./1N.C.	Green: Start/(I)/Blank Red: Stop/(O)/Blank Black: Blank	-
HKH1ANDAP21	HKH1ANPAP21	M20 Clearance hole					



CONTROLS HKH SERIES

Standard Size 1A Non-Metallic Configurations



2 Position
Selector Switch Maint. & Mom.



3 Position
Selector Switch Maint. & Mom.

The control stations on this page are the most commonly used configurations of rotary selector switches. One entry listed is located at bottom.

HKH MAINTAINED 2-POSITION SELECTOR SWITCH						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2S11SK8	HKH1ANP2S11SK8	3/4" NPT SS HUB		OFF ON	1 N.C. / 1 N.O.	Off-On
HKH1ANDAS11S	HKH1ANPAS11S	M20 Clearance hole				
HKH 2-POSITION SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2S210K8	HKH1ANP2S210K8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Blank
HKH1ANDAS210	HKH1ANPAS210	M20 Clearance hole				
HKH MAINTAINED 3-POSITION SELECTOR SWITCH INDEPENDENT CAM						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2S349K8	HKH1ANP2S349K8	3/4" NPT SS HUB		HAND OFF AUTO	2 N.O.	Hand-Off-Auto
HKH1ANDAS349	HKH1ANPAS349	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. LEFT & RIGHT, MAINT. CENTER						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2S440K8	HKH1ANP2S440K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ANDAS440	HKH1ANPAS440	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. CENTER & LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2S540K8	HKH1ANP2S540K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ANDAS540	HKH1ANPAS540	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. LEFT, MAINT. CENTER & RIGHT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2S640K8	HKH1ANP2S640K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ANDAS640	HKH1ANPAS640	M20 Clearance hole				



Standard Size 1A Non-Metallic Configurations



2 Position
Key Selector SWT Maint. & Mom.



3 Position
Key Selector SWT Maint. & Mom.

The control stations on this page are the most commonly used configurations of keyed rotary selector switches. One entry hole listed is located at bottom.

HKH MAINTAINED 2-POSITION KEYED SELECTOR SWITCH						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2K11SK8	HKH1ANP2K11SK8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Off-On
HKH1ANDAK11S	HKH1ANPAK11S	M20 Clearance hole				
HKH 2-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2K210K8	HKH1ANP2K210K8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Blank
HKH1ANDAK210	HKH1ANPAK210	M20 Clearance hole				
HKH MAINTAINED 3-POSITION KEYED SELECTOR SWITCH INDEPENDENT CAM						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2K349K8	HKH1ANP2K349K8	3/4" NPT SS HUB			2 N.O.	Hand-Off-Auto
HKH1ANDAK349	HKH1ANPAK349	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. LEFT & RIGHT, MAINT. CENTER						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2K440K8	HKH1ANP2K440K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ANDAK440	HKH1ANPAK440	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. CENTER & LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2K540K8	HKH1ANP2K540K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ANDAK540	HKH1ANPAK540	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. LEFT, MAINT. CENTER & RIGHT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1AND2K640K8	HKH1ANP2K640K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ANDAK640	HKH1ANPAK640	M20 Clearance hole				



CONTROLS HKH SERIES

Standard Size 1B Non-Metallic Configurations



Momentary Push Button

Momentary Mushroom P.B.

Momentary Start-Stop Push Buttons

Pilot Light

The control stations on this page are the most commonly used configurations, including combinations of pilot lights and push buttons.

One entry listed is located at bottom.

HKH MOMENTARY SINGLE PUSH BUTTON							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BND2P11K8	HKH1BNP2P11K8	3/4" NPT SS HUB			1 N.O. / 1 N.C.	Green: Start/(I)/Blank Red: Stop/(O)/Blank Black: Blank	None
HKH1BNDAP11	HKH1BNPAP11	M20 Clearance hole					
supplied with 7 colored and marked discs – see button color							

HKH MOMENTARY SINGLE PUSH BUTTON - MUSHROOM							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BND2M11BK8 HKH1BND2M21AK8 HKH1BND2M310K8	HKH1BNP2M11BK8 HKH1BNP2M21AK8 HKH1BNP2M310K8	3/4" NPT SS HUB			1 N.O. / 1 N.C.	Red Green Black	Stop Start Blank
HKH1BNDAM11B HKH1BNDAM21A HKH1BNDAM310	HKH1BNPAM11B HKH1BNPAM21A HKH1BNPAM310	M20 Clearance hole				Red Green Black	Stop Start Blank

HKH DOUBLE MOMENTARY START-STOP PUSH BUTTONS							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BND2P11P11K8	HKH1BNP2P11P11K8	3/4" NPT SS HUB			1 N.O. / 1 N.C. 1 N.O. / 1 N.C.	Green, Start, (I) Red, Stop, (O)	-
HKH1BNDAP11P11	HKH1BNPAP11P11	M20 Clearance hole					

HKH SINGLE PILOT LIGHT								
3/4" NPT SS HUB SUPPLIED		M20 CLEARANCE HOLE SUPPLIED		CONTACT ARRANGEMENT		LAMP VOLTAGE	COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT	DIN RAIL MOUNT	PANEL MOUNT	IEC	NEMA			
HKH1BND2LRL0K8 HKH1BND2LGL0K8 HKH1BND2LAL0K8 HKH1BND2LCL0K8 HKH1BND2LBL0K8	HKH1BNP2LRL0K8 HKH1BNP2LGL0K8 HKH1BNP2LAL0K8 HKH1BNP2LCL0K8 HKH1BNP2LBL0K8	HKH1BNDALRL0 HKH1BNDALGL0 HKH1BNDALAL0 HKH1BNDALCL0 HKH1BNDALBL0	HKH1BNPALRL0 HKH1BNPALGL0 HKH1BNPALAL0 HKH1BNPALCL0 HKH1BNPALBL0			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	Red LED Green LED Amber LED Clear LED Blue LED	Blank



Standard Size 1B Non-Metallic Configurations



Maintained
Mushroom P.B.
Pull Release

Maintained
Mushroom P.B.
Twist Release

Double
Pilot
Light

Pilot Light
& Double
Momentary Push
Button

The control stations on this page are the most commonly used configurations, including combinations of pilot lights and push buttons.

One entry listed is located at bottom.

HKH MAINTAINED MUSHROOM STAY PUT E-STOP							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BND2M41EK8 (Pull Release)	HKH1BNP2M41EK8 (Pull Release)	3/4" NPT SS HUB			1N.O. / 1N.C.	Red	Emergency Stop
HKH1BND2M71EK8 (Twist Release)	HKH1BNP2M71EK8 (Twist Release)						
HKH1BNDAM41E (Pull Release)	HKH1BNPAM41E (Pull Release)	M20 Clearance hole			1N.O. / 1N.C.	Red	Emergency Stop
HKH1BNDAM71E (Twist Release)	HKH1BNPAM71E (Twist Release)						

HKH MAINTAINED SINGLE PUSH PULL BUTTON - MUSHROOM							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BND2M41BK8 HKH1BND2M51AK8 HKH1BND2M610K8	HKH1BNP2M41BK8 HKH1BNP2M51AK8 HKH1BNP2M610K8	3/4" NPT SS HUB			1N.O. / 1N.C.	Red Green Black	Stop Start Blank
HKH1BNDAM41B HKH1BNDAM51A HKH1BNDAM610	HKH1BNPAM41B HKH1BNPAM51A HKH1BNPAM610	M20 Clearance hole				Red Green Black	Stop Start Blank

HKH DOUBLE PILOT LIGHT								
3/4" NPT SS HUB SUPPLIED		M20 CLEARANCE HOLE SUPPLIED		CONTACT ARRANGEMENT		LAMP VOLTAGE	COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT	DIN RAIL MOUNT	PANEL MOUNT	IEC	NEMA			
HKH1BND2LRL0LGL0K8 HKH1BND2LRL0LRL0K8 HKH1BND2LGL0LGL0K8	HKH1BNP2LRL0LGL0K8 HKH1BNP2LRL0LRL0K8 HKH1BNP2LGL0LGL0K8	HKH1BNDALRL0LGL0 HKH1BNDALRL0LRL0 HKH1BNDALGL0LGL0	HKH1BNPALRL0LGL0 HKH1BNPALRL0LRL0 HKH1BNPALGL0LGL0			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	Red/Green Red/Red Green/Green	Blank

HKH DOUBLE MOMENTARY PUSH BUTTON & PILOT LIGHT								
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		LAMP VOLTAGE	CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKH1BND2LRL0P21K8	HKH1BNP2LRL0P21K8	3/4" NPT SS HUB			12V-254V, AC/DC	1N.O. 1N.C.	Green, Start, (I)	—
HKH1BNDALRL0P21	HKH1BNPALRL0P21	M20 Clearance hole					Red, Stop, (O)	—



CONTROLS HKH SERIES

Standard Size 1B Non-Metallic Configurations



2 Position
Selector Switch
Maint. & Mom.



3 Position
Selector Switch
Maint. & Mom.

The control stations on this page are the most commonly used configurations of rotary selector switches. One entry listed is located at bottom.

HKH MAINTAINED 2-POSITION SELECTOR SWITCH						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2S11SK8	HKH1BNP2S11SK8	3/4" NPT SS HUB		OFF ON	1 N.C. / 1 N.O.	Off-On
HKH1BNDAS11S	HKH1BNPAS11S	M20 Clearance hole				
HKH 2-POSITION SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2S210K8	HKH1BNP2S210K8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Blank
HKH1BNDAS210	HKH1BNPAS210	M20 Clearance hole				
HKH MAINTAINED 3-POSITION SELECTOR SWITCH INDEPENDENT CAM						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2S349K8	HKH1BNP2S349K8	3/4" NPT SS HUB		HAND OFF AUTO	2 N.O.	Hand-Off-Auto
HKH1BNDAS349	HKH1BNPAS349	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. LEFT & RIGHT, MAINT. CENTER						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2S440K8	HKH1BNP2S440K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BNDAS440	HKH1BNPAS440	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. CENTER & LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2S540K8	HKH1BNP2S540K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BNDAS540	HKH1BNPAS540	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. LEFT, MAINT. CENTER & RIGHT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2S640K8	HKH1BNP2S640K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BNDAS640	HKH1BNPAS640	M20 Clearance hole				



Standard Size 1B Non-Metallic Configurations



2 Position
Key Selector SWT
Maint. & Mom.



3 Position
Key Selector SWT
Maint. & Mom.

The control stations on this page are the most commonly used configurations of keyed rotary selector switches. One entry hole listed is located at bottom.

HKH MAINTAINED 2-POSITION KEYED SELECTOR SWITCH						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2K11SK8	HKH1BNP2K11SK8	3/4" NPT SS HUB			1N.C./1N.O.	Off-On
HKH1BNDAK11S	HKH1BNPAK11S	M20 Clearance hole				
HKH 2-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2K210K8	HKH1BNP2K210K8	3/4" NPT SS HUB			1N.C./1N.O.	Blank
HKH1BNDAK210	HKH1BNPAK210	M20 Clearance hole				
HKH MAINTAINED 3-POSITION KEYED SELECTOR SWITCH INDEPENDENT CAM						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2K349K8	HKH1BNP2K349K8	3/4" NPT SS HUB			2 N.O.	Hand-Off-Auto
HKH1BNDAK349	HKH1BNPAK349	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. LEFT & RIGHT, MAINT. CENTER						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2K440K8	HKH1BNP2K440K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BNDAK440	HKH1BNPAK440	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. CENTER & LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2K540K8	HKH1BNP2K540K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BNDAK540	HKH1BNPAK540	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. LEFT, MAINT. CENTER & RIGHT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BND2K640K8	HKH1BNP2K640K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BNDAK640	HKH1BNPAK640	M20 Clearance hole				



CONTROLS HKH SERIES

Standard Size 1C Non-Metallic Configurations



The control stations on this page are the most commonly used configurations, including combinations of pilot lights, push buttons, rotary selector switches, and ammeters.

One entry hole listed is located at bottom.

HKH RED PILOT LIGHT & TWO MOMENTARY PUSH BUTTONS								
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		LAMP VOLTAGE	CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKHMOD000001	HKHMOD000002	3/4" NPT SS HUB			12V-254V AC/DC IEC Ex	1 N.C.	Red Stop (I)	Blank
HKHMOD000003	HKHMOD000004	M20 Clearance hole			12V-250V AC/DC UL	1 N.O.	Green Start (O)	

HKH THREE MOMENTARY PUSH BUTTONS								
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING	
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKHMOD000005	HKHMOD000006	3/4" NPT SS HUB			1 N.O. / 1 N.C. 1 N.O. / 1 N.C. 1 N.O. / 1 N.C.	Green: Start/(I)/Blank Red: Stop/(O)/Blank Black: Blank	Blank	
HKHMOD000007	HKHMOD000008	M20 Clearance hole						

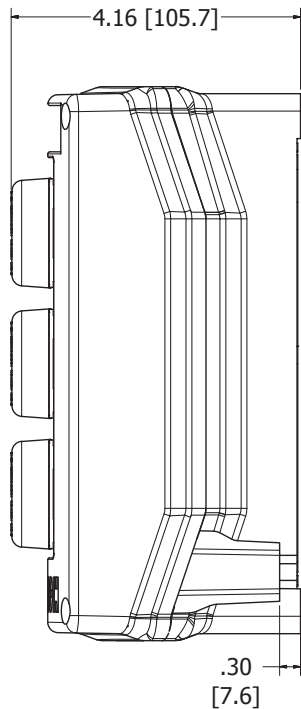
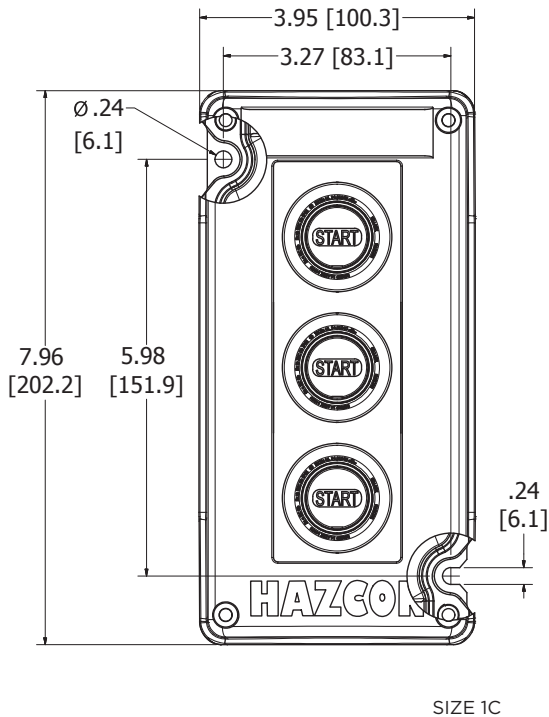
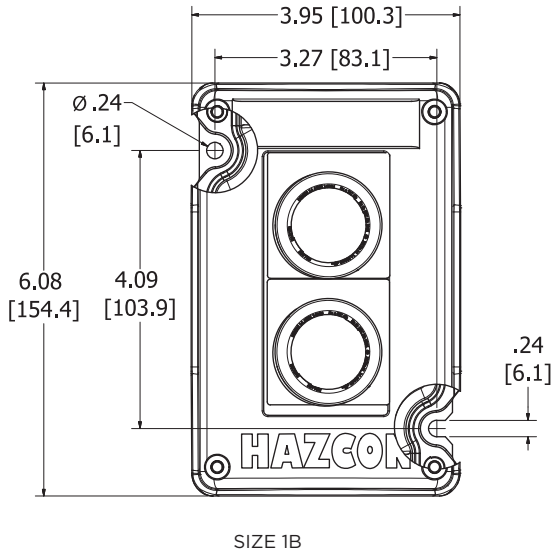
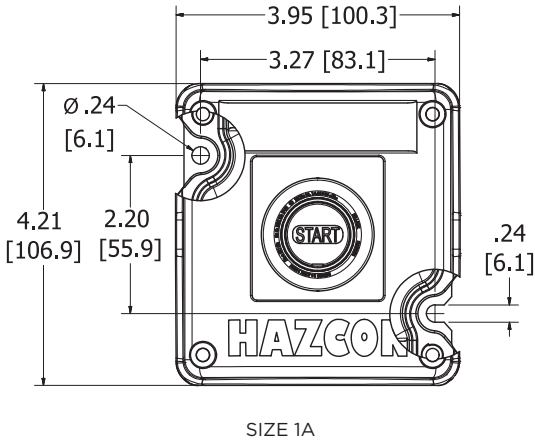
HKH RED PILOT LIGHT, MUSHROOM MAINTAINED P.B., DOUBLE MOMENTARY P.B.								
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		LAMP VOLTAGE	BUTTON COLOR	LEGEND PLATE MARKING	
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKHMOD000009 (Pull Release)	HKHMOD000010 (Pull Release)	3/4" NPT SS HUB			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	Red Green: Start/(I)/Blank Red: Stop/(O)/Blank	Blank Emergency Stop	
HKHMOD000011 (Twist Release)	HKHMOD000012 (Twist Release)							1 N.O. / 1 N.C. 1 N.O. / 1 N.C.
HKHMOD000013 (Pull Release)	HKHMOD000014 (Pull Release)	M20 Clearance hole			1 N.O. / 1 N.C. 1 N.O. / 1 N.C.	Red: Stop/(O)/Blank		
HKHMOD000015 (Twist Release)	HKHMOD000016 (Twist Release)							

HKH 72MM AMMETER & 2 POSITION MAINT. SELECTOR SWITCH								
CATALOG NUMBER ^①		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING	
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKHMOD000017	HKHMOD000018	3/4" NPT SS HUB			1 N.C. / 1 N.O.	—	Blank	
HKHMOD000019	HKHMOD000020	M20 Clearance hole						

^① Consult Factory for other scale ranges and for Voltmeter options.



Dimensional Data - Size 1 Non-Metallic Enclosures



CLEARANCE HOLE FOR NPT FITTING	LOGIC CODE
1/2" Top Feed	7
1/2" Bottom Feed	1
1/2" Feed Through	4
3/4" Top Feed	8
3/4" Bottom Feed	2
3/4" Feed Through	5
1" Top Feed	9
1" Bottom Feed	3
1" Feed Through	6
CLEARANCE HOLE FOR METRIC FITTING	LOGIC CODE
M20 Top Feed	C
M20 Bottom Feed	A
M20 Feed Through	B
2 x M20 Top Feed	F
2 x M20 Bottom Feed	D
M25 Top Feed	J
M25 Bottom Feed	G
M25 Feed Through	H



CONTROLS HKH SERIES

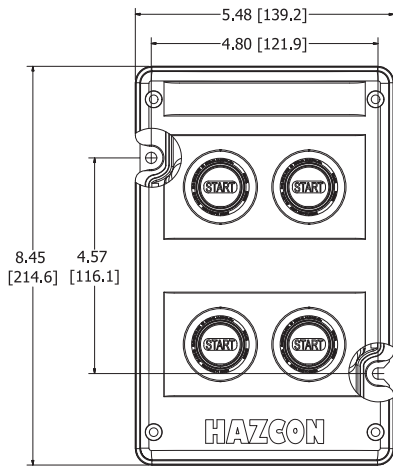
Size 2A & 2C Non-Metallic



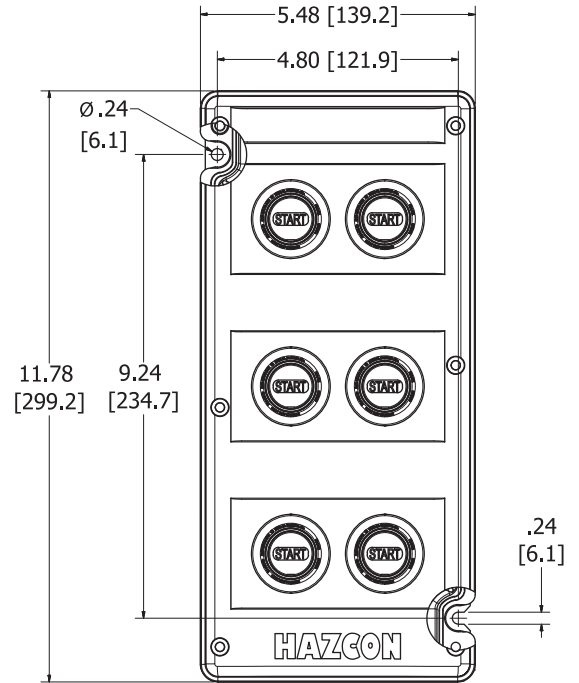
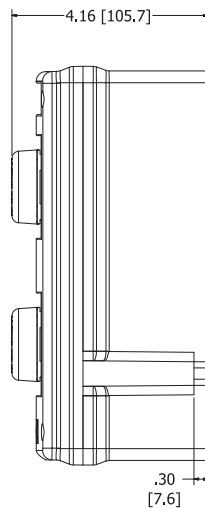
Size 2A and 2C control stations can be factory ordered to include combinations of pilot lights, push buttons, rotary selector switches, ammeters, and terminal blocks.

Entry holes can be located on all sides.

Double Push button, HKHDBLPBMMGR, not available on Size 2A - 4 Device or 2C - 6 Device covers



Size 2A



Size 2C
(Depth same as 2A)

CLEARANCE HOLE FOR NPT FITTING	LOGIC CODE
1/2" Top Feed	7
1/2" Bottom Feed	1
1/2" Feed Through	4
3/4" Top Feed	8
3/4" Bottom Feed	2
3/4" Feed Through	5

CLEARANCE HOLE FOR METRIC FITTING	LOGIC CODE
2 x M20 Top Feed	F
2 x M20 Bottom Feed	D
2 x M20 Feed Through	E
2 x M25 Top Feed	M
2 x M25 Bottom Feed	K
2 x M25 Feed Through	L
M32 Top Feed	Q
M32 Bottom Feed	N
M32 Feed Through	P

DRILLED & TAPPED FOR METRIC FITTING	LOGIC CODE
2 x M20 Bottom Feed	T
2 x M25 Bottom Feed	U
M32 Bottom Feed	V



Size 1 Non-Metallic 2 Pole Rocker Switch

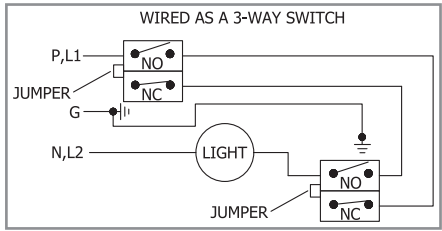


Size 1A

Rocker Switch with Double Pole, Single Throw action
Luminous fluorescent strip supplied for ease of locating.
One entry listed is located at bottom.

CONTACT BLOCK FEATURES:

- **UL ELECTRICAL RATING:** 690Vac, 20A, 50-60Hz, 60Vdc, 5A, 110Vdc, 2A, 255Vdc, 1.5A, 1/2 HP @120Vac, 1 HP@208/240/277Vac, A600/P600- Pilot Duty 350Vac- Tungsten Lamp.
- **WIRE ALLOWANCES:** WIRE RANGE with 1 or 2 WIRES: #22 to #12 AWG (SOL & STR) and #10 AWG (STR).
- **IEC ELECTRICAL RATINGS:** AC690V 16A AC-12, 50-60 Hz, AC230V 16A AC-15, 50-60Hz, DC60V 5A DC-12, DC125 1A DC-13.
- **WIRE ALLOWANCES:** WIRE RANGE with 1 or 2 WIRES: 0.5 to 2.5mm (SOL & STR) and 4.0mm² (STR)
- Silver Alloy contacts with Gold Flashing.



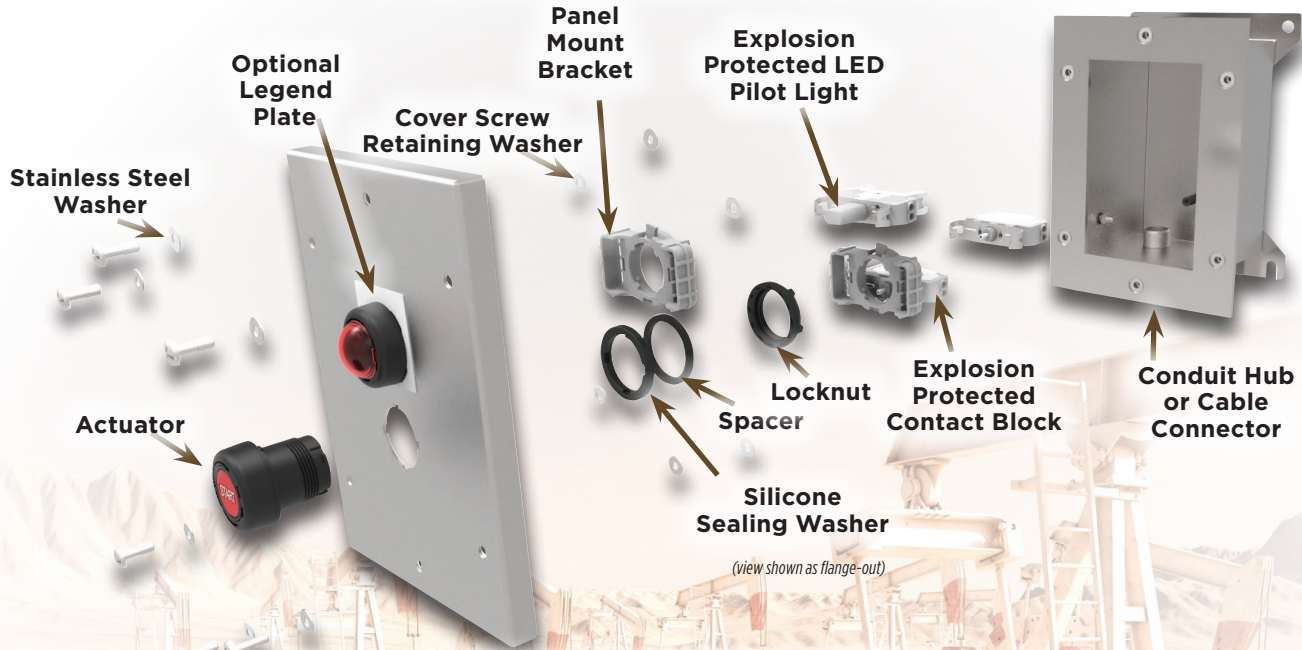
HKH ROCKER SWITCH MAINTAINED IN 2 POSITIONS				
CATALOG NUMBER	ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS
		IEC	NEMA	
HKH1AND2RS4K8	3/4" NPT SS HUB			2 N.O.
HKH1ANDARS4	M20 Clearance hole			
HKH1AND2RS1K8 ①	3/4" NPT SS HUB			1N.C./1N.O.
HKH1ANDARS1 ①	M20 Clearance hole			
HKH1BND2RS4K8	3/4" NPT SS HUB			2 N.O.
HKH1BNDARS4	M20 Clearance hole			
HKH1BND2RS1K8 ①	3/4" NPT SS HUB			1N.C./1N.O.
HKH1BNDARS1 ①	M20 Clearance hole			

Available in HKH Size 1c also as 1 or 2 Rocker Switches and 1 Rocker Switch with 1 other actuator top or bottom.

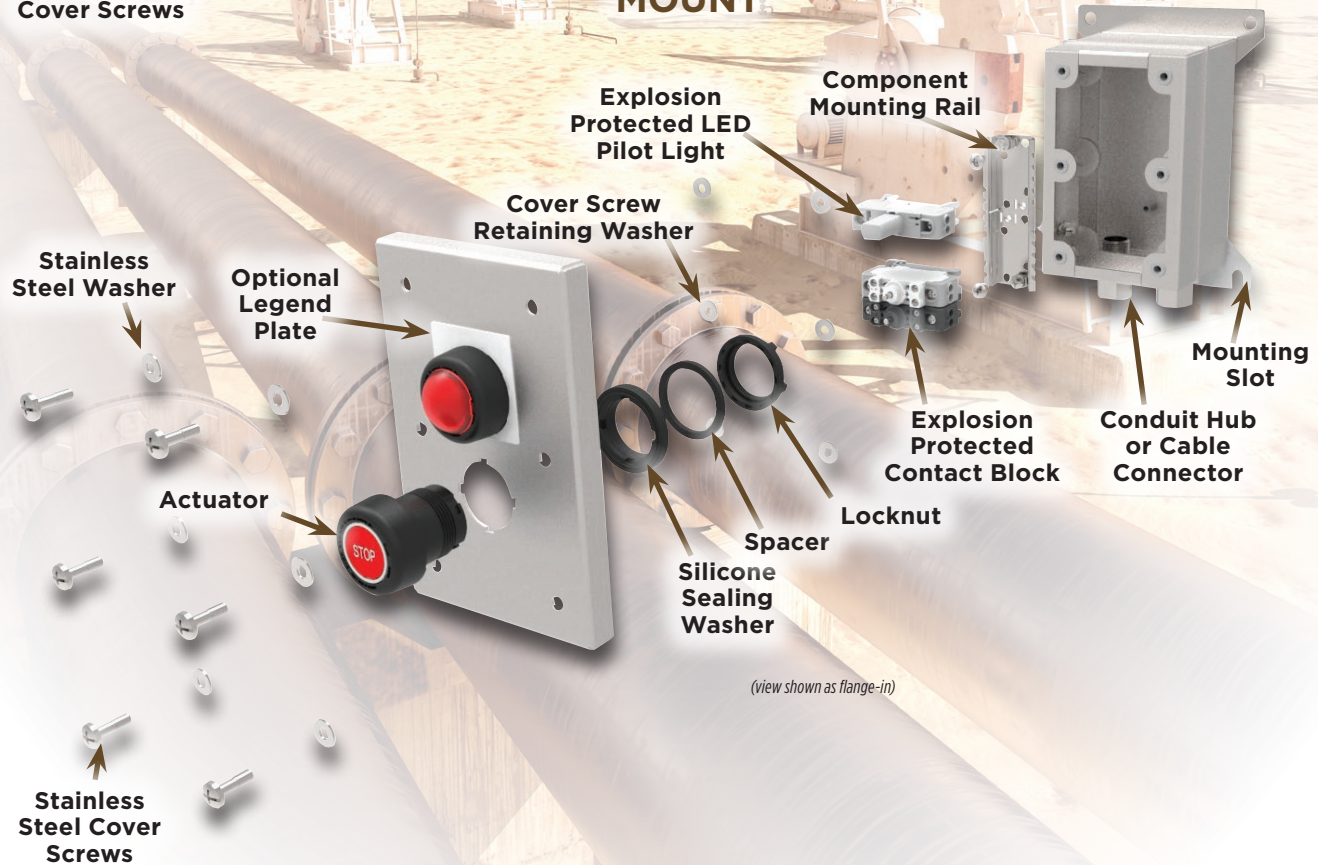


CONTROLS
HKH SERIES

STAINLESS STEEL PANEL MOUNT



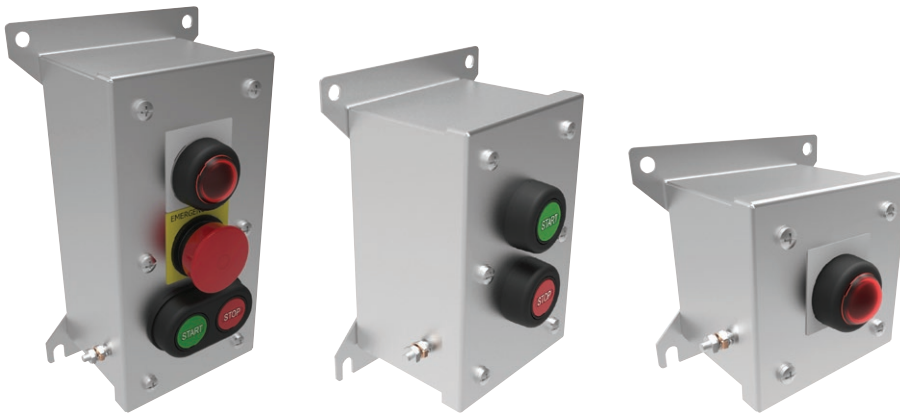
STAINLESS STEEL DIN RAIL MOUNT





Stainless Steel Configurations

HAZCON®



ATEX/IECEX Certified

CE 0518 Ex II 2 G Ex db eb IIC T6...T4 Gb
0518 Ex II 2 D Ex tb IIIC T6...T4 Db IP66

DEMKO 15 ATEX 1405X

Ex db eb IIC T6...T4 Gb
Ex tb IIIC T85°C...T135°C Db IP66
IECEX UL 15.0054X

Ambient Range: -50°C < Ta < 60°C

cULus Certified

Class I, Zone 1, AEx db eb IIC T6...T4 Gb / Ex db eb IIC T6...T4 Gb X
Zone 21, AEx tb IIIC T85°C...T135°C Db IP66 / Ex tb IIIC T85°C...T135°C Db IP66 X

Class I, Division 2, Groups A, B, C, D
Class II, Division 1, Groups E, F, G (Canada Only)

Class II, Division 2, Groups E, F, G

Class III

UL50, 50E, 508, UL60079-0, -1, -7, -31
Type 3, 4, 4X, 12, 13

Ambient Range: -50°C < Ta < 60°C

Complies with RoHS, WEEE, ATEX and Low Voltage directives.



IEEx 16.0079 INMETRO

STAINLESS ENCL. ONLY
CLASS II, DIV. 1, GRPS. E,F,G



CSA 17.70126964

FEATURES-SPECIFICATIONS

Features

- Size 1 Control Stations available as 1A, 1B, and 1C as standard catalog number offerings for 1, 2 and 3 device openings and will accept 2-M20 entries in either end. Ammeters available in 1B and 1C. Size 2 Enclosures available as 2A and 2C for 2, 4, and 6 device entries in cover with ability to accept 2-M25 entries in either end.
- Operating Temperature of -50°C to +60°C
- Contacts and Pilot lights can be mounted inside enclosure on Din Rail or in cover to the actuator.
- Accessories available for Lockout/Tag Out functions made in 316 stainless steel.
- Enclosures available in standard Internal flange, and External flange when additional access is required.

Materials

- Enclosure = 316 Stainless Steel
- Hardware = Stainless Steel
- Silicone gasketing on all enclosures and operators throughout.

Electrical Ratings

- Explosion Protected Contact Blocks, available in Normally Open (NO) or Normally Closed (NC) configurations, are rated for up to 690VAC, up to 20A Switching duty, and up to 1HP.
- Explosion Protected Pilot Lights rated for 12-250V AC/DC for UL applications and 12-254 V AC/DC for IEC applications.

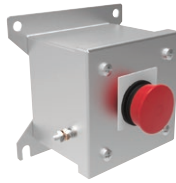


CONTROLS HKH SERIES

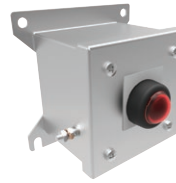
Standard Size 1A Stainless Steel Configurations



Momentary
Push Button



Momentary & Maintained
Mushroom P.B.



Pilot Light

The control stations on this page are the most commonly used configurations of pilot lights and push buttons. One entry hole listed is located at bottom.

HKH MOMENTARY SINGLE PUSH BUTTON							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1ASD2P11K8	HKH1ASP2P11K8	3/4" NPT SS HUB			1N.O./1N.C.	Green: Start/(1)/Blank Red: Stop/(0)/Blank Black: Blank	None
HKH1ASDAP11	HKH1ASPAP11	M20 Clearance hole					
supplied with 7 colored and marked discs – see button color							

HKH MOMENTARY SINGLE PUSH BUTTON - MUSHROOM							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1ASD2M11BK8 HKH1ASD2M21AK8 HKH1ASD2M310K8	HKH1ASP2M11BK8 HKH1ASP2M21AK8 HKH1ASP2M310K8	3/4" NPT SS HUB			1N.O./1N.C.	Red Green Black	Stop Start Blank
HKH1ASDAM11B HKH1ASDAM21A HKH1ASDAM310	HKH1ASPAM11B HKH1ASPAM21A HKH1ASPAM310	M20 Clearance hole				Red Green Black	Stop Start Blank

HKH MAINTAINED SINGLE PUSH PULL BUTTON - MUSHROOM							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1ASD2M41BK8 HKH1ASD2M51AK8 HKH1ASD2M610K8	HKH1ASP2M41BK8 HKH1ASP2M51AK8 HKH1ASP2M610K8	3/4" NPT SS HUB			1N.O./1N.C.	Red Green Black	Stop Start Blank
HKH1ASDAM41B HKH1ASDAM51A HKH1ASDAM610	HKH1ASPAM41B HKH1ASPAM51A HKH1ASPAM610	M20 Clearance hole				Red Green Black	Stop Start Blank

HKH SINGLE PILOT LIGHT								
3/4" NPT SS HUB SUPPLIED		M20 CLEARANCE HOLE SUPPLIED		CONTACT ARRANGEMENT		LAMP VOLTAGE	COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT	DIN RAIL MOUNT	PANEL MOUNT	IEC	NEMA			
HKH1ASD2LRL0K8 HKH1ASD2LGL0K8 HKH1ASD2LAL0K8 HKH1ASD2LCL0K8 HKH1ASD2LBL0K8	HKH1ASP2LRL0K8 HKH1ASP2LGL0K8 HKH1ASP2LAL0K8 HKH1ASP2LCL0K8 HKH1ASP2LBL0K8	HKH1ASDALRLO HKH1ASDALGLO HKH1ASDALALO HKH1ASDALCLO HKH1ASDALBLO	HKH1ASPALRLO HKH1ASPALGLO HKH1ASPALALO HKH1ASPALCLO HKH1ASPALBLO			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	Red LED Green LED Amber LED Clear LED Blue LED	Blank



Standard Size 1A Stainless Steel Configurations



Maintained
Mushroom P.B.
Pull Release



Maintained
Mushroom P.B.
Twist Release



Double
Momentary
Push Button

The control stations on this page are the most commonly used configurations of mushroom push buttons and double push buttons.

One entry listed is located at bottom.

HKH MAINTAINED MUSHROOM STAY PUT E-STOP							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1ASD2M41EK8 <small>(Pull Release)</small>	HKH1ASP2M41EK8 <small>(Pull Release)</small>	3/4" NPT SS HUB			1 N.O. / 1 N.C.	Red	Emergency Stop
HKH1ASD2M71EK8 <small>(Twist Release)</small>	HKH1ASP2M71EK8 <small>(Twist Release)</small>						
HKH1ASDAM41E <small>(Pull Release)</small>	HKH1ASPAM41E <small>(Pull Release)</small>	M20 Clearance hole			1 N.O. / 1 N.C.	Red	Emergency Stop
HKH1ASDAM71E <small>(Twist Release)</small>	HKH1ASPAM71E <small>(Twist Release)</small>						

HKH DOUBLE MOMENTARY PUSH BUTTON, 1 N.O. START/1 N.C. STOP							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1ASD2P21K8	HKH1ASP2P21K8	3/4" NPT SS HUB		START STOP	1 N.O. / 1 N.C.	Green/Start/(1) Red/Stop/(0) Black	-
HKH1ASDAP21	HKH1ASPAP21	M20 Clearance hole					



CONTROLS HKH SERIES

Standard Size 1A Stainless Steel Configurations



2 Position
Selector Switch Maint. & Mom.



3 Position
Selector Switch Maint. & Mom.

The control stations on this page are the most commonly used configurations of rotary selector switches. One entry hole listed is located at bottom.

HKH MAINTAINED 2-POSITION SELECTOR SWITCH						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2S11SK8	HKH1ASP2S11SK8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Off-On
HKH1ASDAS11S	HKH1ASPAS11S	M20 Clearance hole				
HKH 2-POSITION SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2S210K8	HKH1ASP2S210K8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Blank
HKH1ASDAS210	HKH1ASPAS210	M20 Clearance hole				
HKH MAINTAINED 3-POSITION SELECTOR SWITCH INDEPENDENT CAM						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2S349K8	HKH1ASP2S349K8	3/4" NPT SS HUB			2 N.O.	Hand-Off-Auto
HKH1ASDAS349	HKH1ASPAS349	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. LEFT & RIGHT, MAINT. CENTER						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2S440K8	HKH1ASP2S440K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ASDAS440	HKH1ASPAS440	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. CENTER & LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2S540K8	HKH1ASP2S540K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ASDAS540	HKH1ASPAS540	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. LEFT, MAINT. CENTER & RIGHT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2S640K8	HKH1ASP2S640K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ASDAS640	HKH1ASPAS640	M20 Clearance hole				



Standard Size 1A Stainless Steel Configurations



2 Position
Key Selector SWT Maint. & Mom.



3 Position
Key Selector SWT Maint. & Mom.

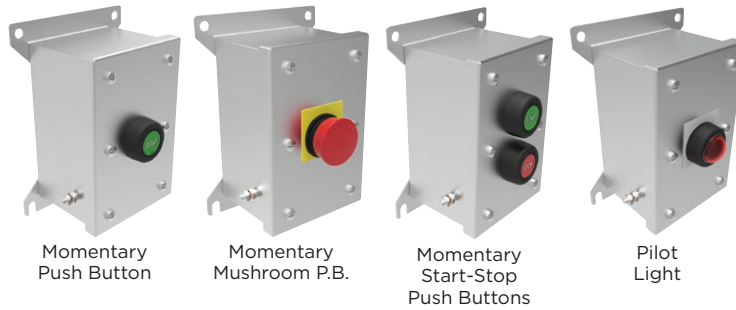
The control stations on this page are the most commonly used configurations of keyed rotary selector switches. One entry hole listed is located at bottom.

HKH MAINTAINED 2-POSITION KEYED SELECTOR SWITCH						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2K11SK8	HKH1ASP2K11SK8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Off-On
HKH1ASDAK11S	HKH1ASPAK11S	M20 Clearance hole				
HKH 2-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2K210K8	HKH1ASP2K210K8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Blank
HKH1ASDAK210	HKH1ASPAK210	M20 Clearance hole				
HKH MAINTAINED 3-POSITION KEYED SELECTOR SWITCH INDEPENDENT CAM						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2K349K8	HKH1ASP2K349K8	3/4" NPT SS HUB			2 N.O.	Hand-Off-Auto
HKH1ASDAK349	HKH1ASPAK349	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. LEFT & RIGHT, MAINT. CENTER						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2K440K8	HKH1ASP2K440K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ASDAK440	HKH1ASPAK440	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. CENTER & LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2K540K8	HKH1ASP2K540K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ASDAK540	HKH1ASPAK540	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. LEFT, MAINT. CENTER & RIGHT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1ASD2K640K8	HKH1ASP2K640K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1ASDAK640	HKH1ASPAK640	M20 Clearance hole				



CONTROLS HKH SERIES

Standard Size 1B Stainless Steel Configurations*



Momentary Push Button

Momentary Mushroom P.B.

Momentary Start-Stop Push Buttons

Pilot Light

The control stations on this page are the most commonly used configurations, including combinations of pilot lights, and push buttons.

One entry hole listed is located at bottom.

HKH MOMENTARY SINGLE PUSH BUTTON							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BSD2P11K8	HKH1BSP2P11K8	3/4" NPT SS HUB			1 N.O. / 1 N.C.	Green: Start/(I)/Blank Red: Stop/(O)/Blank Black: Blank	None
HKH1BSDAP11	HKH1BSPAP11	M20 Clearance hole					
supplied with 7 colored and marked discs – see button color							

HKH MOMENTARY SINGLE PUSH BUTTON - MUSHROOM							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BSD2M11BK8 HKH1BSD2M21AK8 HKH1BSD2M310K8	HKH1BSP2M11BK8 HKH1BSP2M21AK8 HKH1BSP2M310K8	3/4" NPT SS HUB			1 N.O. / 1 N.C.	Red Green Black	Stop Start Blank
HKH1BSDAM11B HKH1BSDAM21A HKH1BSDAM310	HKH1BSPAM11B HKH1BSPAM21A HKH1BSPAM310	M20 Clearance hole				Red Green Black	Stop Start Blank

HKH DOUBLE MOMENTARY START-STOP PUSH BUTTONS							
CATALOG NUMBER ①		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BSD2P11P11K8	HKH1BEP2P11P11K8	3/4" NPT SS HUB			1 N.O. / 1 N.C. 1 N.O. / 1 N.C.	Green, start, (I) Red, stop, (O)	-
HKH1BSDAP11P11	HKH1BEPAP11P11	M20 Clearance hole					

HKH SINGLE PILOT LIGHT								
3/4" NPT SS HUB SUPPLIED		M20 CLEARANCE HOLE SUPPLIED		CONTACT ARRANGEMENT		LAMP VOLTAGE	COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT	DIN RAIL MOUNT	PANEL MOUNT	IEC	NEMA			
HKH1BSD2LRL0K8 HKH1BSD2LGL0K8 HKH1BSD2LAL0K8 HKH1BSD2LCL0K8 HKH1BSD2LBL0K8	HKH1BSP2LRL0K8 HKH1BSP2LGL0K8 HKH1BSP2LAL0K8 HKH1BSP2LCL0K8 HKH1BSP2LBL0K8	HKH1BSDALRL0 HKH1BSDALGL0 HKH1BSDALAL0 HKH1BSDALCL0 HKH1BSDALBL0	HKH1BSPALRL0 HKH1BSPALGL0 HKH1BSPALAL0 HKH1BSPALCL0 HKH1BSPALBL0			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	Red LED Green LED Amber LED Clear LED Blue LED	Blank

① Din Rail mount assemblies supplied in Flange In type enclosures. Panel mount assemblies supplied with Flange Out enclosures.



Standard Size 1B Stainless Steel Configurations*



Maintained Mushroom P.B. Pull Release

Maintained Mushroom P.B. Twist Release

Double Pilot Light

Pilot Light & Double Momentary Push Button

The control stations on this page are the most commonly used configurations, including combinations of pilot lights, and push buttons.

One entry listed is located at bottom.

HKH MAINTAINED MUSHROOM STAY PUT E-STOP							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BSD2M41EK8 (Pull Release)	HKH1BSP2M41EK8 (Pull Release)	3/4" NPT SS HUB			1N.O. / 1N.C.	Red	Emergency Stop
HKH1BSD2M71EK8 (Twist Release)	HKH1BSP2M71EK8 (Twist Release)						
HKH1BSDAM41E (Pull Release)	HKH1BSPAM41E (Pull Release)	M20 Clearance hole			1N.O. / 1N.C.	Red	Emergency Stop
HKH1BSDAM71E (Twist Release)	HKH1BSPAM71E (Twist Release)						

HKH MAINTAINED SINGLE PUSH PULL BUTTON - MUSHROOM							
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA			
HKH1BSD2M41BK8 HKH1BSD2M51AK8 HKH1BSD2M610K8	HKH1BSP2M41BK8 HKH1BSP2M51AK8 HKH1BSP2M610K8	3/4" NPT SS HUB			1N.O. / 1N.C.	Red	Stop
HKH1BSDAM41B HKH1BSDAM51A HKH1BSDAM610	HKH1BSPAM41B HKH1BSPAM51A HKH1BSPAM610					M20 Clearance hole			Red Green Black	Start Blank

HKH DOUBLE PILOT LIGHT								
3/4" NPT SS HUB SUPPLIED ①		M20 CLEARANCE HOLE SUPPLIED ①		CONTACT ARRANGEMENT		LAMP VOLTAGE	COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT	DIN RAIL MOUNT	PANEL MOUNT	IEC	NEMA			
HKH1BSD2LRL0LGL0K8 HKH1BSD2LRL0LRL0K8 HKH1BSD2LGL0LGL0K8	HKH1BEP2LRL0LGL0K8 HKH1BEP2LRL0LRL0K8 HKH1BEP2LGL0LGL0K8	HKH1BSDALRL0LGL0 HKH1BSDALRL0LRL0 HKH1BSDALGL0LGL0	HKH1BEPALRL0LGL0 HKH1BEPALRL0LRL0 HKH1BEPALGL0LGL0			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	Red/Green Red/Red Green/Green	Blank

HKH DOUBLE MOMENTARY PUSH BUTTON & PILOT LIGHT								
CATALOG NUMBER ①		ENTRY SIZE	CONTACT ARRANGEMENT		LAMP VOLTAGE	CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKH1BSD2LRL0P21K8	HKH1BEP2LRL0P21K8	3/4" NPT SS HUB			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	1N.O. 1N.C.	Green, Start, (I)	—
HKH1BSDALRL0P21	HKH1BEPALRL0P21						M20 Clearance hole			Red, Stop, (O)	—

① Din Rail mount assemblies supplied in Flange In type enclosures. Panel mount assemblies supplied with Flange Out enclosures.



CONTROLS HKH SERIES

Standard Size 1B Stainless Steel Configurations



2 Position
Selector Switch
Maint. & Mom.



3 Position
Selector Switch
Maint. & Mom.

The control stations on this page are the most commonly used configurations of rotary selector switches. One entry listed is located at bottom.

HKH MAINTAINED 2-POSITION SELECTOR SWITCH						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2S11SK8	HKH1BSP2S11SK8	3/4" NPT SS HUB		OFF ON 	1 N.C. / 1 N.O.	Off-On
HKH1BSDAS11S	HKH1BSPAS11S	M20 Clearance hole				
HKH 2-POSITION SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2S210K8	HKH1BSP2S210K8	3/4" NPT SS HUB			1 N.C. / 1 N.O.	Blank
HKH1BSDAS210	HKH1BSPAS210	M20 Clearance hole				
HKH MAINTAINED 3-POSITION SELECTOR SWITCH INDEPENDENT CAM						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2S349K8	HKH1BSP2S349K8	3/4" NPT SS HUB		HAND OFF AUTO 	2 N.O.	Hand-Off-Auto
HKH1BSDAS349	HKH1BSPAS349	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. LEFT & RIGHT, MAINT. CENTER						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2S440K8	HKH1BSP2S440K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BSDAS440	HKH1BSPAS440	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. CENTER & LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2S540K8	HKH1BSP2S540K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BSDAS540	HKH1BSPAS540	M20 Clearance hole				
HKH 3-POSITION SELECTOR SWITCH SPRING RETURN, MOM. LEFT, MAINT. CENTER & RIGHT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2S640K8	HKH1BSP2S640K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BSDAS640	HKH1BSPAS640	M20 Clearance hole				



Standard Size 1B Stainless Steel Configurations



2 Position
Key Selector Swt
Maint. & Mom.



3 Position
Key Selector Swt Maint.
& Mom.

The control stations on this page are the most commonly used configurations of keyed rotary selector switches. One entry listed is located at bottom.

HKH MAINTAINED 2-POSITION KEYED SELECTOR SWITCH						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2K11SK8	HKH1BSP2K11SK8	3/4" NPT SS HUB			1 N.C./1 N.O.	Off-On
HKH1BSDAK11S	HKH1BSPAK11S	M20 Clearance hole				
HKH 2-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2K210K8	HKH1BSP2K210K8	3/4" NPT SS HUB			1 N.C./1 N.O.	Blank
HKH1BSDAK210	HKH1BSPAK210	M20 Clearance hole				
HKH MAINTAINED 3-POSITION KEYED SELECTOR SWITCH INDEPENDENT CAM						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2K349K8	HKH1BSP2K349K8	3/4" NPT SS HUB			2 N.O.	Hand-Off-Auto
HKH1BSDAK349	HKH1BSPAK349	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. LEFT & RIGHT, MAINT. CENTER						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2K440K8	HKH1BSP2K440K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BSDAK440	HKH1BSPAK440	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. RIGHT, MAINT. CENTER & LEFT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2K540K8	HKH1BSP2K540K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BSDAK540	HKH1BSPAK540	M20 Clearance hole				
HKH 3-POSITION KEYED SELECTOR SWITCH SPRING RETURN, MOM. LEFT, MAINT. CENTER & RIGHT						
CATALOG NUMBER		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA		
HKH1BSD2K640K8	HKH1BSP2K640K8	3/4" NPT SS HUB			2 N.O.	Blank
HKH1BSDAK640	HKH1BSPAK640	M20 Clearance hole				



CONTROLS HKH SERIES

Standard Size 1C Stainless Steel Configurations



The control stations on this page are the most commonly used configurations, including combinations of pilot lights, push buttons, rotary selector switches, and ammeters.

One entry hole listed is located at bottom.

HKH RED PILOT LIGHT & TWO MOMENTARY PUSH BUTTONS								
CATALOG NUMBER ^①		ENTRY SIZE	CONTACT ARRANGEMENT		LAMP VOLTAGE	CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKHMOD000021	HKHMOD000022	3/4" NPT SS HUB			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	1 N.C.	Red Stop (I)	Blank
HKHMOD000023	HKHMOD000024	M20 Clearance hole							1 N.O.	Green Start (O)

HKH THREE MOMENTARY PUSH BUTTONS								
CATALOG NUMBER ^①		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING	
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKHMOD000025	HKHMOD000026	3/4" NPT SS HUB			1 N.O. / 1 N.C. 1 N.O. / 1 N.C. 1 N.O. / 1 N.C.	Green: Start/(I)/Blank Red: Stop/(O)/Blank Black: Blank	Blank	
HKHMOD000027	HKHMOD000028	M20 Clearance hole						

HKH RED PILOT LIGHT, MUSHROOM MAINTAINED P.B., DOUBLE MOMENTARY P.B.								
CATALOG NUMBER ^①		ENTRY SIZE	CONTACT ARRANGEMENT		LAMP VOLTAGE	BUTTON COLOR	LEGEND PLATE MARKING	
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA	CONTACT BLOCKS			
HKHMOD000029 (Pull Release)	HKHMOD000030 (Pull Release)	3/4" NPT SS HUB			12V-254V AC/DC IEC Ex 12V-250V AC/DC UL	Red Green: Start/(I)/Blank Red: Stop/(O)/Blank	Blank Emergency Stop	
HKHMOD000031 (Twist Release)	HKHMOD000032 (Twist Release)							M20 Clearance hole	1 N.O. / 1 N.C.	1 N.O. / 1 N.C.
HKHMOD000033 (Pull Release)	HKHMOD000034 (Pull Release)	M20 Clearance hole			1 N.O. / 1 N.C. 1 N.O. / 1 N.C.	Red Green: Start/(I)/Blank Red: Stop/(O)/Blank	Blank Emergency Stop	
HKHMOD000035 (Twist Release)	HKHMOD000036 (Twist Release)							1 N.O. / 1 N.C.

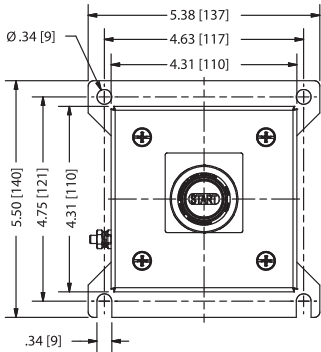
HKH 72MM AMMETER & 2 POSITION MAINT. SELECTOR SWITCH								
CATALOG NUMBER ^{① ②}		ENTRY SIZE	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	LEGEND PLATE MARKING	
DIN RAIL MOUNT	PANEL MOUNT		IEC	NEMA				
HKHMOD000037	HKHMOD000038	3/4" NPT SS HUB			1 N.C. / 1 N.O.	-	Blank	
HKHMOD000039	HKHMOD000040	M20 Clearance hole						

^① Din Rail mount assemblies supplied in Flange In type enclosures. Panel mount assemblies supplied with Flange Out enclosures.

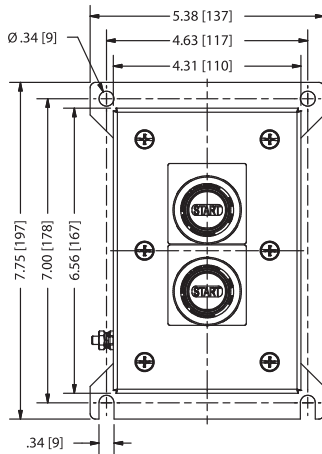
^② IECEx/ATEX Only. Supplied with 72mm 1A Ammeter scale 0-5A and 25A O/L scale. For use with Current Transformer. Consult Factory for other scale ranges and for Voltmeter options.



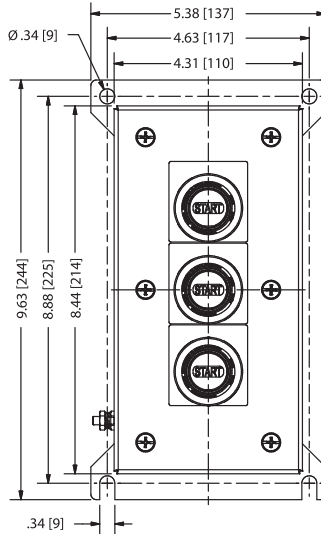
Dimensional Data - Stainless Steel Size 1 Flange In



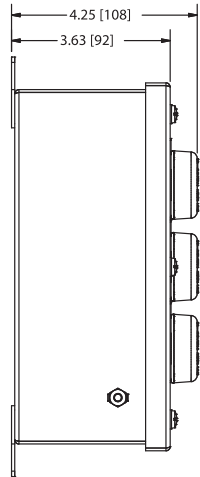
Flange In Size 1A



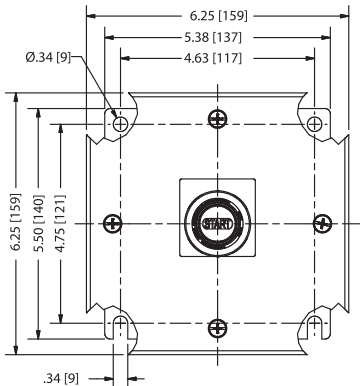
Flange In Size 1B



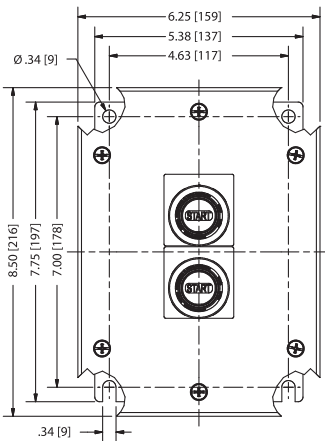
Flange In Size 1C



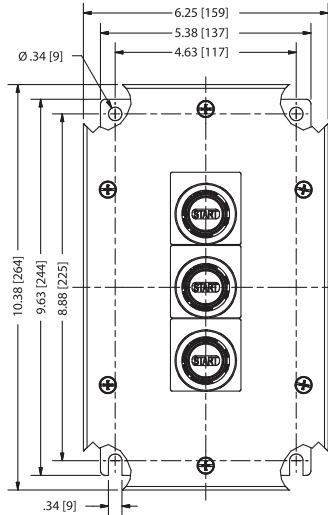
Dimensional Data - Stainless Steel Size 1 Flange Out



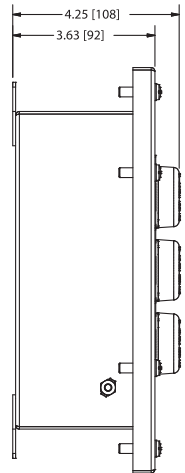
Flange Out Size 1A



Flange Out Size 1B



Flange Out Size 1C



CLEARANCE HOLE FOR NPT FITTING	LOGIC CODE
1/2" Top Feed	7
1/2" Bottom Feed	1
1/2" Feed Through	4
3/4" Top Feed	8
3/4" Bottom Feed	2
3/4" Feed Through	5
1" Top Feed	9
1" Bottom Feed	3
1" Feed Through	6

CLEARANCE HOLE FOR METRIC FITTING	LOGIC CODE
M20 Top Feed	C
M20 Bottom Feed	A
M20 Feed Through	B
2 x M20 Top Feed	F
2 x M20 Bottom Feed	D
M25 Top Feed	J
M25 Bottom Feed	G
M25 Feed Through	H



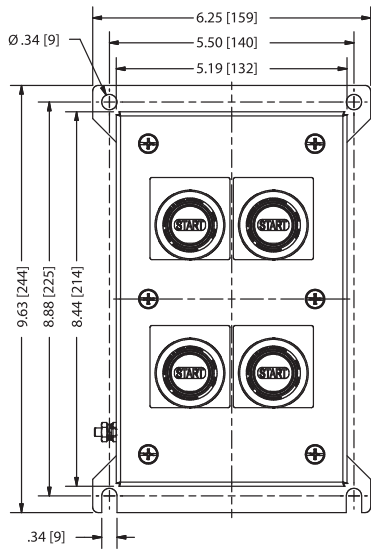
CONTROLS HKH SERIES

Size 2A & 2C Stainless Steel Flange In

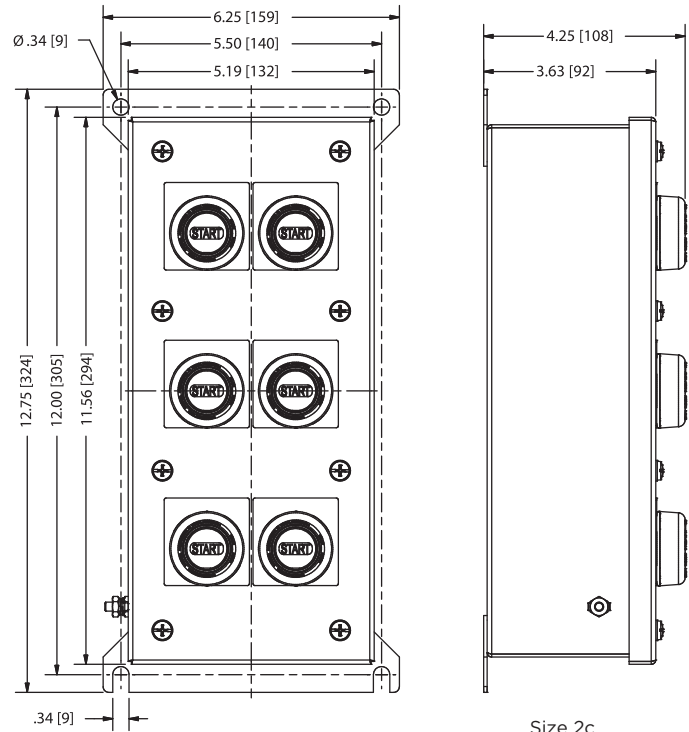


Size 2A and 2C control stations can be factory ordered to include combinations of pilot lights, push buttons, rotary selector switches, ammeters, and terminal blocks.

Entry holes can be located on all sides.



Size 2a



Size 2c

CLEARANCE HOLE FOR NPT FITTING	LOGIC CODE	CLEARANCE HOLE FOR METRIC FITTING	LOGIC CODE
1/2" Top Feed	7	M20 Top Feed	C
1/2" Bottom Feed	1	M20 Bottom Feed	A
1/2" Feed Through	4	M20 Feed Through	B
3/4" Top Feed	8	2 x M20 Top Feed	F
3/4" Bottom Feed	2	2 x M20 Bottom Feed	D
3/4" Feed Through	5	M25 Top Feed	J
1" Top feed	9	M25 Bottom Feed	G
1" bottom feed	3	M25 Feed Through	H
1" Feed Through	6	2 x m25 bottom feed	K

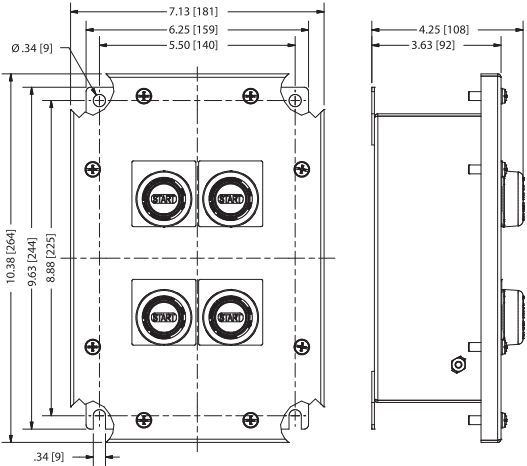


Size 2A & 2C Stainless Steel Flange Out

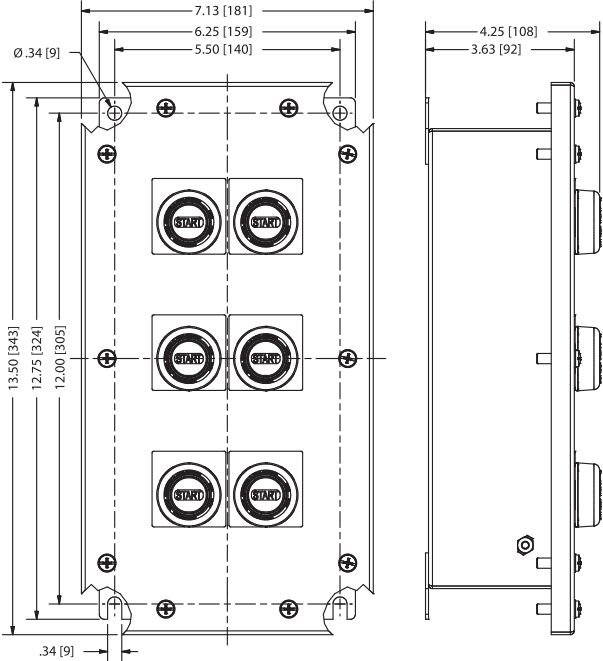


Size 2A and 2C control stations can be factory ordered to include combinations of pilot lights, push buttons, rotary selector switches, ammeters, and terminal blocks.

Entry holes can be located on all sides.



Size 2a



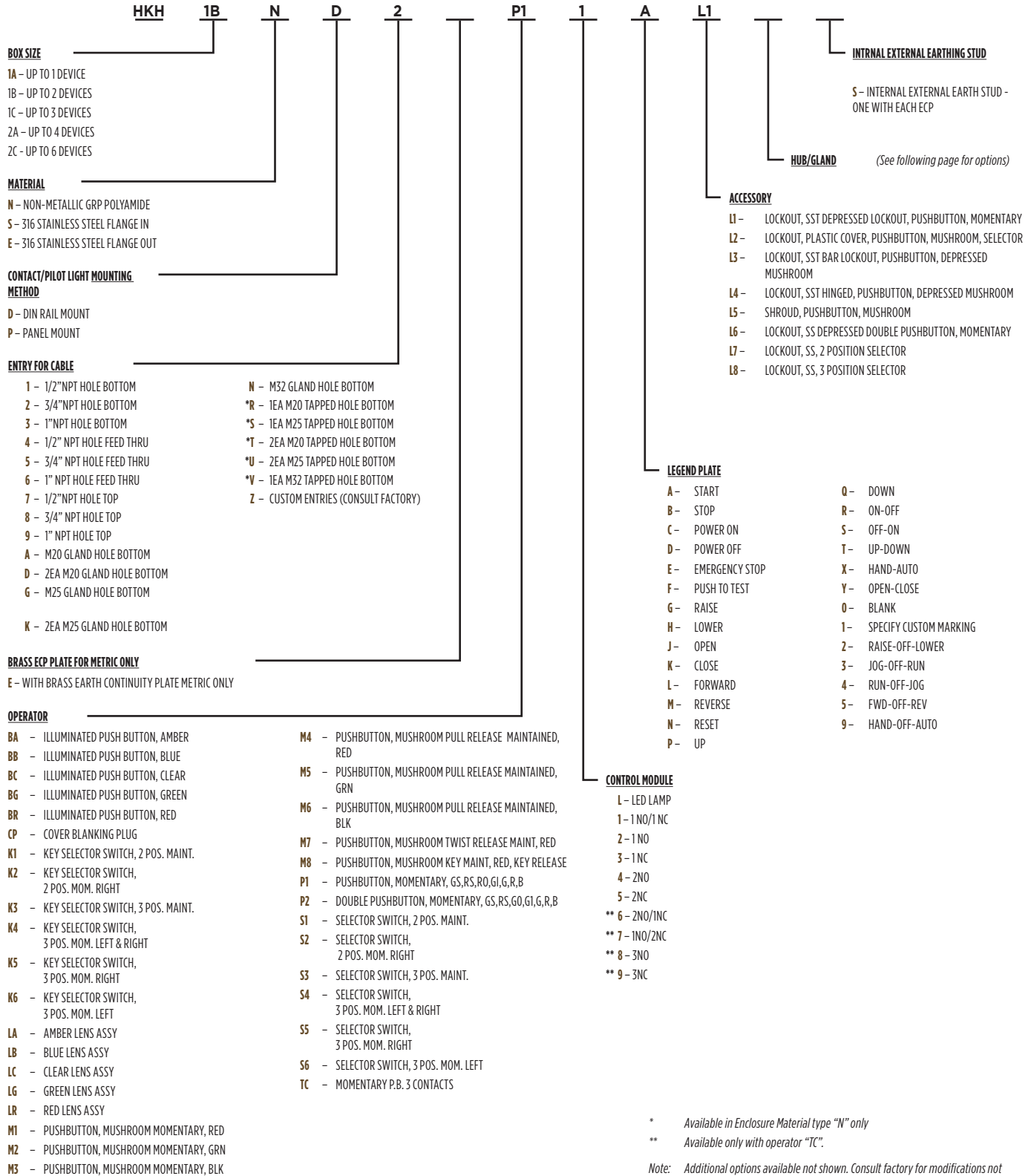
Size 2c

CLEARANCE HOLE FOR NPT FITTING	LOGIC CODE	CLEARANCE HOLE FOR METRIC FITTING	LOGIC CODE
1/2" Top Feed	7	2 x M20 Top Feed	F
1/2" Bottom Feed	1	2 x M20 Bottom Feed	D
1/2" Feed Through	4	2 x M20 Feed Through	E
3/4" Top Feed	8	2 x M25 Top Feed	M
3/4" Bottom Feed	2	2 x m25 bottom feed	K
3/4" Feed Through	5	2 x M25 Feed Through	L
1" Top feed	9	M32 Top Feed	Q
1" bottom feed	3	M32 Bottom Feed	N
1" Feed Through	6	M32 Feed through	P



CONTROLS HKH SERIES

Catalog Logic



* Available in Enclosure Material type "N" only
 ** Available only with operator "TC".

Note: Additional options available not shown. Consult factory for modifications not listed.



Hubs / Cable Glands



FEATURES-
SPECIFICATIONS
HAZCON®

HUBS/GLANDS	
CATALOG LOGIC NUMBER	DESCRIPTION
H1	42IS Single Comp. Brass Gland OS-M20
H2	42I Single Comp. Brass Gland O-M20
H3	42IN Single Comp. Brass Gland A-M20
H4	42IN Single Comp. Brass Gland B-M25
H5	42IN Single Comp. Brass Gland OS-M20 NAL Nickel plate
H6	42IN Single Comp. Brass Gland O-M20 NAL Nickel plate
H7	42IN Single Comp. Brass Gland A-M20 NAL Nickel plate
H8	42IN Single Comp. Brass Gland B-M25 NAL Nickel plate
H9	42IN Single Comp. Brass Gland C-M32
HA	42IN Single Comp. SS Gland OS-M20
HB	42IN Single Comp. SS Gland O-M20
HC	42IN Single Comp. SS Gland A-M20
HD	42IN Single Comp. SS Gland B-M25
HE	42IN Single Comp. Brass Gland C-M32 NAL Nickel plate
HF	42IN Single Comp. SS Gland C-M32
J1	453R Single Comp. Brass Gland OS-M20
J2	453R Single Comp. Brass Gland O-M20
J3	453R Single Comp. Brass Gland A-M20
J4	453R Single Comp. Brass Gland B-M25
J5	453R Single Comp. Brass Gland OS-M20 NAL Nickel plate
J6	453R Single Comp. Brass Gland O-M20 NAL Nickel plate
J7	453R Single Comp. Brass Gland A-M20 NAL Nickel plate
J8	453R Single Comp. Brass Gland B-M25 NAL Nickel plate
J9	453R Single Comp. Brass Gland C-M32
JA	453R Single Comp. SS Gland OS-M20
JB	453R Single Comp. SS Gland O-M20
JC	453R Single Comp. SS Gland A-M20
JD	453R Single Comp. SS Gland B-M25
JE	453R Single Comp. Brass Gland C-M32 NAL Nickel plate
JF	453R Single Comp. SS Gland C-M32
K1	K1 MC1C Aluminum Metal Clad Connector 1/2" Ø .60 - .82 in
K2	K2 MC2 Aluminum Metal Clad Connector 3/4" Ø .73 - 1.03 in
K3	K3 MC3 Aluminum Metal Clad Connector 1" Ø .97 - 1.31 in
K4	WH-1G Zinc 1/2" HUB
K5	WH-2G Zinc 3/4" HUB
K6	WH-3G Zinc 1" HUB
K7	WH-SS1G Stainless Steel 1/2" HUB
K8	WH-2SSG Stainless Steel 3/4" HUB
K9	WH-3SSG Stainless Steel 1" HUB
KA	WH-1AG Alum. 1/2"
KB	WH-2AG Alum. 3/4"
KC	WH-3AG Alum. 1" HUB
KD	NMHG1EX PVC Coated 1/2" HUB
KE	NMHG2EX PVC Coated 3/4" HUB
KF	NMHG3EX PVC Coated 1" HUB



CONTROLS

USF-CS / SJICH-CS SERIES

SJICH-CS

Single piece closed cell silicone gasket

Retained cover screws prevent screw fall out

Back Pan when required or Din Rail only

Installed Terminal Blocks (Multiple sizes & manufacturers available) Factory wiring on request

Panel Mounted Pilot Light Module

Panel Mounted Contact Block Module

Grounding Provisions Standard inside & out

Hinge standard on all material options

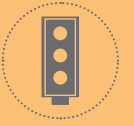
HKH Actuators

Slope top channels rain, snow, ice, dust away top of the box.

Grounding Provisions Standard inside & out

Stainless Steel Lockouts

USF-CS



Control Panels

HAZCON®



Class 1, Zone 1, AEx db eb IIC *T6...T4 Gb
 Ex de IIC *T6...T4 Gb, Zone 21
 AEx tb IIIC *T80°C...T100°C Db IP66
 Ex tb IIIC *T80°C...T100°C Db IP66
 Class I, Div. 2, Groups A, B, C, D, *T6...T4
 Class II, Groups E, F, G, Class III
 Class III, Encl Type 3, 4, 4X

CSA 15.70013827

Ex db eb IIC *T6...T4 Gb
 Ex tb IIIC T80°C...T100°C Db IP66
 IECEx SIR 16.0090

CE 0539 Ex II 2GD

**Custom Control Solutions
 designed to your specific needs**

FEATURES-SPECIFICATIONS

Features

- Operating Temperature of -50°C to +60°C
- Explosion Protected Contact Blocks and LED Pilot Light Modules
- Wet Locations requiring Type 4x & IP66 Ingress Protection
- Hinge standard on all enclosure types and materials.

Materials

- 316/316L, 304 Stainless Steel & Painted Carbon Steel Control Stations

Electrical Ratings

- Contact Blocks = 690VAC N.O. & N.C., 20A, with HP Ratings up to 1HP
- LED Pilot Light Modules = 12-254 VAC/DC

Momentary Push Buttons	Illuminated Momentary Push Buttons LED	2 & 3 Position Rotary Switch Maintained & Momentary	Emergency Stop Red Mushroom Push Buttons Key, Pull, & Twist Release, Momentary Mushroom P.B. in Red, Green and Black Protective Shrouds available			2 & 3 Position Keyed Rotary Switch Maintained & Momentary	Pilot Light Assembly	Double Momentary Push Button



CONTROLS

USF-CS / SJICH-CS SERIES

Custom Built Assemblies



Custom Control Stations Available in a variety of Sizes

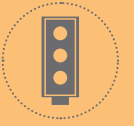
- Enclosure sizes from 8" x 6" x 6" (203mm x 152mm x 152mm) up to 36" x 24" x 8" (915mm x 610mm x 203mm)
- Materials: 316/316L, 304 Stainless Steel & Painted Carbon Steel Control Stations
- Operating Temperature of -50°C to +60°C
- Wet Locations requiring Type 4X & IP66 Ingress Protection
- Indoors or Outdoors in Class 1 Division 2 & Zone 1 Harsh and Hazardous Locations

ITEM DESCRIPTION	
USFC-CS121206MODXXXXXX	USF Carbon Steel Painted 12"x12"x6" w/ no Gland Plates and MODified per Customer Actuator & Terminal Block requirements
SJICH6-CS101006GP1000MODXXXXXX	SJIC Hinged Stainless Steel 316/316L 10"x10"x6" w/ Gland Plate at Bottom and MODified per Customer Actuator & Terminal Block requirements

Notes – Enclosure can be supplied with cable entries in sidewalls or removable Gland Plates for field drilling. Enclosures can also be supplied with terminal blocks and factory wired on request.

USF-CS CATALOG #	ENCLOSURE SIZE	ACTUATOR MAXIMUM	SJICH-CS CATALOG #	ENCLOSURE SIZE	ACTUATOR MAXIMUM
USF-CS-121206	12" x 12" x 6" (305) x (305) x (152)	8 Devices 2 Rows	SJICH-CS-080606	8" x 6" x 6" (203) x (152) x (152)	3 Devices 2 Rows
USF-CS-161206 USF-CS-161208	16" x 12" x 6"/8" (407) x (305) x (152/203)	15 Devices 4 Rows	SJICH-CS-080806	8" x 8" x 6" (203) x (203) x (152)	4 Devices 2 Rows
USF-CS-161606 USF-CS-161608	16" x 16" x 6"/8" (407) x (407) x (152/203)	23 Devices 4 Rows	SJICH-CS-100806	10" x 8" x 6" (254) x (203) x (152)	6 Devices 2 Rows
USF-CS-201606 USF-CS-201608	20" x 16" x 6"/8" (508) x (407) x (152/203)	29 Devices 5 Rows	SJICH-CS-101006	10" x 10" x 6" (254) x (254) x (152)	8 Devices 2 Rows
USF-CS-202006 USF-CS-202008	20" x 20" x 6"/8" (508) x (508) x (152/203)	39 Devices 5 Rows	SJICH-CS-121006	12" x 10" x 6" (305) x (254) x (152)	12 Devices 3 Rows
USF-CS-241606 USF-CS-241608	24" x 16" x 6"/8" (610) x (407) x (152/203)	35 Devices 6 Rows	SJICH-CS-121206	12" x 12" x 6" (305) x (305) x (152)	15 Devices 3 Rows
USF-CS-242006 USF-CS-242008	24" x 20" x 6"/8" (610) x (508) x (152/203)	47 Devices 6 Rows	SJICH-CS-141206	14" x 12" x 6" (356) x (305) x (152)	15 Devices 3 Rows
USF-CS-242406 USF-CS-242408	24" x 24" x 6"/8" (610) x (610) x (152/203)	50 Devices 5 Rows	SJICH-CS-161406	16" x 14" x 6" (407) x (356) x (152)	24 Devices 4 Rows
USF-CS-302008	30" x 20" x 8" (762) x (508) x (203)	56 Devices 7 Rows			
USF-CS-302408	30" x 24" x 8" (762) x (610) x (203)	70 Devices 7 Rows			
USF-CS-303008	30" x 30" x 8" (762) x (762) x (203)	84 Devices 7 Rows			
USF-CS-362408	36" x 24" x 8" (915) x (610) x (203)	90 Devices 9 Rows			

USF-CS / SJICH-CS SERIES



Custom Built Assemblies

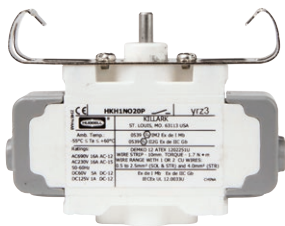
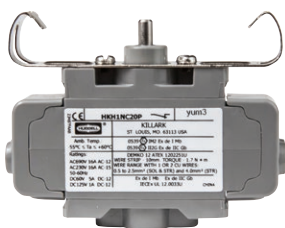


Ammeters and Voltmeters can be installed for use in IECEX/ATEX areas of classification ONLY.

Not certified for use in North America.

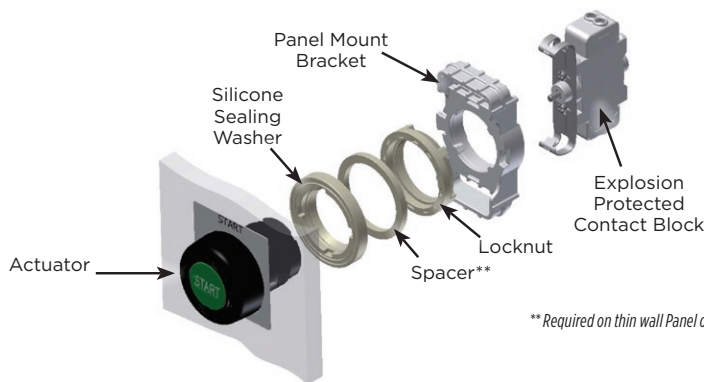
72mm, 1A Ammeters with scales ranging from 0-1 to 0-600 with a 5x Overload Scale for use with Current Transformers or Direct Measure.

Voltmeters with scales of 0-25 to 0-500V.

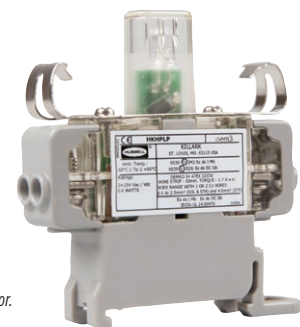


Contact Blocks supplied are Panel Mounted to a bracket that locks into place on the actuator housing. Offered in Normally Open and Normally Closed these Patented contact blocks are made with Silver contact material and gold plated for low voltage applications and corrosion resistance.

- **UL ELECTRICAL RATING:** 690Vac, 20A, 50-60Hz, 60Vdc, 5A, 110Vdc, 2A, 255Vdc, 1.5A, 1/2 HP @120Vac, 1 HP@208/240/277Vac, A600/P600- Pilot Duty 350Vac- Tungsten Lamp.
- **WIRE ALLOWANCES:** WIRE RANGE with 1 or 2 WIRES: #22 to #12 AWG (SOL & STR) and #10 AWG (STR).
- **IEC ELECTRICAL RATINGS:** AC690V 16A AC-12, 50-60 Hz, AC230V 16A AC-15, 50-60Hz, DC60V 5A DC-12, DC125 1A DC-12.
- **WIRE ALLOWANCES:** WIRE RANGE with 1 or 2 WIRES: 0.5 to 2.5mm (SOL & STR) and 4.0mm² (STR)



** Required on thin wall Panel only < .16" thick. Refer to instruction sheet for actuator.



Pilot Light Applications for US/ CAN:

Pilot Light shall be installed in a Class I, Zone 1, AEx e IIC/Ex e IIC increased safety enclosure with a minimum IP54 rating or a Class I, Zone I, AEx d IIC/Zone 21, AEx tb IIIC/Ex d IIC/Ex tb IIIC flameproof/dust enclosure with a minimum IP64 rating, where

the suitability is determined in the end application. Electrical Rating: 12-250Vac/Vdc, 50-60 Hz, 0.6 WATTS.

Pilot Light Applications for ATEX/IECEX:

Pilot Light shall be installed in a Group I and/or Group II, 'Ex e' increased safety enclosure with a minimum IP54 rating or an 'Ex d/tb' flameproof/dust enclosure

with a minimum IP64 rating, where the suitability is determined in the end application. Electrical Rating: 12-254 Vac/Vdc, 50-60 Hz, 0.6 WATTS.

Wire Allowances:

WIRE RANGE with 1 or 2 WIRES: #22 to #12 AWG (SOL & STR) and #10 AWG (STR) 0.5 to 2.5mm (SOL & STR) and 4.0mm² (STR)



USF-CS / SJICH-CS SERIES

Enclosure Basic Catalog Number Logic

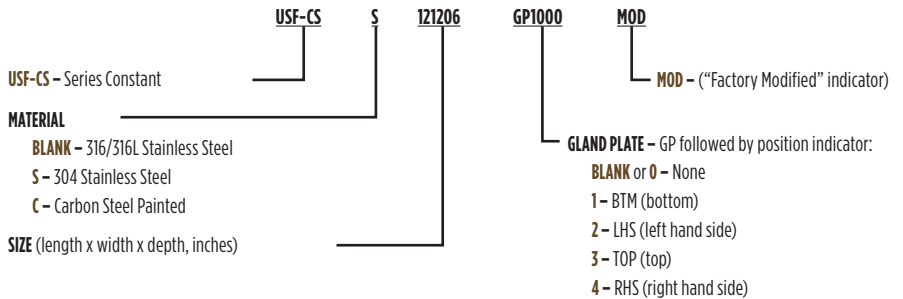
Control Station details to be supplied for devices, cable/conduit entries, terminal block requirements, etc.



USF-CS Series

USF-CS Enclosures Features

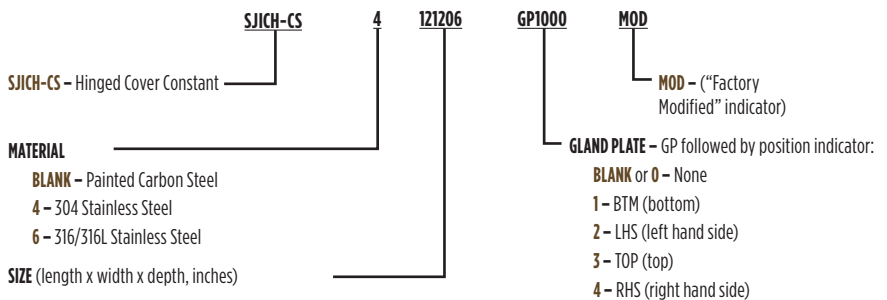
- External slope top flange directs water, melting ice & snow and dust build up away from the opening side of the door.
- Continuous robot welded seams for a hose down tight seal.
- Concealed hinges with removable hinge pins.
- Ground/earthing studs in both cover and through wall of the box.
- Quarter turn 316 stainless steel latch
- One piece high temperature closed cell silicone gasket. With superior recovery and re-sealing properties.
- Sturdy 14 gauge box construction helps prevent bending or permanent deflection of the walls when field installing openings.
- Bi-directional removal mounting lugs for the widest flexibility during installations.
- Openings for glands or conduits factory or field installed—option for gland plates.



SJICH-CS Series

SJICH-CS Enclosures Features

- Screw covers 316 stainless steel
- Continuous robot welded seams for a hose down tight seal.
- Ground/earthing studs in both cover and through wall of the box.
- One piece high temperature closed cell silicone gasket. With superior recovery and re-sealing properties.
- Sturdy 14 gauge box construction helps prevent bending or permanent deflection of the walls when field installing openings.
- Welded one piece mounting flanges top and bottom for strength.
- Openings for glands or conduit




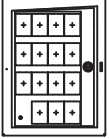
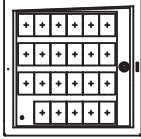
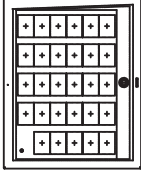
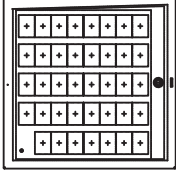
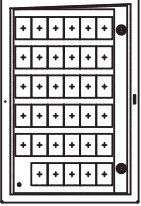
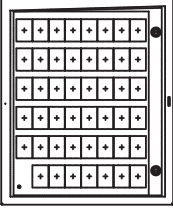
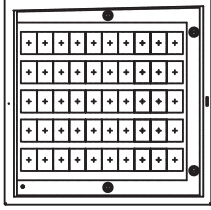
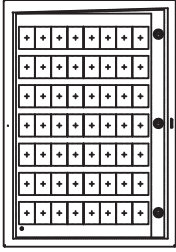
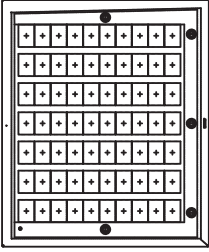
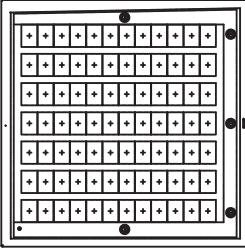
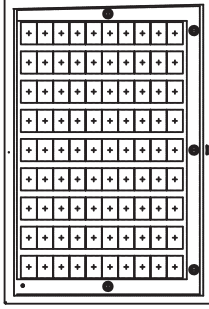
CONTROLS

USF-CS / SJICH-CS SERIES

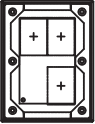
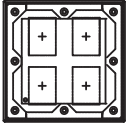
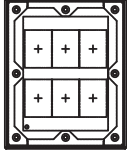
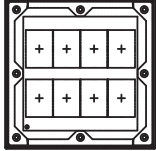
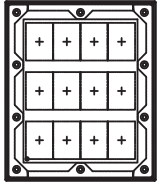
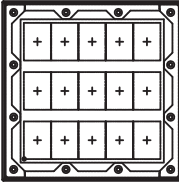
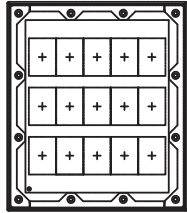
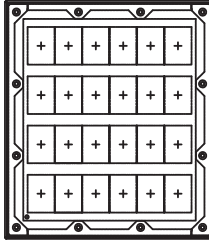


Standard Operator Layouts


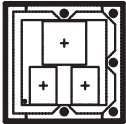
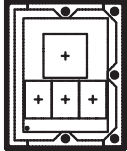
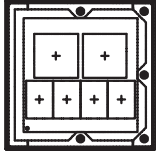
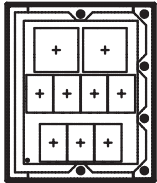
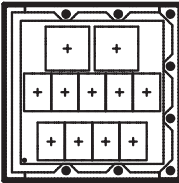
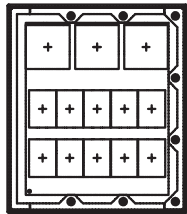
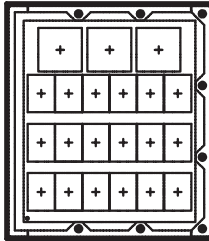
USF-CS STANDARD LAYOUT OPERATOR QUANTITIES

					
USF1212 (8 DEV.)	USF1612 (15 DEV.)	USF1616 (23 DEV.)	USF2016 (29 DEV.)	USF2020 (39 DEV.)	USF2416 (35 DEV.)
					
USF2420 (47 DEV.)	USF2424 (50 DEV.)	USF3020 (56 DEV.)	USF3024 (70 DEV.)	USF3030 (84 DEV.)	USF3624 (90 DEV.)

SJICH-CS STANDARD LAYOUT OPERATOR QUANTITIES

							
SJICH0806 (3 DEV.)	SJICH0808 (4 DEV.)	SJICH1008 (6 DEV.)	SJICH1010 (8 DEV.)	SJICH1210 (12 DEV.)	SJICH1212 (15 DEV.)	SJICH1412 (15 DEV.)	SJICH1614 (24 DEV.)

ALTERNATIVE LAYOUTS WITH METERS

							
SJICH0806 (1 Meter & 1 DEV.)	SJICH0808 (1 Meter & 2 DEV.)	SJICH1008 (1 Meter & 3 DEV.)	SJICH1010 (2 Meters & 4 DEV.)	SJICH1210 (2 Meters & 7 DEV.)	SJICH1212 (2 Meters & 9 DEV.)	SJICH1412 (3 Meters & 10 DEV.)	SJICH1614 (3 Meters & 18 DEV.)

Note: Ammeters will use up four spaces.



CONTROLS HKH SERIES

Actuator Properties and Panel Mount Installation

ATEX/IECEx Certified

0518 II 2 G Ex eb IIC Gb

0518 II 2 D Ex tb IIIC Db

IP66

-50°C ≤ Ta ≤ 60°C

DEMKO 14 ATEX 1400U

Ex eb IIC Gb

Ex tb IIIC Db

-50°C ≤ Ta ≤ +60°C

IECEx UL 14.0104U

cULus Certified

Class I, Zone 1, AEx eb IIC Gb / Ex eb IIC Gb U

Zone 21, AEx tb IIIC Db / Ex tb IIIC Db U

Class I, Division 2, Groups A, B, C, D

Class II, Div. 1, Groups E, F, G (Canada)

Class II, Division 2, Groups E, F, G

Class III, Division 1 (Canada)

Class III

-50°C ≤ Ta ≤ +60°C

Type 3/4/4X/12/13 IP66



HKHPBMSS

Momentary Push Button will depress two Contact Blocks. Supplied with 7 colored inserts shown.

HKHPBMMTC

Momentary Push Button will depress three Contact Blocks. Supplied with 7 colored inserts.



HKHPBMMMR, HKHPBMMMG, HKHPBMMMB

Momentary Mushroom Push Button will depress two Contact Blocks. Available in Red, Green and Black

HKHPBPMTMR, HKHPBPMTMG, HKHPBPMTMB

Maintained Mushroom Push Button with Pull Release will depress two Contact Blocks. Available in Red, Green and Black.



HKH2PSMTH, HKH2PSMTV, HKH2PSMMRH, HKH2PSMMRV

2 Position Rotary Selector Switches for Maintained and Momentary action will depress two Contact Blocks.

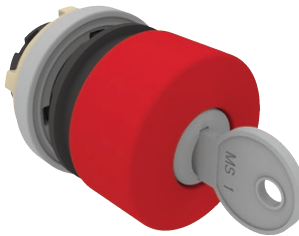
HKH3PSMTIH, HKH3PSMTIV, HKH3PSMMRH, HKH3PSMMRV, HKH3PSMMLH, HKH3PSMMLV, HKH3PSMMLRH, HKH3PSMMLRV

3 Position Rotary Selector Switches for Maintained and Momentary action with Independent Cams that will depress one Contact Block in each Left and Right Positions.



HKHPBILLMM

Momentary Illuminated Push Button with LED Lamp that will depress two Contact Blocks. Available with Red, Green, Amber, Clear and Blue transparent inserts.



HKHPBKMTMRH*, HKHPBKMTMRV*

Maintained Mushroom Push Button with Key Release will depress two Contact Blocks. Available in Red only.

*MS-1 key supplied as standard. Additional key numbers available by adding digit at end of catalog numbers. Key numbers available 2, 3, 4, 5, 6 (HKHPBKMTMRV4)



HKH2PSKH*, HKH2PSKV*

2 Position Key Rotary Selector Switches for Maintained and Momentary action will depress two Contact Blocks.

HKH3PSKIH*, HKH3PSKIV*

3 Position Key Rotary Selector Switches for Maintained and Momentary action with Independent Cams that will depress one Contact Block in each Left and Right Positions.

NOTE: Not rated Type 13



HKHPLR, HKHPLG, HKHPLA, HKHPLC, HKHPLB

Pilot Light Lens Assembly. Available in Red, Green, Amber, Clear and Blue



HKHPBTMR

Maintained Mushroom Push Button with Twist Release will depress two Contact Blocks. Available in Red only



HKHDBLPBMMGR

Double Momentary Push Button will depress one Contact Block on each button. Supplied with 7 colored inserts shown by HKHPBMSS.



Dimensional Data for Installation of HKH Panel Mounted Actuators

HAZCON®

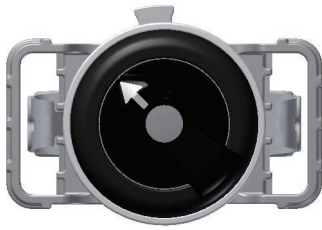


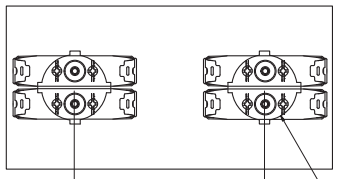
Figure 1

Orientation of rotary actuator part numbers ending in "V"
Keyway positioned at 12 o'clock

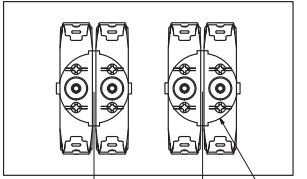


Figure 2

Orientation of rotary actuator part numbers ending in "H"
Keyway positioned at 3 o'clock



Minimum spacing for rotary actuator part numbers ending in "V"



Minimum spacing for rotary actuator part numbers ending in "H"

Note: Some Actuators are supplied with an "H" or a "V" at the end of the catalog number. These letters apply to the orientation of the din rail when used in applications with din rails. This feature allows for two different spacings when installed as panel mount. See details for "H" & "V" actuator spacing and contact block orientation. When installing other actuators such as push buttons & pilot lights the keyway must also be positioned in the same location as the rotary actuators. See Fig. 1 and Fig. 2



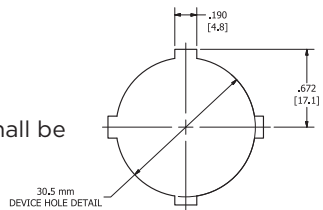
For installation on Type 1, 3, 3R, 4/4X, 12 & 13 and IP66 Enclosures

For US / CAN Applications:

Actuators and Pilot Light Lens Assembly shall be installed in a Class I, Zone 1, AEx e IIC / Ex e IIC increased safety enclosure where the suitability is determined in the end application.

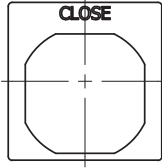
For ATEX / IECEx Applications:

Actuators and Lens Covers shall be installed in a Group I and/or Group II, 'Ex e' increased safety enclosure where the suitability is determined in the end application.

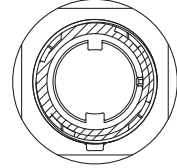


30.5mm Device Hole Detail
Important to maintain Ingress Protection

ACTUATOR LEGEND PLATES:



Legend Plate



Actuator Housing

HKH actuators will only accept Killark Legend Plates. To insure ingress protection and proper operation is maintained the four flat sides of the plate must match up to the four flat areas on the bottom side of the actuator housing. This must be done to allow the legend plate to float freely under the actuator housing.



HAZCON® Control Panels

- SJIC-CS, SJICH-CS and USF-CS Control Stations supplied with screw type or cage clamp terminals.
- HKH HAZCON Panel Mount Actuators installed on door and wired to din rail type terminals on request.
- Available in Painted Carbon Steel, 304 & 316 Stainless Steel material in sizes up to 362410 in USF and 161406 in SJIC/SJICH.

**Class I, Div. 2, Grps. A, B, C and D
Ex db eb Class I, Zone 1, AEx db eb IIC
T6...T4 Gb
CSA Encl. Type 4 or 4X, IP66
Ta= -50°C to +40°C (Temp Code T6) or
+55°C (Temp Code T5)
or +60°C (Temp Code T4)**

c us CSA 15.70013827

Note: Refer to "Enclosures" Section for available sizes of USF and SJIC/SJICH Terminal Boxes. Consult Factory for Make to Order Control Stations.



CONTROLS HKH SERIES

Actuator Accessories



HKHPBMMDHLO



HKHPBSSMFLO



HKHPBMBLO



HKHPBMHLO



HKHMRSRDYL



HKHDBLPBMMDHLO



HKH2PSSHLO



HKH3PSSHLO

L1 - HINGED STAINLESS STEEL LOCKOUT for standard momentary push button in depressed position

L2 - PLASTIC FLIP COVER LOCKOUT used for momentary push button actuators, selector switch actuators, and mushroom push button actuators

L3 - BAR ON CHAIN STAINLESS STEEL LOCKOUT used for mushroom push buttons in depressed position

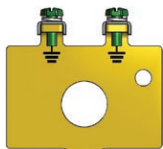
L4 - HINGED STAINLESS STEEL LOCKOUT for mushroom push button in depressed position

L5 - PLASTIC MUSHROOM BUTTON SHROUD

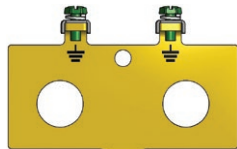
L6 - HINGED STAINLESS STEEL LOCKOUT for double momentary push button in depressed position

L7 - HINGED STAINLESS STEEL LOCKOUT for 2 position rotary selector switch in left or right position

L8 - HINGED STAINLESS STEEL LOCKOUT for 3 position rotary selector switch in left, center or right position



HKHGP11M20



HKHGP22M20



HKHANTOOL



HKHCP

ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
HKHPBSSMFLO	Mom. PB, Selector Switch, Mushroom PB, Plastic Flip Cover Lockout
HKHPBMMDHLO	PB Depressed Std. Momentary Hinged Stainless Steel Lockout
HKHPBMHLO	PB Depressed Mushroom Hinged Stainless Steel Lockout
HKHPBMBLO	Mushroom Bar On Chain Stainless Steel Lockout
HKHDBLPBMMDHLO	Double PB Depressed Momentary Hinged Stainless Steel Lockout
HKH2PSSHLO	2 Position Rotary Selector Switch Hinged Stainless Steel Lockout
HKH3PSSHLO	3 Position Rotary Selector Switch Hinged Stainless Steel Lockout

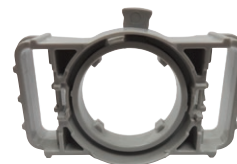
BRASS EARTH CONTINUITY PLATE (ECP)	
CATALOG NUMBER	DESCRIPTION
HKHGP12M20	Ground Plate, Brass SZ 1 Encl. 2-M20
HKHGP11M20	Ground Plate, Brass SZ 1 Encl. 1-M20
HKHGP11M25	Ground Plate, Brass SZ 1 Encl. 1-M25
HKHGP11M32	Ground Plate, Brass SZ 1 Encl. 1-M32
HKHGP22M25	Ground Plate, Brass SZ 2 Encl. 2-M25
HKHGP22M20	Ground Plate, Brass SZ 2 Encl. 2-M20
HKHGP21M32	Ground Plate, Brass SZ 2 Encl. 1-M32

ACTUATOR NUT ASSEMBLY TOOL	
CATALOG NUMBER	DESCRIPTION
HKHANTOOL	Actuator Nut Assembly Tool

CONTACT BLOCK & PILOT LIGHT PANEL MOUNT BRACKET	
CATALOG NUMBER	DESCRIPTION
HKHPMBRKT	Contact Block & Pilot Light Panel Mount Bracket
HKHPMBRKTTM	Panel Mount Bracket for 3 modules

COVER PLUG	
CATALOG NUMBER	DESCRIPTION
HKHCP	Cover Device Plug

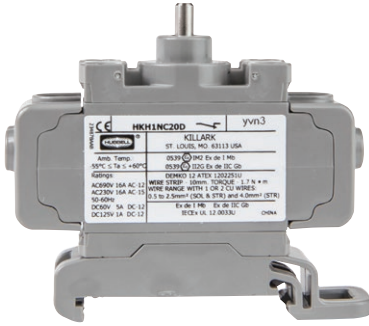
MUSHROOM BUTTON SHROUDS	
CATALOG NUMBER	DESCRIPTION
HKHMRSRDYL	Yellow Shroud (Specify Marking if Required)
HKHMRSDBK	Black Shroud (Specify Marking if Required)



HKHPMBRKT (2 Modules)
HKHPMBRKTTM (3 Modules)
One panel mount bracket required with each actuator for panel mount applications. Additionally use contact blocks and pilot light modules ending in "P". HKHPMBRKTTM used only with HKHPBMMTC and HKHPBILLMM



Factory Sealed Contact Block Modules



HKH1NC20D



HKH1NO20P

ATEX/IECEx Certified

O518 I M 2 Ex de I Mb
O518 II 2 G Ex de IIC Gb
 Ambient Range: $-55^{\circ}\text{C} < \text{Ta} < 60^{\circ}\text{C}$
DEMKO 12 ATEX 120225IU
 Ex de I Mb Ex de IIC Gb
IECEx UL 12.0033U

cULus Certified

Class I, Zone 1, AEx de IIC T4 / Ex de IIC T4 X
Class I, Division 2, Groups A, B, C, D
 Ambient Range: $-55^{\circ}\text{C} < \text{Ta} < 60^{\circ}\text{C}$



Normally Closed Contact Identification:
 All Gray marked: N.C./ (11&12)



HKH1NC20D

HKH1NC20P

Normally Open Contact Identification:
 White center body with gray terminal covers marked:
 N.O./ (13&14)



HKH1NO20D

HKH1NO20P

HAZCON™

Applications

Standard control station assemblies are supplied with electrical devices mounted to a din rail inside the box portion of the control station, identified with a "D" in the catalog number. i.e. HKH1AND2P11K8, containing contact blocks ending in "D". When panel or cover mounted version is desired one HKHPMBRKT bracket is required for each actuator to assemble contacts, no DIN Rail supplied. Bracket will mount one contact block in the center or two side by side. Contact block part numbers ending in "P" supplied. Complete control station catalog number to be HKH1ANP2P11K8.



SS Terminal Screw Head for use with the following screwdriver types:

- Slotted
- Phillips
- Robertson



Wire Range for 1 or 2 conductors as listed:

- 0.5 to 2.5mm² (SOL & STR)
- 4.0mm² (STR)
- #22 to #12 AWG (SOL & STR)
- #10 AWG (STR)

CONTACT BLOCK APPLICATIONS FOR US/CAN:

Contact block shall be installed in a Class I, Zone 1, AEx e II/Ex e IIC increased safety enclosure with a minimum IP54 rating or a Class I, Zone 1, AEx d IIC/Zone 21, Aex tb minimum IP64 rating, where the suitability is determined in the end application.

CONTACT BLOCK APPLICATIONS FOR ATEX/IECEx:

Contact block shall be installed in a Group I and/or Group II, 'Ex e' increased safety enclosure with a minimum IP54 rating or an 'Ex d/tb' flameproof/dust enclosure with a minimum IP64 rating, where the suitability is determined in the end application.

CONTACT BLOCK FEATURES:

- **UL ELECTRICAL RATING:** 690Vac, 20A, 50-60Hz, 60Vdc, 5A, 110Vdc, 2A, 255Vdc, 1.5A, 1/2 HP @120Vac, 1 HP@208/240/277Vac, A600/P600- Pilot Duty 350Vac-Tungsten Lamp.
- **UL WIRE ALLOWANCES:** WIRE RANGE with 1 or 2 WIRES: #22 to #12 AWG (SOL & STR) and #10 AWG (STR).
- **IEC ELECTRICAL RATINGS:** AC690V 16A AC-12, 50-60 Hz, AC230V 16A AC-15, 50-60Hz, DC60V 5A DC-12, DC125 1A DC-13.
- **IEC WIRE ALLOWANCES:** WIRE RANGE with 1 or 2 WIRES: 0.5 to 2.5mm (SOL & STR) and 4.0mm² (STR)
- Silver Alloy contacts with Gold Flashing.

CONTACT BLOCK	
CATALOG NUMBERS	DESCRIPTION
HKH1NO20D	N.O. Contact, 20A DIN Rail Mount
HKH1NC20D	N.C. Contact, 20A DIN Rail Mount
HKH1NO20P	N.O. Contact, 20A Panel Mount
HKH1NC20P	N.C. Contact, 20A Panel Mount

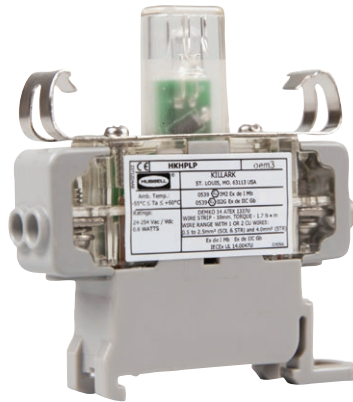


CONTROLS HKH SERIES

Factory Sealed Pilot Light Modules



HKHPLD



HKHPLP

ATEX/IECEX Certified

0518 Ex I M 2 Ex de I Mb

0518 Ex II 2 G Ex de IIC Gb

Ambient Range: -50°C < Ta < 60°C

DEMKO 14 ATEX 1337U

Ex de I Mb Ex de IIC Gb

IECEX UL 14.0047U

cULus Certified

Class I, Zone 1, AEx de IIC T5 / Ex de IIC T5 X

Class I, Division 2, Groups A, B, C, D

Ambient Range: -50°C < Ta < 60°C



PILOT	
CATALOG NUMBERS	DESCRIPTION
HKHPLD	Pilot Light Module DIN Rail Mount
HKHPLP	Pilot Light Module Panel Mount

PILOT LIGHT APPLICATIONS FOR US/CAN:

Pilot Light shall be installed in a Class I, Zone 1, AEx e IIC/Ex e IIC increased safety enclosure with a minimum IP54 rating or a Class I, Zone I, AEx d IIC/Zone 21, AEx tb IIIC/Ex d IIC/Ex tb IIIC flameproof/dust enclosure with a minimum IP64 rating, where the suitability is determined in the end application. **ELECTRICAL RATING:** 12-250Vac/Vdc, 50-60 Hz, 0.6 WATTS.

PILOT LIGHT APPLICATIONS FOR ATEX/IECEX:

Pilot Light shall be installed in a Group I and/or Group II, 'Ex e' increased safety enclosure with a minimum IP54 rating or an 'Ex d/tb' flameproof/dust enclosure with a minimum IP64 rating, where the suitability is determined in the end application. **ELECTRICAL RATING:** 12-254 Vac/Vdc, 50-60 Hz, 0.6 WATTS.

WIRE ALLOWANCES:

WIRE RANGE with 1 or 2 WIRES: #22 to #12 AWG (SOL & STR) and #10 AWG (STR) 0.5 to 2.5mm (SOL & STR) and 4.0mm² (STR)

Ammeters, 1A, 72mm



MEASURING TYPE	OVERLOAD SCALE	MEASURING RANGE
Direct Measuring	2	0-1 / 2A
		0-4 / 8A
		0-5 / 10A
		0-10 / 20A
		0-15 / 30A
For Current Transformer	5	0-1 / 5A
		0-2.5 / 12.5A
		0-5 / 25A
		0-15 / 75A
		0-25 / 125A
		0-40 / 200A
		0-50 / 250A
		0-60 / 300A
		0-75 / 375A
		0-100 / 500A
		0-150 / 750A
		0-200 / 1000A
		0-250 / 1250A
		0-300 / 1500A
		0-400 / 2000A
0-500 / 2500A		
0-600 / 3000A		



Voltmeters, 72mm



RANGE
(AC)
0-25V
0-40V
0-150V
0-250V
0-500V



ATEX/IECEX Certified

Ex e II

IECEX CQM 08.0007U

Ex II 2G Ex e II

DNV-2008-OSL

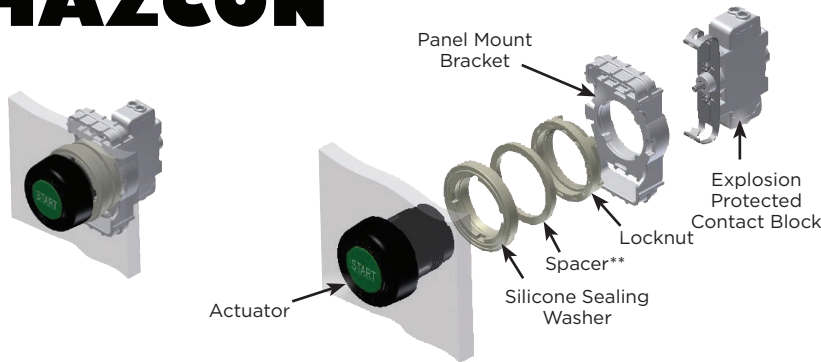
-ATEX-21659U

-40°C < Ta < 60°C



Actuator Assemblies for Panel Mount Applications

HAZCON®



** Required on thin wall Panel only < .16" thick. Refer to instruction sheet for actuator.

ATEX/IECEX Certified

0518 Ex II 2 G Ex eb IIC Gb

0518 Ex II 2 D Ex tb IIIC Db

IP66

-50°C ≤ Ta ≤ 60°C

DEMKO 14 ATEX 1400U

Ex eb IIC Gb

Ex tb IIIC Db

-50°C ≤ Ta ≤ +60°C

IECEX UL 14.0104U

cULus Certified

Class I, Zone 1, AEx eb IIC Gb / Ex eb IIC Gb U

Zone 21, AEx tb IIIC Db / Ex tb IIIC Db U

Class I, Division 2, Groups A, B, C, D

Class II, Div. 1, Groups E, F, G (Canada)

Class II, Division 2, Groups E, F, G

Class III

-50°C ≤ Ta ≤ +60°C

Type 3/4/4X/12/13 IP66



Complete actuator catalog numbers with contacts for mounting to your panel with cover thickness from 0.04" to 0.25".

MOMENTARY START/STOP PUSH BUTTONS	
BASIC CATALOG NUMBERS	DESCRIPTION
HKHPBMSS1	Momentary Push Button with 1 N.O. and 1 N.C. contact – includes Grn Start, Grn (i), Red Stop and Red O, Green, Red and Black blank disc 7 HKHPBRKT
HKHPBMMTC1	Momentary Push Button, 3 contacts
HKHPBILLMM1	Momentary Illuminated Push Button
MOMENTARY MUSHROOM HEAD PUSH BUTTONS	
HKHPBMRR1	Momentary Mushroom PB, Red with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKHPBMRRB1	Momentary Mushroom PB, Black with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKHPBMRRG1	Momentary Mushroom PB, Green with 1 N.O. and 1 N.C. contact and HKKPBRKT
DOUBLE MOMENTARY PUSH BUTTON	
HKHDBLPBMMGR1	Double Momentary Push Button, Red and Green Buttons with 1 N.O. and 1 N.C. and HKHPBRKT
MAINTAINED MUSHROOM HEAD PUSH BUTTONS	
HKHPBPMTR1	Maintained Mushroom Push/Pull PB, Red with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKHPBPMTRB1	Maintained Mushroom Push/Pull PB, Black with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKHPBPMTRG1	Maintained Mushroom Push/Pull PB, Green with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKHPBTMTMR1	Maintained Mushroom PB Twist Release, Red with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKHPBKMTMRH1	Maintained Push Button Key Release, Mushroom Red HD, horizontal with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKHPBKMTMRV1	Maintained Push Button Key Release, Mushroom Red HD, vertical with 1 N.O. and 1 N.C. contact and HKKPBRKT
PILOT LIGHT LENS ASSEMBLY	
HKHPLRL	Pilot Light Red Lens Assembly with 12-254V AC/DC lamp module
HKHPLGL	Pilot Light Green Lens Assembly with 12-254V AC/DC lamp module
HKHPLAL	Pilot Light Amber Lens Assembly with 12-254V AC/DC lamp module
HKHPLCL	Pilot Light Clear Lens Assembly with 12-254V AC/DC lamp module
HKHPLBL	Pilot Light Blue Lens Assembly with 12-254V AC/DC lamp module
2 POSITION SELECTOR SWITCHES	
HKH2PSMTH1	2 Position Maintained Contact, Horizontal with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKH2PSMTV1	2 Position Maintained Contact, Vertical with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKH2PSMMRH1	2 Position Momentary Right Contact, Horizontal with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKH2PSMMRV1	2 Position Momentary Right Contact, Vertical with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKH2PSKH1①	2 Position Keyed, Maint./Mom. right, horizontal with 1 N.O. and 1 N.C. contact and HKKPBRKT
HKH2PSKV1①	2 Position Keyed Maint./Mom. right, vertical with 1 N.O. and 1 N.C. contact and HKKPBRKT
3 POSITION SELECTOR SWITCHES	
HKH3PSMTH4	3 Pos. Maintained Contact Independent Cam, Horizontal with 2 N.O. contacts and HKKPBRKT
HKH3PSMTV4	3 Pos. Maintained Contact Independent Cam, Vertical with 2 N.O. contacts and HKKPBRKT
HKH3PSMMRH4	3 Pos. Mom. Right Maint. Left/Cntr Independent Cam, Horizontal with 2 N.O. contacts and HKKPBRKT
HKH3PSMMRV4	3 Pos. Mom. right Maint. Left/Cntr Independent Cam, Vertical with 2 N.O. contacts and HKKPBRKT
HKH3PSMMLH4	3 Pos. Mom. Left, Maint. Right/Cntr Independent Cam, Horizontal with 2 N.O. contacts and HKKPBRKT
HKH3PSMMLV4	3 Pos. Mom. Left, Maint. Cntr/Right Independent Cam, Vertical with 2 N.O. contacts and HKKPBRKT
HKH3PSMMLRH4	3 Pos. Mom. Left/Right, Maint. Cntr Independent Cam, Horizontal with 2 N.O. contacts and HKKPBRKT
HKH3PSMMLRV4	3 Pos. Mom. Left/Right, Maint. Cntr Independent Cam, Vertical with 2 N.O. contacts and HKKPBRKT
HKH3PSKI4①	3 Position Keyed Maint./Mom. Independent Cam, horizontal with 2 N.O. contacts and HKKPBRKT
HKH3PSKI4①	3 Position Keyed Maint./Mom. Independent Cam, vertical with 2 N.O. contacts and HKKPBRKT

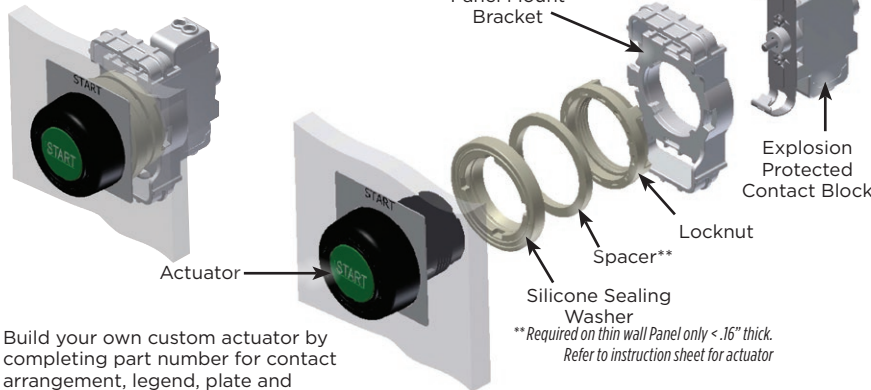
① Keyed Rotary Selectors are not Type 13.



CONTROLS HKH SERIES

Actuator Assemblies for Panel Mount Applications Made To Your Specifications

HAZCON®



Build your own custom actuator by completing part number for contact arrangement, legend, plate and accessory.

To order complete with mounting bracket, contacts or pilot light module add suffix to end of catalog number for each;

CONTROL MODULE

L - Led Lamp	3 - 1NC	*6 - 2NO/1NC	110 - 1NO/1NC/LED
1 - 1NO/1NC	4 - 2NO	*7 - 1NO/2NC	111 - 2NO/LED
2 - 1NO	5 - 2NC	*8 - 3NO	112 - 2NC/LED
		*9 - 3NC	

* Available only with operator HKHPBMMTC

† Available only with operator HKHPBILLMM

LEGEND PLATE

A - Start	Q - Down
B - Stop	R - On-Off
C - On	S - Off-On
D - Off	T - Up-Down
E - Emergency Stop	X - Hand-Auto
F - Push To Test	Y - Open-Close
G - Raise	Z - Off-Remote
H - Lower	0 - Blank
J - Open	1 - Specify Custom Marking
K - Close	2 - Raise-Off-Lower
L - Forward	3 - Jog-Off-Run
M - Reverse	4 - Run-Off-Jog
N - Reset	5 - Fwd-Off-Rev
P - Up	9 - Hand-Off-Auto

ACCESSORY

- L1 - Lockout SST Depressed Lockout, Push Button, Momentary
- L2 - Lockout, Plastic Cover, Push Button, Mushroom, Selector
- L3 - Lockout, SST Bar Lockout, Push Button, Depressed Mushroom
- L4 - Lockout, SST Hinged, Push Button, Depressed Mushroom
- L6 - Hinged Stainless Steel Lockout for double momentary push button in depressed position
- L7 - Hinged Stainless Steel Lockout for 2 position rotary selector switch in left or right position
- L8 - Hinged Stainless Steel Lockout for 3 position rotary selector switch in left, center or right position

i.e. Momentary Push Button complete with Panel Mounting Bracket, control module for 1NO/1NC contact, "START" Legend Plate, and plastic Flip Cover Lockout:

HKHPBMMSSIALZ

For red Pilot Light complete with Panel Mounting Bracket, LED Module, and "OFF" Legend Plate: HKHPLRLD

ATEX/IECEx Certified

0518 Ⓢ II 2 G Ex eb IIC Gb

0518 Ⓢ II 2 D Ex tb IIIC Db

IP66

-50°C ≤ Ta ≤ 60°C

DEMKO 14 ATEX 1400U

Ex eb IIC Gb

Ex tb IIIC Db

-50°C ≤ Ta ≤ +60°C

IECEx UL 14.0104U

cULus Certified

Class I, Zone 1, AEx eb IIC Gb / Ex eb IIC Gb U

Zone 21, AEx tb IIIC Db / Ex tb IIIC Db U

Class I, Division 2, Groups A, B, C, D

Class II, Div. 1, Groups E, F, G (Canada)

Class II, Division 2, Groups E, F, G

Class III

-50°C ≤ Ta ≤ +60°C

Type 3/4/4X/12/13 IP66



MOMENTARY START/STOP PUSH BUTTONS	
BASIC CATALOG NUMBERS	DESCRIPTION
HKHPBMMSS(†)	Momentary PB, w/ GREEN Start, GREEN (I), Red Stop and Red (O), GREEN, RED and BLACK BLANK Discs
HKHPBMMTC()	Momentary Push Button, 3 Contacts
HKHPBILLMM()	Momentary Illuminated Push Button
MOMENTARY MUSHROOM HEAD PUSH BUTTONS	
HKHPBMMMR()	Momentary Mushroom PB, Red
HKHPBMMMB()	Momentary Mushroom PB, Black
HKHPBMMMG()	Momentary Mushroom PB, Green
DOUBLE MOMENTARY PUSH BUTTON	
HKHDBLPBMMGR()	Double Momentary PB, Green and Red Buttons
MAINTAINED MUSHROOM HEAD PUSH BUTTONS	
HKHPBPMTMR()	Maintained Mushroom Push/Pull PB, Red
HKHPBPMTMB()	Maintained Mushroom Push/Pull PB, Black
HKHPBPMTMG()	Maintained Mushroom Push/Pull PB, Green
HKHPBTMTMR()	Maintained Mushroom PB Twist Release, Red
HKHPBKMTMRH()②	Maintained Push Button Key Release, Mushroom Red HD, Horizontal
HKHPBKMTMRV()②	Maintained Push Button Key Release, Mushroom Red HD, Vertical
PILOT LIGHT LENS ASSEMBLY	
HKHPLR()	Pilot Light Red Lens Assembly
HKHPLG()	Pilot Light Green Lens Assembly
HKHPLA()	Pilot Light Amber Lens Assembly
HKHPLC()	Pilot Light Clear Lens Assembly
HKHPLB()	Pilot Light Blue Lens Assembly
2 POSITION SELECTOR SWITCHES	
HKH2PSMTH()	2 Position Maintained Contact, Horizontal
HKH2PSMTV()	2 Position Maintained Contact, Vertical
HKH2PSMMRH()	2 Position Momentary Right Contact, Horizontal
HKH2PSMMRV()	2 Position Momentary Right Contact, Vertical
HKH2PSKH()①②	2 Position Keyed, Maint./Mom. Right, Horizontal
HKH2PSKV()①②	2 Position Keyed Maint./Mom. Right, Vertical
3 POSITION SELECTOR SWITCHES	
HKH3PSMTH()	3 Pos. Maintained Contact Independent Cam, Horizontal
HKH3PSMTV()	3 Pos. Maintained Contact Independent Cam, Vertical
HKH3PSMMRH()	3 Pos. Mom. Right Maint. Left/Cntr Independent Cam, Horizontal
HKH3PSMMRV()	3 Pos. Mom. Right Maint. Left/Cntr Independent Cam, Vertical
HKH3PSMMLH()	3 Pos. Mom. Left, Maint. Right/Cntr Independent Cam, Horizontal
HKH3PSMMLV()	3 Pos. Mom. Left, Maint. Cntr/Right Independent Cam, Vertical
HKH3PSMMLRH()	3 Pos. Mom. Left/Right, Maint. Cntr Independent Cam, Horizontal
HKH3PSMMLRV()	3 Pos. Mom. Left/Right, Maint. Cntr Independent Cam, Vertical
HKH3PSKH()①②	3 Position Keyed Maint./Mom. Independent Cam, Horizontal
HKH3PSKV()①②	3 Position Keyed Maint./Mom. Independent Cam, Vertical

① Keyed Rotary Selectors are not Type IX.

② All Keyed Actuators supplied with MS-1 key as standard. For different key add digit; 2, 3, 4, 5, or 6 after "H" or "V" in catalog number.



Factory Sealed Controls - Introduction

SEAL-XM®



Class I, Div. 1 & 2, Groups B, C, D
Class I, Zone 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 3

Certified File 2493125

FEATURES-SPECIFICATIONS

Features

- Incorporates Factory Sealed Universal contact blocks and GOB3 LED pilot light devices
- External sealing fitting not required on standard assemblies. Group B configurations require sealing fitting beyond 60".
- No seal plate between the electrical device and back box allows direct wiring to contact terminals
- Type 3 weatherproof
- Grounding boss supplied in the splice box
- Sold as complete units with 1/2", 3/4", or 1" hubs, in Dead End or Feed Thru configurations.
- More wiring room in back box

Materials

- | |
|--|
| FXCS*-M Groups C, D
Copper free aluminum cover & box |
| FXCS*-MB Groups B, C, D
Copper free aluminum cover & box |
| FXCS*-MBI Groups B, C, D
Copper free aluminum cover & ductile iron back box zinc electroplated |
| FXCS*-MI Groups C, D
Copper free aluminum cover & ductile iron back box zinc electroplated |
- Stainless steel captive cover screws
 - Operating shafts stainless steel
 - Standard finish is a grey epoxy powder baked on for ultimate corrosion resistance

Hazardous Rating:

Class I, Division 2, Groups A,B,C,D;
Class I, Zone 1, Group IIC

Terminal Capacity:

22 thru 12 AWG [0.52-2.5mm²]
copper, solid or stranded conductors.
Tightening torque: 20 in-lbs (2.2Nm)

Contact Electrical Ratings:

NEMA A600/P600 - Pilot Duty;
690VAC, 10A, 50-60Hz; 1/2HP @
120VAC; 1HP @ 208/240/277 VAC;
60VDC, 5A; 110VDC, 2A; 250VDC,
1.5A; 600VDC, 0.2A

Pilot Light Electrical Ratings:

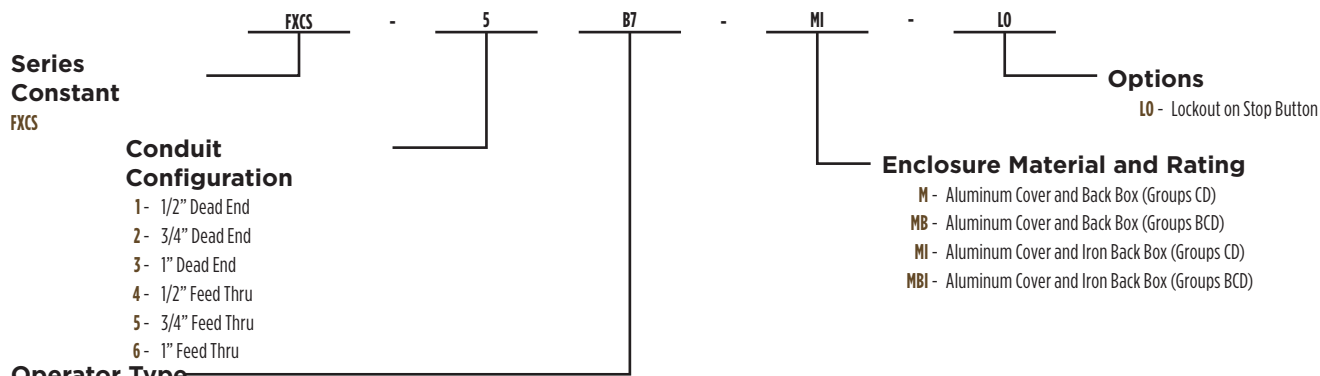
250 VAC max.



CONTROLS

SEAL-XM[®] SERIES

Factory Sealed Controls - Catalog Logic



Series Constant
FXCS

Conduit Configuration

- 1 - 1/2" Dead End
- 2 - 3/4" Dead End
- 3 - 1" Dead End
- 4 - 1/2" Feed Thru
- 5 - 3/4" Feed Thru
- 6 - 1" Feed Thru

Operator Type

- B1 - Momentary Single Pushbutton, Green (Full Shroud) - 1NO/1NC
- B2 - Momentary Single Pushbutton, Red (Half Shroud) - 1NO/1NC
- B3 - Momentary Single Pushbutton, Black (Full Shroud) - 1NO/1NC
- B4 - Momentary Double Pushbutton, Green (Full Shroud) - 1NO/1NC / Red (Half Shroud) - 1NO/1NC
- B5 - Momentary Double Pushbutton, Green (Full Shroud) - 1NO/1NC / Green (Full Shroud) - 1NO/1NC
- B7 - Momentary Double Pushbutton, Black (Full Shroud) - 1NO/1NC & Black (Full Shroud) - 1NO/1NC
- B24CL - LED Pilot Light, Clear, 120V
- B24GL - LED Pilot Light, Green, 120V
- B24RL - LED Pilot Light, Red, 120V
- B30CL - Double LED Pilot Light, Clear/Clear, 120V
- B30GL - Double LED Pilot Light, Green/Green, 120V
- B30RL - Double LED Pilot Light, Red/Red, 120V
- B30RL-GL - Double LED Pilot Light, Red/Green, 120V
- B13-C - Momentary Single Pushbutton (Red, Half Shroud) and Pilot Light (Clear, 120V)
- B13-0 - Momentary Single Pushbutton (Green, Full Shroud) and Pilot Light (Green, 120V)
- B13-U - Momentary Single Pushbutton (Black, Full Shroud) and Pilot Light (Red, 120V)
- MMG3 - Maintained Mushroom Button, Green
- MMR3 - Maintained Mushroom Button, Red
- MMK3 - Maintained Mushroom Button, Black
- S2A1 - 2-Position Selector Switch, Maintained, 1NO/1NC
- S2A5 - 2-Position Selector Switch, Maintained, 2NO/2NC
- S3C4 - 3-Position Selector Switch, Maintained, Center Off, 1NO/1NC
- S3C5 - 3-Position Selector Switch, Maintained, Center Off, 2NO/2NC
- S2L3F - 2-Position Selector Switch, Maintained Left, Spring Return to Left from Right, 1NO/1NC
- S3M6G - 3-Position Selector Switch, Maintained Center, Spring Return to Center from Left and Right, Center Off, 1NO/1NC
- S3L6G - 3-Position Selector Switch, Maintained Center and Left, Spring Return to Center from Right, Center Off, 1NO/1NC
- S3R6G - 3-Position Selector Switch, Maintained Center and Right, Spring Return to Center from Left, Center Off, 1NO/1NC
- K2A1 - 2-Position Keyed Selector Switch, Maintained, 1NO/1NC
- K2A5 - 2-Position Keyed Selector Switch, Maintained, 2NO/2NC
- K3C4 - 3-Position Keyed Selector Switch, Maintained, Center Off, 1NO/1NC
- K3C5 - 3-Position Keyed Selector Switch, Maintained, Center Off, 2NO/2NC
- K2L3F2ZD - 2-Position Keyed Selector Switch, Maintained Left, Spring Return to Left from Right, 1NO/1NC, Random Keyed
- K3M6G3ZD - 3-Position Keyed Selector Switch, Maintained Center, Spring Return to Center from Left and Right, Center Off, 1NO/1NC, Random Keyed
- K3L6G3ZD - 3-Position Keyed Selector Switch, Maintained Center and Left, Spring Return to Center from Right, Center Off, 1NO/1NC, Random Keyed
- K3R6G3ZD - 3-Position Keyed Selector Switch, Maintained Center and Right, Spring Return to Center from Left, Center Off, 1NO/1NC, Random Keyed

Options

LO - Lockout on Stop Button

Enclosure Material and Rating

- M - Aluminum Cover and Back Box (Groups CD)
- MB - Aluminum Cover and Back Box (Groups BCD)
- MI - Aluminum Cover and Iron Back Box (Groups CD)
- MBI - Aluminum Cover and Iron Back Box (Groups BCD)



Factory Sealed Control Stations



Single Push Button



Double Push Button



LED Pilot Light

SEAL-XM MOMENTARY CONTACT SINGLE PUSH BUTTON

CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LEGEND PLATE MARKING
BOX COVER					
DEAD-END	FEED-THRU				
FXCS-1B1-M	FXCS-4B1-M	1/2"		Green	Start
FXCS-2B1-M	FXCS-5B1-M	3/4"			
FXCS-1B2-M	FXCS-4B2-M ^④	1/2"		Red	Stop
FXCS-2B2-M	FXCS-5B2-M ^④	3/4"			
FXCS-1B3-M	FXCS-4B3-M	1/2"		Black	Specify
FXCS-2B3-M	FXCS-5B3-M	3/4"			

SEAL-XM MOMENTARY CONTACT DOUBLE PUSH BUTTON

CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LEGEND PLATE MARKING
BOX & COVER					
DEAD-END	FEED-THRU				
FXCS-1B4-M	FXCS-4B4-M	1/2"		Green/Red	Start/Stop
FXCS-2B4-M	FXCS-5B4-M	3/4"			
FXCS-1B5-M	FXCS-4B5-M	1/2"		Green/Green	Specify
FXCS-2B5-M	FXCS-5B5-M	3/4"			
FXCS-1B7-M	FXCS-4B7-M	1/2"		Black/Black	Specify
FXCS-2B7-M	FXCS-5B7-M	3/4"			

SEAL-XM LED PILOT LIGHT

CATALOG NUMBER		HUB SIZE	DIAGRAM	VOLTAGE ^③	LENS COLOR	LEGEND PLATE MARKING
BOX & COVER						
DEAD-END	FEED-THRU					
FXCS-1B24CL-M	FXCS-4B24CL-M	1/2"		120V	Clear	Specify
FXCS-2B24CL-M	FXCS-5B24CL-M	3/4"				
FXCS-1B24GL-M	FXCS-4B24GL-M	1/2"		120V	Green	Specify
FXCS-2B24GL-M	FXCS-5B24GL-M	3/4"				
FXCS-1B24RL-M	FXCS-4B24RL-M	1/2"		120V	Red	Specify
FXCS-2B24RL-M	FXCS-5B24RL-M	3/4"				



CONTROLS
SEAL-XM® SERIES

Factory Sealed Control Stations



Double LED
Pilot Light



Push Button
LED Pilot Light



Push/Pull
Mushroom

SEAL-XM DOUBLE LED PILOT LIGHT						
CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	LENS COLOR	LEGEND PLATE MARKING
BOX & COVER						
DEAD-END	FEED-THRU					
FXCS-1B30CL-M	FXCS-4B30CL-M	1/2"		120V	Clear	Specify
FXCS-2B30CL-M	FXCS-5B30CL-M	3/4"				
FXCS-1B30GL-M	FXCS-4B30GL-M	1/2"		120V	Green	Specify
FXCS-2B30GL-M	FXCS-5B30GL-M	3/4"				
FXCS-1B30RL-M	FXCS-4B30RL-M	1/2"		120V	Red	Specify
FXCS-2B30RL-M	FXCS-5B30RL-M	3/4"				
FXCS-1B30RL-GL-M	FXCS-4B30RL-GL-M	1/2"		120V	Red/Green	Specify
FXCS-2B30RL-GL-M	FXCS-5B30RL-GL-M	3/4"				

SEAL-XM MOMENTARY CONTACT PUSH BUTTON AND LED PILOT LIGHT								
CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	BUTTON COLOR	LENS COLOR	LEGEND PLATE MARKING	
BOX & COVER							BUTTON	LENS
DEAD-END	FEED-THRU							
FXCS-1B13-C-M	FXCS-4B13-C-M	1/2"		120V	Red	Clear	Stop	Specify
FXCS-2B13-C-M	FXCS-5B13-C-M	3/4"						
FXCS-1B13-O-M	FXCS-4B13-O-M	1/2"		120V	Green	Green	Start	Specify
FXCS-2B13-O-M	FXCS-5B13-O-M	3/4"						
FXCS-1B13-U-M	FXCS-4B13-U-M	1/2"		120V	Black	Red	Specify	Specify
FXCS-2B13-U-M	FXCS-5B13-U-M	3/4"						

SEAL-XM MAINTAINED CONTACT PUSH/PULL MUSHROOM					
CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LEGEND PLATE MARKING
BOX & COVER					
DEAD-END	FEED-THRU				
FXCS-1MMG3-M	FXCS-4MMG3-M	1/2"		Green	Start
FXCS-2MMG3-M	FXCS-5MMG3-M	3/4"			
FXCS-1MMR3-M	FXCS-4MMR3-M	1/2"		Red	Stop
FXCS-2MMR3-M	FXCS-5MMR3-M	3/4"			
FXCS-1MMK3-M	FXCS-4MMK3-M	1/2"		Black	Specify
FXCS-2MMK3-M	FXCS-5MMK3-M	3/4"			



Factory Sealed Control Stations



Two Position Selector Switch



Three Position Selector Switch

SEAL-XM TWO POSITION SELECTOR SWITCH - MAINTAINED CONTACT

CATALOG NUMBER		HUB SIZE	LEFT POSITION	RIGHT POSITION	STANDARD NAMEPLATE MARKINGS
BOX & COVER					
DEAD-END	FEED-THRU				
FXCS-1S2A1-M	FXCS-4S2A1-M	1/2"			BLANK & OFF-ON
FXCS-2S2A1-M	FXCS-5S2A1-M	3/4"			
FXCS-1S2A5-M	FXCS-4S2A5-M	1/2"			
FXCS-2S2A5-M	FXCS-5S2A5-M	3/4"			

SEAL-XM THREE POSITION SELECTOR SWITCH - MAINTAINED CONTACT

CATALOG NUMBER		HUB SIZE	LEFT POSITION	CENTER POSITION	RIGHT POSITION	STANDARD NAMEPLATE MARKINGS
BOX & COVER						
DEAD-END	FEED-THRU					
FXCS-1S3C4-M	FXCS-4S3C4-M	1/2"				BLANK or HAND-OFF-AUTO
FXCS-2S3C4-M	FXCS-5S3C4-M	3/4"				
FXCS-1S3C5-M	FXCS-4S3C5-M	1/2"				
FXCS-2S3C5-M	FXCS-5S3C5-M	3/4"				

SEAL-XM TWO POSITION SELECTOR SWITCH - SPRING RETURN

CATALOG NUMBER		HUB SIZE	LEFT POSITION	RIGHT POSITION	STANDARD NAMEPLATE MARKINGS
BOX & COVER					
DEAD-END	FEED-THRU				
FXCS-1S2L3F-M	FXCS-4S2L3F-M	1/2"			BLANK & OFF-ON
FXCS-2S2L3F-M	FXCS-5S2L3F-M	3/4"			

SELECTOR SWITCH OPERATION - SPRING RETURN TO LEFT FROM RIGHT - MAINTAINED IN LEFT.

SEAL-XM THREE POSITION SELECTOR SWITCH - SPRING RETURN

CATALOG NUMBER		HUB SIZE	LEFT POSITION	CENTER POSITION	RIGHT POSITION	STANDARD NAMEPLATE MARKINGS
BOX & COVER						
DEAD-END	FEED-THRU					
FXCS-1S3M6G-M	FXCS-4S3M6G-M	1/2"				BLANK or HAND-OFF-AUTO
FXCS-2S3M6G-M	FXCS-5S3M6G-M	3/4"				

SPRING RETURN TO CENTER FROM LEFT AND RIGHT - MAINTAINED CENTER

FXCS-1S3L6G-M	FXCS-4S3L6G-M	1/2"				BLANK or HAND-OFF-AUTO
FXCS-2S3L6G-M	FXCS-5S3L6G-M	3/4"				

SPRING RETURN TO CENTER FROM RIGHT - MAINTAINED CENTER AND LEFT

FXCS-1S3R6G-M	FXCS-4S3R6G-M	1/2"				BLANK or HAND-OFF-AUTO
FXCS-2S3R6G-M	FXCS-5S3R6G-M	3/4"				

SPRING RETURN TO CENTER FROM LEFT - MAINTAINED CENTER AND RIGHT



CONTROLS
SEAL-XM® SERIES

Factory Sealed Control Stations



Keyed Selector Switch

SEAL-XM TWO POSITION KEYED SELECTOR SWITCH - MAINTAINED CONTACT						
CATALOG NUMBER		HUB SIZE	LEFT POSITION	RIGHT POSITION	STANDARD NAMEPLATE MARKINGS	
BOX & COVER						
DEAD-END	FEED-THRU					
FXCS-1K2A1-M	FXCS-4K2A1-M	1/2"			BLANK & OFF-ON	
FXCS-2K2A1-M	FXCS-5K2A1-M	3/4"				
FXCS-1K2A5-M	FXCS-4K2A5-M	1/2"				
FXCS-2K2A5-M	FXCS-5K2A5-M	3/4"				

SEAL-XM THREE POSITION KEYED SELECTOR SWITCH - MAINTAINED CONTACT							
CATALOG NUMBER		HUB SIZE	LEFT POSITION	CENTER POSITION	RIGHT POSITION	STANDARD NAMEPLATE MARKINGS	
BOX & COVER							
DEAD-END	FEED-THRU						
FXCS-1K3C4-M	FXCS-4K3C4-M	1/2"				BLANK or HAND-OFF-AUTO	
FXCS-2K3C4-M	FXCS-5K3C4-M	3/4"					
FXCS-1K3C5-M	FXCS-4K3C5-M	1/2"					
FXCS-2K3C5-M	FXCS-5K3C5-M	3/4"					

SEAL-XM TWO POSITION KEYED SELECTOR SWITCH - SPRING RETURN						
CATALOG NUMBER		HUB SIZE	LEFT POSITION	RIGHT POSITION	STANDARD NAMEPLATE MARKINGS	
BOX & COVER						
DEAD-END	FEED-THRU					
FXCS-1K2L3F22D-M	FXCS-4K2L3F22D-M	1/2"			BLANK & OFF-ON	
FXCS-2K2L3F22D-M	FXCS-5K2L3F22D-M	3/4"				

SELECTOR SWITCH OPERATION - SPRING RETURN TO LEFT FROM RIGHT - MAINTAINED IN LEFT.

SEAL-XM THREE POSITION KEYED SELECTOR SWITCH - SPRING RETURN						
CATALOG NUMBER		HUB SIZE	LEFT POSITION	CENTER POSITION	RIGHT POSITION	STANDARD NAMEPLATE MARKINGS
BOX & COVER						
DEAD-END	FEED-THRU					
FXCS-1K3M6G32D-M	FXCS-4K3M6G32D-M	1/2"				BLANK or HAND-OFF-AUTO
FXCS-2K3M6G32D-M	FXCS-5K3M6G32D-M	3/4"				

SELECTOR SWITCH - OPERATION - SPRING RETURN TO CENTER FROM LEFT AND RIGHT - MAINTAINED IN CENTER

FXCS-1K3L6G32D-M	FXCS-4K3L6G32D-M	1/2"				BLANK or HAND-OFF-AUTO
FXCS-2K3L6G32D-M	FXCS-5K3L6G32D-M	3/4"				

SELECTOR SWITCH - OPERATION - SPRING RETURN TO CENTER FROM RIGHT - MAINTAINED CENTER AND LEFT

FXCS-1K3R6G32D-M	FXCS-4K3R6G32D-M	1/2"				BLANK or HAND-OFF-AUTO
FXCS-2K3R6G32D-M	FXCS-5K3R6G32D-M	3/4"				

SELECTOR SWITCH - OPERATION - SPRING RETURN TO CENTER FROM LEFT - MAINTAINED CENTER AND RIGHT



Factory Sealed Control Stations



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Type 3

LISTED - File E53360 and/or E12379

Certified - File LR11714

FEATURES-SPECIFICATIONS

Features

- **Factory Sealed** devices eliminate the need for external sealing. The difference is the use of a sealing plate between the arcing device and the junction box. The sealing plate confines ignited gases, vapors, flames, or dust to the arcing device chamber, preventing them from traveling through the conduit system. Factory poured seals around the wiring pigtails insure safe sealing.
- Lower installation cost
- Type 3 weatherproof
- Color coded wiring-more wiring space-easier field installation
- Lockout accessory available; must be factory installed.
- Ground boss for grounding in the splice box
- Cast conduit hubs 1/2", 3/4" and 1" either dead end or feed through standard in both single and two gang assemblies
- Miniature and standard size push buttons. (Miniature 3/4" overall diameter, standard 1 3/8" overall diameter)
- Key operated selector switches are randomly keyed with keys removable in all positions. Keyed alike or key removable in non-standard positions available from factory.

Materials

- Stainless steel captive screws for cover assembly
- Device bodies and covers are cast copper-free aluminum alloy
- Push button, selector switches and pilot light bodies are copper-free aluminum
- Operating shaft in both push buttons and selector switches are stainless steel

Electrical Rating

Push button stations, selector switches 600 VAC max. heavy duty.

Pilot Light Electrical Ratings:
250 VAC max.

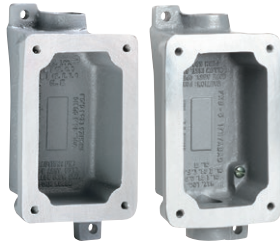
CONTACT BLOCK RATINGS – A600				
CURRENT	120 VAC	240 VAC	480 VAC	600 VAC
INRUSH	60	30	15	12
BREAKING	6	3	1.5	1.2
CARRYING	10	10	10	10

DC RATINGS (MAX. AMPS) – P600		
CURRENT	125 VDC	250 VDC
INRUSH	.55	.27
BREAKING	.55	.27
CARRYING	2.55	2.55



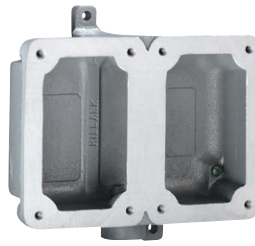
CONTROLS FXB SERIES

Factory Sealed Splice Boxes Sealing Methods

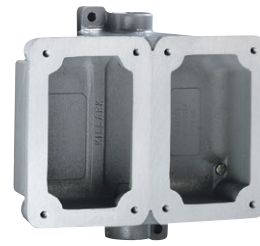


FXB-2
Dead End

FXB-5
Feed Thru



FXB-8
Double Gang Dead
End



FXB-11
Double Gang Feed
Thru

Splice Boxes

The FXB Series of splice boxes are designed for use with the FXCS and FXS Series of cover sub-assemblies.

FXB BACK BOX SELECTION AND DIMENSIONS							
CATALOG NUMBER	DESCRIPTION	HUB SIZE	EXTERNAL			MOUNTING	
			LENGTH	WIDTH	DEPTH	VERTICAL	HORIZONTAL
FXB-1	Single gang/Dead-end	1/2"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-2	Single gang/Dead-end	3/4"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-3	Single gang/Dead-end	1"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-4	Single gang/Feed-thru	1/2"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-5	Single gang/Feed-thru	3/4"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-6	Single gang/Feed-thru	1"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-7	Double gang/Dead-end	1/2"	6-13/16"	7-17/32"	2	6-3/16"	2-1/4"
FXB-8	Double gang/Dead-end	3/4"	6-13/16"	7-17/32"	2	6-3/16"	2-1/4"
FXB-9	Double gang/Dead-end	1"	7	7-17/32"	2	6-3/16"	2-1/4"
FXB-10	Double gang/Feed-thru	1/2"	6-13/16"	7-17/32"	2	6-3/16"	2-1/4"
FXB-11	Double gang/Feed-thru	3/4"	6-13/16"	7-17/32"	2	6-3/16"	2-1/4"
FXB-12	Double gang/Feed-thru	1"	7	7-17/32"	2	6-3/16"	2-1/4"

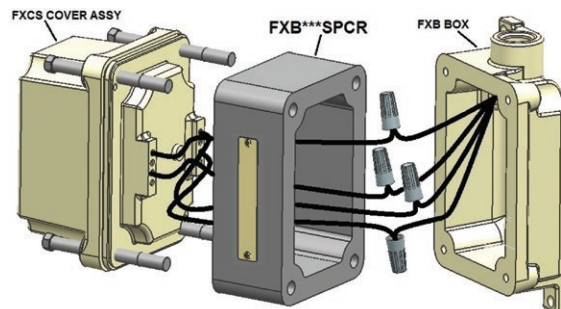
FXB BLANK COVER	
CATALOG NUMBER	DESCRIPTION
FX-10	BLANK COVER FOR FXB

US Certified File No. LR111714



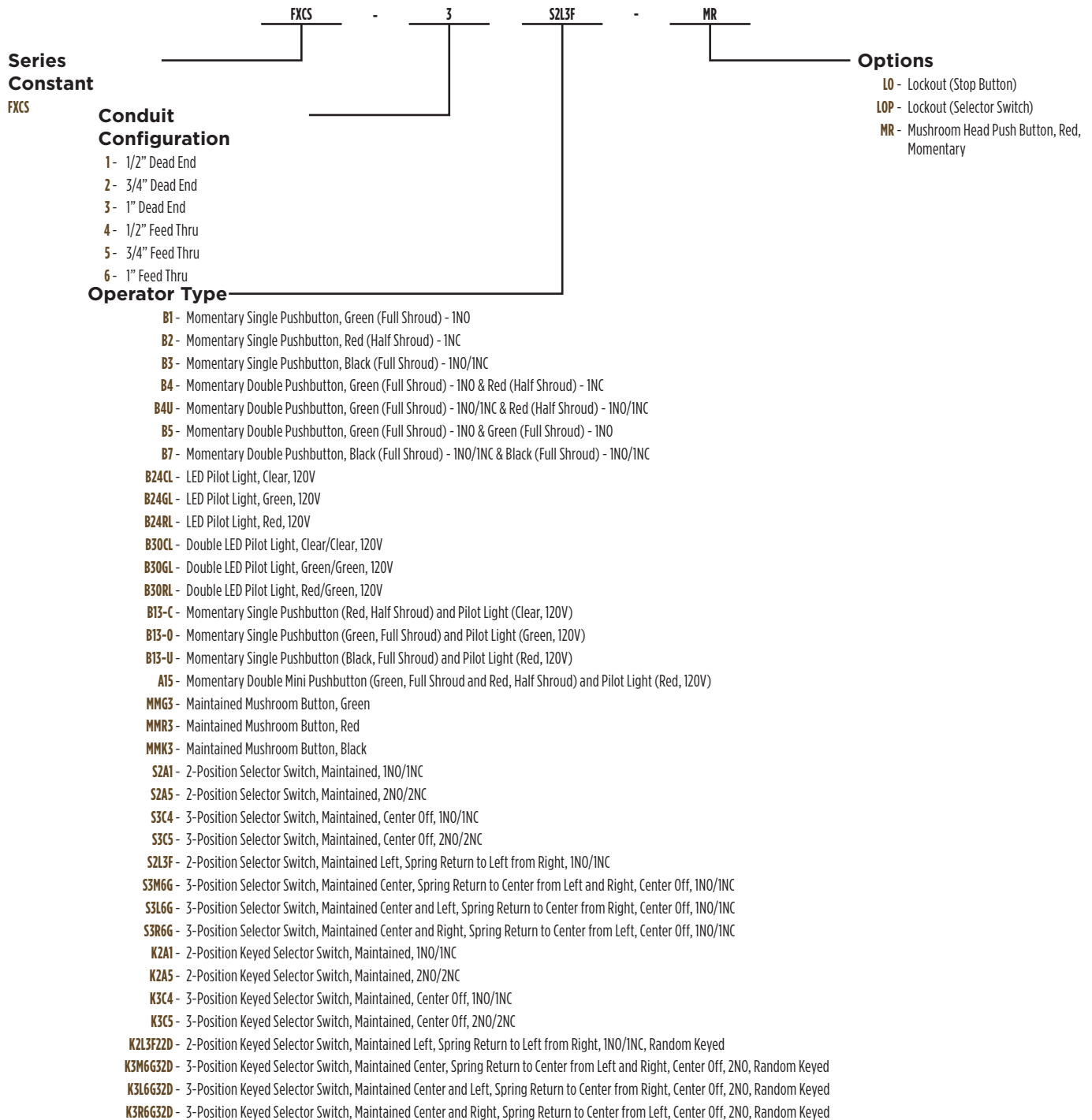
US LISTED File Number E53360

FXB SPACER	
CATALOG NUMBER	DESCRIPTION
FXB075SPCR	SPACER, 3/4" ADDITIONAL DEPTH
FXB10SPCR	SPACER, 1" ADDITIONAL DEPTH
FXB15SPCR	SPACER, 1 1/2" ADDITIONAL DEPTH
FXB20SPCR	SPACER, 2" ADDITIONAL DEPTH





Factory Sealed Control Stations - Catalog Logic





CONTROLS FXCS SERIES

Factory Sealed Control Stations

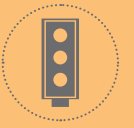


2 Gang Box and
Two Cover Assemblies

FXCS MOMENTARY CONTACT SINGLE PUSH BUTTON							
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		HUB SIZE	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING	
	DEAD-END	FEED-THRU					
FXCS-0B1	FXCS-1B1	FXCS-4B1	1/2"		Green	Start	
	FXCS-2B1	FXCS-5B1	3/4"				
FXCS-0B2	FXCS-1B2	FXCS-4B2	1/2"		Red	Stop	
	FXCS-2B2	FXCS-5B2	3/4"				
FXCS-0B3	FXCS-1B3	FXCS-4B3	1/2"		Black	Specify	
	FXCS-2B3	FXCS-5B3	3/4"				

FXCS MOMENTARY CONTACT DOUBLE PUSH BUTTON							
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		HUB SIZE	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING	
	DEAD-END	FEED-THRU					
FXCS-0B4	FXCS-1B4	FXCS-4B4	1/2"		Green/Red	Start/Stop	
	FXCS-2B4	FXCS-5B4	3/4"				
FXCS-0B4U	FXCS-1B4-U	FXCS-4B4-U	1/2"		Green/Red	Start/Stop	
	FXCS-2B4-U	FXCS-5B4-U	3/4"				
FXCS-0B5	FXCS-1B5	FXCS-4B5	1/2"		Green/Green	Specify	
	FXCS-2B5	FXCS-5B5	3/4"				
FXCS-0B7	FXCS-1B7	FXCS-4B7	1/2"		Black/Black	Specify	
	FXCS-2B7	FXCS-5B7	3/4"				

FXCS PILOT LIGHT							
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		HUB SIZE	DIAGRAM	VOLT	LENS COLOR	NAMEPLATE MARKING
	DEAD-END	FEED-THRU					
FXCS-0B24CL	FXCS-1B24-CL	FXCS-4B24-CL	1/2"		120V	Clear	Specify
	FXCS-2B24-CL	FXCS-5B24-CL	3/4"				
FXCS-0B24GL	FXCS-1B24-GL	FXCS-4B24-GL	1/2"		120V	Green	Specify
	FXCS-2B24-GL	FXCS-5B24-GL	3/4"				
FXCS-0B24RL	FXCS-1B24-RL	FXCS-4B24-RL	1/2"		120V	Red	Specify
	FXCS-2B24-RL	FXCS-5B24-RL	3/4"				



Factory Sealed Control Stations



Pilot Light and 2 Mini P.B.
(Box and Cover)



Double Pilot Lights
(Box and Cover)



Maintained Push Button
(Box and Cover)

FXCS DOUBLE PILOT LIGHTS

CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	LENS COLOR	NAMEPLATE MARKING	
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)						
	DEAD-END	FEED-THRU					
FXCS-0B30CL	FXCS-1B30-CL	FXCS-4B30-CL	1/2"		120V	Clear	Specify
	FXCS-2B30-CL	FXCS-5B30-CL	3/4"				
FXCS-0B30GL	FXCS-1B30-GL	FXCS-4B30-GL	1/2"		120V	Green	Specify
	FXCS-2B30-GL	FXCS-5B30-GL	3/4"				
FXCS-0B30RL	FXCS-1B30-RL	FXCS-4B30-RL	1/2"		120V	Red	Specify
	FXCS-2B30-RL	FXCS-5B30-RL	3/4"				
FXCS-0B30RL-GL	FXCS-1B30RL-GL	FXCS-4B30RL-GL	1/2"		120V	Red/Green	Specify
	FXCS-2B30RL-GL	FXCS-5B30RL-GL	3/4"				

FXCS MOMENTARY CONTACT PUSH BUTTON AND PILOT LIGHT

CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	BUTTON COLOR	LENS COLOR	NAMEPLATE MARKING		
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)						BUTTON	LENS	
	DEAD-END	FEED-THRU							
FXCS-0B13-C	FXCS-1B13-C	FXCS-4B13-C	1/2"		120V	Red	Clear	Stop	Specify
	FXCS-2B13-C	FXCS-5B13-C	3/4"						
FXCS-0B13-0	FXCS-1B13-0	FXCS-4B13-0	1/2"		120V	Green	Green	Start	Specify
	FXCS-2B13-0	FXCS-5B13-0	3/4"						
FXCS-0B13-U	FXCS-1B13-U	FXCS-4B13-U	1/2"		120V	Black	Red	Specify	Specify
	FXCS-2B13-U	FXCS-5B13-U	3/4"						

FXCS MOMENTARY CONTACT 2 MINI PUSH BUTTON AND 1 PILOT LIGHT

CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LENS COLOR	NAMEPLATE MARKING		
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)					BUTTON	LENS	
	DEAD-END	FEED-THRU						
FXCS-0A15	FXCS-1A15	FXCS-4A15	1/2"		Red/Green	Red	Stop	Specify
	FXCS-2A15	FXCS-5A15	3/4"					

FXCS MAINTAINED CONTACT - PUSH/PULL MUSHROOM

COVER ASSEMBLY CAT. #	CATALOG # WITH LOCKOUT #	CONTACT TYPE	BUTTON COLOR	NAMEPLATE MARKING
FXCS-OMMG3	FXCS-OMMR3-LOM	1NO/1NC	GREEN	Three nameplates supplied (START, STOP, and EMERG STOP).
FXCS-OMMR3		1NO/1NC	RED	
FXCS-OMMK3		1NO/1NC	BLACK	



CONTROLS FXCS SERIES

Factory Sealed Control Stations



Selector Switch
(Box and Cover)



Keyed Selector Switch
(Box and Cover)

FXCS TWO POSITION SELECTOR SWITCH – MAINTAINED CONTACT											
STANDARD COVER WITH DEVICE	HUB SIZE	CATALOG NUMBER				LEFT POSITION		RIGHT POSITION		STANDARD NAMEPLATE MARKINGS	
		STANDARD COMPLETE UNITS (BOX & COVER)		KEYED COVER WITH DEVICE	KEYED COMPLETE UNITS ^② (BOX & COVER)		LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT		RIGHT CONTACT
		DEAD-END	FEED-THRU		DEAD-END	FEED-THRU					
FXCS-0S2A1	1/2"	FXCS-1S2A1	FXCS-4S2A1	FXCS-0K2A1	FXCS-1K2A1	FXCS-4K2A1					BLANK or OFF-ON
	3/4"	FXCS-2S2A1	FXCS-5S2A1		FXCS-2K2A1	FXCS-5K2A1					
FXCS-0S2A5	1/2"	FXCS-1S2A5	FXCS-4S2A5	FXCS-0K2A5	FXCS-1K2A5	FXCS-4K2A5					
	3/4"	FXCS-2S2A5	FXCS-5S2A5		FXCS-2K2A5	FXCS-5K2A5					

FXCS THREE POSITION SELECTOR SWITCH – MAINTAINED CONTACT													
STANDARD COVER WITH DEVICE	HUB SIZE	CATALOG NUMBER				LEFT POSITION		CENTER POSITION		RIGHT POSITION		STANDARD NAMEPLATE MARKINGS	
		STANDARD COMPLETE UNITS (BOX & COVER)		KEYED COVER WITH DEVICE	KEYED COMPLETE UNITS ^② (BOX & COVER)		LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT		RIGHT CONTACT
		DEAD-END	FEED-THRU		DEAD-END	FEED-THRU							
FXCS-0S3C4	1/2"	FXCS-1S3C4	FXCS-4S3C4	FXCS-0K3C4	FXCS-1K3C4	FXCS-4K3C4							BLANK or HAND-OFF-AUTO
	3/4"	FXCS-2S3C4	FXCS-5S3C4		FXCS-2K3C4	FXCS-5K3C4							
FXCS-0S3C5	1/2"	FXCS-1S3C5	FXCS-4S3C5	FXCS-0K3C5	FXCS-1K3C5	FXCS-4K3C5							
	3/4"	FXCS-2S3C5	FXCS-5S3C5		FXCS-2K3C5	FXCS-5K3C5							

FXCS TWO POSITION SELECTOR SWITCH – SPRING RETURNED – 1 N.O./1 N.C.											
STANDARD COVER WITH DEVICE	HUB SIZE	CATALOG NUMBER				LEFT POSITION		RIGHT POSITION		STANDARD NAMEPLATE MARKINGS	
		STANDARD COMPLETE UNITS (BOX & COVER)		KEYED COVER WITH DEVICE	KEYED COMPLETE UNITS ^② (BOX & COVER)		LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT		RIGHT CONTACT
		DEAD-END	FEED-THRU		DEAD-END	FEED-THRU					
FXCS-0S2L3F	1/2"	FXCS-1S2L3F	FXCS-4S2L3F	FXCS-0K2L3F22D	FXCS-1K2L3F22D	FXCS-4K2L3F22D					BLANK or OFF-ON
	3/4"	FXCS-2S2L3F	FXCS-5S2L3F		FXCS-2K2L3F22D	FXCS-5K2L3F22D	TYPE OPERATION – Spring return to left from right – Maintained in left – 1 N.O. Contact – 1 N.C. Contact				

FXCS THREE POSITION SELECTOR SWITCH – SPRING RETURNED – 2 N.O.													
STANDARD COVER WITH DEVICE	HUB SIZE	CATALOG NUMBER				LEFT POSITION		CENTER POSITION		RIGHT POSITION		STANDARD NAMEPLATE MARKINGS	
		STANDARD COMPLETE UNITS (BOX & COVER)		KEYED COVER WITH DEVICE	KEYED COMPLETE UNITS ^② (BOX & COVER)		LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT		RIGHT CONTACT
		DEAD-END	FEED-THRU		DEAD-END	FEED-THRU							
FXCS-0S3M6G	1/2"	FXCS-1S3M6G	FXCS-4S3M6G	FXCS-0K3M6G32D	FXCS-1K3M6G32D	FXCS-4K3M6G32D							BLANK or HAND-OFF-AUTO
	3/4"	FXCS-2S3M6G	FXCS-5S3M6G		FXCS-2K3M6G32D	FXCS-5K3M6G32D	TYPE OPERATION – Spring return to center from left or right – Maintained in center – 2 N.O. Contacts						
FXCS-0S3L6G	1/2"	FXCS-1S3L6G	FXCS-4S3L6G	FXCS-0K3L6G32D	FXCS-1K3L6G32D	FXCS-4K3L6G32D							
	3/4"	FXCS-2S3L6G	FXCS-5S3L6G		FXCS-2K3L6G32D	FXCS-5K3L6G32D	TYPE OPERATION – Spring return to center from right – Maintained center and left 2 N.O. Contacts						
FXCS-0S3R6G	1/2"	FXCS-1S3R6G	FXCS-4S3R6G	FXCS-0K3R6G32D	FXCS-1K3R6G32D	FXCS-4K3R6G32D							
	3/4"	FXCS-2S3R6G	FXCS-5S3R6G		FXCS-2K3R6G32D	FXCS-5K3R6G32D	TYPE OPERATION – Spring return to center from left – Maintained center and right 2 N.O. Contacts						



Factory Sealed Tumbler Switches and Ground Fault Interrupter



Tumbler Switch
Complete Unit
(Box and Cover)

Ground Fault Interrupter
Complete Unit
(Box and Cover)

UGRGF Series GFI
Control Station with
UGR Receptacle

Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 3

FXS Tumbler Switches

LISTED - File E53360 and/or File E10501

Certified - File LR11712

FXS Ground Fault Interrupters

LISTED - File E80595

Certified - File LR61895

FEATURES-SPECIFICATIONS

Features

- Test and Reset push buttons are provided on cover assembly. Unit should be tested monthly
- Compliant to UL943 GFCI standards
- Exterior gasket provides Type 3 weatherproof protection
- Ground boss for grounding in the splice box
- Color coded wiring
- Tumbler switch comes with capability to be locked out in OFF position as standard

Materials

- Captive cover bolts are made from stainless steel
- Device bodies are cast aluminum (less than 0.04 of 1% copper).

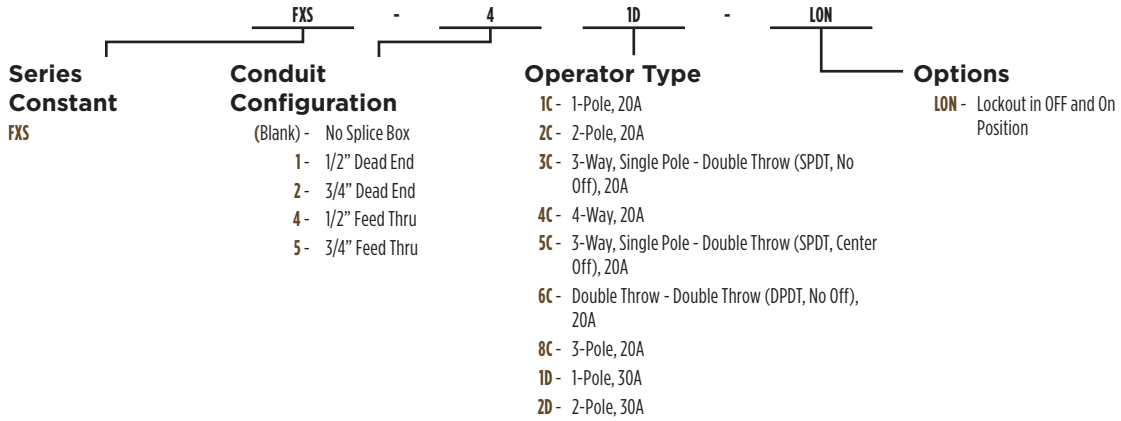
Electrical Rating

- GFI units are rated at 20A, 120 VAC, 60HZ. Class A.
- 4-6 milliamp trip setting
- Trip Time-UL Curve



CONTROLS
FXS SERIES

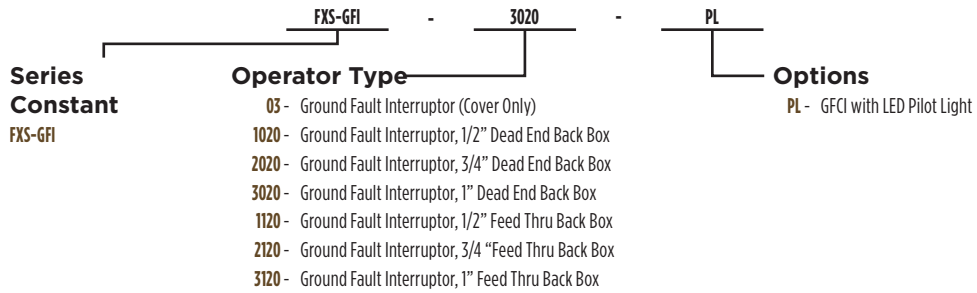
Factory Sealed Tumbler Switches - Catalog Logic



FXS TUMBLER SWITCHES					
CATALOG NUMBER			HUB SIZE	SWITCH STYLE	SWITCH RATING
COMPLETE UNIT					
COVER WITH SWITCH	(BOX, COVER AND SWITCH)				
	DEAD-END	FEED-THRU			
FXS-1C	FXS-11C	FXS-41C	1/2"	1-POLE	20 A, 120/277 VAC, 1Ø; 1 HP at 120 VAC; 2 HP at 240 VAC
	FXS-21C	FXS-51C	3/4"		
FXS-2C	FXS-12C	FXS-42C	1/2"	2-POLE	20 A, 120/277 VAC, 1Ø; 1 HP at 120 VAC; 2 HP at 240 VAC
	FXS-22C	FXS-52C	3/4"		
FXS-8C	FXS-18C	FXS-48C	1/2"	3-POLE	15 A, 240/480 VAC, 3Ø; 3 HP at 240 VAC; 5 HP at 480 VAC
	FXS-28C	FXS-58C	3/4"		
FXS-3C	FXS-13C	FXS-43C	1/2"	3-WAY/ SPDT (NO OFF)	20 A, 120/277 VAC, 1Ø; 1 HP at 120 VAC; 2 HP at 240 VAC
	FXS-23C	FXS-53C	3/4"		
FXS-5C	FXS-15C	FXS-45C	1/2"	SPDT (CENTER OFF)	20 A, 120/277 VAC, 1Ø; 1 HP at 120 VAC; 2 HP at 240 VAC
	FXS-25C	FXS-55C	3/4"		
FXS-6C	FXS-16C	FXS-46C	1/2"	DPDT (NO OFF)	20 A, 120/277 VAC, 1Ø; 1 HP at 120 VAC; 2 HP at 240 VAC
	FXS-26C	FXS-56C	3/4"		
FXS-1D	FXS-11D	FXS-41D	1/2"	1-POLE	30 A, 120/277 VAC, 1Ø; 1 HP at 120 VAC; 2 HP at 240 VAC
	FXS-21D	FXS-51D	3/4"		
FXS-2D	FXS-12D	FXS-42D	1/2"	2-POLE	30 A, 120/277 VAC, 1Ø; 1 HP at 120 VAC; 2 HP at 240 VAC
	FXS-22D	FXS-52D	3/4"		
FXS-4C	—	—	—	4-WAY	20 A, 120/277 VAC, 1Ø; 1 HP at 120 VAC; 2 HP at 240 VAC



Ground Fault Interrupter - Catalog Logic



FXS GROUND FAULT INTERRUPTER				
CATALOG NUMBER			HUB SIZE	
COMPLETE UNIT	COVER ASSEMBLY	BACK BOX		
FXS-GFI-1020	FXS-GFIO3	FXB-1	DEAD END	1/2"
FXS-GFI-2020		FXB-2		3/4"
FXS-GFI-3020		FXB-3		1"
FXS-GFI-1120		FXB-4	FEED THRU	1/2"
FXS-GFI-2120		FXB-5		3/4"
FXS-GFI-3120		FXB-6		1"



CONTROLS

XCS/XS/XST/SWB SERIES

Control Stations External Sealing Required



Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III

 LISTED - File E53360

 Certified - File LR11714, LR11712

FEATURES-SPECIFICATIONS

Features

- Cast conduit hubs 1/2", 3/4" and 1" either dead end or feed thru standard in both single and two gang, SWB-1 thru SWB-12 device bodies
- SWB-13 thru SWB-38 are designed for custom drilled and tapped conduit openings on all four sides and the back
- Ground flange joint between bolted cover and box provide required flame path
- Open space between gangs for easy wiring from one cover to another
- Miniature and standard size push buttons. (Miniature 3/4" overall diameter, standard 1-3/8" overall diameter.)
- Contact blocks are rated heavy duty, 600 VAC max
- Internal ground screw

- Key operated selector switches are randomly keyed with keys removable in all positions. Keyed alike or key removable in non-standard positions available from factory.

Materials

- Device bodies and covers are cast copperfree Aluminum alloy and provide a wide assortment for custom assemblies
- Push button, selector switches and pilot light operator bodies are copper-free aluminum
- Operating shaft in both push buttons and selector switches are stainless steel
- Gold Flashed Contacts on Contact Blocks

Electrical Rating

- Push button stations, selector switches heavy duty 600 VAC max.
- Pilot lights 250 VAC max.

CONTACT BLOCK RATINGS - A600				
CURRENT	120 VAC	240 VAC	480 VAC	600 VAC
INRUSH	60	30	15	12
BREAKING	6	3	1.5	1.2
CARRYING	10	10	10	10

DC RATINGS (MAX. AMPS) - P600		
CURRENT	125 VAC	250 VAC
INRUSH	55	.27
BREAKING	55	.27
CARRYING	2.55	2.55



Device Bodies for use with XCS / XS / XST Cover Assemblies



SWB DEVICE BODIES AND DIMENSIONS

CATALOG NUMBER	HUB SIZE	EXTERNAL			MOUNTING	
		LENGTH	WIDTH	DEPTH	VERTICAL	HORIZONTAL
SWB-1	1/2"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-2	3/4"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-3	1"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-4	1/2"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-5	3/4"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-6	1"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-7	1/2"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-8	3/4"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-9	1"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-10	1/2"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-11	3/4"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-12	1"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-13	①	5-1/4"(133)	3-5/8"(92)	2-1/2"(64)	6-1/8"(156)	2-3/8"(60)
SWB-14	②	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)
SWB-17	①	10-3/8"(264)	3-5/8"(92)	2-1/2"(64)	11-3/8"(289)	2-1/8"(54)
SWB-18	②	5-1/4"(133)	7-1/8"(181)	3-5/16"(84)	6"(152)	5-3/4"(146)
SWB-19	②	5-1/4"(133)	10-5/8"(270)	3-5/16"(84)	6"(152)	9-3/16"(233)
SWB-20	②	5-1/4"(133)	14-1/8"(359)	3-5/16"(84)	6"(152)	12-11/16"(322)
SWB-21	②	5-1/4"(133)	17-5/8"(448)	3-5/16"(84)	6"(152)	16-3/16"(411)
SWB-32	②	12"(305)	10-5/8"(270)	3-5/16"(84)	11-1/8"(283)	9-3/16"(233)
SWB-33	②	10-3/8"(264)	14-1/8"(359)	3-5/16"(84)	11-3/16"(284)	12-3/4"(324)
SWB-34	②	12"(305)	17-3/4"(451)	3-5/16"(84)	11-5/16"(287)	16-1/4"(413)
SWB-38	②	17-1/8"(435)	17-3/4"(451)	3-5/16"(84)	11-5/16"(287)	16-1/4"(413)
SWB-42	3/4"	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)
SWB-45	3/4"	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)
SWB-48	1/2" ②	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)
SWB-49	3/4" ②	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)

① Maximum size drilled and tapped opening 1" - Shallow device bodies.

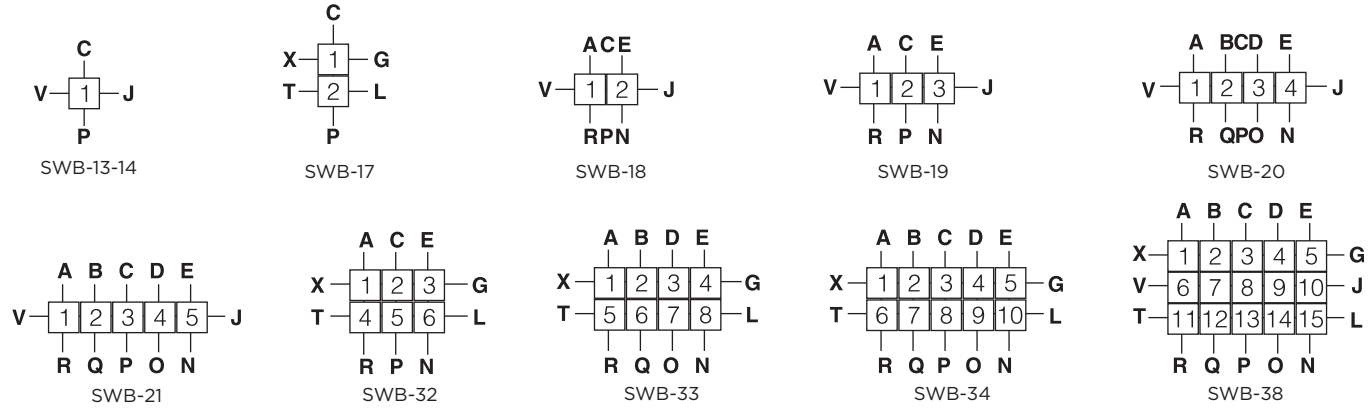
② Maximum size drilled and tapped opening 1-1/2" - Deep device bodies.



CONTROLS SWB SERIES

Conduit Opening Data

CONDUIT OPENING LOCATION CHARTS



To specify conduit openings select the letter on these sketches which indicates the position desired. All conduit openings will be evenly spaced and located in the area indicated on the location chart. When they are to be more accurately located, submit a sketch with spacing dimensions. Specific conduit openings must be located dimensionally from box centerlines to conduit centerlines and from outside back surface of box to conduit centerline.

Ordering Instructions:

- (1) Select the letter on location chart which indicates conduit opening position desired.
- (2) Select symbol number from chart which indicates conduit opening type and size.
- (3) Combine the conduit location letter, size and type number, and add as a suffix to SWB box catalog number.

Example: **SWB-18-C1-J1-P1-V1**

SYMBOL NUMBERS		
CONDUIT SIZE	CONDUIT OPENINGS	
	DRILLED AND TAPPED	UNION
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15

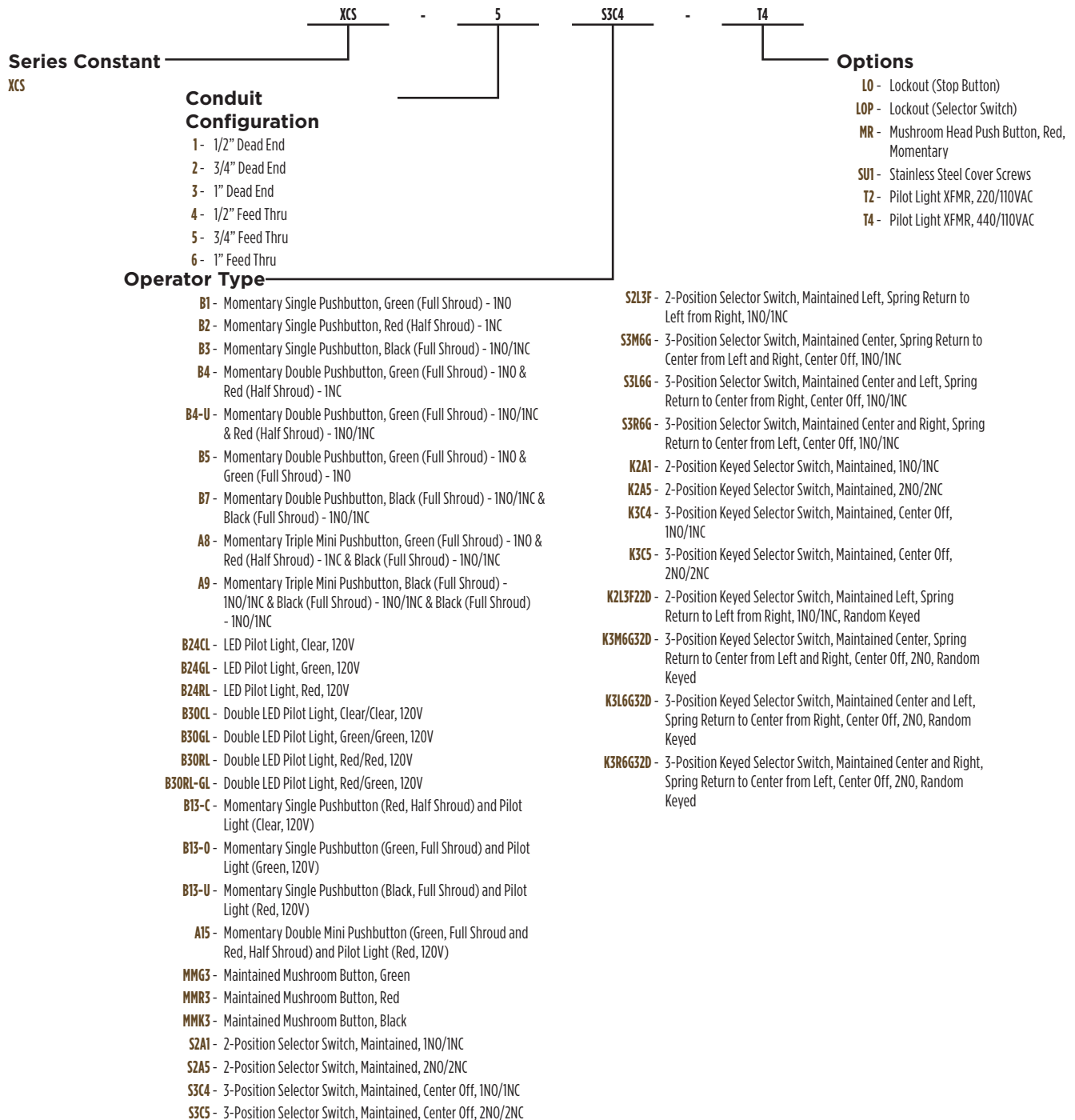
MINIMUM HUB CENTERS FOR DRILLED AND TAPPED AND UNION HUBS						
SIZE	FORM	1/2"	3/4"	1"	1-1/4"	1-1/2"
1/2"	Min	1-3/16"(46)	-	-	-	-
1/2"	Pre	1-3/8"(35)	-	-	-	-
1/2"	Union	1-5/8"(41)	-	-	-	-
3/4"	Min	1-3/8"(35)	1-1/2"(38)	-	-	-
3/4"	Pre	1-1/2"(38)	1-5/8"(41)	-	-	-
3/4"	Union	1-3/4"(44)	1-13/16"(46)	-	-	-
1"	Min	1-1/2"(38)	1-3/4"(44)	1-13/16"(46)	-	-
1"	Pre	1-3/4"(44)	1-7/8"(48)	2"(51)	-	-
1"	Union	1-7/8"(48)	2"(51)	2-1/8"(54)	-	-
1-1/4"	Min	1-11/16"(43)	1-15/16"(49)	2-1/16"(52)	2-5/16"(59)	-
1-1/4"	Pre	1-15/16"(49)	2-1/16"(52)	2-1/4"(57)	2-1/2"(64)	-
1-1/4"	Union	2-1/16"(52)	2-1/4"(57)	2-5/16"(59)	2-1/2"(64)	-
1-1/2"	Min	1-15/16"(49)	2-1/16"(52)	2-3/16"(56)	2-1/2"(64)	2-5/8"(67)
1-1/2"	Pre	2-1/8"(54)	2-1/4"(57)	2-3/8"(60)	2-5/8"(67)	2-3/4"(70)
1-1/2"	Union	2-3/16"(56)	2-9/32"(58)	7/16"(11)	2-5/8"(67)	2-3/4"(70)
Locknut Bushing Conduit		1-1/8"(29)	1-3/8"(35)	1-11/16"(43)	2-3/16"(56)	2-7/16"(62)
Locknut Bushing Conduit		1"(25)	1-1/4"(32)	1-1/2"(38)	1-7/8"(48)	2-1/8"(54)
Locknut Bushing Conduit		7/8"(22)	1-1/16"(27)	1-3/8"(35)	1-11/16"(43)	1-15/16"(49)

Min: The minimum space required to provide enough clearance over locknuts and bushings.
 Pre: The preferred more liberal center to center spacing of openings. To be used whenever possible.
 Union: The required spacing between openings when using male NPT unions.





Control Station Assemblies - Catalog Logic





CONTROLS XCS SERIES

Control Stations External Sealing Required



Single Push Button
(Box and Cover)



Double Push Button
(Box and Cover)



Three Mini-Push Button
(Box and Cover)



Push-Pull Mushroom Maintained Push Button
(Box and Cover)

XCS MOMENTARY CONTACT SINGLE PUSH BUTTON						
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING
	COMPLETE UNITS (BOX & COVER)					
	DEAD-END	FEED-THRU				
XCS-0B1	XCS-1B1	XCS-4B1	1/2"		Green	Start
	XCS-2B1	XCS-5B1	3/4"			
XCS-0B2	XCS-1B2	XCS-4B2	1/2"		Red	Stop
	XCS-2B2	XCS-5B2	3/4"			
XCS-0B3	XCS-1B3	XCS-4B3	1/2"		Black	Specify
	XCS-2B3	XCS-5B3	3/4"			

XCS MOMENTARY CONTACT DOUBLE PUSH BUTTON						
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING
	COMPLETE UNITS (BOX & COVER)					
	DEAD-END	FEED-THRU				
XCS-0B4	XCS-1B4	XCS-4B4	1/2"		Green-Red	Start/Stop
	XCS-2B4	XCS-5B4	3/4"			
XCS-0B4-U	XCS-1B4-U	XCS-4B4-U	1/2"		Green-Red	Start/Stop
	XCS-2B4-U	XCS-5B4-U	3/4"			
XCS-0B5	XCS-1B5	XCS-4B5	1/2"		Green-Green	Start/Start
	XCS-2B5	XCS-5B5	3/4"			
XCS-0B7	XCS-1B7	XCS-4B7	1/2"		Black-Black	Specify
	XCS-2B7	XCS-5B7	3/4"			

XCS MOMENTARY CONTACT THREE MINI-PUSH BUTTON						
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING
	COMPLETE UNITS (BOX & COVER)					
	DEAD-END	FEED-THRU				
XCS-0A8	XCS-1A8	XCS-4A8	1/2"		Green-Red	Start/Stop
	XCS-2A8	XCS-5A8	3/4"			
XCS-0A9	XCS-1A9	XCS-4A9	1/2"		Black	Specify
	XCS-2A9	XCS-5A9	3/4"			

XCS MAINTAINED CONTACT PUSH PULL MUSHROOM PUSH BUTTON			
CATALOG NUMBER (COVER WITH DEVICE)	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING
XCS-OMMG3		GREEN	Three nameplates supplied (START, STOP, and EMERG STOP).
XCS-OMMR3		RED	
XCS-OMMK3		BLACK	



Control Stations External Sealing Required



Pilot Light
(Box and Cover)



Double
Pilot Light
(Box and Cover)



Pilot Light
Push Button
(Box and Cover)



Pilot Light
Two Mini Push Buttons
(Box and Cover)

XCS PILOT LIGHT

COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	LENS COLOR	NAMEPLATE MARKING
	COMPLETE UNITS (BOX & COVER)						
	DEAD-END	FEED-THRU					
XCS-0B24-CL	XCS-1B24-CL	XCS-4B24-CL	1/2"		120V	Clear	Specify
	XCS-2B24-CL	XCS-5B24-CL	3/4"				
XCS-0B24-GL	XCS-1B24-GL	XCS-4B24-GL	1/2"		120V	Green	Specify
	XCS-2B24-GL	XCS-5B24-GL	3/4"				
XCS-0B24-RL	XCS-1B24-RL	XCS-4B24-RL	1/2"		120V	Red	Specify
	XCS-2B24-RL	XCS-5B24-RL	3/4"				

XCS DOUBLE PILOT LIGHT

COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	LENS COLOR	NAMEPLATE MARKING
	COMPLETE UNITS (BOX & COVER)						
	DEAD-END	FEED-THRU					
XCS-0B30-CL	XCS-1B30-CL	XCS-4B30-CL	1/2"		120V	Clear	Specify
	XCS-2B30-CL	XCS-5B30-CL	3/4"				
XCS-0B30-GL	XCS-1B30-GL	XCS-4B30-GL	1/2"		120V	Green	Specify
	XCS-2B30-GL	XCS-5B30-GL	3/4"				
XCS-0B30-RL	XCS-1B30-RL	XCS-4B30-RL	1/2"		120V	Red	Specify
	XCS-2B30-RL	XCS-5B30-RL	3/4"				
XCS-0B30RL-GL	XCS-1B30RL-GL	XCS-4B30RL-GL	1/2"		120V	Red/Green	Specify
	XCS-2B30RL-GL	XCS-5B30RL-GL	3/4"				

XCS MOMENTARY CONTACT PUSH BUTTON AND PILOT LIGHT

COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LENS COLOR	NAMEPLATE MARKING	
	COMPLETE UNITS (BOX & COVER)						BUTTON	LENS
	DEAD-END	FEED-THRU						
XCS-0B13-C	XCS-1B13-C	XCS-4B13-C	1/2"		Red	Red	Stop	Specify
	XCS-2B13-C	XCS-5B13-C	3/4"					
XCS-0B13-0	XCS-1B13-0	XCS-4B13-0	1/2"		Green	Red	Start	Specify
	XCS-2B13-0	XCS-5B13-0	3/4"					
XCS-0B13-U	XCS-1B13-U	XCS-4B13-U	1/2"		Black	Red	Specify	Specify
	XCS-2B13-U	XCS-5B13-U	3/4"					

XCS MOMENTARY CONTACT TWO MINI PUSH BUTTONS AND PILOT LIGHT

COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LENS COLOR	NAMEPLATE MARKING	
	COMPLETE UNITS (BOX & COVER)						BUTTON	LENS
	DEAD-END	FEED-THRU						
XCS-0A15	XCS-1A15	XCS-4A15	1/2"		Red	Red	Stop	Specify
	XCS-2A15	XCS-5A15	3/4"						120 VAC	Green	Start



CONTROLS XCS SERIES

Control Stations External Sealing Required



Selector Switch



Key Operated

XCS TWO POSITION SELECTOR SWITCH (MAINTAINED)								
CATALOG NUMBER		HUB SIZE	TWO POSITION DIAGRAM				NAMEPLATE MARKING	
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		LEFT POSITION		RIGHT POSITION			
	DEAD-END	FEED-THRU	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS		
XCS-0S2A1	XCS-1S2A1	XCS-4S2A1	1/2"					OFF/ON
	XCS-2S2A1	XCS-5S2A1	3/4"					
XCS-0S2A5	XCS-42S2A5	XCS-45S2A5	3/4"					OFF/ON

XCS THREE POSITION SELECTOR SWITCH (MAINTAINED)										
CATALOG NUMBER		HUB SIZE	THREE POSITION DIAGRAM						NAMEPLATE MARKING	
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		LEFT POSITION		CENTER POSITION		RIGHT POSITION			
	DEAD-END	FEED-THRU	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS		
XCS-0S3C4	XCS-1S3C4	XCS-4S3C4	1/2"							HAND-OFF-AUTO
	XCS-2S3C4	XCS-5S3C4	3/4"							
XCS-0S3C5	XCS-42S3C5	XCS-45S3C5	3/4"							HAND-OFF-AUTO

XCS TWO POSITION KEY OPERATED SELECTOR SWITCH (MAINTAINED)								
CATALOG NUMBER		HUB SIZE	TWO POSITION DIAGRAM				NAMEPLATE MARKING	
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		LEFT POSITION		RIGHT POSITION			
	DEAD-END	FEED-THRU	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS		
XCS-0K2A1	XCS-1K2A1	XCS-4K2A1	1/2"					OFF/ON
	XCS-2K2A1	XCS-5K2A1	3/4"					
XCS-0K2A5	XCS-42K2A5	XCS-45K2A5	3/4"					OFF/ON

XCS THREE POSITION KEY OPERATED SELECTOR SWITCH (MAINTAINED)										
CATALOG NUMBER		HUB SIZE	THREE POSITION DIAGRAM						NAMEPLATE MARKING	
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		LEFT POSITION		CENTER POSITION		RIGHT POSITION			
	DEAD-END	FEED-THRU	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS		
XCS-0K3C4	XCS-1K3C4	XCS-4K3C4	1/2"							HAND-OFF-AUTO
	XCS-2K3C4	XCS-5K3C4	3/4"							
XCS-0K3C5	XCS-42K3C5	XCS-45K3C5	3/4"							HAND-OFF-AUTO



Control Stations External Sealing Required



Selector
Switch

XCS SPRING RETURN SELECTOR SWITCH – TWO POSITION SPRING RETURN TO LEFT

CATALOG NUMBER		HUB SIZE	TWO POSITION DIAGRAM – 1N.O./1N.C.				NAMEPLATE MARKING	
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		LEFT POSITION		RIGHT POSITION			
	DEAD-END		FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK		RIGHT BLOCK
XCS-0S2L3F	XCS-42S2L3F	XCS-45S2L3F	3/4"					OFF-ON

XCS SPRING RETURN SELECTOR SWITCH – THREE POSITION SPRING RETURN TO CENTER FROM RIGHT AND LEFT

CATALOG NUMBER		HUB SIZE	THREE POSITION DIAGRAM – 2 N.O.				NAMEPLATE MARKING			
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		LEFT POSITION		CENTER POSITION			RIGHT POSITION		
	DEAD-END		FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK		RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK
XCS-0S3M6G	XCS-42S3M6G	XCS-45S3M6G	3/4"							HAND-OFF-AUTO

XCS SPRING RETURN SELECTOR SWITCH – THREE POSITION SPRING RETURN TO CENTER FROM RIGHT, MAINTAIN IN LEFT

CATALOG NUMBER		HUB SIZE	THREE POSITION DIAGRAM – 2 N.O.				NAMEPLATE MARKING			
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		LEFT POSITION		CENTER POSITION			RIGHT POSITION		
	DEAD-END		FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK		RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK
XCS-0S3L6G	XCS-42S3L6G	XCS-45S3L6G	3/4"							HAND-OFF-AUTO

XCS SPRING RETURN SELECTOR SWITCH – THREE POSITION SPRING RETURN TO CENTER FROM LEFT, MAINTAIN IN RIGHT

CATALOG NUMBER		HUB SIZE	THREE POSITION DIAGRAM – 2 N.O.				NAMEPLATE MARKING			
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)		LEFT POSITION		CENTER POSITION			RIGHT POSITION		
	DEAD-END		FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK		RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK
XCS-0S3R6G	XCS-42S3R6G	XCS-45S3R6G	3/4"							HAND-OFF-AUTO



CONTROLS
XCS SERIES

Control Stations External Sealing Required



Key Operated

XCS KEY OPERATED SPRING RETURN SELECTOR SWITCH – TWO POSITION SPRING RETURN TO LEFT								
CATALOG NUMBER			HUB SIZE	TWO POSITION DIAGRAM – 1 N.O./1 N.C.				NAMEPLATE MARKING
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		RIGHT POSITION		
	DEAD-END	FEED-THRU		LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0K2L3F22D	XCS-42K2L3F22D	XCS-45K2L3F22D	3/4"					OFF-ON

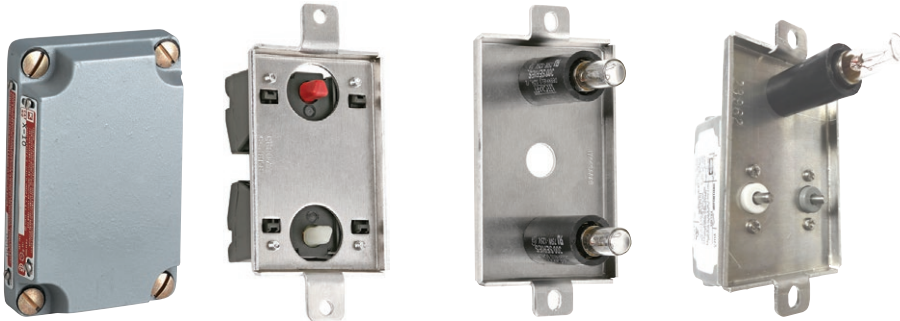
XCS KEY OPERATED SPRING RETURN SELECTOR SWITCH – THREE POSITION SPRING RETURN TO CENTER FROM RIGHT AND LEFT										
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM – 2 N.O.						NAMEPLATE MARKING
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION		
	DEAD-END	FEED-THRU		LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0K3M6G32D	XCS-42K3M6G32D	XCS-45K3M6G32D	3/4"							HAND-OFF-AUTO

XCS KEY OPERATED SPRING RETURN SELECTOR SWITCH – THREE POSITION SPRING RETURN TO CENTER FROM RIGHT, MAINTAIN IN LEFT										
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM – 2 N.O.						NAMEPLATE MARKING
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION		
	DEAD-END	FEED-THRU		LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0K3L6G32D	XCS-42K3L6G32D	XCS-45K3L6G32D	3/4"							HAND-OFF-AUTO

XCS KEY OPERATED SPRING RETURN SELECTOR SWITCH – THREE POSITION SPRING RETURN TO CENTER FROM LEFT, MAINTAIN IN RIGHT										
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM – 2 N.O.						NAMEPLATE MARKING
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION		
	DEAD-END	FEED-THRU		LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0K3R6G32D	XCS-42K3R6G32D	XCS-45K3R6G32D	3/4"							HAND-OFF-AUTO



Blank Accessories / Replacement Parts



X-10
Blank Cover

KIT-69

KIT-78

KIT-64

REPLACEMENT XCS COVER INTERIORS SUPPLIED WITH MOUNTING HARDWARE

KIT-62	Interior Device XCS-0A8
KIT-63	Interior Device XCS-0A9
KIT-64	Interior Device XCS-0A15
KIT-66	Interior Device XCS-0B1
KIT-67	Interior Device XCS-0B2
KIT-68	Interior Device XCS-0B3
KIT-69	Interior Device XCS-0B4
KIT-70	Interior Device XCS-0B5
KIT-72	Interior Device XCS-0B7
KIT-73	Interior Device XCS-0B13-C
KIT-74	Interior Device XCS-0B13-0
KIT-75	Interior Device XCS-0B13-U
KIT-76	Interior Device XCS-0B24
KIT-78	Interior Device XCS-0B30

Kits supplied with contacts and lamp sockets mounted to strap for installation on SWB back box.

X BLANK AND SPECIAL COVERS	
CAT. NO.	DESCRIPTION
X-10	Blank cover for SWB
X-60	Cover with (1) 3/4" NPSM Hole ^①
X-64	Cover with (2) 3/4" NPSM Holes ^{①②}

XS REPLACEMENT SWITCH ONLY	
CAT. NO.	DESCRIPTION
KIT-264	Replacement switch for XS-1C
KIT-266	Replacement switch for XS-2C
KIT-263	Replacement switch for XS-6C
KIT-265	Replacement switch for XS-8C

① For Short length operators.

② When X-64 cover is used, one operator must be a pilot light due to electrical clearances.



Standard Lockout



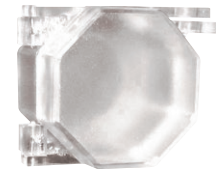
Miniature Lockout



Selector Lockout



Dust/Weather Cap



GOM Lockout

ACCESSORIES					
PUSH BUTTON LOCKOUT ^①	SELECTOR LOCKOUT	DUST/WEATHER CAP			DESCRIPTION
		CATALOG NUMBER			
		RED	GREEN	BLACK	
XLOB	GO567-LOK	XDBR	XDBG	XDBB	Standard operator
XLOA	—	—	—	—	Miniature operator

① Must be factory installed

CATALOG NUMBER GOM LOCK
LOCKOUT FOR MAINTAINED PUSH BUTTON COVERS
XCS-OMMR3
FXCS-OMMR3, FXCS - *MMR3-M

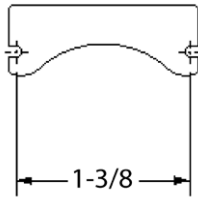
XCS REPLACEMENT COVER SCREWS	
CATALOG NUMBER	DESCRIPTION
00891896	4 Cover Screws
00891898	4 Cover Screws and 2 Strap Screws



CONTROLS XCS SERIES

Accessories / Replacement Parts

CUSTOM LEGEND PLATES (MOUNTING SCREWS INCLUDED)		
CATALOG NUMBER & DESCRIPTION		
PB & PL LEGEND PLATES	2 POS. SEL. SWT. LEGEND PLATES	3 POS. SEL. SWT. LEGEND PLATES
XCSNP-ON	XCSNP-ON-OFF	XCSNP-HAND-OFF-AUT
XCSNP-OFF	XCSNP-OFF-ON	XCSNP-AUT-OFF-HAND
XCSNP-START	XCSNP-OFF-REMOTE	XCSNP-HAND-OFF-REM
XCSNP-STOP	XCSNP-START-STOP	XCSNP-STP-RUN-STRT
XCSNP-ESTOP	XCSNP-UP-DOWN	XCSNP-FWD-OFF-REV
XCSNP-UP	XCSNP-RAISE-LOWER	XCSNP-REV-OFF-FWD
XCSNP-DOWN	XCSNP-HIGH-LOW	XCSNP-RUN-OFF-JOG
XCSNP-FAST	XCSNP-SLOW-FAST	XCSNP-JOG-OFF-RUN
XCSNP-SLOW	XCSNP-START-JOG	XCSNP-SLOW-OFF-FST
XCSNP-IN	XCSNP-RUN-JOG	XCSNP-LOW-OFF-HIGH
XCSNP-OUT	XCSNP-JOG-RUN	XCSNP-RAS-OFF-LOWR
XCSNP-RAISE	XCSNP-FWD-REV	XCSNP-LOCL-OFF-REM
XCSNP-LOWER	XCSNP-HAND-AUTO	XCSNP-1-OFF-2
XCSNP-HIGH	XCSNP-AUTO-HAND	XCSNP-UP-OFF-DOWN
XCSNP-LOW	XCSNP-MANUAL-AUTO	XCSNP-BLANK-3P*
XCSNP-OPEN	XCSNP-SLOW-FAST	
XCSNP-CLOSE	XCSNP-OPEN-CLOSE	
XCSNP-FORWARD	XCSNP-BLANK-2P*	
XCSNP-REVERSE		
XCSNP-READY		
XCSNP-RUN		
XCSNP-RESET		
XCSNP-JOG		
XCSNP-INCH		
XCSNP-TEST		
XCSNP-POWER-ON		
XCSNP-JOG-FORWARD		
XCSNP-JOG-REVERSE		
XCSNP-MOTOR-RUN		
XCSNP-MOTOR-STOP		
XCSNP-PUSH-TO-TEST		
XCSNP-BLANK*		



Drilling Instructions
(if holes not existing)
Drill #44 (.086 Dia)
x 3/16 deep. Do not break through cover.
Install with thread cutting screws supplied.

* For special markings order blank legend plate and specify marking.



LED Lamps

PILOT LIGHT LED LAMPS (FOR GO SERIES OPERATORS AND XCS/FXCS CONTROL STATIONS)		
CATALOG NUMBER	VOLTS	COLOR
GOLED-A110	110 VAC/DC	Amber
GOLED-B110	110 VAC/DC	Blue
GOLED-G110	110 VAC/DC	Green
GOLED-R110	110 VAC/DC	Red
GOLED-W110	110 VAC/DC	White
GOLED-W24	24 VAC/DC	White
GOLED-W240	220/240 VAC	White



Finger Safe Contact Block

GO STANDARD CONTACT BLOCKS		
CATALOG NUMBER	DESCRIPTION	COLOR CODE
GO-8673-BJK	1 N.O.	WHITE
GO-8673-BJJ	1 N.C.	RED
GO-8673-BJH	1 N.O. Early make	GREEN
GO-8673-BJE	1 N.C. Late break	YELLOW
GO-8673-BJKJ	1 N.O./1 N.C.	BLACK



Tumbler Switch



XS-3C

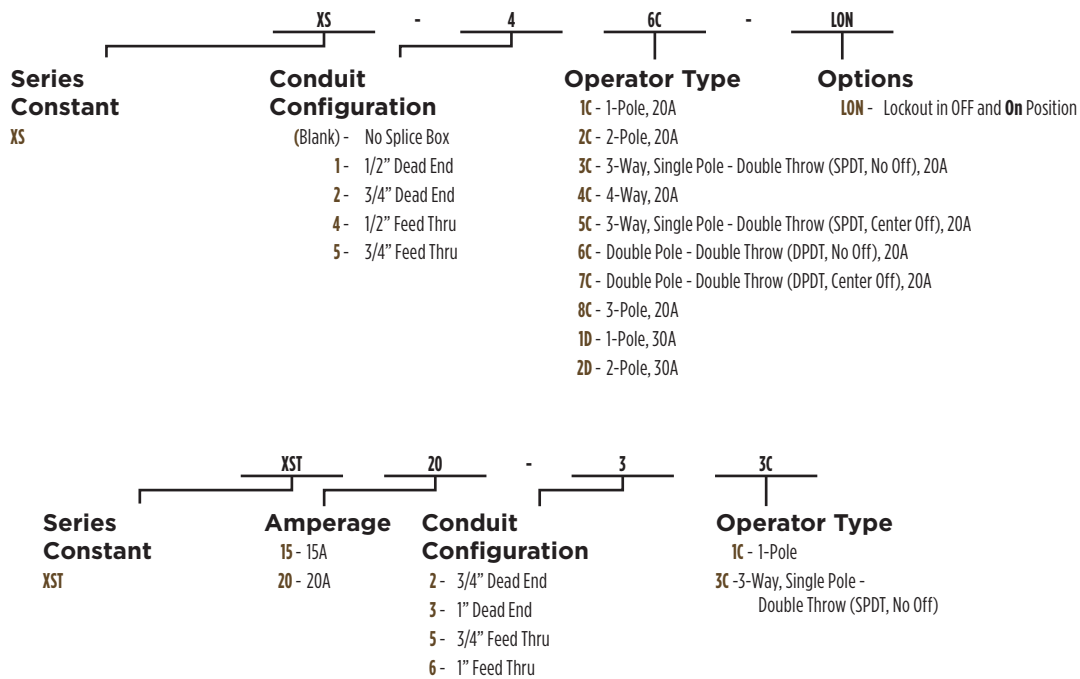


Complete Unit When Assembled

Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III

UL LISTED - FILE E53360

SP Certified - File LR11712





CONTROLS XS/XST SERIES

Tumbler Switch

XS and XST Series are front lever rotary operated switch assemblies with standard provisions for padlocking in the “OFF” position. The lever is connected to a threaded stainless steel shaft which passes through the cover.

XS TUMBLER SWITCH						
CATALOG NUMBER					SWITCH STYLE	SWITCH RATING
COVER		HUB SIZE	COMPLETE UNITS (BOX, COVER AND SWITCH)			
WITH DEVICE	WITHOUT DEVICE		DEAD-END	FEED-THRU		
XS-1C	XNS-1C	1/2"	XS-11C	XS-41C	1-POLE	20 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC
		3/4"	XS-21C	XS-51C		
XS-2C	XNS-2C	1/2"	XS-12C	XS-42C	2-POLE	20 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC
		3/4"	XS-22C	XS-52C		
XS-8C	XNS-8C	1/2"	XS-18C	XS-48C	3-POLE	15 A, 240/480 VAC, 30; 3 HP at 240 VAC; 5 HP at 480 VAC
		3/4"	XS-28C	XS-58C		
XS-3C	XNS-3C	1/2"	XS-13C	XS-43C	3-WAY/ SPDT NO CENTER OFF	20 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC
		3/4"	XS-23C	XS-53C		
XS-5C	XNS-5C	1/2"	XS-15C	XS-45C	SPDT CENTER OFF	20 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC
		3/4"	XS-25C	XS-55C		
XS-6C	XNS-6C	1/2"	XS-16C	XS-46C	DPDT NO CENTER OFF	20 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC
		3/4"	XS-26C	XS-56C		
XS-7C	XNS-7C	1/2"	XS-17C	XS-47C	DPDT CENTER OFF	20 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC
		3/4"	XS-27C	XS-57C		
XS-1D	XNS-1D	1/2"	XS-11D	XS-41D	1-POLE	30 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC
		3/4"	XS-21D	XS-51D		
XS-2D	XNS-2D	1/2"	XS-12D	XS-42D	2-POLE	30 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC
		3/4"	XS-22D	XS-52D		
XS-4C	—	—	—	—	4-WAY	20 A, 120/277 VAC, 10; 1 HP at 120 VAC; 2 HP at 240 VAC

XST TUMBLER SWITCH				
HUB SIZE	CATALOG NUMBER		SWITCH STYLE	SWITCH RATING 347 VAC, 10
	COMPLETE UNITS (BOX, COVER AND SWITCH)			
	DEAD-END	FEED-THRU		
3/4"	XST15-21C	XST15-51C	1-POLE	15A
1"	XST15-31C	XST15-61C		
3/4"	XST20-21C	XST20-51C	1-POLE	20A
1"	XST20-31C	XST20-61C		
3/4"	XST15-23C	XST15-53C	3-WAY/SPDT NO CENTER OFF	15A
1"	XST15-33C	XST15-63C		
3/4"	XST20-23C	XST20-53C	3-WAY/SPDT NO CENTER OFF	20A
1"	XST20-33C	XST20-63C		



Fire Alarm Stations



XAL
Pull Ring



XAS
Break Glass

Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III

XAL Series:

- File E50498

- File LR31085

XAS Series:

- File E50498

- File LR31085

FEATURES-SPECIFICATIONS

Features

- Conduit openings are 3/4" NPT feed through
- Red, textured powder epoxy paint finish is standard on box and cover and provides high visibility for alarm station
- XAL-458 has (2) normally open and (2) normally closed contacts.
- Bilingual nameplates included per CSA requirement
- Internal ground screw is standard
- **XAL:** The alarm station is activated by lifting the front cover and pulling down ring. This quick, easy to use two-step process prevents unintentional operation.
- **XAS:** Breaking glass with hammer provided activates alarm. Reset by replacing glass.

Materials

- Enclosure is made of copper free aluminum alloy
- XAS Lens - Glass
- External Hardware - Stainless Steel

Electrical Rating

- Push button stations, selector switches heavy duty 600 VAC max.
- Pilot lights 250 VAC max.

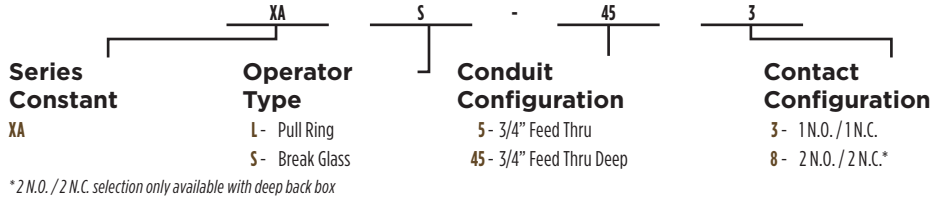
CONTACT BLOCK RATINGS – A600				
CURRENT	120 VAC	240 VAC	480 VAC	600 VAC
INRUSH	60	30	15	12
BREAKING	6	3	1.5	1.2
CARRYING	10	10	10	10

DC RATINGS (MAX. AMPS) – P600		
CURRENT	125 VAC	250 VAC
INRUSH	55	.27
BREAKING	55	.27
CARRYING	2.55	2.55



CONTROLS XAL/XAS SERIES

Fire Alarm Stations

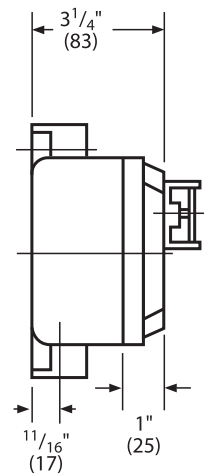
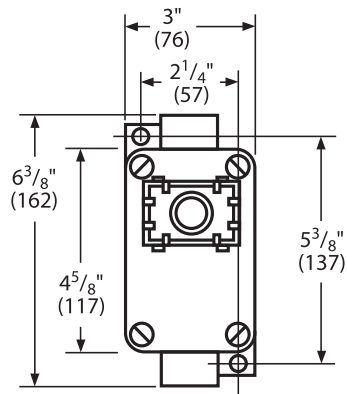
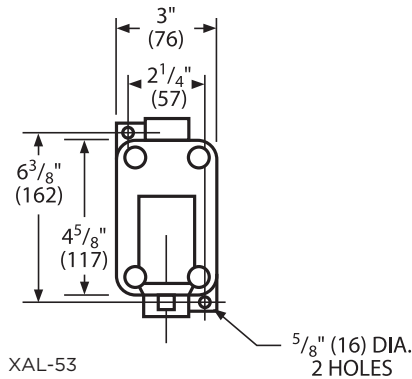
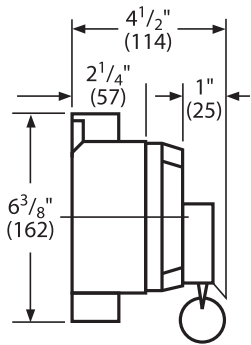


REPLACEMENT PARTS	
CATALOG NUMBER	DESCRIPTION
YOKK15214	XAS Repl. Glass
KIT-232	XAS Rep. Hammer & Chain

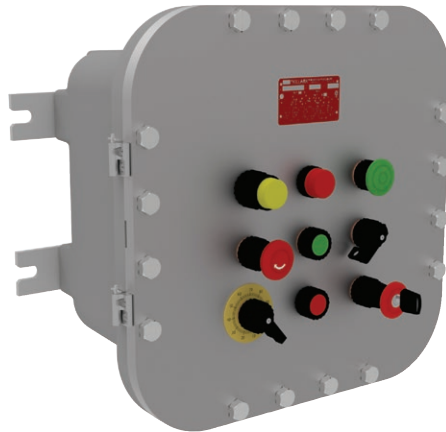
XAL FIRE ALARM STATION		
CATALOG NUMBER	OPERATION TYPE	CONTACT BLOCKS
XAL-53	Pull ring	(1) NO/NC
XAL-458	Pull ring	(2) NO/NC
XAS-53	Break glass	(1) NO/NC

CONTACT BLOCK RATING								
AC						DC		
VOLTS	MAKE AMPERES	VA	BREAK AMPERES	VA	CONTINUOUS CARRYING AMPERES	VOLTS	MAKE BREAK	CONTINUOUS CARRYING AMPERES
120	60	7200	6	720	10	125	1.1	5.0
240	30	7200	3	720	10	250	0.55	5.0
480	15	7200	1.5	720	10	600	0.2	5.0
600	12	7200	1.2	720	10	-	-	-

DIMENSIONS



Note: On XAL-458 the overall depth is 5-9/16"



AREA CLASSIFICATION

North American Standards:
Class I, Div 1, Groups B, C, D
Class II, Div 1, Groups E, F, G
Class III
Type 4X

US LISTED - File Number E12379

IECEX/ATEX Ratings:
II 2G Ex db IIC Gb
II 2D Ex tb IIIC Db
IP66

Ambient Operating Temperature:
-50°C to 100°C

UL 22 ATEX 2920U

IECEX ULBR 22.0006U

FEATURES-SPECIFICATIONS

Features

- Operators available in 3/4"-14 NPSM and M22 x 1.5 Metric threads.
- Available in the following bushing lengths:
 - » Short = 0.98" (25mm)
 - » Long = 1.57" (40mm)
 - » Extended = 2.24" (57mm)
 - » 2XL = 2.62" (67mm)
- Easy locking contact block for quick installation.
- Stackable standard contact blocks (non-rotary switch type).
- LED Pilot Light lamps as standard.
- Momentary Push Buttons
- LED Pilot Lights
- Illuminated Push Buttons
- Mushroom Head Push Buttons
- Keyed and Non-Keyed Rotary Selector Switches
- Potentiometers

Materials

- Bushings - Aluminum
- External Hardware - Stainless Steel

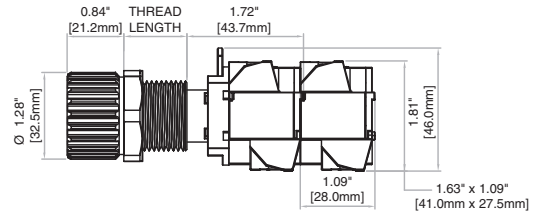
Electrical Ratings

PUSH BUTTON SWITCH ELECTRICAL RATINGS		
RATED VOLTAGE = 500 VAC / 220 VDC – RATED CURRENT = 10 A		
UTILIZATION CATEGORY	VOLTAGE	CURRENT
AC-15 (Electromagnetic Load)	220 VAC	10 A
	380 VAC	7.5 A
	500 VAC	5 A
DC-13 (Electromagnetic Load)	24 VDC	2.75 A
	60 VDC	1.10 A
	110 VDC	0.55 A
	220 VDC	0.27 A
PILOT LIGHT AND ILLUMINATED PUSH BUTTON SWITCH ELECTRICAL RATINGS		
PILOT LIGHT RATED VOLTAGE = 480 VAC / 120 VDC MAXIMUM WATTAGE = 2.6 W – RATED CURRENT = 12 MA		
ILLUMINATED PILOT LIGHT RATED VOLTAGE = 240 VAC / 120 VDC – MAXIMUM WATTAGE = 2.6 W PUSH BUTTON SWITCH RATED VOLTAGE = 250 VAC / 24 VDC		
UTILIZATION CATEGORY	VOLTAGE	CURRENT
AC-15 (Electromagnetic Load)	250 VAC	6 A
DC-13 (Electromagnetic Load)	24 VDC	3 A
ROTARY SWITCH ELECTRICAL RATINGS		
RATED VOLTAGE = 690 VAC / 110 VDC – RATED CURRENT = 20 A		
UTILIZATION CATEGORY	VOLTAGE	CURRENT / WATTAGE
AC-3 (Squirrel Cage Motors)	220-240 VAC	3.0 kW
	380-440 VAC	5.5 kW
AC-15 (Electromagnetic Load)	220-240 VAC	5 A
	380-440 VAC	4 A
AC-22A (Mixed Resistive and Inductive Loads, including Small Overloads)	220-240 VAC	20 A
	380-440 VAC	20 A
AC-23A (Motors or Highly Inductive Loads)	220-240 VAC	3.7 kW
	380-440 VAC	7.5 kW
DC - Resistive Loads (T < 1 ms)	24 VDC	20 A
	48 VDC	12 A
	60 VDC	4.5 A
	110 VDC	1 A
DC - Inductive Loads (T = 50 ms)	24 VDC	12 A
	48 VDC	2 A
	60 VDC	1 A
	110 VDC	0.4 A



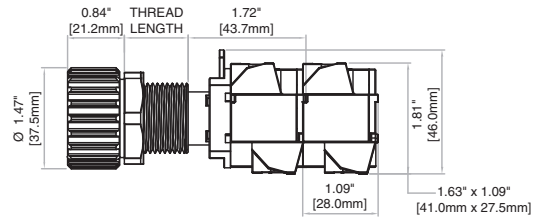
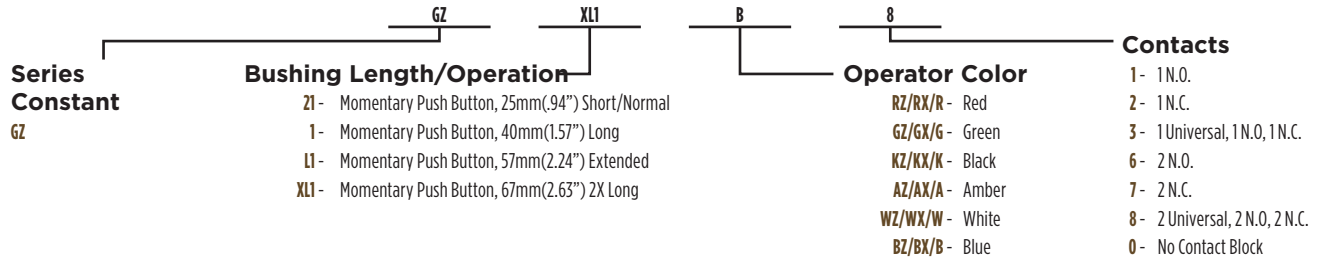
CONTROLS GZ SERIES

Push Button Controls Momentary



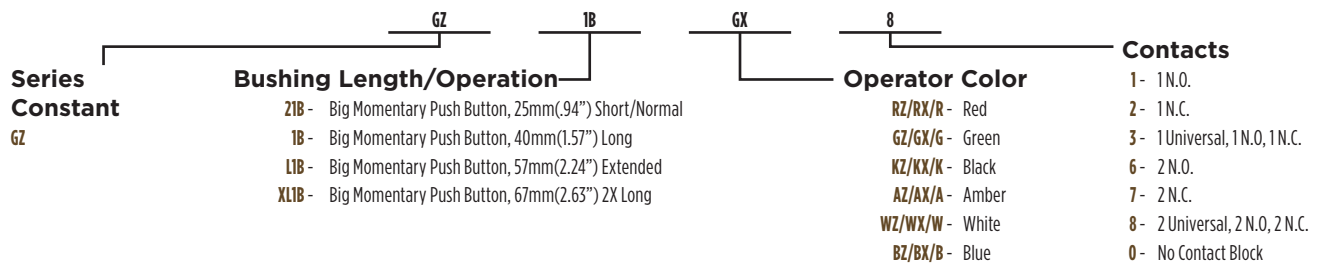
GZ21, GZ1, GZL1, GZXL1

GZ SINGLE PUSH BUTTON (MOMENTARY CONTACT)						
CATALOG NUMBER				BUTTON COLOR	CONTACT TYPE	DIAGRAM
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH			
GZ21-RZ3	GZ1-RX3	GZL1R3	GZXL1R3	RED	1 N.O./ 1 N.C.	
GZ21-GZ3	GZ1-GX3	GZL1G3	GZXL1G3	GREEN		
GZ21-KZ3	GZ1-KX3	GZL1K3	GZXL1K3	BLACK		
GZ21-AZ3	GZ1-AX3	GZL1A3	GZXL1A3	AMBER		
GZ21-WZ3	GZ1-WX3	GZL1W3	GZXL1W3	WHITE		
GZ21-BZ3	GZ1-BX3	GZL1B3	GZXL1B3	BLUE		



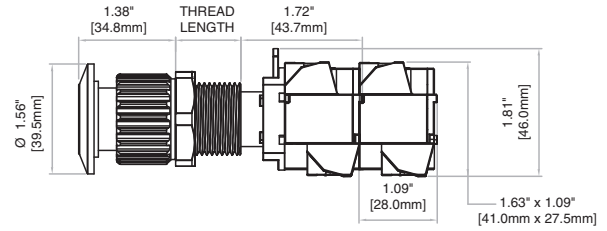
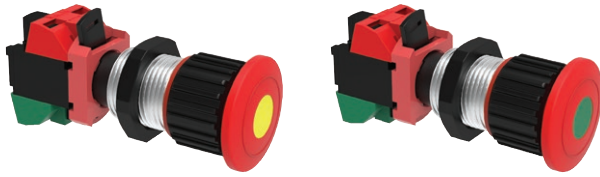
GZ21B, GZ1B, GZL1B, GZXL1B

GZ BIG SINGLE PUSH BUTTON (MOMENTARY CONTACT)						
CATALOG NUMBER				BUTTON COLOR	CONTACT TYPE	DIAGRAM
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH			
GZ21B-RZ3	GZ1B-RX3	GZL1R3	GZXL1R3	RED	1 N.O./ 1 N.C.	
GZ21B-GZ3	GZ1B-GX3	GZL1G3	GZXL1G3	GREEN		
GZ21B-KZ3	GZ1B-KX3	GZL1K3	GZXL1K3	BLACK		
GZ21B-AZ3	GZ1B-AX3	GZL1A3	GZXL1A3	AMBER		
GZ21B-WZ3	GZ1B-WX3	GZL1W3	GZXL1W3	WHITE		
GZ21B-BZ3	GZ1B-BX3	GZL1B3	GZXL1B3	BLUE		





Push Button Controls Momentary



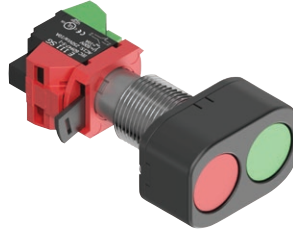
GZMM21, GZMM1, GZMML1, GZMMXL1

Series Constant	Bushing Length/Operation	Operator Color	Contacts
GZ	<p>MM21 - Momentary Mushroom Push Button, 25mm(.94") Short/Normal</p> <p>MM1 - Momentary Mushroom Push Button, 40mm(1.57") Long</p> <p>MML1 - Momentary Mushroom Push Button, 57mm(2.24") Extended</p> <p>MMXL1 - Momentary Mushroom Push Button, 67mm(2.63") 2X Long</p>	<p>RY - Yellow w/ Red Background</p> <p>RG - Green w/ Red Background</p> <p>RK - Black w/ Red Background</p>	<p>1 - 1 N.O.</p> <p>2 - 1 N.C.</p> <p>3 - 1 Universal, 1 N.O., 1 N.C.</p> <p>6 - 2 N.O.</p> <p>7 - 2 N.C.</p> <p>8 - 2 Universal, 2 N.O., 2 N.C.</p> <p>0 - No Contact Block</p>

GZ SINGLE PUSH BUTTON (MOMENTARY CONTACT) MUSHROOM HEAD PUSH

SHORT 0.98" [25MM] THD.	LONG 1.57" [40MM] THD.	EXTENDED 2.24" [57MM] THD.	2X LONG 2.62" [67MM] THD.	COLOR	CONTACT TYPE	DIAGRAM
GZMM21-RM3	GZMM1-RY3	GZMML1-RY3	GZMMXL1-RY3	RED/YELLOW	1 N.O./1 N.C.	
GZMM21-RG3	GZMM1-RG3	GZMML1-RG3	GZMMXL1-RG3	RED/GREEN	1 N.O./1 N.C.	
GZMM21-RK3	GZMM1-RK3	GZMML1-RK3	GZMMXL1-RK3	RED/BLACK	1 N.O./1 N.C.	

Double Push Button Controls Momentary



Series Constant	Bushing Length/Operation	Operator Color	Contacts
GZ	<p>22 - Double Momentary Push Button, 25mm(.94") Short/Normal</p> <p>2 - Double Momentary Push Button, 40mm(1.57") Long</p> <p>L2 - Double Momentary Push Button, 57mm(2.24") Extended</p> <p>XL2 - Double Momentary Push Button, 67mm(2.63") 2X Long</p>	<p>GR - Green/Red</p> <p>KK - Black/Black</p>	<p>12 - 1 N.O., 1 N.C.</p> <p>11 - 2 N.O.</p>

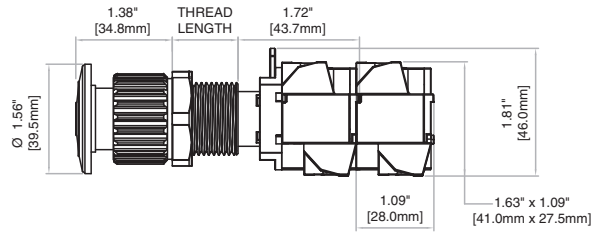
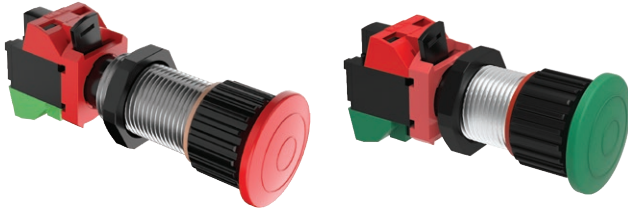
GZ DOUBLE PUSH BUTTON (MOMENTARY CONTACT)

SHORT 0.94" [25MM] THD.	LONG 1.57" [40MM] THD.	EXTENDED 2.24" [57MM] THD.	2X LONG 2.62" [67MM] THD.	COLOR	CONTACT TYPE	DIAGRAM
GZ22-GR12	GZ2-GR12	GZL2GR12	GZXL2GR12	RED/GREEN	1 N.O./1 N.C.	
GZ22-KK12	GZ2-KK12	GZL2KK12	GZXL2KK12	BLACK/BLACK	1 N.O./1 N.C.	
GZ22-KK11	GZ2-KK11	GZL2KK11	GZXL2KK11	BLACK/BLACK	2 N.O.	



CONTROLS GZ SERIES

Maintained Contact Push Buttons

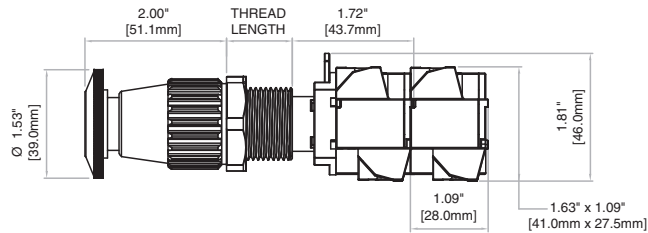


GZMP21, GZMP1, GZMPL1, GZMPXL1

Series	Bushing Length/Operation	Operator Color	Contacts
Constant			
GZ	<p>GZ</p> <p>MP21 - Maintained Mushroom Push-Pull, 25mm(.94") Short/Normal</p> <p>MP1 - Maintained Mushroom Push-Pull, 40mm(1.57") Long</p> <p>MPL1 - Maintained Mushroom Push-Pull, 57mm(2.24") Extended</p> <p>MPXL1 - Maintained Mushroom Push-Pull, 67mm(2.63") 2X Long</p>	<p>RM/R - Red</p> <p>GM/G - Green</p> <p>KM/K - Black</p>	<p>1</p> <p>1- 1 N.O.</p> <p>2- 1 N.C.</p> <p>3- 1 Universal, 1 N.O, 1 N.C.</p> <p>6- 2 N.O.</p> <p>7- 2 N.C.</p> <p>8- 2 Universal, 2 N.O, 2 N.C.</p> <p>0- No Contact Block</p>

GZ SINGLE PUSH BUTTON (MAINTAINED CONTACT) MUSHROOM HEAD PUSH – PULL RELEASE

SHORT 0.98" [25MM] THD.	LONG 1.57" [40MM] THD.	EXTENDED 2.24" [57MM] THD.	2X LONG 2.62" [67MM] THD.	COLOR	CONTACT TYPE	DIAGRAM
GZMP21-RM3	GZMP1-RM3	GZMPL1R3	GZMPXL1R3	RED	1 N.O./1 N.C.	
GZMP21-GM3	GZMP1-GM3	GZMPL1G3	GZMPXL1G3	GREEN	1 N.O./1 N.C.	
GZMP21-KM3	GZMP1-KM3	GZMPL1K3	GZMPXL1K3	BLACK	1 N.O./1 N.C.	



GZMT21, GZMT1, GZMTL1, GZMTXL1

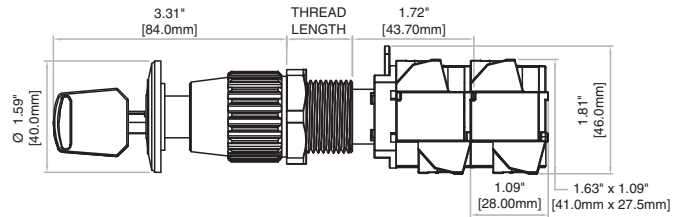
Series	Bushing Length/Operation	Operator Color	Contacts
Constant			
GZ	<p>GZ</p> <p>MT21 - Maintained Mushroom Push-Twist, 25mm(.94") Short/Normal</p> <p>MT1 - Maintained Mushroom Push-Twist, 40mm(1.57") Long</p> <p>MTL1 - Maintained Mushroom Push-Twist, 57mm(2.24") Extended</p> <p>MTXL1 - Maintained Mushroom Push-Twist, 67mm(2.63") 2X Long</p>	<p>RM/R - Red</p> <p>GM/G - Green</p> <p>KM/K - Black</p>	<p>1</p> <p>1- 1 N.O.</p> <p>2- 1 N.C.</p> <p>3- 1 Universal, 1 N.O, 1 N.C.</p> <p>6- 2 N.O.</p> <p>7- 2 N.C.</p> <p>8- 2 Universal, 2 N.O, 2 N.C.</p> <p>0- No Contact Block</p>

GZ SINGLE PUSH BUTTON (MAINTAINED CONTACT) MUSHROOM HEAD PUSH – TWIST RELEASE

SHORT 0.98" [25MM] THD.	LONG 1.57" [40MM] THD.	EXTENDED 2.24" [57MM] THD.	2X LONG 2.62" [67MM] THD.	COLOR	CONTACT TYPE	DIAGRAM
GZMT21-RM3	GZMT1-RM3	GZMTL1R3	GZMTXL1R3	RED	1 N.O./1 N.C.	



Maintained Contact Push Buttons

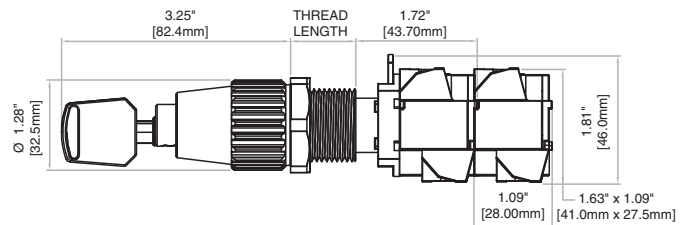


GZMK21, GZMK1, GZMKL1, GZMKXL1

Series	Bushing Length/Operation	Operator Color	Contacts
Constant			
GZ	MK21 - Maintained Mushroom Push-Key, 25mm(.94") Short/Normal MK1 - Maintained Mushroom Push-Key, 40mm(1.57") Long MKL1 - Maintained Mushroom Push-Key, 57mm(2.24") Extended MKXL1 - Maintained Mushroom Push-Key, 67mm(2.63") 2X Long	RM/R - Red GM/G - Green KM/K - Black	1- 1N.O. 2- 1N.C. 3- 1 Universal, 1N.O, 1N.C. 6- 2N.O. 7- 2N.C. 8- 2 Universal, 2N.O, 2N.C. 0- No Contact Block

GZ SINGLE PUSH BUTTON (MAINTAINED CONTACT) MUSHROOM HEAD PUSH – KEY RELEASE

SHORT 0.98" [25MM] THD.	LONG 1.57" [40MM] THD.	EXTENDED 2.24" [57MM] THD.	2X LONG 2.62" [67MM] THD.	COLOR	CONTACT TYPE	DIAGRAM
GZMK21-RM3	GZMK1-RM3	GZMKL1R3	GZMKXL1R3	RED	1N.O/1N.C.	



GZK21, GZK1, GZKL1, GZKXL1

Series	Bushing Length/Operation	Contacts
Constant		
GZ	K21 - Maintained Push-Key, 25mm(.94") Short/Normal K1 - Maintained Push-Key, 40mm(1.57") Long KL1 - Maintained Push-Key, 57mm(2.24") Extended KXL1 - Maintained Push-Key, 67mm(2.63") 2X Long	1- 1N.O. 2- 1N.C. 3- 1 Universal, 1N.O, 1N.C. 6- 2N.O. 7- 2N.C. 8- 2 Universal, 2N.O, 2N.C. 0- No Contact Block

GZ SINGLE PUSH BUTTON (MAINTAINED CONTACT) KEY RELEASE

SHORT 0.98" [25MM] THD.	LONG 1.57" [40MM] THD.	EXTENDED 2.24" [57MM] THD.	2X LONG 2.62" [67MM] THD.	COLOR	CONTACT TYPE	DIAGRAM
GZK21-3	GZK1-3	GZKL13	GZKXL13	CHROME	1N.O/1N.C.	

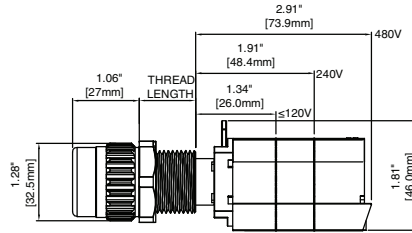


CONTROLS GZ SERIES

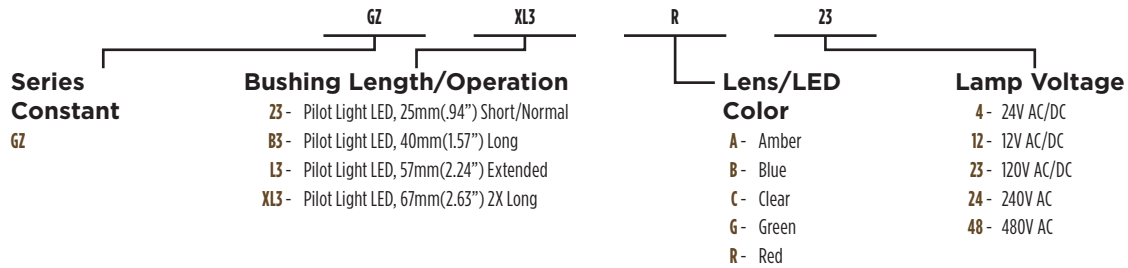
Pilot Light Controls



PILLOT LIGHT



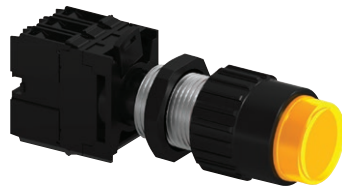
GZ23, GZB3, GZL3, GZXL3



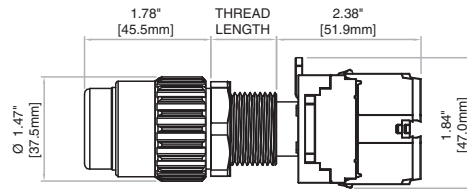
GZ PILOT LIGHTS						
CATALOG NUMBER				COLOR	VOLTAGE	DIAGRAM
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH			
GZ23-A12	GZB3-A12	GZL3A12	GZXL3A12	AMBER	12V AC/DC LED	X1 ⊗ X2
GZ23-B12	GZB3-B12	GZL3B12	GZXL3B12	BLUE		
GZ23-C12	GZB3-C12	GZL3C12	GZXL3C12	CLEAR		
GZ23-G12	GZB3-G12	GZL3G12	GZXL3G12	GREEN		
GZ23-R12	GZB3-R12	GZL3R12	GZXL3R12	RED		
GZ23-A4	GZB3-A4	GZL3A4	GZXL3A4	AMBER	24V AC/DC LED	X1 ⊗ X2
GZ23-B4	GZB3-B4	GZL3B4	GZXL3B4	BLUE		
GZ23-C4	GZB3-C4	GZL3C4	GZXL3C4	CLEAR		
GZ23-G4	GZB3-G4	GZL3G4	GZXL3G4	GREEN		
GZ23-R4	GZB3-R4	GZL3R4	GZXL3R4	RED		
GZ23-A23	GZB3-A23	GZL3A23	GZXL3A23	AMBER	120V AC/DC LED	X1 ⊗ X2
GZ23-B23	GZB3-B23	GZL3B23	GZXL3B23	BLUE		
GZ23-C23	GZB3-C23	GZL3C23	GZXL3C23	CLEAR		
GZ23-G23	GZB3-G23	GZL3G23	GZXL3G23	GREEN		
GZ23-R23	GZB3-R23	GZL3R23	GZXL3R23	RED		
GZ23-A24	GZB3-A24	GZL3A24	GZXL3A24	AMBER	240V AC LED	X1 ⊗ X2
GZ23-B24	GZB3-B24	GZL3B24	GZXL3B24	BLUE		
GZ23-C24	GZB3-C24	GZL3C24	GZXL3C24	CLEAR		
GZ23-G24	GZB3-G24	GZL3G24	GZXL3G24	GREEN		
GZ23-R24	GZB3-R24	GZL3R24	GZXL3R24	RED		
GZ23-A48	GZB3-A48	GZL3A48	GZXL3A48	AMBER	480V AC LED	X1 ⊗ X2
GZ23-B48	GZB3-B48	GZL3B48	GZXL3B48	BLUE		
GZ23-C48	GZB3-C48	GZL3C48	GZXL3C48	CLEAR		
GZ23-G48	GZB3-G48	GZL3G48	GZXL3G48	GREEN		
GZ23-R48	GZB3-R48	GZL3R48	GZXL3R48	RED		



Illuminated Push Button Controls



ILLUMINATED PUSH
BUTTON



GZ24, GZB4, GZL4, GZXL4

Series Constant GZ	GZ	XL3	C	24	3	Contacts 3- 1Universal, 1N.O, 1N.C.
	Bushing Length/Operation						Lens/LED Color	Lamp Voltage
	24 - Illuminated Push Button LED, 25mm(.94") Short/ Normal B4 - Illuminated Push Button LED, 40mm(1.57") Long L4 - Illuminated Push Button LED, 57mm(2.24") Extended XL4 - Illuminated Push Button LED, 67mm(2.63") 2X Long		A - Amber B - Blue C - Clear G - Green R - Red	4 - 24V AC/DC 12 - 12V AC/DC 23 - 120V AC/DC 24 - 240V AC		

GZ ILLUMINATED PUSH BUTTON						
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH	COLOR	CONTACT TYPE & VOLTAGE	DIAGRAM
GZ24-A123	GZB4-A123	GZL4A123	GZXL4A123	AMBER	1 N.O./1 N.C. 12V AC/DC LED	
GZ24-B123	GZB4-B123	GZL4B123	GZXL4B123	BLUE		
GZ24-C123	GZB4-C123	GZL4C123	GZXL4C123	CLEAR		
GZ24-G123	GZB4-G123	GZL4G123	GZXL4G123	GREEN		
GZ24-R123	GZB4-R123	GZL4R123	GZXL4R123	RED		
GZ24-A43	GZB4-A43	GZL4A43	GZXL4A43	AMBER	1 N.O./1 N.C. 24V AC/DC LED	
GZ24-B43	GZB4-B43	GZL4B43	GZXL4B43	BLUE		
GZ24-C43	GZB4-C43	GZL4C43	GZXL4C43	CLEAR		
GZ24-G43	GZB4-G43	GZL4G43	GZXL4G43	GREEN		
GZ24-R43	GZB4-R43	GZL4R43	GZXL4R43	RED		
GZ24-A233	GZB4-A233	GZL4A233	GZXL4A233	AMBER	1 N.O./1 N.C. 120V AC/DC LED	
GZ24-B233	GZB4-B233	GZL4B233	GZXL4B233	BLUE		
GZ24-C233	GZB4-C233	GZL4C233	GZXL4C233	CLEAR		
GZ24-G233	GZB4-G233	GZL4G233	GZXL4G233	GREEN		
GZ24-R233	GZB4-R233	GZL4R233	GZXL4R233	RED		
GZ24-A243	GZB4-A243	GZL4A243	GZXL4A243	AMBER	1 N.O./1 N.C. 240V AC LED	
GZ24-B243	GZB4-B243	GZL4B243	GZXL4B243	BLUE		
GZ24-C243	GZB4-C243	GZL4C243	GZXL4C243	CLEAR		
GZ24-G243	GZB4-G243	GZL4G243	GZXL4G243	GREEN		
GZ24-R243	GZB4-R243	GZL4R243	GZXL4R243	RED		



CONTROLS GZ SERIES

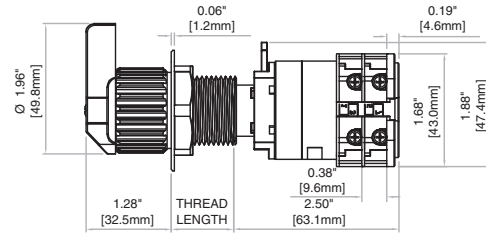
Selector Switch Controls Maintained



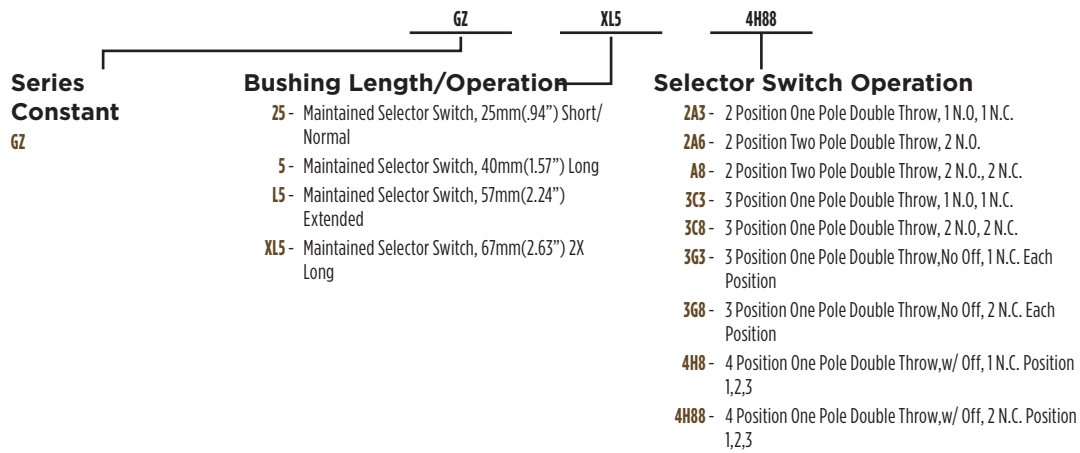
SELECTOR SWITCH SINGLE STACK



SELECTOR SWITCH DOUBLE STACK



GZ25, GZ5, GZL5, GZXL5





Selector Switch Controls Maintained

GZ 2 POSITION SELECTOR SWITCH MAINTAINED CONTACT (SINGLE STACK)																	
CATALOG NUMBER				ELECTRICAL DIAGRAM	TYPE OF OPERATION												
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH														
GZ25-2A3	GZ5-2A3	GZL52A3	GZXL52A3	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT	X		RIGHT		X	2 POS. ONE POLE DOUBLE THROW
CONTACT BLOCK TERMINALS																	
POSITION	1/2	3/4															
LEFT	X																
RIGHT		X															
GZ25-2A6	GZ5-2A6	GZL52A6	GZXL52A6	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td></td> <td></td> </tr> <tr> <td>RIGHT</td> <td>X</td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT			RIGHT	X	X	2 POS. TWO POLE DOUBLE THROW
CONTACT BLOCK TERMINALS																	
POSITION	1/2	3/4															
LEFT																	
RIGHT	X	X															

GZ 3 POSITION SELECTOR SWITCH MAINTAINED CONTACT (SINGLE STACK)																				
CATALOG NUMBER				ELECTRICAL DIAGRAM	TYPE OF OPERATION															
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH																	
GZ25-3C3	GZ5-3C3	GZL53C3	GZXL53C3	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> </tr> <tr> <td>CENTER</td> <td></td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT	X		CENTER			RIGHT		X	3 POS. ONE POLE DOUBLE THROW w/ OFF
CONTACT BLOCK TERMINALS																				
POSITION	1/2	3/4																		
LEFT	X																			
CENTER																				
RIGHT		X																		

GZ 3 POSITION SELECTOR SWITCH MAINTAINED CONTACT - NO OFF (SINGLE STACK)																									
CATALOG NUMBER				ELECTRICAL DIAGRAM	TYPE OF OPERATION																				
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH																						
GZ25-3G3	GZ5-3G3	GZL53G3	GZXL53G3	<table border="1"> <thead> <tr> <th colspan="4">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> <th>5/6</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>CENTER</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS				POSITION	1/2	3/4	5/6	LEFT	X			CENTER		X		RIGHT			X	3 POS. ONE POLE NO OFF, 1 N.C. IN POSITION 1,2,3
CONTACT BLOCK TERMINALS																									
POSITION	1/2	3/4	5/6																						
LEFT	X																								
CENTER		X																							
RIGHT			X																						

GZ 4 POSITION SELECTOR SWITCH MAINTAINED CONTACT (SINGLE STACK)																									
CATALOG NUMBER				ELECTRICAL DIAGRAM	TYPE OF OPERATION																				
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH																						
GZ25-4H8	GZ5-4H8	GZL54H8	GZXL54H8	<table border="1"> <thead> <tr> <th colspan="4">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> <th>5/6</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS				POSITION	1/2	3/4	5/6	1	X			2		X		3			X	4 POS. ONE POLE w/ OFF 1 N.C. IN POSITION 1,2,3
CONTACT BLOCK TERMINALS																									
POSITION	1/2	3/4	5/6																						
1	X																								
2		X																							
3			X																						



CONTROLS
GZ SERIES

Selector Switch Controls Maintained

GZ 2 POSITION SELECTOR SWITCH MAINTAINED CONTACT (DOUBLE STACK)					ELECTRICAL DIAGRAM	TYPE OF OPERATION																				
CATALOG NUMBER																										
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH																							
GZ25-2A8	GZ5-2A8	GZL52A8	GZXL52A8		<table border="1"> <thead> <tr> <th colspan="5">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> <th>5/6</th> <th>7/8</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS					POSITION	1/2	3/4	5/6	7/8	LEFT	X		X		RIGHT		X		X	2 POS. TWO POLE DOUBLE THROW
CONTACT BLOCK TERMINALS																										
POSITION	1/2	3/4	5/6	7/8																						
LEFT	X		X																							
RIGHT		X		X																						

GZ 3 POSITION SELECTOR SWITCH MAINTAINED CONTACT (DOUBLE STACK)					ELECTRICAL DIAGRAM	TYPE OF OPERATION																									
CATALOG NUMBER																															
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH																												
GZ25-3C8	GZ5-3C8	GZL53C8	GZXL53C8		<table border="1"> <thead> <tr> <th colspan="5">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> <th>5/6</th> <th>7/8</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>CENTER</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS					POSITION	1/2	3/4	5/6	7/8	LEFT	X		X		CENTER					RIGHT		X		X	3 POS. TWO POLE DOUBLE THROW w/ OFF
CONTACT BLOCK TERMINALS																															
POSITION	1/2	3/4	5/6	7/8																											
LEFT	X		X																												
CENTER																															
RIGHT		X		X																											

GZ 3 POSITION SELECTOR SWITCH MAINTAINED CONTACT - NO OFF (DOUBLE STACK)					ELECTRICAL DIAGRAM	TYPE OF OPERATION																																			
CATALOG NUMBER																																									
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH																																						
GZ25-3G8	GZ5-3G8	GZL53G8	GZXL53G8		<table border="1"> <thead> <tr> <th colspan="7">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> <th>5/6</th> <th>7/8</th> <th>9/10</th> <th>11/12</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>CENTER</td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS							POSITION	1/2	3/4	5/6	7/8	9/10	11/12	LEFT	X			X			CENTER		X			X		RIGHT			X			X	3 POS. TWO POLE NO OFF, 2 N.C. IN POSITION 1,2,3
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CENTER		X			X																																				
RIGHT			X			X																																			

GZ 4 POSITION SELECTOR SWITCH MAINTAINED CONTACT (DOUBLE STACK)					ELECTRICAL DIAGRAM	TYPE OF OPERATION																																										
CATALOG NUMBER																																																
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GZ25-4H88	GZ5-4H88	GZL54H88	GZXL54H88		<table border="1"> <thead> <tr> <th colspan="7">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> <th>5/6</th> <th>7/8</th> <th>9/10</th> <th>11/12</th> </tr> </thead> <tbody> <tr> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1</td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS							POSITION	1/2	3/4	5/6	7/8	9/10	11/12	0							1	X			X			2		X			X		3			X			X	4 POS. TWO POLE w/ OFF 2 N.C. IN POSITION 1,2,3
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0																																																
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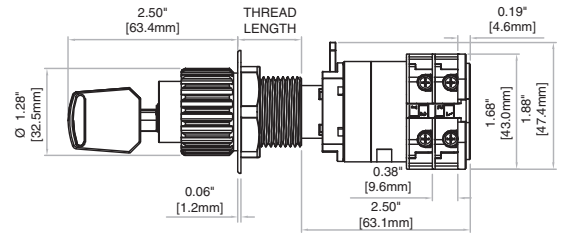
Keyed Selector Switch Controls Maintained



KEY SELECTOR SWITCH SINGLE STACK



KEY SELECTOR SWITCH DOUBLE STACK



GZ28, GZ8, GZL8, GZXL8

Series Constant
GZ

Bushing Length/Operation

- 28 - Maintained Keyed Selector Switch, 25mm(.94") Short/Normal
- 8 - Maintained Keyed Selector Switch, 40mm(1.57") Long
- L8 - Maintained Keyed Selector Switch, 57mm(2.24") Extended
- XL8 - Maintained Keyed Selector Switch, 67mm(2.63") 2X Long

Selector Switch Operation

- 2A3 - 2 Position One Pole Double Throw, 1 N.O., 1 N.C.
- 2A6 - 2 Position Two Pole Double Throw, 2 N.O.
- A8 - 2 Position Two Pole Double Throw, 2 N.O., 2 N.C.
- 3C3 - 3 Position One Pole Double Throw, 1 N.O., 1 N.C.
- 3C8 - 3 Position One Pole Double Throw, 2 N.O., 2 N.C.
- 3G3 - 3 Position One Pole Double Throw, No Off, 1 N.C. Each Position
- 3G8 - 3 Position One Pole Double Throw, No Off, 2 N.C. Each Position
- 4H8 - 4 Position One Pole Double Throw, w/ Off, 1 N.C. Position 1,2,3
- 4H88 - 4 Position One Pole Double Throw, w/ Off, 2 N.C. Position 1,2,3

Key Options

- 22 - Key Removal in Left Position Only
- 32 - Key Removal in Center Position Only

GZ 2 POSITION KEY SELECTOR SWITCH MAINTAINED CONTACT																				
CATALOG NUMBER				ELECTRICAL DIAGRAM	TYPE OF OPERATION															
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH																	
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CONTACT BLOCK TERMINALS																				
POSITION	1/2	3/4																		
LEFT	X																			
RIGHT		X																		
GZ28-2A6	GZ8-2A6	GZL82A6	GZXL82A6	<table border="1"> <tr><th colspan="3">CONTACT BLOCK TERMINALS</th></tr> <tr><th>POSITION</th><th>1/2</th><th>3/4</th></tr> <tr><td>LEFT</td><td></td><td></td></tr> <tr><td>RIGHT</td><td>X</td><td>X</td></tr> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT			RIGHT	X	X	2 POS. TWO POLE DOUBLE THROW			
CONTACT BLOCK TERMINALS																				
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LEFT																				
RIGHT	X	X																		
GZ 2 POSITION SELECTOR SWITCH MAINTAINED CONTACT KEY REMOVAL IN LEFT ONLY																				
GZ28-2A322	GZ8-2A322	GZL82A322	GZXL82A322	ONE POLE DOUBLE THROW																
GZ 3 POSITION KEY SELECTOR SWITCH MAINTAINED CONTACT																				
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GZ 3 POSITION KEY SELECTOR SWITCH MAINTAINED CONTACT KEY REMOVAL IN CENTER ONLY																				
GZ28-3C332	GZ8-3C332	GZL83C332	GZXL83C332	ONE POLE DOUBLE THROW																



CONTROLS
GZ SERIES

Keyed Selector Switch Controls Maintained

GZ 3 POSITION KEY SELECTOR SWITCH MAINTAINED CONTACT - NO OFF (SINGLE STACK)					ELECTRICAL DIAGRAM	TYPE OF OPERATION																				
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GZ 2 POSITION KEY SELECTOR SWITCH MAINTAINED CONTACT (DOUBLE STACK)					ELECTRICAL DIAGRAM	TYPE OF OPERATION																				
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GZ28-2A8	GZ8-2A8	GZL82A8	GZXL82A8		<table border="1"> <thead> <tr> <th colspan="5">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> <th>5/6</th> <th>7/8</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS					POSITION	1/2	3/4	5/6	7/8	LEFT	X		X		RIGHT		X		X	2 POS. TWO POLE DOUBLE THROW
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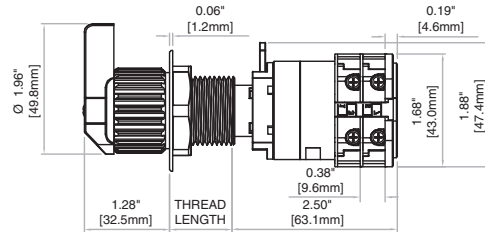
GZ 3 POSITION KEY SELECTOR SWITCH MAINTAINED CONTACT - NO OFF (DOUBLE STACK)					ELECTRICAL DIAGRAM	TYPE OF OPERATION																																			
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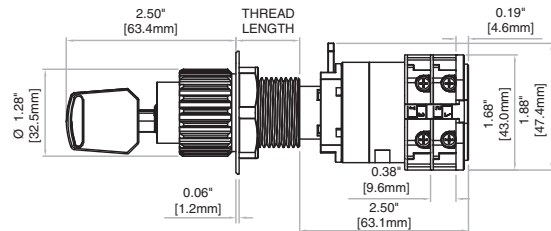
Selector Switch Controls Spring Return



SELECTOR SWITCH SPRING RETURN



KEY SELECTOR SWITCH SPRING RETURN



<p>Series Constant GZ</p> <p>Bushing Length/Operation</p> <ul style="list-style-type: none"> 26 - Momentary Right 2 Position Selector Switch, 25mm(.94") Short/Normal 6 - Momentary 2 Position Right Selector Switch, 40mm(1.57") Long L6 - Momentary 2 Position Right Selector Switch, 57mm(2.24") Extended XL6 - Momentary 2 Position Right Selector Switch, 67mm(2.63") 2X Long 35 - Momentary Left Maintained Right 3 Position Selector Switch, 25mm(.94") Short/Normal 15 - Momentary Left Maintained Right 3 Position Selector Switch, 40mm(1.57") Long L15 - Momentary Left Maintained Right 3 Position Selector Switch, 57mm(2.24") Extended XL15 - Momentary Left Maintained Right 3 Position Selector Switch, 67mm(2.63") 2X Long 27 - Momentary Left & Right 3 Position Selector Switch, 25mm(.94") Short/Normal 7 - Momentary Left & Right 3 Position Selector Switch, 40mm(1.57") Long L7 - Momentary Left & Right 3 Position Selector Switch, 57mm(2.24") Extended XL7 - Momentary Left & Right 3 Position Selector Switch, 67mm(2.63") 2X Long 34 - Momentary Right Maintained Left 3 Position Selector Switch, 25mm(.94") Short/Normal 14 - Momentary Right Maintained Left 3 Position Selector Switch, 40mm(1.57") Long 	<p>GZ</p> <hr/> <p>XL36L</p> <hr/> <p>6</p>	<p>Selector Switch Operation</p> <ul style="list-style-type: none"> 3 - 2 Position One Pole 6 - 3 Position One Pole <ul style="list-style-type: none"> Selector Switch, 25mm(.94") Short/Normal 38 - 3L-Momentary Right Maintained Left 3 Position Keyed Selector Switch, 40mm(1.57") Long L38L - Momentary Right Maintained Left 3 Position Keyed Selector Switch, 57mm(2.24") Extended XL38L - Momentary Right Maintained Left 3 Position Keyed Selector Switch, 67mm(2.63") 2X Long
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CONTROLS
GZ SERIES

Selector Switch Controls Spring Return

GZ 2 POSITION SELECTOR SWITCH SPRING RETURN				ELECTRICAL DIAGRAM	TYPE OF OPERATION												
CATALOG NUMBER																	
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GZ26-3	GZ6-3	GZL63	GZXL63	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT	X		RIGHT		X	2 POSITION MOMENTARY RIGHT
CONTACT BLOCK TERMINALS																	
POSITION	1/2	3/4															
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GZ 3 POSITION SELECTOR SWITCH SPRING RETURN				ELECTRICAL DIAGRAM	TYPE OF OPERATION															
CATALOG NUMBER																				
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH																	
GZ35-6	GZ15-6	GZL156	GZXL156	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> </tr> <tr> <td>CENTER</td> <td></td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT	X		CENTER			RIGHT		X	3 POS. SPRING TO CENTER FROM LEFT, MAINT. RIGHT
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GZ27-6	GZ7-6	GZL76	GZXL76	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td></td> <td>X</td> </tr> <tr> <td>CENTER</td> <td></td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT		X	CENTER			RIGHT		X	3 POS. SPRING TO CENTER FROM LEFT AND RIGHT
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GZ34-6	GZ14-6	GZL146	GZXL146	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td></td> <td>X</td> </tr> <tr> <td>CENTER</td> <td></td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT		X	CENTER			RIGHT		X	3 POS. SPRING TO CENTER FROM RIGHT, MAINT. LEFT
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Selector Switch Controls Spring Return

GZ 2 POSITION KEY SELECTOR SWITCH SPRING RETURN																	
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GZ56-2L3	GZ36-2L3	GZL36L3	GZXL36L3	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT	X		RIGHT		X	2 POSITION MOMENTARY RIGHT
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GZ59-3R6	GZ39-3R6	GZL39R6	GZXL39R6	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td></td> <td>X</td> </tr> <tr> <td>CENTER</td> <td>X</td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT		X	CENTER	X		RIGHT		X	3 POS. SPRING TO CENTER FROM LEFT, MAINT. RIGHT
CONTACT BLOCK TERMINALS																				
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GZ58-3L6	GZ38-3L6	GZL38L6	GZXL38L6	<table border="1"> <thead> <tr> <th colspan="3">CONTACT BLOCK TERMINALS</th> </tr> <tr> <th>POSITION</th> <th>1/2</th> <th>3/4</th> </tr> </thead> <tbody> <tr> <td>LEFT</td> <td>X</td> <td></td> </tr> <tr> <td>CENTER</td> <td></td> <td></td> </tr> <tr> <td>RIGHT</td> <td></td> <td>X</td> </tr> </tbody> </table>	CONTACT BLOCK TERMINALS			POSITION	1/2	3/4	LEFT	X		CENTER			RIGHT		X	3 POS. SPRING TO CENTER FROM RIGHT, MAINT. LEFT
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CENTER																				
RIGHT		X																		

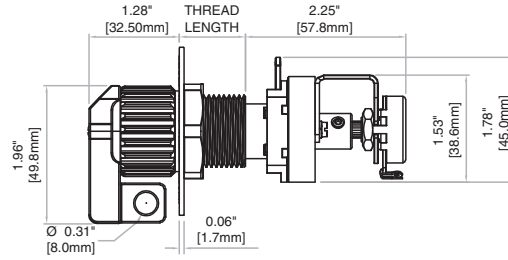


CONTROLS
GZ SERIES

Potentiometers Single Turn



SINGLE TURN POTENTIOMETER



GZ133, GZ113, GZL113, GZXL113

Series Constant	Bushing Length/Operation		Potentiometer Resistance
	GZ	XL113	
GZ	133 - Potentiometer Single Turn, 25mm(.94") Short/Normal		2K2 - 2200 Ohms
	113 - Potentiometer Single Turn, 40mm(1.57") Long		4K7 - 4700 Ohms
	L113 - Potentiometer Single Turn, 57mm(2.24") Extended		10K - 10,000 Ohms
	XL113 - Potentiometer Single Turn, 67mm(2.63") 2X Long		220R - 220 Ohms
			470R - 470 Ohms
			1K - 1,000 Ohms
			22K - 22,000 Ohms
			47K - 47,000 Ohms
			100K - 100,000 Ohms
			220K - 220,000 Ohms
			470K - 470,000 Ohms
			1M - 1,000,000 Ohms

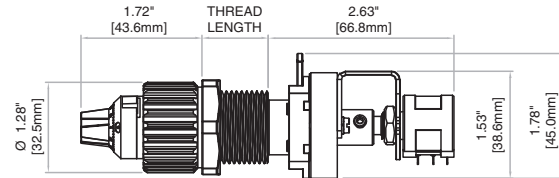
POTENTIOMETERS SINGLE TURN					
CATALOG NUMBER				POTENTIOMETER RESISTANCE (OHMS)	POTENTIOMETER (ELECTRICAL DEVICE)
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH		
GZ133-2K2	GZ113-2K2	GZL113-2K2	GZXL113-2K2	2.2KΩ	GZ-POTST-2.2
GZ133-4K7	GZ113-4K7	GZL113-4K7	GZXL113-4K7	4.7KΩ	GZ-POTST-4.7
GZ133-10K	GZ113-10K	GZL113-10K	GZXL113-10K	10KΩ	GZ-POTST-10
GZ133-220R	GZ113-220R	GZL113-220R	GZXL113-220R	220Ω	GZ-POTST-220
GZ133-470R	GZ113-470R	GZL113-470R	GZXL113-470R	470Ω	GZ-POTST-470
GZ133-1K	GZ113-1K	GZL113-1K	GZXL113-1K	1KΩ	GZ-POTST-1
GZ133-22K	GZ113-22K	GZL113-22K	GZXL113-22K	22KΩ	GZ-POTST-22
GZ133-47K	GZ113-47K	GZL113-47K	GZXL113-47K	47KΩ	GZ-POTST-47
GZ133-100K	GZ113-100K	GZL113-100K	GZXL113-100K	100KΩ	GZ-POTST-100
GZ133-220K	GZ113-220K	GZL113-220K	GZXL113-220K	220KΩ	GZ-POTST-220
GZ133-470K	GZ113-470K	GZL113-470K	GZXL113-470K	470KΩ	GZ-POTST-470
GZ133-1M	GZ113-1M	GZL113-1M	GZXL113-1M	1MΩ	GZ-POTST-1M



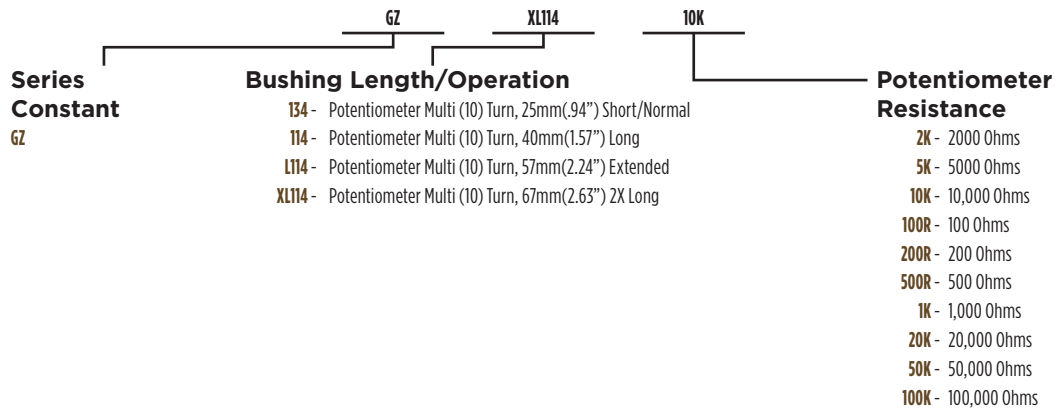
Potentiometers Multi (10) Turn



10 TURN
POTENTIOMETER



GZ134, GZ114, GZL114, GZXL114

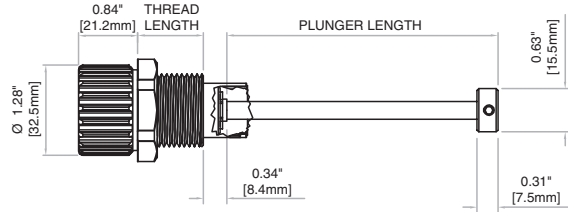


POTENTIOMETERS 10 TURN					
CATALOG NUMBER				POTENTIOMETER RESISTANCE (OHMS)	POTENTIOMETER (ELECTRICAL DEVICE)
SHORT 0.98" [25MM] THD. LENGTH	LONG 1.57" [40MM] THD. LENGTH	EXTENDED 2.24" [57MM] THD. LENGTH	2X LONG 2.62" [67MM] THD. LENGTH		
GZ134-2K	GZ114-2K	GZL114-2K	GZXL114-2K	2KΩ	GZ-POTMT-2
GZ134-5K	GZ114-5K	GZL114-5K	GZXL114-5K	5KΩ	GZ-POTMT-5
GZ134-10K	GZ114-10K	GZL114-10K	GZXL114-10K	10KΩ	GZ-POTMT-10
GZ134-100R	GZ114-100R	GZL114-100R	GZXL114-100R	100Ω	GZ-POTMT-100R
GZ134-200R	GZ114-200R	GZL114-200R	GZXL114-200R	200Ω	GZ-POTMT-200R
GZ134-500R	GZ114-500R	GZL114-500R	GZXL114-500R	500Ω	GZ-POTMT-500R
GZ134-1K	GZ114-1K	GZL114-1K	GZXL114-1K	1KΩ	GZ-POTMT-1
GZ134-20K	GZ114-20K	GZL114-20K	GZXL114-20K	20KΩ	GZ-POTMT-20
GZ134-50K	GZ114-50K	GZL114-50K	GZXL114-50K	50KΩ	GZ-POTMT-50
GZ134-100K	GZ114-100K	GZL114-100K	GZXL114-100K	100KΩ	GZ-POTMT-100

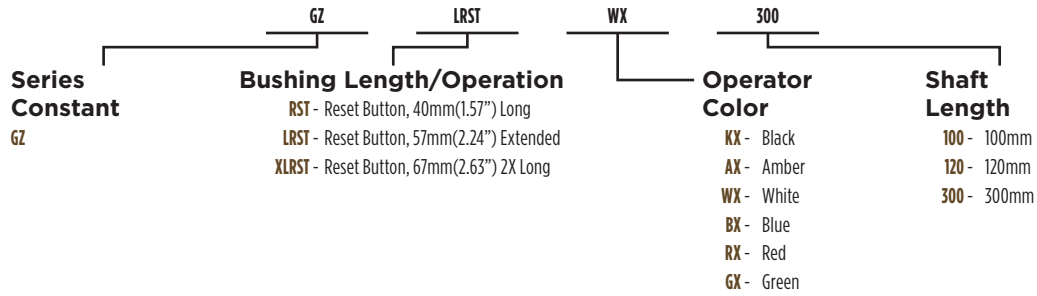


CONTROLS GZ SERIES

Reset Button



GZ-RST, GZLRST, GZXRST

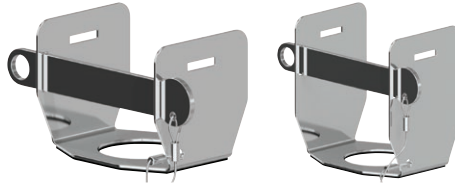
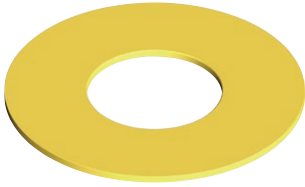


RESET BUTTON				
LONG 1.57" (40MM) THREAD LENGTH	EXTENDED 2.24" (57MM) THREAD LENGTH	2X LONG 2.62" (67MM) THREAD LENGTH	BUTTON COLOR	SHAFT LENGTH
GZ-RST-KX100	GZLRST-KX100	GZXRST-KX100	BLACK	100 mm
GZ-RST-KX120	GZLRST-KX120	GZXRST-KX120	BLACK	120 mm
GZ-RST-KX300	GZLRST-KX300	GZXRST-KX300	BLACK	300 mm
GZ-RST-AX100	GZLRST-AX100	GZXRST-AX100	AMBER	100 mm
GZ-RST-AX120	GZLRST-AX120	GZXRST-AX120	AMBER	120 mm
GZ-RST-AX300	GZLRST-AX300	GZXRST-AX300	AMBER	300 mm
GZ-RST-WX100	GZLRST-WX100	GZXRST-WX100	WHITE	100 mm
GZ-RST-WX120	GZLRST-WX120	GZXRST-WX120	WHITE	120 mm
GZ-RST-WX300	GZLRST-WX300	GZXRST-WX300	WHITE	300 mm
GZ-RST-BX100	GZLRST-BX100	GZXRST-BX100	BLUE	100 mm
GZ-RST-BX120	GZLRST-BX120	GZXRST-BX120	BLUE	120 mm
GZ-RST-BX300	GZLRST-BX300	GZXRST-BX300	BLUE	300 mm
GZ-RST-RX100	GZLRST-RX100	GZXRST-RX100	RED	100 mm
GZ-RST-RX120	GZLRST-RX120	GZXRST-RX120	RED	120 mm
GZ-RST-RX300	GZLRST-RX300	GZXRST-RX300	RED	300 mm
GZ-RST-GX100	GZLRST-GX100	GZXRST-GX100	GREEN	100 mm
GZ-RST-GX120	GZLRST-GX120	GZXRST-GX120	GREEN	120 mm
GZ-RST-GX300	GZLRST-GX300	GZXRST-GX300	GREEN	300 mm

Plunger Length can be shortened as required in the field.



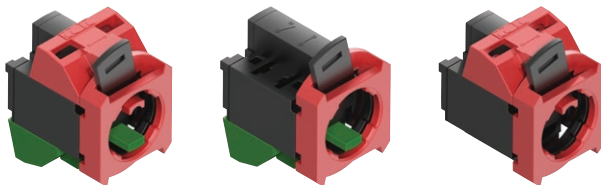
Accessories



MUSHROOM PUSH BUTTON ACCESSORIES		
YELLOW BACKPLATE FOR ESTOP	LOCKOUT FOR GZMP, GZMM (PUSH-PULL)	LOCKOUT FOR GZMT (PUSH-TWIST)
GZMRYLBP	GZMRPPBLO	GZMRTPBLO

Stainless Steel Lockouts allow button to be locked out in either position.

MOMENTARY PUSH BUTTON ACCESSORIES	
DEPRESSED LOCKOUT FOR GZ21, GZ1, GZL1, GZXL1	COVERED LOCKOUT FOR GZ21, GZ1, GZL1, GZXL1
GZPBMMDHLO	GZPBMMRHLO



1 N.O., 1 N.C.

1 N.O.

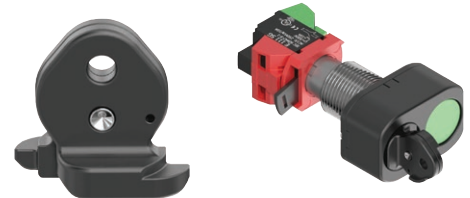
1 N.C.

GZ ADDER CONTACT BLOCKS - TWO BLOCKS MAX.		
CATALOG NUMBER	DESCRIPTION	COLOR CODE
SGE-E111SG	1 N.O. / 1 N.C.	Red / Green
SGE-E110SG	1 N.O.	Green
SGE-E101SG	1 N.C.	Red
SGE-E120SG	2 N.O.	Green
SGE-E102SG	2 N.C.	Red
SGE-E111S	1NO (Early Make) / 1NC (Late Break)	Red / Green
SGE-E120S	1NO (Early Make) / 1NO (Standard Make)	Green
SGE-E102S	1NC (Late Break) / 1NC (Standard Break)	Red

Contact Blocks come with longer screws and installation instructions for stacking of contact blocks.

ROTARY SWITCH CONTACT BLOCKS	
CATALOG NUMBER	DESCRIPTION
SGE-GIN1220	2-Position, One-Pole, Double Throw
SGE-GIN2220	2-Position, Two-Pole, Double Throw
SGE-GRC1320SJ	3-Position, One-Pole, Double Throw with Off
SGE-GRC2320SJ	3-Position, Two-Pole, Double Throw with Off
SGE-GRS1220SJ	2-Position, One-Pole, Double Throw without Off
SGE-GRS2220SJ	2-Position, Two-Pole, Double Throw without Off
SGE-GRSE1220SJ	2-Position, Spring Return to Left, One-Pole, Double Throw
SGE-GRIE1320SJ	3-Position, Momentary Left / Maintained Center and Right, One-Pole, Double Throw with Off
SGE-GRP1320SJ	3-Position, Momentary Left and Right / Maintained Center, One-Pole, Double Throw with Off
SGE-GRID1320SJ	3-Position, Momentary Right / Maintained Center and Left, One-Pole, Double Throw with Off

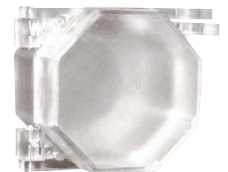
MISCELLANEOUS ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
GZDBLPBMMDO	Depressed Lockout for Momentary Double Pushbutton
GZSSLO	Lockout for Non-Keyed Selector Switches
GZ-NP	Replacement Nameplate, Aluminum, Blank (Indicate marking if required.)
GZ-RG	Replacement Gasket
GO-RL	Sealing Locknut
GZ-S2CPG	Protective Silicone Boot (Standard Size Momentary Pushbuttons)
GZ-S2CPGBIG	Protective Silicone Boot (Big Size Momentary Pushbuttons)
GZ-RK0	Keyed-Alike Standard Replacement Key - 1 Pair
GZ-RKx	Keyed-Different Replacement Key - 1 Pair (Replace "x" with 1-12 for corresponding key.)
GOMLOCK	Lock Out for Standard Size Momentary & Maintained Push Buttons
GOMSRD	Shroud for Standard Size Maintained Mushroom Head (Yellow)



GZDBLPBMMDO



GZSSLO



GOMLOCK

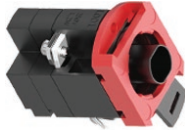


CONTROLS GZ SERIES

Accessories



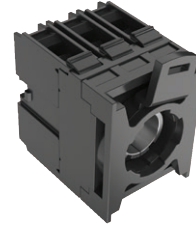
12/24/120V Socket



240V Socket



480V Socket

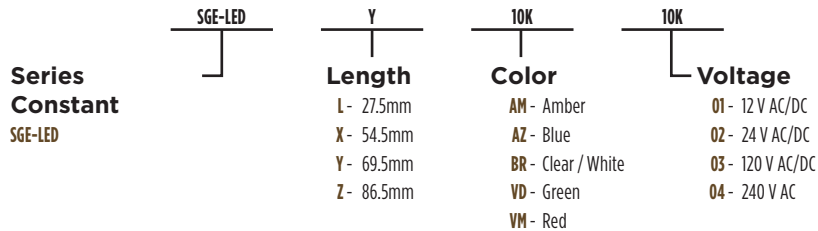


Illuminated Push Button Assembly

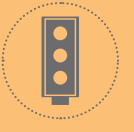
PILOT LIGHT AND ILLUMINATED PUSH BUTTON ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
SGE-L001SG	Pilot Light Socket Only (12/24/120V AC/DC)
SGE-LC240SG	Pilot Light Socket Only (240V AC)
SGE-LC480SG	Pilot Light Socket Only (480V AC)
SGE-C11L	Illuminated Push Button Contact Assembly (Socket / 1 N.O. / 1 N.C.)
SGE-CLP001	Illuminated Push Button Socket Only
SGE-CLP101	1NC Contact (Red Plunger)
SGE-CLP110	1NO Contact (Green Plunger)
GZLENS-A	Replacement Lens (Amber)
GZLENS-B	Replacement Lens (Blue)
GZLENS-C	Replacement Lens (Clear)
GZLENS-G	Replacement Lens (Green)
GZLENS-R	Replacement Lens (Red)

Contact Blocks may be stacked up to 6 blocks deep (dependent on size of enclosure).

GZ REPLACEMENT LED LAMP CATALOG LOGIC



Note: *240 and 480V Pilot Lights utilize the 120V LED lamp with step-down transformers in the socket.



GZ Replacement LED Lamps

LED LAMP PART #	DESCRIPTION	GZ OPERATOR	LED LAMP PART #	DESCRIPTION	GZ OPERATOR	LED LAMP PART #	DESCRIPTION	GZ OPERATOR
SGE-LEDLAM01	LED Lamp, Amber, Length = 27.5 mm, 12 V AC/DC	GZ23-A12 GZB3-A12	SGE-LEDXAZ03	LED Lamp, Blue, Length = 54.5 mm, 120 V AC/DC	GZL3B23 GZL3B24 GZL3B48 GZ24-B233	SGE-LEDYBR04	LED Lamp, White, Length = 69.5 mm, 240 V AC/DC	GZB4-C243
SGE-LEDLAM02	LED Lamp, Amber, Length = 27.5 mm, 24 V AC/DC	GZ23-A4 GZB3-A4	SGE-LEDXAZ04	LED Lamp, Blue, Length = 54.5 mm, 240 V AC/DC	GZ24-B243	SGE-LEDYVD01	LED Lamp, Green, Length = 69.5 mm, 12 V AC/DC	GZXL3G12 GZB4-G123
SGE-LEDLAM03	LED Lamp, Amber, Length = 27.5 mm, 120 V AC/DC	GZ23-A23 GZB3-A23 GZ23-A24 GZB3-A24 GZ23-A48 GZB3-A48	SGE-LEDXBR01	LED Lamp, White, Length = 54.5 mm, 12 V AC/DC	GZL3C12 GZ24-C123	SGE-LEDYVD02	LED Lamp, Green, Length = 69.5 mm, 24 V AC/DC	GZXL3G4 GZB4-G43
SGE-LEDLAZ01	LED Lamp, Blue, Length = 27.5 mm, 12 V AC/DC	GZ23-B12 GZB3-B12	SGE-LEDXBR02	LED Lamp, White, Length = 54.5 mm, 24 V AC/DC	GZL3C4 GZ24-C43	SGE-LEDYVD03	LED Lamp, Green, Length = 69.5 mm, 120 V AC/DC	GZXL3G23 GZXL3G24 GZXL3G48 GZB4-G233
SGE-LEDLAZ02	LED Lamp, Blue, Length = 27.5 mm, 24 V AC/DC	GZ23-B4 GZB3-B4	SGE-LEDXBR03	LED Lamp, White, Length = 54.5 mm, 120 V AC/DC	GZL3C23 GZL3C24 GZL3C48 GZ24-C233	SGE-LEDYVD04	LED Lamp, Green, Length = 69.5 mm, 240 V AC/DC	GZB4-G243
SGE-LEDLAZ03	LED Lamp, Blue, Length = 27.5 mm, 120 V AC/DC	GZ23-B23 GZB3-B23 GZ23-B24 GZB3-B24 GZ23-B48 GZB3-B48	SGE-LEDXBR04	LED Lamp, White, Length = 54.5 mm, 240 V AC/DC	GZ24-C243	SGE-LEDYVM01	LED Lamp, Red, Length = 69.5 mm, 12 V AC/DC	GZXL3R12 GZB4-R123
SGE-LEDLBR01	LED Lamp, White, Length = 27.5 mm, 12 V AC/DC	GZ23-C12 GZB3-C12	SGE-LEDXVD01	LED Lamp, Green, Length = 54.5 mm, 12 V AC/DC	GZL3G12 GZ24-G123	SGE-LEDYVM02	LED Lamp, Red, Length = 69.5 mm, 24 V AC/DC	GZXL3R4 GZB4-R43
SGE-LEDLBR02	LED Lamp, White, Length = 27.5 mm, 24 V AC/DC	GZ23-C4 GZB3-C4	SGE-LEDXVD02	LED Lamp, Green, Length = 54.5 mm, 24 V AC/DC	GZL3G4 GZ24-G43	SGE-LEDYVM03	LED Lamp, Red, Length = 69.5 mm, 120 V AC/DC	GZXL3R23 GZXL3R24 GZXL3R48 GZB4-R233
SGE-LEDLBR03	LED Lamp, White, Length = 27.5 mm, 120 V AC/DC	GZ23-C23 GZB3-C23 GZ23-C24 GZB3-C24 GZ23-C48 GZB3-C48	SGE-LEDXVD03	LED Lamp, Green, Length = 54.5 mm, 120 V AC/DC	GZL3G23 GZL3G24 GZL3G48 GZ24-G233	SGE-LEDYVM04	LED Lamp, Red, Length = 69.5 mm, 240 V AC/DC	GZB4-R243
SGE-LEDLVD01	LED Lamp, Green, Length = 27.5 mm, 12 V AC/DC	GZ23-G12 GZB3-G12	SGE-LEDXVD04	LED Lamp, Green, Length = 54.5 mm, 240 V AC/DC	GZ24-G243	SGE-LEDZAM01	LED Lamp, Amber, Length = 86.5 mm, 12 V AC/DC	GZL4A123 GZXL4A123
SGE-LEDLVD02	LED Lamp, Green, Length = 27.5 mm, 24 V AC/DC	GZ23-G4 GZB3-G4	SGE-LEDXVM01	LED Lamp, Red, Length = 54.5 mm, 12 V AC/DC	GZL3R12 GZ24-R123	SGE-LEDZAM02	LED Lamp, Amber, Length = 86.5 mm, 24 V AC/DC	GZL4A43 GZXL4A43
SGE-LEDLVD03	LED Lamp, Green, Length = 27.5 mm, 120 V AC/DC	GZ23-G12 GZB3-G12	SGE-LEDXVM02	LED Lamp, Red, Length = 54.5 mm, 24 V AC/DC	GZL3R4 GZ24-R43	SGE-LEDZAM03	LED Lamp, Amber, Length = 86.5 mm, 120 V AC/DC	GZL4A233 GZXL4A233
SGE-LEDLVM01	LED Lamp, Red, Length = 27.5 mm, 12 V AC/DC	GZ23-R12 GZB3-R12	SGE-LEDXVM03	LED Lamp, Red, Length = 54.5 mm, 120 V AC/DC	GZL3R23 GZL3R24 GZL3R48 GZ24-R233	SGE-LEDZAM04	LED Lamp, Amber, Length = 86.5 mm, 240 V AC/DC	GZL4A243 GZXL4A243
SGE-LEDLVM02	LED Lamp, Red, Length = 27.5 mm, 24 V AC/DC	GZ23-R4 GZB3-R4	SGE-LEDXVM04	LED Lamp, Red, Length = 54.5 mm, 240 V AC/DC	GZ24-R243	SGE-LEDZAZ01	LED Lamp, Blue, Length = 86.5 mm, 12 V AC/DC	GZL4B123 GZXL4B123
SGE-LEDLVM03	LED Lamp, Red, Length = 27.5 mm, 120 V AC/DC	GZ23-R23 GZB3-R23 GZ23-R24 GZB3-R24 GZ23-R48 GZB3-R48	SGE-LEDYAM01	LED Lamp, Amber, Length = 69.5 mm, 12 V AC/DC	GZXL3A12 GZB4-A123	SGE-LEDZAZ02	LED Lamp, Blue, Length = 86.5 mm, 24 V AC/DC	GZL4B43 GZXL4B43
SGE-LEDXAM01	LED Lamp, Amber, Length = 54.5 mm, 12 V AC/DC	GZL3A12 GZ24-A123	SGE-LEDYAM02	LED Lamp, Amber, Length = 69.5 mm, 24 V AC/DC	GZXL3A4 GZB4-A43	SGE-LEDZAZ03	LED Lamp, Blue, Length = 86.5 mm, 120 V AC/DC	GZL4B233 GZXL4B233
SGE-LEDXAM02	LED Lamp, Amber, Length = 54.5 mm, 24 V AC/DC	GZL3A4 GZ24-A43	SGE-LEDYAM03	LED Lamp, Amber, Length = 69.5 mm, 120 V AC/DC	GZXL3A23 GZXL3A24 GZXL3A48 GZB4-A233	SGE-LEDZAZ04	LED Lamp, Blue, Length = 86.5 mm, 240 V AC/DC	GZL4B243 GZXL4B243
SGE-LEDXAM03	LED Lamp, Amber, Length = 54.5 mm, 120 V AC/DC	GZL3A23 GZL3A24 GZL3A48 GZ24-A233	SGE-LEDYAM04	LED Lamp, Amber, Length = 69.5 mm, 240 V AC/DC	GZB4-A243	SGE-LEDZBR01	LED Lamp, White, Length = 86.5 mm, 12 V AC/DC	GZL4C123 GZXL4C123
SGE-LEDXAM04	LED Lamp, Amber, Length = 54.5 mm, 240 V AC/DC	GZ24-A243	SGE-LEDYAZ01	LED Lamp, Blue, Length = 69.5 mm, 12 V AC/DC	GZXL3B12 GZB4-B123	SGE-LEDZBR02	LED Lamp, White, Length = 86.5 mm, 24 V AC/DC	GZL4C43 GZXL4C43
SGE-LEDXAZ01	LED Lamp, Blue, Length = 54.5 mm, 12 V AC/DC	GZL3B12 GZ24-B123	SGE-LEDYAZ02	LED Lamp, Blue, Length = 69.5 mm, 24 V AC/DC	GZXL3B4 GZB4-B43	SGE-LEDZBR03	LED Lamp, White, Length = 86.5 mm, 120 V AC/DC	GZL4C233 GZXL4C233
SGE-LEDXAZ02	LED Lamp, Blue, Length = 54.5 mm, 24 V AC/DC	GZL3B4 GZ24-B43	SGE-LEDYAZ03	LED Lamp, Blue, Length = 69.5 mm, 120 V AC/DC	GZXL3B23 GZXL3B24 GZXL3B48 GZB4-B233	SGE-LEDZBR04	LED Lamp, White, Length = 86.5 mm, 240 V AC/DC	GZL4C243 GZXL4C243
			SGE-LEDYAZ04	LED Lamp, Blue, Length = 69.5 mm, 240 V AC/DC	GZB4-B243	SGE-LEDZVD01	LED Lamp, Green, Length = 86.5 mm, 12 V AC/DC	GZL4G123 GZXL4G123
			SGE-LEDYBR01	LED Lamp, White, Length = 69.5 mm, 12 V AC/DC	GZXL3C12 GZB4-C123	SGE-LEDZVD02	LED Lamp, Green, Length = 86.5 mm, 24 V AC/DC	GZL4G43 GZXL4G43
			SGE-LEDYBR02	LED Lamp, White, Length = 69.5 mm, 24 V AC/DC	GZXL3C4 GZB4-C43	SGE-LEDZVD03	LED Lamp, Green, Length = 86.5 mm, 120 V AC/DC	GZL4G233 GZXL4G233
			SGE-LEDYBR03	LED Lamp, White, Length = 69.5 mm, 120 V AC/DC	GZXL3C23 GZXL3C24 GZXL3C48 GZB4-C233	SGE-LEDZVD04	LED Lamp, Green, Length = 86.5 mm, 240 V AC/DC	GZL4G243 GZXL4G243
						SGE-LEDZVM01	LED Lamp, Red, Length = 86.5 mm, 12 V AC/DC	GZL4R123 GZXL4R123
						SGE-LEDZVM02	LED Lamp, Red, Length = 86.5 mm, 24 V AC/DC	GZL4R43 GZXL4R43
						SGE-LEDZVM03	LED Lamp, Red, Length = 86.5 mm, 120 V AC/DC	GZL4R233 GZXL4R233
						SGE-LEDZVM04	LED Lamp, Red, Length = 86.5 mm, 240 V AC/DC	GZL4R243 GZXL4R243



CONTROLS G SERIES

Custom Control Panel Operators Introduction



Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 3, 4, 4X
ATEX-EExd IIB + H₂ (-CN
Configurations)

UL LISTED - File E12379

SP Certified - File LR11714

FEATURES-SPECIFICATIONS

Features

- Threaded bodies are all 3/4"-14 NPSM thread
- Key operated selector switches are randomly keyed with keys removable in all positions. Keyed alike or key removable in non-standard positions available from factory.
- Contact blocks can be stacked four deep maximum.

Short Style

SWB/GCS Enclosures. Assemblies with wall thickness up to 1/2" thick.

Long Style

All B7E Enclosures. EXB enclosures with cover thickness up to 1-1/2" thick.

Extended Style

EXB larger size enclosures with cover thickness up to 2-1/2" thick.

Killark long and extended push buttons, selector switches, reset and potentiometer operators are CENELEC/ATEX EExd IIB+H₂ when installed in series EXB*CEN and GR*CEN enclosures.

For pilot lights and illuminated push buttons in CENELEC/ATEX applications.

Materials

- Operators are all aluminum except for certain movable parts which are stainless steel.
- All other parts such as screws are either stainless steel or plated steel

Electrical Rating

- Push button stations, selector switches Heavy duty 600 VAC max.
- Pilot lights 250 VAC max.

CONTACT BLOCK RATINGS – A600				
CURRENT	120 VAC	240 VAC	480 VAC	600 VAC
INRUSH	60	30	15	12
BREAKING	6	3	1.5	1.2
CARRYING	10	10	10	10

DC RATINGS (MAX. AMPS) – P600		
CURRENT	125 VAC	250 VAC
INRUSH	55	.27
BREAKING	55	.27
CARRYING	2.55	2.55

AREA CLASSIFICATION CHART FOR OPERATORS					
GO1 ^④	GO17 ^②	GO30 ^②	GO57 ^②	GOL2 ^④	GOL38 ^③
GO2 ^②	GO18 ^②	GO34 ^②	GO58 ^②	GOL3 ^④	GOL39 ^③
GO5 ^②	GO19 ^②	GO35 ^② GO36 ^③	GO59 ^②	GOL4 ^④	GOL113 ^③
GO6 ^②	GO21 ^②	GO37 ^③	GO113 ^③	GOL5 ^④	GOL114 ^③
GO7 ^④	GO22 ^②	GO38 ^③	GO114 ^③	GOL6 ^④	GOLRST ^④
GO8 ^③	GO23 ^②	GO39 ^③	GO133 ^②	GOL7 ^④ GOL8 ^③	GOM1 ^⑤
GO10 ^④	GO25 ^②	GO40 ^①	GO134 ^②	GOL14 ^④	GOR11 ^④
GO14 ^④	GO26 ^②	GO50 ^②	GOB3 ^④	GOL15 ^④	GORST ^④
GO15 ^④	GO27 ^②	GO51 ^②	GOB4 ^④	GOL36 ^③	GO11388 ^②
GO16 ^②	GO28 ^②	GO56 ^②	GOL1 ^④	GOL37 ^④	GO11372 ^②

① Class II Div. 1 & 2 Group EFG

② Class I Div. 1 & 2 Group CD, Class II Div. 1 & 2 Group EFG, Class III

③ Class I Div. 1 & 2 Group BCD, Class II Div. 1 & 2 Group EFG, Class III Type 3, 4

④ Class I Div. 1 & 2 Group BCD, Class II Div. 1 & 2 Group EFG, Class III Type 3, 4, 4X

⑤ Class I Div. 1 & 2 Group CD, Class II Div. 1 & 2 Group EFG, Class III Type 3, 4



Custom Operator Ordering System

Example:

G01 — **RX** **2** **B** **N34**
FORM **COLOR** **CONTACTS** **NAMEPLATE** **CONSTANT**
SINGLE PUSH BUTTON **(RED)** **(1N.C.)** **(STOP)**
LONG STYLE

NOTE: For faster delivery on custom operators order push buttons and selector switches without contact blocks and order contacts as a separate item.

1. Select operator form and style (short, long or extended).
2. Using the catalog numbering system below, insert the proper letter or number symbol as shown in the appropriate charts.
3. Spaces in catalog numbering system which have symbol already filled in cannot be changed.
4. Order accessories as separate item from Accessories page.
5. Add "N34" suffix to the end of all long style operators with the following prefix; G01, G02, GOB3, GOB4, G05, G06, G07, G08, G010, G011, G014, G015, GO36, GO37, GO38, GO39.

CATALOG SERIES	COLOR	VOLTAGE	POSITION	CAM	CONTACTS	NAMEPLATE	KEY LOCK	KEY TYPE	DESCRIPTION
G01 & G021 GOL1	Chart 1				Chart 4	Chart 8			Single push button: (Momentary contact)
GOM1	Chart 1				Chart 4	Chart 8			Single push button: (Maintained contact)
G02 & G022 GOL2	Chart 2				Chart 4	Chart 8			Double push button: (Momentary contact)
GOR11	Chart 2				Chart 4	Chart 8			Double push button: (Maintained contact)
GOB3 & GOL3	Chart 3	Chart 6				Chart 8			Pilot light
GOB4 GOL4	Chart 3	Chart 6			Chart 4	Chart 8			Illuminated push button
G05 & G025 GOL5			Chart 5	Chart 7	Chart 4	Chart 8			Selector switch (Maintained contact)
G06 & G026 GOL6					Chart 4	Chart 8			Selector switch (2 Position, spring return to left)
G07 & G027 GOL7					Chart 4	Chart 8			Selector switch (3 Position, return to center from center)
G014 & G034 GOL14					Chart 4	Chart 8			Selector switch (3 Position, return to center from right)
G015 & G035 GOL15					Chart 4	Chart 8			Selector switch (3 Position, return to center from left)
G08 & G028 GOL8			Chart 5	Chart 7	Chart 4	Chart 8	Chart 9	Chart 10	Key selector switch (Maintained contact)
G036 & G056 GOL36					Chart 4	Chart 8	Chart 9	Chart 10	Key selector switch (2 Position, spring return to left)
G037 & G057 GOL37					Chart 4	Chart 8	Chart 9	Chart 10	Key selector switch (3 Position, spring return to center)
G038 & G058 GOL38					Chart 4	Chart 8	Chart 9	Chart 10	Key selector switch (3 Position, return to center from right)
G039 & G059 GOL39					Chart 4	Chart 8	Chart 9	Chart 10	Key selector switch (3 Position, return to center from left)



CONTROLS G SERIES

G Symbols for Ordering Custom Operators

CHART 1 – SINGLE BUTTON				
G01 SYMBOL	G021 SYMBOL	G011 SYMBOL	G0M1 SYMBOL	COLOR
KX	KZ	K	KM	Black
RX	RZ	R	RM	Red
GX	GZ	G	GM	Green

CHART 2 – DOUBLE BUTTON	
SYMBOL	COLOR
KK	Black/Black
GG	Green/Green
RR	Red/Red
RG	Red/Green
KR	Black/Red
KG	Black/Green

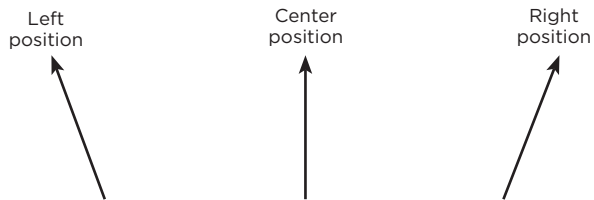
CHART 3 – PILOT LIGHT LENS	
SYMBOL	COLOR
A	Amber
B	Blue
C	Clear
F	Frosted
G	Green
R	Red

CHART 4 – CONTACT BLOCKS	
SYMBOL	ARRANGEMENT
1	One N.O. block
2	One N.C. block
3	One universal (One N.O. and one N.C.)
4	One delayed break N.C. block
5	One early make N.O. block
6	Two N.O. blocks
7	Two N.C. blocks
8	Two universal (Two N.O. and two N.C.)
0	Omit contact block

CHART 5 – SELECTOR SWITCHES	
SYMBOL	NO. OF POSITIONS
2	Two
3	Three

CHART 6 – PILOT LIGHT LAMPS	
GOB3/GOB4 SYMBOL	VOLTAGE
23	120
4	24
40	240

CHART 7A – SELECTOR SWITCH CAMS							
CAM AND CONTACT SELECTION TABLE FOR 2 AND 3 POSITION SELECTOR OPERATOR							



SYMBOL	CONTACTS BLOCKS	LEFT/TOP BLOCKS	RIGHT/BOT BLOCKS	LEFT/TOP BLOCKS	RIGHT/BOT BLOCKS	LEFT/TOP BLOCKS	RIGHT/BOT BLOCKS
A	NC	X	X			0	0
	NO	0	0			X	X
B	NC	X	0	X	X	0	X
	NO	0	X	0	0	X	0
C	NC	X	X	0	0	0	0
	NO	0	0	0	0	X	X
D	NC	0	0	X	X	0	0
	NO	0	0	0	0	X	X
G	NC	X	0	0	X	0	0
	NO	0	0	0	0	X	X

Note: Spring return operators are supplied with special fixed cam. Changes cannot be made for cam substitution.

CHART 7B	
CAM	PART NUMBER
A	0106775B
B	11586ABAB
C	11587ABAB
D	11588ABAB
G	11590ABAB

CHART 8 – NAMEPLATES ^①			
SYMBOL	NAMEPLATE MARKINGS		G SERIES FORMS THAT NAMEPLATE CAN BE USED ON
	FRONT	BACK	
A	Omit nameplate	Omit nameplate	All
B	Start	Stop	G01, 21, 20, 40, GOB3
C	Blank	Reset	G01, 21, 20, 40, GOB3, GOB4
E	Blank	On	GOR4
F	Blank-Blank	Off-On	G05, 25, 6, 26, 8, 28, 10, 30, 36, 56
G	Blank-Blank-Blank	Hand-Off-Auto	G05, 25, 7, 27, 8, 28, 10, 30, 14, 34
H	Blank-Blank-Blank-Blank	Start-Stop	G05, 25, 10, 30

^① Symbol not required on extended length GOL part number.

CHART 9 – KEY LOCK	
SYMBOL	TYPE
22	2 Position key remove left
20	2 Position key remove both
32	3 Position key remove center
30	3 Position key remove all

CHART 10 – KEY STYLE	
SYMBOL	TYPE
D	Keys different
A	Keys alike



Push Buttons



Push Button Green



Push Button Red



Mushroom Push Button



Double Push Button

G SINGLE PUSH BUTTON (MOMENTARY CONTACT)					
CATALOG NUMBER			COLOR	CONTACT TYPE	NAMEPLATE MARKING
SHORT	LONG	EXTENDED			
GO21-GZ1B	GO1-GX1B N34	GOL1G1	Green		Start or Stop
GO21-KZ1C	GO1-KX1C N34	GOL1K1	Black		Reset or Blank
GO21-RZ2B	GO1-RX2B N34	GOL1R2	Red		Start or Stop
GO21-KZ2C	GO1-KX2C N34	GOL1K2	Black		Reset or Blank
GO21-GZ3C	GO1-GX3C N34	GOL1G3	Green		Reset or Blank
GO21-RZ3C	GO1-RX3C N34	GOL1R3	Red		Reset or Blank
GO21-KZ3C	GO1-KX3C N34	GOL1K3	Black		Reset or Blank
GO21-GZ0C	GO1-GX0C N34	GOL1G	Green	None	Reset or Blank
GO21-RZ0C	GO1-RX0C N34	GOL1R	Red		Reset or Blank
GO21-KZ0C	GO1-KX0C N34	GOL1K	Black		Reset or Blank
G SINGLE PUSH BUTTON (MAINTAINED CONTACT) MUSHROOM HEAD PUSH – PULL OPERATION					
GOM21-GM3C	GOM1-GM3C N34	GOML1G3	Green		Blank
GOM21-RM3C	GOM1-RM3C N34	GOML1R3	Red		Blank
GOM21-KM3C	GOM1-KM3C N34	GOML1K3	Black		Blank
GOM21-GM0C	GOM1-GM0C N34	GOML1G	Green	None	Blank
GOM21-RM0C	GOM1-RM0C N34	GOML1R	Red		Blank
GOM21-KM0C	GOM1-KM0C N34	GOML1K	Black		Blank
G DOUBLE PUSH BUTTON (MOMENTARY CONTACT)					
GO22-GR12D	G02-GR12D N34	GOL2GR12	Green/Red		Start/Stop or Blank
GO22-KK12D	G02-KK12D N34	GOL2KK12	Black/Black		Start/Stop or Blank
GO22-GR33D	G02-GR33D N34	GOL2GR33	Green/Red		Start/Stop or Blank
GO22-KK33D	G02-KK33D N34	GOL2KK33	Black/Black		Start/Stop or Blank
GO22-GR00D	G02-GR00D N34	GOL2GR	Green/Red	None	Start/Stop or Blank
GO22-KK00D	G02-KK00D N34	GOL2KK	Black/Black		Start/Stop or Blank
G DOUBLE PUSH BUTTON (MAINTAINED CONTACT)					
—	GOR11-GR6D N34	—	Green/Red		Start/Stop or Blank
—	GOR11-GR7D N34	—	Green/Red		Start/Stop or Blank
—	GOR11-GR8D N34	—	Green/Red		Start/Stop or Blank
—	GOR11-GR0D N34	—	Green/Red	None	Start/Stop or Blank



CONTROLS G SERIES

Pilot Lights

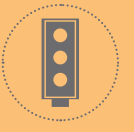


Pilot Light



Illuminated Push Button

G PILOT LIGHTS				
CATALOG NUMBER		COLOR	CONTACT TYPE	NAMEPLATE MARKING
LONG	EXTENDED			
GOB3-A23C N34	GOL3A	Amber	 110-120 Volts Full Volts	Blank
GOB3-B23C N34	GOL3B	Blue		Blank
GOB3-C23C N34	GOL3C	Clear		Blank
GOB3-F23C N34	GOL3F	Frosted		Blank
GOB3-G23C N34	GOL3G	Green		Blank
GOB3-R23C N34	GOL3R	Red		Blank
G PILOT LIGHTS WITH LED 110 VOLT LAMPS				
GOB3-A23C N34 LED	GOL3A LED	Amber	 110-120 Volts Full Volts (LED)	Blank
GOB3-G23C N34 LED	GOL3G LED	Green		Blank
GOB3-R23C N34 LED	GOL3R LED	Red		Blank
G ILLUMINATED BUTTON OR PUSH TO TEST PILOT LIGHT				
GOB4-A233C N34	GOL4A3	Amber	 110-120 Volts Full Volts	Blank
GOB4-B233C N34	GOL4B3	Blue		Blank
GOB4-C233C N34	GOL4C3	Clear		Blank
GOB4-F233C N34	GOL4F3	Frosted		Blank
GOB4-G233C N34	GOL4G3	Green		Blank
GOB4-R233C N34	GOL4R3	Red	 110-120 Volts No Contact Blocks	Blank
GOB4-A230C N34	GOL4A	Amber		Blank
GOB4-B230C N34	GOL4B	Blue		Blank
GOB4-C230C N34	GOL4C	Clear		Blank
GOB4-F230C N34	GOL4F	Frosted		Blank
GOB4-G230C N34	GOL4G	Green		Blank
GOB4-R230C N34	GOL4R	Red		Blank
G ILLUMINATED BUTTON OR PUSH TO TEST PILOT LIGHT WITH LED 110 VOLT LAMPS				
GOB4-A233C N34 LED	GOL4A3 LED	Amber	 110-120 Volts Full Volts (LED)	Blank
GOB4-G233C N34 LED	GOL4G3 LED	Green		Blank
GOB4-R233C N34 LED	GOL4R3 LED	Red		Blank
GOB4-A230C N34 LED	GOL4A LED	Amber	 110-120 Volts (LED) No Contact Blocks	Blank
GOB4-G230C N34 LED	GOL4G LED	Green		Blank
GOB4-R230C N34 LED	GOL4R LED	Red		Blank



Pilot Lights for ATEX / CENELEC Applications



Pilot Light
ATEX



Illuminated Push Button
ATEX

Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 3, 4, 4X
ATEX-EEExd IIB + H2

LISTED - File E12379

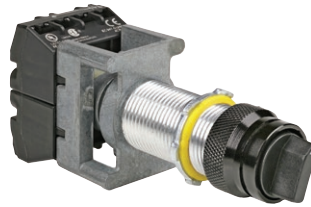
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G PILOT LIGHTS				
CATALOG NUMBER		COLOR	CONTACT TYPE	NAME PLATE MARKING
LONG	EXTENDED			
GOB3-A23C N34CN	GOL3ACN	Amber	 110-120 Volts Full Volts	Blank
GOB3-B23C N34CN	GOL3BCN	Blue		Blank
GOB3-C23C N34CN	GOL3CCN	Clear		Blank
GOB3-F23C N34CN	GOL3FCN	Frosted		Blank
GOB3-G23C N34CN	GOL3GCN	Green		Blank
GOB3-R23C N34CN	GOL3RCN	Red		Blank
G PILOT LIGHTS WITH LED 110 VOLT LAMPS				
GOB3-A23C N34LEDCN	GOL3ALEDCN	Amber	 110-120 Volts Full Volts (LED)	Blank
GOB3-G23C N34LEDCN	GOL3GLEDCN	Green		Blank
GOB3-R23C N34LEDCN	GOL3RLEDCN	Red		Blank
G ILLUMINATED PUSH BUTTON OR PUSH TO TEST PILOT LIGHT				
GOB4-A233CN34CN	GOL4A3CN	Amber	 110-120 Volts Full Volts	Blank
GOB4-B233CN34CN	GOL4B3CN	Blue		Blank
GOB4-C233CN34CN	GOL4C3CN	Clear		Blank
GOB4-F233CN34CN	GOL4F3CN	Frosted		Blank
GOB4-G233CN34CN	GOL4G3CN	Green		Blank
GOB4-R233CN34CN	GOL4R3CN	Red	 110-120 Volts No Contact Blocks	Blank
GOB4-A230CN34CN	GOL4A0CN	Amber		Blank
GOB4-B230CN34CN	GOL4B0CN	Blue		Blank
GOB4-C230CN34CN	GOL4C0CN	Clear		Blank
GOB4-F230CN34CN	GOL4F0CN	Frosted		Blank
GOB4-G230CN34CN	GOL4G0CN	Green		Blank
GOB4-R230CN34CN	GOL4R0CN	Red		Blank
G ILLUMINATED PUSH BUTTON OR PUSH TO TEST PILOT LIGHT WITH LED 110 VOLT LAMPS				
GOB4-A233CN34LEDCN	GOL4A3LEDCN	Amber	 110-120 Volts Full Volts (LED)	Blank
GOB4-G233CN34LEDCN	GOL4G3LEDCN	Green		Blank
GOB4-R233CN34LEDCN	GOL4R3LEDCN	Red		Blank
GOB4-A230CN34LEDCN	GOL4A0LEDCN	Amber	 110-120 Volts (LED) No Contact Blocks	Blank
GOB4-G230CN34LEDCN	GOL4G0LEDCN	Green		Blank
GOB4-R230CN34LEDCN	GOL4R0LEDCN	Red		Blank



Selector Switches



Selector Switch

G SELECTOR SWITCH MAINTAINED CONTACT					
CATALOG NUMBER			CONTACT ARRANGEMENT	TYPE OF OPERATION	NAMEPLATE MARKINGS
SHORT	LONG	EXTENDED			
G025-2A3F	G05-2A3F N34	G0L52A3		Two position	OFF-ON and Blank on other side
G025-3C3G	G05-3C3G N34	G0L53C3		Three position	HAND-OFF-AUTO and Blank on other side
G025-4H8H	G05-4H8H N34	G0L54H8		Four position	Blank

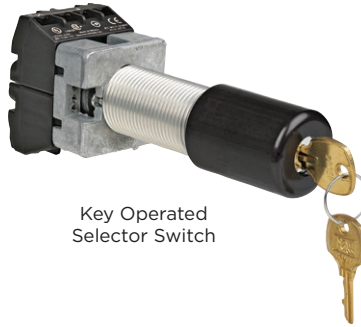
G SELECTOR SWITCH MAINTAINED CONTACT WITHOUT CONTACTS					
CATALOG NUMBER			CONTACT ARRANGEMENT	TYPE OF OPERATION	NAMEPLATE MARKINGS
SHORT	LONG	EXTENDED			
G025-2A0F	G05-2A0F N34	G0L52A	None	Two position	OFF-ON and Blank on other side
G025-3C0G	G05-3C0G N34	G0L53C	None	Three position	HAND-OFF-AUTO and Blank on other side
G025-4H0H	G05-4H0H N34	G0L54H	None	Four position	Blank

G SELECTOR SWITCH SPRING RETURN					
CATALOG NUMBER			CONTACT ARRANGEMENT	TYPE OF OPERATION	NAMEPLATE MARKINGS
SHORT	LONG	EXTENDED			
G026-3F	G06-3F N34	G0L63		Two position spring return to left 1 N.O./1 N.C	OFF-ON and Blank on other side
G027-6G	G07-6G N34	G0L76		Three position spring return to center from right or left 2 N.O.	HAND-OFF-AUTO and Blank on other side
G034-6G	G014-6G N34	G0L146		Three position spring return to center from right, maintain in left 2 N.O.	HAND-OFF-AUTO and Blank on other side
G035-6G	G015-6G N34	G0L156		Three position spring return to center from left, maintain in right 2 N.O.	HAND-OFF-AUTO and Blank on other side

G SELECTOR SWITCH SPRING RETURN WITHOUT CONTACTS					
CATALOG NUMBER			CONTACT ARRANGEMENT	TYPE OF OPERATION	NAMEPLATE MARKINGS
SHORT	LONG	EXTENDED			
G026-0F	G06-0F N34	G0L6	None	Two position spring return to left	OFF-ON and Blank on other side
G027-0G	G07-0G N34	G0L7	None	Three position spring return to center from right or left	HAND-OFF-AUTO and Blank on other side
G034-0G	G014-0G N34	G0L14	None	Three position spring return to center from right, maintain in left	HAND-OFF-AUTO and Blank on other side
G035-0G	G015-0G N34	G0L15	None	Three position spring return to center from left, maintain in right	HAND-OFF-AUTO and Blank on other side



Keyed Selector Switches



Key Operated
Selector Switch

G KEY SELECTOR SWITCH MAINTAINED CONTACT					
CATALOG NUMBER			CONTACT ARRANGEMENT	TYPE OF OPERATION	NAMEPLATE MARKINGS
SHORT	LONG	EXTENDED			
G028-2A3F22D	G08-2A3F22D N34	G0L82A322D	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Left </div> <div style="text-align: center;"> Right </div> </div>	Two position	OFF-ON and Blank on other side
G028-3C3G32D	G08-3C3G32D N34	G0L83C332D	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Left </div> <div style="text-align: center;"> Center </div> <div style="text-align: center;"> Right </div> </div>	Three position	HAND-OFF-AUTO and Blank on other side

G KEY SELECTOR SWITCH MAINTAINED CONTACT WITHOUT CONTACTS					
CATALOG NUMBER			CONTACT ARRANGEMENT	TYPE OF OPERATION	NAMEPLATE MARKINGS
SHORT	LONG	EXTENDED			
G028-2A0F22D	G08-2A0F22D N34	G0L82A022D	None	Two position	OFF-ON and Blank on other side
G028-3C0G32D	G08-3C0G32D N34	G0L83C032D	None	Three position	HAND-OFF-AUTO and Blank on other side

G KEY SELECTOR SWITCH SPRING RETURN					
CATALOG NUMBER			CONTACT ARRANGEMENT	TYPE OF OPERATION	NAMEPLATE MARKINGS
SHORT	LONG	EXTENDED			
G056-2L3F22D	G036-2L3F22D N34	G0L36L322D	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Left </div> <div style="text-align: center;"> Right </div> </div>	Two position spring return to left 1 N.O./1 N.C.	OFF-ON and Blank on other side
G057-3C6G32D	G037-3C6G32D N34	G0L37C632D	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Left </div> <div style="text-align: center;"> Center </div> <div style="text-align: center;"> Right </div> </div>	Three position spring return to center from right or left 2 N.O.	HAND-OFF-AUTO and Blank on other side
G058-3L6G32D	G038-3L6G32D N34	G0L38L632D	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Left </div> <div style="text-align: center;"> Center </div> <div style="text-align: center;"> Right </div> </div>	Three position spring return to center from right, maintain in left 2 N.O.	HAND-OFF-AUTO and Blank on other side
G059-3R6G32D	G039-3R6G32D N34	G0L39R632D	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Left </div> <div style="text-align: center;"> Center </div> <div style="text-align: center;"> Right </div> </div>	Three position spring return to center from left, maintain in right 2 N.O.	HAND-OFF-AUTO and Blank on other side

G KEY SELECTOR SWITCH SPRING RETURN WITHOUT CONTACTS					
CATALOG NUMBER			CONTACT ARRANGEMENT	TYPE OF OPERATION	NAMEPLATE MARKINGS
SHORT	LONG	EXTENDED			
G056-2L0F22D	G036-2L0F22D N34	G0L36L022D	None	Two position spring return to left	OFF-ON and Blank on other side
G057-3C0G32D	G037-3C0G32D N34	G0L37C032D	None	Three position spring return to center from right or left	HAND-OFF-AUTO and Blank on other side
G058-3L0G32D	G038-3L0G32D N34	G0L38L032D	None	Three position spring return to center from right, maintain in left	HAND-OFF-AUTO and Blank on other side
G059-3R0G32D	G039-3R0G32D N34	G0L39R032D	None	Three position spring return to center from left, maintain in right	HAND-OFF-AUTO and Blank on other side

All Key Operators are furnished Keyed Different. If Keyed Alike is required substitute letter "A" for letter "D" in catalog number.

Keys are removable in Left position on 2 position selectors and in Center position on 3 position selectors. For key removal in ALL positions change "22" in 2 position to "20" and "32" in 3 position to "30".



Specialty Operators



Snap Switch



Multi Turn



Single Turn

Potentiometer and Rheostat
(electrical device not included)



Rotary or Motor
Shaft



Capillary Seal



Reset

G SNAP SWITCH OPERATOR					
CATALOG NUMBER ^①		TYPE SWITCH	RATINGS		NAMEPLATE MARKING ^②
SHORT ^④	LONG		125 VAC	250 VAC	
GO30-31F	GO10-31F N34	SPST	10 Amp	5 Amp	Off/On or Blank
GO30-33F	GO10-33F N34	SPDT (3-way)	10 Amp	10 Amp	Off/On or Blank

Recognized

G POTENTIOMETERS AND RHEOSTATS OPERATOR				
CATALOG NUMBER ^①			TYPE	DESCRIPTION ^①
SHORT ^④	LONG	EXTENDED		
GO133	GO113 N34	GOL113	Single turn	Control operator for use with potentiometers or rheostats having a 1/4" diameter by 7/8" long shaft. NOT SUPPLIED
GO134	GO114 N34	GOL114	Twenty turn	

UL File E12379, VI 518

Short UL only, Long & Extended UL & CSA

G RESET OPERATOR				
CATALOG NUMBER ^①			NAMEPLATE ^②	TYPE OPERATION ^①
SHORT ^④	LONG	EXTENDED		
GO40-KX2C	GO-RST	GOLRST	Reset or Blank	Black plunger type reset operator, supplied with a 6" long fiber extension which can be removed or cut to desired length.

UL File E150827

Long & Extended UL & CSA

G ROTARY OR MOTOR SHAFT OPERATOR			
CATALOG NUMBER ^{① ⑤}	SHAFT DIAMETER	TYPE	DESCRIPTION ^①
GO16 ^⑤ GO18 ^⑤	1/4" 3/8"	Male-Female	Rotary or motor shaft operator used to transfer rotary motion through wall of explosion proof enclosure.
GO17 ^⑤ GO19 ^⑤ GO-51 ^⑤	1/4" 3/8" 1/2"	Male-Male	

G CAPILLARY SEALS			
CATALOG NUMBER ^①	CAPILLARY SIZE	TYPE	DESCRIPTION ^①
GO-11388-078 ^⑤	0.078± .002 Dia.	Accepts Capillary With Max. Bulb Dia. of 9/16".	Use where a mechanical means for passing a thermostat or similar capillary tube through the wall of a hazardous location enclosure.
GO-11372-093 ^⑤	0.093± .002 Dia.		

① Refer to Catalog, Accessories, Area Classification, and Dimensional Pages for more information.

② Nameplates are double sided.

③ GO40 series reset button is suitable for Class II E, F, and G locations only.

④ Short style operators are suitable for Class I Group C & D, Class II Group E, F, G only.

⑤ These devices are not UL or CSA approved.



Operator Bodies



Style 1 - GCS-16



Style 2 - GCS-163



Style 3 - SWBC-16

Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III

UL LISTED - File E10514

SP Certified - File LR11716

GCS STYLE 1 – WITH DRILLED AND TAPPED OPERATOR HOLES IN COVER ①

CATALOG	NO. OF OPERATOR HOLES	CONSISTS OF		DIMENSIONS								
		BOX	COVER	A	B	C	D	E	F	G	H	I
GCS-13	1	SWB-13	X-60	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-3/16" (148)	3-5/8" (92)	–	–	3-1/2" (89)	2-9/16" (65)
GCS-14	1	SWB-14	X-60	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-1/4" (133)	3-5/8" (92)	–	–	4-5/16" (110)	3-3/8" (86)
GCS-15	2	SWB-15	X-61	7-3/8" (187)	3-1/8" (79)	5/16" (8)	6-1/2" (165)	4" (102)	–	1.25" (31.8)	4-1/4" (108)	3-1/4" (82)
GCS-16	3	SWB-16	X-62	9-3/8" (238)	3-3/16" (81)	5/16" (8)	8-1/2" (216)	4" (108)	–	2.25" (57.2)	4-1/4" (105)	3-1/4" (82)
GCS-83	4	SWB-83②	X-84	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	3.75" (95.3)	1.25" (31.8)	4-3/16" (106)	3-1/4" (82)
GCS-85	5	SWB-83②	X-85	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	4.50" (114.3)	2.50" (63.5)	4-3/16" (106)	3-3/16" (81)

GCS STYLE 2 – WITH DRILLED AND TAPPED OPERATOR HOLES IN BACK OF BOX ①

GCS-131	1	SWB-13	X-10	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-3/16" (148)	3-5/8" (92)	–	–	3-1/2" (89)	2-9/16" (65)
GCS-141	1	SWB-14	X-10	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-1/4" (133)	3-5/8" (92)	–	–	4-5/16" (110)	3-3/8" (86)
GCS-152	2	SWB-15	X-11	7-3/8" (187)	3-1/8" (79)	5/16" (8)	6-1/2" (165)	4" (102)	–	1.25" (31.8)	4-1/4" (108)	3-1/4" (82)
GCS-163	3	SWB-16	X-12	9-3/8" (238)	3-3/16" (81)	5/16" (8)	8-1/2" (216)	4" (102)	–	2.25" (57.2)	4-1/4" (108)	3-1/4" (82)
GCS-834	4	SWB-83②	X-83	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	3.75" (95.3)	1.25" (31.8)	4-3/16" (106)	3-1/4" (82)
GCS-835	5	SWB-83②	X-83	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	4.50" (114.3)	2.50" (63.5)	4-3/16" (106)	3-3/16" (81)

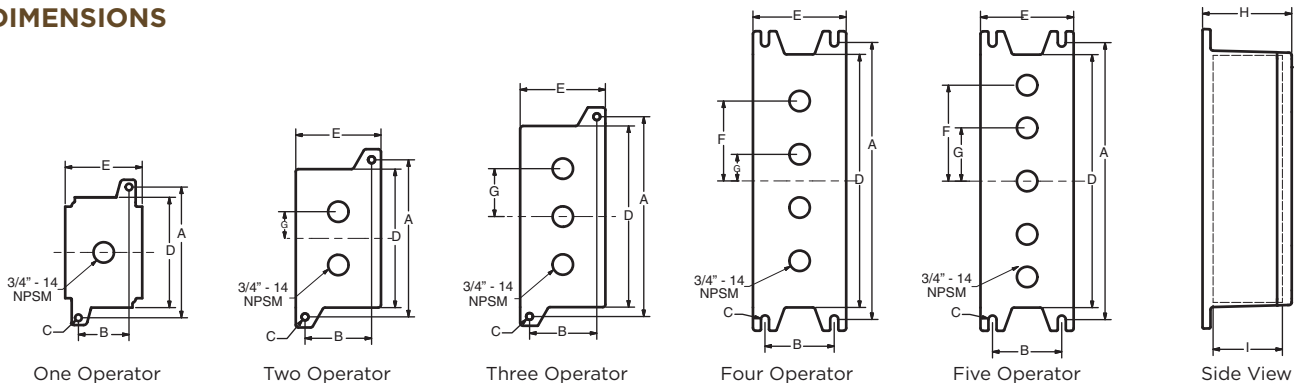
SWB STYLE 3 – BLANK BOX AND COVER – NO OPERATOR HOLES ①

SWBC-13	None	SWB-13	X-10	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-3/16" (148)	3-5/8" (92)	–	–	3-1/2" (89)	2-9/16" (65)
SWBC-14	None	SWB-14	X-10	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-1/4" (133)	3-5/8" (92)	–	–	4-5/16" (110)	3-3/8" (86)
SWBC-15	None	SWB-15	X-11	7-3/8" (187)	3-1/8" (79)	5/16" (8)	6-1/2" (165)	4" (102)	–	–	4-1/4" (108)	3-1/4" (82)
SWBC-16	None	SWB-16	X-12	9-3/8" (238)	3-3/16" (81)	5/16" (8)	8-1/2" (216)	4" (111)	–	–	4-1/4" (108)	3-1/4" (82)
SWBC-83	None	SWB-83②	X-83	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	–	–	4-3/16" (106)	3-3/16" (81)

① All GCS and SWBC Series are cataloged without conduit openings. Specify conduit size and location when ordering.

② GCS-83, GCS-85, GCS-834, and GCS-835 are provided with four mounting lugs.

DIMENSIONS



Notes: Use short style operators for cover devices and long style operators for back of box mounted devices when panel mounting. Style 2 only.

Style 2 control stations with holes in back of box are typically used for panel mounting where additional length of long style operators is required.



CONTROLS G SERIES

Accessories / Replacement Parts



Rubber Boot



Hole Plug



Trim Locknut Spacer



Transformer GO-8670



Push Button Lockout GO-8665



Push Button Lockout GO-10502

ACCESSORIES		
CATALOG NUMBER	USED ON OPERATOR TYPE	DESCRIPTION
GO-8176-1	G01, G021, G0L1	Protective rubber boot (Black)
GO-8176-2	G01, G021, G0L1	Protective rubber boot (Red)
GO-8176-3	G01, G021, G0L1	Protective rubber boot (Green)
GO-8177	3/4" NPSM	Hole plug
GO-8222	1/4" Thick, Used as external spacer.	Trim locknut spacer
GO-8670-32	GOB3, GOL3	Transformer 220V-110V
GO-8670-34	GOB3, GOL3	Transformer 440V-110V
GO-8671-42	GOB4, GOL4	Transformer 220V-110V
GO-8671-44	GOB4, GOL4	Transformer 440V-110V
GO-8665	G02, G022, G0L2, G0R11	Push button lockout
GO-10502	G01, G021, G0L1	Push button lockout
GO567-LOK	G0 & G0L5-6-7-14-15-26-27-34-35	Selector switch lockout
GO-RL	For use with GO's	Sealing lockout
GO-9824	G040, GO-RST, GOLRST	Reset plate
B7PLR220	GOB3, GOL3, GOB4, GOL4	Resistor kit 220V-110V
B7PLR440	GOB3, GOL3, GOB4, GOL4	Resistor kit 440V-110V
B7PLR550	GOB3, GOL3, GOB4, GOL4	Resistor kit 550V-110V
KIT-GOTB	GOB3, GOL3, GOB4, GOL4	Terminal Block, 2 Point



Selector Switch Lockout



Reset Plate



Sealing Locknut GO-RL



2 Pt. Terminal Block KIT-GOTB

REPLACEMENT LENS GUARD ASSEMBLIES - "GO" PILOT LIGHTS		
CATALOG NUMBER		LENS COLOR
GOL3/GOB3 SERIES	GOL4/GOB4 SERIES	
GO15726-A	KIT-354	Amber
GO15726-B	KIT-355	Blue
GO15726-C	KIT-356	Clear
GO15726-F	KIT-357	Frosted
GO15726-G	KIT-358	Green
GO15726-R	KIT-359	Red



Lens Guard Assembly

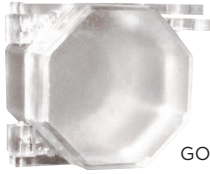
REPLACEMENT BLANK NAMEPLATES - "GO" OPERATORS	
CATALOG NUMBER	DESCRIPTION
YOKK-9484-2	Push button pilot lights
YOKK-10291	Double push button
YOKK-10286	2 Position selector switch
YOKK-10287	3 Position selector switch
YOKK-10285	4 Position selector switch



"GO" Legend Plate



Accessories / Replacement Parts



GOMLOCK



Standard
Mushroom
Momentary &
Maintained



Jumbo
Mushroom
Momentary

ACCESSORIES

CATALOG NUMBER	FOR USE ON OPERATOR TYPE	DESCRIPTION
GOMLOCK	GOM1-GOM21-GOML-G01-G021-G0L1	Lock Out for Standard Size Momentary & Maintained Push Buttons
GOMSTG	G01-G021-G0L1	Standard Size Momentary Mushroom Head (Green)
GOMSTR	G01-G021-G0L1	Standard Size Momentary Mushroom Head (Red)
GOMSTK	G01-G021-G0L1	Standard Size Momentary Mushroom Head (Black)
GOMJUR	G01-G021-G0L1	Jumbo Size Momentary Mushroom Head (Red)
KIT-GOMR	GOM1-GOM21-GOML	Standard Size Maintained Mushroom Head (Red)
KIT-GOMG	GOM1-GOM21-GOML	Standard Size Maintained Mushroom Head (Green)
KIT-GOMK	GOM1-GOM21-GOML	Standard Size Maintained Mushroom Head (Black)
KIT-GOMRJ	GOM1-GOM21-GOML	Jumbo Size Maintained Mushroom Head (Red)
GOMSRD	GOM1-GOM21-GOML	Shroud for Standard Size Maintained Mushroom Head (Yellow)

Dimensions – Standard Mushroom – 1-1/2" Diameter, Jumbo Mushroom Maintained – 1-15/16" Diameter, Jumbo Mushroom Momentary – 2-1/4" Diameter

Replacement Parts



Incandescent
Lamp



LED Lamp

PILOT LIGHT LAMPS

CATALOG NUMBER	VOLTS	WATTS	AMPS	STYLE
YOSY120MB	120	3	0.025	GOB3/GOL3
YOSY24MB	24	1.7	0.073	GOB4/GOL4

PILOT LIGHT LED LAMPS

CATALOG NUMBER	VOLTS	COLOR
GOLED-A110	110 VAC/DC	Amber
GOLED-B110	110 VAC/DC	Blue
GOLED-G110	110 VAC/DC	Green
GOLED-R110	110 VAC/DC	Red
GOLED-W110	110 VAC/DC	White
GOLED-W24	24 VAC/DC	White
GOLED-W240 ^①	220/240 VAC	White

^① Not for use with ATEX operators.



Color
Code

Finger Safe with Gold Flashing as Standard

GO STANDARD CONTACT BLOCKS*

CATALOG NUMBER	DESCRIPTION	COLOR CODE
GO-8673-BJK	1 N.O.	WHITE
GO-8673-BJJ	1 N.C.	RED
GO-8673-BJH	1 N.O. Early make	GREEN
GO-8673-BJE	1 N.C. Late break	YELLOW
GO-8673-BJKJ	1 N.O./1 N.C.	BLACK



CONTROLS G SERIES

Dimensions

G DIMENSIONS					
SERIES	FIGURE	A	B	C	D
GO1	1	15/16"(24)	1-3/4"(44)	3-7/16"(87)	1-1/4"(32)
GO2	3	13/16"(21)	2"(51)	3-3/4"(95)	-
GOB3	4	1-1/8"(29)	2"(51)	2-3/4"(70)	1-9/16"(40)
GOB4	5	2-3/8"(60)	2-1/4"(57)	4"(101)	1-13/16"(46)
GO5	9	1-5/16"(33)	1-3/4"(44)	3-7/16"(87)	1-1/4"(32)
GO6,GO7,GO14,GO15	9	1-5/16"(33)	1-3/4"(44)	3-13/16"(97)	1-1/4"(32)
GO8	10	2-9/16"(65)	1-3/4"(44)	3-1/2"(89)	1-1/4"(32)
GO10	11	1-5/16"(33)	1-3/4"(44)	4"(101)	1-1/4"(32)
GO16,GO18	7	1-1/4"(32)	1"(25)	13/16"(21)	1-1/2"(38)
GO17,GO19	7	13/16"(21)	1"(25)	13/16"(21)	1-1/2"(38)
GO21	1	15/16"(24)	3/4"(19)	2-7/16"(62)	1-1/4"(32)
GO22	3	13/16"(21)	1"(25)	2-3/4"(70)	-
GO25	9	1-5/16"(33)	3/4"(19)	2-7/16"(62)	1-1/4"(32)
GO26,GO27,GO34,GO35	9	1-5/16"(33)	3/4"(19)	2-13/16"(71)	1-1/4"(32)
GO30	11	1-5/16"(33)	3/4"(19)	3"(76)	1-1/4"(32)
GO36,GO37,GO38,GO39	10	2-9/16"(65)	1-3/4"(44)	3-7/8"(98)	1-1/4"(32)
GO40	2	15/16"(24)	11/16"(17)	1"(25)	1-1/4"(32)
GO50	7	1-1/2"(38)	2"(51)	6-5/16"(160)	2-5/16"(59)
GO51	7	2-1/4"(57)	1-5/8"(41)	5-9/16"(141)	1"(25)
GO56,GO57,GO58,GO59	10	2-9/16"(65)	3/4"(19)	2-7/8"(73)	1-1/4"(32)
GO113,GO114	6	1"(25)	2"(51)	3-5/8"(67)	1-13/16"(46)
GO133,GO134	6	1"(25)	1"(25)	2-5/8"(67)	1-13/16"(46)
GO-11388-078	8	1-5/16"(33)	3/4"(19)	N/A	1-1/2"(38)
GO-11372-093	8	1-5/16"(33)	3/4"(19)	N/A	1-1/2"(38)
GOR11	3	13/16"(21)	2"(51)	4-1/8"(105)	-
GO-RST	2	15/16"(24)	2-5/16"(59)	2-3/8"(+6")(60)	1-1/4"(32)
GOM1	1	1-7/8"(48)	1-7/16"(37)	4"(101)	1-5/8"(41)
EXTENDED LENGTH OPERATORS:					
GOL1	1	15/16"(24)	2-3/4"(70)	4-7/16"(113)	1-1/4"(32)
GOL2	3	13/16"(21)	2-3/4"(70)	4-1/2"(114)	-
GOL3	4	1-1/8"(29)	2-3/4"(70)	3-3/8"(86)	1-9/16"(40)
GOL4	5	2-3/8"(60)	2-3/4"(70)	4-5/8"(117)	1-13/16"(46)
GOL5	9	1-5/16"(33)	2-3/4"(70)	4-7/16"(113)	1-1/4"(32)
GOL6,GOL7,GOL14,GOL15	9	1-5/16"(33)	2-3/4"(70)	4-13/16"(122)	1-1/4"(32)
GOL8	10	1-9/16"(40)	2-3/4"(70)	4-1/2"(114)	1-1/4"(32)
GOL36,GOL37,GOL38,GOL39	10	1-9/16"(40)	2-3/4"(70)	4-7/8"(124)	1-1/4"(32)
GOL113,GOL114	6	1"(25)	3"(76)	4-5/8"(117)	1-13/16"(46)
GOLRST	2	15/16"(24)	2-3/4"(70)	3"(+6")(76)	1-1/4"(32)

NOTE: All operators are for installation into a 3/4"-14 NPSM opening, except GO50, which is used in 1-1/4"-11-1/2 NPSM and GO-11388-078 / GO-11372-093 which are for use in a 3/4"-14 NPT opening.

SPECIAL OPERATORS

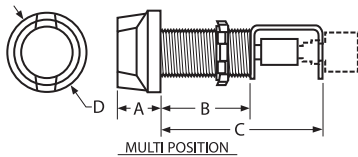


FIGURE 6

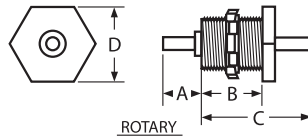


FIGURE 7

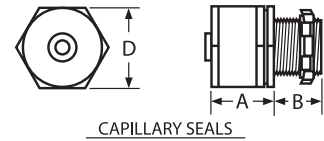


FIGURE 8

SELECTOR SWITCHES

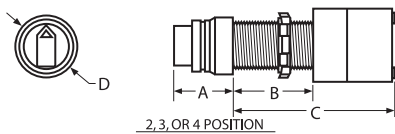


FIGURE 9

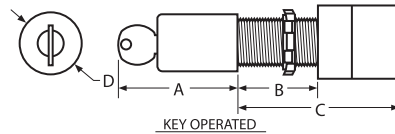


FIGURE 10

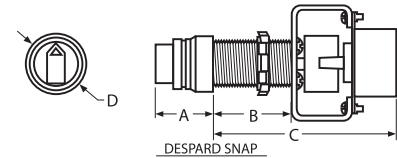


FIGURE 11

PUSH BUTTONS

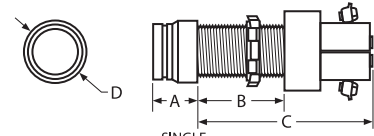


FIGURE 1

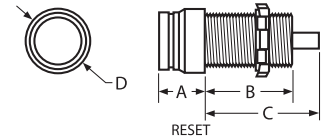


FIGURE 2

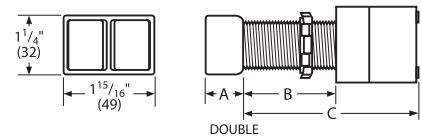


FIGURE 3

PILOT LIGHTS

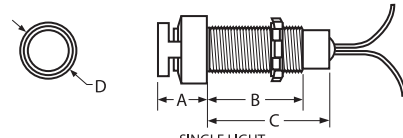


FIGURE 4

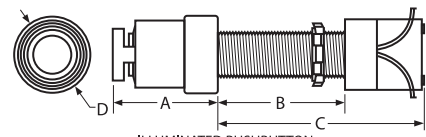


FIGURE 5



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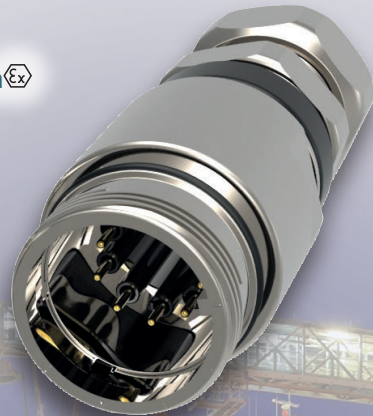


CONNECTIVITY
HAWKE CONNECTORS

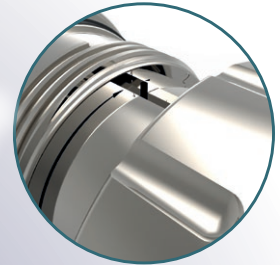
Common Features



Instrum 



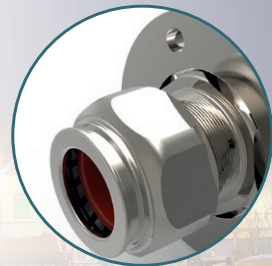
Impossible to
Crossmate



Ingress
and Deluge
Protected



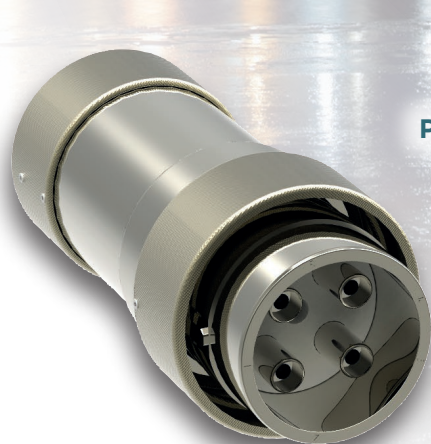
High
Reliability
Contacts



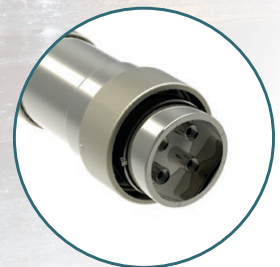
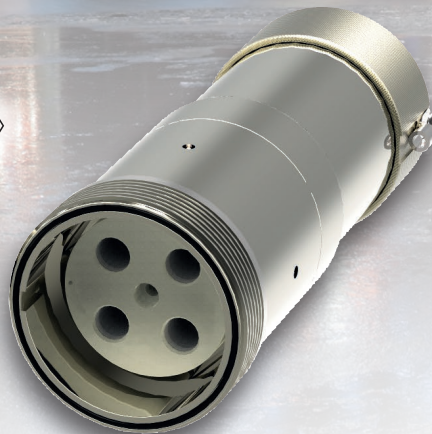
Retro Fit
Flange
Option



Control 



Power 



Robust
Design



Selection Overview

FEATURES-SPECIFICATIONS

Features

There are several innovative features common across the range of Hawke connectors. Despite their highly advanced design and technical features, the range is extremely simple to use and quick to terminate.

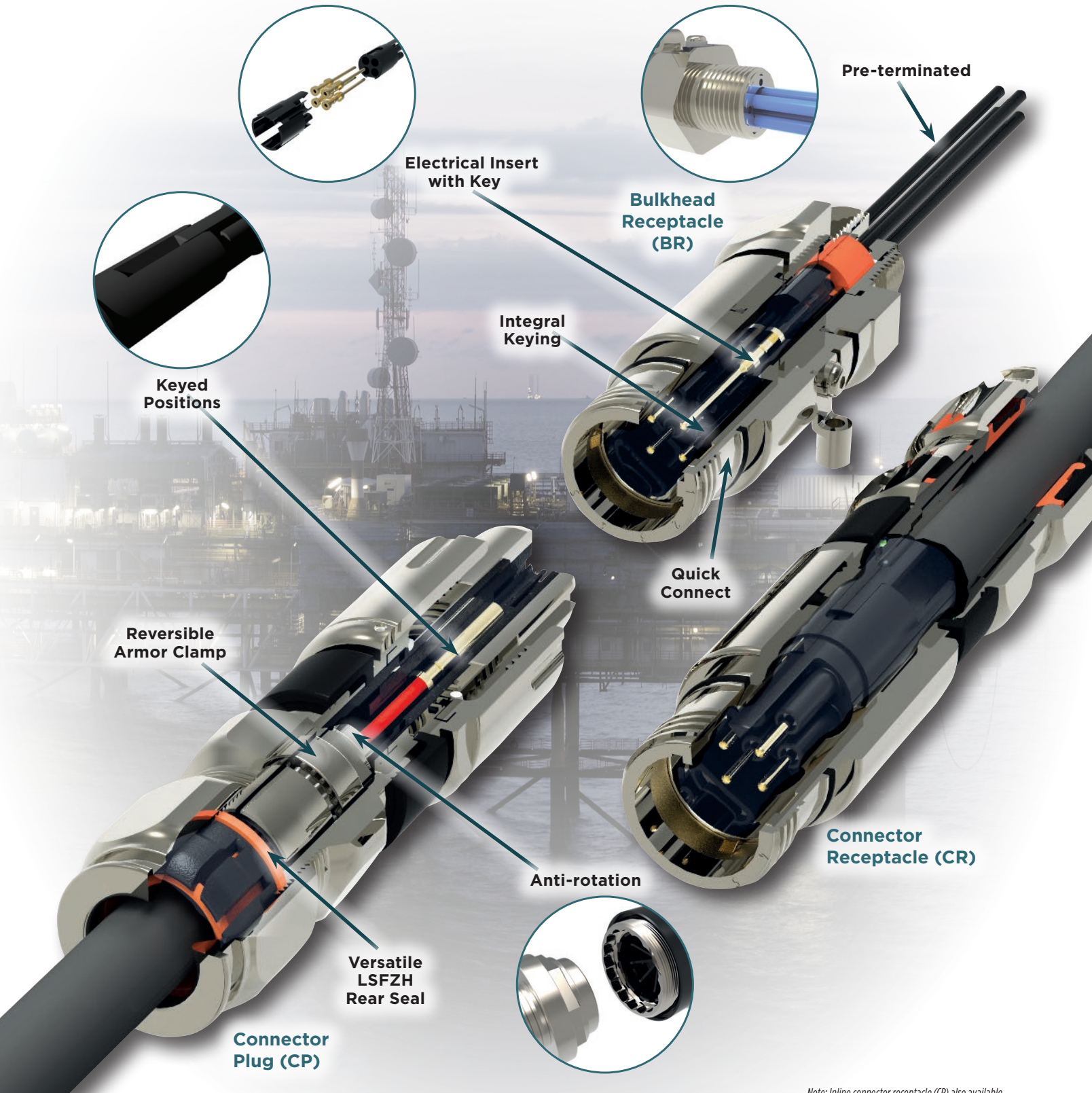
- **IMPOSSIBLE TO CROSS MATE -**
The unique mechanical keying system prevents contact damage and ensures safe use by eliminating the possibility of misconnection of circuits. Machined key and keyway also ensures connector alignment
- **INGRESS AND DELUGE PROTECTED**
- All Hawke ATEX connectors meet the requirements of IP66 and IP67 to IEC60529. They are also deluge protected to DTS01 offering long term protection in onerous environments.
- **HIGH RELIABILITY CONTACTS -**
Each pin and socket is fitted with multilam technology to ensure reliable low resistance connection on each coupling.
- **RETRO FIT FLANGE OPTION -**
Each connector plug and receptacle can be fitted with an optional mounting flange, either at point of order or retro fitted as required, allowing easy mounting of the connectors without the need to disassemble the units
- **ROBUST DESIGN -** Designed and constructed for the most demanding environments, Hawke connectors are durable in almost any environment, requiring no routine maintenance to ensure continued performance.

APPLICATION							
CONNECTOR TYPE	MINIMUM NUMBER OF PINS	MAXIMUM NUMBER OF PINS	MINIMUM CROSS SECTIONAL AREA OF CONDUCTOR MM ²	MAXIMUM CONDUCTOR MM ²	MAXIMUM VOLTAGE	MAXIMUM CURRENT (AMPS)	LIVE DEMATE
Instrum	1	9	0.14	2.5	250V	10	✓
Control	3	60	0.5	35	750V	125	X
Power	1	4	50	630	750V*	780	X

* Other voltages available on special request.



Features



Note: In-line connector receptacle (CR) also available



Features






Tamb: -40°C to +60°C  II2 GD Exdbe
IIC Extb IIIC Db T85
IP66, 67 & DTS01 deluge protected
Certificate No's
Baseefa06ATEX0061X & IECEx BAS
06.0018X



FEATURES-SPECIFICATIONS

Features

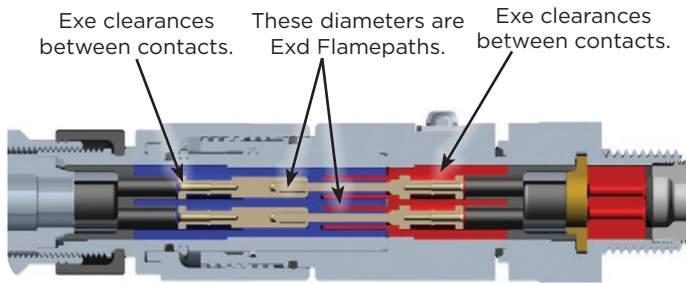
This revolutionary design allows the live mate and de-mating of signal and low power in hazardous areas safely and quickly. The Instrum  connector is available in two sizes. The 4-way and the 9-way options will accept cores ranging between 0.5mm² and 2.5mm² and can operate up to a maximum current of 10A (AC1) at 250V AC and 2.5A (DC1) 60V DC. The 8-way option, designed predominantly for Ethernet applications, will accept cores ranging between 0.14mm² and 0.37mm² and can carry 1A (AC1) at 60V AC and 0.5A (DC1) 60V DC. Instrum  connectors include an integral Hawke cable gland for easy termination of both armoured and un-armoured cables.

- **ELECTRICAL INSERT WITH KEY** - Easy to assemble electrical insert allows crimped or soldered connections.
- **KEYED POSITIONS** - Secondary keying on the actual insert bodies guarantees contact alignment, preventing pin damage.
- **INTEGRAL KEYING** - Machined key and keyway ensures connector alignment. Unique 5 position insert keying system prevents cross-mating.
- **QUICK CONNECT** - Unique 4 start ACME thread offers a smooth and quick fully mating action in less than two turns. Earth continuity is achieved via a 360° contact clip.
- **ANTI-ROTATION** - Profiled Spigot and connector body prevent cable rotation, eliminating cable damage.
- **REVERSIBLE ARMOR CLAMP** - The Instrum  incorporates Hawke's proven and patented armor termination method to accommodate different types of armor or braid.
- **VERSATILE LSFZH REAR SEAL** - Accommodates a wide range of cable sizes and provides highly effective cable grip and ingress protection.
- **PRE-TERMINATED** - All BR connectors are supplied with pre-terminated tails to suit your requirements.



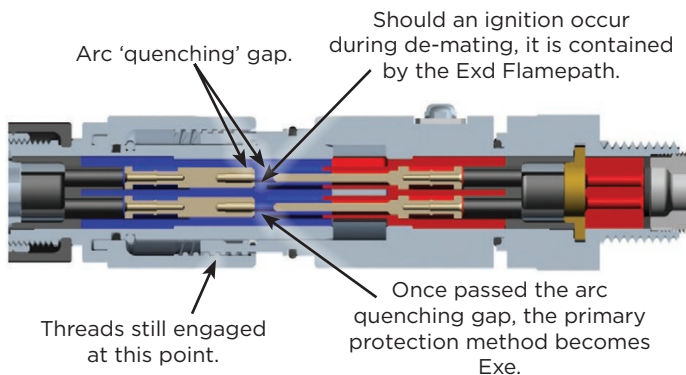
How It Works

The **INSTRUM** connectors are designed to provide ease of installation and speed of use whilst providing a flexible, safe and reliable method for **MATING AND DISCONNECTION OF CIRCUITS WHICH ARE ENERGISED.**



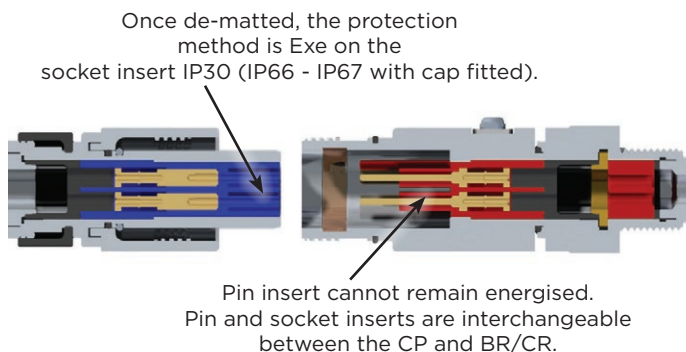
Stage 1

The two mating halves are easily engaged and disengaged by two full turns of the ACME custom engaging thread, during which time the pins and socket are protected by the Exd flameproof protection concept. The outer shell of the connector combined with the integral Hawke cable gland seal ensure that the internal connections are protected to the Exe increased safety protection concept.



Stage 2

During connector engagement and disengagement any sparking of the contacts is contained within an arc 'quenching section' which is housed within the Exd flamepath areas.



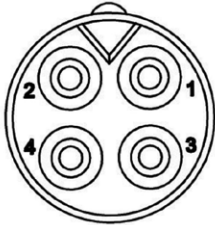
Stage 3

When the connector halves are disengaged, the socket section is protected to IP30 and must have the protective cap fitted immediately to restore the full Exe increased safety requirements and IP rating. The pins and socket inserts are interchangeable between all three connector components: i.e. Bulkhead receptacle, in-line receptacle and connector plug. **In all installations, the "live" side of the connector must always contain the socket insert.**



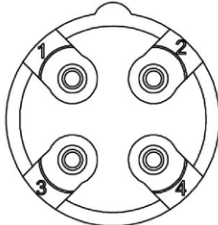
Inserts

Front View of Socket Insert



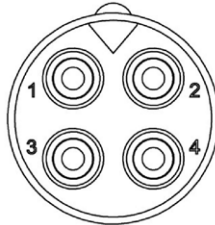
4 x 0.5 - 1mm²
4 x 1.5 - 2.5mm²

Back View of Socket Insert



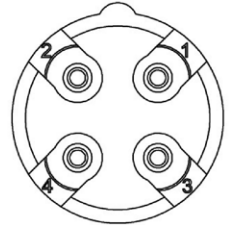
4 x 0.5 - 1mm²
4 x 1.5 - 2.5mm²

Front View of Pin Insert

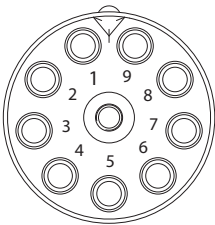


4 x 0.5 - 1mm²
4 x 1.5 - 2.5mm²

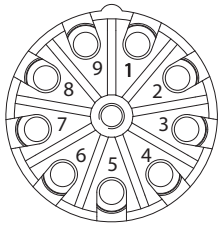
Back View of Pin Insert



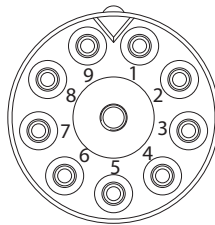
4 x 0.5 - 1mm²
4 x 1.5 - 2.5mm²



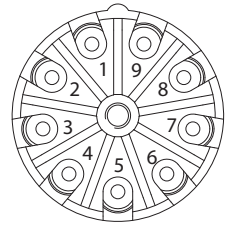
9 x 0.5 - 1mm²
9 x 1.5 - 2.5mm²



9 x 0.5 - 1mm²
9 x 1.5 - 2.5mm²

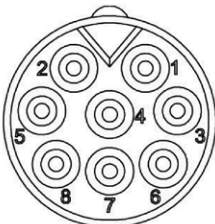


9 x 0.5 - 1mm²
9 x 1.5 - 2.5mm²



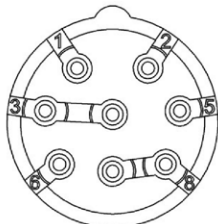
9 x 0.5 - 1mm²
9 x 1.5 - 2.5mm²

Front View of Socket Insert



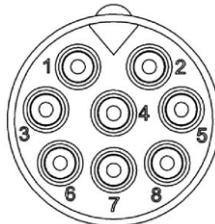
8 x 0.14 - 0.37mm²

Back View of Socket Insert



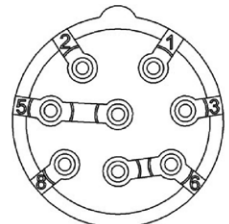
8 x 0.14 - 0.37mm²

Front View of Pin Insert



8 x 0.14 - 0.37mm²

Back View of Pin Insert



8 x 0.14 - 0.37mm²



Dual Crimp

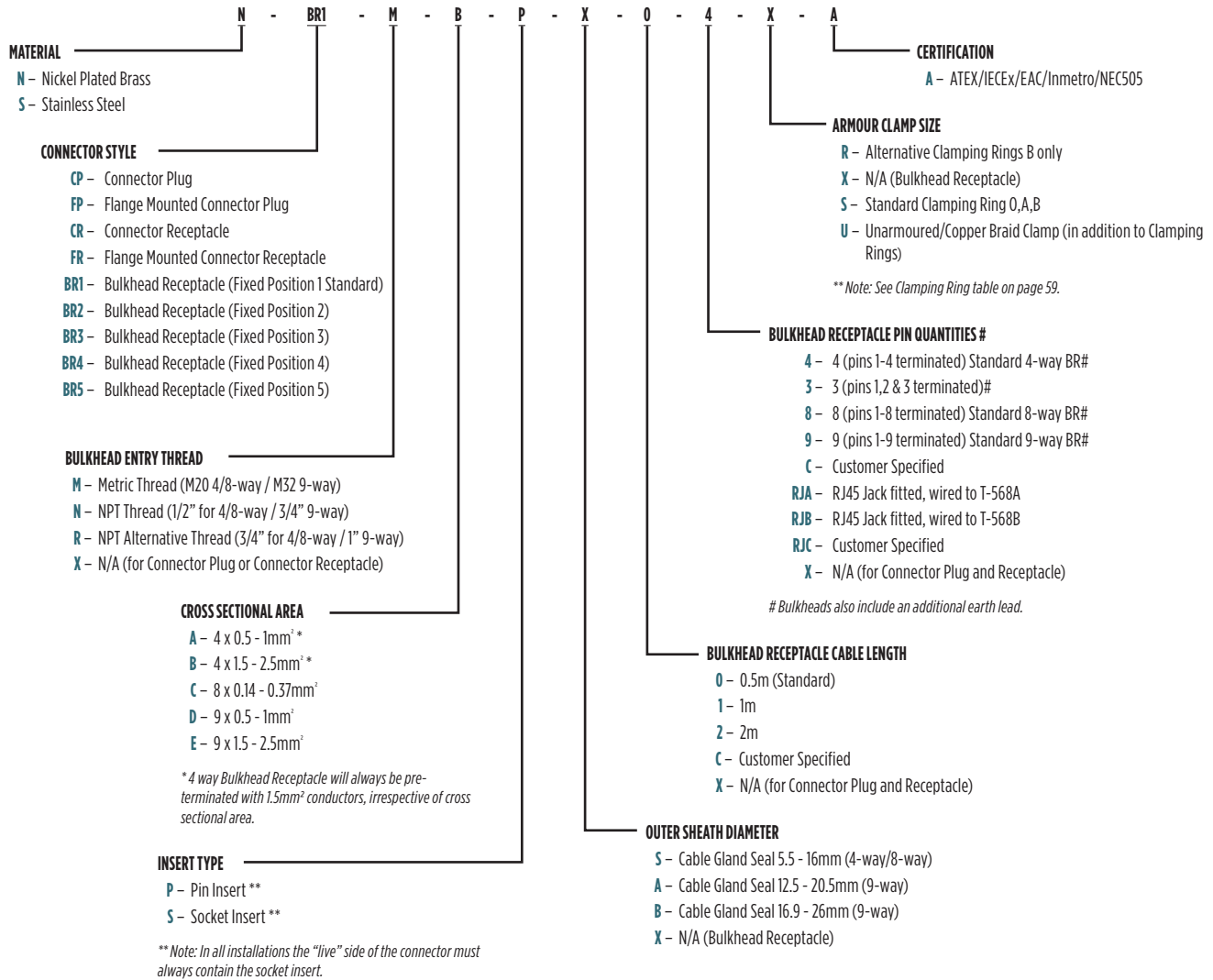
Two crimping locations on the 4 & 9 way contacts allow for only two contact sizes to cover a far greater range than conventional contacts. This allows termination of cores ranging between 0.5 and 2.5mm².

Contacts must be crimped using the Hawke supplied crimping tool part No. HCT1.



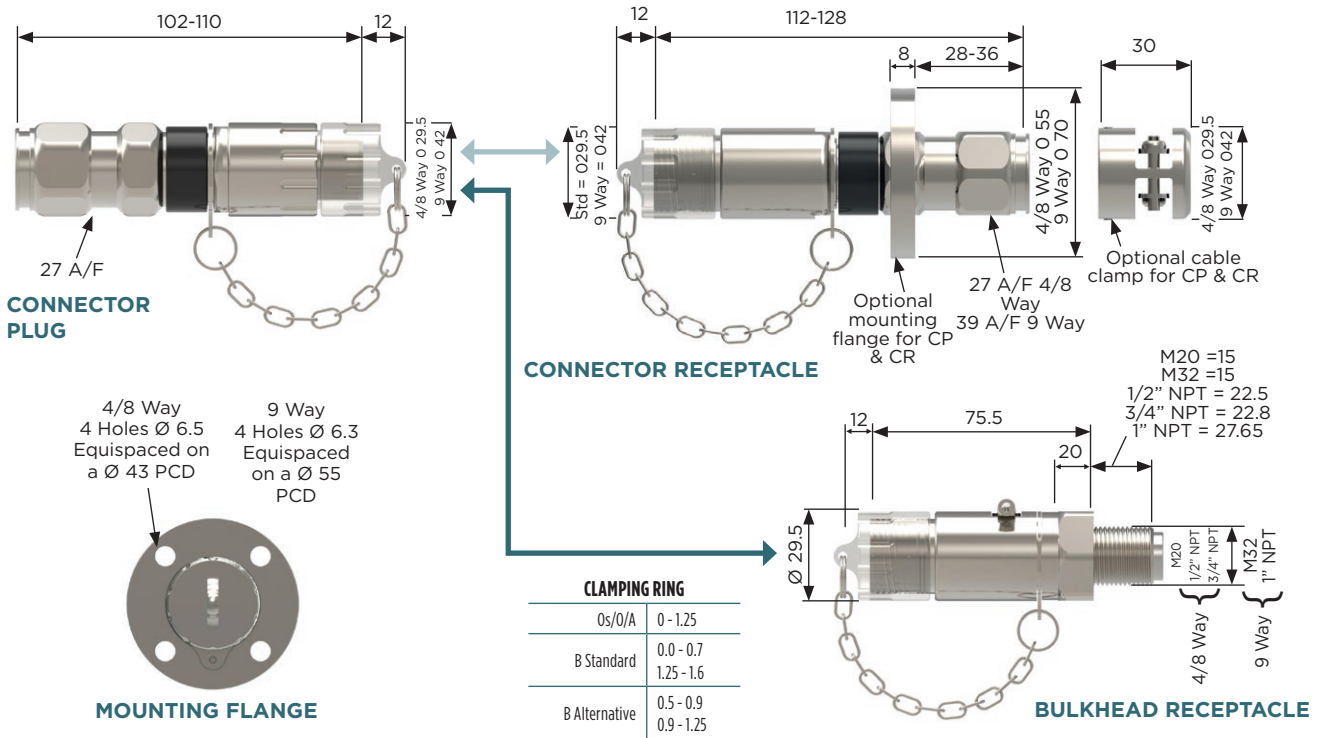
Catalog Logic

When ordering, select relevant code from each block as shown in the example below: **Instrum / N-BR1-M-B-P-X-O-4-X-A**





Dimensions



All dimensions in mm unless otherwise stated.

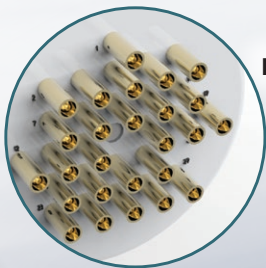
TECHNICAL DATA - 4 WAY / 9 WAY	
EXPLOSION PROTECTION	⊕ IIC GD Exdbe IIC Gb Extb IIIC Db T85°C
AMBIENT TEMPERATURE	-40°C to +60°C
CERTIFICATION	Baseefa 06 ATEX 0061X
	IECEx BAS06.0018X
RATINGS 4 / 9 WAY	Voltage AC 250V RMS
	Current AC EN 60947-4-3 10A (AC21)
	Current AC EN 60947-4-1 10A (AC1)
	Current AC EN 60947-4-1 1A (AC3)
	Frequency 50/60 Hz
	Power Factor 0.9
	Voltage DC 60V
	Current DC EN 60947-4-3 2.5A (DC21)
	Current DC EN 60947-4-1 2.5A (DC1)
	Current DC EN 60947-4-1 0.5A (DC3)
FUSE RATING 4 / 9 WAY	10 amp without thermal protection
	20A gL with thermal protection
MAX NO. OF MAKE & BREAK OPERATIONS (EN61984)	On load 150
	Off load 500
IP RATING	IP66, IP67 and DTS01 deluge protected. <i>Note: Caps to be fitted to maintain IP ratings when the connector halves are separated.</i>
STORAGE TEMPERATURE	-50°C to +70°C

TECHNICAL DATA - 8 WAY	
EXPLOSION PROTECTION	⊕ IIC GD Exdbe IIC Gb Extb IIIC Db T85°C
AMBIENT TEMPERATURE	-40°C to +60°C
CERTIFICATION	Baseefa 06 ATEX 0061X
	IECEx BAS06.0018X
RATINGS 8 WAY	Voltage AC 60V RMS
	Current AC EN 60947-4-3 1A (AC21)
	Current AC EN 60947-4-1 1A (AC1)
	Current AC EN 60947-4-1 0.1A (AC3)
	Frequency 50/60 Hz
	Power Factor 0.9
	Voltage DC 60V
	Current DC EN 60947-4-3 0.5A (DC21)
	Current DC EN 60947-4-1 0.5A (DC1)
	Current DC EN 60947-4-1 0.1A (DC3)
FUSE RATING 8 WAY	0.5 amp without thermal protection
	1A gL with thermal protection
MAX NO. OF MAKE & BREAK OPERATIONS (EN61984)	On load 150
	Off load 500
IP RATING	IP66, IP67 and DTS01 deluge protected. <i>Note: Caps to be fitted to maintain IP ratings when the connector halves are separated.</i>
STORAGE TEMPERATURE	-50°C to +70°C

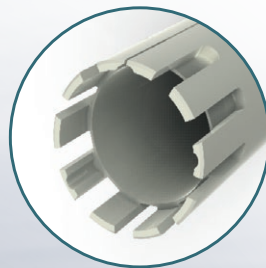


Features

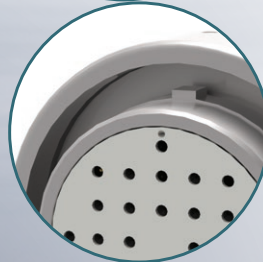
**Easy
Fieldwireable**



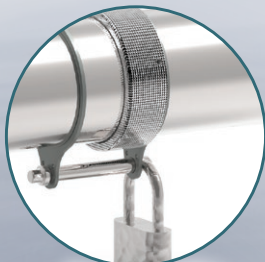
**Internal
Keyway
Spacer**



**Keying
Position**



Locking Pin



Bulkhead-BR



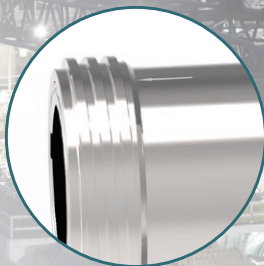
Connector Plug-CP



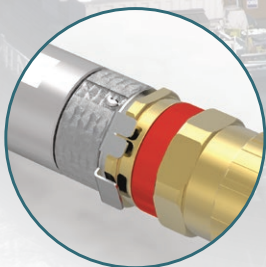
**Running
Coupler**



**Acme Thread
at Mating
Interface**



**Anti-
Rotation
Device**



**Fully Inspectable
Flameproof
Barrier**

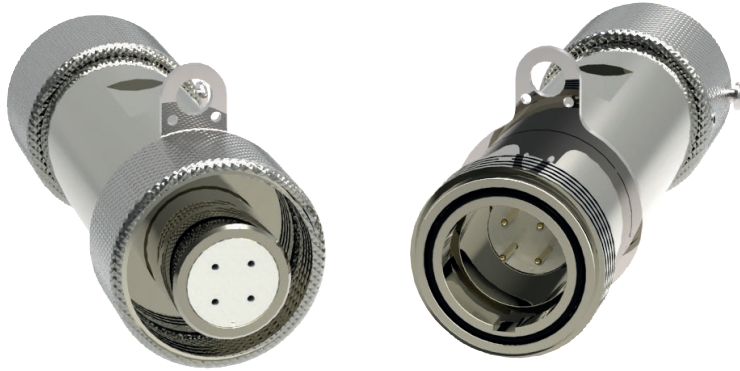


Connector Receptacle - CR





Features




Tamb: -40°C to +60°C  II2 GD Exdb
IIC Gb, Extb IIIC Db T95
IP66, 67 & DTS01 deluge protected
Certificate No's Baseefa12ATEX0014X
& IECEx BAS 12.0006X.



FEATURES-SPECIFICATIONS

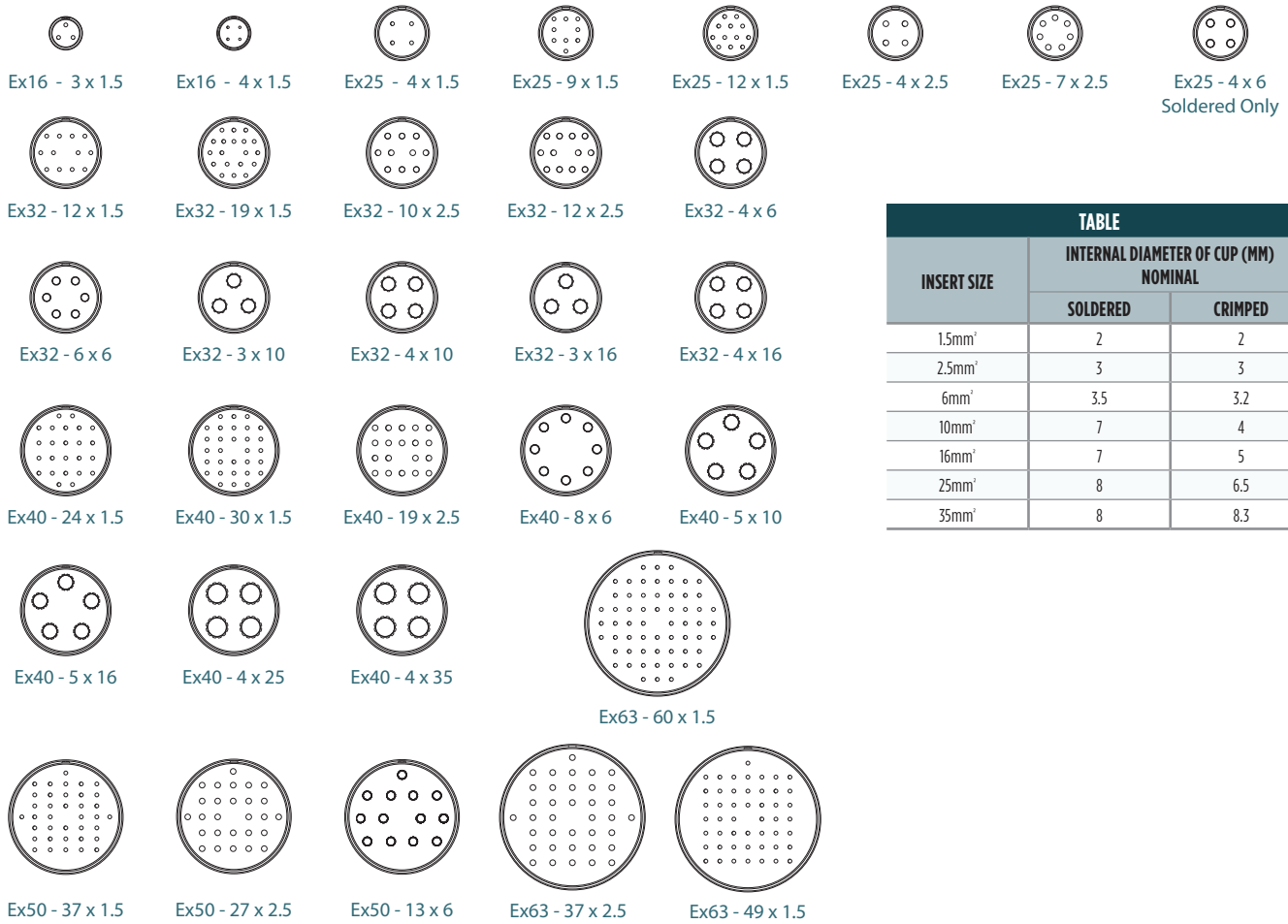
Features

The 4th generation of Control  connectors include many features and refinements as a result of consumer feedback, which makes them particularly suitable for control and low/medium power applications. The robust stainless steel body can hold up to 60 contacts and will accept conductor sizes ranging between 0.5mm² and 35mm², operating up to 125A and 750V.

- **EASY FIELDWIREABLE** - Pin and socket inserts are numbered front and back to assist wiring and avoid termination errors. Crimp and solder inserts available.
- **INTERNAL KEYWAY SPACER** - Eases accessibility for termination as tube fitted after termination complete, along with allowing easy installation into the required keyed position (See ④)
- **LOCKING PIN** - Optional locking pin provides the facility for mated connectors to be permanently locked, via the use of a padlock, ensuring they cannot be separated under load. (Padlock not supplied)
- **KEYING POSITION** - The unique visual 5 position insert keying system (3 on Ex16) along with the integral machined keyways prevent contact damage and ensures safe use by eliminating the possibility of misconnection of adjacent circuits.
- **RUNNING COUPLER** - Allows the connector to be installed onto a pre-assembled cable gland. Connector is rear loading and includes locking engaging nut.
- **ACME THREAD AT MATING INTERFACE** - Unique ACME thread offers a smooth and quick fully mating action.
- **FULLY INSPECTABLE FLAMEPROOF BARRIER** - Provides direct inspection of the flameproof seal and offers users the peace of mind that the connector is safe for installation.
- **ANTI-ROTATION DEVICE** - Connector plugs and receptacles come complete with anti-rotation ring, which when fitted between the connector and gland, helps to eliminate the possibility of the gland loosening, locking this in position.



Inserts



INSERT SIZE	INTERNAL DIAMETER OF CUP (MM) NOMINAL	
	SOLDERED	CRIMPED
1.5mm ²	2	2
2.5mm ²	3	3
6mm ²	3.5	3.2
10mm ²	7	4
16mm ²	7	5
25mm ²	8	6.5
35mm ²	8	8.3

INSERT SELECTION TABLE					
CONFIGURATION					
SHELL SIZE 16	SHELL SIZE 25	SHELL SIZE 32	SHELL SIZE 40	SHELL SIZE 50	SHELL SIZE 63
3 x 1.5mm ² + Earth	4 x 1.5mm ² + Earth	12 x 1.5mm ² + Earth	24 x 1.5mm ² + Earth	37 x 1.5mm ² + Earth	49 x 1.5mm ² + Earth
4 x 1.5mm ² + Earth	9 x 1.5mm ² + Earth	19 x 1.5mm ² + Earth	30 x 1.5mm ² + Earth	27 x 2.5mm ² + Earth	60 x 1.5mm ² + Earth
-	12 x 1.5mm ² + Earth	10 x 2.5mm ² + Earth	19 x 2.5mm ² + Earth	13 x 6mm ² + Earth	37 x 2.5mm ² + Earth
-	4 x 2.5mm ² + Earth	12 x 2.5mm ² + Earth	4 x 25mm ² + Earth	-	-
-	7 x 2.5mm ² + Earth	4 x 6mm ² + Earth	4 x 35mm ² + Earth	-	-
-	4 x 6mm ² + Earth	6 x 6mm ² + Earth	-	-	-
-	-	3 x 10mm ² + Earth	-	-	-
-	-	4 x 10mm ² + Earth	-	-	-
-	-	3 x 16mm ² + Earth	-	-	-
-	-	4 x 16mm ² + Earth	-	-	-

Note: Inserts for use in bulkhead receptacles are solder termination only for contact sizes of 6mm² and above.

Hawke Control connectors have a maximum working voltage of 660V DC (660V AC) as standard. 3rd & 4th generation Control connectors can be connected together within certification.

Other voltages available on special request.

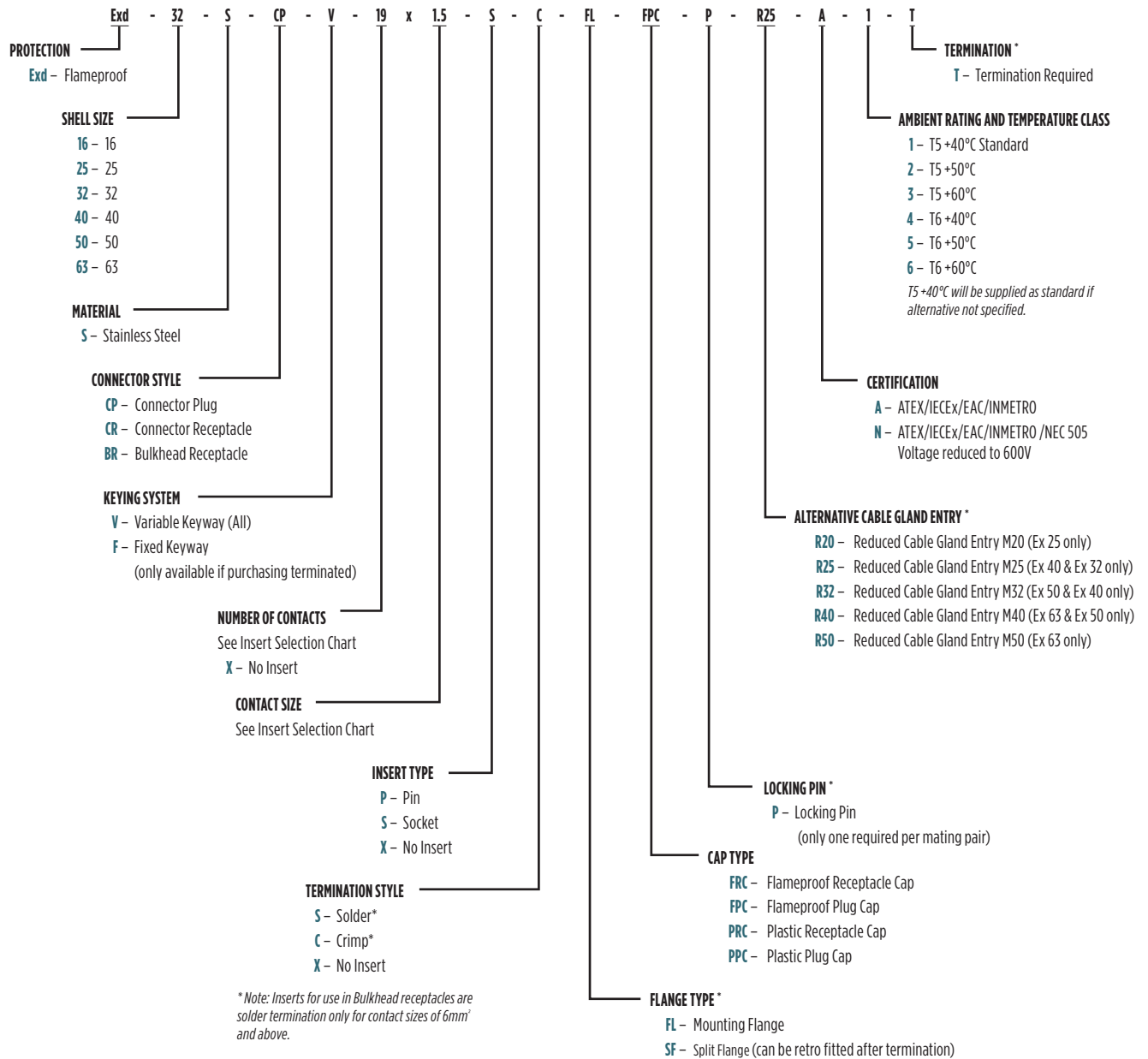


Catalog Logic

Hawke International does not recommend the use of their ControlEx Connectors in applications where rigid PVC/SWA/PVC power cabling (typically to BS 6346 standards or equivalents) is used in portable/semi-portable applications.

When ordering, select relevant code from each block as shown in the example below:

ControlEx / Exd-32-S-CP-V-19 x 1.5-S-C-FL-FPC-P-R25-A-1-T

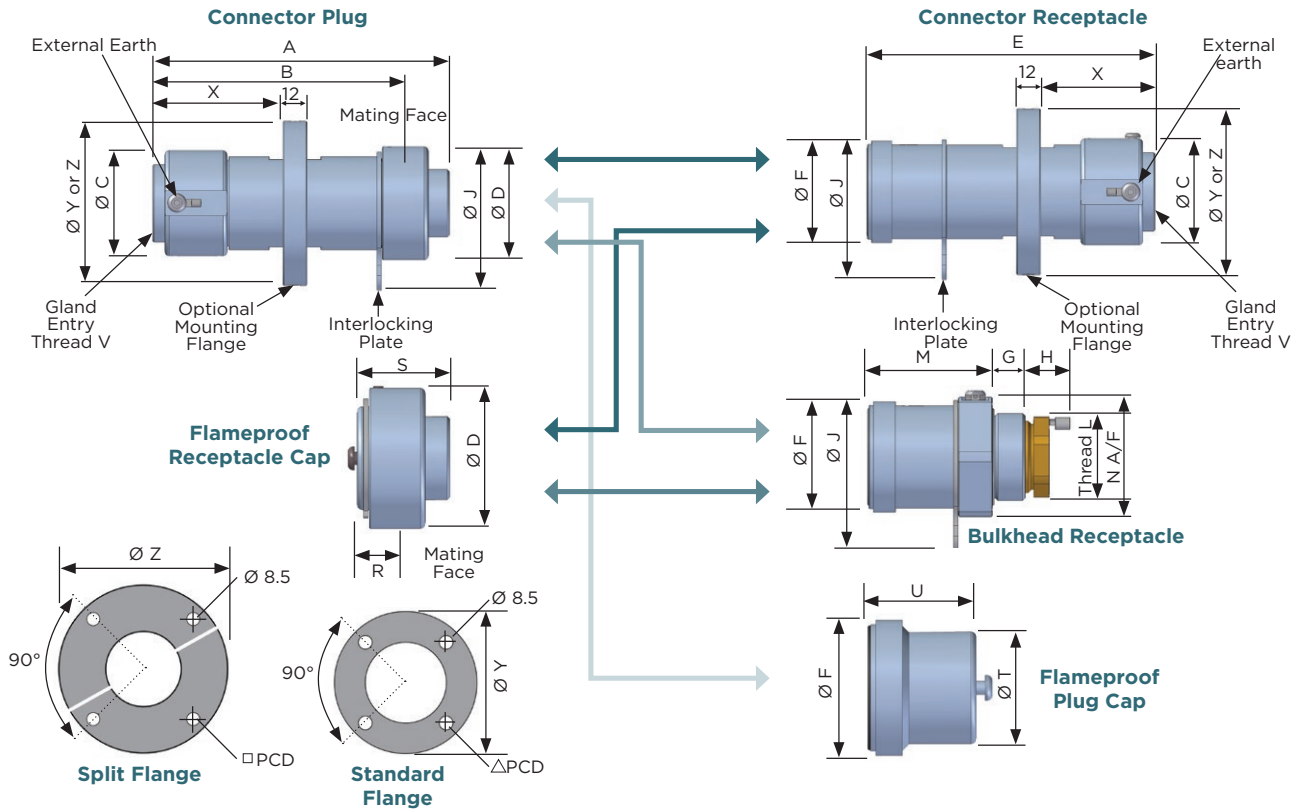


Note: CP or CR only - one per mating pair.

* If not required, omit selection character from order code.



Dimensions



The flameproof cap must be fitted to the connector before the power is restored to the disconnected circuit. The receptacle cap and plug cap are available in acetal and provide an IP rating of IP66/67. They may only be used when the socket or plug is not re-energised following disconnection.

For connector plugs and connector receptacles cable glands are required to terminate incoming cables. Hawke recommend the ICG 653/UNIV cable gland is used.

HAWKE EX SERIES DIMENSIONS (MM)						
DIMENSION	EX16	EX25	EX32	EX40	EX50	EX63
A	127	152	152	152	152	148
B	105	128	129	129	129	126
Ø C	36	46	53	60	66	83
Ø D	37	49	57	65	76	90
E	128	152	152	152	152	152
Ø F	32	45	51	59	70	83
G	15	15	15	15	15	15
H (nominal)	20	20	20	20	20	20
J (Aperture Clearance Hole)	55	65	75	85	95	115
*Thread L (1.5mm Pitch)	M25	M32	M40	M50	M63	M75
M	54	54	56	56	56	56
N A/F	36	46	55	65	80	95
R	15	15	15	16	16	17
S	38	38	38	39	39	40
Ø T	28	34	42	51	60	73
U	40	40	40	40	40	40
Thread V (1.5mm Pitch)	M20	M25	M32	M40	M50	M63
X (nominal)	54	70	70	70	70	67
Ø Y	66	76	83	91	102	117
	49	59	66	74	85	100
Ø Z	87	99	105	117	129	147
	70	82	88	100	112	130

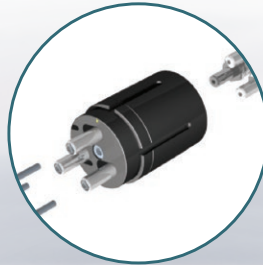
*Bulkhead entry thread L can be adapted to other sizes. This may affect the overall length of unit.



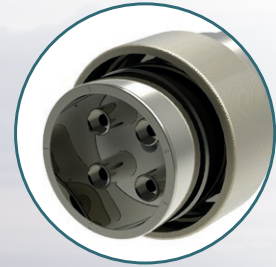
Features



**Running
Coupler**



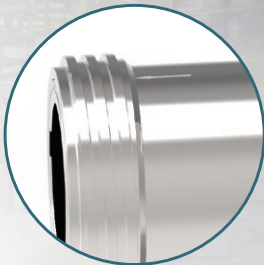
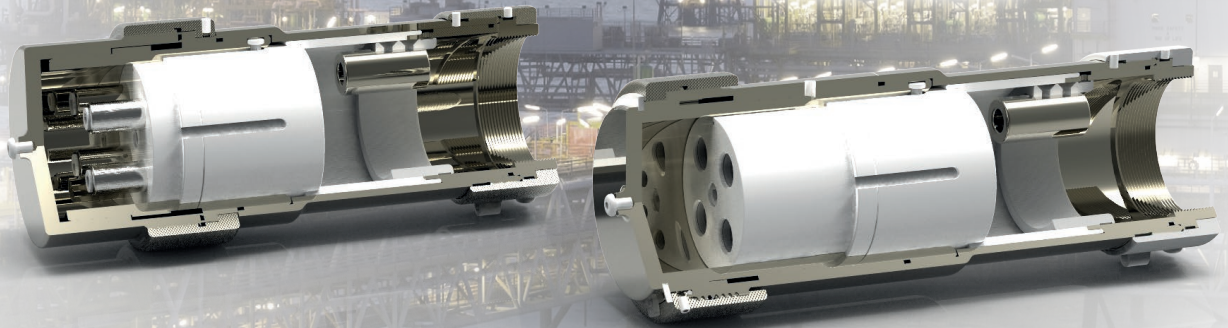
**Easy
Fieldwireable**



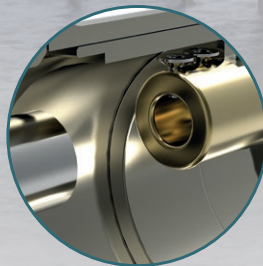
**Keying
Position**

Connector Receptacle - CR

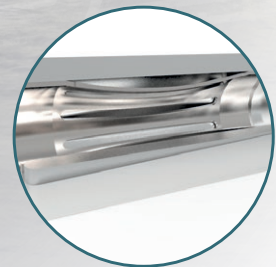
Connector Plug - CP



**Acme Thread
at Mating
Interface**



Internal Earth



**Multilam
Technology**



Features




Tamb: -40°C to +60°C  II2 GD Exdb
IIC Extb IIIC Db T85
IP66, 67 & DTS01 deluge protected
Certificate No's
Baseefa06ATEX0062X & IECEx BAS
06.0019X



FEATURES-SPECIFICATIONS

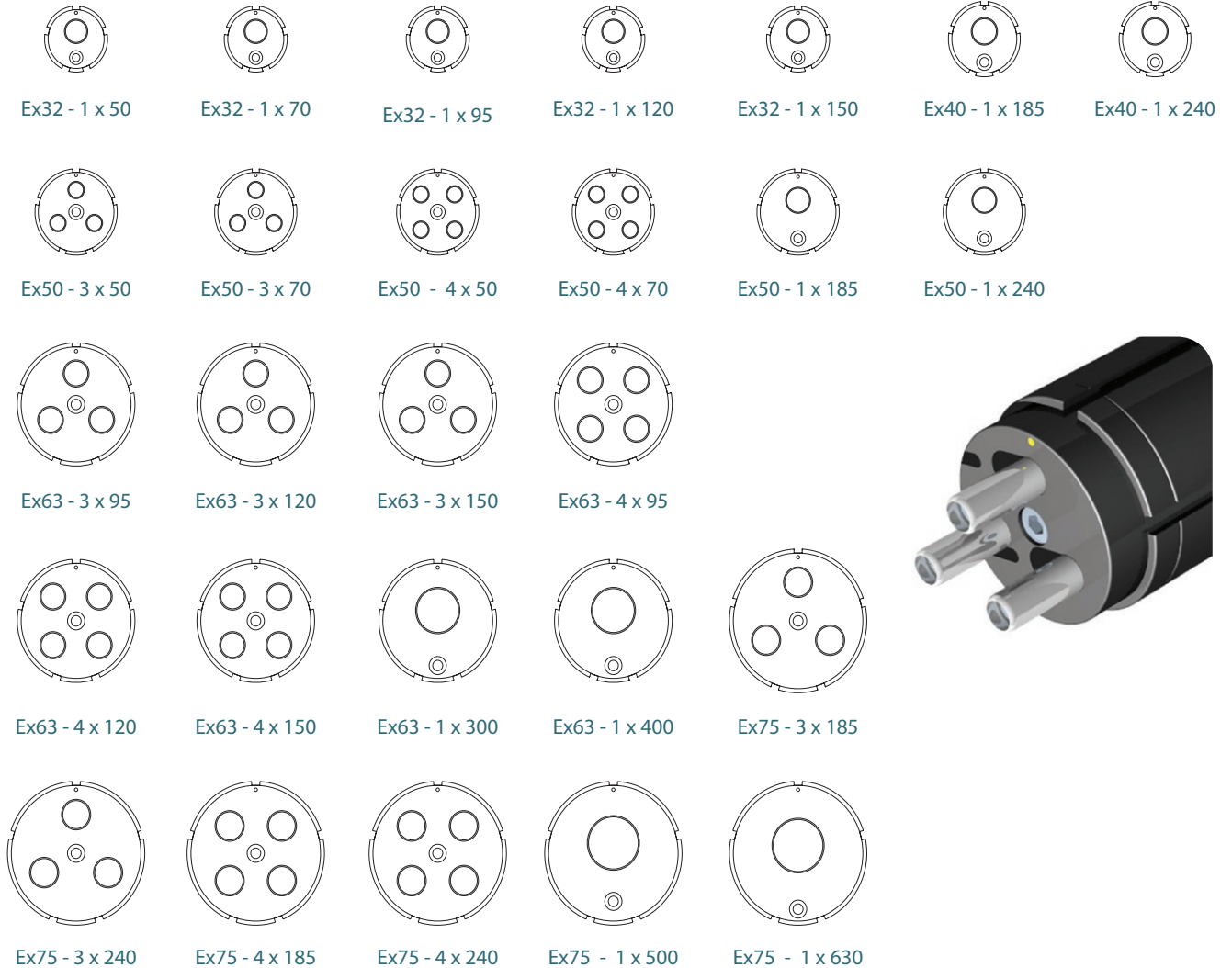
Features

The Power  range of connectors have been designed specifically for the extremely demanding requirements of higher power applications. Inserts are available with 1 to 4 contacts with a conductor acceptance range of between 50mm² and 630mm² operating up to 780A and 750V as standard. Other voltages available on special request.

- **RUNNING COUPLER** - Allows the connector to be installed onto a pre-assembled cable gland.
- **EASY FIELDWIREABLE** - Insert assembled outside connector shell to assist wiring and allow greater flexibility.
- **KEYING POSITION** - The unique visual 5 position insert keying system along with the integral machined keyway prevents contact damage and ensures safe use by eliminating the possibility of misconnection of adjacent circuits.
- **ACME THREAD AT MATING INTERFACE**
 - Unique ACME thread offers a smooth and quick fully mating action.
- **INTERNAL EARTH** - Internal earth fitted as standard. Size to suit cables earthing facility.
- **MULTILAM TECHNOLOGY** - Tried and tested multiple high contact force, low resistance multilams used in all contacts.




Inserts



HAWKE EX SERIES DIMENSIONS (MM)

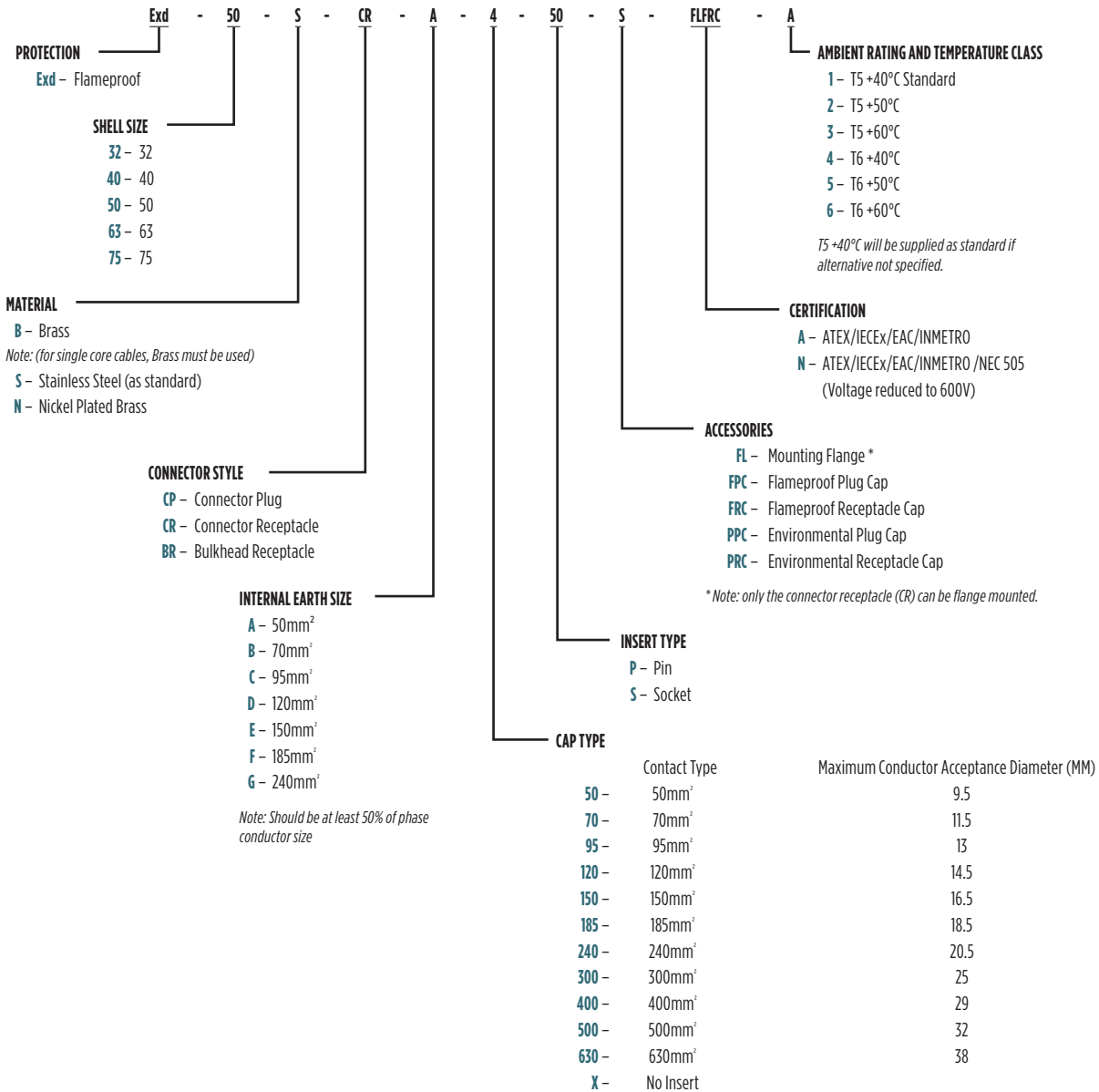
CONFIGURATION				
SHELL SIZE 32	SHELL SIZE 40	SHELL SIZE 50	SHELL SIZE 63	SHELL SIZE 75
1 x 50mm ² + Earth	1 x 185mm ² + Earth	3 x 50mm ² + Earth	3 x 95mm ² + Earth	3 x 185mm ² + Earth
1 x 70mm ² + Earth	1 x 240mm ² + Earth	3 x 70mm ² + Earth	3 x 120mm ² + Earth	3 x 240mm ² + Earth
1 x 95mm ² + Earth	-	4 x 50mm ² + Earth	3 x 150mm ² + Earth	4 x 185mm ² + Earth
1 x 120mm ² + Earth	-	4 x 70mm ² + Earth	4 x 95mm ² + Earth	4 x 240mm ² + Earth
1 x 150mm ² + Earth	-	1 x 185mm ² + Earth	4 x 120mm ² + Earth	1 x 500mm ² + Earth
-	-	1 x 240mm ² + Earth	4 x 150mm ² + Earth	1 x 630mm ² + Earth
-	-	-	1 x 300mm ² + Earth	-
-	-	-	1 x 400mm ² + Earth	-

All Hawke Power  connectors have a maximum working voltage of (750V AC).
Other voltages and contact configurations also available. contact Hawke International for details.



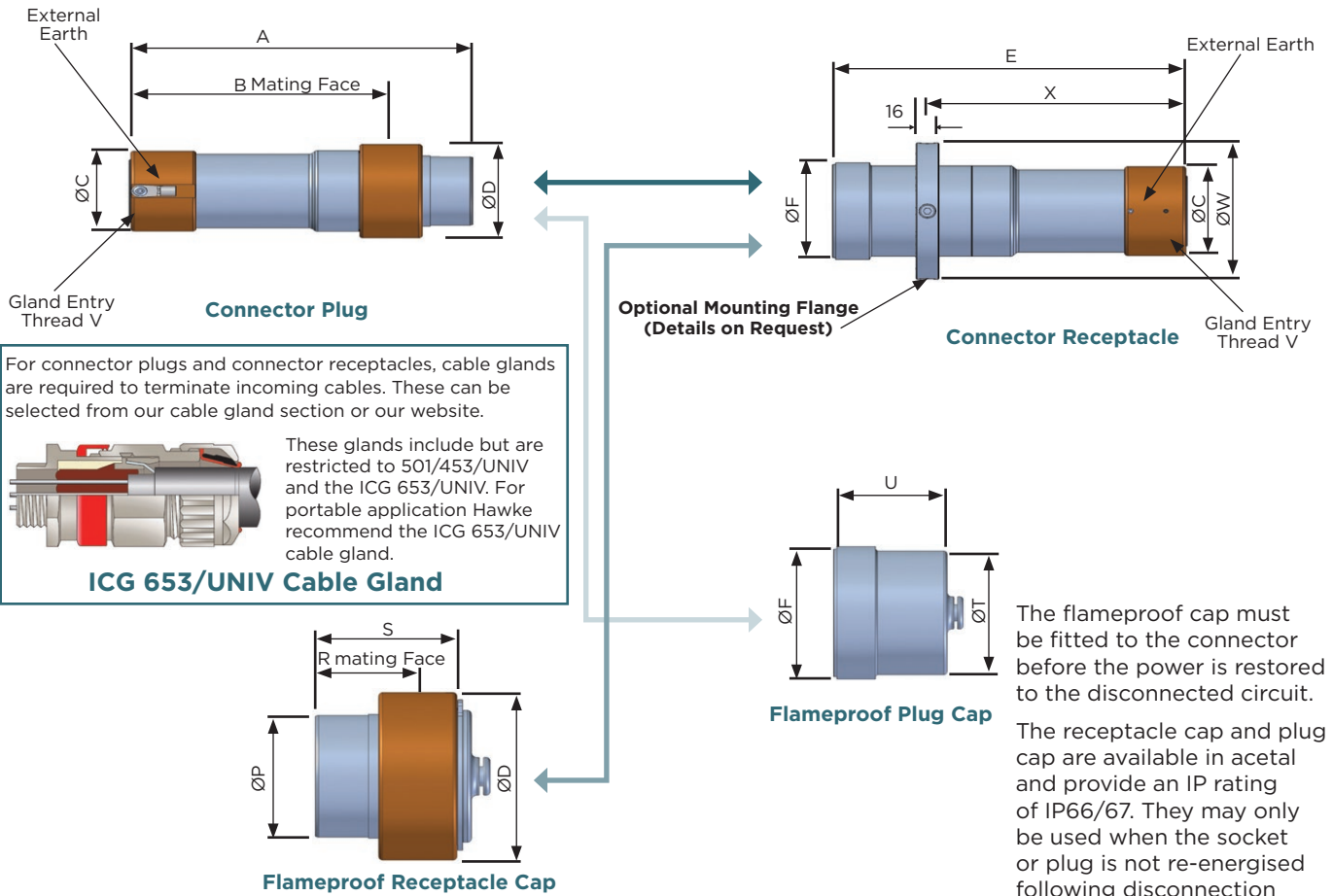
Catalog Logic

When ordering, select relevant code from each block as shown in the example below:
Power / Exd-50-S-CR-A-4-50-S-FLFRC-A

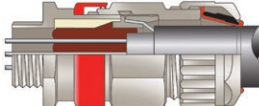




Dimensions



For connector plugs and connector receptacles, cable glands are required to terminate incoming cables. These can be selected from our cable gland section or our website.

 These glands include but are restricted to 501/453/UNIV and the ICG 653/UNIV. For portable application Hawke recommend the ICG 653/UNIV cable gland.

ICG 653/UNIV Cable Gland

The flameproof cap must be fitted to the connector before the power is restored to the disconnected circuit.

The receptacle cap and plug cap are available in acetal and provide an IP rating of IP66/67. They may only be used when the socket or plug is not re-energised following disconnection

HAWKE EX SERIES DIMENSIONS (MM)					
DIMENSION	EX32P	EX40P	EX50P	EX63P	EX75P
A	228	228	228	228	238
B	168	168	168	168	178
ØC	60	66	76	89	101
ØD	73	79	89	102	114
E	251	251	251	251	261
ØF	67	73	82.5	95	108
ØP	48	55	65	78	90
R	60	60	60	60	60
S	75.5	75.5	75.5	75.5	76
ØT	61	68	77	90	102
U	68.5	68.5	68.5	68.5	68.5
Thread V (1.5mm Pitch)	M32*	M40*	M50*	M63*	M75*
ØW	100	106	116	129	141
X	184	184	184	184	194

*Other entry threads also available.



Calculations

To select the shell size of the connector, it is essential that you calculate the dissipated wattage of the arrangement. This ensures that the arrangement does not exceed the maximum permitted temperature classification with regard to the upper ambient temperature for the area of installation. (Please refer to Table 1 for the maximum allowable dissipated wattage per connector size).

TABLE 1						
CONNECTOR SIZE	UPPER AMBIENT TEMPERATURE OF +40°C		UPPER AMBIENT TEMPERATURE OF +50°C		UPPER AMBIENT TEMPERATURE OF +60°C	
	TEMPERATURE CLASS		TEMPERATURE CLASS		TEMPERATURE CLASS	
	T6	T5	T6	T5	T6	T5
Ex16	5W	7W	4W	6W	2.6W	4.6W
Ex25	8W	11W	6W	10W	4W	7W
Ex32	10.5W	14.5W	8W	12W	5.4W	9W
Ex40	12W	17W	9W	14W	5.5W	10.5W
Ex50	13W	20W	10W	17W	6.5W	12.5W
Ex63	17W	29W	13W	24W	8.5W	17W
Ex32P	20.5W	27.5W	15.75W	26W	7.5W	15.75W
Ex40P	22.5W	30.5W	17.5W	28W	8.7W	17.5W
Ex50P	25.8W	35.3W	20W	32.25W	10W	20W
Ex63P	30.2W	41.5W	23.5W	37.7W	11.7W	23.5W
Ex75P	36.3W	49.5W	28.25W	45.25W	14W	28.25W
Maximum allowable dissipated wattage						

Other ambient temperature options can be extrapolated from Table 1 above, or contact Hawke International for more information.

TABLE 2			
CONTACT SIZE	COMBINED CABLE & CONTACT RESISTANCE $\mu\Omega$ (OHMS)		CONTACT CURRENT RATING
50mm ²	514		190amps
70mm ²	387		240amps
95mm ²	283		290amps
120mm ²	239		340amps
150mm ²	202		385amps
185mm ²	170		440amps
240mm ²	144		520amps
300mm ²	82		590amps
400mm ²	67		670amps
500mm ²	54		720amps
630mm ²	45		780amps
	SOLDERED	CRIMPED	
1.5mm ²	0.0166 Ω	0.0173 Ω	10 amps
2.5mm ²	0.0102 Ω	0.0109 Ω	17 amps
6mm ²	0.0047 Ω	0.0054 Ω	30 amps
10mm ²	0.0027 Ω	0.0033 Ω	78 amps
16mm ²	0.0018 Ω	0.0024 Ω	78 amps
25mm ²	0.0012 Ω	0.0018 Ω	125 amps
35mm ²	0.0009 Ω	0.0015 Ω	125 amps

DISSIPATED WATTAGE CALCULATION

Equation Definitions

W = Dissipated wattage factor of the connector

N = The number of conductors to be terminated/number of contacts required.
(Note: A contact comprises of a pin and socket).

I = The current requirement per contact.

(Note: This must be equal to or less than the maximum current rating of the contact, as shown in table 2).

R = The combined cable and contact resistance (see table 2)

Values pertinent to these definitions must then be input into the following equation to calculate the dissipated wattage (w) of your chosen arrangement:

$$W = N \times I^2 \times R$$

(Note: The results must be lower than the maximum figure shown in table 1 for the appropriate temperature class and ambient temperature).

e.g. T6 40°C ambient application with 4 x 95mm² conductors, running at 160 amps.

N = 4 CONTACTS I = 160 AMPS R = 0.000283 Ω (95MM² SOLDERED COMBINED CABLE AND CONTACT RESISTANCE)

THEREFORE W = 4 X 25600 X 0.000283 Ω = 28.9 WATTS.

Therefore, an Ex63P Connector should be specified for this application as the shell size can accommodate the required 4 x 95mm² pin/socket inserts (SEE PAGE 68 - Insert Selection Table) and the resultant dissipated wattage (28.9 watts) is below the maximum permitted 30.2 watts (See Table 1).

This equation can also be transposed to facilitate the calculation of the maximum number of conductors permitted in your selected connector j and the maximum allowable current within the upper ambient temperature of our location ②.

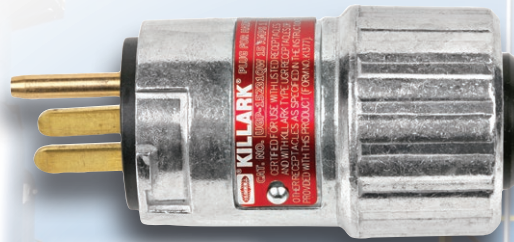
$$\textcircled{1} \quad N = \frac{W}{R \times I^2} \qquad \textcircled{2} \quad I = \sqrt{\frac{W}{N \times R}}$$

(Note: The result of equation ② must not exceed the maximum current rating of contacts (see Table 2).

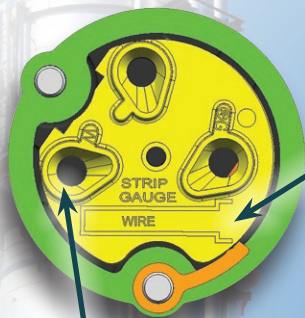
Note: Unless otherwise requested, connectors will be marked as T5 with an upper ambient temperature of +40°C.



Acceptor Quick Wire Plug

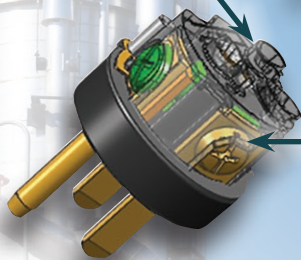


UGPQW PLUG



Built-in wire strip gauge

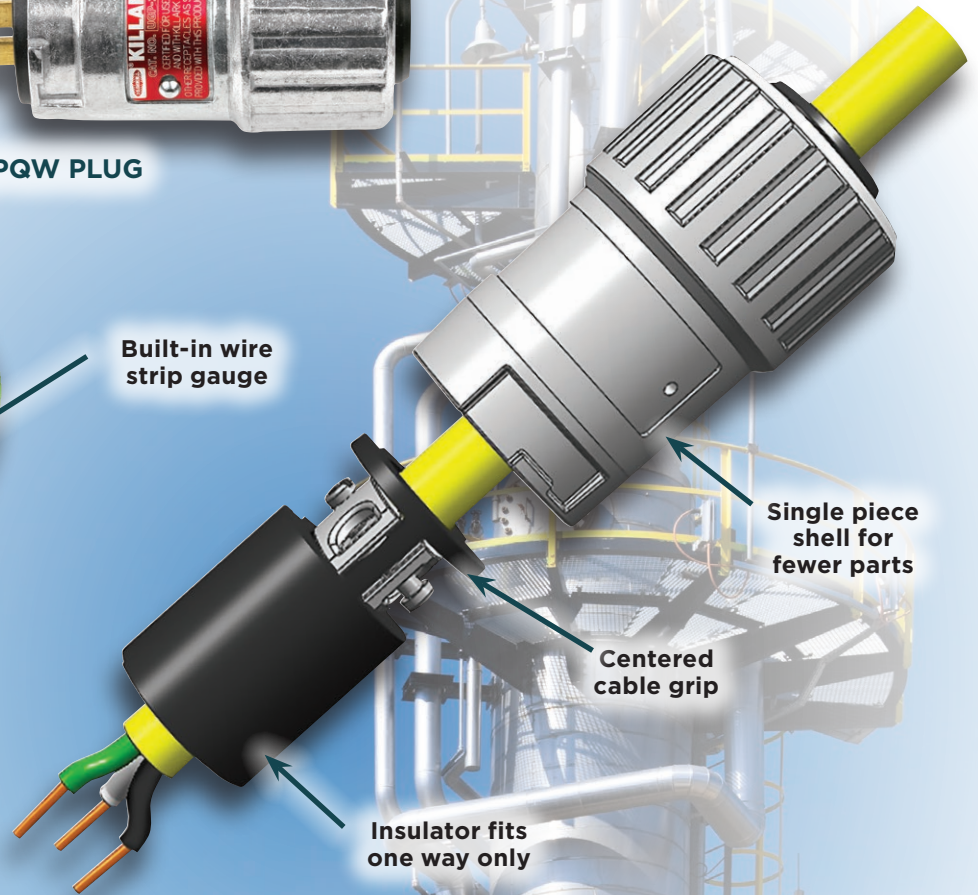
Wire guides enables easy conductor installation



Side tightening terminals use full sized #2 screwdriver (either Flat or Phillips)



Old style insulator requires miniature screwdriver



Single piece shell for fewer parts

Centered cable grip

Insulator fits one way only





CONNECTIVITY
ACCEPTOR® SERIES

UGP Bladed Receptacles

ACCEPTOR®



UGPQW Plug



Quick Wiring Terminals

Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F, G
Class III
Type 3*

LISTED File No. E91049 and/or E53660

Certified File No. LR14667

**Type 3 rating is achieved with non-Group B configurations when a suitable drain is installed.*



FEATURES-SPECIFICATIONS

Features

- The Acceptor Series uses a delayed action, twist-to-lock feature to prevent an engaged plug from being removed under load.
- Intermateable with similar competitive products, including classified for use with Crouse-Hinds® Ark-Gard®2 and Appleton® U-Line® devices.
- Factory sealed chamber in UGR receptacle contains switch's arcing components
- No additional external seals are required, except in Group B applications
- Spring loaded receptacle cover closes when plug is removed to provide protection when not in use

Materials

- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy/polyester finish
- All external hardware is 316 stainless steel to provide low maintenance and long life

Electrical Ratings

- Amperage = 15A or 20A
- Voltage = 125VAC or 250VAC
- Horsepower = 1 HP @ 125VAC / 2 HP @ 250VAC
- Frequency = 50/60 Hz
- Wire Size = Suitable for #14 - #10 AWG SOOW or similar cable

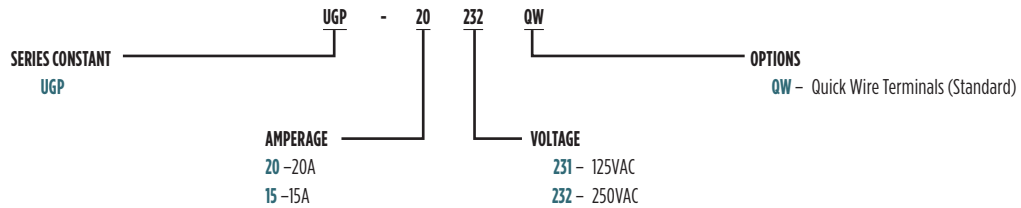
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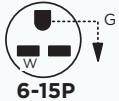
U-Line® is a registered trademark of Appleton Electric Company®.

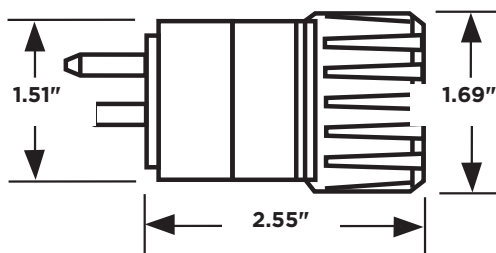


UGP Bladed Receptacles Catalog Logic

UGP PLUGS



VOLTAGE	NEMA CONFIGURATION	CATALOG NUMBER	
		15 AMP PLUG W/QUICK WIRING	20 AMP PLUG W/QUICK WIRING
125VAC	 5-15P	UGP-15231QW	UGP-20231QW
250VAC	 6-15P	UGP-15232QW	UGP-20232QW

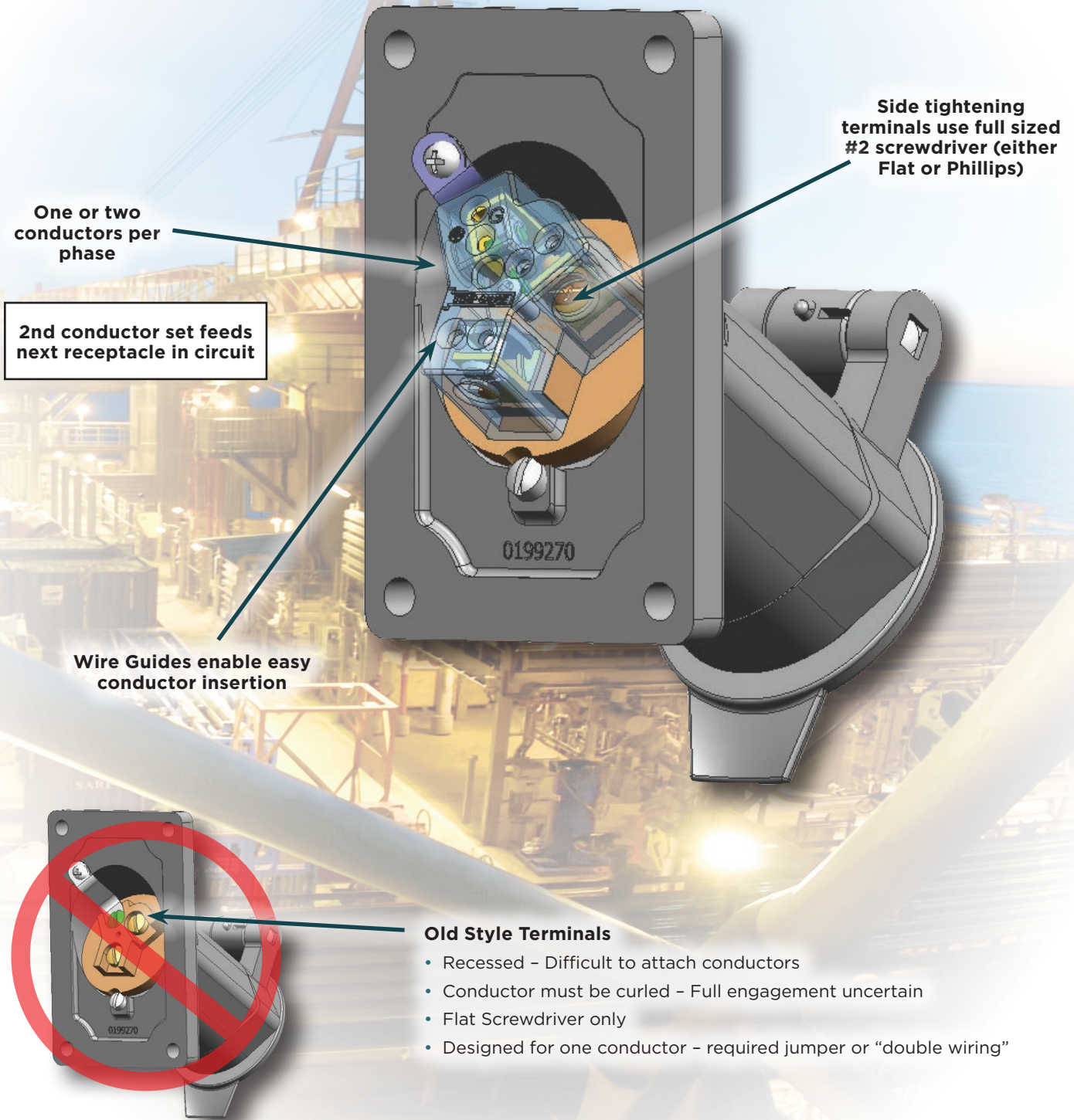


Plug Dimensions



CONNECTIVITY
ACCEPTOR® SERIES

Acceptor Quick Wire Receptacle



One or two
conductors per
phase

2nd conductor set feeds
next receptacle in circuit

Side tightening
terminals use full sized
#2 screwdriver (either
Flat or Phillips)

Wire Guides enable easy
conductor insertion

Old Style Terminals

- Recessed - Difficult to attach conductors
- Conductor must be curled - Full engagement uncertain
- Flat Screwdriver only
- Designed for one conductor - required jumper or "double wiring"




UGR Bladed Receptacles

ACCEPTOR®



UGR Receptacle

Class I, Div. 1 & 2, Groups B^①, C, D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F, G
Class III
Type 3*

 File No. E91049 and/or E53660

 Certified File No. LR14667

*Type 3 rating is achieved with non-Group B configurations when a suitable drain is installed.

FEATURES-SPECIFICATIONS

Features

- The Acceptor Series uses a delayed action, twist-to-lock feature to prevent an engaged plug from being removed under load.
- Intermateable with similar competitive products, including classified for use with Crouse-Hinds® Ark-Gard®2 and Appleton® U-Line® devices.
- Factory sealed chamber in UGR receptacle contains switch's arcing components
- No additional external seals are required (Group B rated configurations to be sealed within 6").
- Spring loaded receptacle cover closes when plug is removed to provide protection when not in use
- Replacement Flip Lid Kit = KIT-173
- "T-Slot" Receptacles allow for use of 15 or 20A plugs.

Materials

- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy/polyester finish
- All external hardware is 316 stainless steel to provide low maintenance and long life
- Cover Bolts = Stainless Steel

Electrical Ratings

- Amperage = 15A or 20A
- Voltage = 125VAC or 250VAC
- Horsepower = 1 HP @ 125VAC / 2 HP @ 250VAC
- Frequency = 50/60 Hz
- Wire Size = Suitable for #14 - #10 AWG SOOW or similar cable

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U-Line® is a registered trademark of Appleton Electric Company®.

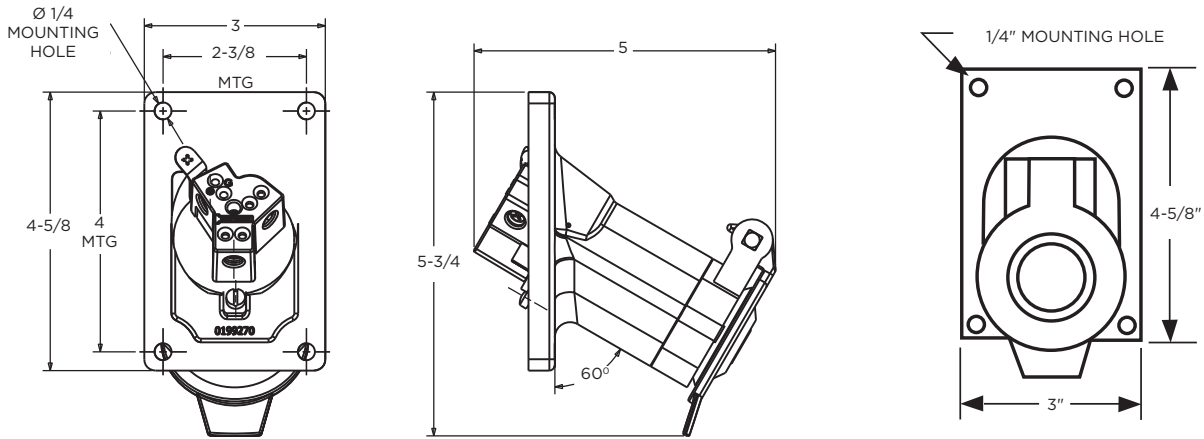
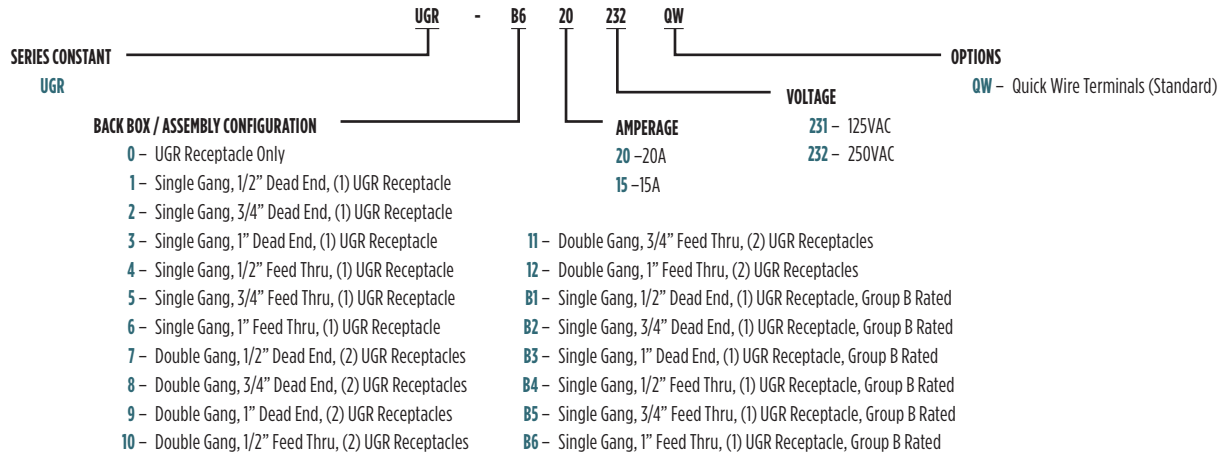
① Plugs rated Group B when used with properly rated and installed receptacles.



CONNECTIVITY ACCEPTOR® SERIES

UGR Bladed Receptacles Catalog Logic

UGR RECEPTACLES



Receptacle Dimensions



UNIVERSAL ADAPTER KIT

ACCEPTOR® receptacles are available with an adapter kit for mounting to Crouse-Hinds® EDS Series or Appleton® EFD Series back boxes.

ACCEPTOR® receptacles properly installed with these adapter kits are U.L. Listed for use in Class I, Div. 2, Groups B,C,D hazardous locations and Zone II, Groups IIB + H2, IIA.

Kit contains one ACCEPTOR® receptacle plus adapter plate and mounting bolts.

Listed File No. E91049

Certified LR14667

UGRA ADAPTER KIT	
NEMA RATING & CONFIGURATION	ADAPTER KIT CATALOG NUMBER
20 Amp 125 Volt 2 POLE 3 WIRE 5-20R	UGRA-20231
20 Amp 250 Volt 2 POLE 3 WIRE 6-20R	UGRA-20232



UGR Receptacle Configuration Table



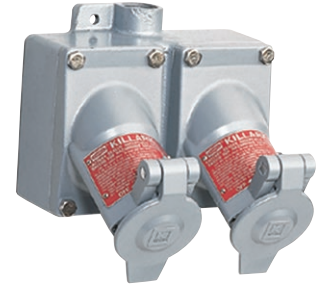
SWB-1, 2, 3



SWB-4, 5, 6







Single Gang



Double Gang

RECEPTACLES AND ASSEMBLIES^④

NEMA RATING & CONFIGURATION	ENCLOSURE STYLE	HUB SIZE	SINGLE GANG	DOUBLE GANG	SINGLE GANG GROUP B RATED	
20 Amp 125 Volt 2 POLE 3 WIRE  5-20R	RECEPTACLE ONLY	—	UGR0-20231QW	UGR0-20231QW	—	
	DEAD END	1/2"	UGR1-20231QW	UGR7-20231QW	UGRB1-20231QW	
		3/4"	UGR2-20231QW	UGR8-20231QW	UGRB2-20231QW	
		1"	UGR3-20231QW	UGR9-20231QW	UGRB3-20231QW	
	FEED-THRU	1/2"	UGR4-20231QW	UGR10-20231QW	UGRB4-20231QW	
		3/4"	UGR5-20231QW	UGR11-20231QW	UGRB5-20231QW	
		1"	UGR6-20231QW	UGR12-20231QW	UGRB6-20231QW	
	15 Amp 125 Volt 2 POLE 3 WIRE  5-15R	RECEPTACLE ONLY	—	UGR0C-15231QW	UGR0C-15231QW	—
		DEAD END	1/2"	UGR1C-15231QW	UGR7C-15231QW	UGRB1C-15231QW
3/4"			UGR2C-15231QW	UGR8C-15231QW	UGRB2C-15231QW	
1"			UGR3C-15231QW	UGR9C-15231QW	UGRB3C-15231QW	
FEED-THRU		1/2"	UGR4C-15231QW	UGR10C-15231QW	UGRB4C-15231QW	
		3/4"	UGR5C-15231QW	UGR11C-15231QW	UGRB5C-15231QW	
		1"	UGR6C-15231QW	UGR12C-15231QW	UGRB6C-15231QW	
20 Amp 250 Volt 2 POLE 3 WIRE  6-20R		RECEPTACLE ONLY	—	UGR0-20232QW	UGR0-20232QW	—
		DEAD END	1/2"	UGR1-20232QW	UGR7-20232QW	UGRB1-20232QW
	3/4"		UGR2-20232QW	UGR8-20232QW	UGRB2-20232QW	
	1"		UGR3-20232QW	UGR9-20232QW	UGRB3-20232QW	
	FEED-THRU	1/2"	UGR4-20232QW	UGR10-20232QW	UGRB4-20232QW	
		3/4"	UGR5-20232QW	UGR11-20232QW	UGRB5-20232QW	
		1"	UGR6-20232QW	UGR12-20232QW	UGRB6-20232QW	
	15 Amp 250 Volt 2 POLE 3 WIRE  6-15R	RECEPTACLE ONLY	—	UGR0C-15232QW	UGR0C-15232QW	—
		DEAD END	1/2"	UGR1C-15232QW	UGR7C-15232QW	UGRB1C-15232QW
3/4"			UGR2C-15232QW	UGR8C-15232QW	UGRB2C-15232QW	
1"			UGR3C-15232QW	UGR9C-15232QW	UGRB3C-15232QW	
FEED-THRU		1/2"	UGR4C-15232QW	UGR10C-15232QW	UGRB4C-15232QW	
		3/4"	UGR5C-15232QW	UGR11C-15232QW	UGRB5C-15232QW	
		1"	UGR6C-15232QW	UGR12C-15232QW	UGRB6C-15232QW	



CONNECTIVITY ACCEPTOR® SERIES

UGRC In-Line Connector Receptacles

ACCEPTOR®



Connector with
Breech-Lock Cap



"3rd Hand"
Operation

Class I, Div. 1 & 2, Groups B, C, D
(Canada Only)
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F, G
Class III
Type 3, 4X

 Certified File No. 2177259



Connector shown
with ACCEPTOR UGRP
receptacle mounted
in explosion proof
Quantum® enclosure



Flip Cap

FEATURES-SPECIFICATIONS

Features

- The Acceptor Series uses a delayed action, twist-to-lock feature to prevent an engaged plug from being removed under load.
- Intermateable with similar competitive products, including certified for use with Crouse-Hinds® Ark-Gard®2 and Appleton® U-Line® devices.
- Available with the exclusive **BREECH-LOCK CAP** – patented notch provides “3rd Hand” operation, so the lid stays open while engaging plug
- Factory Sealed Construction
- Dead Front Construction with integral switch – requires Hazardous Rated NEMA Bladed plug for operation
- Breech Cap models Type 4X rated with lid closed and turned, Type 3 when plug engaged. Flip Lid models Type 3 with hinge in up position.
- “T-Slot” Receptacles allow for use of 15 or 20A plugs.
- Replacement Breech Cap Lid Kit = KIT-173B
- Replacement Flip Lid Kit = KIT-173

Materials

- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy/polyester finish

Electrical Ratings

- Amperage = 15A or 20A
- Voltage = 125VAC or 250VAC
- Horsepower = 1 HP @ 125VAC / 2 HP @ 250VAC
- Frequency = 50/60 Hz
- Wire Size = Suitable for 14-10 gauge SOOW or similar cable

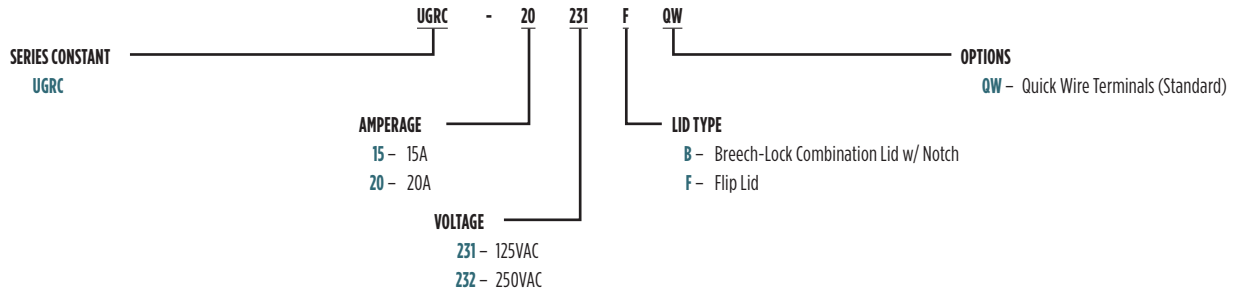
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



U-Line® is a registered trademark of Appleton Electric Company®.



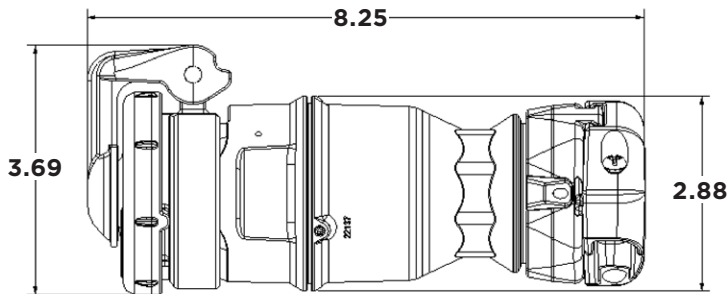
UGRC In-Line Connector Receptacles Catalog Logic

UGRC CONNECTOR RECEPTACLES

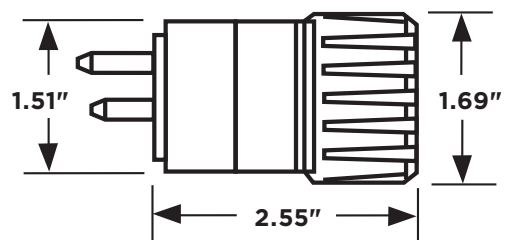


NEMA CONFIGURATION	125V CONNECTOR CAP STYLE	CATALOG NUMBER
15 AMP 125 VOLT 2 POLE 3 WIRE  5-15R	Breech-Lock with Notch Flip Type	UGRC-15231BQW UGRC-15231FQW
	Killark 125V Plugs 15 Amp	UGP-15231QW
20 AMP 125 VOLT 2 POLE 3 WIRE  5-20R with T-slots	Breech-Lock with Notch Flip Type	UGRC-20231BQW UGRC-20231FQW
	Killark 125V Plugs 20 Amp 15 Amp	UGP-20231QW UGP-15231QW
250V CONNECTOR CAP STYLE		
15 AMP 250 VOLT 2 POLE 3 WIRE  6-15R	Breech-Lock with Notch Flip Type	UGRC-15232BQW UGRC-15232FQW
	Killark 250V Plugs 15 Amp	UGP-15232QW
20 AMP 250 VOLT 2 POLE 3 WIRE  6-20R with T-slots	Breech-Lock with Notch Flip Type	UGRC-20232BQW UGRC-20232FQW
	Killark 250V Plugs 20 Amp 15 Amp	UGP-20232QW UGP-15232QW

DIMENSIONS



UGRC Connector
Breech cap model shown, Flip cap model
dimensions are similar



UGP Plug



CONNECTIVITY ACCEPTOR® SERIES

UGRP Panel Receptacles

ACCEPTOR®



Breech Cap Model



Flip Cap



Typical Installation

Class I, Div. 1 & 2, Groups B, C, D^①
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F, G
Class III
Type 3, 4X

 Certified File No. 2218704

FEATURES-SPECIFICATIONS

Features

- The Acceptor Series uses a delayed action, twist-to-lock feature to prevent an engaged plug from being removed under load.
- Intermateable with similar competitive products, including certified for use with Crouse-Hinds® Ark-Gard[®]2 and Appleton® U-Line® devices.
- Available with the exclusive **BREECH-LOCK CAP** - patented notch provides "3rd Hand" operation, so the lid stays open while engaging plug
- Factory Sealed Construction
- Dead Front Construction with integral switch - requires Hazardous Rated NEMA Bladed plug for operation
- Class I Div.1 B,C,D in enclosures certified to 325 explosive PSI (2"-11½ NPSM threads). Class I Div. 2 in standard location enclosures using only non-arcing components.
- Breech Cap models Type 4X rated with lid closed and turned, Type 3 when plug engaged. Flip Lid models Type 3 with hinge in up position.
- "T-Slot" Receptacles allow for use of 15 or 20A plugs.
- Replacement Breech Cap Lid Kit = KIT-173B
- Replacement Flip Lid Kit = KIT-173

Materials

- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy/polyester finish

Electrical Ratings

- Amperage = 15A or 20A
- Voltage = 125VAC or 250VAC
- Horsepower = 1 HP @ 125VAC / 2 HP @ 250VAC
- Frequency = 50/60 Hz
- Wire Size = Suitable for 14-10 gauge SOOW or similar cable

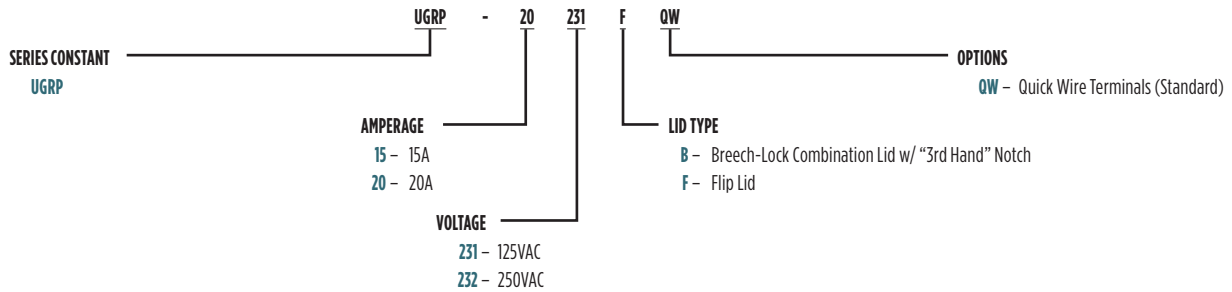
Ark-Gard® is a registered trademark of Crouse-Hinds®.

U-Line® is a registered trademark of Appleton Electric Company®.



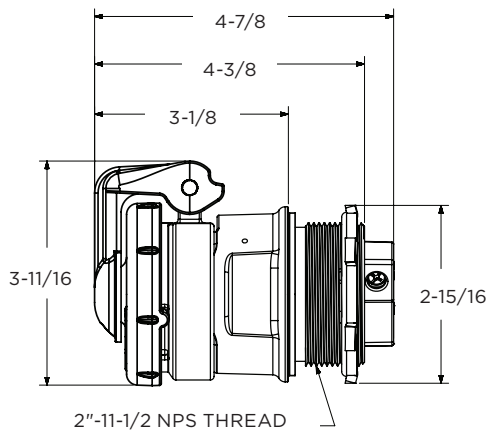
UGRP Panel Receptacles Catalog Logic

UGRP PANEL MOUNT RECEPTACLES

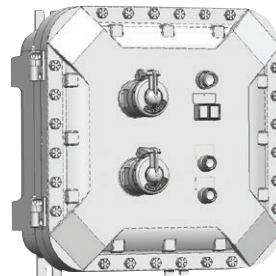


NEMA CONFIGURATION	125V PANEL RECEPTACLE CAP STYLE	CATALOG NUMBER
15 AMP 125 VOLT 5-15R 2 POLE 3 WIRE	Breach-Lock with Notch Flip Type	UGRP-15231BQW UGRP-15231FQW
	Killark 125V Plugs 15 Amp	UGP-15231QW
20 AMP 125 VOLT 5-20R with T-slots 2 POLE 3 WIRE	Breach-Lock with Notch Flip Type	UGRP-20231BQW UGRP-20231FQW
	Killark 125V Plugs 20 Amp 15 Amp	UGP-20231QW UGP-15231QW
250V PANEL RECEPTACLE CAP STYLE		
15 AMP 250 VOLT 6-15R 2 POLE 3 WIRE	Breach-Lock with Notch Flip Type	UGRP-15232BQW UGRP-15232FQW
	Killark 250V Plugs 15 Amp	UGP-15232QW
20 AMP 250 VOLT 6-20R with T-slots 2 POLE 3 WIRE	Breach-Lock with Notch Flip Type	UGRP-20232BQW UGRP-20232FQW
	Killark 250V Plugs 20 Amp 15 Amp	UGP-20232QW UGP-15232QW

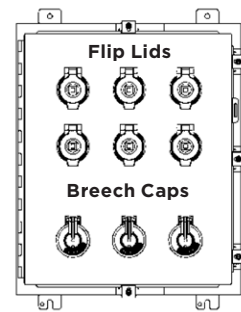
DIMENSIONS



Breach Cap model shown.
Flip Cap model dimensions are similar



Typical CLI Div. I application



Typical CLI Div. 2 application



CONNECTIVITY ACCEPTOR® SERIES

UGRS Receptacles

ACCEPTOR®



Breech Cap Model



Flip Cap

Class I, Div. 2, Groups B, C, D
Class I, Zone 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F, G
Class III
Type 3, 4X

 Certified File No. 2218704

FEATURES-SPECIFICATIONS

Features

- The Acceptor Series uses a delayed action, twist-to-lock feature to prevent an engaged plug from being removed under load.
- Intermateable with similar competitive products, including certified for use with Crouse-Hinds® Ark-Gard®2 and Appleton® U-Line® devices.
- Available with the exclusive **BREECH-LOCK CAP** – patented notch provides “3rd Hand” operation, so the lid stays open while engaging plug
- Breech Cap models Type 4X rated with lid closed and turned, Type 3 when plug engaged. Flip Lid models Type 3 with hinge in up position.
- “T-Slot” Receptacles allow for use of 15 or 20A plugs.
- Replacement Breech Cap Lid Kit = KIT-173B
- Replacement Flip Lid Kit = KIT-173
- Utilize Versamate mounting boxes, with a rotateable design to allow more installation options.
- Suitable for install on sheet metal enclosures which contain no arcing or sparking devices.

Materials

- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion.
- Electrostatically applied and baked powder epoxy / polyester finish.
- Gaskets = Rubber
- External Hardware = Stainless Steel

Electrical Ratings

- Amperage = 15A or 20A
- Voltage = 125VAC or 250VAC
- Horsepower = 1 HP @ 125VAC / 2 HP @ 250VAC
- Frequency = 50/60 Hz

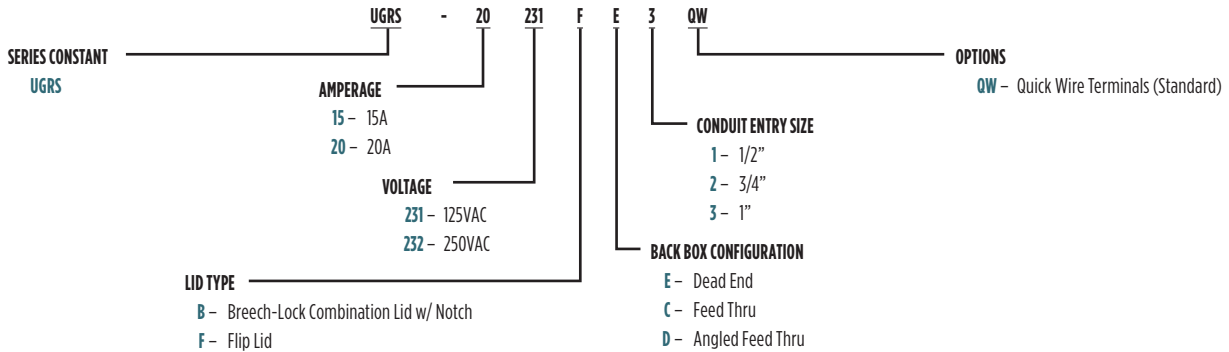
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U-Line® is a registered trademark of Appleton Electric Company®.



UGRS Receptacles Catalog Logic





UGRS SQUARE MOUNT RECEPTACLES

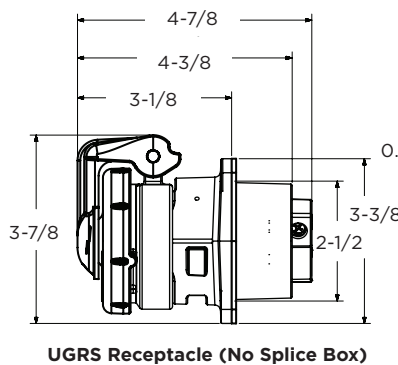
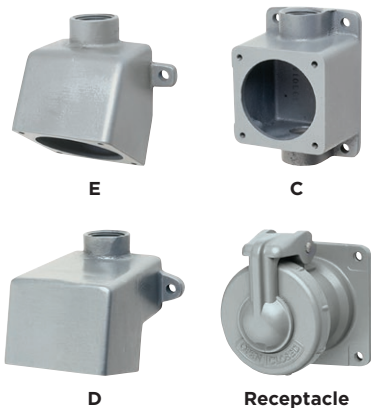


UGRS RECEPTACLE & BACKBOXES

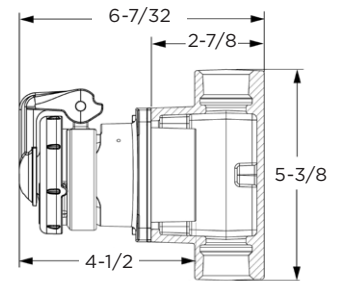
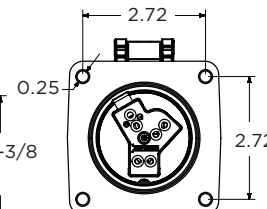
	E TYPE DEAD END	C TYPE FEED THRU	D TYPE ANGLED FEED THRU	RECEPTACLE ONLY
15A 125V	UGRS-15231BE2QW	UGRS-15231BC2QW	UGRS-15231BD2QW	UGRS-15231BQW
20A 125V	UGRS-20231BE2QW	UGRS-20231BC2QW	UGRS-20231BD2QW	UGRS-20231BQW
15A 250V	UGRS-15232BE2QW	UGRS-15232BC2QW	UGRS-15232BD2QW	UGRS-15232BQW
20A 250V	UGRS-20232BE2QW	UGRS-20232BC2QW	UGRS-20232BD2QW	UGRS-20232BQW

Boxes listed are for 3/4" NPT entries. For 1/2" NPT entries, change the bold digit to "1"; for 1" entries, change the bold digit to "3".

NEMA CONFIGURATION	125V SQUARE RECEPTACLE CAP STYLE	CATALOG NUMBER
15 AMP 125 VOLT 2 POLE 3 WIRE  5-15R	Breech-Lock with Notch Flip Type	UGRS-15231BQW UGRS-15231FQW
	Killark 125V Plugs 15 Amp	UGP-15231QW
20 AMP 125 VOLT 2 POLE 3 WIRE  5-20R with T-slots	Breech-Lock with Notch Flip Lid Type	UGRS-20231BQW UGRS-20231FQW
	Killark 125V Plugs 20 Amp 15 Amp	UGP-20231QW UGP-15231QW
250V SQUARE RECEPTACLE CAP STYLE		
15 AMP 250 VOLT 2 POLE 3 WIRE  6-15R	Breech-Lock with Notch Flip Type	UGRS-15232BQW UGRS-15232FQW
	Killark 250V Plugs 15 Amp	UGP-15232QW
20 AMP 250 VOLT 2 POLE 3 WIRE  6-20R with T-slots	Breech-Lock with Notch Flip Lid Type	UGRS-20232BQW UGRS-20232FQW
	Killark 250V Plugs 20 Amp 15 Amp	UGP-20232QW UGP-15232QW



DIMENSIONS



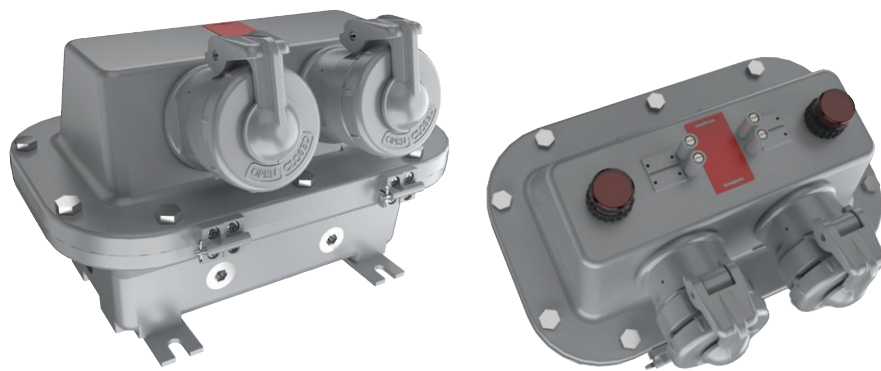
Breech Cap model shown.
Flip Cap model dimensions are similar



CONNECTIVITY UGR4X SERIES

UGR4X DUPLEX GFCI Receptacle

ACCEPTOR[®]



Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups F,G
Class III
Type 3, 4, 4X

 Certified File No. 70169491

FEATURES-SPECIFICATIONS

Features

- The Acceptor UGR4X receptacle complements the UGP/UGR Series of plugs and receptacles.
- Used with Acceptor plugs, the UGR4X offers a duplex design for multiple equipment hookup in hazardous location areas, while providing Type 4X ratings when not in use.
- GFCI option also provides circuit protection, for connected apparatus, against current overload and short circuits (20A/125VAC configuration only). Indicating lights and GFCI Resets provide full status and functionality indication.
- UGR4X Receptacles are interchangeable and certified for use with other NEMA bladed type explosion-proof and dust ignition proof plugs, including Crouse-Hinds[®] Ark-Gard[®]2 and Appleton[®] U-Line[®] equipment.
- Exclusive Breech-Lock Cap - patented notch provides "3rd Hand" operation, so the lid stays open while engaging plug.
- Factory Sealed Construction (Non-GFCI Version)
- Dead Front Construction with integral switch - requires Hazardous Rated NEMA Bladed plug for operation.

Materials

- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy / polyester finish
- Gasket = Silicone
- External Hardware = Stainless Steel

Electrical Ratings

- Amperage = 15A or 20A
- Voltage = 125VAC or 250VAC
- Frequency = 60Hz
- GFCI = 5mA Trip

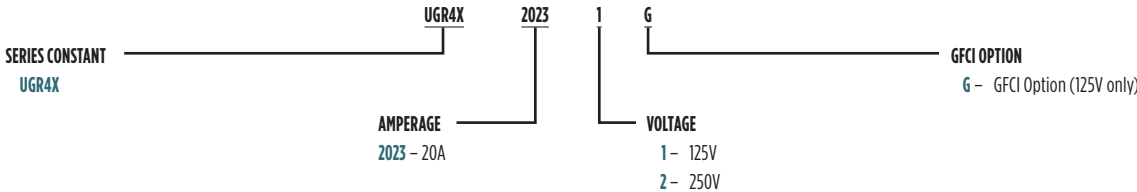
Ark-Gard[®] is a registered trademark of Crouse-Hinds[®].

U-Line[®] is a registered trademark of Appleton Electric Company[®].

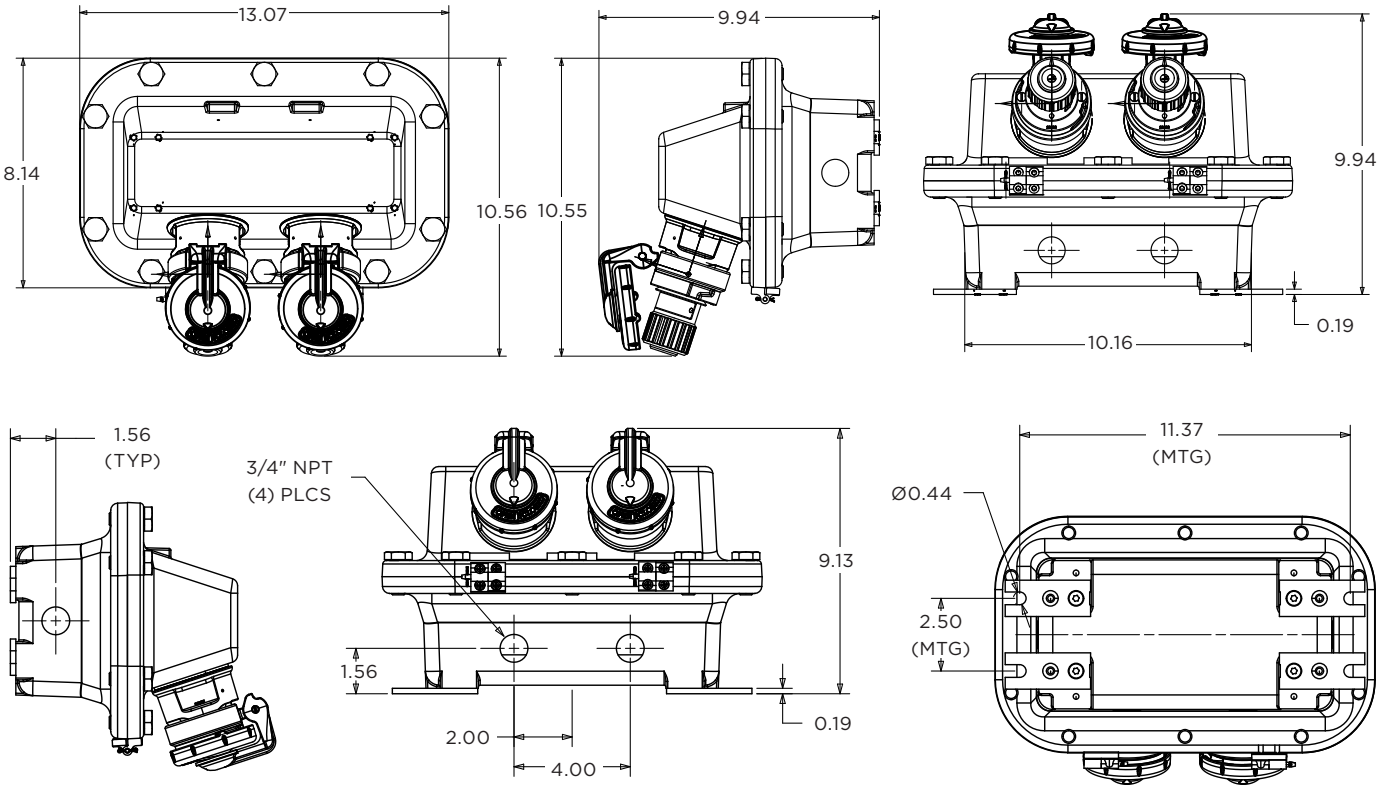


UGR4X DUPLEX GFCI Receptacle Catalog Logic

UGR4X CATALOG LOGIC



DIMENSIONS





CONNECTIVITY
ACCEPTOR® SERIES

UGFI / UGRGF Ground Fault Protector Receptacles

ACCEPTOR®



UGRGF



UGFI Adapter Unit

UGRGF

Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups F, G
Class III
Type 3

 Certified LR11714

UGFI Adapter Unit

Class I, Div. 2, Groups B, C, D
Class I, Zone 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F, G
Class III, Div. 1 & 2
Type 3

UGFI Hard-Wired Unit

Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+ H2, IIA
Class II, Div. 1 & 2, Groups F, G
Class III, Div. 1 & 2
Type 3

 File No. E91049②

 Certified File No. LR14667②

FEATURES-SPECIFICATIONS

Features

- The Acceptor Series uses a delayed action, twist-to-lock feature to prevent an engaged plug from being removed under load.
- Intermateable with similar competitive products, including certified / classified for use with Crouse-Hinds® Ark-Gard®2 and Appleton® U-Line® devices.
- Factory Sealed (Hard Wired GFCI Units in Group B areas to be sealed within 6" of enclosure)
- Type 3 Weather Ratings
- GFCI Protection for superior protection.

UGRGF Features

- Test/Reset Push Buttons provided as standard, with optional indicating Pilot Light

UGFI Features

- Adapter Unit provided with 36" cord and Acceptor Plug
- Indicating Pilot Light included as standard
- Units can be padlocked in the "OFF" position for added safety features

*Ark-Gard® is a registered trademark of Crouse-Hinds.
U-Line® is a registered trademark of Appleton Electric Company®.*

Materials

- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion.
- Electrostatically applied and baked powder epoxy / polyester finish.
- Gasket = Silicone
- External Hardware = Stainless Steel

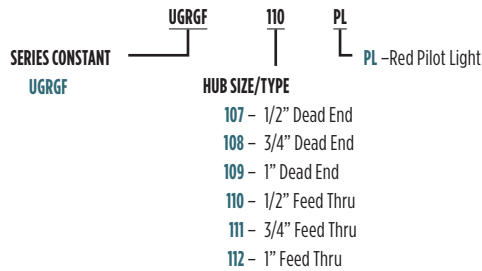
Electrical Rating

- Amperage = 15A or 20A
- Voltage = 125VAC or 250VAC
- Frequency = 50/60 Hz
- GFI Units rated 20A, 125V, 60Hz, Class A
- 5 milliamp trip setting
- UGFI 2-Pole 250V configurations are only suitable for "2-hot wire" connections, such as 120/240V or 120/208 'Wye / Y' Grounded power supply systems. "Delta" supply systems are not supported.

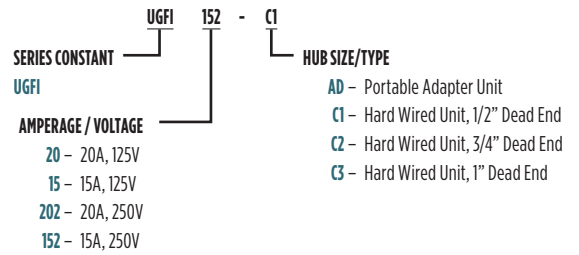


UGFI / UGRGF Ground Fault Protector Receptacles - Catalog Logic

UGRGF GFCI RECEPTACLES



UGFI GFCI RECEPTACLES

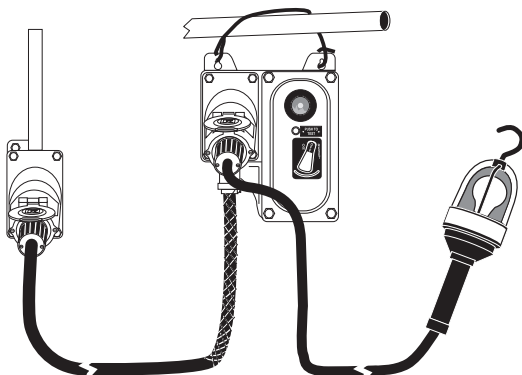


NEMA RATING & CONFIGURATION	ENCLOSURE STYLE	HUB SIZE	CATALOG NUMBER
20A, 125V, 2P, 3W	Dead End	1/2"	UGRGF107
	Dead End	3/4"	UGRGF108
	Dead End	1"	UGRGF109
	Feed Thru	1/2"	UGRGF110
	Feed Thru	3/4"	UGRGF111
	Feed Thru	1"	UGRGF112

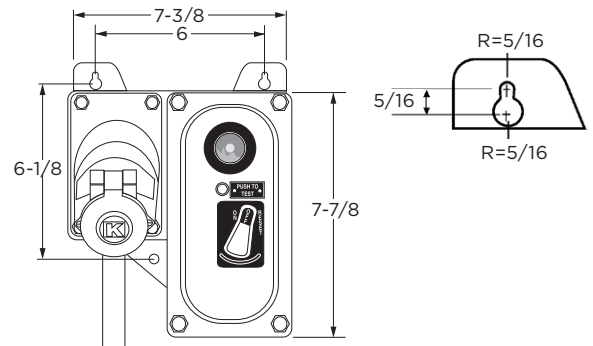
GFCI RECEPTACLE ADAPTER (W/CORD SET)		
20A 125V ②	UGFI20AD	 5-20R
15A 125V ②	UGFI15AD	 5-15R
20A 250V ②③	UGFI202AD	 6-20R
15A 250V ②③	UGFI152AD	 6-15R

HARD WIRED (PERMANENTLY MOUNTED) GFCI RECEPTACLE			
20A 125V ②	 5-20R	1/2" HUB 3/4" HUB 1" HUB	UGFI20C1 UGFI20C2 UGFI20C3
15A 125V ②	 5-15R	1/2" HUB 3/4" HUB 1" HUB	UGFI15C1 UGFI15C2 UGFI15C3
20A 250V ②③	 6-20R	1/2" HUB 3/4" HUB 1" HUB	UGFI202C1 UGFI202C2 UGFI202C3
15A 250V ②③	 6-15R	1/2" HUB 3/4" HUB 1" HUB	UGFI152C1 UGFI152C2 UGFI152C3

UGFI ADAPTER UNIT



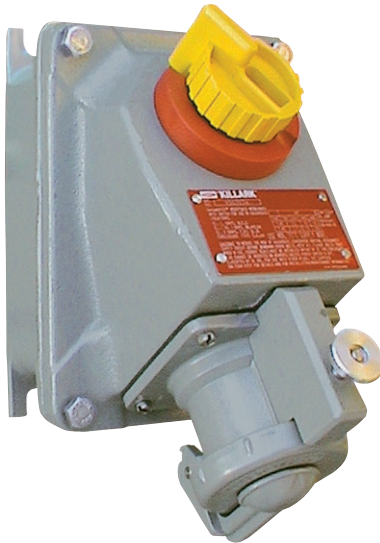
UGFI HARD-WIRED UNIT





CONNECTIVITY
VERSAMATE® SERIES

VSQ/VWSQ Switched Receptacles



Plug

VSQ Hazardous Location Ratings

Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones I & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F & G
Class III
Type 3, 4, 4X

VWSQ for Wet & Corrosive Locations

Type 3, 4, 4X

VSQ  File No. LR14667

VWSQ  File No. E216488

FEATURES-SPECIFICATIONS

Features

- Type 4X with receptacle lid turned shut or with plug locking ring tightened
- Compact size and footprint
- Plug Interlock Mechanism for Dead-front construction. Switch cannot be turned "ON" without fully inserted plug. Plug cannot be removed with switch in "ON" position
- Plug held in place when switch is "Off" for convenience. Pull operated release mechanism. Plug and wiring do not have to be twisted or held to operate switch
- Factory Wired Receptacle; easy to wire line side of switch
- Easily visible "On-Off" indicator handle
- "Off" position is padlockable for maintenance safety
- Feed-through construction
- Horsepower rated (Internal Switch Only) as "Motor Disconnect"
- VSQ/VWSQ 30 Amp models come standard with 1" drilled and tapped conduit openings top and bottom plus two 1" x 3/4" reducers and one 3/4" close-up plug for maximum flexibility.
- 60 amp models come with 1-1/2" openings top and bottom and one 1-1/2" close-up plug.
- VSQ & VWSQ Receptacle covers are NOT interchangeable.
- Ordinary twist type wire connectors are used for final connections on 30A. 60A devices have terminal blocks
- UL 1686-C1 Intermateable with similar competitive products, including classified / certified for use with Crouse-Hinds® Arkтите® and Appleton® Powertite® devices.

Materials

- Copper-free aluminum construction with electrostatically applied polyester/epoxy finish.
- Handle mechanism is chemical resistant Valox® (TM General Electric).
- External Hardware = Stainless

Arkтите® is a registered trademark of Crouse-Hinds®.

Powertite® is a registered trademark of Appleton Electric Company®.

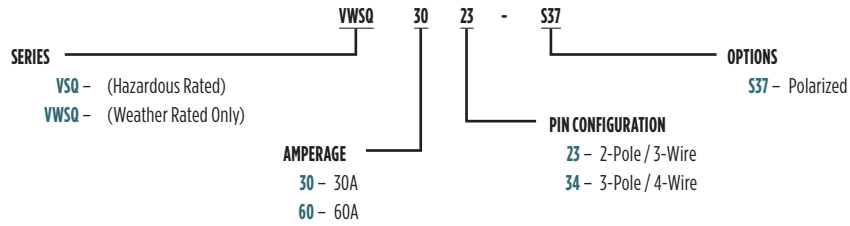
Electrical Ratings

- Amperage = 30A or 60A
- Voltage = Up to 600VAC
- Frequency = 50/60 Hz
- Wire Range
 - » 30 Amp Regular Stranding Max #10
 - » 60 Amp Regular Stranding Max #4
- Auxiliary Contact (late-make early-break) contact rated 10 Amp, 1/3 HP at 125/250 VAC. Can be used for operating pilot lights or starter coils (standard model only)

HORSEPOWER RATINGS (VAC)		120	240	480	600
30A	10	2	5	10	15
	30	3	7.5	15	20
60A	10	-	10	15	20
	30	-	10	25	30



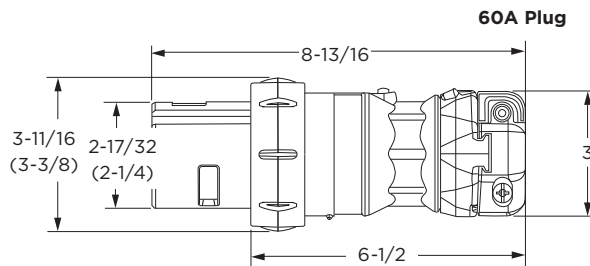
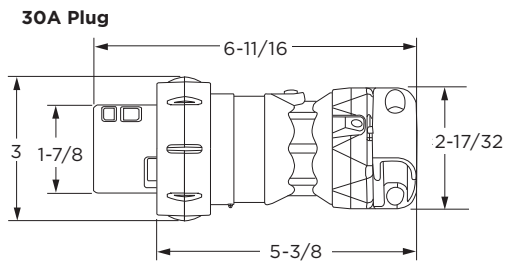
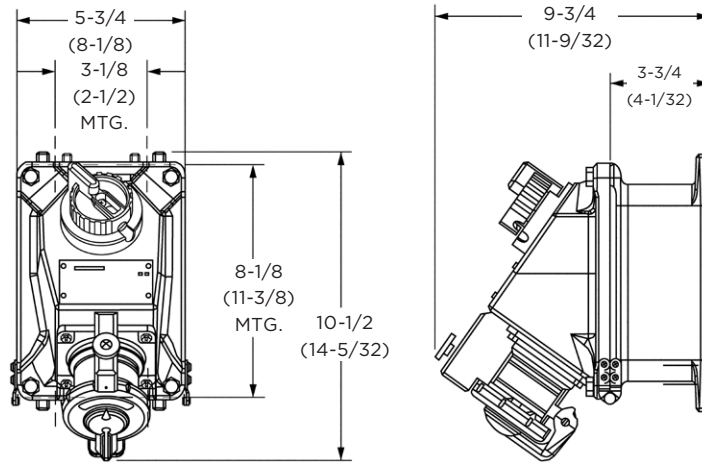
VSQ Switched Receptacles



VSQ & VWSQ RECEPTACLES

AMPS	CIRCUIT	CATALOG NUMBER		
		VSQ HAZARDOUS	VWSQ WEATHER RATED ONLY	MATING PLUG
30	2P3W	VSQ3023	VWSQ3023	VP3023
	3P4W	VSQ3034	VWSQ3034	VP3034
60	2P3W	VSQ6023	VWSQ6023	VP6023
	3P4W	VSQ6034	VWSQ6034	VP6034

DIMENSIONS

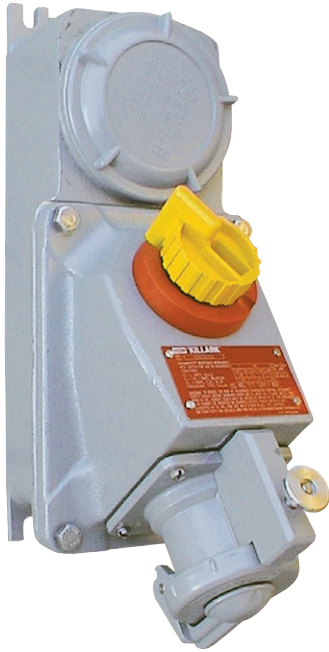


Dimensions shown are in inches for 30 AMP; 60 Amp dimensions in ().



CONNECTIVITY
VERSAMATE® SERIES

VSQ-FS Factory Sealed



Plug

Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones I & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F & G
Class III
Type 3, 4, 4X



Certified File No. LR14667

FEATURES-SPECIFICATIONS

Features - same as VSQ plus:

- Factory Sealed Construction eliminates need for conduit sealing at the device
- Saves Installation Time & Labor - facilitates rework
- Switch has factory wired line and load terminals. Load terminals feed sealed receptacle as in a standard VSQ. Line wiring is passed from the sealed compartment into the wiring chamber
- Receptacles may be loosened from back box and turned 180 degrees to adjust for top or bottom feed.
- Ordinary twist type wire connectors are used for final connections on 30A, 60A devices have terminal blocks
- VSQ-FS 30 Amp models come standard with one 1" drilled and tapped conduit openings into the wiring chamber plus one 1" x 3/4" reducer.
- VSQ-FS 60 Amp models come standard with one 1-1/2" drilled and tapped conduit openings into the wiring chamber plus one 1-1/2" x 1-1/4" reducer.
- VSQ-FS models not available with auxiliary contacts.
- Horsepower rated (Internal Switch Only) as "Motor Disconnect"

Materials

- Copper-free aluminum construction with electrostatically applied polyester/epoxy finish.
- Handle mechanism is chemical resistant Valox® (TM General Electric).
- External Hardware = Stainless

Electrical Ratings

- Amperage = 30A or 60A
- Voltage = Up to 600VAC
- Frequency = 50/60 Hz

Wire Range

- 30 Amp Regular Stranding Max #10
- 60 Amp Regular Stranding Max #4

HORSEPOWER RATINGS (VAC)		120	240	480	600
30A	1Ø	2	5	10	15
	3Ø	3	7.5	15	20
60A	1Ø	-	10	15	20
	3Ø	-	10	25	30



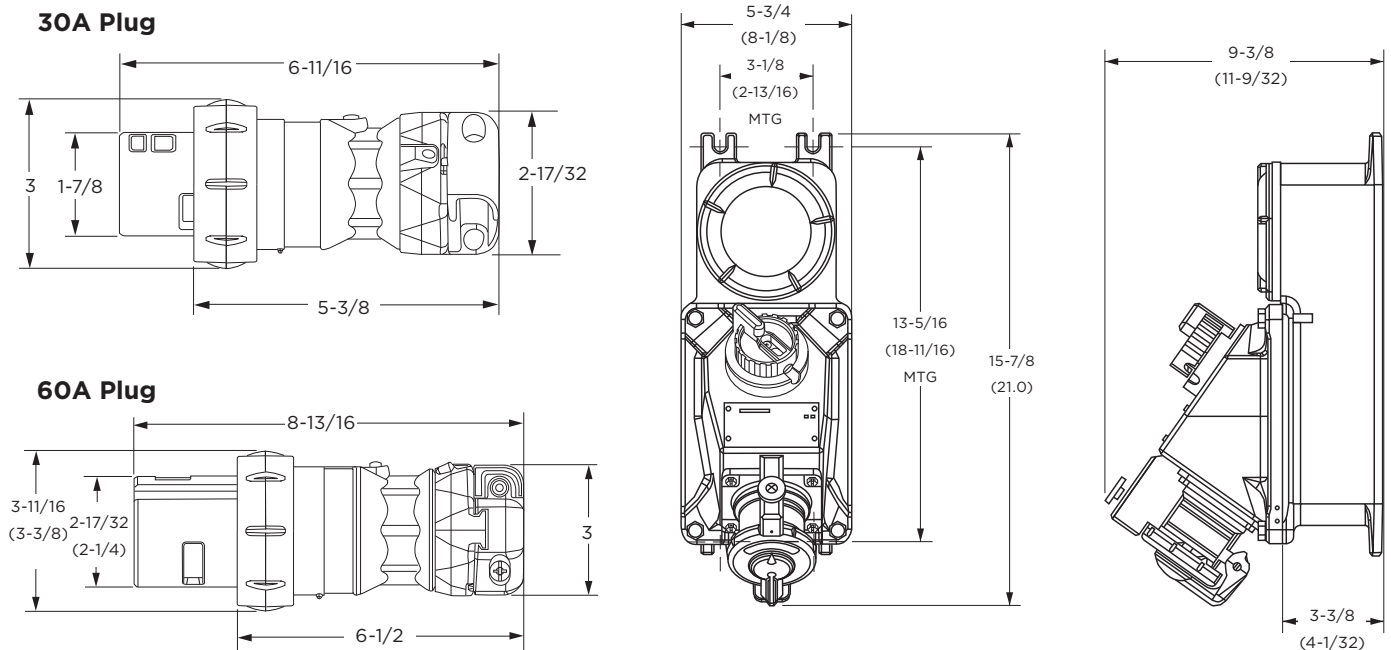


VSQ-FS Factory Sealed

VSQ - FS RECEPTACLES			
AMPS	CIRCUIT	CATALOG NUMBER	
		VSQ-FS HAZARDOUS	MATING PLUG
30	2P3W	VSQ3023FS	VP3023
30	3P4W	VSQ3034FS	VP3034
60	2P3W	VSQ6023FS	VP6023
60	3P4W	VSQ6034FS	VP6034

MODIFICATIONS*	
CATALOG NUMBER	DESCRIPTION
S37	Polarization for receptacles & plugs

DIMENSIONS

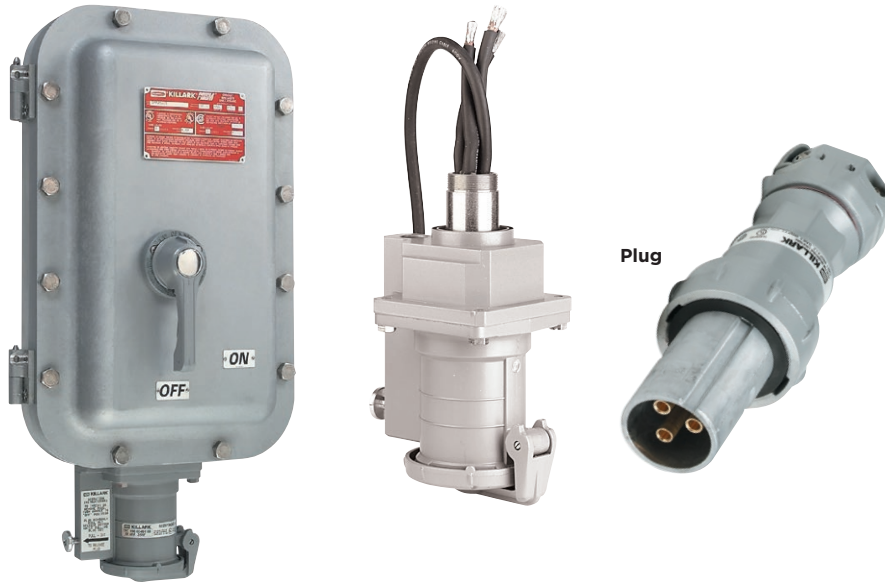


Dimensions shown are in inches for 30 AMP. 60 AMP Dimensions in ().



CONNECTIVITY VERSAMATE® SERIES

VBQ Circuit Breaker Protected Receptacles



Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups F & G
Class III
Type 3, 4, 4X

 File No. E184637

FEATURES-SPECIFICATIONS

Features

- Type 4X with receptacle lid turned shut or with plug locking ring tightened
- Plug held in place when switch is “Off” for convenience. Pull button operated release mechanism. Plug does not have to be twisted to operate switch
- Dead-front construction when receptacle is off. Switch cannot be turned “ON” without fully inserted plug. Plug cannot be removed with switch in “ON” position
- Receptacle assembly is field replaceable for maintenance.
- Ductile Mounting Lugs to adjust to uneven surfaces
- Quick Release Cover Bolts with Triple Leads - only 3-1/2 turns to disengage
- Visible “ON” external Breaker Handle has provisions for locking “ON” or “OFF” with up to three Padlocks
- Internal Lock-Off provision for maintenance when no hazardous materials are present
- UL 1686-C1 Intermateable with similar competitive products, including classified / certified for use with Crouse-Hinds® Arkтите® and Appleton® Powertite® devices.

Arkтите® is a registered trademark of Crouse-Hinds®.

Powertite® is a registered trademark of Appleton Electric Company®.

Materials

- Copper-free construction with 316 grade Stainless Steel External Hardware
- Electrostatically applied polyester/ epoxy finish

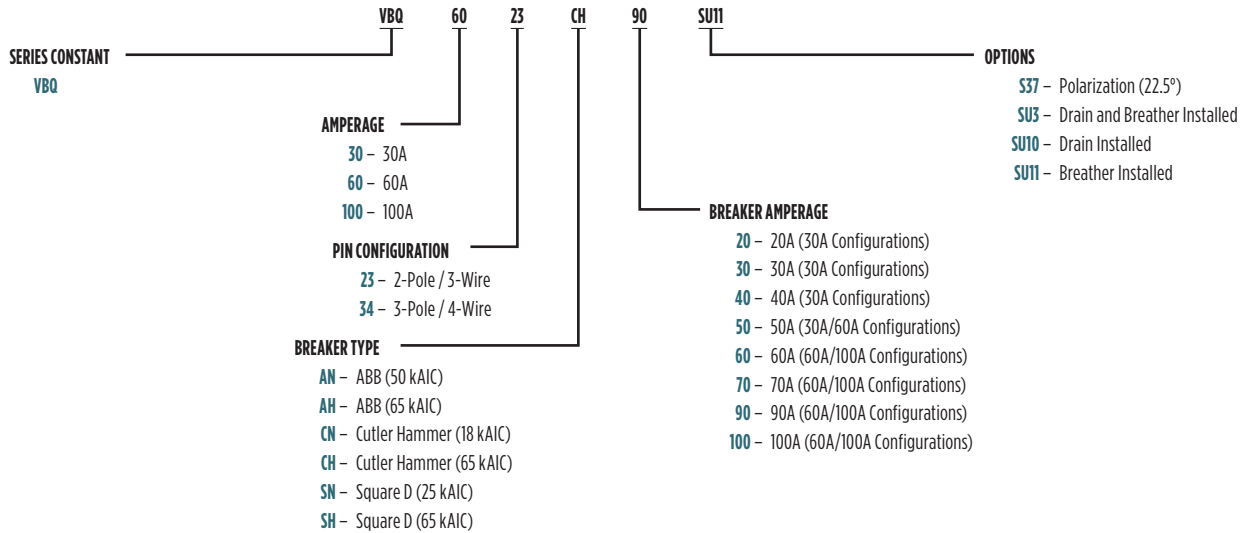
Electrical Ratings

- Amperage = 30A, 60A, 100A
- Voltage = Up to 600VAC, 250VDC
- Frequency = 50/60 Hz
- GFCI = 5mA Trip Setting

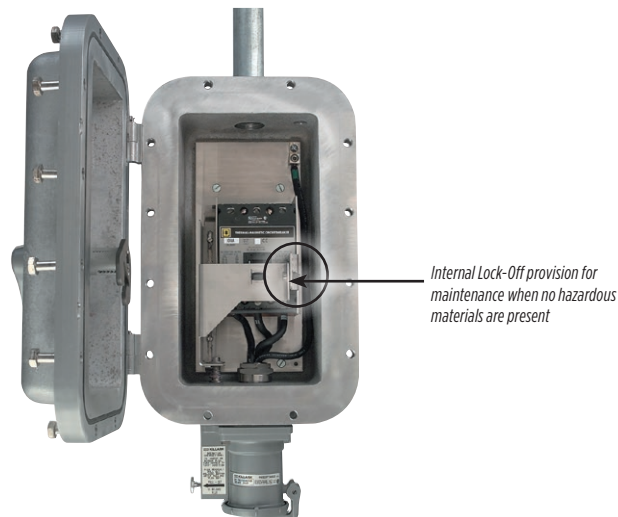
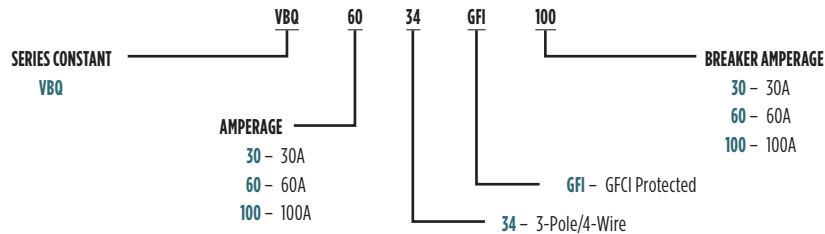


VBQ Circuit Breaker Protected Receptacles - Catalog Logic

VBQ RECEPTACLES



VBQ GFCI PROTECTED RECEPTACLE





CONNECTIVITY
VERSAMATE® SERIES

VBQ Circuit Breaker Protected Receptacles

VBO RECEPTACLES							
RECEPTACLE	CIRCUIT	BREAKER	CATALOG NUMBER				PLUG
			SQUARE D		CUTLER-HAMMER		
			BDL SERIES	BGL SERIES	EHD SERIES	FD SERIES	
30	2P3W	20	VBQ3023SN20	VBQ3023SH20	VBQ3023CN20	VBQ3023CH20	VP3023
		30	VBQ3023SN30	VBQ3023SH30	VBQ3023CN30	VBQ3023CH30	
		40	VBQ3023SN40	VBQ3023SH40	VBQ3023CN40	VBQ3023CH40	
		50	VBQ3023SN50	VBQ3023SH50	VBQ3023CN50	VBQ3023CH50	
	3P4W	20	VBQ3034SN20	VBQ3034SH20	VBQ3034CN20	VBQ3034CH20	VP3034
		30	VBQ3034SN30	VBQ3034SH30	VBQ3034CN30	VBQ3034CH30	
		40	VBQ3034SN40	VBQ3034SH40	VBQ3034CN40	VBQ3034CH40	
		50	VBQ3034SN50	VBQ3034SH50	VBQ3034CN50	VBQ3034CH50	
60	2P3W	50	VBQ6023SN50	VBQ6023SH50	VBQ6023CN50	VBQ6023CH50	VP6023
		60	VBQ6023SN60	VBQ6023SH60	VBQ6023CN60	VBQ6023CH60	
		70	VBQ6023SN70	VBQ6023SH70	VBQ6023CN70	VBQ6023CH70	
		90	VBQ6023SN90	VBQ6023SH90	VBQ6023CN90	VBQ6023CH90	
		100	VBQ6023SN100	VBQ6023SH100	VBQ6023CN100	VBQ6023CH100	
	3P4W	50	VBQ6034SN50	VBQ6034SH50	VBQ6034CN50	VBQ6034CH50	VP6034
		60	VBQ6034SN60	VBQ6034SH60	VBQ6034CN60	VBQ6034CH60	
		70	VBQ6034SN70	VBQ6034SH70	VBQ6034CN70	VBQ6034CH70	
		90	VBQ6034SN90	VBQ6034SH90	VBQ6034CN90	VBQ6034CH90	
		100	VBQ6034SN100	VBQ6034SH100	VBQ6034CN100	VBQ6034CH100	
100	2P3W	50	VBQ1023SN50	VBQ1023SH50	VBQ1023CN50	VBQ1023CH50	VP1023
		70	VBQ1023SN70	VBQ1023SH70	VBQ1023CN70	VBQ1023CH70	
		90	VBQ1023SN90	VBQ1023SH90	VBQ1023CN90	VBQ1023CH90	
		100	VBQ1023SN100	VBQ1023SH100	VBQ1023CN100	VBQ1023CH100	
	3P4W	50	VBQ1034SN50	VBQ1034SH50	VBQ1034CN50	VBQ1034CH50	VP1034
		70	VBQ1034SN70	VBQ1034SH70	VBQ1034CN70	VBQ1034CH70	
		90	VBQ1034SN90	VBQ1034SH90	VBQ1034CN90	VBQ1034CH90	
		100	VBQ1034SN100	VBQ1034SH100	VBQ1034CN100	VBQ1034CH100	

VBQ GFCI RECEPTACLES		
RECEPTACLE	CIRCUIT	CATALOG NUMBER
30A	3P4W	VBQ3034GFI30
60A	3P4W	VBQ6034GFI60
100A	3P4W	VBQ1034GFI100

CIRCUIT BREAKER INTERRUPTING RATINGS (KAIC)	208/240 VAC	480 VAC	600 VAC	250 VDC†
ABB XTIN	50	25	—	—
ABB XT2N	65	25	18	—
Cutler-Hammer EHD	18	14	—	10
Cutler-Hammer FD	65	25	18	10
Square D BDL	25	18	14	20
Square D BGL	65	35	18	20

CIRCUIT BREAKER	WIRE RANGE
ABB	Up to 30A = #14-4 AWG (Cu); 35-100 Amp = #14-1/0 AWG (Cu)
Cutler-Hammer	Up to 20A = #14-10 AWG (Cu); 30-100 Amp = #14-1/0 AWG (Cu)
Square D	Up to 30A = #14-4 AWG (Cu); 35-100 Amp = #14-1/0 AWG (Cu)

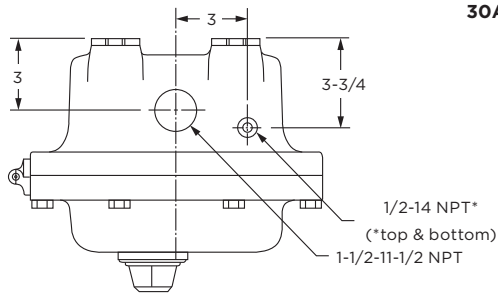
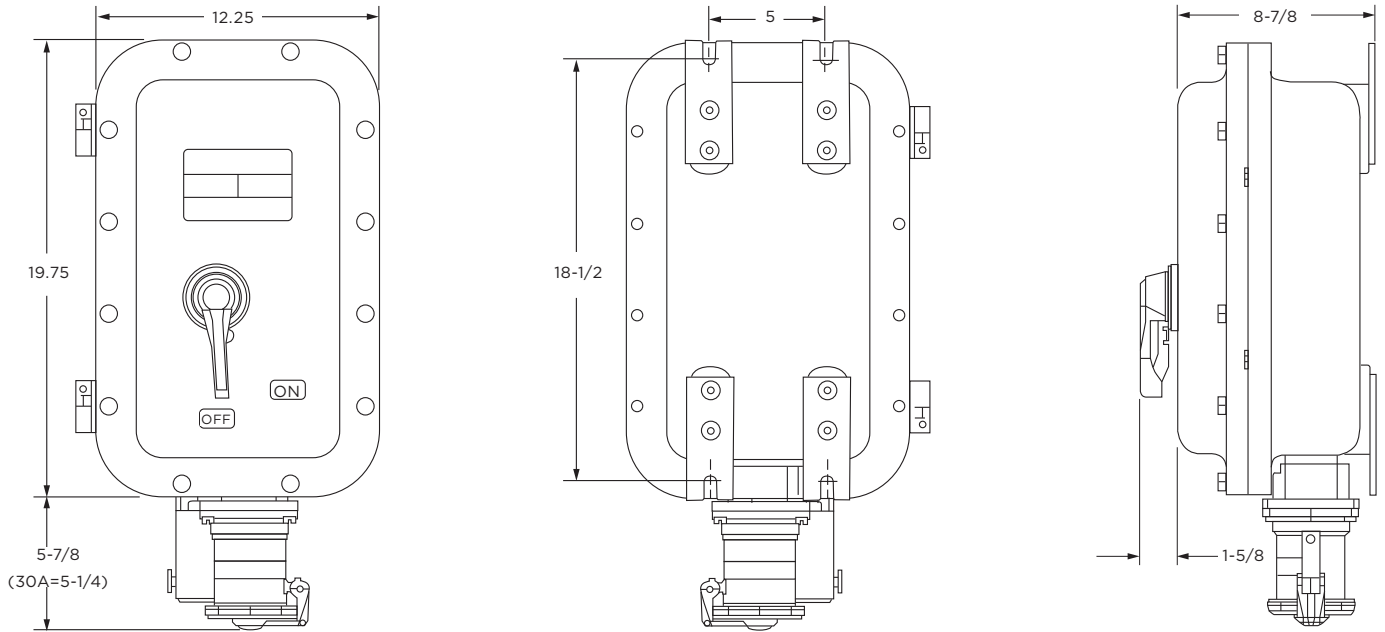
REPLACEMENT PARTS	
CATALOG NUMBER	DESCRIPTION
VBQ-HANDLEASSEMBLY	External circuit breaker handle kit
VBQRA3023	30A 2-Pole / 3-Wire Replacement Receptacle Assembly
VBQRA3034	30A 3-Pole / 4-Wire Replacement Receptacle Assembly
VBQRA6023	60A 2-Pole / 3-Wire Replacement Receptacle Assembly
VBQRA6034	60A 3-Pole / 4-Wire Replacement Receptacle Assembly
VBQRA1023	100A 2-Pole / 3-Wire Replacement Receptacle Assembly
VBQRA1034	100A 3-Pole / 4-Wire Replacement Receptacle Assembly



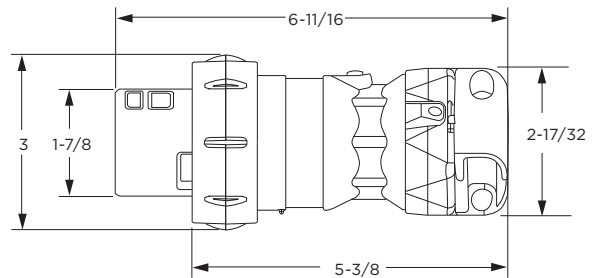


VBQ Circuit Breaker Protected Receptacles

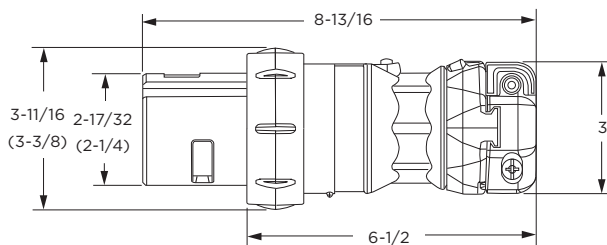
DIMENSIONS



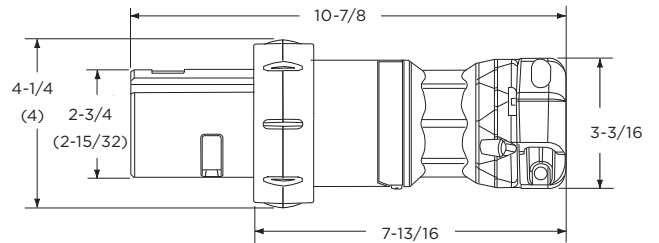
30A Plug



60A Plug



100A Plug





CONNECTIVITY VERSAMATE® SERIES

VSI Non-Metallic Plugs and Switched Receptacles

VersaMATE®



Class I, Div. 2, Groups A, B, C, D
Class I, Zones 1 & 2, Groups IIC, IIB, IIA
AEx de IIC T6
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 3, 4, 4X, IP66



File 3014299



Certified - File LR240743

FEATURES-SPECIFICATIONS

Features

- Color coding and pin configuration makes it physically impossible to mate plugs and receptacles of different voltages and current ratings
- Interlocked switch mechanism prevents accidental removal of plug from receptacle under load
- Horsepower rated disconnect switch
- Dust caps* included with 20A and 30A plugs as standard
- No seal required within Class I, Division 2 applications.
- Provision for up to two optional auxiliary contact blocks, useful for signaling circuits or starter coils.
- Horsepower rated disconnect switch includes 1 auxiliary contact (late make, early break) for signaling circuits.

Materials

- Housing = Non-Metallic Polyamide
- Hardware = Stainless Steel

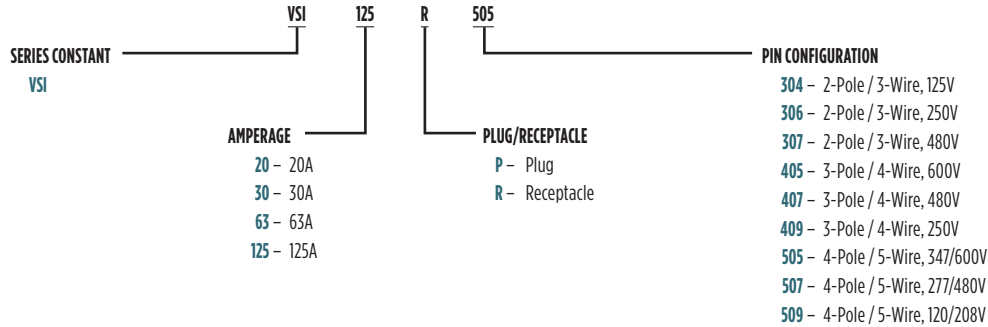
Electrical Ratings

- Amperage = 20 / 30 / 63 / 125A
- Voltage = Up to 600VAC
- Frequency = 50/60 Hz

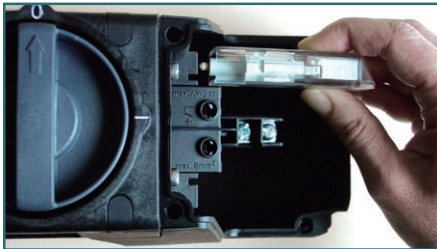


VSI Non-Metallic Plugs and Switched Receptacles

VBQ RECEPTACLES



VSI SERIES PLUGS & SWITCHED RECEPTACLES					
DESCRIPTION		CATALOG NUMBER			
	AC VOLTAGE AND COLOR CODE	20 AMP		30 AMP	
		RECEPTACLE	PLUG	RECEPTACLE	PLUG
2 Pole 3 Wire	125 Yellow	VSI20R304	VSI20P304	—	—
	250 Blue	VSI20R306	VSI20P306	—	—
	480 Red	VSI20R307	VSI20P307	—	—
3 Pole 4 Wire	3 Ø 250 Blue	VSI20R409	VSI20P409	VSI30R409	VSI30P409
	3 Ø 480 Red	VSI20R407	VSI20P407	VSI30R407	VSI30P407
	3 Ø 600 Black	VSI20R405	VSI20P405	VSI30R405	VSI30P405
4 Pole 5 Wire	3 Ø Y 120/208 Blue	VSI20R509	VSI20P509	VSI30R509	VSI30P509
	3 Ø Y 277/480 Red	VSI20R507	VSI20P507	VSI30R507	VSI30P507
	3 Ø Y 347/600 Black	VSI20R505	VSI20P505	VSI30R505	VSI30P505



Snap into side(s) of terminal block

PARTS AND ACCESSORIES		PART NUMBER
Auxiliary Contact Block NC, A600 ^①		VSIAUXNC
Auxiliary Contact Block NO, A600 ^①		VSIAUXNO

^①10A rating for one auxiliary block; 5A if two are used. Position noted (NC or NO) is when main switch is off.

TECHNICAL DATA				
RECEPTACLE		20 AMP		30 AMP
ENCLOSURE MATERIAL		POLYAMIDE		
AMBIENT TEMPERATURE, TA		-30°C (-22°F) to +55°C (131°F)		
TERMINAL CAPACITY		2 wires, rated 75°C (Ta<45°C) or 90°C (Ta>45°C)		
		16-10 AWG		14-8 AWG
SWITCH RATING	(Horsepower)	1-phase	3-phase	3-phase
	120 VAC	1.5 HP	—	—
	240 VAC	3 HP	5 HP	10 HP
	480 VAC	5 HP	10 HP	20 HP
			15 HP	25 HP
LINE SUPPLY FUSE		CLASS J - size per NEC/CEC requirement, upstream ahead of unit		
BOTTOM ENTRY		3/4" NPT		1" NPT

TECHNICAL DATA				
PLUG		20 AMP		30 AMP
ENCLOSURE MATERIAL		POLYAMIDE		
TERMINAL CAPACITY		1 wire, rated 75°C (Ta<45°C) or 90°C (Ta>45°C)		
		16-10 AWG		14-8 AWG
CORD OUTER DIA.		0.3" - 0.8"		0.6" - 1.1"



CONNECTIVITY
VERSAMATE® SERIES

VSI Non-Metallic Plugs and Switched Receptacles

VSI SERIES PLUGS & SWITCHED RECEPTACLES					
DESCRIPTION		CATALOG NUMBER			
	AC VOLTAGE AND COLOR CODE	63 AMP		125 AMP	
		RECEPTACLE	PLUG	RECEPTACLE	PLUG
3 Pole 4 Wire	3 Ø 250 Blue	VSI63R409	VSI63P409	VSI125R409	VSI125P409
	3 Ø 480 Red	VSI63R407	VSI63P407	VSI125R407	VSI125P407
	3 Ø 600 Black	VSI63R405	VSI63P405	VSI125R405	VSI125P405
4 Pole 5 Wire	3 ØY 120/208 Blue	VSI63R509	VSI63P509	VSI125R509	VSI125P509
	3 ØY 277/480 Red	VSI63R507	VSI63P507	VSI125R507	VSI125P507
	3 ØY 347/600 Black	VSI63R505	VSI63P505	VSI125R505	VSI125P505

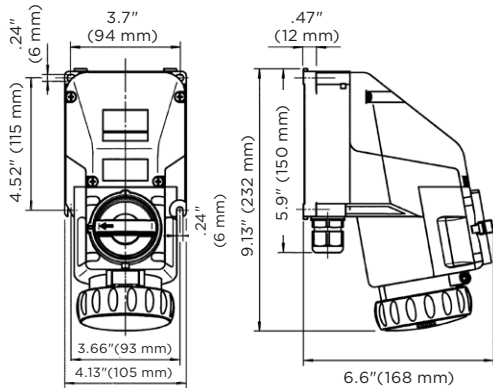
TECHNICAL DATA			
RECEPTACLE	63 AMP	125 AMP	
ENCLOSURE MATERIAL	FIBER REINFORCED POLYESTER		
AMBIENT TEMPERATURE, TA	-20°C (-4°F) to +40°C (104°F)		
TERMINAL CAPACITY	2 wires, 90°C rated		
	6-1/0 AWG	1/0-3/0 AWG	
SWITCH RATING	(Horsepower)	3-phase	3-phase
	120 VAC	10 HP	20 HP
	240 VAC	20 HP	40 HP
	480 VAC	40 HP	100 HP
	600 VAC	60 HP	125 HP
LINE SUPPLY FUSE	CLASS J - size per NEC/CEC requirement, upstream ahead of unit		
BOTTOM ENTRY	1-1/2" NPT	2" NPT	

PLUG DUST CAP	
FOR PLUG TYPE	CATALOG NUMBER
VSI63P4__	VSI63801140
VSI63P5__	VSI63801140

TECHNICAL DATA		
PLUG	63 AMP	125 AMP
ENCLOSURE MATERIAL	POLYAMIDE	
TERMINAL CAPACITY	1 wire, 90°C rated	
	10-4 AWG	6-1/0 AWG
CORD OUTER DIA.	0.94" - 1.4"	1.2" - 2"

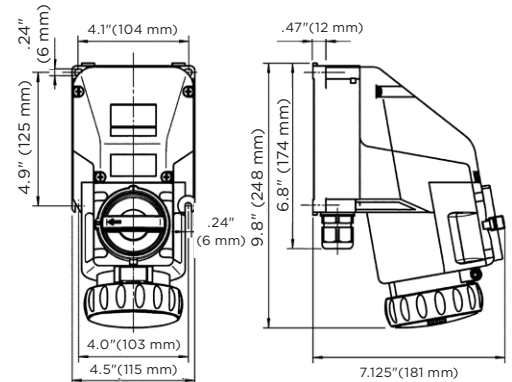


VSI Non-Metallic Plugs and Switched Receptacles

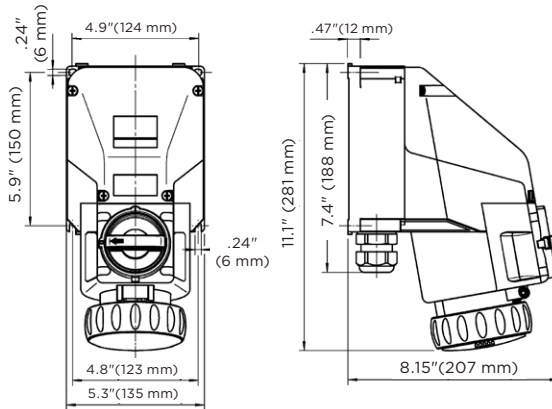


RECEPTACLE 20A
2 POLE - 3 WIRE

PLUG 20A

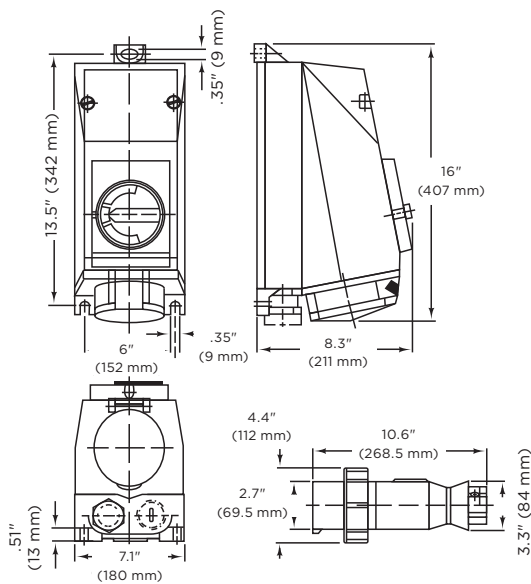


RECEPTACLE 20A
3 POLE - 4 WIRE AND 4 - POLE 5 WIRE

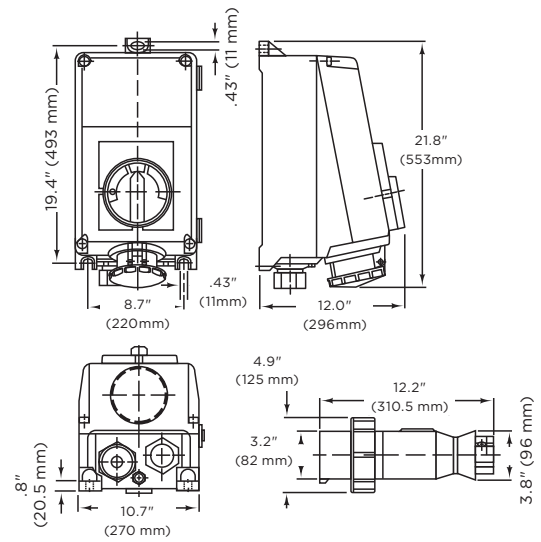


RECEPTACLE 30A
3 POLE - 4 WIRE AND 4 POLE - 5 WIRE

PLUG 30A



RECEPTACLE & PLUG 63A
3 POLE - 4 WIRE AND 4 POLE - 5 WIRE



RECEPTACLE & PLUG 125A
3 POLE - 4 WIRE AND 4 POLE - 5 WIRE



VSIH Non-Metallic Plugs and Switched Receptacles

VersaMATE



IEC-STYLE NON-METALLIC PLUGS AND SOCKETS

ATEX Certificate: INERIS 20 ATEX 0022X

Socket: II 2G Ex db eb IIC T3/T4/T5/T6 Gb
Plug: II 2G Ex eb IIC T3/T4/T5/T6 Gb II 2D Ex tb IIIC T800C Db IP 66 Ta= -50°C to +60°C

IECEx Certificate: IECEx INE 20.0020X

Socket: Ex db eb IIC T3/T4/T5/T6 Gb
Plug: Ex eb IIC T3/T4/T5/T6 Gb Ex tb IIIC T800C Db IP 66 Ta= -50°C to +60°C

FEATURES-SPECIFICATIONS

Features

- Color coding and pin configuration makes it physically impossible to mate plugs and receptacles of different voltages and current ratings.
- Interlocked switch mechanism prevents accidental removal of plug from receptacle under load.
- Explosion Protected Internal Disconnect Switch
- Operating Temperature of -50°C to +60°C
- Earthing Stud and Earthing Plate available for earthing/grounding purposes.
- Provision for up to two optional auxiliary contact blocks, useful for signaling circuits or starter coils.

Materials

- Enclosure = Impact Resistant (7 Joules), Non-Metallic, Anti-Static, Glass-Fibre Reinforced Polyester (GRP)
- Gasket = Silicone
- Pins = Nickel Plated Brass
- Earth Stud = Brass
- Earthing Plate = Brass

Electrical Ratings

Plugs/Sockets

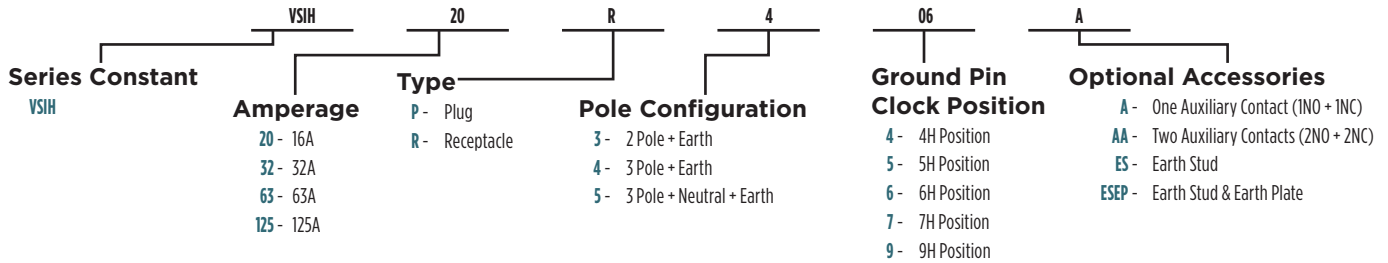
- Amperage Configurations = 16A / 32A / 63A / 125A
- Voltage Configurations = 110VAC -690VAC

Auxiliary Contacts

- Amperage Configurations = 4A Max
- Voltage Configurations = 415VAC Max



CATALOG LOGIC

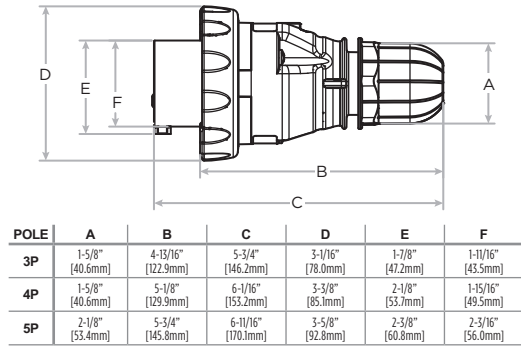


VSIH SERIES PLUGS & SWITCHED RECEPTACLES													
POLE CONFIG.	VOLTAGE	FREQUENCY (HZ)	GROUND POSITION (HR)	COLOR		CATALOG NUMBER							
				16/32/63A	125A	16A		32A		63A		125A	
						PLUG	RECEPT.	PLUG	RECEPT.	PLUG	RECEPT.	PLUG	RECEPT.
2P+E	100-130 VAC	50/60	4	Yellow	—	VSIH20P304	VSIH20R304	VSIH32P304	VSIH32R304	—	—	—	—
	200-250 VAC	50/60	6	Blue	—	VSIH20P306	VSIH20R306	VSIH32P306	VSIH32R306	—	—	—	—
	480-500 VAC	50/60	7	Red	—	VSIH20P307	VSIH20R307	—	—	—	—	—	—
3P+E	200-250 VAC	50/60	9	Blue	Black	VSIH20P409	VSIH20R409	VSIH32P409	VSIH32R409	VSIH63P409	VSIH63R409	VSIH125P409	VSIH125R409
	380-415 VAC	50/60	6	Red	Black	VSIH20P406	VSIH20R406	VSIH32P406	VSIH32R406	VSIH63P406	VSIH63R406	VSIH125P406	VSIH125R406
	480-500 VAC	50/60	7	Red	Black	VSIH20P407	VSIH20R407	VSIH32P407	VSIH32R407	VSIH63P407	VSIH63R407	VSIH125P407	VSIH125R407
	600-690 VAC	50/60	5	Red	Black	VSIH20P405	VSIH20R405	VSIH32P405	VSIH32R405	VSIH63P405	VSIH63R405	VSIH125P405	VSIH125R405
3P+N+E	208-250 VAC	50/60	9	Blue	Black	VSIH20P509	VSIH20R509	VSIH32P509	VSIH32R509	VSIH63P509	VSIH63R509	VSIH125P509	VSIH125R509
	346-415 VAC	50/60	6	Red	Black	VSIH20P506	VSIH20R506	VSIH32P506	VSIH32R506	VSIH63P506	VSIH63R506	VSIH125P506	VSIH125R506
	480-500 VAC	50/60	7	Red	Black	VSIH20P507	VSIH20R507	VSIH32P507	VSIH32R507	VSIH63P507	VSIH63R507	VSIH125P507	VSIH125R507
	600-690 VAC	50/60	5	Red	Black	VSIH20P505	VSIH20R505	VSIH32P505	VSIH32R505	VSIH63P505	VSIH63R505	VSIH125P505	VSIH125R505

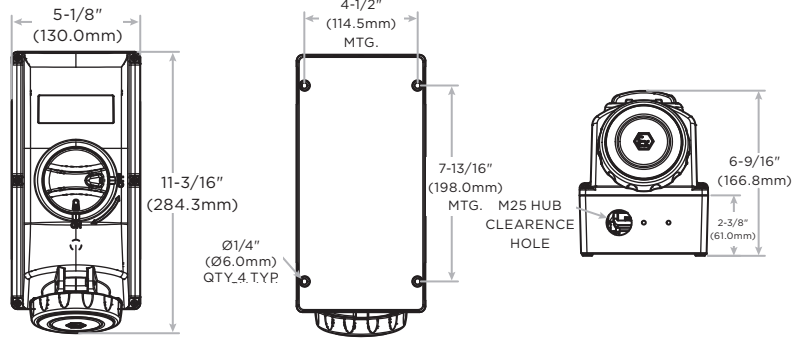
VSIH SERIES PLUGS & SWITCHED RECEPTACLES (TECHNICAL DATA)				
RECEPTACLE	16A	32A	63A	125A
WIRING TERMINAL CAPACITY (CONDUCTOR CROSS SECTIONAL AREA)	4 mm ² - 10 mm ²	6 mm ² - 10 mm ²	16 mm ² - 25 mm ²	50 mm ² - 70 mm ²
WIRING TERMINAL CAPACITY (TIGHTENING TORQUE)	0.8 N-m	0.8 N-m	2.5 N-m	3.5 N-m
GROUND TERMINAL CAPACITY (CONDUCTOR CROSS SECTIONAL AREA)	10 mm ² (Finely Stranded) 16 mm ² (Solid)	10 mm ² (Finely Stranded) 16 mm ² (Solid)	2.5 mm ² - 35 mm ²	50 mm ² - 70 mm ²
GROUND TERMINAL CAPACITY (TIGHTENING TORQUE)	1.2 N-m	1.2 N-m	3.5 N-m	3.5 N-m
ENTRY SIZE (LOCATION)	1 x M25 (Bottom)	1 x M32 (Bottom)	1 x M40 (Bottom)	1 x M50 (Bottom)
AMBIENT TEMPERATURE	-50°C to +50°C (T6) -50°C to +60°C (T5)	-50°C to +60°C (T4) -50°C to +40°C (T5)	-35°C to +60°C (T3) -35°C to +40°C (T4)	-35°C to +40°C (T4)
AMBIENT TEMPERATURE (W/ OPTIONAL AUXILIARY CONTACTS)	-50°C to +50°C (T6) -50°C to +60°C (T5)	-50°C to +40°C (T5)	-35°C to +40°C (T4)	—
PLUG	16A	32A	63A	125A
WIRING TERMINAL CAPACITY (CONDUCTOR CROSS SECTIONAL AREA)	4 mm ²	6 mm ²	16 mm ²	50 mm ²
WIRING TERMINAL CAPACITY (TIGHTENING TORQUE)	1 N-m	1.5 N-m	2 N-m	4 N-m
CORD DIAMETER	10.9-14 mm (2P+E) 12.1-15.5 mm (3P+E) 13.3-17 mm (3P+N+E)	15.7-20 mm (2P+E) 15.7-20 mm (3P+E) 17.5-22.5 mm (3P+N+E)	19.1 - 31.5 mm	33-40 mm



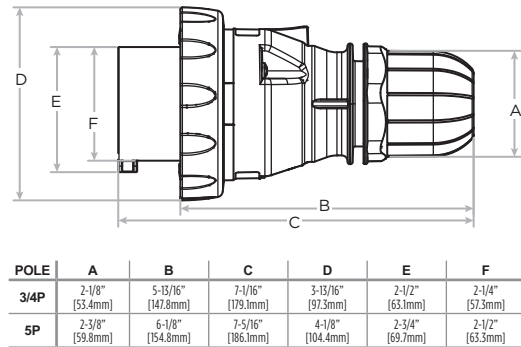
CONNECTIVITY VSIH SERIES



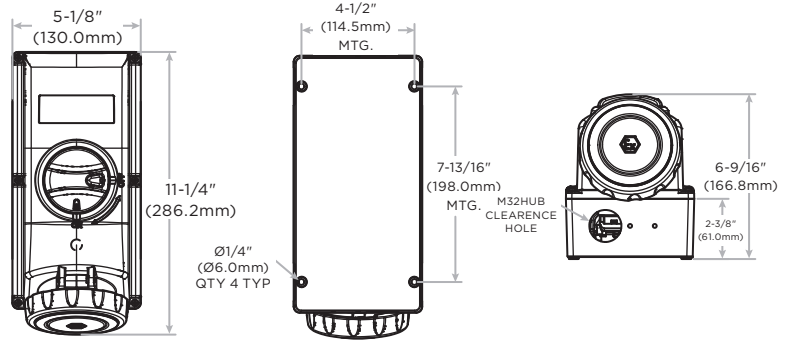
VSIH 16AMP Plug



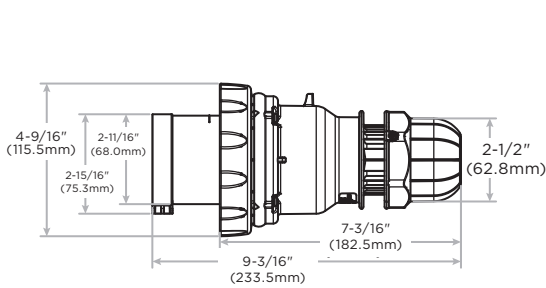
VSIH 16AMP Receptacle



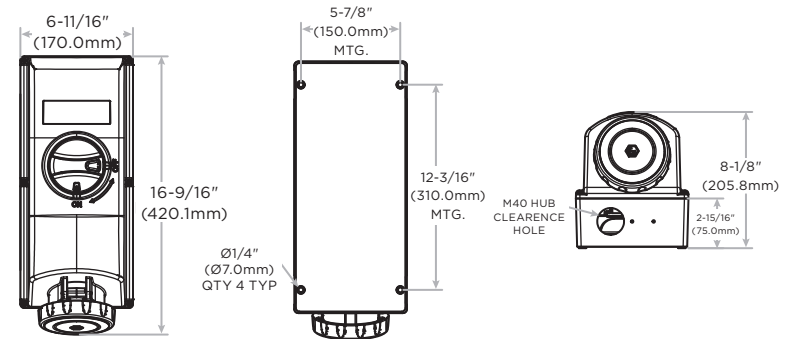
VSIH 32AMP Plug



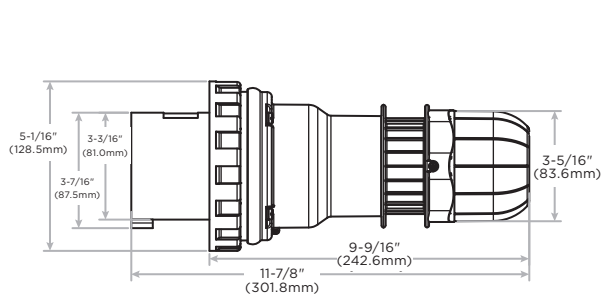
VSIH 32AMP Receptacle



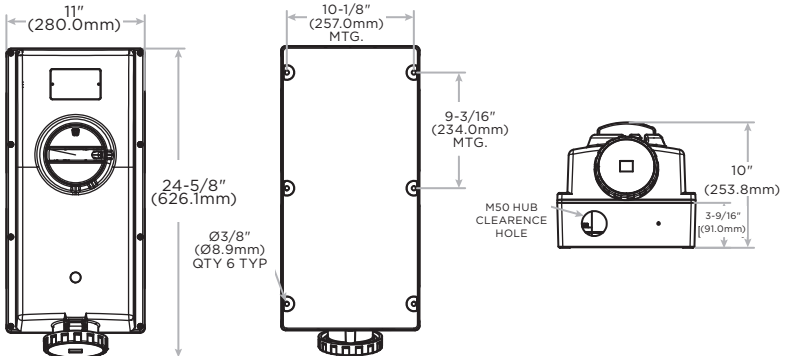
VSIH 63AMP Plug



VSIH 63AMP Receptacle



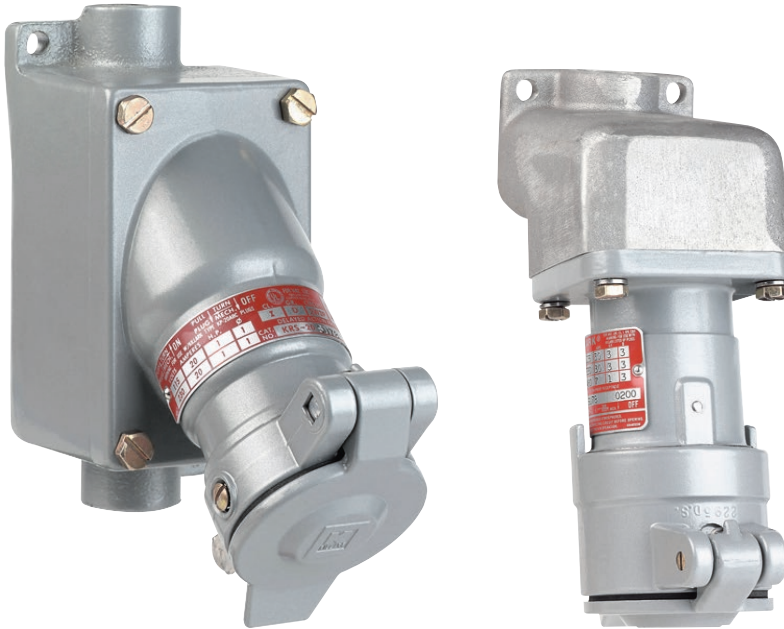
VSIH 125AMP Plug



VSIH 125AMP Receptacle



Hazardous Location - Delayed Action



**Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, IIB, IIA**

E23572

Certified LR14667 (20A version)

FEATURES-SPECIFICATIONS

Features

- Factory sealed receptacles
- Straight or angle type receptacles
- Delayed action contacts (See Time Delay Inset on next page)
- Plugs with a wide range of grommet openings
- Extra long grounding pole makes contact first and breaks contact last
- Heavy duty construction to withstand rough and constant usage
- Plugs come with soldered terminals as standard.
- Receptacles come factory potted with flying wire leads as standard.
- KRS configurations are rated for Class I Group D only.

Materials

- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy / polyester finish
- Hardware = Stainless Steel

Electrical Ratings

- Amperage = 20 / 30 / 60 A

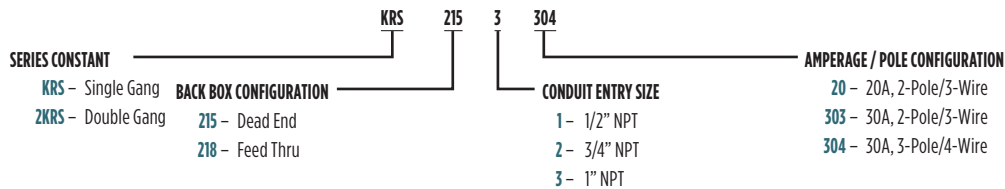
ELECTRICAL RATINGS					
TYPE	AMPERAGE	VOLTAGE VAC	CIRCUIT	H.P.	HERTZ
20 AMP	20	115/230	2W3P	1	60
30 AMP	7	460	2W3P	1/2	60
	7	460	3W4P	1	60
	30	115/230	2W3P	1-1/2	60
	30	115/230	3W4P	3	60
60 AMP	30	460	2W3P	3	60
	30	460	3W4P	5	60
	60	115/230	2W3P	5	60
	60	115/230	3W4P	5	60



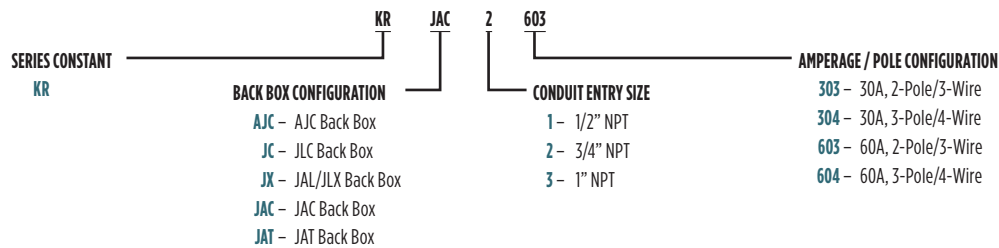
CONNECTIVITY
KR SERIES

Hazardous Location - Delayed Action

KR RECEPTACLES (20/30A)



KR RECEPTACLES (30/60A)



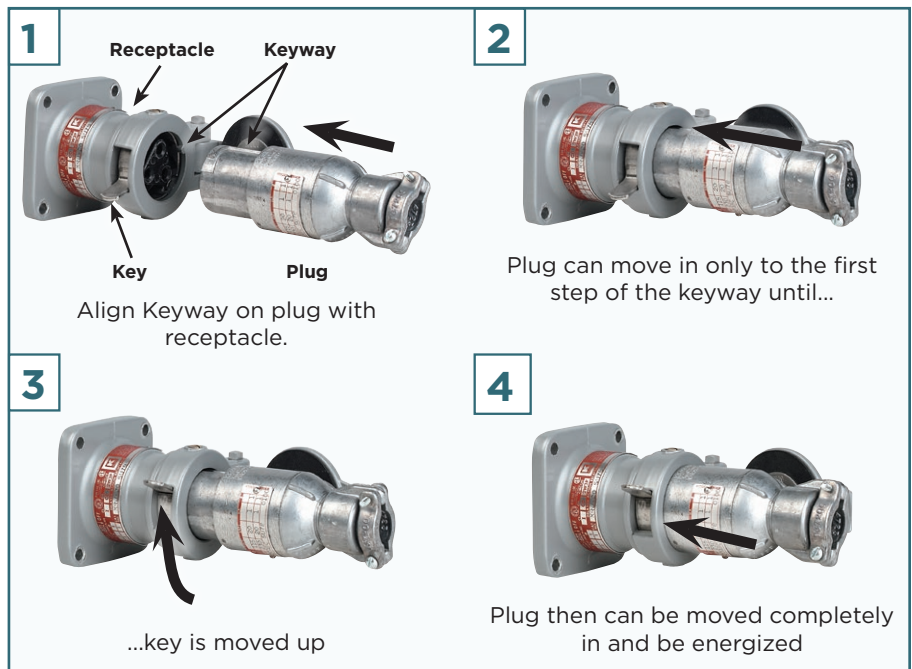
Details of Safety Time Delay Feature

The key slot provided in the receptacle engages the key of the plug permitting entrance of the plug in the receptacle in only one position. See steps 1-4.

The contacts are enclosed in long accurate insulating cavities. It is in these cavities that the arcs are extinguished. All contacts are made through round tellurium copper tubing which is extra heavy to withstand arcing as required on the various ampere ratings.

Both plugs and receptacles are equipped with an extra long grounding pole which establishes grounding before the power contacts are engaged. These grounding poles are also the last to break contact. This assures bonding of the portable device to the electrical conduit system.

Safety Time Delay Feature





20 Amp 115/230 V.A.C • 1Ø 2 Wire, 3 Pole



KRS Series



KRA

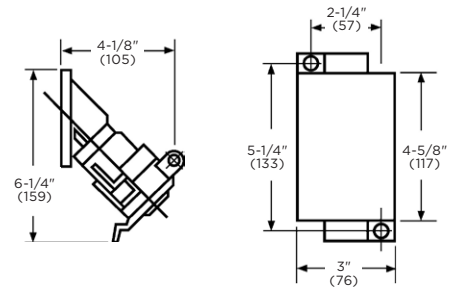


Plug

KRS 20A 1Ø 2W RECEPTACLE WITH SWB BOX ②

HUB SIZE	CATALOG NUMBER							
	SINGLE RECEPTACLE & DEAD END BOX	BOX ONLY	SINGLE RECEPTACLE & FEED-THRU BOX	BOX ONLY	DOUBLE RECEPTACLE & DEAD END BOX	BOX ONLY	DOUBLE RECEPTACLE & FEED-THRU BOX	BOX ONLY
1/2"	KRS-215-120	SWB-1	KRS-218-120	SWB-4	2KRS-215-120	SWB-7	2KRS-218-120	SWB-10
3/4"	KRS-215-220	SWB-2	KRS-218-220	SWB-5	2KRS-215-220	SWB-8	2KRS-218-220	SWB-11
1"	KRS-215-320	SWB-3	KRS-218-320	SWB-6	2KRS-215-320	SWB-9	2KRS-218-320	SWB-12

RECEPTACLE ONLY – CATALOG NUMBER KRS-20



KRS-Series

KRJ RECEPTACLE WITH AJ OR JL BOX

HUB SIZE	CATALOG NUMBER		
	AJC	JLC	JLX
1/2"	—	KRJC-120	KRJX-120
3/4"	KRAJC-220	KRJC-220	KRJX-220
1"	KRAJC-320	—	—

BACK BOX ONLY

1/2"	—	JLC-1	JLX-1
3/4"	AJC-2	JLC-2	JLX-2
1"	AJC-3	—	—

RECEPTACLE ONLY – CATALOG NUMBER KRJ-20

ELECTRICAL RATING

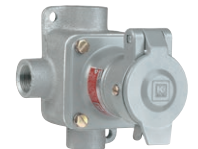
CIRCUIT	RATING (60 HERTZ)
1Ø 2W3P	20 AMPS, 115/230 V.A.C., 1.H.P.



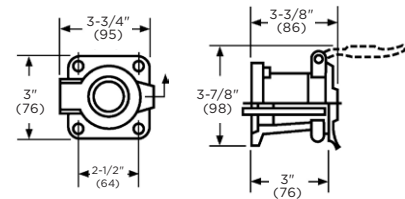
AJC



JLC



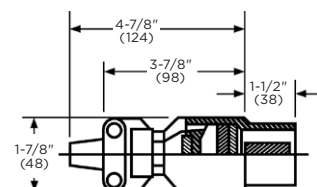
JLX



KRJ-Series

KP 20 AMP PLUG

CATALOG NO.	DESCRIPTION
KP-20ABC	Plug furnished with 3 grommets range .250 - .625





CONNECTIVITY
KR SERIES

30 Amp 115/230 V.A.C. • 7 Amp 460 V.A.C

KRS/KRJ Series Plug



KRS Series

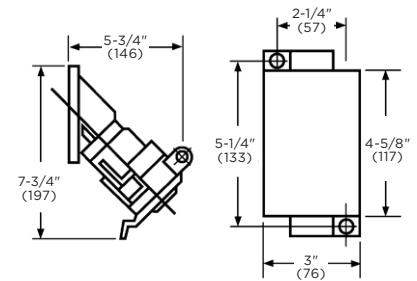


KRA Series



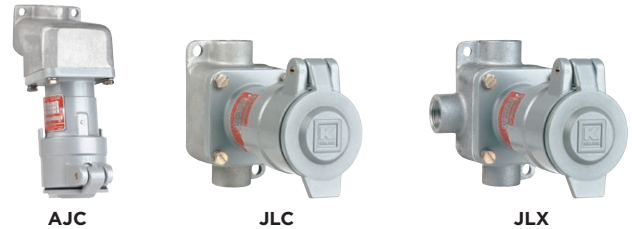
Plug

KRS RECEPTACLE WITH SWB BOX ②								
HUB SIZE	CATALOG NUMBER - SINGLE GANG ONLY							
	1Ø, 2-WIRE, 3-POLE DEAD END BOX	BOX ONLY	1Ø, 2-WIRE, 3-POLE FEED THRU BOX	BOX ONLY	3Ø, 3-WIRE, 4-POLE DEAD END BOX	BOX ONLY	3Ø, 3-WIRE, 4-POLE FEED THRU BOX	BOX ONLY
1/2"	KRS-215-1303	SWB-1	KRS-218-1303	SWB-4	KRS-215-1304	SWB-1	KRS-218-1304	SWB-4
3/4"	KRS-215-2303	SWB-2	KRS-218-2303	SWB-5	KRS-215-2304	SWB-2	KRS-218-2304	SWB-5
1"	KRS-215-3303	SWB-3	KRS-218-3303	SWB-6	KRS-215-3304	SWB-3	KRS-218-3304	SWB-6
RECEPTACLE ONLY	KRS-303				KRS-304			



KRS-Series

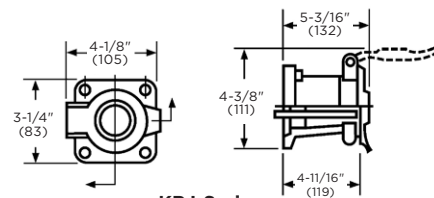
KRJ RECEPTACLE WITH AJ OR JL BOX				
CIRCUIT	HUB SIZE	CATALOG NUMBER		
		AJC	JLC	JLX
1Ø 2-Wire 3-Pole	1/2"	—	KRJC-1303	KRJX-1303
	3/4"	KRAJC-2303	KRJC-2303	KRJX-2303
	1"	KRAJC-3303	—	—
RECEPTACLE ONLY – CATALOG NUMBER KRJ-303				
3Ø 3-Wire 4-Pole	1/2"	—	KRJC-1304	KRJX-1304
	3/4"	KRAJC-2304	KRJC-2304	KRJX-2304
	1"	KRAJC-3304	—	—
RECEPTACLE ONLY – CATALOG NUMBER KRJ-304				
Back Box Only	1/2"	—	JLC-1	JLX-1
	3/4"	AJC-2	JLC-2	JLX-2
	1"	AJC-3	—	—



AJC

JLC

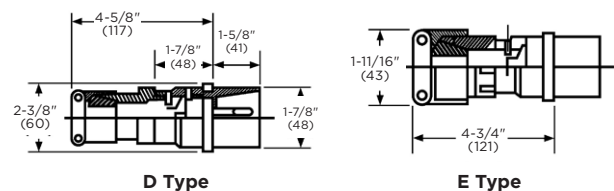
JLX



KRJ-Series

ELECTRICAL RATING	
CIRCUIT	RATING (60 HERTZ)
1Ø 2-Wire 3-Pole	7 Amps, 460 V.A.C., 1½ H.P. - OR - 30 Amps, 115/230 V.A.C., 1-1½ H.P.
3Ø 3-Wire 4-Pole	7 Amps, 460 V.A.C., 1 H.P. - OR - 30 Amps, 115/230 V.A.C., 3 H.P.

KP 30 AMP PLUG			
CATALOG NUMBER		PLUG TYPE	GROMMET RANGE
1Ø, 2-WIRE, 3-POLE	3Ø, 3-WIRE, 4-POLE		
KP-303D23	KP-304D23	D	.375-.625
KP-303D45	KP-304D45	D	.625-.875
KP-303E45	KP-304E45	E	.875-1.125
KP-303E67	KP-304E67	E	1.125-1.375



D Type

E Type



60 Amp 115/230 V.A.C. • 30 Amp/460 V.A.C.



KRJ Series



KRA Series

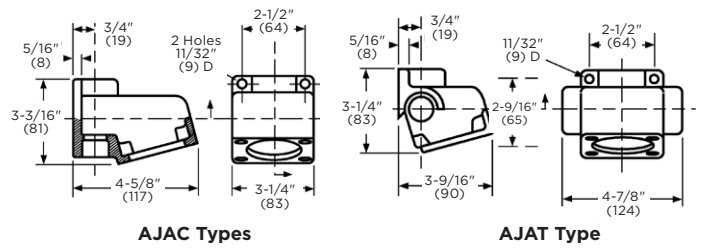


Plug

KR RECEPTACLE ASSEMBLIES

HUB SIZE	BOX STYLE	HUB STYLE	CATALOG NUMBER		
			1Ø, 2-WIRE 3-POLE	3Ø, 3-WIRE 4-POLE	SPLICE BOX ONLY
1"	JAL Series Boxes	"X"-3 Close-up Plugs Supplied	KRJX-3603	KRJX-3604	JALX-3
1-1/4"			KRJX-4603	KRJX-4604	JALX-4
1-1/4"	AJA Series Boxes	Feed Thru Top and Bottom	KRAJAC-4603	KRAJAC-4604	AJAC-4
1-1/2"			KRAJAC-5603	KRAJAC-5604	AJAC-5
2"			KRAJAC-6603	KRAJAC-6604	AJAC-6
1-1/4"		T Sides and Top	KRAJAT-4603	KRAJAT-4604	AJAT-4
1-1/2"			KRAJAT-5603	KRAJAT-5604	AJAT-5
RECEPTACLE ONLY			KRJ-603	KRJ-604	—

DIMENSIONS-BACK BOXES

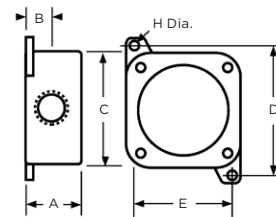


ELECTRICAL RATING

CIRCUIT	RATING (60 HERTZ)
1Ø 2-Wire 3-Pole	30 Amps, 460 V.A.C., 3 H.P. - OR - 60 Amps, 115/230 V.A.C., 3 H.P.
3Ø 3-Wire 4-Pole	30 Amps, 460 V.A.C., 5 H.P. - OR - 60 Amps, 115/230 V.A.C., 5 H.P.

JAL TYPE MOUNTING BOXES

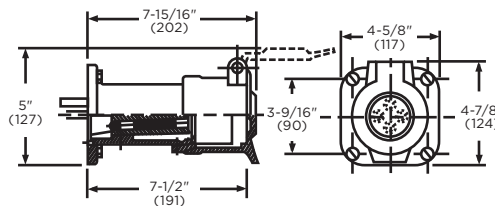
HUB	A	B	C	D	E	H
1"	2-3/8"	1-5/32"	4-5/8"	5-1/4"	4-1/8"	5/16"
1-1/4"	3-1/8"	1-17/32"	4-5/8"	5-1/4"	4-1/8"	5/16"



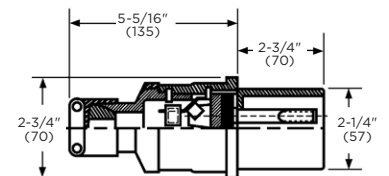
JAL Type

KR 60 AMP PLUGS

CATALOG NUMBER		GROMMET RANGE
1Ø, 2-WIRE, 3-POLE	3Ø, 3-WIRE 4-POLE	
KP-603D345	KP-604D345	.500-.875
KP-603E45	KP-604E45	.875-1.125
KP-603E67	KP-604E67	1.125-1.375
—	KP-604F34	1.250-1.500
—	KP-604F56	1.500-1.750



KRJ-60 Type Receptacles



KP Type Plugs



CONNECTIVITY

EXPLOSIONPROOF STARLINE

XP StarLine Features



NEC/CEC Certifications

- Class I, Div. 1 & 2, Groups C & D at 480VAC; 60/400 Hz, Circuit-Breaking**
- Class I, Div 1 & 2, Groups B, C & D Class II, Div.1, Groups F & G at 600VAC, 60/400 Hz, Circuit-Breaking.**
- AEx d IIC T6**

ATEX/IECEX Certifications

- II 2 GD Ex d IIC IP 66/67 T 70°C 1000VAC, 500VDC**

FEATURES-SPECIFICATIONS

Features

- **SEALING.** All junction box, NPT and panel mount receptacles are pre-wired and factory sealed eliminating the need for external seals.
- **COVERS.** Environmental threaded covers are standard with all connectors.
- **PIGTAILS.** Receptacle leads may be ordered in any length.
- **REVERSE SERVICE** Vantage connectors were the first explosionproof connectors to secure both UL and CSA listing with reverse service inserts. Their ATEX listing also supports reverse service. This feature provides electrical safety where lineside power is carried from the plug to a receptacle.
- **KEYING.** Inserts can be keyed for phase and voltage separation.
- **COLOR CODING.** Connectors may be ordered in a range of colors and combinations of color.
- **CUSTOM ASSEMBLIES.** Available to user's specifications.
- **CIRCUIT-BREAKING:** UL and CSA Listed to make/break at full rated load. These connectors were required to pass an overload test of 50 cycles at 150% of their ampere rating in a chamber filled with a test mixture of hazardous vapors.

- **INSERT PATTERNS** Grounding inserts with 3, 4, 5, and 6 contacts are described as 2 Pole / 3 Wire, 3 Pole / 4 Wire, 4 Pole / 5 Wire, and 3 Pole / 4 Wire plus 2 relay length contacts. The ground pin is longer and will make first - break last, an important safety feature.
- **COLOR CODING** Plugs and receptacles are available with color coding variations for specific application identification. This coding could include the plug coupling nut and cover with matching colors on various receptacle components.



Materials

- **CORROSION RESISTANCE** Designed for corrosive environments, junction boxes are sand cast, copper-free aluminum, protected by our VanGuard baked polymer finish system. Plug and receptacle shells are machined from 6061-T6 aluminum (0.15 to 0.40% copper by weight) and finished by hard anodizing. SD/SF plug and receptacle shells are machined from 316 stainless steel.

Electrical Ratings

- **CONTROL INSERTS:** Multi-pin inserts can be specified for either crimp or solder termination with contacts whose size and amp ratings are as follows (inserts with the highest contact density per shell size are):

Shell 16	61 - #18 AWG contacts
Shell 20	90 - #18 AWG contacts
Shell 24	100 - #16 AWG contacts

CONTROL CONNECTORS

- Amperage = Up to 30A
- Voltage = Up to 250VAC, 125VDC
- Frequency = 50/60/400 Hz

POWER CONNECTORS

- Amperage = Up to 200A
- Voltage = Up to 1000VAC, 500VDC
- Frequency = 50/60/400 Hz

PIN - SOCKET WIRE SIZE	AMPS	
	US	
18 AWG (.75 mm ²)	3.5	10
16 AWG (1.5 mm ²)	6.5	15
12 AWG (4.0 mm ²)	10	20
8 AWG (10 mm ²)	30	32
4 AWG (25 mm ²)	60	63
1/0 AWG (55 mm ²)	100	125
4/0 (120 mm ²)	200	260

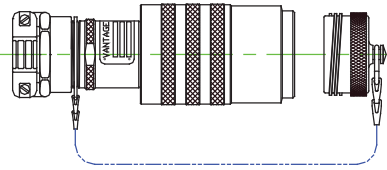




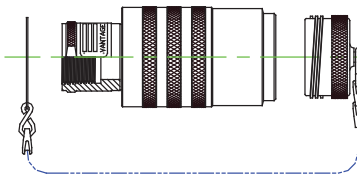
XP Starline Features

The **VANTAGE XP STAR-LINE SERIES** of explosionproof connectors is offered in a variety of materials and configurations. Product options and an array of third party listings mean we have a solution for your application. Note, options and features may vary based on third party listing.

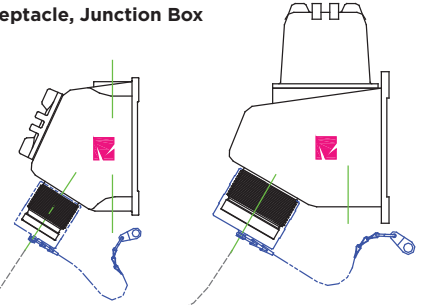
Plug, Attachment (Mechanical Clamp)



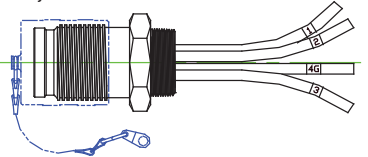
Plug, Tapped NPT (for use with Cable Gland)



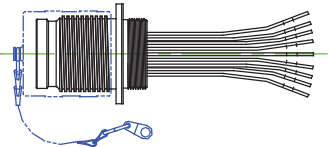
Receptacle, Junction Box



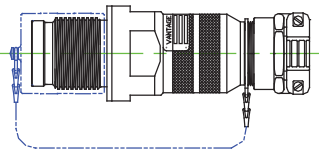
Receptacle, NPT Panel Mount



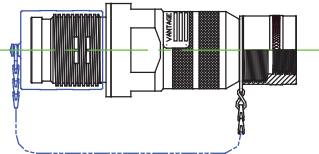
Receptacle, Panel Mount



Receptacle, Attachment (Mechanical Clamp)



Receptacle, Tapped NPT (for use with Cable Gland)



VICTORY SERIES MACHINED, HARD ANODIZED ALUMINUM			
GD POWER	II 2 GD EEx d IIC T6 IP 66/67 T 70°C	Class I, Division 1, Groups B, C & D Class II, Division 1, Groups F & G	Class I, Division 1, Groups C & D
AF CONTROL			
MILLENNIUM SERIES STAINLESS STEEL, ALLOY 316			
SD POWER	II 2 GD EEx d IIC T6 IP 66/67 T 70°C	Class I, Division 1, Groups B, C & D Class II, Division 1, Groups F & G	
SF CONTROL		Class I, Division 1, Groups B, C & D Class II, Division 1, Groups F & G	

RECEPTACLE STYLES				
JUNCTION BOX	ATTACHMENT (MECHANICAL CLAMP)	PANEL MOUNT	NPT PANEL MOUNT	TAPPED NPT

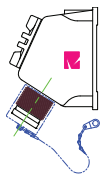
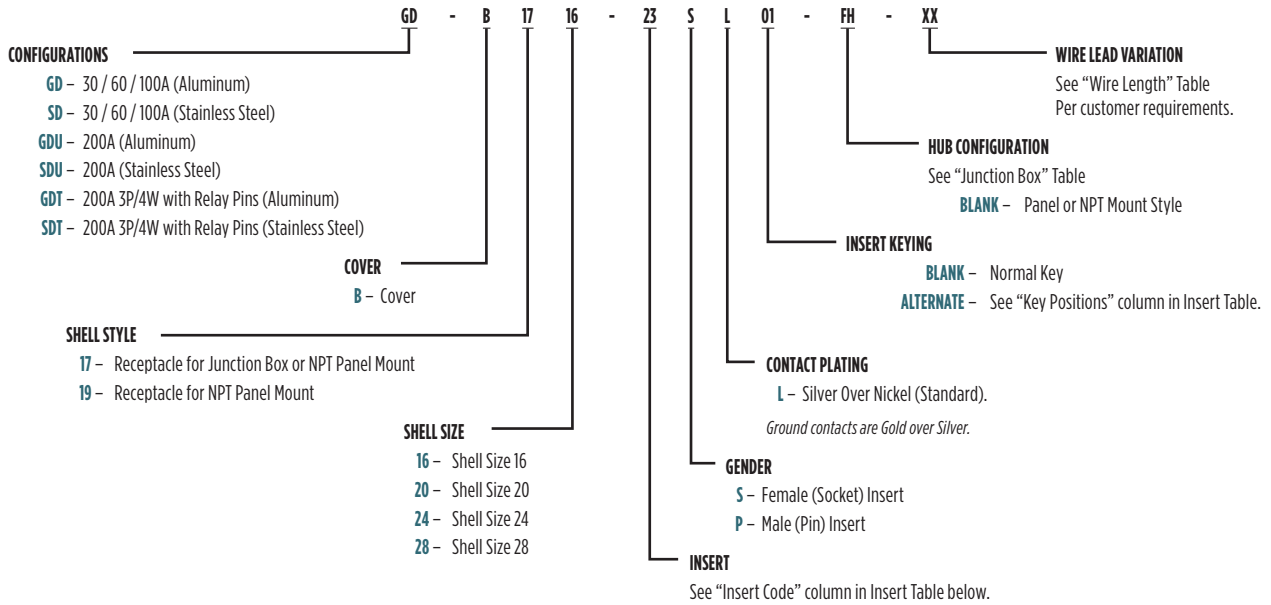


CONNECTIVITY

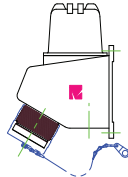
EXPLOSIONPROOF STARLINE

Code Logic • GD & SD Receptacles

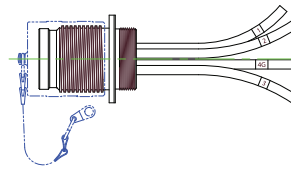
CATALOG LOGIC



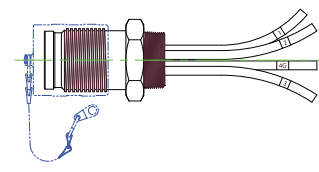
Receptacle, Junction Box



Receptacle, Junction Box



Receptacle, Panel Mount



Receptacle, NPT Panel Mount

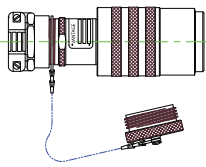
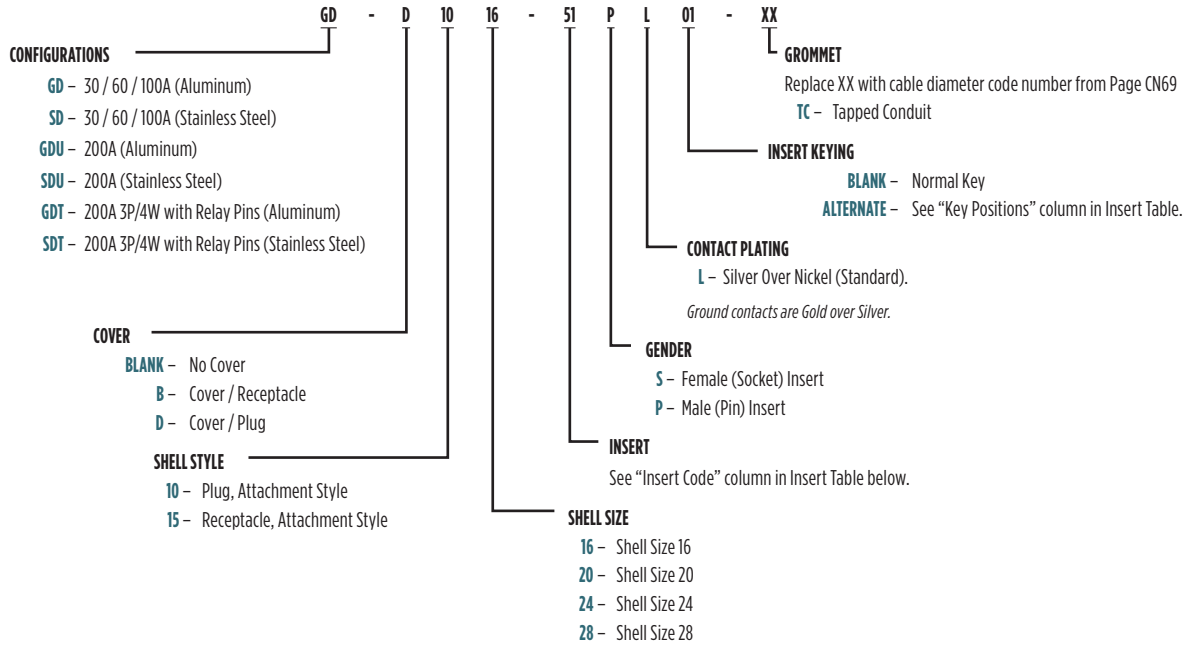
INSERT TABLE					
AMPERES		INSERT	SHELL SIZE	INSERT CODE	KEY POSITIONS (N = NORMAL POSITION)
UL	cSP US				
30	32	2 POLE, 3 WIRE	16	51	N + 5
		3 POLE, 4 WIRE	16	23	N + 5
		4 POLE, 5 WIRE	20	36	N + 2
60	63	2 POLE, 3 WIRE	20	61	N + 7
		3 POLE, 4 WIRE	20	40	N + 4
		4 POLE, 5 WIRE	24	29	N + 3
100	125	2 POLE, 3 WIRE	24	60	N + 7
		3 POLE, 4 WIRE	24	39	N + 5
		4 POLE, 5 WIRE	28	23	N + 3
200	260	2 POLE, 3 WIRE	28	30	N + 9
		3 POLE, 4 WIRE	28	31	N + 10
		5 POLE 6 WIRE (3 POLE 4 WIRE and 2 relay contacts)	28	42	N + 3

WIRE LENGTH		
CODE	LENGTH	
	INCHES	METERS
L12	12	0.31
L24	24	0.61
L36	36	0.91
Etc	Etc	

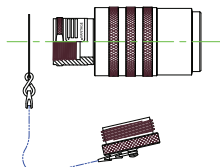
JUNCTION BOX		
SHELL SIZE	CONDUIT HUB LOCATION	CONDUIT HUB SIZE (INCHES)
16 & 20	'F' TOP & BOTTOM	'H' 1½ - 11½ NPT
24	'B' BOTTOM	'K' 2½ - 8 NPT
28	'B' BOTTOM	'L' 3 - 8 NPT



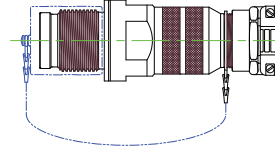
Code Logic • GD & SD Attachment Connectors



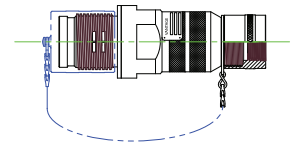
Plug, Attachment



Plug, Tapped Conduit



Receptacle, Attachment



Receptacle, Tapped Conduit

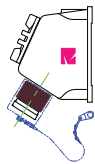
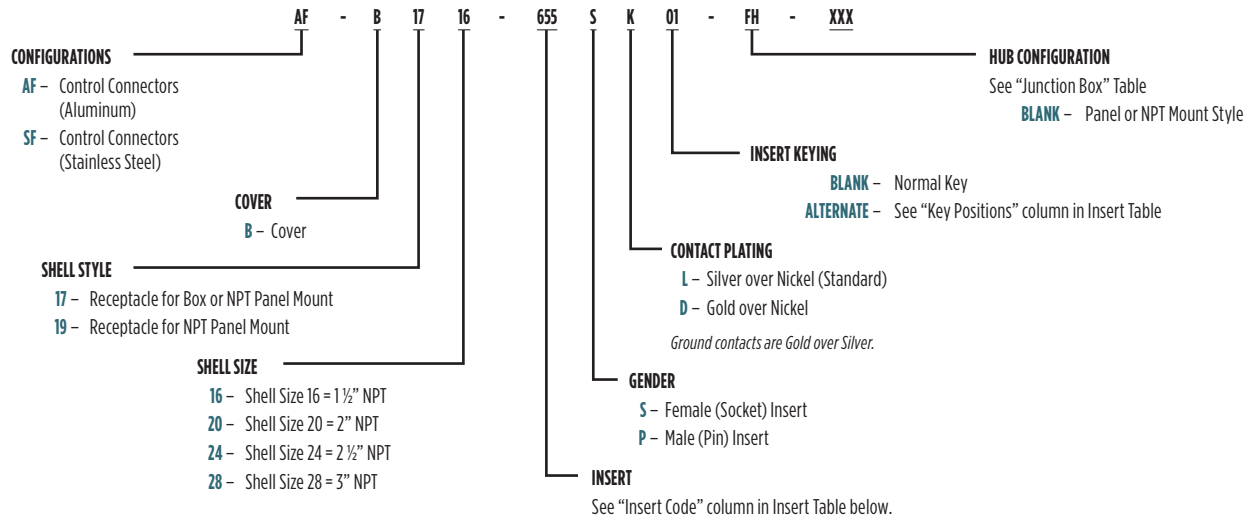
INSERT TABLE						
AMPERES			INSERT	SHELL SIZE	INSERT CODE	KEY POSITIONS (N = NORMAL POSITION)
UL	c SB US	Ex				
30	32		2 POLE, 3 WIRE	16	51	N + 5
			3 POLE, 4 WIRE	16	23	N + 5
			4 POLE, 5 WIRE	20	36	N + 2
60	63		2 POLE, 3 WIRE	20	61	N + 7
			3 POLE, 4 WIRE	20	40	N + 4
			4 POLE, 5 WIRE	24	29	N + 3
100	125		2 POLE, 3 WIRE	24	60	N + 7
			3 POLE, 4 WIRE	24	39	N + 5
			4 POLE, 5 WIRE	28	23	N + 3
200	260		2 POLE, 3 WIRE	28	30	N + 9
			3 POLE, 4 WIRE	28	31	N + 10
			5 POLE 6 WIRE (3 POLE 4 WIRE and 2 relay contacts)	28	42	N + 3



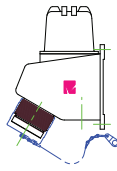
CONNECTIVITY

EXPLOSIONPROOF STARLINE

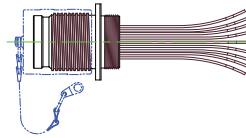
Code Logic • AF & SF Receptacles



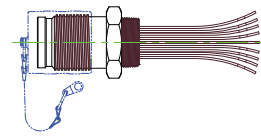
Receptacle, Junction Box



Receptacle, Junction Box



Receptacle, Panel Mount



Receptacle, NPT Panel Mount

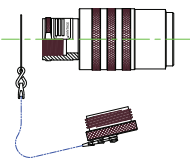
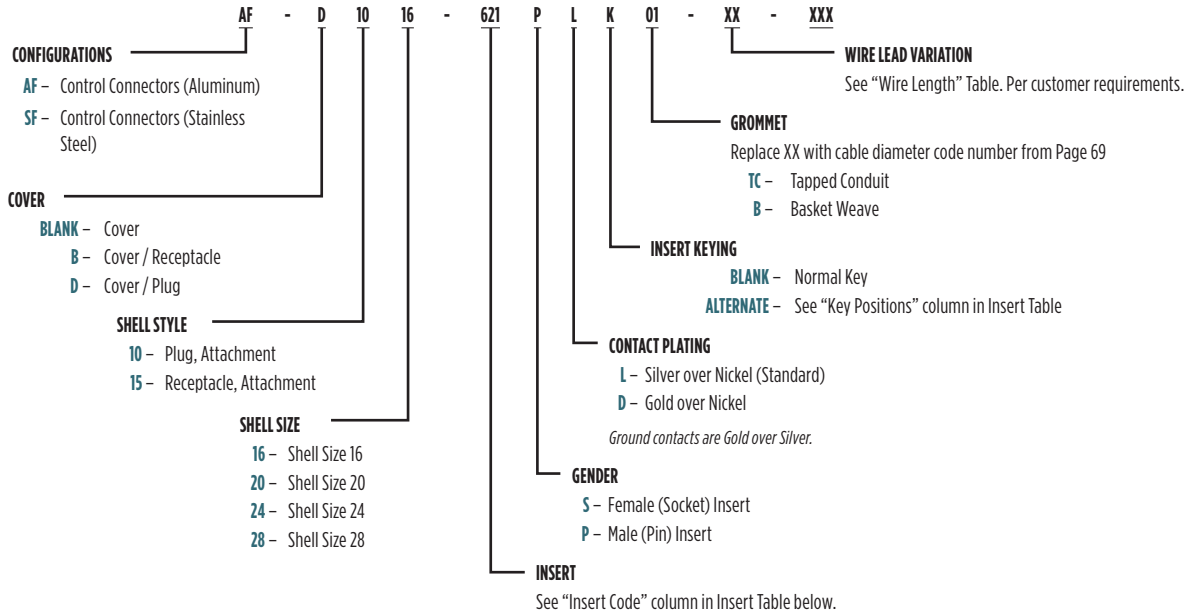
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CONTACT QUANTITY	PIN SIZE AWG (MM ²)	SHELL SIZE	INSERT CODE	KEY POSITIONS (N = NORMAL POSITION)
10	#12 (4.0)	16	681	N + 4
10	#12 / G (4.0)	16	676	N + 1
19	#12 / G (4.0)	16	612	N + 4
19	#12 (4.0)	16	677	N + 1
19	#12 (4.0)	20	676	N + 5
19	#12 / G (4.0)	20	688	N
19	#16 (1.5)	16	655	N + 9
20	#12 (4.0)	20	652	N + 3
20	#12 / G (4.0)	20	687	N + 1
37	#12 (4.0)	20	686	N
37	#12 / G (4.0)	20	650	N + 3
37	#16 (1.5)	16	621	N + 9
55	#18 (.75)	16	640	N + 10
61	#18 (.75)	16	633	N + 4
68	#16 (1.5)	20	613	N + 4
100	#16 (1.5)	24	613	N + 4

CODE	WIRE LENGTH	
	INCHES	METERS
L12	12	0.31
L24	24	0.61
L36	36	0.91
Etc		Etc

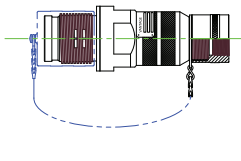
JUNCTION BOX		
SHELL SIZE	CONDUIT HUB LOCATION	CONDUIT HUB SIZE (INCHES)
16 & 20	'F' TOP & BOTTOM	'H' 1 1/2 - 1 1/2 NPT
24	'B' BOTTOM	'K' 2 1/2 - 8 NPT
28	'B' BOTTOM	'L' 3 - 8 NPT



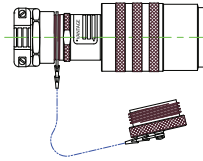
Code Logic • AF & SF Attachment Connectors



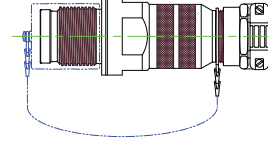
Plug, Tapped Conduit



Receptacle, Tapped Conduit



Plug, Attachment



Receptacle, Attachment

INSERT TABLE

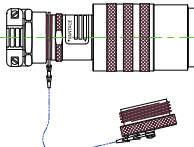
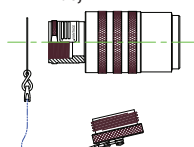
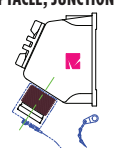
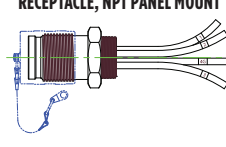
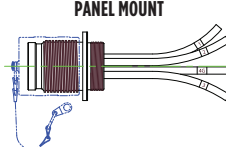
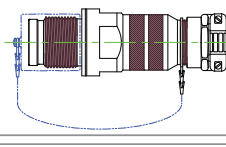
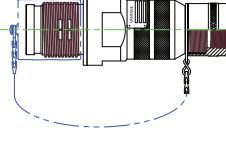
CONTACT QUANTITY	PIN SIZE AWG (MM ²)	SHELL SIZE	INSERT CODE	KEY POSITIONS (N = NORMAL POSITION)
10	#12 (4.0)	16	681	N + 4
10	#12 / G (4.0)	16	676	N + 1
19	#12 / G (4.0)	16	612	N + 4
19	#12 (4.0)	16	677	N + 1
19	#12 (4.0)	20	676	N + 5
19	#12 / G (4.0)	20	688	N
19	#16 (1.5)	16	655	N + 9
20	#12 (4.0)	20	632	N + 3
20	#12 / G (4.0)	20	687	N + 1
37	#12 (4.0)	20	686	N
37	#12 / G (4.0)	20	650	N + 3
37	#16 (1.5)	16	621	N + 9
55	#18 (.75)	16	640	N + 10
61	#18 (.75)	16	633	N + 4
68	#16 (1.5)	20	613	N + 4
100	#16 (1.5)	24	613	N + 4



CONNECTIVITY

EXPLOSIONPROOF STARLINE

GD Part Numbers

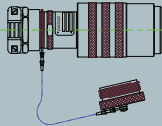
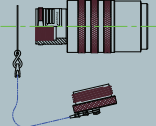



	AMPERES		2 POLE, 3 WIRE	3 POLE, 4 WIRE	3 POLE, 4 WIRE + 2 RELAY	4 POLE, 5 WIRE
	UL	Ex				
PLUG, ATTACHMENT 	30 / 32		GD-D1016-51PL-XX	GD-D1016-23PL-XX	—	GD-D1020-36PL-XX
	60 / 63		GD-D1020-61PL-XX	GD-D1020-40PL-XX	GD-D1020-56PL-XX	GD-D1024-29PL-XX
	100 / 125		GD-D1024-60PL-XX	GD-D1024-39PL-XX	GD-D1024-32PL-XX	GD-D1028-23PL-XX
	200 / 260		GDU-D1028-30PL-XX	GDU-D1028-31PL-XX	GDT-D1028-42PL-XX	—
PLUG, TAPPED NPT 	30 / 32		GD-D1016-51PL-TC	GD-D1016-23PL-TC	—	GD-D1020-36PL-TC
	60 / 63		GD-D1020-61PL-TC	GD-D1020-40PL-TC	GD-D1020-56PL-TC	GD-D1024-29PL-TC
	100 / 125		GD-D1024-60PL-TC	GD-D1024-39PL-TC	GD-D1024-32PL-TC	GD-D1028-23PL-TC
	200 / 260		GDU-D1028-30PL-TC	GDU-D1028-31PL-TC	GDT-D1028-42PL-TC	—
RECEPTACLE, JUNCTION BOX 	30 / 32		GD-B1716-51SL-FH	GD-B1716-23SL-FH	—	GD-B1720-36SL-FH
	60 / 63		GD-B1720-61SL-FH	GD-B1720-40SL-FH	GD-B1720-56SL-FH	GD-B1724-29SL-BK
	100 / 125		GD-B1724-60SL-BK	GD-B1724-39SL-BK	GD-B1724-32SL-BK	GD-B1728-23SL-BL
	200 / 260		GDU-B1728-30SL-BL	GDU-B1728-31SL-BL	GDT-B1728-42SL-BL	—
RECEPTACLE, NPT PANEL MOUNT 	30 / 32		GD-B1916-51SL-L48	GD-B1916-23SL-L48	—	GD-B1920-36SL-L48
	60 / 63		GD-B1920-61SL-L48	GD-B1920-40SL-L48	GD-B1920-56SL-L48	GD-B1924-29SL-L48
	100 / 125		GD-B1924-60SL-L48	GD-B1924-39SL-L48	GD-B1924-32SL-L48	GD-B1928-23SL-L48
	200 / 260		GDU-B1928-30SL-L48	GDU-B1928-31SL-L48	GDT-B1928-42SL-L48	—
RECEPTACLE, PANEL MOUNT 	30 / 32		GD-B1716-51SL-L36	GD-B1716-23SL-L36	—	GD-B1720-36SL-L36
	60 / 63		GD-B1720-61SL-L36	GD-B1720-40SL-L36	GD-B1720-56SL-L36	GD-B1724-29SL-L36
	100 / 125		GD-B1724-60SL-L36	GD-B1724-39SL-L36	GD-B1724-32SL-L36	GD-B1728-23SL-L36
	200 / 260		GDU-B1728-30SL-L36	GDU-B1728-31SL-L36	GDT-B1728-42SL-L36	—
RECEPTACLE, ATTACHMENT 	30 / 32		GD-B1516-51SL-XX	GD-B1516-23SL-XX	—	GD-B1520-36SL-XX
	60 / 63		GD-B1520-61SL-XX	GD-B1520-40SL-XX	GD-B1520-56SL-XX	GD-B1524-29SL-XX
	100 / 125		GD-B1524-60SL-XX	GD-B1524-39SL-XX	GD-B1524-32SL-XX	GD-B1528-23SL-XX
	200 / 260		GDU-B1528-30SL-XX	GDU-B1528-31SL-XX	GDT-B1528-42SL-XX	—
RECEPTACLE, TAPPED NPT 	30 / 32		GD-B1516-51SL-TC	GD-B1516-23SL-TC	—	GD-B1520-36SL-TC
	60 / 63		GD-B1520-61SL-TC	GD-B1520-40SL-TC	GD-B1520-56SL-TC	GD-B1524-29SL-TC
	100 / 125		GD-B1524-60SL-TC	GD-B1524-39SL-TC	GD-B1524-32SL-TC	GD-B1528-23SL-TC
	200 / 260		GDU-B1528-30SL-TC	GDU-B1528-31SL-TC	GDT-B1528-42SL-TC	—

Replace 'XX' with cable diameter code number from XP Starline Environmental Sealing chart
 Pre-wired lead length can be specified to suit application. Consult factory

CONNECTIVITY EXPLOSIONPROOF STARLINE



AF Part Numbers

PIN QUANTITY	PIN SIZE AWG (MM2) 'G' = WITH GROUND PIN	AMPS @ 250 VAC ¹		PLUG, ATTACHMENT 	PLUG, TAPPED CONDUIT 	RECEPTACLE, JUNCTION BOX 
						
10	#12 (4.0)	10.0	20	AF-D1016-681PL-XX	AF-D1016-681PL-TC	AF-B1716-681SL-FH
10	#12 G (4.0)	10.0	20	AF-D1016-676PL-XX	AF-D1016-676PL-TC	AF-B1716-676SL- FH
19	#12 G (4.0)	10.0	20	AF-D1016-612PL-XX	AF-D1016-612PL-TC	AF-B1716-612SL- FH
19	#12 (4.0)	10.0	20	AF-D1016-677PL-XX	AF-D1016-677PL-TC	AF-B1716-677SL- FH
19	#12 (4.0)	10.0 ¹	20	AF-D1020-676PL-XX	AF-D1020-676PL-TC	AF-B1720-676SL- FH
19	#12 G (4.0)	10.0 ¹	20	AF-D1020-688PL-XX	AF-D1020-688PL-TC	AF-B1720-688SL- FH
19	#16 (1.5)	6.5	15	AF-D1016-655PL-XX	AF-D1016-655PL-TC	AF-B1716-655SL- FH
20	#12 (4.0)	10.0	20	AF-D1020-632PL-XX	AF-D1020-632PL-TC	AF-B1720-632SL- FH
20	#12 G (4.0)	10.0	20	AF-D1020-687PL-XX	AF-D1020-687PL-TC	AF-B1720-687SL- FH
37	#12 (4.0)	10.0	20	AF-D1020-686PL-XX	AF-D1020-686PL-TC	AF-B1720-686SL- FH
37	#12 G (4.0)	10.0	20	AF-D1020-650PL-XX	AF-D1020-650PL-TC	AF-B1720-650SL- FH
37	#16 (1.5)	6.5	15	AF-D1016-621PL-XX	AF-D1016-621PL-TC	AF-B1716-621SL- FH
55	#18 (.75)	3.5	10	AF-D1016-640PL-XX	AF-D1016-640PL-TC	AF-B1716-640SL- FH
61	#18 (.75)	3.5	10	AF-D1016-633PL-XX	AF-D1016-633PL-TC	AF-B1716-633SL- FH
68	#16 (1.5)	6.5	15	AF-D1020-613PL-XX	AF-D1020-613PL-TC	AF-B1720-613SL- FH
100	#16 (1.5)	5.0	15	AF-D1024-613PL-XX	AF-D1024-613PL-TC	AF-B1724-613SL-BK

Replace "XX" with cable diameter code number from XP Starline Environmental Sealing chart

Pre-wired lead length can be specified to suit application. Consult factory



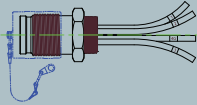
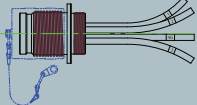
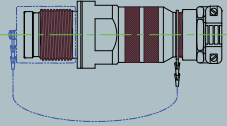
¹ = Insert is also rated 480 VAC non-circuit breaking.



CONNECTIVITY

EXPLOSIONPROOF STARLINE

AF Part Numbers

PIN QUANTITY	PIN SIZE AWG (MM ²) 'G' = WITH GROUND PIN	AMPS @ 250 VAC ¹		RECEPTACLE, NPT	RECEPTACLE, PANEL MOUNT	RECEPTACLE, ATTACHMENT
						
10	#12 (4.0)	10.0	20	AF-B1916-681SL-L48	AF-B1716-681SL-L36	AF-B1516-681SL-XX
10	#12 G (4.0)	10.0	20	AF-B1916-676SL-L48	AF-B1716-676SL-L36	AF-B1516-676SL-XX
19	#12 G (4.0)	10.0	20	AF-B1916-612SL-L48	AF-B1716-612SL-L36	AF-B1516-612SL-XX
19	#12 (4.0)	10.0	20	AF-B1916-677SL-L48	AF-B1716-677SL-L36	AF-B1516-677SL-XX
19	#12 (4.0)	10.0 ¹	20	AF-B1920-676SL-L48	AF-B1720-676SL-L36	AF-B1520-676SL-XX
19	#12 G (4.0)	10.0 ¹	20	AF-B1920-688SL-L48	AF-B1720-688SL-L36	AF-B1520-688SL-XX
19	#16 (1.5)	6.5	15	AF-B1916-655SL-L48	AF-B1716-655SL-L36	AF-B1516-655SL-XX
20	#12 (4.0)	10.0	20	AF-B1920-632SL-L48	AF-B1720-632SL-L36	AF-B1520-632SL-XX
20	#12 G (4.0)	10.0	20	AF-B1920-687SL-L48	AF-B1720-687SL-L36	AF-B1520-687SL-XX
37	#12 (4.0)	10.0	20	AF-B1920-686SL-L48	AF-B1720-686SL-L36	AF-B1520-686SL-XX
37	#12 G (4.0)	10.0	20	AF-B1920-650SL-L48	AF-B1720-650SL-L36	AF-B1520-650SL-XX
37	#16 (1.5)	6.5	15	AF-B1916-621SL-L48	AF-B1716-621SL-L36	AF-B1516-621SL-XX
55	#18 (.75)	3.5	10	AF-B1916-640SL-L48	AF-B1716-640SL-L36	AF-B1516-640SL-XX
61	#18 (.75)	3.5	10	AF-B1916-633SL-L48	AF-B1716-633SL-L36	AF-B1516-633SL-XX
68	#16 (1.5)	6.5	15	AF-B1920-613SL-L48	AF-B1720-613SL-L36	AF-B1520-613SL-XX
100	#16 (1.5)	5.0	15	AF-B1924-613SL-L48	AF-B1724-613SL-L36	AF-B1524-613SL-XX

Replace 'XX' with cable diameter code number from XP Starline Environmental Sealing chart

Pre-wired lead length can be specified to suit application. Consult factory

¹ = Insert is also rated 480 VAC non-circuit breaking.



SD Part Numbers

	AMPERES		2 POLE, 3 WIRE	3 POLE, 4 WIRE	3 POLE, 4 WIRE + 2 RELAY	4 POLE, 5 WIRE
	UL	Ex				
PLUG, ATTACHMENT 	30 / 32		SD-D1016-51PL-XX	SD-D1016-23PL-XX	—	SD-D1020-36PL-XX
	60 / 63		SD-D1020-61PL-XX	SD-D1020-40PL-XX	SD-D1020-56PL-XX	SD-D1024-29PL-XX
	100 / 125		SD-D1024-60PL-XX	SD-D1024-39PL-XX	SD-D1024-32PL-XX	SD-D1028-23PL-XX
	200 / 260		SDU-D1028-30PL-XX	SDU-D1028-31PL-XX	SDT-D1028-42PL-XX	—
PLUG, TAPPED NPT 	30 / 32		SD-D1016-51PL-TC	SD-D1016-23PL-TC	—	SD-D1020-36PL-TC
	60 / 63		SD-D1020-61PL-TC	SD-D1020-40PL-TC	SD-D1020-56PL-TC	SD-D1024-29PL-TC
	100 / 125		SD-D1024-60PL-TC	SD-D1024-39PL-TC	SD-D1024-32PL-TC	SD-D1028-23PL-TC
	200 / 260		SDU-D1028-30PL-TC	SDU-D1028-31PL-TC	SDT-D1028-42PL-TC	—
RECEPTACLE, JUNCTION BOX 	30 / 32		SD-B1716-51SL-FH	SD-B1716-23SL-FH	—	SD-B1720-36SL-FH
	60 / 63		SD-B1720-61SL-FH	SD-B1720-40SL-FH	SD-B1720-56SL-FH	SD-B1724-29SL-BK
	100 / 125		SD-B1724-60SL-BK	SD-B1724-39SL-BK	SD-B1724-32SL-BK	SD-B1728-23SL-BL
	200 / 260		SDU-B1728-30SL-BL	SDU-B1728-31SL-BL	SDT-B1728-42SL-BL	—
RECEPTACLE, NPT PANEL MOUNT 	30 / 32		SD-B1916-51SL-L48	SD-B1916-23SL-L48	—	SD-B1920-36SL-L48
	60 / 63		SD-B1920-61SL-L48	SD-B1920-40SL-L48	SD-B1920-56SL-L48	SD-B1924-29SL-L48
	100 / 125		SD-B1924-60SL-L48	SD-B1924-39SL-L48	SD-B1924-32SL-L48	SD-B1928-23SL-L48
	200 / 260		SDU-B1928-30SL-L48	SDU-B1928-31SL-L48	SDT-B1928-42SL-L48	—
RECEPTACLE, PANEL MOUNT 	30 / 32		SD-B1716-51SL-L36	SD-B1716-23SL-L36	—	SD-B1720-36SL-L36
	60 / 63		SD-B1720-61SL-L36	SD-B1720-40SL-L36	SD-B1720-56SL-L36	SD-B1724-29SL-L36
	100 / 125		SD-B1724-60SL-L36	SD-B1724-39SL-L36	SD-B1724-32SL-L36	SD-B1728-23SL-L36
	200 / 260		SDU-B1728-30SL-L36	SDU-B1728-31SL-L36	SDT-B1728-42SL-L36	—
RECEPTACLE, ATTACHMENT 	30 / 32		SD-B1516-51SL-XX	SD-B1516-23SL-XX	—	SD-B1520-36SL-XX
	60 / 63		SD-B1520-61SL-XX	SD-B1520-40SL-XX	SD-B1520-56SL-XX	SD-B1524-29SL-XX
	100 / 125		SD-B1524-60SL-XX	SD-B1524-39SL-XX	SD-B1524-32SL-XX	SD-B1528-23SL-XX
	200 / 260		SDU-B1528-30SL-XX	SDU-B1528-31SL-XX	SDT-B1528-42SL-XX	—
RECEPTACLE, TAPPED NPT 	30 / 32		SD-B1516-51SL-TC	SD-B1516-23SL-TC	—	SD-B1520-36SL-TC
	60 / 63		SD-B1520-61SL-TC	SD-B1520-40SL-TC	SD-B1520-56SL-TC	SD-B1524-29SL-TC
	100 / 125		SD-B1524-60SL-TC	SD-B1524-39SL-TC	SD-B1524-32SL-TC	SD-B1528-23SL-TC
	200 / 260		SDU-B1528-30SL-TC	SDU-B1528-31SL-TC	SDT-B1528-42SL-TC	—

Replace 'XX' with cable diameter code number from XP Starline Environmental Sealing chart

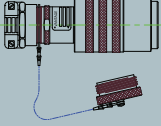
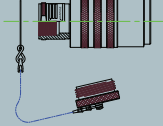



Pre-wired lead length can be specified to suit application. Consult factory



CONNECTIVITY

EXPLOSIONPROOF STARLINE

SF Part Numbers

PIN QUANTITY	PIN SIZE AWG (MM ²) 'G' = WITH GROUND PIN	AMPS @ 250 VAC ¹		PLUG, ATTACHMENT 	PLUG, TAPPED CONDUIT 	RECEPTACLE, JUNCTION BOX 
						
10	#12 (4.0)	10.0	20	SF-D1016-681PL-XX	SF-D1016-681PL-TC	SF-B1716-681SL-FH
10	#12 G (4.0)	10.0	20	SF-D1016-676PL-XX	SF-D1016-676PL-TC	SF-B1716-676SL-FH
19	#12 G (4.0)	10.0	20	SF-D1016-612PL-XX	SF-D1016-612PL-TC	SF-B1716-612SL-FH
19	#12 (4.0)	10.0	20	SF-D1016-677PL-XX	SF-D1016-677PL-TC	SF-B1716-677SL-FH
19	#12 (4.0)	10.0 ¹	20	SF-D1020-676PL-XX	SF-D1020-676PL-TC	SF-B1720-676SL-FH
19	#12 G (4.0)	10.0 ¹	20	SF-D1020-688PL-XX	SF-D1020-688PL-TC	SF-B1720-688SL-FH
19	#16 (1.5)	6.5	15	SF-D1016-655PL-XX	SF-D1016-655PL-TC	SF-B1716-655SL-FH
20	#12 (4.0)	10.0	20	SF-D1020-632PL-XX	SF-D1020-632PL-TC	SF-B1720-632SL-FH
20	#12 G (4.0)	10.0	20	SF-D1020-687PL-XX	SF-D1020-687PL-TC	SF-B1720-687SL-FH
37	#12 (4.0)	10.0	20	SF-D1020-686PL-XX	SF-D1020-686PL-TC	SF-B1720-686SL-FH
37	#12 G (4.0)	10.0	20	SF-D1020-650PL-XX	SF-D1020-650PL-TC	SF-B1720-650SL-FH
37	#16 (1.5)	6.5	15	SF-D1016-621PL-XX	SF-D1016-621PL-TC	SF-B1716-621SL-FH
55	#18 (.75)	3.5	10	SF-D1016-640PL-XX	SF-D1016-640PL-TC	SF-B1716-640SL-FH
61	#18 (.75)	3.5	10	SF-D1016-633PL-XX	SF-D1016-633PL-TC	SF-B1716-633SL-FH
68	#16 (1.5)	6.5	15	SF-D1020-613PL-XX	SF-D1020-613PL-TC	SF-B1720-613SL-FH
100	#16 (1.5)	5.0	15	SF-D1024-613PL-XX	SF-D1024-613PL-TC	SF-B1724-613SL-BK

Replace 'XX' with cable diameter code number from XP Starline Environmental Sealing chart



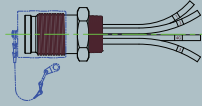
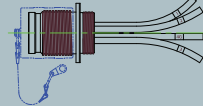
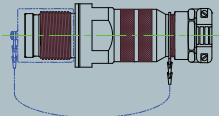
Pre-wired lead length can be specified to suit application. Consult factory

¹ = Insert is also rated 480 VAC non-circuit breaking.

CONNECTIVITY EXPLOSIONPROOF STARLINE



SF Part Numbers Continued

PIN QUANTITY	PIN SIZE AWG (MM ²) 'G' = WITH GROUND PIN	AMPS @ 250 VAC ¹		RECEPTACLE, NPT	RECEPTACLE, PANEL MOUNT	RECEPTACLE, ATTACHMENT
						
10	#12 (4.0)	10.0	20	SF-B1916-681SL-L48	SF-B1716-681SL-L36	SF-B1516-681SL-XX
10	#12 G (4.0)	10.0	20	SF-B1916-676SL-L48	SF-B1716-676SL-L36	SF-B1516-676SL-XX
19	#12 G (4.0)	10.0	20	SF-B1916-612SL-L48	SF-B1716-612SL-L36	SF-B1516-612SL-XX
19	#12 (4.0)	10.0	20	SF-B1916-677SL-L48	SF-B1716-677SL-L36	SF-B1516-677SL-XX
19	#12 (4.0)	10.0 ¹	20	SF-B1920-676SL-L48	SF-B1720-676SL-L36	SF-B1520-676SL-XX
19	#12 G (4.0)	10.0 ¹	20	SF-B1920-688SL-L48	SF-B1720-688SL-L36	SF-B1520-688SL-XX
19	#16 (1.5)	6.5	15	SF-B1916-655SL-L48	SF-B1716-655SL-L36	SF-B1516-655SL-XX
20	#12 (4.0)	10.0	20	SF-B1920-632SL-L48	SF-B1720-632SL-L36	SF-B1520-632SL-XX
20	#12 G (4.0)	10.0	20	SF-B1920-687SL-L48	SF-B1720-687SL-L36	SF-B1520-687SL-XX
37	#12 (4.0)	10.0	20	SF-B1920-686SL-L48	SF-B1720-686SL-L36	SF-B1520-686SL-XX
37	#12 G (4.0)	10.0	20	SF-B1920-650SL-L48	SF-B1720-650SL-L36	SF-B1520-650SL-XX
37	#16 (1.5)	6.5	15	SF-B1916-621SL-L48	SF-B1716-621SL-L36	SF-B1516-621SL-XX
55	#18 (.75)	3.5	10	SF-B1916-640SL-L48	SF-B1716-640SL-L36	SF-B1516-640SL-XX
61	#18 (.75)	3.5	10	SF-B1916-633SL-L48	SF-B1716-633SL-L36	SF-B1516-633SL-XX
68	#16 (1.5)	6.5	15	SF-B1920-613SL-L48	SF-B1720-613SL-L36	SF-B1520-613SL-XX
100	#16 (1.5)	5.0	15	SF-B1924-613SL-L48	SF-B1724-613SL-L36	SF-B1524-613SL-XX

Replace 'XX' with cable diameter code number from XP Starline Environmental Sealing chart

Pre-wired lead length can be specified to suit application. Consult factory

¹ = Insert is also rated 480 VAC non-circuit breaking.

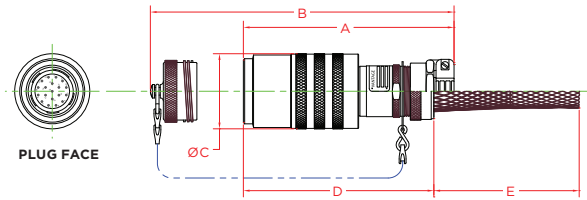


XP Starline Dimensions

ATTACHMENT PLUG

	SHELL SIZE	A INCHES ±0.3 (MM ±8)	B INCHES ±0.3 (MM ±8)	C INCHES (MM)	D INCHES ±0.3 (MM ±8)	E INCHES (MM)	WEIGHT ¹ LBS (KG)
AF/SF GD/SD BM Stainless Steel Weight Factor 2.0	16	9.3 (236)	10.3 (262)	2.977 (75.6)	8.4 (213)	3.75 - 10.25 (95 - 260)	4.0 (1.8)
	20	10.0 (254)	11.0 (279)	3.577 (90.9)	9.0 (229)	5.75 - 14.25 (146 - 362)	5.2 (2.4)
	24	10.4 (264)	11.4 (290)	4.182 (106.2)	9.4 (239)	8.25 - 17.25 (210 - 438)	7.2 (3.3)
	28	10.9 (277)	11.9 (302)	4.814 (122.3)	9.8 (249)	13.75 - 19.75 (349 - 502)	9.1 (4.1)
GB/SB GDU/SDU Stainless Steel Weight Factor 2.0	16	10.3 (262)	11.3 (287)	2.977 (75.6)	9.4 (238)	3.75 - 10.25 (95 - 260)	3.9 (1.8)
	20	11.0 (279)	12.0 (305)	3.577 (90.9)	10.0 (254)	5.75 - 14.25 (146 - 362)	6.0 (2.7)
	24	11.4 (290)	12.4 (315)	4.182 (106.2)	10.4 (264)	8.25 - 17.25 (210 - 438)	8.4 (3.8)
	28	11.9 (302)	12.9 (328)	4.814 (122.3)	10.8 (274)	13.75 - 19.75 (349 - 502)	12.1 (5.5)

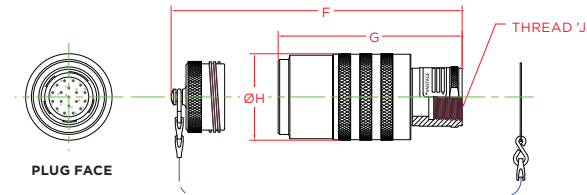
- Weights provided for Victory Series (aluminum) with mechanical clamp configuration. Multiply by "Stainless Steel Weight Factor" to determine weight for Millennium Series (stainless steel).



NPT TAPPED PLUG

	SHELL SIZE	F INCHES (MM)	G INCHES (MM)	H INCHES (MM)	NPT THREAD 'J'	WEIGHT ¹ LBS (KG)	WEIGHT ¹ LBS (KG)
AF/SF GD/SD BM Stainless Steel Weight Factor 2.4	16	7.9 (200)	6.9 (175)	2.977 (75.6)	1 ½ - 11 ½	2.9 (1.3)	4.0 (1.8)
	20	8.2 (208)	7.2 (183)	3.577 (90.9)	1 ½ - 11 ½	4.0 (1.8)	5.2 (2.4)
	24	8.4 (213)	7.4 (188)	4.182 (106.2)	2 - 11 ½	5.4 (2.5)	7.2 (3.3)
	28	8.8 (224)	7.8 (198)	4.814 (122.3)	2 ½ - 8	7.2 (3.3)	9.1 (4.1)
GB/SB GDU/SDU Stainless Steel Weight Factor 2.4	16	8.9 (226)	7.9 (201)	2.977 (75.6)	1 ½ - 11 ½	3.4 (1.5)	3.9 (1.8)
	20	9.2 (234)	8.2 (208)	3.577 (90.9)	1 ½ - 11 ½	5.0 (2.3)	6.0 (2.7)
	24	9.4 (239)	8.4 (213)	4.182 (106.2)	2 - 11 ½	7.4 (3.4)	8.4 (3.8)
	28	9.8 (249)	8.8 (224)	4.814 (122.3)	2 ½ - 8	9.5 (4.3)	12.1 (5.5)

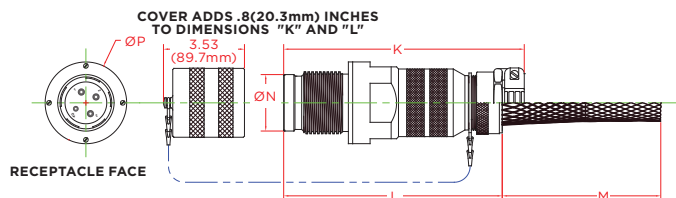
- Weights provided for Victory Series (aluminum). Multiply by "Stainless Steel Weight Factor" to determine weight for Millennium Series (stainless steel).



ATTACHMENT RECEPTACLE

	SHELL SIZE	K INCHES ±0.3 (MM ±8)	L INCHES ±0.3 (MM ±8)	M INCHES (MM)	N INCHES (MM)	P INCHES (MM)	WEIGHT ¹ LBS (KG)
AF/SF GD/SD BM Stainless Steel Weight Factor 2.0	16	10.0 (254)	9.1 (231)	3.75 - 10.25 (95 - 260)	1.969 (50.1)	3.063 (77.8)	3.4 (1.5)
	20	10.7 (272)	9.7 (246)	5.75 - 14.25 (146 - 362)	2.469 (62.7)	3.563 (90.5)	4.7 (2.1)
	24	11.1 (282)	10.1 (257)	8.25 - 17.25 (210 - 438)	2.969 (75.4)	4.188 (106.4)	6.4 (2.9)
	28	11.4 (290)	10.3 (262)	13.75 - 19.75 (349 - 502)	3.469 (88.1)	4.688 (119.1)	8.1 (3.7)
GB/SB GDU/SDU Stainless Steel Weight Factor 2.0	16	11.0 (279)	10.1 (257)	3.75 - 10.25 (95 - 260)	1.969 (50.1)	3.063 (77.8)	3.6 (1.6)
	20	11.7 (297)	10.7 (272)	5.75 - 14.25 (146 - 362)	2.469 (62.7)	3.563 (90.5)	4.9 (2.2)
	24	12.1 (307)	11.1 (282)	8.25 - 17.25 (210 - 438)	2.969 (75.4)	4.188 (106.4)	6.7 (3.0)
	28	12.4 (315)	11.3 (287)	13.75 - 19.75 (349 - 502)	3.469 (88.1)	4.688 (119.1)	8.6 (3.9)

- Weights provided for Victory Series (aluminum) with mechanical clamp configuration. Multiply by "Stainless Steel Weight Factor" to determine weight for Millennium Series (stainless steel).





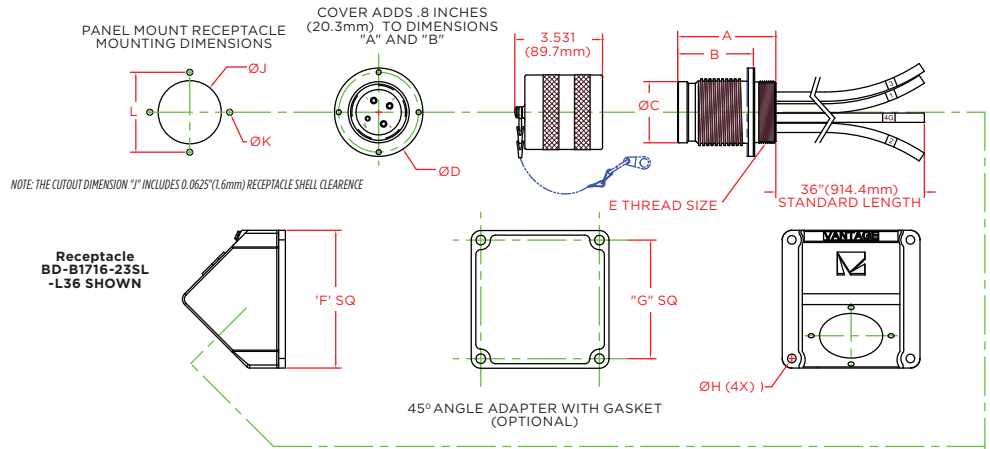
XP Starline Dimensions

PANEL MOUNT RECEPTACLE

MOUNTING DIMENSIONS						
SHELL SIZE	F INCHES (MM)	G INCHES (MM)	H INCHES (MM)	J INCHES (MM)	K INCHES (MM)	L INCHES (MM)
16	4.5 (114.3)	3.875 (98.4)	0.284 (7.2)	2.063 (52.4)	0.195 (5.0)	2.610 (66.3)
20	4.5 (114.3)	3.875 (98.4)	0.284 (7.2)	2.563 (65.1)	0.195 (5.0)	3.110 (79.0)
24	8 (203.2)	7 (177.8)	0.534 (13.6)	3.063 (77.8)	0.195 (5.0)	3.735 (94.9)
28	8 (203.2)	7 (177.8)	0.534 (13.6)	3.563 (90.5)	0.195 (5.0)	4.235 (107.6)

	SHELL SIZE	A INCHES ¹ (MM)	B INCHES ¹ (MM)	C INCHES (MM)	D INCHES (MM)	THREAD 'E' G-16UN	WEIGHT ² LBS (KG)
AF/SF GD/SD BM Stainless Steel Weight Factor 2.0	16	4.063 (103.2)	3.063 (77.8)	1.969 (50.0)	3.063 (77.8)	2	3 (1.4)
	20	4.063 (103.2)	3.063 (77.8)	2.469 (62.7)	3.563 (90.5)	2½	4 (1.8)
	24	4.063 (103.2)	3.063 (77.8)	2.969 (75.4)	4.188 (106.4)	3 1/8	8 (3.6)
	28	4.063 (103.2)	3.063 (77.8)	3.469 (88.1)	4.688 (119.1)	3 5/8	13 (5.9)
GB/SB GDU/SDU Stainless Steel Weight Factor 2.0	16	5.063 (128.6)	4.063 (103.2)	1.969 (50.0)	3.063 (77.8)	2	3 (1.4)
	20	5.063 (128.6)	4.063 (103.2)	2.469 (62.7)	3.563 (90.5)	2½	5 (2.3)
	24	5.063 (128.6)	4.063 (103.2)	2.969 (75.4)	4.188 (106.4)	3 1/8	8 (3.6)
	28	5.063 (128.6)	4.063 (103.2)	3.469 (88.1)	4.688 (119.1)	3 5/8	14 (6.4)

1. Subtract 0.5 inches (12.7mm) from dimensions A and B for AF/SF style.
2. Weights provided for Victory Series (aluminum). Multiply by "Stainless Steel Weight Factor" to determine weight for Millennium Series (stainless steel).



ANGLE ADAPTER WITH GASKET	
CATALOG NUMBER	SHELL SIZE
VT-AF10-2516-12A	16
VT-AF10-2520-12A	20
VT-AF10-2524-12A	24
VT-AF10-2528-12A	28



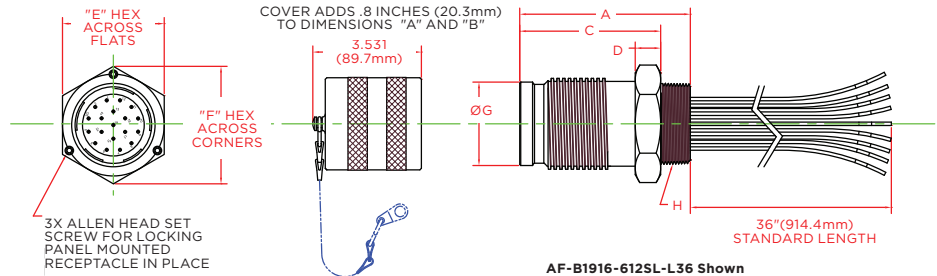
XP Starline Dimensions

NPT MOUNT RECEPTACLE

MOUNTING DIMENSIONS						
SHELL SIZE	F INCHES (MM)	G INCHES (MM)	H INCHES (MM)	J INCHES (MM)	K INCHES (MM)	L INCHES (MM)
16	4.5 (114.3)	3.875 (98.4)	0.284 (7.2)	2.063 (52.4)	0.195 (5.0)	2.610 (66.3)
20	4.5 (114.3)	3.875 (98.4)	0.284 (7.2)	2.563 (65.1)	0.195 (5.0)	3.110 (79.0)
24	8 (203.2)	7 (177.8)	0.534 (13.6)	3.063 (77.8)	0.195 (5.0)	3.735 (94.9)
28	8 (203.2)	7 (177.8)	0.534 (13.6)	3.563 (90.5)	0.195 (5.0)	4.235 (107.6)

	SHELL SIZE	M INCHES (MM)	N INCHES (MM)	P INCHES (MM)	Q INCHES (MM)	NPT THREAD 'R'	S INCHES (MM)	WEIGHT LBS ² (KG)
AF/SF GD/SD BM Stainless Steel Weight Factor 2.0	16	2.5 (63.5)	2.875 (73.0)	4.5 (114.3)	3.656 (92.9)	1 ½ - 11 ½	1.969 (50.0)	3 (1.4)
	20	3 (76.2)	3.469 (88.1)	4.531 (115.1)	3.656 (92.9)	2 - 11 ½	2.469 (62.7)	5 (2.3)
	24	3.5 (88.9)	4.031 (102.4)	4.906 (124.6)	3.656 (92.9)	2 ½ - 8	2.969 (75.4)	8 (3.6)
	28	4 (101.6)	4.625 (117.5)	4.969 (126.2)	3.656 (92.9)	3 - 8	3.469 (88.1)	13 (5.9)
GB/SB GDU/SDU Stainless Steel Weight Factor 2.0	16	2.5 (63.5)	2.875 (73.0)	5 (127.0)	4.156 (105.6)	1 ½ - 11 ½	1.969 (50.0)	3 (1.4)
	20	3 (76.2)	3.469 (88.1)	5.031 (127.8)	4.156 (105.6)	2 - 11 ½	2.469 (62.7)	5 (2.3)
	24	3.5 (88.9)	4.031 (102.4)	5.406 (137.3)	4.156 (105.6)	2 ½ - 8	2.969 (75.4)	9 (4.1)
	28	4 (101.6)	4.625 (117.5)	5.469 (138.9)	4.156 (105.6)	3 - 8	3.469 (88.1)	14 (6.4)

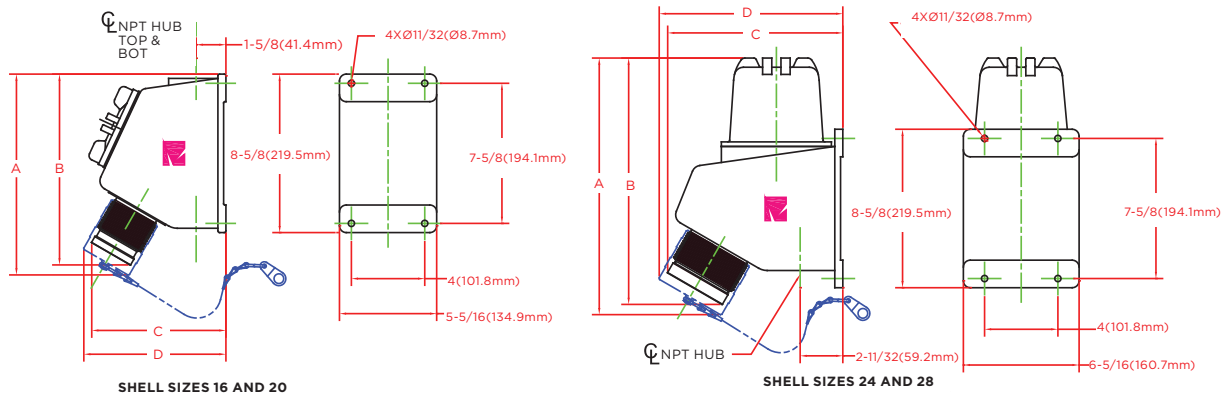
1. Subtract 0.5 inches (12.7mm) from dimensions P and Q for AF/SF style.
2. Weights provided for Victory Series (aluminum). Multiply by "Stainless Steel Weight Factor" to determine weight for Millennium Series (stainless steel).



JUNCTION BOX RECEPTACLE

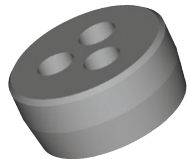
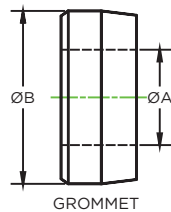
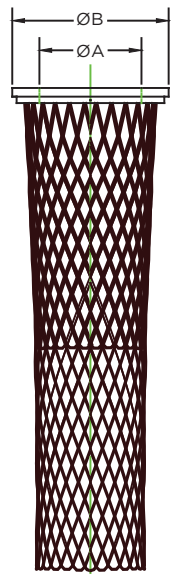
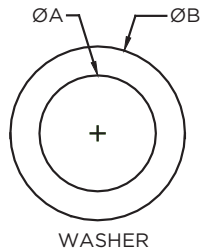
	SHELL SIZE	A INCHES (MM)	B INCHES (MM)	C INCHES (MM)	D INCHES (MM)	WEIGHT LBS ¹ (KG)
AF/SF GD/SD BM Stainless Steel Weight Factor 2.0	16	10.063 (255.6)	10.25 (260.4)	7.375 (187.3)	7.75 (196.9)	12.9 (5.9)
	20	10.063 (255.6)	10.25 (260.4)	7.375 (187.3)	7.75 (196.9)	13.7 (6.2)
	24	14.563 (370.0)	14 (355.6)	9.688 (246.1)	10.125 (257.2)	21.9 (9.9)
	28	14.563 (370.0)	14 (355.6)	9.688 (246.1)	10.125 (257.2)	22.8 (10.3)
GB/SB GDU/SDU Stainless Steel Weight Factor 2.0	16	11.563 (293.7)	11.125 (282.6)	7.875 (200.0)	8.25 (209.6)	13.0 (5.9)
	20	11.563 (293.7)	11.125 (282.6)	7.875 (200.0)	8.25 (209.6)	13.9 (6.3)
	24	15.438 (392.1)	14.875 (377.8)	10.188 (258.8)	10.625 (269.9)	22.5 (10.2)
	28	15.438 (392.1)	14.875 (377.8)	10.188 (258.8)	10.625 (269.9)	23.2 (10.5)

1. Weights provided for Victory Series (aluminum). Multiply by "Stainless Steel Weight Factor" to determine weight for Millennium Series (stainless steel).





XP Starline Environmental Sealing



Specialty Grommet
(Multiple Hole)



Specialty Grommet
(Flat Hole)

SHELL SIZE DIM B INCHES (MM)	CABLE DIAMETER DIMENSION A INCHES (MM)		CABLE DIAMETER CODE NUMBER*	GROMMET PART NUMBER	WASHER PART NUMBER	BASKET WEAVE GRIP PART NUMBER
	MIN.	MAX.				
16 1 23/32 (43.7)	.250 (6.35)	.375 (9.53)	06	VT-6316-6C	VT-8016-8E	VT-5016-6E VT-5016-8E
	.375 (9.53)	.500 (12.7)	08	VT-6316-8C		
	.500 (12.7)	.625 (15.9)	10	VT-6316-10C	VT-8016-12E	VT-5016-10E VT-5016-12E
	.625 (15.9)	.750 (19.1)	12	VT-6316-12C		
	.750 (19.1)	.875 (22.2)	14	VT-6316-14C	VT-8016-16E	VT-5016-14E VT-5016-16E
	.875 (22.2)	1.000 (25.4)	16	VT-6316-16C		
	1.000 (25.4)	1.125 (28.6)	18	VT-6316-18C	VT-8016-20E	VT-5016-18E VT-5016-20E
	1.125 (28.6)	1.250 (31.8)	20	VT-6316-20C		
	1.250 (31.8)	1.375 (34.9)	22	VT-6316-22C	VT-8016-23E	VT-5016-22E VT-5016-23E
	1.375 (34.9)	1.437 (36.5)	23	VT-6316-23C		
20 2 7/32 (56.4)	.500 (12.7)	.625 (15.9)	10	VT-6320-10C	VT-8020-12E	VT-5020-10E VT-5020-12E
	.625 (15.9)	.750 (19.1)	12	VT-6320-12C		
	.750 (19.1)	.875 (22.2)	14	VT-6320-14C	VT-8020-16E	VT-5020-14E VT-5020-16E
	.875 (22.2)	1.000 (25.4)	16	VT-6320-16C		
	1.000 (25.4)	1.125 (28.6)	18	VT-6320-18C	VT-8020-20E	VT-5020-18E VT-5020-20E
	1.125 (28.6)	1.250 (31.8)	20	VT-6320-20C		
	1.250 (31.8)	1.375 (34.9)	22	VT-6320-22C	VT-8020-24E	VT-5020-22E VT-5020-24E
	1.375 (34.9)	1.500 (38.1)	24	VT-6320-24C		
	1.500 (38.1)	1.625 (41.3)	26	VT-6320-26C	VT-8020-28E	VT-5020-26E VT-5020-28E
	1.625 (41.3)	1.750 (44.5)	28	VT-6320-28C		
1.750 (44.5)	1.875 (47.6)	30	VT-6320-30C	VT-8020-31E	VT-5020-30E VT-5020-31E	
1.875 (47.6)	1.937 (49.2)	31	VT-6320-31C			
24 2 23/32 (69.1)	.875 (22.2)	1.000 (25.4)	16	VT-6324-16C	VT-8024-16E	VT-5024-16E
	1.000 (25.4)	1.125 (28.6)	18	VT-6324-18C		
	1.125 (28.6)	1.250 (31.8)	20	VT-6324-20C	VT-8024-20E	VT-5024-18E VT-5024-20E
	1.250 (31.8)	1.375 (34.9)	22	VT-6324-22C		
	1.375 (34.9)	1.500 (38.1)	24	VT-6324-24C	VT-8024-24E	VT-5024-22E VT-5024-24E
	1.500 (38.1)	1.625 (41.3)	26	VT-6324-26C		
	1.625 (41.3)	1.750 (44.5)	28	VT-6324-28C	VT-8024-28E	VT-5024-26E VT-5024-28E
	1.750 (44.5)	1.875 (47.6)	30	VT-6324-30C		
	1.875 (47.6)	2.000 (50.8)	32	VT-6324-32C	VT-8024-32E	VT-5024-30E VT-5024-32E
	2.000 (50.8)	2.125 (54.0)	34	VT-6324-34C		
2.125 (54.0)	2.250 (57.2)	36	VT-6324-36C	VT-8024-36E	VT-5024-34E VT-5024-36E	
2.250 (57.2)	2.375 (60.3)	38	VT-6324-38C			
2.375 (60.3)	2.437 (61.9)	39	VT-6324-39C	VT-8024-39E	VT-5024-38E VT-5024-39E	
1.375 (34.9)	1.500 (38.1)	24	VT-6328-24C			VT-8028-24E	VT-5028-24E
1.500 (38.1)	1.625 (41.3)	26	VT-6328-26C			
28 3 5/32 (80.2)	1.625 (41.3)	1.750 (44.5)	28	VT-6328-28C	VT-8028-28E	VT-5028-26E VT-5028-28E
	1.750 (44.5)	1.875 (47.6)	30	VT-6328-30C		
	1.875 (47.6)	2.000 (50.8)	32	VT-6328-32C	VT-8028-32E	VT-5028-30E VT-5028-32E
	2.000 (50.8)	2.125 (54.0)	34	VT-6328-34C		
	2.125 (54.0)	2.250 (57.2)	36	VT-6328-36C	VT-8028-36E	VT-5028-34E VT-5028-36E
	2.250 (57.2)	2.375 (60.3)	38	VT-6328-38C		
	2.375 (60.3)	2.500 (63.5)	40	VT-6328-40C	VT-8028-40E	VT-5028-38E VT-5028-40E
	2.500 (63.5)	2.625 (66.7)	42	VT-6328-42C		
	2.625 (66.7)	2.750 (68.9)	44	VT-6328-44C	VT-8028-44E	VT-5028-42E VT-5028-44E
	2.750 (68.9)	2.875 (73.0)	46	VT-6328-46C		



CONNECTIVITY

EXPLOSIONPROOF STARLINE

Tooling

Vantage offers a full line of tooling to assist in the termination and assembly of our attachment plugs and receptacles. The StarLine power connectors feature pressure termination and come with all required tooling. For StarLine control connectors, the AF/SF Series, installation requires using a full-cycle eight indent crimp tool. Please contact us for assistance in specifying your tooling needs.

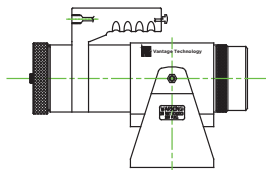


Pressure Termination for safe and reliable assembly in the field.

Crimp Tools



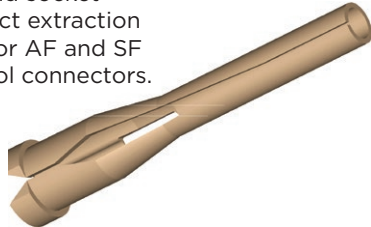
T-104-CT-K Crimp Tool Kit. Hand tool with accessories for contacts #18 through #10 (carrying case and tool inspection gage not shown).



T-105-HE, Pneumatic Crimp Tool. Available with dies, locators and inspection gages for #18 through #4/0 contacts. A foot control is also available. Operates on shop air and inert gas cylinders at 100 PSI.

Contact Extraction Tool

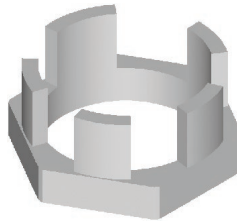
Pin and socket contact extraction tool for AF and SF control connectors.



CONTACT SIZE	EXTRACTION TOOL PART NUMBER
18	T-106-18
16	T-106-16
12	T-106-12
10	T-106-10

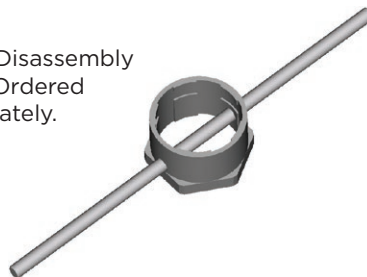
Assembly Tools

Plug Assembly Tool Furnished with plug.



SHELL SIZE	PART NUMBER	
	PLUG ASSEMBLY TOOL	PLUG DISASSEMBLY TOOL
16	T-101-16A	T-102-16R
20	T-101-20A	T-102-20R
24	T-101-24A	T-102-24R
28	T-101-28A	T-102-28R

Plug Disassembly Tool Ordered separately.



Cable Assemblies



Complete cable assemblies and receptacle distribution boxes are available incorporating Vantage Technology connectors. Please contact us regarding specification options.



XP Starline Insert and Contact Features

Inserts

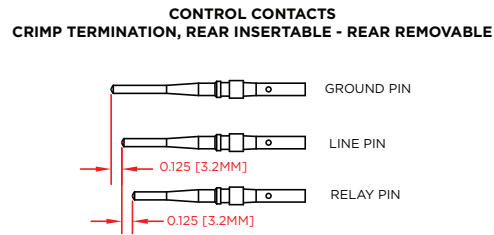
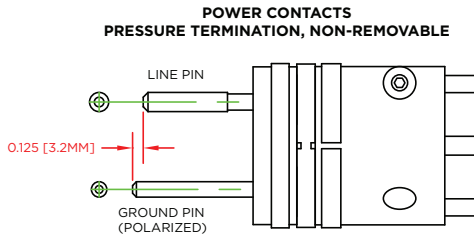
Vantage inserts come in power (30 thru 260A) and control (10 thru 100 contacts) versions. Within these power and control versions many options are available. See depictions of inserts for electrical ratings, certifications and available key positions. Inserts are designed for simplified field termination. Power inserts feature captive contacts that utilize pressure termination. Control inserts utilize crimp contacts that are rear insertable, rear removable. Consult factory for replacements.

Grounding

Power inserts feature ground contacts which provide shell grounding, polarization, and make-first, break last function. Many control inserts feature ground contacts which provide shell grounding and make-first, break last function.

Relay Circuits

Some inserts are available with a pair of relay contacts that are shorter than all other contacts to provide a time delay during breaking and making.



Plating Options

Control contacts come standard with silver plating. Gold plating is available for added corrosion resistance. The following plating options are available.

SYMBOL	FINISH
L	Silver
K	Gold over Silver
D	Gold over Nickel

Ferrules

Ferrules are designed to serve as a compression supporting member when an undersized wire is crimp terminated into a larger contact. Ferrules are gold plated.



PART NUMBER	CONTACT SIZE AWG (MM ²) PIN OR SOCKET		
	10 (6)	12 (4)	16 (1.5)
VT-70065-1012K	12		
VT-70065-1014K	14		
VT-70065-1016K	16		
VT-70065-1216K		16	
VT-70065-1218K		18	
VT-70065-1220K		20	
VT-70065-1620K			20
VT-70065-1622K			22

Example: To transition From #12 contact to #20 wire, use V-70065-1220K.

Thermocouple Contacts

AF / SF inserts with 16 AWG contacts can be ordered with thermocouple contacts.

Termination Information

All inserts are designed for simplified field termination. Control inserts require the use of Vantage crimp tools for safe and reliable circuits.

PART NUMBER/GENDER	ISA SYMBOL	THERMOCOUPLE MATERIAL	ISA COLOR CODING			TEMPERATURE RANGE	
			(+)	(-)	JACKET	DEGREES CONTINUOUS	SHORT TIME
VT-4016-50MF / PIN	J	Iron (Magnetic)	White	Red	Black	0-1100° C	to 1100° C
VT-4116-50MF / SOCKET	J						
VT-4016-50NF / PIN	J	Constantan (Non-Magnetic)	White	Red	Black	0-1100° C	to 1100° C
VT-4116-50NF / SOCKET	J						
VT-4016-50PO / PIN	K	Chromel (Non-Magnetic)	Yellow	Red	Yellow	0-1100° C	to 1350° C
VT-4116-50PO / SOCKET	K						
VT-4016-50RO / PIN	K	Alumel (Magnetic)	Yellow	Red	Yellow	0-1100° C	to 1350° C
VT-4116-50RO / SOCKET	K						



XP Starline Insert Configurations

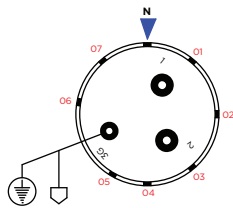
The Vantage Inserts presented in this section illustrate the contact configurations available in the StarLine series. Most inserts are available in alternate key positions to prevent the intermating of like configurations in your system. Power inserts (GD/SD) are designed with oversized contacts to maximize cooling. Wire size indicates maximize wire gauge that can be terminated to contact.

3 CONTACTS

Insert Reference

Pins: GD-16-51PL

Sockets: GD-16-51SL



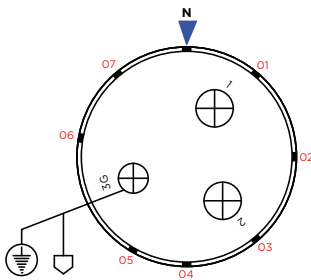
	CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
	3	4 (25)	8 (10)	16
	1000 VAC 50/60/400Hz Non-Circuit Breaking	32 AMP	KEY	
			POSITION	
	600 VAC 60/400Hz Circuit Breaking	30 AMP	N	0°
			01	40°
	480 VAC 60/400Hz Circuit Breaking	30 AMP	02	90°
			03	140°
			04	180°
			05	210°
			06	280°
07	320°			

3 CONTACTS

Insert Reference

Pins: GD-20-61PL

Sockets: GD-20-61SL



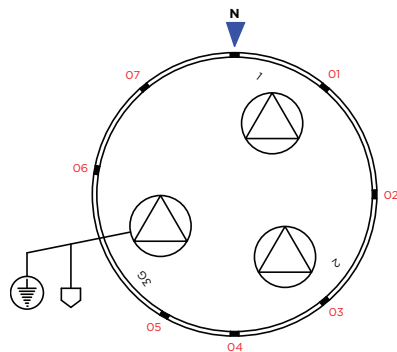
	CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
	3	1/0 (55)	4 (25)	20
	1000 VAC 50/60/400Hz Non-Circuit Breaking	63 AMP	KEY	
			POSITION	
	600 VAC 60/400Hz Circuit Breaking	60 AMP	N	0°
			01	40°
	480 VAC 60/400Hz Circuit Breaking	60 AMP	02	90°
			03	140°
			04	180°
			05	210°
			06	280°
07	320°			

3 CONTACTS

Insert Reference

Pins: GD-24-60PL

Sockets: GD-24-60SL



	CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
	3	4/0 (120)	1/0 (55)	24
	1000 VAC 50/60/400Hz Non-Circuit Breaking	125 AMP	KEY	
			POSITION	
	600 VAC 60/400Hz Circuit Breaking	100 AMP	N	0°
			01	40°
	480 VAC 60/400Hz Circuit Breaking	100 AMP	02	90°
			03	140°
			04	180°
			05	210°
			06	280°
07	320°			

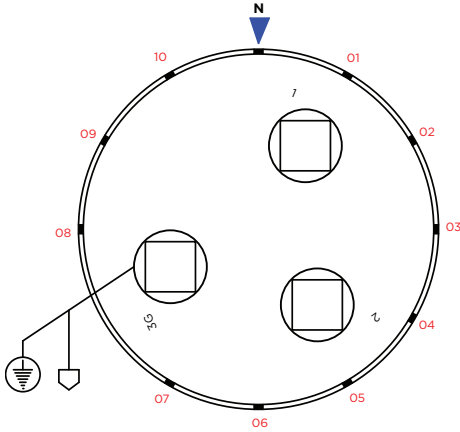
View Shown: Male insert (pins) from front of connector. The female insert (sockets) view is mirrored.

Symbol: Contact grounded to connector shell. Ground pins are longer to make first - break last.	CONTACT SYMBOLS	CONTACT SYMBOLS									
		CONTACT SIZE	AWG	18	16	12	10	8	4	1/0	4/0	350 MCM
PRESSURE CRIMP 	CONTACT SIZE	AWG	18	16	12	10	8	4	1/0	4/0	350 MCM
	mm ²	0.75	1.5	4	6	10	25	55	120	185	
WIRE SIZE	AWG	18	16	12	10	8	8	4	1/0	4/0	
	mm ²	0.75	1.5	4	6	10	10	25	55	120	



XP Starline Insert Configurations

3 CONTACTS

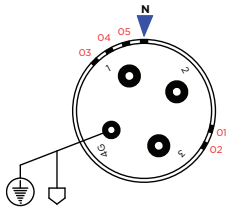


Insert Reference
Pins: GD-28-30PL
Sockets: GD-28-30SL

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
3	350 MCM (185)	4/0 (120)	28

EX	1000 VAC 50/60/400Hz Non-Circuit Breaking	260 AMP	KEY	
			KEY	POSITION
cSB _{us}	600 VAC 60/400Hz Circuit Breaking	200 AMP	N	0°
			01	40°
UL	480 VAC 60/400Hz Circuit Breaking	200 AMP	02	90°
			03	140°
			04	180°
			05	210°
			06	280°
			07	320°
			08	270°
			09	300°
10	330°			

4 CONTACTS

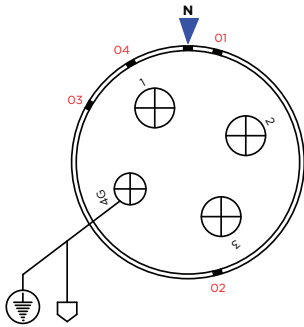


Insert Reference
Pins: GD-16-23PL
Sockets: GD-16-23SL

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
4	4 (25)	8 (10)	16

EX	1000 VAC 50/60/400Hz Non-Circuit Breaking	32 AMP	KEY	
			KEY	POSITION
cSB _{us}	600 VAC 60/400Hz Circuit Breaking	30 AMP	N	0°
			01	105°
UL	480 VAC 60/400Hz Circuit Breaking	30 AMP	02	120°
			03	315°
			04	330°
05	345°			

4 CONTACTS

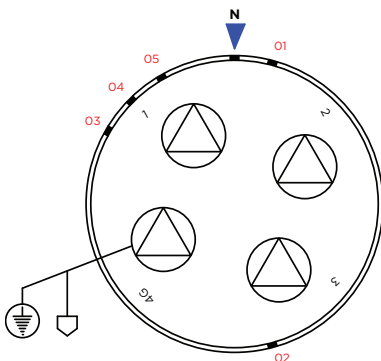


Insert Reference
Pins: GD-20-40PL
Sockets: GD-20-40SL

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
4	1/0 (55)	4 (25)	20

EX	1000 VAC 50/60/400Hz Non-Circuit Breaking	63 AMP	KEY	
			KEY	POSITION
cSB _{us}	600 VAC 60/400Hz Circuit Breaking	60 AMP	N	0°
			01	15°
UL	480 VAC 60/400Hz Circuit Breaking	60 AMP	02	165°
			03	300°
			04	330°

4 CONTACTS



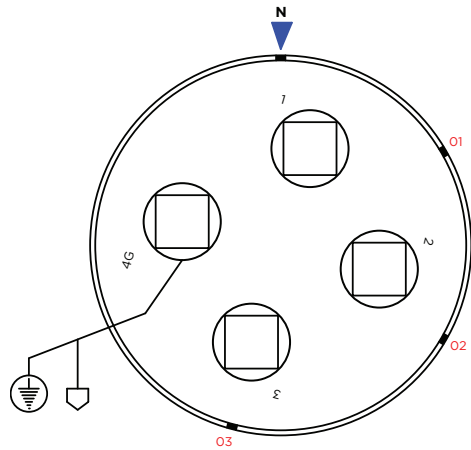
Insert Reference
Pins: GD-24-39PL
Sockets: GD-24-39SL

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
4	4/0 (120)	1/0 (55)	24

EX	1000 VAC 50/60/400Hz Non-Circuit Breaking	125 AMP	KEY	
			KEY	POSITION
cSB _{us}	600 VAC 60/400Hz Circuit Breaking	100 AMP	N	0°
			01	15°
UL	480 VAC 60/400Hz Circuit Breaking	100 AMP	02	165°
			03	300°
			04	315°
05	330°			



XP Starline Insert Configurations



4 CONTACTS

Insert Reference

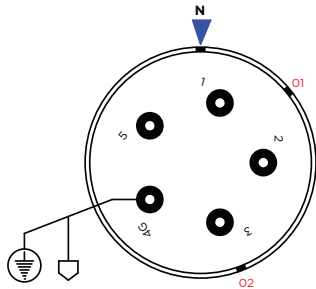
Pins: GDU-28-31PL

Sockets: GDU-28-31SL

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
4	350 MCM (185)	4/0 (120)	28

KEY	POSITION
N	0°
01	60°
02	120°
03	195°

	1000 VAC 50/60/400Hz Non-Circuit Breaking	260 AMP
	600 VAC 60/400Hz Circuit Breaking	200 AMP
	480 VAC 60/400Hz Circuit Breaking	200 AMP



5 CONTACTS

Insert Reference

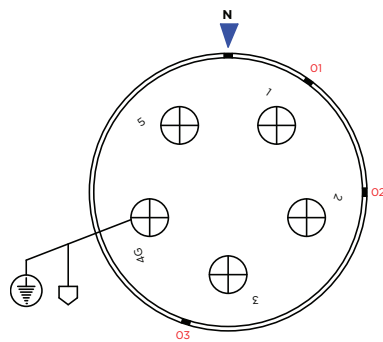
Pins: GD-20-36PL

Sockets: GD-20-36SL

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
5	4 (25)	8 (10)	20

KEY	POSITION
N	0°
01	51°
02	159°

	1000 VAC 50/60/400Hz Non-Circuit Breaking	32 AMP
	600 VAC 60/400Hz Circuit Breaking	30 AMP
	480 VAC 60/400Hz Circuit Breaking	30 AMP



5 CONTACTS

Insert Reference

Pins: GD-24-29PL

Sockets: GD-24-29SL

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
5	1/0 (55)	4 (25)	24

KEY	POSITION
N	0°
01	36°
02	90°
03	198°

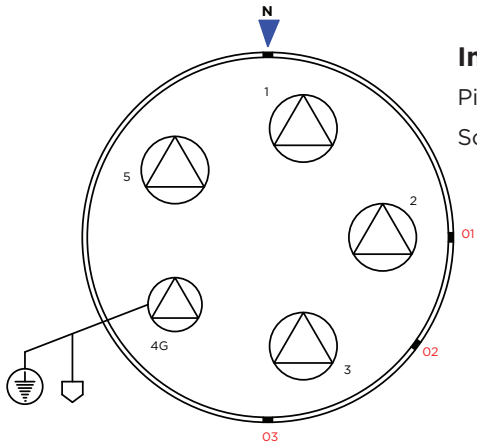
	1000 VAC 50/60/400Hz Non-Circuit Breaking	63 AMP
	600 VAC 60/400Hz Circuit Breaking	60 AMP
	480 VAC 60/400Hz Circuit Breaking	60 AMP

View Shown: Male insert (pins) from front of connector. The female insert (sockets) view is mirrored.

Symbol: Contact grounded to connector shell. Ground pins are longer to make first - break last.	CONTACT SYMBOLS										
		CONTACT SIZE	AWG	18	16	12	10	8	4	1/0	4/0	350 MCM
PRESSURE CRIMP 	CONTACT SIZE	AWG	18	16	12	10	8	4	1/0	4/0	350 MCM
	WIRE SIZE	mm ²	0.75	1.5	4	6	10	25	55	120	185
	CONTACT SIZE	AWG	18	16	12	10	8	8	4	1/0	4/0
	WIRE SIZE	mm ²	0.75	1.5	4	6	10	10	25	55	120



XP Starline Insert Configurations



Insert Reference

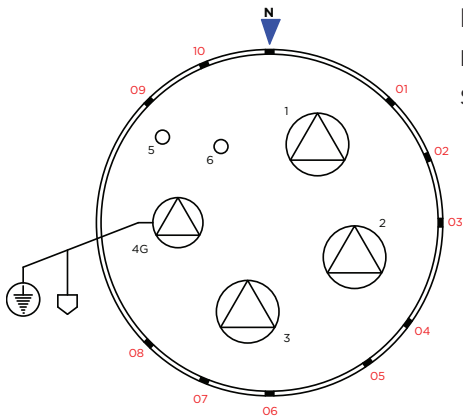
Pins: GD-28-23PL

Sockets: GD-28-23SL

5 CONTACTS

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
5	4/0 (120)	1/0 (55)	28

			KEY	POSITION
	1000 VAC 50/60/400Hz Non-Circuit Breaking	125 AMP	N	0°
	600 VAC 60/400Hz Circuit Breaking	100 AMP	01	90°
	480 VAC 60/400Hz Circuit Breaking	100 AMP	02	126°
			03	180°



Insert Reference

Pins: GD-28-42PL

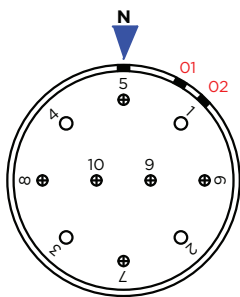
Sockets: GD-28-42SL

6 CONTACTS

CONTACT QUANTITY	CONTACT AWG (MM ²)	WIRE AWG (MM ²)	SHELL SIZE
4	4/0 (120)	4/0 (120)	28
2	10 (6)	10 (6)	

			KEY	POSITION
	1000 VAC 50/60/400Hz Non-Circuit Breaking	260 AMP	N	0°
	600 VAC 60/400Hz Circuit Breaking	200 AMP	01	45°
	480 VAC 60/400Hz Circuit Breaking	200 AMP	02	67.5°
			03	90°
			04	126°
			05	145°
			06	180°
			07	202.5°
			08	225°
			09	315°
			10	337.5°

NOTE: Relay pins 5 & 6 are shorter to make last / break first



Insert Reference

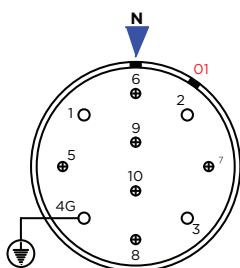
Pins: VT-16-681PL

Sockets: VT-16-681SL

10 CONTACTS

CONTACT QUANTITY	CONTACT AWG (MM ²)	SHELL SIZE
6	12 (4.0)	16
4	10 (6.0)	

			KEY	POSITION
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20/30 AMP	N	0°
	250 VAC 60Hz Circuit Breaking	10 AMP	01	30°
			02	45°



Insert Reference

Pins: VT-16-676PL

Sockets: VT-16-676SL

10 CONTACTS

CONTACT QUANTITY	CONTACT AWG (MM ²)	SHELL SIZE
6	12 (4.0)	16
4	10 (6.0)	

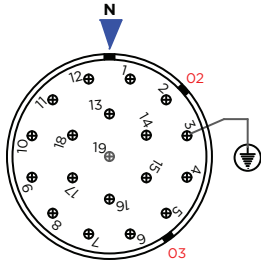
			KEY	POSITION
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20/30 AMP	N	0°
	250 VAC 60Hz Circuit Breaking	10 AMP	01	35°



CONNECTIVITY

EXPLOSIONPROOF STARLINE

XP Starline Insert Configurations



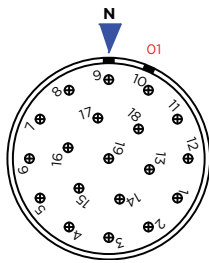
Insert Reference

Pins: VT-16-612PL

Sockets: VT-16-612SL

19 CONTACTS

CONTACT QUANTITY		CONTACT AWG (MM ²)	SHELL SIZE	
19		12 (4)	16	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20 AMP	KEY	POSITION
			N	0°
	250 VAC 60Hz Circuit Breaking	10 AMP	02	48°
			03	144°



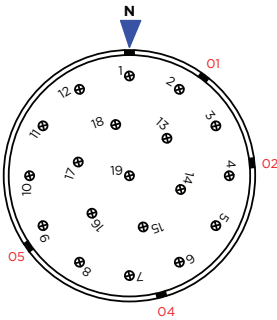
Insert Reference

Pins: VT-16-677PL

Sockets: VT-16-677SL

19 CONTACTS

CONTACT QUANTITY		CONTACT AWG (MM ²)	SHELL SIZE	
19		12 (4)	16	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20 AMP	KEY	POSITION
			N	0°
	250 VAC 60Hz Circuit Breaking	10 AMP	01	24°



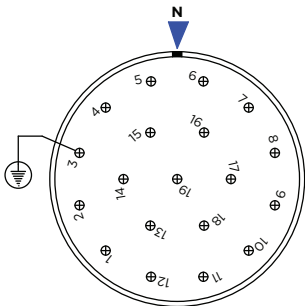
Insert Reference

Pins: VT-20-676PL

Sockets: VT-20-676SL

19 CONTACTS

CONTACT QUANTITY		CONTACT AWG (MM ²)	SHELL SIZE	
19		12 (4)	20	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20 AMP	KEY	POSITION
			N	0°
	480 VAC Non-Circuit Breaking 250 VAC Circuit Breaking 60Hz	10 AMP	01	37°
			02	84°
			04	165°
			05	235°



Insert Reference

Pins: VT-20-688PL

Sockets: VT-20-688SL

19 CONTACTS

CONTACT QUANTITY		CONTACT AWG (MM ²)	SHELL SIZE	
19		12 (4)	20	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20 AMP	KEY	POSITION
			N	0°
	480 VAC Non-Circuit Breaking 250 VAC Circuit Breaking 60Hz	10 AMP		

View Shown: Male insert (pins) from front of connector. The female insert (sockets) view is mirrored.

Symbol: Contact grounded to connector shell. Ground pins are longer to make first - break last.	PRESSURE CRIMP	CONTACT SYMBOLS													
		CONTACT SIZE	AWG	18	16	12	10	8	4	1/0	4/0	350 MCM			
			mm ²	0.75	1.5	4	6	10	25	55	120	185			
WIRE SIZE	AWG	18	16	12	10	8	8	4	1/0	4/0	4/0				
	mm ²	0.75	1.5	4	6	10	10	25	55	120	120				

CONNECTIVITY EXPLOSIONPROOF STARLINE



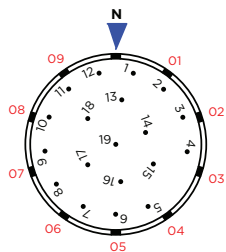
XP Starline Insert Configurations

19 CONTACTS

Insert Reference

Pins: VT-16-652PL

Sockets: VT-16-655SL



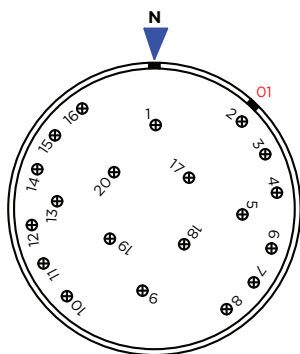
	CONTACT QUANTITY	CONTACT AWG (MM ²)	SHELL SIZE	
	19	16 (1.5)	16	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	15 AMP	KEY	POSITION
			N	0°
	250 VAC 60Hz Circuit Breaking	6.5 AMP	01	36°
			02	72°
			03	108°
			04	144°
			05	180°
			06	216°
			07	252°
			08	288°
			09	324°

20 CONTACTS

Insert Reference

Pins: VT-20-632PL

Sockets: VT-16-632SL



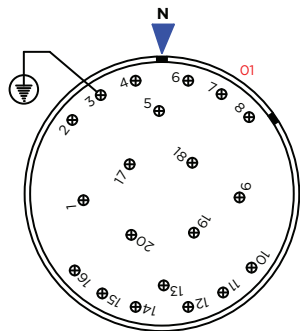
	CONTACT QUANTITY	CONTACT AWG (MM ²)	SHELL SIZE	
	20	12 (4)	20	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20 AMP	KEY	POSITION
			N	0°
	250 VAC 60Hz Circuit Breaking	10 AMP	01	42.5°

20 CONTACTS

Insert Reference

Pins: VT-20-687PL

Sockets: VT-20-687SL



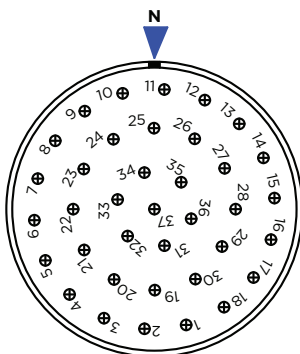
	CONTACT QUANTITY	CONTACT AWG (MM ²)	SHELL SIZE	
	19	12 (4)	20	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20 AMP	KEY	POSITION
			N	0°
	250 VAC 60Hz Circuit Breaking	10 AMP	01	56°

37 CONTACTS

Insert Reference

Pins: VT-20-686PL

Sockets: VT-20-686SL



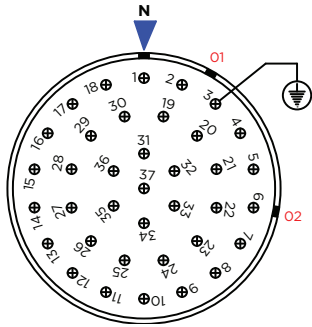
	CONTACT QUANTITY	CONTACT AWG (MM ²)	SHELL SIZE	
	37	12 (4)	20	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20 AMP	KEY	POSITION
			N	0°
	250 VAC 60Hz Circuit Breaking	10 AMP		



CONNECTIVITY

EXPLOSIONPROOF STARLINE

XP Starline Insert Configurations



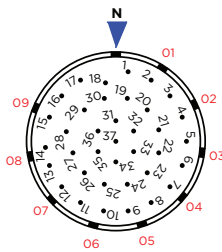
37 CONTACTS

Insert Reference

Pins: VT-20-650PL

Sockets: VT-20-650SL

CONTACT QUANTITY		CONTACT AWG (MM ²)	SHELL SIZE	
37		12 (4)	20	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	20 AMP	KEY	POSITION
		250 VAC 60Hz Circuit Breaking	10 AMP	
			N	0°
			01	30°
			02	100°



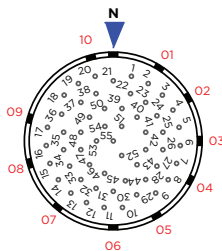
37 CONTACTS

Insert Reference

Pins: VT-16-621PL

Sockets: VT-16-621SL

CONTACT QUANTITY		CONTACT AWG (MM ²)	SHELL SIZE	
37		16 (1.5)	16	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	15 AMP	KEY	POSITION
		250 VAC 60Hz Circuit Breaking	6.5 AMP	
			N	0°
			01	32.5°
			02	65°
			03	97.5°
			04	130°
			05	162.5°
			06	195°
			07	227.5°
			08	260°
			09	292.5°



55 CONTACTS

Insert Reference

Pins: VT-16-640PL

Sockets: VT-16-640SL

CONTACT QUANTITY		CONTACT AWG (MM ²)	SHELL SIZE	
55		18 (0.75)	16	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	10 AMP	KEY	POSITION
		250 VAC 60Hz Circuit Breaking	3.5 AMP	
			N	0°
			01	32°
			02	60°
			03	90°
			04	117°
			05	150°
			06	180°
			07	220°
			08	255°
			09	285°
			10	345°

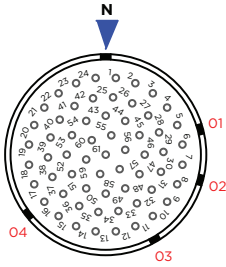
View Shown: Male insert (pins) from front of connector. The female insert (sockets) view is mirrored.

Symbol: Contact grounded to connector shell. Ground pins are longer to make first - break last.	PRESSURE CRIMP	CONTACT SYMBOLS		CONTACT SYMBOLS												
		CONTACT SIZE	AWG	mm ²	18	16	12	10	8	4	1/0	4/0	350 MCM			
		AWG	18	16	12	10	8	4	1/0	4/0	350 MCM					
		mm ²	0.75	1.5	4	6	10	25	55	120	185					
		AWG	18	16	12	10	8	8	4	1/0	4/0					
		mm ²	0.75	1.5	4	6	10	10	25	55	120					

CONNECTIVITY EXPLOSIONPROOF STARLINE



XP Starline Insert Configurations



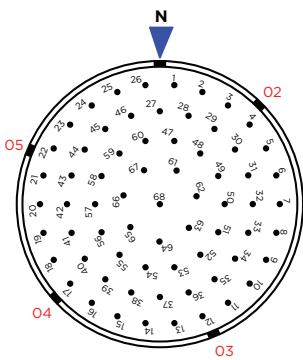
61 CONTACTS

Insert Reference

Pins: VT-16-633PL

Sockets: VT-16-633SL

CONTACT QUANTITY		CONTACT AWG (MM ²)		SHELL SIZE	
61		18 (0.75)		16	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	10 AMP		KEY	POSITION
	250 VAC 60Hz Circuit Breaking	3.5 AMP		N	0°
	250 VAC 60Hz Circuit Breaking	3.5 AMP		01	75°
				02	105°
				03	150°
				04	232.5°



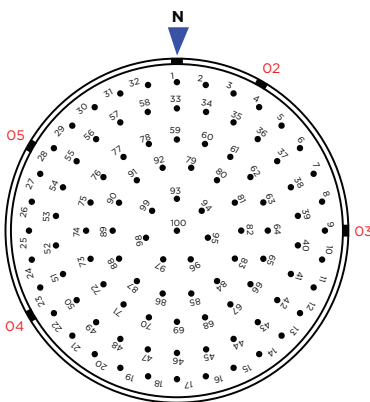
68 CONTACTS

Insert Reference

Pins: VT-20-613PL

Sockets: VT-20-613SL

CONTACT QUANTITY		CONTACT AWG (MM ²)		SHELL SIZE	
68		16 (1.5)		20	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	15 AMP		KEY	POSITION
	250 VAC 60Hz Circuit Breaking	6.5 AMP		N	0°
	250 VAC 60Hz Circuit Breaking	6.5 AMP		02	45°
				03	157.5°
				04	228°
				05	292.5°



100 CONTACTS

Insert Reference

Pins: VT-24-613PL

Sockets: VT-24-613SL

CONTACT QUANTITY		CONTACT AWG (MM ²)		SHELL SIZE	
100		16 (1.5)		24	
	250 VAC 50/60/400Hz 125 VDC Non-Circuit Breaking	15 AMP		KEY	POSITION
	250 VAC 60Hz Circuit Breaking	5.0 AMP		N	0°
	250 VAC 60Hz Circuit Breaking	5.0 AMP		02	30°
				03	90°
				04	240°
				05	300°

View Shown: Male insert (pins) from front of connector. The female insert (sockets) view is mirrored.

Symbol: Contact grounded to connector shell. Ground pins are longer to make first - break last.	PRESSURE CRIMP	CONTACT SYMBOLS		○	●	⊕	○	⊙	●	⊕	△	□
		CONTACT SIZE	AWG	18	16	12	10	8	4	1/0	4/0	350 MCM
			mm ²	0.75	1.5	4	6	10	25	55	120	185
WIRE SIZE	AWG	18	16	12	10	8	8	4	1/0	4/0		
	mm ²	0.75	1.5	4	6	10	10	25	55	120		



CONNECTIVITY

VERSAMATE® SERIES

Exclusive Features & Grounding Methods

- Exclusive “Breach-Lock” cap serves as either flip lid or screw cover

- Type 3R Rating: When receptacle cap is snapped shut
- Type 4X Rating: When receptacle cap is turned shut or with VersaMate® plug inserted and ring tightened

- Allen/Slot type box terminals provide secure clamping of conductors

- Special notch is designed to hold cap open for easy field service or plug insertion with two free hands

- Exclusive O-ring seals
- Custom pin design using slotted spring clip to provide superior contact and reliability

- Funneled wiring chamber design for fast and accurate conductor insertion to speed assembly. All wires can be inserted at one time

- Exclusive O-ring seals
- Allen/Slot type box terminals provide secure clamping of conductors
- Body style with octagonal shape for easy grip

- Exclusive neoprene “Onion Skin” peel-away type gasket for the ultimate in sealing a variety of cable sizes

- Smooth shoulder contour prevents snags and hang ups

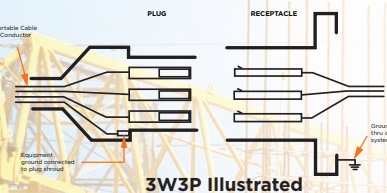
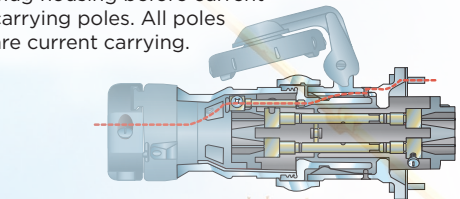
- The VersaMate® Cable clamp system captures cable with four grip points using only two tightening screws. Provides secure grip without damaging the cable insulation

Grounding:

To minimize the danger of electrical shock when utilizing portable equipment, the National Electrical Code requires exposed metal parts be grounded if operated at more than 150 volts to ground. The VersaMate® plug and receptacle system is available in two grounding styles. Please note Style I and II devices cannot be intermated.

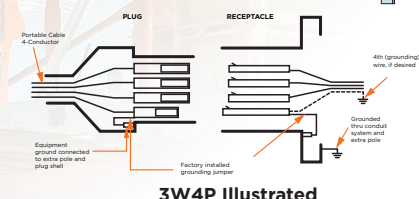
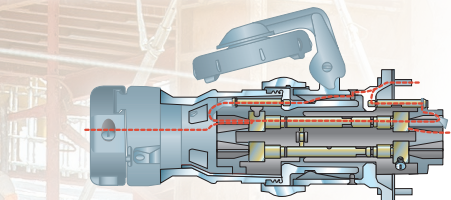
Style I

In a Style I plug, the cable’s ground conductor is bonded to the plug housing by means of solderless connector. The receptacle is grounded by being part of a grounded conduit system. Upon insertion, detent springs in the receptacle housing contact and ground the plug housing before current carrying poles.



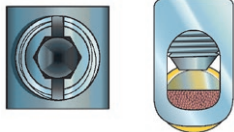


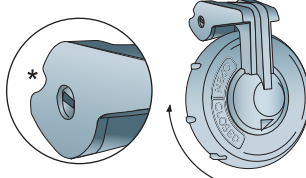




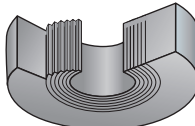











Style II

In a Style II plug, the cable’s ground conductor is bonded to the extra grounding pole and to the plug housing via a bonding jumper. The receptacle has a matching grounding pole connected to the system ground conductor which is further tied to the grounded conduit system via a bonding jumper. Upon insertion, detent springs in the receptacle housing contact and ground the plug housing; then the extra long ground pole connects before the current carrying poles engage. The Style II ground pole makes first and breaks last.





Features / Comparisons

KILLARK BRAND		RECEPTACLE/CONNECTOR PIN CONFIGURATION					
TERMINALS		STYLE 1		STYLE 2			
	New Allen/slot terminal screws do not contact or machine conductor. Allows higher torque values typical in the oil industry.	AMPS	POLES AND WIRES	RECEPTACLE/CONNECTOR CONFIGURATION	AMPS	POLES AND WIRES	RECEPTACLE/CONNECTOR CONFIGURATION
CAP		30	2W2P		30	2W3P	
			3W3P			3W4P	
*“Breech-Lock” design serves as both flip lid or screw cover style. Special notch in lid arm holds cover open to ease plug insertion or maintenance. *Slip pencil or screwdriver into notch.			4W4P			60	2W3P
GASKET		60	2W2P		100		3W4P
			3W3P			2W3P	
Exclusive “Onion Skin” style gasket assures a tight seal around cable. Skin layers are removed from a single gasket to adjust for various cable diameters.			4W4P			150A	3W4P
		100	2W2P		200		2W3P
			3W3P			3W4P	
			4W4P			4W4P	
		150A	4W4P				
		200	3W3P				
			4W4P				

REVERSE SERVICE: S39

Add suffix S39 for factory Reverse Service of receptacles, plugs or connectors.

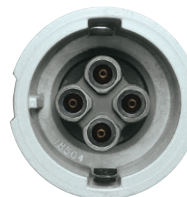
Receptacles or connectors are assembled with plug interiors while plugs are assembled with receptacle interiors. For applications where the plug is energized (i.e. from a generator) to feed a non-energized receptacle. Prevents easy contact with energized exposed pins. This conversion can be performed in the field with a complementary plug and receptacle. 200A Amp devices are a factory-only option. Reverse service is not for hazardous locations.



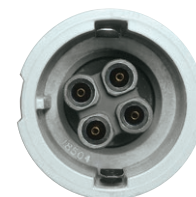
POLARIZED OPTION: S37

Add suffix S37 for special polarity.

Can prevent connection between mismatched voltages or frequencies in areas where devices of the same amperage, poles and grounding style are used. Receptacle or connector interiors are rotated 22-1/2° to the right; plug is rotated opposite to match. This is a factory only option.



Standard



S37 Option



CONNECTIVITY VERSAMATE® SERIES

Introduction • NEMA 4X Metallic

NEMA 4X VersaMATE®



VR/VP

Compliant to UL1686-C1
Type 3, 4, 4X

FEATURES-SPECIFICATIONS

Features

- UL 1686-C1 Intermateable with similar competitive products, including classified for use with Crouse-Hinds® Arktite® and Appleton® Powertite® devices.
- Receptacle bolt hole patterns match competitive back boxes for ease of installation.
- Octagonal body for sure grip.
- Breech-Lock cap on receptacles and in-line connectors serves as combination flip lid and screw cover.
- Back boxes available in straight and angled configurations.
- Angle Adapter (60-200A) suitable for installation on sheet metal enclosures.
- 60A Receptacles fit on 100A Angled Adapter.

Arktite® is a registered trademark of Crouse-Hinds®.

Powertite® is a registered trademark of Appleton Electric Company®.

Materials

- Copper-free aluminum construction with electrostatically applied epoxy/polyester finish.
- Contacts are brass with a patented beryllium copper spring tensioner.
- External screws are 316 stainless steel.

Electrical Ratings

- Amperage = 30/60/100/150/200A
- Voltage = 600VAC / 250VDC
- Frequency = 50/60/400Hz



30A Selection Information

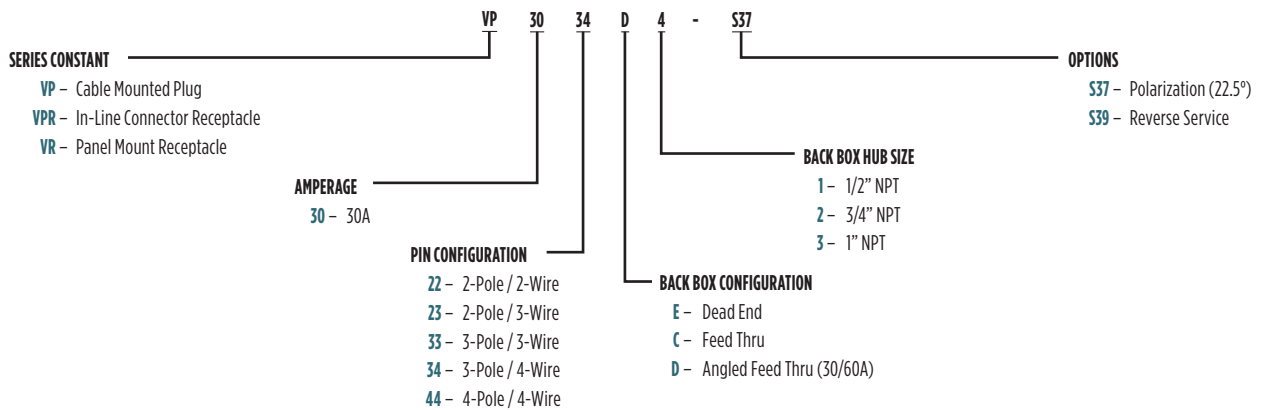


**30 Amp 600VAC/250VDC; 50-400 Hertz
Type 3, 4, 4X**

Wire Range
Regular Stranding: #10 - #6 original style or "AT" type
(Includes Type P marine)
Extra flex: #10 - #8 original style or "AT" type

- File No. E10757
- Certified File No. 1103268 (30A)

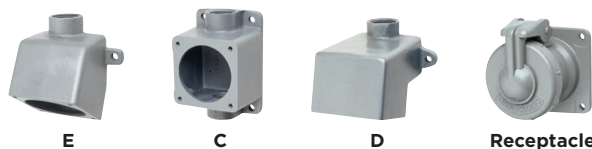
VP/VPR/VR PLUGS



30 AMP PLUGS & CONNECTORS				
GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	2W2P	.55 - 1.20 IN	VP3022	VPR3022
	3W3P	.55 - 1.20 IN	VP3033	VPR3033
	4W4P	.55 - 1.20 IN	VP3044	VPR3044
Style II	2W3P	.55 - 1.20 IN	VP3023	VPR3023
	3W4P	.55 - 1.20 IN	VP3034	VPR3034

30 AMP RECEPTACLES & BACK BOXES					
GROUND STYLE	CIRCUIT	CATALOG NUMBER			
		E ① TYPE DEAD END	C ① TYPE FEED THRU	D ① TYPE ANGLED FEED THRU	RECEPTACLE ONLY
Style I	2W2P	VR3022E2	VR3022C2	VR3022D2	VR3022
	3W3P	VR3033E2	VR3033C2	VR3033D2	VR3033
	4W4P	VR3044E2	VR3044C2	VR3044D2	VR3044
Style II	2W3P	VR3023E2	VR3023C2	VR3023D2	VR3023
	3W4P	VR3034E2	VR3034C2	VR3034D2	VR3034
Splice box only ①		VRE23	VRC23	VRD23	-

① 30 Amp Back Boxes are available in 1/2", 3/4" and 1" conduit sizes. Size listed for 3/4". For other available sizes, change the BOLD "2" in either the assembly or box only number to: 1=1/2", 2=3/4", 3=1". Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components.





CONNECTIVITY
VERSAMATE® SERIES

60A Selection Information

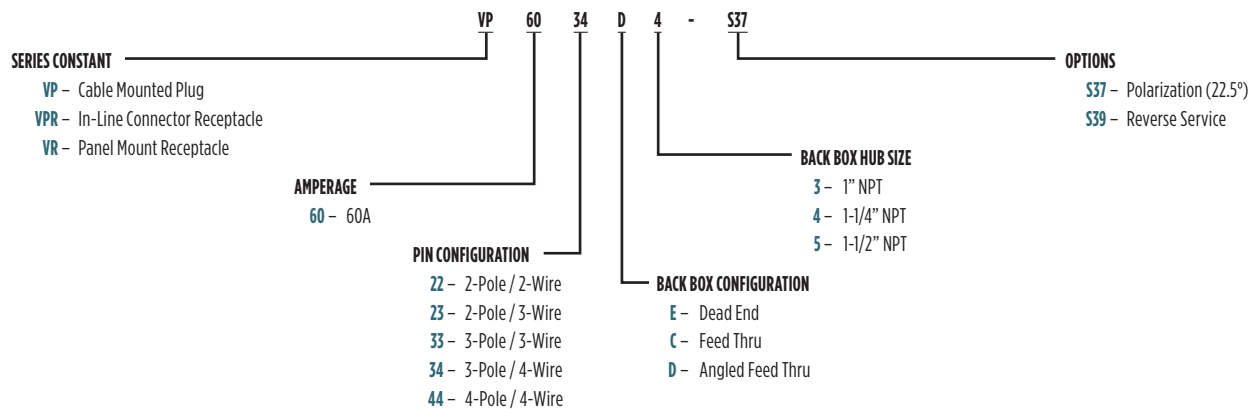


**60 Amp 600VAC/250VDC; 50-400 Hertz
Type 3, 4, 4X**

Wire Range
Regular Stranding: #6 - #2 original style or "AT" type
(Includes Type P marine)
Extra flex: #6 - #4 original style or "AT" type

- File No. E10757
- Certified File No. 1103258 (60A)

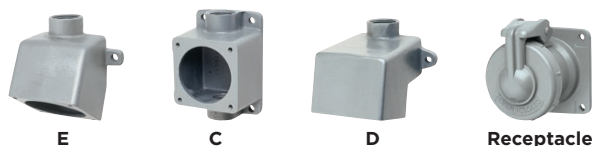
VP/VPR/VR PLUGS



60 AMP PLUGS & CONNECTORS				
GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	2W2P	.65 - 1.50 IN	VP6022	VPR6022
	3W3P	.65 - 1.50 IN	VP6033	VPR6033
	4W4P	.65 - 1.50 IN	VP6044	VPR6044
Style II	2W3P	.65 - 1.50 IN	VP6023	VPR6023
	3W4P	.65 - 1.50 IN	VP6034	VPR6034

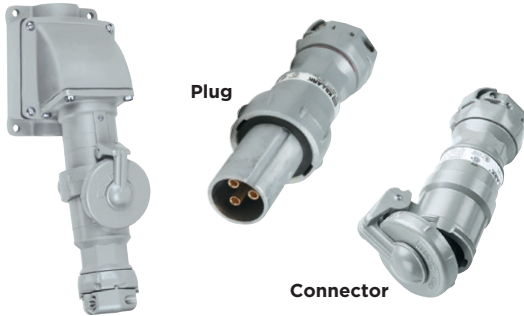
60 AMP RECEPTACLES & BACK BOXES					
GROUND STYLE	CIRCUIT	CATALOG NUMBER			RECEPTACLE ONLY
		E ① TYPE DEAD END	C ① TYPE FEED THRU	D ① TYPE ANGLED FEED THRU	
Style I	2W2P	VR6022E4	VR6022C4	VR6022D4	VR6022
	3W3P	VR6033E4	VR6033C4	VR6033D4	VR6033
	4W4P	VR6044E4	VR6044C4	VR6044D4	VR6044
Style II	2W3P	VR6023E4	VR6023C4	VR6023D4	VR6023
	3W4P	VR6034E4	VR6034C4	VR6034D4	VR6034
Splice box only ①		VRE46	VRC46	VRD46	-

① 60 Amp Back Boxes are available in 1", 1-1/4" and 1-1/2" conduit sizes. Size listed above is 1-1/4". For other available sizes, change the BOLD "4" in either the assembly or box only number as follows: 3=1", 4=1-1/4", 5=1-1/2". Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components.





100A Selection Information

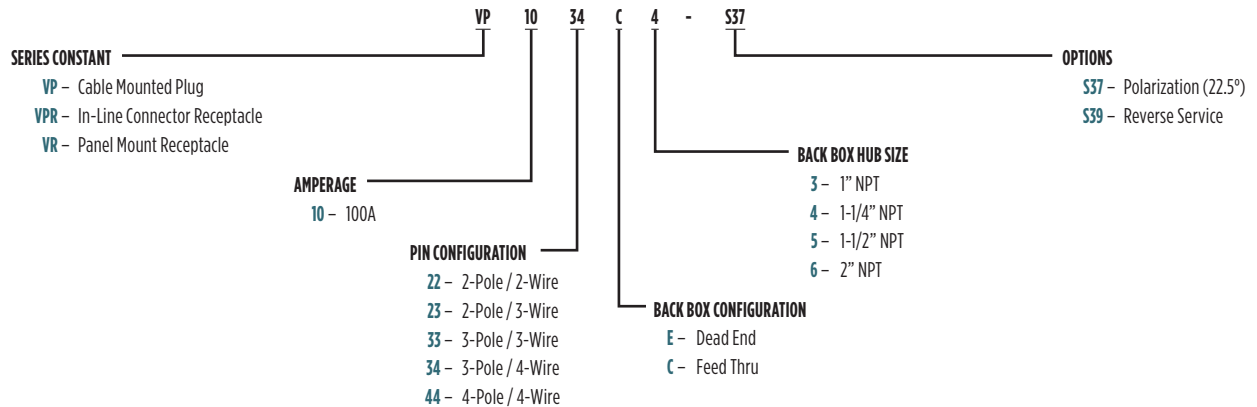


**100 Amp 600VAC/250VDC; 50-400 Hertz
Type 3, 4, 4X**

Wire Range
Regular Stranding: #4 - #2 original style or "AT" type
(Includes Type P marine)
Extra flex: #4 - #2 original style or "AT" type

UL File No. E10757
CS Certified File No. 1093021 (100A)

VP/VPR/VR PLUGS



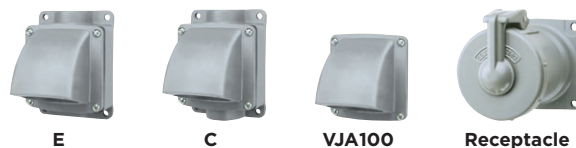
100 AMP PLUGS & CONNECTORS				
GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	2W2P	.88 - 1.68 IN	VP1022	VPR1022
	3W3P	.88 - 1.68 IN	VP1033	VPR1033
	4W4P	.88 - 1.68 IN	VP1044	VPR1044
Style II	2W3P	.88 - 1.68 IN	VP1023	VPR1023
	3W4P	.88 - 1.68 IN	VP1034	VPR1034

100 AMP RECEPTACLES & BACK BOXES				
GROUND STYLE	CIRCUIT	CATALOG NUMBER		
		E ① TYPE DEAD END	C ① TYPE FEED THRU	RECEPTACLE ONLY
Style I	2W2P	VR1022E5	VR1022C5	VR1022
	3W3P	VR1033E5	VR1033C5	VR1033
	4W4P	VR1044E5	VR1044C5	VR1044
Style II	2W3P	VR1023E5	VR1023C5	VR1023
	3W4P	VR1034E5	VR1034C5	VR1034
Splice box only ②		VJ57	VJC57	VJA100*

* Angle adapter only

① 100 Amp Back Boxes are available in 1", 1-1/4", 1-1/2" & 2" conduit sizes. Size listed above is 1-1/2". For other available sizes, change the BOLD "5" in either the assembly or box only number as follows: 3=1", 4=1-1/4", 5=1-1/2", 6=2". Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components.

② 100 Amp Boxes & Adapters also fit 60 Amp receptacles. Adapter only can be used to attach receptacle at an angle to a standard sheet metal box.





CONNECTIVITY VERSAMATE® SERIES

150A Selection Information



Plug



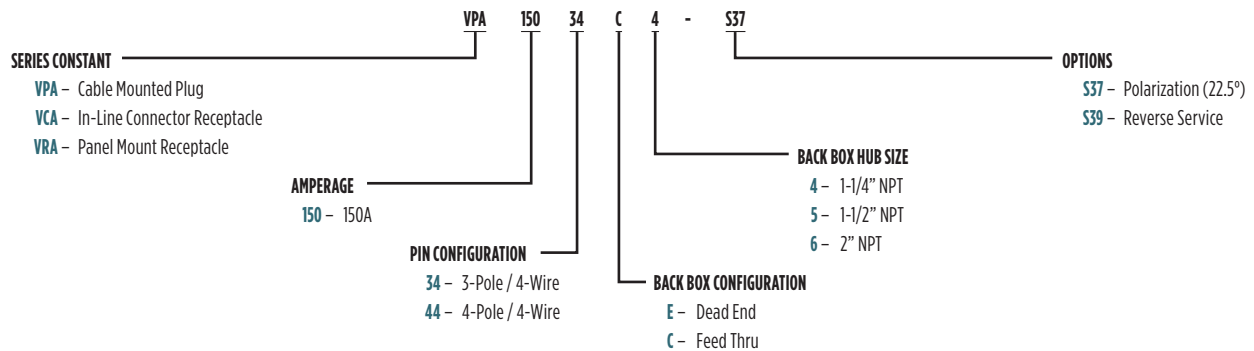
Connector

**150 Amp 600VAC/250VDC; 50-400 hertz
Type 3, 4, 4X**

Wire Range
Building #2-2/0
(Includes Type P marine)
Extra Flex #2-2/0

File No. E10757

VP/VPR/VR PLUGS



150 AMP PLUGS & CONNECTORS				
GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	4W4P	.88 - 1.91 IN	VPA15044	VCA15044
Style II	3W4P	.88 - 1.91 IN	VPA15034	VCA15034

150 AMP RECEPTACLES & BACK BOXES				
GROUND STYLE	CIRCUIT	CATALOG NUMBER		
		E ① TYPE DEAD END	C ① TYPE FEED THRU	RECEPTACLE ONLY
Style I	4W4P	VRA15044E6	VRA15044C6	VRA15044
Style II	3W4P	VRA15034E6	VRA15034C6	VRA15034
Splice box only w/ adapter ①②		VJ67	VJC67	VJA100*

* Angle adapter only

① 150 Amp Back Boxes are available in 1-1/4", 1-1/2" & 2" conduit sizes. Size listed above is 2". For other available sizes, change the BOLD "6" in either the assembly or box only number as follows: 4=1-1/4", 5=1-1/2", 6=2". Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components.

② 100/150 Amp Boxes & Adapters also fit 60 Amp receptacles. Adapter-only can be used to attach receptacle at an angle to a standard sheet metal box.



E



C



Receptacle



200A Selection Information



Plug



Connector

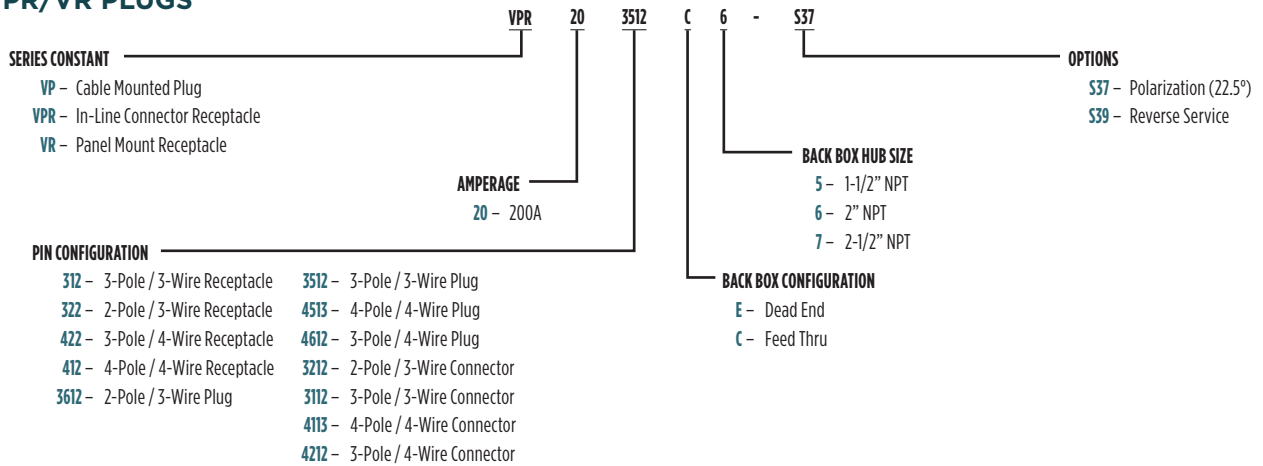
**200 Amp 600VAC/250VDC; 50-400 Hertz
Type 3, 4, 4X**

Wire Range
Regular Stranding: #1 - 250
(Includes Type P marine
Extra flex: #1 - 250 (.653 max conductor diameter)

File No. E10757

Certified File No. 1121608

VP/VPR/VR PLUGS



200 AMP PLUGS & CONNECTORS

GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	3W3P	1.0 - 2.5 IN	VP203512	VPR203112
	4W4P	1.0 - 2.5 IN	VP204513	VPR204113
Style II	2W3P	1.0 - 2.5 IN	VP203612	VPR203212
	3W4P	1.0 - 2.5 IN	VP204612	VPR204212

200 AMP RECEPTACLES & BACK BOXES

GROUND STYLE	CIRCUIT	CATALOG NUMBER		
		E ^① TYPE DEAD END	C ^① TYPE FEED THRU	RECEPTACLE ONLY
Style I	3W3P	VR20312E6	VR20312C7	VR20312
	4W4P	VR20412E6	VR20412C7	VR20412
Style II	2W3P	VR20322E6	VR20322C7	VR20322
	3W4P	VR20422E6	VR20422C7	VR20422
Splice box only w/ adapter ^{①②}		VJ78	VJC78	Angle adapter only VJA200

① 200 Amp dead-end Back Boxes are available in sizes 1-1/2", 2" & 2-1/2" conduit sizes. Dead-end box shown is 2". For other available dead-end box sizes, change the BOLD "6" in either the dead-end assembly or box only number as follows: 5-1-1/2", 6-2", 7-2-1/2". Feed through boxes are available in 2-1/2"; use "R" series adapters as required for smaller sizes (sold separately). Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components.

② Adapter-only can be used to attach receptacle at an angle to a standard sheet metal box.

* 200A 3W4P Reverse Service configured "W" Series and VersaMate are not interchangeable. However, the VersaMate VR20422-S39 receptacle ships with instructions to permanently convert for use with existing PW-6402X SU39 plugs. Factory only configured plugs to fit old RW64C-SU39 receptacles may be ordered as VP-PW64026 SU39.

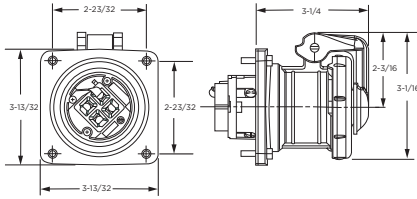




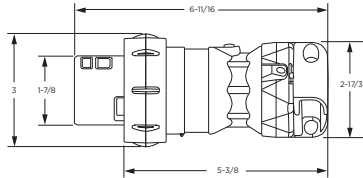
CONNECTIVITY
VERSAMATE® SERIES

Dimensions

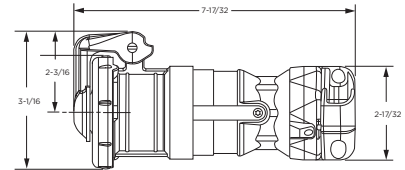
30A SELECTION INFORMATION



Receptacle

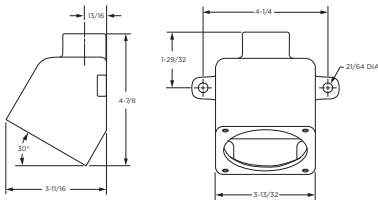


Plug

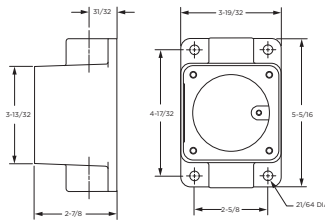


Connector

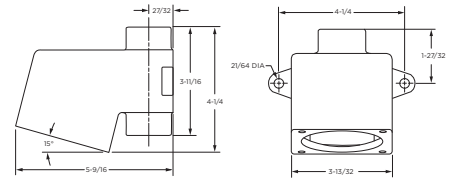
Back Box Dimensions



VRE

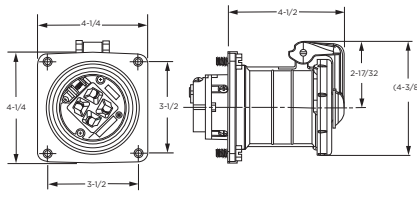


VRC

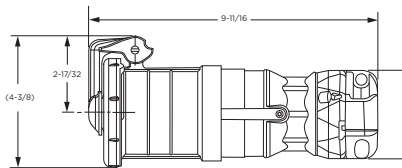


VRD

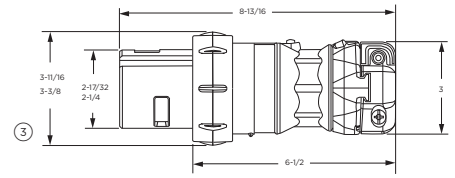
60A SELECTION INFORMATION



Receptacle

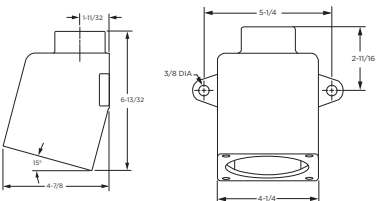


Connector

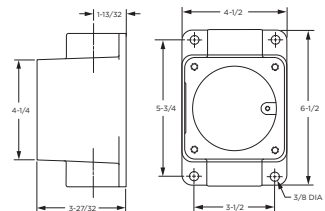


Plug

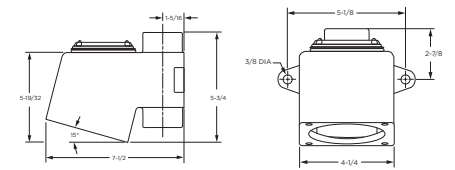
Back Box Dimensions



VRE



VRC



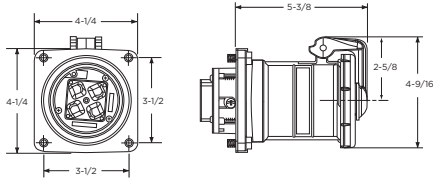
VRD

Dimensions in () are 3 pole devices; balance are 4 pole.



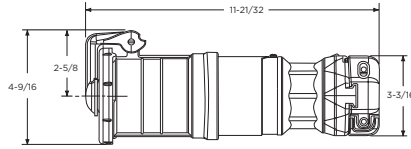
Dimensions

100A SELECTION INFORMATION

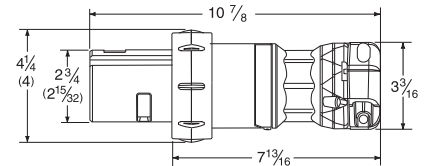


Receptacle

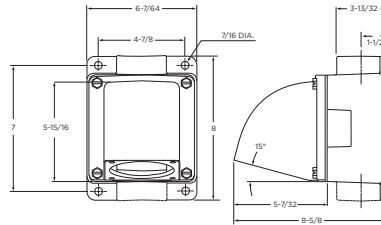
Back Box Dimensions



Connector

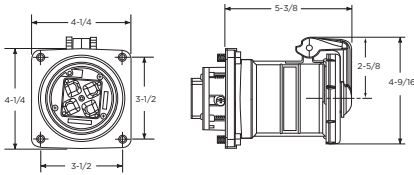


Plug



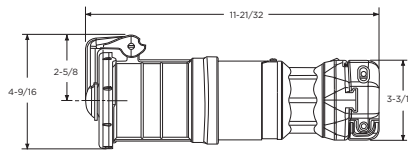
VJC
Feed through style shown

150A SELECTION INFORMATION

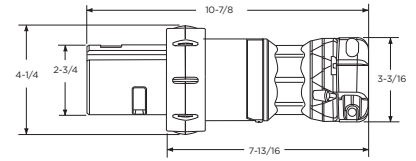


Receptacle

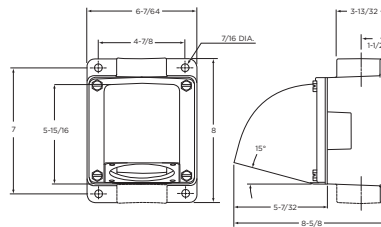
Back Box Dimensions



Connector

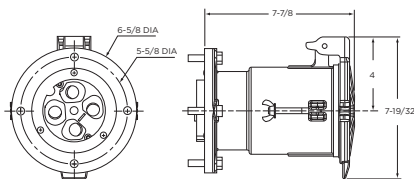


Plug



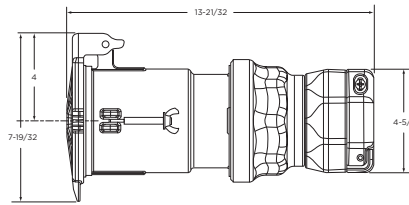
VJC
Feed through style shown

200A SELECTION INFORMATION

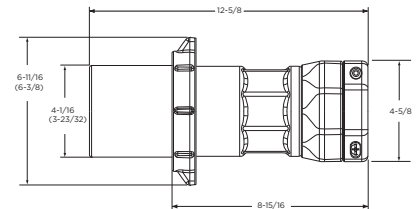


Receptacle

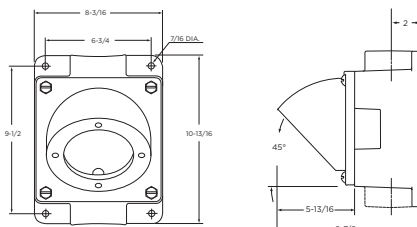
Back Box Dimensions



Connector



Plug



VJC

Dimensions in () are 3 pole devices; balance are 4 pole.



CONNECTIVITY RMPIII SERIES

RMPIII300/400



High
Conductivity
Brass Contact



Non-
Conductive
Locking Screw



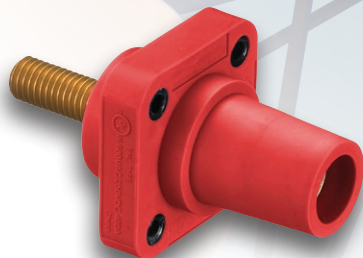
Molded-In Strip
Gauge

Locking Alignment
Indicator

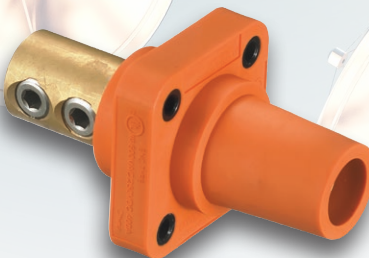
RMPIII MALE
PLUG

Wide Range of
Cable Sizes, with
Cut-Off Points

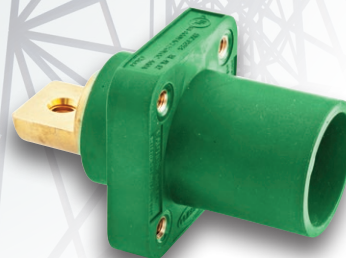
RMPIII FEMALE
PLUG



Female Receptacle, Stud Type



Female Receptacle, Double Set Screw



Male Receptacle, Bus Bar Mount



RMPIII300/400



RMPIII300/400 Plug

RMPIII300/400 Receptacle

UL1691 Standard (Single Pole Locking Type Connectors)

 File No. E359583

FEATURES-SPECIFICATIONS

Features:

- Plug design incorporates superior grip, for safe connection.
- Accommodates wide range of cables, with easily identifiable cable cut off points.
- Extra-long insulating inner sleeve reduces force required to install contacts, including special non-conductive locking screw thread that requires fewer turns for assembly, leading to quicker installation, with no need for additional tools.
- Rounded corners, which prevent snagging on other equipment, and non-conductive retaining screw lead to a safer plug design, during and after installation.
- Strip gauge molded into every plug and receptacle.
- Locking symbol on front of device provides clear indication that devices are properly connected; devices can be rotated 180 degrees to prevent unintended disconnects.
- High conductivity brass contacts provide high contact pressure and vibration-resistant connection, reducing operating temperatures and extending product life.

Materials:

- High Quality, Corrosion-Resistant Materials
 - » Insulators = Thermoplastic Elastomer (TPE)
 - » Contacts = High Conductivity Brass

Electrical Ratings:

- Wire Type = Type SC/PPC Wire
- Voltage = 600VAC
- RMPIII300 Plug =
 - » Amperage = 300A
 - » Wire Range = #6 - 2/0 AWG
- RMPIII400 Plug =
 - » Amperage = 400A
 - » Wire Size = 2/0 - 4/0 AWG

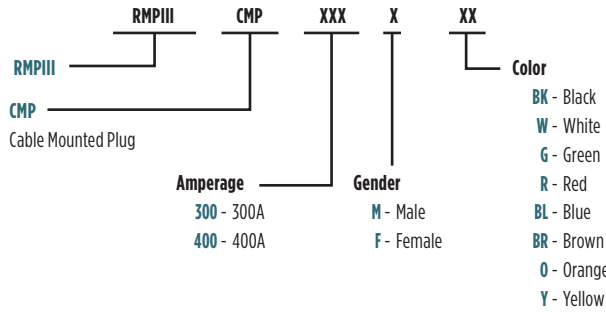
AMPACITY RATINGS IN 40° AMBIENT	
CABLE SIZE	90° C
#6 AWG	105A
#4 AWG	140A
#2 AWG	190A
#2/0 AWG	300A
#4/0 AWG	405A



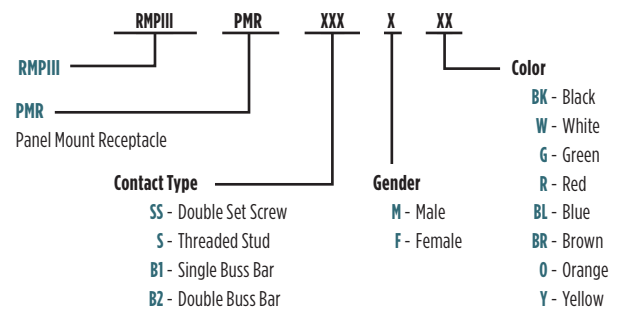
CONNECTIVITY RMPIII SERIES

RMPIII300/400

PLUG CATALOG LOGIC



RECEPTACLE CATALOG LOGIC



RMPIII CABLE MOUNTED PLUGS				
COLOR	300A MALE	400A MALE	300A FEMALE	400A FEMALE
BLACK	RMPIII-CMP-300-M-BK	RMPIII-CMP-400-M-BK	RMPIII-CMP-300-F-BK	RMPIII-CMP-400-F-BK
WHITE	RMPIII-CMP-300-M-W	RMPIII-CMP-400-M-W	RMPIII-CMP-300-F-W	RMPIII-CMP-400-F-W
GREEN	RMPIII-CMP-300-M-G	RMPIII-CMP-400-M-G	RMPIII-CMP-300-F-G	RMPIII-CMP-400-F-G
RED	RMPIII-CMP-300-M-R	RMPIII-CMP-400-M-R	RMPIII-CMP-300-F-R	RMPIII-CMP-400-F-R
BLUE	RMPIII-CMP-300-M-BL	RMPIII-CMP-400-M-BL	RMPIII-CMP-300-F-BL	RMPIII-CMP-400-F-BL
BROWN	RMPIII-CMP-300-M-BR	RMPIII-CMP-400-M-BR	RMPIII-CMP-300-F-BR	RMPIII-CMP-400-F-BR
ORANGE	RMPIII-CMP-300-M-O	RMPIII-CMP-400-M-O	RMPIII-CMP-300-F-O	RMPIII-CMP-400-F-O
YELLOW	RMPIII-CMP-300-M-Y	RMPIII-CMP-400-M-Y	RMPIII-CMP-300-F-Y	RMPIII-CMP-400-F-Y

COMPLETE PART NUMBER CONFIGURATIONS								
RMPIII PANEL MOUNT RECEPTACLES								
COLOR	CONTACT TYPE							
	DOUBLE SET SCREW-MALE	DOUBLE SET SCREW-FEMALE	THREADED STUD-MALE	THREADED STUD-FEMALE	SINGLE BUSS BAR-MALE	SINGLE BUSS BAR-FEMALE	DOUBLE BUSS BAR-MALE	DOUBLE BUSS BAR-FEMALE
BLACK	RMPIII-PMR-SS-M-BK	RMPIII-PMR-SS-F-BK	RMPIII-PMR-S-M-BK	RMPIII-PMR-S-F-BK	RMPIII-PMR-B1-M-BK	RMPIII-PMR-B1-F-BK	RMPIII-PMR-B2-M-BK	RMPIII-PMR-B2-F-BK
WHITE	RMPIII-PMR-SS-M-W	RMPIII-PMR-SS-F-W	RMPIII-PMR-S-M-W	RMPIII-PMR-S-F-W	RMPIII-PMR-B1-M-W	RMPIII-PMR-B1-F-W	RMPIII-PMR-B2-M-W	RMPIII-PMR-B2-F-W
GREEN	RMPIII-PMR-SS-M-G	RMPIII-PMR-SS-F-G	RMPIII-PMR-S-M-G	RMPIII-PMR-S-F-G	RMPIII-PMR-B1-M-G	RMPIII-PMR-B1-F-G	RMPIII-PMR-B2-M-G	RMPIII-PMR-B2-F-G
RED	RMPIII-PMR-SS-M-R	RMPIII-PMR-SS-F-R	RMPIII-PMR-S-M-R	RMPIII-PMR-S-F-R	RMPIII-PMR-B1-M-R	RMPIII-PMR-B1-F-R	RMPIII-PMR-B2-M-R	RMPIII-PMR-B2-F-R
BLUE	RMPIII-PMR-SS-M-BL	RMPIII-PMR-SS-F-BL	RMPIII-PMR-S-M-BL	RMPIII-PMR-S-F-BL	RMPIII-PMR-B1-M-BL	RMPIII-PMR-B1-F-BL	RMPIII-PMR-B2-M-BL	RMPIII-PMR-B2-F-BL
BROWN	RMPIII-PMR-SS-M-BR	RMPIII-PMR-SS-F-BR	RMPIII-PMR-S-M-BR	RMPIII-PMR-S-F-BR	RMPIII-PMR-B1-M-BR	RMPIII-PMR-B1-F-BR	RMPIII-PMR-B2-M-BR	RMPIII-PMR-B2-F-BR
ORANGE	RMPIII-PMR-SS-M-O	RMPIII-PMR-SS-F-O	RMPIII-PMR-S-M-O	RMPIII-PMR-S-F-O	RMPIII-PMR-B1-M-O	RMPIII-PMR-B1-F-O	RMPIII-PMR-B2-M-O	RMPIII-PMR-B2-F-O
YELLOW	RMPIII-PMR-SS-M-Y	RMPIII-PMR-SS-F-Y	RMPIII-PMR-S-M-Y	RMPIII-PMR-S-F-Y	RMPIII-PMR-B1-M-Y	RMPIII-PMR-B1-F-Y	RMPIII-PMR-B2-M-Y	RMPIII-PMR-B2-F-Y



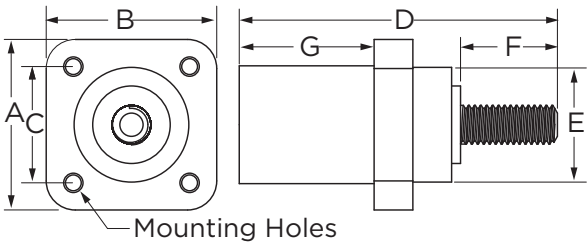
RMPIII300/400

RMPIII ACCESSORIES										
PROTECTIVE CAPS					WEATHER PROTECTIVE LIFT COVERS					
COLOR						COLOR				
	FITS FEMALE DEVICES	FITS MALE DEVICES					ALL ONE COLOR CAPS AND BODIES			
Black	RMPIII-FCAPBK	RMPIII-MCAPBK				Clear	RMPIII-NCC			
						Black	RMPIII-NCABK			
						White	RMPIII-NCAW			
						Green	RMPIII-NCAG			
						Red	RMPIII-NCAR			
						Blue	RMPIII-NCABL			
						Brown	RMPIII-NCABR			
						Orange	RMPIII-NCAO			
						Yellow	RMPIII-NCAY			

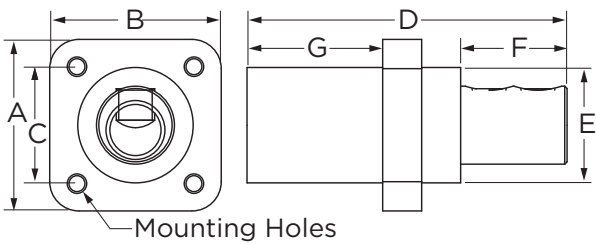
RMPIII300/400 SERIES				
	DIMENSIONS INCHES (mm)			
	A	B	C	D
Male	7.01" (178.0)	1.38" (35.1)	1.48" (37.6)	4.78" (121.4)
Female	7.10" (180.5)	1.44" (36.6)	1.06" (27.0)	4.90" (121.3)

RMPIII300/400 SERIES									
DESCRIPTION	DIMENSIONS INCHES (mm)							MOUNTING HOLE	TERMINATION
	A	B	C	D	E	F	G		
THREADED STUD									
Male & Female with through hole mounting	2.20" (55.9)	2.20" (55.9)	1.50" (38.1)	4.10" (104.3)	1.48" (37.6)	1.25" (31.7)	1.74" (44.2)	Through 4x Ø .20"	1/2-13 UNC-2A Threaded stud
DOUBLE SET SCREW									
Male & Female with through hole mounting	2.20" (55.9)	2.20" (55.9)	1.50" (38.1)	4.10" (104.3)	1.48" (37.6)	1.36" (34.5)	1.74" (44.2)	Through 4x Ø .20"	(2) 7/32 Socket Head set screws Wire Range: #4 - 4/0 AWG
BUSBAR TYPE									
Male & Female with threaded mounting holes	2.20" (55.9)	2.20" (55.9)	1.50" (38.1)	3.57" (90.7)	1.48" (37.6)	1.01" (25.7)	1.55" (39.4)	Threaded 4x #10-32	(1) 5/16-18 UNC-2B Threaded hole

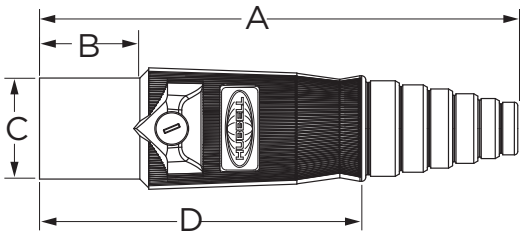
Dimensions



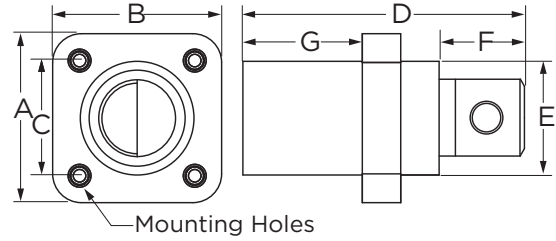
Threaded Stud (Male Shown)



Double Set Screw (Male Shown)



In Line Plug (Male Shown)



Busbar Type (Male Shown)



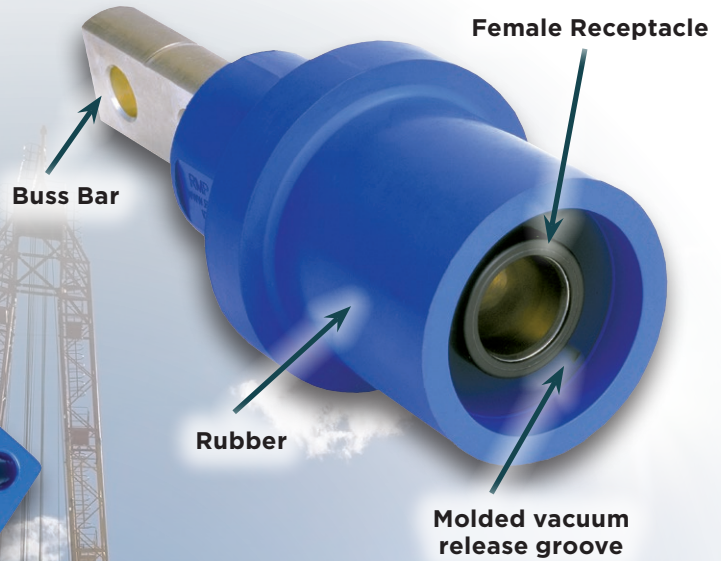
CONNECTIVITY RMPIII SERIES

Higher Amperage

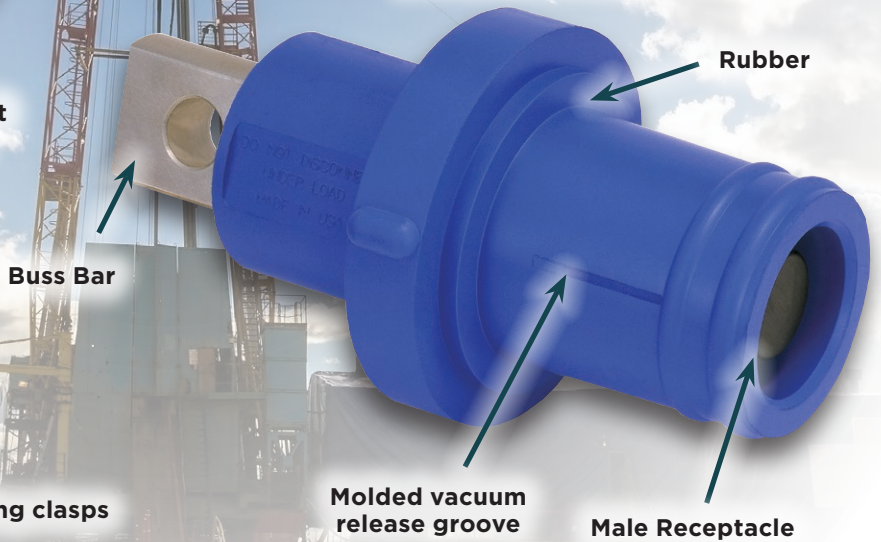
RMPIII PANEL MOUNT HOUSINGS



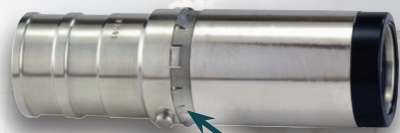
RMPIII FEMALE RECEPTACLES



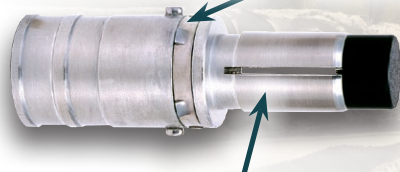
RMPIII MALE RECEPTACLES



FEMALE CONTACTS



MALE CONTACTS

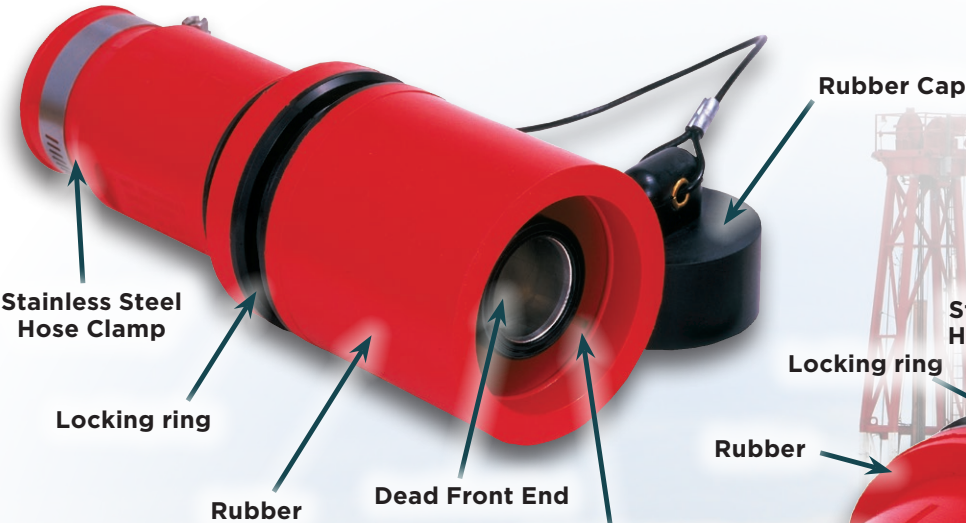


Six flared locking clasps

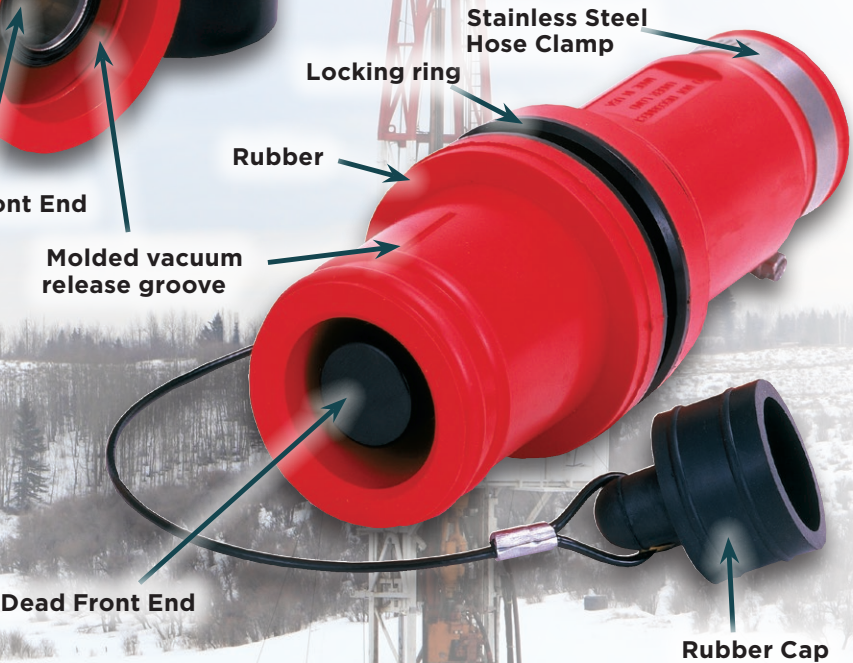
New contrast profile allows increased contact pressure with reduced insertion force.



Higher Amperage
RMPIII FEMALE PLUGS



RMPIII MALE PLUGS



RMPIII IN-LINE CONNECTION





CONNECTIVITY
RMPIII SERIES

Higher Amperage



RMP III Series
Female Panel Mounted Receptacle



RMP III Male Plugs

-40°C to +55°C ambient temperature
NEMA 3R
1000 Volts AC/DC
400-1135 Amps
Class I, Div. 2, Groups A, B, C, D

UL File No. E361477

UL File No. E489255

FEATURES-SPECIFICATIONS

Features:

- Single Pole Power Connectors
- Available in up to 10 Colors, for Phase-Specific Color Coding
- Available in Panel Mount Receptacles, Cable-Mounted Plugs, and In-Line Connectors
- Available in Male and Female Insert Configurations
- Rubber Plug/Receptacle Cap Included as Standard
- Angled Snap-Action Locking Bar on receptacles
- Plugs and Receptacles have a dead front contact tip to help protect operators from shock hazard.
- Easy, High-Strength Cable Termination, using Crimp/Die Sets

Materials:

- Busbar and Contacts = High Conductivity, Sn-Coated Copper
- Insulator Boot = Hypalon Rubber
- Dust Cap = Neoprene Rubber
- Housing = Powder Coated, Copper-Free Aluminum

Electrical Ratings:

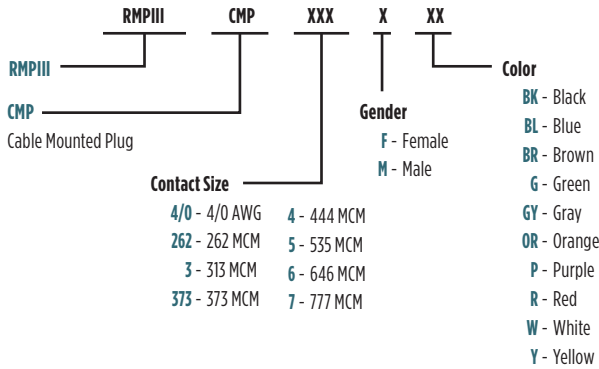
- Suitable for a Wide Range of Maximum Amperages = 400A to 1135A (Cable Size Dependent)
- Suitable for up to 1000 VAC/DC
- Suitable for Wire Ranges between 4/0 AWG through 777 MCM

AMPACITY RATINGS IN 40° AMBIENT		
CABLE SIZE	90°C CABLE	125°C CABLE
4/0 MCM	364 AMPS	451 AMPS
262 MCM	428 AMPS	566 AMPS
313 MCM	513 AMPS	636 AMPS
373 MCM	548 AMPS	669 AMPS
444 MCM	642 AMPS	796 AMPS
535 MCM	724 AMPS	898 AMPS
646 MCM	814 AMPS	1009 AMPS
777 MCM	916 AMPS	1135 AMPS

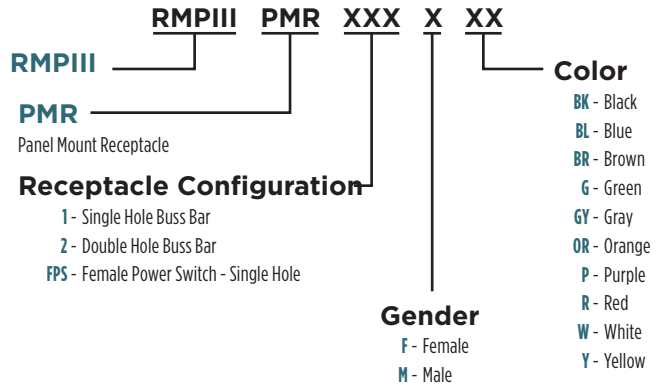


Higher Amperage

PLUG CATALOG LOGIC



RECEPTACLE CATALOG LOGIC



RMPIII CABLE MOUNTED PLUGS - MALE

COLOR	4/0 CONTACT	262 CONTACT	313 CONTACT	373 CONTACT	444 CONTACT	535 CONTACT	646 CONTACT	777 CONTACT
Black	RMPIII-CMP-4/0M-BK	RMPIII-CMP-262M-BK	RMPIII-CMP-3M-BK	RMPIII-CMP-373M-BK	RMPIII-CMP-4M-BK	RMPIII-CMP-5M-BK	RMPIII-CMP-6M-BK	RMPIII-CMP-7M-BK
Blue	RMPIII-CMP-4/0M-BL	RMPIII-CMP-262M-BL	RMPIII-CMP-3M-BL	RMPIII-CMP-373M-BL	RMPIII-CMP-4M-BL	RMPIII-CMP-5M-BL	RMPIII-CMP-6M-BL	RMPIII-CMP-7M-BL
Brown	RMPIII-CMP-4/0M-BR	RMPIII-CMP-262M-BR	RMPIII-CMP-3M-BR	RMPIII-CMP-373M-BR	RMPIII-CMP-4M-BR	RMPIII-CMP-5M-BR	RMPIII-CMP-6M-BR	RMPIII-CMP-7M-BR
Green	RMPIII-CMP-4/0M-G	RMPIII-CMP-262M-G	RMPIII-CMP-3M-G	RMPIII-CMP-373M-G	RMPIII-CMP-4M-G	RMPIII-CMP-5M-G	RMPIII-CMP-6M-G	RMPIII-CMP-7M-G
Gray	RMPIII-CMP-4/0M-GY	RMPIII-CMP-262M-GY	RMPIII-CMP-3M-GY	RMPIII-CMP-373M-GY	RMPIII-CMP-4M-GY	RMPIII-CMP-5M-GY	RMPIII-CMP-6M-GY	RMPIII-CMP-7M-GY
Orange	RMPIII-CMP-4/0M-OR	RMPIII-CMP-262M-OR	RMPIII-CMP-3M-OR	RMPIII-CMP-373M-OR	RMPIII-CMP-4M-OR	RMPIII-CMP-5M-OR	RMPIII-CMP-6M-OR	RMPIII-CMP-7M-OR
Purple	RMPIII-CMP-4/0M-P	RMPIII-CMP-262M-P	RMPIII-CMP-3M-P	RMPIII-CMP-373M-P	RMPIII-CMP-4M-P	RMPIII-CMP-5M-P	RMPIII-CMP-6M-P	RMPIII-CMP-7M-P
Red	RMPIII-CMP-4/0M-R	RMPIII-CMP-262M-R	RMPIII-CMP-3M-R	RMPIII-CMP-373M-R	RMPIII-CMP-4M-R	RMPIII-CMP-5M-R	RMPIII-CMP-6M-R	RMPIII-CMP-7M-R
White	RMPIII-CMP-4/0M-W	RMPIII-CMP-262M-W	RMPIII-CMP-3M-W	RMPIII-CMP-373M-W	RMPIII-CMP-4M-W	RMPIII-CMP-5M-W	RMPIII-CMP-6M-W	RMPIII-CMP-7M-W
Yellow	RMPIII-CMP-4/0M-Y	RMPIII-CMP-262M-Y	RMPIII-CMP-3M-Y	RMPIII-CMP-373M-Y	RMPIII-CMP-4M-Y	RMPIII-CMP-5M-Y	RMPIII-CMP-6M-Y	RMPIII-CMP-7M-Y

RMPIII CABLE MOUNTED PLUGS - FEMALE

Black	RMPIII-CMP-4/0F-BK	RMPIII-CMP-262F-BK	RMPIII-CMP-3F-BK	RMPIII-CMP-373F-BK	RMPIII-CMP-4F-BK	RMPIII-CMP-5F-BK	RMPIII-CMP-6F-BK	RMPIII-CMP-7F-BK
Blue	RMPIII-CMP-4/0F-BL	RMPIII-CMP-262F-BL	RMPIII-CMP-3F-BL	RMPIII-CMP-373F-BL	RMPIII-CMP-4F-BL	RMPIII-CMP-5F-BL	RMPIII-CMP-6F-BL	RMPIII-CMP-7F-BL
Brown	RMPIII-CMP-4/0F-BR	RMPIII-CMP-262F-BR	RMPIII-CMP-3F-BR	RMPIII-CMP-373F-BR	RMPIII-CMP-4F-BR	RMPIII-CMP-5F-BR	RMPIII-CMP-6F-BR	RMPIII-CMP-7F-BR
Green	RMPIII-CMP-4/0F-G	RMPIII-CMP-262F-G	RMPIII-CMP-3F-G	RMPIII-CMP-373F-G	RMPIII-CMP-4F-G	RMPIII-CMP-5F-G	RMPIII-CMP-6F-G	RMPIII-CMP-7F-G
Gray	RMPIII-CMP-4/0F-GY	RMPIII-CMP-262F-GY	RMPIII-CMP-3F-GY	RMPIII-CMP-373F-GY	RMPIII-CMP-4F-GY	RMPIII-CMP-5F-GY	RMPIII-CMP-6F-GY	RMPIII-CMP-7F-GY
Orange	RMPIII-CMP-4/0F-OR	RMPIII-CMP-262F-OR	RMPIII-CMP-3F-OR	RMPIII-CMP-373F-OR	RMPIII-CMP-4F-OR	RMPIII-CMP-5F-OR	RMPIII-CMP-6F-OR	RMPIII-CMP-7F-OR
Purple	RMPIII-CMP-4/0F-P	RMPIII-CMP-262F-P	RMPIII-CMP-3F-P	RMPIII-CMP-373F-P	RMPIII-CMP-4F-P	RMPIII-CMP-5F-P	RMPIII-CMP-6F-P	RMPIII-CMP-7F-P
Red	RMPIII-CMP-4/0F-R	RMPIII-CMP-262F-R	RMPIII-CMP-3F-R	RMPIII-CMP-373F-R	RMPIII-CMP-4F-R	RMPIII-CMP-5F-R	RMPIII-CMP-6F-R	RMPIII-CMP-7F-R
White	RMPIII-CMP-4/0F-W	RMPIII-CMP-262F-W	RMPIII-CMP-3F-W	RMPIII-CMP-373F-W	RMPIII-CMP-4F-W	RMPIII-CMP-5F-W	RMPIII-CMP-6F-W	RMPIII-CMP-7F-W
Yellow	RMPIII-CMP-4/0F-Y	RMPIII-CMP-262F-Y	RMPIII-CMP-3F-Y	RMPIII-CMP-373F-Y	RMPIII-CMP-4F-Y	RMPIII-CMP-5F-Y	RMPIII-CMP-6F-Y	RMPIII-CMP-7F-Y

RMPIII PANEL MOUNT RECEPTACLES

COLOR	SINGLE HOLE MALE	DOUBLE HOLE MALE	SINGLE HOLE FEMALE	DOUBLE HOLE FEMALE	POWER SWITCH RECEPTACLE FEMALE
Black	RMPIII-PMR-1M-BK	RMPIII-PMR-2M-BK	RMPIII-PMR-1F-BK	RMPIII-PMR-2F-BK	RMPIII-PMR-FPS-BK
Blue	RMPIII-PMR-1M-BL	RMPIII-PMR-2M-BL	RMPIII-PMR-1F-BL	RMPIII-PMR-2F-BL	RMPIII-PMR-FPS-BL
Brown	RMPIII-PMR-1M-BR	RMPIII-PMR-2M-BR	RMPIII-PMR-1F-BR	RMPIII-PMR-2F-BR	RMPIII-PMR-FPS-BR
Green	RMPIII-PMR-1M-G	RMPIII-PMR-2M-G	RMPIII-PMR-1F-G	RMPIII-PMR-2F-G	RMPIII-PMR-FPS-G
Gray	RMPIII-PMR-1M-GY	RMPIII-PMR-2M-GY	RMPIII-PMR-1F-GY	RMPIII-PMR-2F-GY	RMPIII-PMR-FPS-GY
Orange	RMPIII-PMR-1M-OR	RMPIII-PMR-2M-OR	RMPIII-PMR-1F-OR	RMPIII-PMR-2F-OR	RMPIII-PMR-FPS-OR
Purple	RMPIII-PMR-1M-P	RMPIII-PMR-2M-P	RMPIII-PMR-1F-P	RMPIII-PMR-2F-P	RMPIII-PMR-FPS-P
Red	RMPIII-PMR-1M-R	RMPIII-PMR-2M-R	RMPIII-PMR-1F-R	RMPIII-PMR-2F-R	RMPIII-PMR-FPS-R
White	RMPIII-PMR-1M-W	RMPIII-PMR-2M-W	RMPIII-PMR-1F-W	RMPIII-PMR-2F-W	RMPIII-PMR-FPS-W
Yellow	RMPIII-PMR-1M-Y	RMPIII-PMR-2M-Y	RMPIII-PMR-1F-Y	RMPIII-PMR-2F-Y	RMPIII-PMR-FPS-Y





CONNECTIVITY RMPIII SERIES

RMPIII Accessories And Replacement Parts

RMPIII COUPLERS	
COLOR	CATALOG NUMBER
Black	RMP-CMR-BK
Blue	RMP-CMR-BL
Brown	RMP-CMR-BR
Green	RMP-CMR-G
Gray	RMP-CMR-GY
Orange	RMP-CMR-OR
Purple	RMP-CMR-P
Red	RMP-CMR-R
White	RMP-CMR-W
Yellow	RMP-CMR-Y
Bare Aluminum	RMP-CMR-AL

BULKHEAD MOUNTED COUPLER	
COLOR	CATALOG NUMBER
Black	RMP-BMC-BK
Blue	RMP-BMC-BL
Brown	RMP-BMC-BR
Green	RMP-BMC-G
Gray	RMP-BMC-GY
Orange	RMP-BMC-OR
Purple	RMP-BMC-P
Red	RMP-BMC-R
White	RMP-BMC-W
Yellow	RMP-BMC-Y



RMPIII CONTACTS			PART DESCRIPTION
	CATALOG NUMBER		
	MALE CONTACTS	FEMALE CONTACTS	
-	RMP-C-4/ØM	RMP-C-4/ØF	Cable Size 4/0 MCM Through 777 MCM
-	RMP-C-262M	RMP-C-262F	
-	RMP-C-3M	RMP-C-3F	
-	RMP-C-373M	RMP-C-373F	
-	RMP-C-4M	RMP-C-4F	
-	RMP-C-5M	RMP-C-5F	
-	RMP-C-6M	RMP-C-6F	
-	RMP-C-7M	RMP-C-7F	

GROUNDING RECEPTACLES AND PLUGS	
CATALOG NUMBER	PART DESCRIPTION
RMP-FGP-4	Female Flange Mounted Grounding Plug
RMP-MGR	Male Flange Mounted Grounding Receptacle
RMP-FGR	Female Grounding Receptacle for 5/8 Stud
RMP-MGP-4	Male Grounding Pin for 5/8 Stud

HOUSINGS	
COLOR	CATALOG NUMBER
Black	RMP-PMR-BK
Blue	RMP-PMR-BL
Brown	RMP-PMR-BR
Green	RMP-PMR-G
Gray	RMP-PMR-GY
Orange	RMP-PMR-OR
Purple	RMP-PMR-P
Red	RMP-PMR-R
White	RMP-PMR-W
Yellow	RMP-PMR-Y

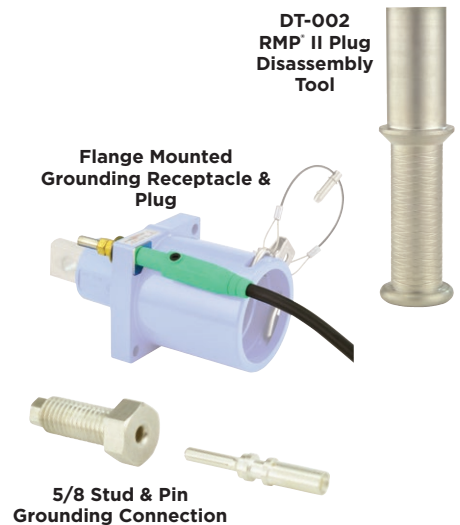
RMPIII INSULATORS			PART DESCRIPTION
COLOR	CATALOG NUMBER		
	MALE INSULATORS	FEMALE INSULATORS	
Black	RMP-III-CMP-M-BK	RMP-III-CMP-F-BK	-
Blue	RMP-III-CMP-M-BL	RMP-III-CMP-F-BL	-
Brown	RMP-III-CMP-M-BR	RMP-III-CMP-F-BR	-
Green	RMP-III-CMP-M-G	RMP-III-CMP-F-G	-
Gray	RMP-III-CMP-M-GY	RMP-III-CMP-F-GY	-
Orange	RMP-III-CMP-M-OR	RMP-III-CMP-F-OR	-
Purple	RMP-III-CMP-M-P	RMP-III-CMP-F-P	-
Red	RMP-III-CMP-M-R	RMP-III-CMP-F-R	-
White	RMP-III-CMP-M-W	RMP-III-CMP-F-W	-
Yellow	RMP-III-CMP-M-Y	RMP-III-CMP-F-Y	-

RMPIII ACCESSORIES	
CATALOG NUMBER	PART DESCRIPTION
DT-002	Insulator Disassemble Tool

DOUBLE HOLE LUGS	
CATALOG NUMBER	PART DESCRIPTION
QS-535-L	535 MCM Double Hole Lug
QS-646-L	646 MCM Double Hole Lug
QS-777-L	777 MCM Double Hole Lug

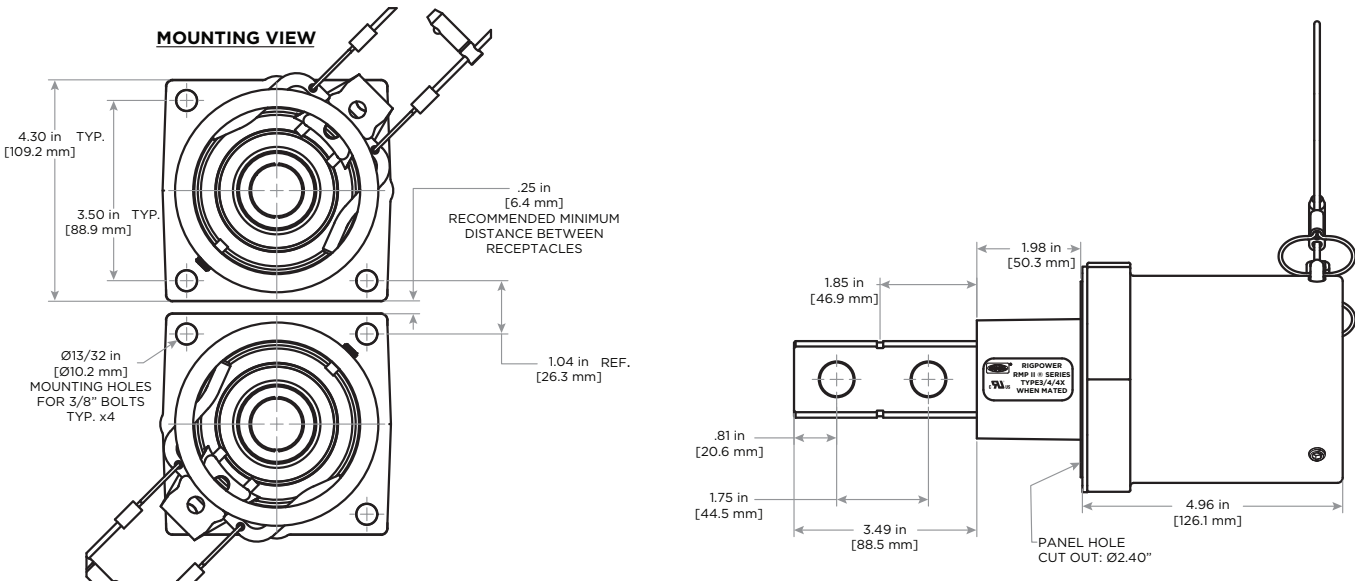
RMPIII ACCESSORIES		
COLOR	CATALOG NUMBER	PART DESCRIPTION
Yellow Only	RMP-LOC-Y	Lockout/Tagout Plug Cap
X = Color	RMP-LOS-X	Single Pad Lock

30°-45° REVERSIBLE LOCKING BUSS BAR LUGS	
CATALOG NUMBER	PART DESCRIPTION
SL-535-AL	535 MCM 30°/45° Reversible Locking Buss Bar Lug
SL-646-AL	646 MCM 30°/45° Reversible Locking Buss Bar Lug
SL-777-AL	777 MCM 30°/45° Reversible Locking Buss Bar Lug

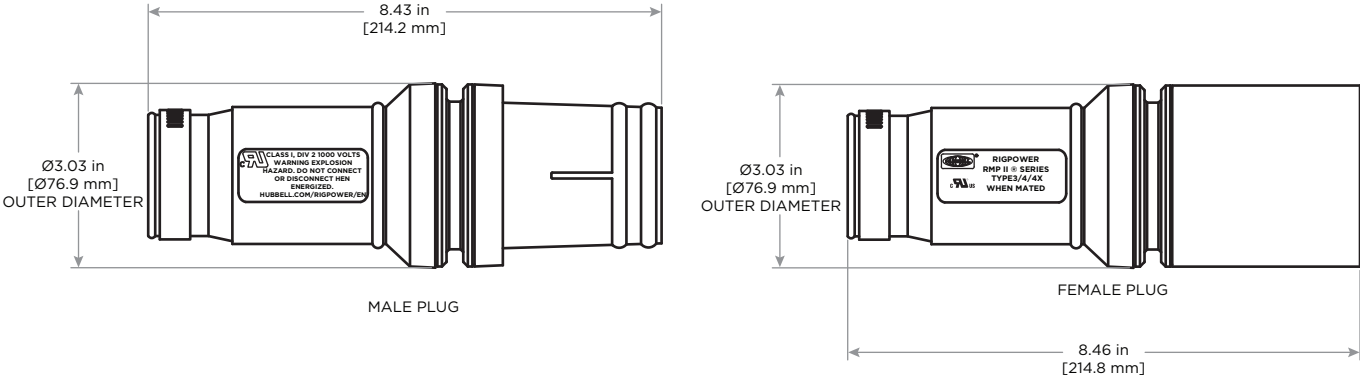




Panel Mounted Receptacle (PMR) Mounting Dimensions



Cable Mounted Plug (CMP) Dimensions





CONNECTIVITY HP20® SERIES

HP20® Series Receptacles





HP20® Series Receptacles



**HP20® Series
 Female Panel Mounted
 Receptacle**

**HP20® Series
 Male Panel Mounted
 Receptacle**

**1000 Volts AC/DC
 400-1135 Amps
 Class I, Div. 2, Groups A, B, C, D**



cUL File No. E489255

FEATURES-SPECIFICATIONS

Features

- Single Pole Power Connectors
- Available in up to 10 Colors, for Phase-Specific Color Coding
- Available in Panel Mount Receptacles, Cable-Mounted Plugs, Cable Mounted Receptacles, and In-Line Fixed Receptacles
- Available in Male and Female Insert Configurations
- Easy, High-Strength Cable Termination, using Crimp/Die Sets
- Double-lead ACME Threads for rapid and secure connections.
- Multilam Contact System permits ease of insertion and withdrawal, made via a large number of current carrying contact points.
- Male Plugs and Receptacles have a dead front contact tip to help protect operators from shock hazard.
- Elastomeric Ring sealing ring allows for smaller shell/connector size, while allowing for the same high amperage/voltage ratings and up to 777 MCM cable size used by similar connectors.

Materials:

- Buss Bar and Contacts = High Conductivity, Sn-coated Copper
- Gasket = Neoprene
- Receptacle Body = Anodized Aluminum
- Receptacle Cap = Powder Coated Aluminum
- Receptacle Cap Chain = Stainless Steel
- O-Ring Seals = Nitrile Rubber

Electrical Ratings:

- Amperage = Up to 1100 Amps
- Voltage = Up to 1000 VAC/VDC

HP20® PANEL MOUNT RECEPTACLES – Ordering Format: HP20-(1)-(2)				
(1) RECEPTACLE GENDER		+	(2) COLOR	
CATALOG NUMBER	DESCRIPTION		CATALOG NUMBER	DESCRIPTION
MBR	Male Double Hole Buss Bar Panel Mount Receptacle		BK	Black
FBR	Female Double Hole Buss Bar Panel Mount Receptacle		BL	Blue
			BR	Brown
			G	Green
			GY	Gray
			OR	Orange
			P	Purple
			R	Red
			W	White
			Y	Yellow



CONNECTIVITY
HP20® SERIES

HP20® Series Plugs



**Kellems, is a Registered Trademark of Hubbell Inc.*



HP20® Series Plugs



1000 Volts AC/DC
400-1135 Amps
Class 1 Div.2 (Canada Only)



FEATURES-SPECIFICATIONS

Features:

- Single Pole Power Connectors
- Available in up to 10 Colors, for Phase-Specific Color Coding
- Available in Panel Mount Receptacles, Cable-Mounted Plugs, Cable Mounted Receptacles, and In-Line Fixed Receptacles
- Available in Male and Female Insert Configurations
- Easy, High-Strength Cable Termination, using Crimp/Die Sets
- Double-lead ACME Threads for rapid and secure connections.
- Multilam Contact System permits ease of insertion and withdrawal, made via a large number of current carrying contact points.
- Male Plugs and Receptacles have a dead front contact tip to help protect operators from shock hazard.
- Elastomeric Ring sealing ring allows for smaller shell/connector size, while allowing for the same high amperage/voltage ratings and up to 777 MCM cable size used by similar connectors.

Materials:

- Buss Bar and Contacts = High Conductivity, Sn-coated Copper
- Gasket = Neoprene
- Plug Body = Anodized Aluminum
- Plug Cap = Powder Coated Aluminum
- Plug Cap Chain = Stainless Steel
- O-Ring Seals = Nitrile Rubber

Electrical Ratings:

- Amperage = Up to 1100 Amps
- Voltage = Up to 1000 VAC/VDC

**Kellems®, is a Registered Trademark of Hubbell Inc.*

HP20® PLUGS, IN-LINE RECEPTACLES & FIXED CABLE RECEPTACLES – ORDERING FORMAT: HP20-(1)-(2)-(3)-(4)-(5)

(1) MALE & FEMALE CONTACT SIZE	(2) STYLE OF PLUG CASING	(3) GROMMET	(4) MECHANICAL CLAMP	(5) COLOR
Male	P = Plug OR IR = In-Line Receptacle OR FCR = Fixed Cable Receptacle	16 = 0.870 - 1.000	M = Mechanical Clamp OR Kellems Grip K16 = #16 (0.875 - 1.000) K18 = #18 (1.000 - 1.125) K20 = #20 (1.125 - 1.250) K22 = #22 (1.250 - 1.375) K24 = #24 (1.375 - 1.500)	BK = Black
4/0M = 4/0 Male Contact		18 = 1.000 - 1.125		BL = Blue
3M = 313 Male Contact		20 = 1.125 - 1.250		BR = Brown
4M = 444 Male Contact		22 = 1.250 - 1.375		G = Green
5M = 535 Male Contact		24 = 1.375 - 1.500		GY = Gray
6M = 646 Male Contact				OR = Orange
7M = 777 Male Contact				P = Purple
Female			R = Red	
4/0F = 4/0 Female Contact			W = White	
3F = 313 Female Contact			Y = Yellow	
4F = 444 Female Contact				
5F = 535 Female Contact				
6F = 646 Female Contact				
7F = 777 Female Contact				



CONNECTIVITY
HP20® SERIES

HP20® Series Fixed Cable and In-Line Receptacle Connections

HP20® MALE FIXED CABLE RECEPTACLE



HP20® FEMALE FIXED CABLE RECEPTACLE



HP20® FEMALE IN-LINE RECEPTACLE

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In-Line Receptacle Connections



HP20® FIXED IN-LINE CONNECTION

HP20® FIXED CABLE RECEPTACLE

HP20® PLUG



HP20® IN-LINE CONNECTION

HP20® IN-LINE RECEPTACLE

HP20® PLUG



CONNECTIVITY HP20® SERIES

Accessories

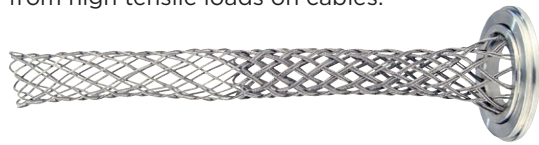


Mechanical Clamp

Has a dual holding pattern. One size for larger cables, reverse it and it accommodates smaller cables more effectively.

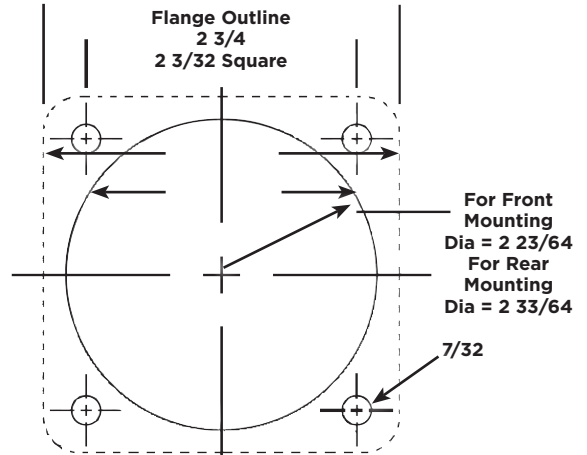
Kellems® Grip

Also available for extra protection from high tensile loads on cables.



30° - 45° Reversible Locking Buss Bar Lug

The small footprint of the HP20® panel mounted receptacles, combined with the RigPower exclusive locking lug allows the designed to combine a small footprint on the panel with short radius cable bends behind the panel while ensuring that shock or vibration loads will not loosen the plug to buss bar connection



CABLE AMPACITY RATINGS IN 40° AMBIENT		
CABLE SIZE	90°C CABLE	125°C CABLE
4/0 MCM	364 AMPS	451 AMPS
313 MCM	513 AMPS	636 AMPS
373 MCM	548 AMPS	669 AMPS
444 MCM	642 AMPS	796 AMPS
535 MCM	724 AMPS	898 AMPS
646 MCM	814 AMPS	1009 AMPS
777 MCM	916 AMPS	1135 AMPS

ORDERING TABLE FOR HP20® SINGLE POLE POWER CONNECTORS – (Rated for 1000 Volts / 1135 Amps)

RIGPOWER HP20® SERIES SINGLE POLE – SPARE PARTS

PART NUMBER	PART DESCRIPTION	PART NUMBER	MALE PART DESCRIPTION
G16-20	Grommet #16 (0.875 - 1.000)	HP20-4/0M	HP20 - 4/0 Male Contact w/Insulator
G18-20	Grommet #18 (1.000 - 1.125)	HP20-2M	HP20 - 373 Male Contact w/Insulator
G20-20	Grommet #20 (1.125 - 1.250)	HP20-3M	HP20 - 313 Male Contact w/Insulator
G22-20	Grommet #22 (1.250 - 1.375)	HP20-4M	HP20 - 444 Male Contact w/Insulator
G24-20	Grommet #24 (1.375 - 1.500)	HP20-5M	HP20 - 535 Male Contact w/Insulator
GW24-20	Grommet Washer #24 (for #20 Shell)	HP20-6M	HP20 - 646 Male Contact w/Insulator
K16-20	Kellems Grip #16 (0.875 - 1.000)	HP20-7M	HP20 - 777 Male Contact w/Insulator
K18-20	Kellems Grip #18 (1.000 - 1.125)	HP20-MBB	HP20 - Male Buss Bar w/Insulator
K20-20	Kellems Grip #20 (1.125 - 1.250)		
K22-20	Kellems Grip #22 (1.250 - 1.375)	PART NUMBER	FEMALE PART DESCRIPTION
K24-20	Kellems Grip #24 (1.375 - 1.500)	HP20-4/0F	HP20 - 4/0 Female Contact w/Insulator
MC24-20	Mechanical Clamp #24 (for #20 Shell)	HP20-2F	HP20 - 373 Female Contact w/Insulator
		HP20-3F	HP20 - 313 Female Contact w/Insulator
		HP20-4F	HP20 - 444 Female Contact w/Insulator
		HP20-5F	HP20 - 535 Female Contact w/Insulator
		HP20-6F	HP20 - 646 Female Contact w/Insulator
		HP20-7F	HP20 - 777 Female Contact w/Insulator
		HP20-FBB	HP20 - Female Buss Bar w/Insulator
PART NUMBER	THE 30°/45° REVERSIBLE LOCKING BUSS BAR LUG	PART NUMBER	DOUBLE HOLE LUGS
SL-535-AL	535 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-535-L	Quick/Quad Stab Double Hole 535 Lug
SL-646-AL	646 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-646-L	Quick/Quad Stab Double Hole 646 Lug
SL-777-AL	777 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-777-L	Quick/Quad Stab Double Hole 777 Lug



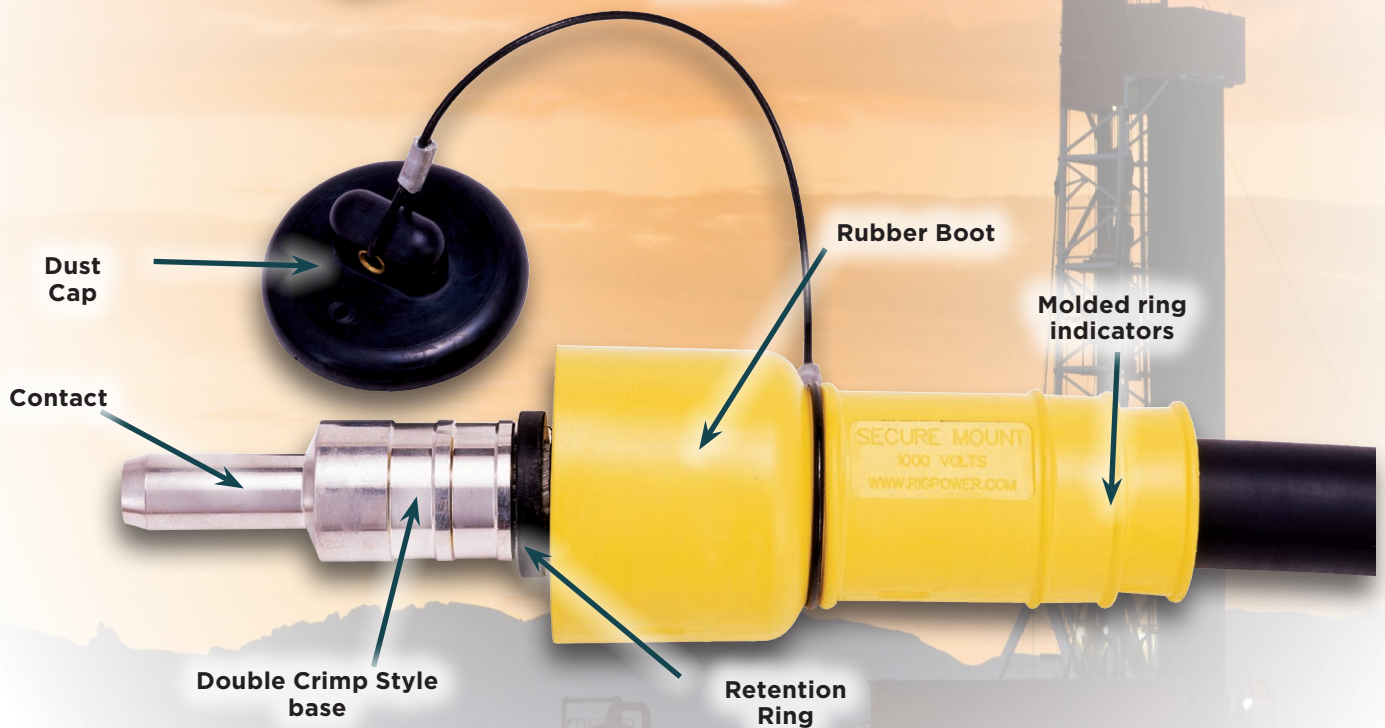
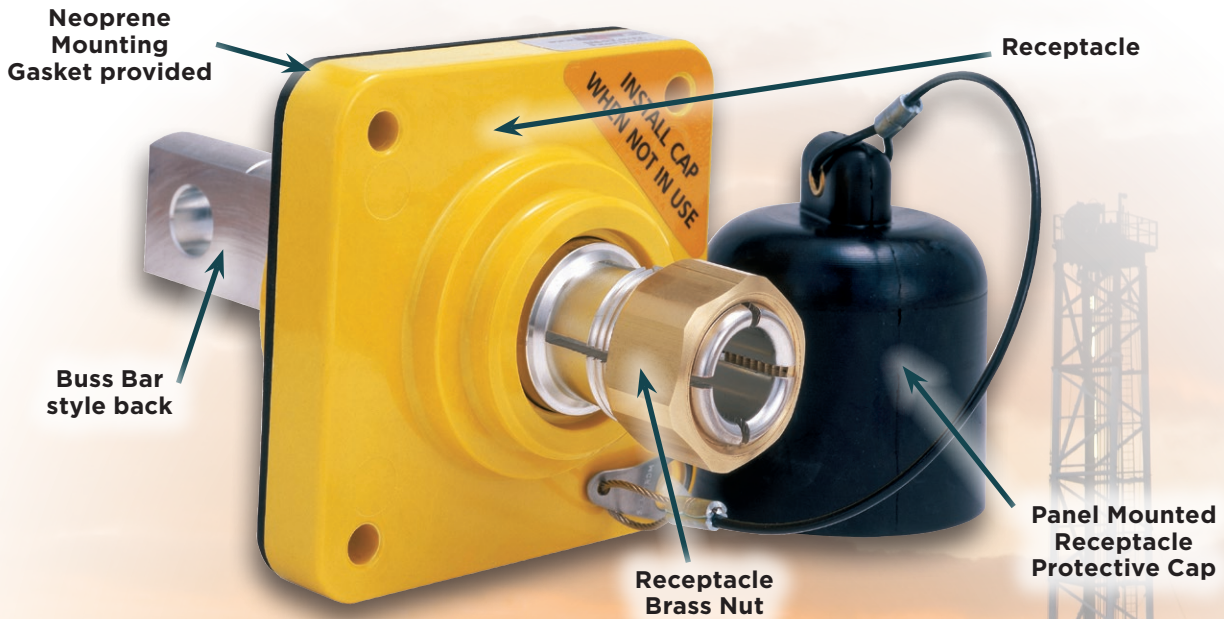
CABLE GROMMET

Has a tapered fit to the cable adapter and is available in fourteen sizes to ensure a proper water tight seal to the cable.

*Kellems®, is a Registered Trademark of Hubbell Inc.



Industry Features and Benefits



Double Crimp Style base



Available Colors

Delrin® is a registered trademark of DuPont.

WARNING: The RigPower Secure Mount® series 646 and 777 contacts are designed for higher amperage loads than other panel board sockets can handle. Use these two contact sizes only with Secure Mount® Receptacles (only in red).



CONNECTIVITY
SECURE MOUNT® SERIES

Industry Features and Benefits



FEATURES-SPECIFICATIONS

Features

- Single Pole Power Connectors
- Available in up to 10 Colors, for Phase-Specific Color Coding
- Available in Panel Mount Receptacles and Cable-Mounted Plugs.
- Easy, High-Strength Cable Termination, using Crimp/Die Sets
- Items suitable for installation directly to stainless or aluminum panel without requirement for additional insulating material.
- Comes standard with Insulating Boot and Dust Cap.
- Molded Ring Indicators on plug are designed to be cut to accommodate cable sizes from 313 MCM to 777 MCM.

Materials

- Busbar and Contacts = High Conductivity, Sn-Coated Copper
- Boot = Thermoset Rubber
- Dust Cap = Black Neoprene

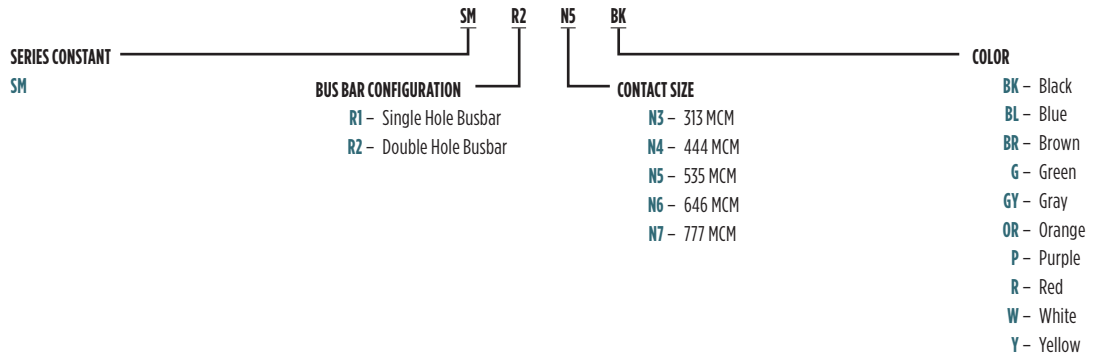
Electrical Ratings

- Amperage = Up to 1100 Amps
- Voltage = Up to 1000 VAC/VDC

AMPACITY RATINGS IN 40° AMBIENT		
CABLE SIZE	90°	125°
313 MCM	513 AMPS	636 AMPS
444 MCM	642 AMPS	796 AMPS
535 MCM	724 AMPS	898 AMPS
646 MCM	814 AMPS	1009 AMPS
777 MCM	916 AMPS	1135 AMPS



Catalog Logic / Parts List



SECURE MOUNT® COMPLETE SET – SINGLE HOLE RECEPTACLE & CABLE END ASSEMBLIES

A complete set includes: (1) Single Hole Receptacle w/Gasket, Protective Cap and Brass Nut, (1) Contact - size of your choice, (1) Insulating Boot w/Cap and Boot Retention Ring

COLOR	313 CONTACT	444 CONTACT	535 CONTACT	646 CONTACT	777 CONTACT
Black	SM-R1-N3-BK	SM-R1-N4-BK	SM-R1-N5-BK	SM-R1-N6-BK	SM-R1-N7-BK
Blue	SM-R1-N3-BL	SM-R1-N4-BL	SM-R1-N5-BL	SM-R1-N6-BL	SM-R1-N7-BL
Brown	SM-R1-N3-BR	SM-R1-N4-BR	SM-R1-N5-BR	SM-R1-N6-BR	SM-R1-N7-BR
Green	SM-R1-N3-G	SM-R1-N4-G	SM-R1-N5-G	SM-R1-N6-G	SM-R1-N7-G
Gray	SM-R1-N3-GY	SM-R1-N4-GY	SM-R1-N5-GY	SM-R1-N6-GY	SM-R1-N7-GY
Orange	SM-R1-N3-OR	SM-R1-N4-OR	SM-R1-N5-OR	SM-R1-N6-OR	SM-R1-N7-OR
Purple	SM-R1-N3-P	SM-R1-N4-P	SM-R1-N5-P	SM-R1-N6-P	SM-R1-N7-P
Red	SM-R1-N3-R	SM-R1-N4-R	SM-R1-N5-R	SM-R1-N6-R	SM-R1-N7-R
White	SM-R1-N3-W	SM-R1-N4-W	SM-R1-N5-W	SM-R1-N6-W	SM-R1-N7-W
Yellow	SM-R1-N3-Y	SM-R1-N4-Y	SM-R1-N5-Y	SM-R1-N6-Y	SM-R1-N7-Y

SECURE MOUNT® COMPLETE SET – DOUBLE HOLE RECEPTACLE & CABLE END ASSEMBLIES

A Complete Set includes: (1) Double Hole Receptacle w/Gasket, Protective Cap, and Brass Nut, (1) Contact - Size of your choice, (1) Insulating Boot w/Cap and Boot Retention Ring

COLOR	313 CONTACT	444 CONTACT	535 CONTACT	646 CONTACT	777 CONTACT
Black	SM-R2-N3-BK	SM-R2-N4-BK	SM-R2-N5-BK	SM-R2-N6-BK	SM-R2-N7-BK
Blue	SM-R2-N3-BL	SM-R2-N4-BL	SM-R2-N5-BL	SM-R2-N6-BL	SM-R2-N7-BL
Brown	SM-R2-N3-BR	SM-R2-N4-BR	SM-R2-N5-BR	SM-R2-N6-BR	SM-R2-N7-BR
Green	SM-R2-N3-G	SM-R2-N4-G	SM-R2-N5-G	SM-R2-N6-G	SM-R2-N7-G
Gray	SM-R2-N3-GY	SM-R2-N4-GY	SM-R2-N5-GY	SM-R2-N6-GY	SM-R2-N7-GY
Orange	SM-R2-N3-OR	SM-R2-N4-OR	SM-R2-N5-OR	SM-R2-N6-OR	SM-R2-N7-OR
Purple	SM-R2-N3-P	SM-R2-N4-P	SM-R2-N5-P	SM-R2-N6-P	SM-R2-N7-P
Red	SM-R2-N3-R	SM-R2-N4-R	SM-R2-N5-R	SM-R2-N6-R	SM-R2-N7-R
White	SM-R2-N3-W	SM-R2-N4-W	SM-R2-N5-W	SM-R2-N6-W	SM-R2-N7-W
Yellow	SM-R2-N3-Y	SM-R2-N4-Y	SM-R2-N5-Y	SM-R2-N6-Y	SM-R2-N7-Y



CONNECTIVITY

SECURE MOUNT® SERIES

Parts List

Secure Mount® Field Installation/Repair Kit

Applications

This kit is designed to allow quick and easy field replacement of a PD-501 style connector with a Secure Mount® connector. The Kit contains enough supplies to field mount five Secure Mounts® in an existing panel.

Features

- No replacement of insulating board is required, even damaged boards can be saved
- No need to remove adjacent undamaged connectors from insulation board
- Save cost, labor and downtime when field repairs are necessary

KIT CONTENTS

Kit contains parts to field mount five Secure Mount® Receptacles.

1. Five Tapered wooden plugs
2. One 3 and 3/4 inch diameter carbide tipped hole saw
3. Twenty sets of mounting bolts
4. Five adhesive drilling templates
5. Complete instructions



PART #	PART DESCRIPTION	PACK SIZE
SM-FRK	Secure Mount® Field Installation/Repair Kit	1



SECURE MOUNT® RECEPTACLE		
Each Single and Double Hole Receptacle includes: (1) Receptacle w/Protective Cap, (1) Gasket, (1) Brass Nut		
SINGLE HOLE	COLOR	DOUBLE HOLE
SM-R1-N-BK	Black	SM-R2-N-BK
SM-R1-N-BL	Blue	SM-R2-N-BL
SM-R1-N-BR	Brown	SM-R2-N-BR
SM-R1-N-G	Green	SM-R2-N-G
SM-R1-N-GY	Gray	SM-R2-N-GY
SM-R1-N-OR	Orange	SM-R2-N-OR
SM-R1-N-P	Purple	SM-R2-N-P
SM-R1-N-R	Red	SM-R2-N-R
SM-R1-N-W	White	SM-R2-N-W
SM-R1-N-Y	Yellow	SM-R2-N-Y

SECURE MOUNT® INSULATING BOOTS		
COLOR	INSULATING BOOT WITH BOOT CAP	INSULATING BOOT WITHOUT BOOT CAP
Black	SM-B-BK	SM-BNC-BK
Blue	SM-B-BL	SM-BNC-BL
Brown	SM-B-BR	SM-BNC-BR
Green	SM-B-G	SM-BNC-G
Gray	SM-B-GY	SM-BNC-GY
Orange	SM-B-OR	SM-BNC-OR
Purple	SM-B-P	SM-BNC-P
Red	SM-B-R	SM-BNC-R
White	SM-B-W	SM-BNC-W
Yellow	SM-B-Y	SM-BNC-Y

SECURE MOUNT® CABLE END PLUG ASSEMBLIES					
A Cable End Assembly includes: (1) Contact - Size of Your Choice, (1) Insulating Boot, (1) Boot Cap and (1) Boot Retention Ring					
COLOR	313 CONTACT	444 CONTACT	535 CONTACT	646 CONTACT	777 CONTACT
Black	SM-SBA-3-BK	SM-SBA-4-BK	SM-SBA-5-BK	SM-SBA-6-BK	SM-SBA-7-BK
Blue	SM-SBA-3-BL	SM-SBA-4-BL	SM-SBA-5-BL	SM-SBA-6-BL	SM-SBA-7-BL
Brown	SM-SBA-3-BR	SM-SBA-4-BR	SM-SBA-5-BR	SM-SBA-6-BR	SM-SBA-7-BR
Green	SM-SBA-3-G	SM-SBA-4-G	SM-SBA-5-G	SM-SBA-6-G	SM-SBA-7-G
Gray	SM-SBA-3-GY	SM-SBA-4-GY	SM-SBA-5-GY	SM-SBA-6-GY	SM-SBA-7-GY
Orange	SM-SBA-3-OR	SM-SBA-4-OR	SM-SBA-5-OR	SM-SBA-6-OR	SM-SBA-7-OR
Purple	SM-SBA-3-P	SM-SBA-4-P	SM-SBA-5-P	SM-SBA-6-P	SM-SBA-7-P
Red	SM-SBA-3-R	SM-SBA-4-R	SM-SBA-5-R	SM-SBA-6-R	SM-SBA-7-R
White	SM-SBA-3-W	SM-SBA-4-W	SM-SBA-5-W	SM-SBA-6-W	SM-SBA-7-W
Yellow	SM-SBA-3-Y	SM-SBA-4-Y	SM-SBA-5-Y	SM-SBA-6-Y	SM-SBA-7-Y

SECURE MOUNT® CONTACTS		
CABLE SIZE	Contacts without Boot Retention Ring	
	PART #	PART #
313 MCM Through 777 MCM	SM-SC-313	SM-SC-313-R
	SM-SC-444	SM-SC-444-R
	SM-SC-535	SM-SC-535-R
	SM-SC-646	SM-SC-646-R
	SM-SC-777	SM-SC-777-R



Cable Repair Splice Kits



CS Double Lap Style Splice Kit



DS-350 Double Set Screw Splice Kit

FEATURES-SPECIFICATIONS

CS Double Lap Style Splice Kit

The CS Double Lap Style splice kits are designed for repair of a damaged or cut cable or for extending the length of a cable in the field. They are available for 535, 646 and 777 MCM wire. These splice connectors have been designed to operate safely at 1,000 volts AC or DC. The resulting splice will be no larger in diameter than a 777 cable.

Different size cables may be joined by using mismatched splice kit ends. This feature is useful where existing cable must be extended or long section needs to be replaced. A section of larger cable can be added to provide adequate protection from voltage drop or used to reduce the cable inventory carried for repairs. Note that the current rating will be controlled by the smaller cable size.

The individual splice halves may be crimped on to the cable at ground level then assembled high in a cable tray or passed through a cable gland and assembled inside a junction box.

DS-350 Double Set Screw Splice Kit

The DS-350 Double Set Screw splice kits are designed for repair of a damaged or cut cable or for extending the length of a cable in the field. They fit 350 to 500 MCM wire. These splice connectors have been designed to operate safely at 1,000 volts AC or DC.

Different size cables may be joined by using the DS-350 splice kit. This feature is useful where existing cable must be extended or long sections need to be replaced. A section of larger cable can be added to provide adequate protection from voltage drop or used to reduce the cable inventory carried for repairs. The current rating will be controlled by the smaller cable size.

The splices can be assembled with simple hand tools and hydraulic crimping equipment is not needed. Insulation retention feature prevents the insulation from slipping down the conductor when under strain and the pull-out strength exceeds the breaking strength of the cable.

Features

- For making permanent or semi-permanent field connections of cable ends
- Safe for direct burial applications
- Can be used to join different sizes of cable for emergency field repairs

CS Double Lap Style Splice Kit

- Small enough to pass through cable glands
- Excellent for making secure connections inside explosion proof junction boxes
- Allows easy access to cable ends for secure crimp connections
- Safe and quick joining of splice ends in restricted spaces

DS-350 Double Set Screw Splice Kit

- The DS-350 allows easy, yet secure, connection of cable ends with only hand tools.
- Excellent when crimping tools are not available.
- Insulation retention ties prevent slippage of insulation on cable.

Materials

- Splice Bodies
- Removable Boot insulator is held in place by two stainless hose clamps which provides moisture resistance protection

CS Double Lap Style Splice Kit

- Sn Plated Copper with Stainless Steel Helicoil Threaded Inserts

DS-350 Double Set Screw Splice Kit

- Sn Plated Brass with Stainless Steel Locking Screws
- 545 amps maximum continuous 1,000 volts AC or DC (as limited by cable)

Insulator Options

The insulation is available in three styles: Heat Shrink, Cold Shrink, or a Removable Boot. The heat shrink provides the best sealing and allows direct underground burial. The cold shrink and removable boot provide NEMA 3 sealing.

3M™ Cold Shrink Connector Insulation is an open-ended, tubular, rubber sleeve which is factory expanded and assembled onto a removable core. The core is removed after the tube has been positioned for installation over an In-line connection, terminal lugs, etc., allowing the tube to shrink and form a water-resistant seal. The insulation tube is made of EPDM rubber which contains no chlorides or sulfur.

Flame retardant heavy wall tubing meets MIL Spec 23053/15 Class I requirements for flame retardancy. UL listed 486 D Standard and CSA certified for direct burial applications.



CS DOUBLE LAP STYLE SPLICE KIT			
CONTACT SIZE	REMOVABLE BOOT	HEAT SHRINK	COLD SHRINK
444	CS-444-B	CS-444-H	CS-444-C
535	CS-535-B	CS-535-H	CS-535-C
646	CS-646-B	CS-646-H	CS-646-C
777	CS-777-B	CS-777-H	CS-777-C

NOTE: Different size cables may be joined by using mismatched splice kit ends; however the current rating will be controlled by the smaller cable size.

DS-350 DOUBLE SET SCREW SPLICE KIT			
CABLE SIZE	REMOVABLE BOOT	HEAT SHRINK	COLD SHRINK
313 - 500	DS-350-B	DS-350-H	DS-350-C



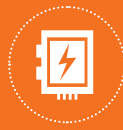
Notes

Lined area for writing notes, consisting of 28 horizontal lines.



Notes

Handwriting practice area with multiple horizontal lines.



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Circuit Breaker Enclosures



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
TYPE 7 (C, D) 9 (E, F, G)

 LISTED - File E30962 Indoor Rated

 Certified - File LR18179

FEATURES-SPECIFICATIONS

Features

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Two cast conduit hubs; one top and one bottom
- Internal circuit breaker handle mechanism is a sliding plate type mounted to the cover
- External handle is vault type with standard provisions for locking in "OFF" position with up to three padlocks
- Provisions for locking in "ON" position available as factory modification (add suffix SU40 to catalog number)
- Circuit breaker is trip free of handle mechanism
- Locking in the "ON" position does not prevent the circuit breaker from opening under short circuit or overload conditions

Materials

- Enclosure and external circuit breaker handle is cast copper-free aluminum alloy (less than 4/10 of 1%)
- Cover bolts are stainless steel
- Aluminum lacquer paint finish is standard

Materials

- Enclosure and external circuit breaker handle is cast copper-free aluminum alloy (less than 4/10 of 1%)
- Cover bolts are stainless steel
- Aluminum lacquer paint finish is standard

Electrical Ratings

- 600VAC, 2 and 3 Pole, 50/60Hz

DISTRIBUTION EQUIPMENT XEC SERIES



XEC CIRCUIT BREAKERS					
CATALOG NUMBER					TRIP AMPS
EHD FRAME			FDB FRAME		
1-POLE 277 VAC 125 VDC	2-POLE 240/480 VAC 250 VDC	3-POLE 240/480 VAC —	2-POLE 600 VAC 250 VDC	3-POLE 600 VAC	
XECD-154A1	XECD-154A2	XECE-154A3	XECE-156A2	XECE-156A3	15
XECD-204A1	XECD-204A2	XECE-204A3	XECE-206A2	XECE-206A3	20
XECD-304A1	XECD-304A2	XECE-304A3	XECE-306A2	XECE-306A3	30
XECD-404A1	XECD-404A2	XECE-404A3	XECE-406A2	XECE-406A3	40
XECF-504A1	XECF-504A2	XECF-504A3	XECF-506A2	XECF-506A3	50
XECF-604A1	XECF-604A2	XECF-604A3	XECF-606A2	XECF-606A3	60
XECF-704A1	XECF-704A2	XECF-704A3	XECF-706A2	XECF-706A3	70
XECF-804A1	XECF-804A2	XECF-804A3	XECF-806A2	XECF-806A3	80
XECF-904A1	XECF-904A2	XECF-904A3	XECF-906A2	XECF-906A3	90
XECF-1004A1	XECF-1004A2	XECF-1004A3	XECF-1006A2	XECF-1006A3	100
ENCLOSURE ONLY					
XECD-4A	XECD-4A	XECE-6A	XECE-6A	XECE-6A	For 40 Amp or less
XECF-6A	XECF-6A	XECF-6A	XECF-6A	XECF-6A	For 50-100 Amp

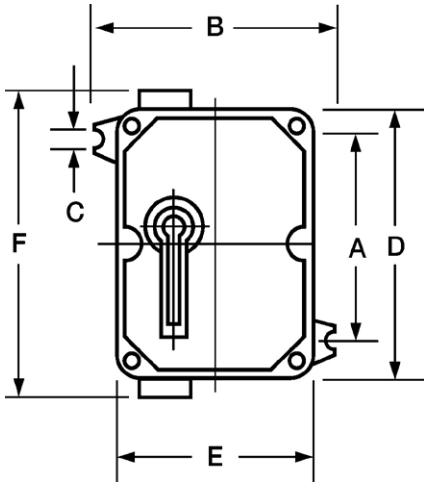
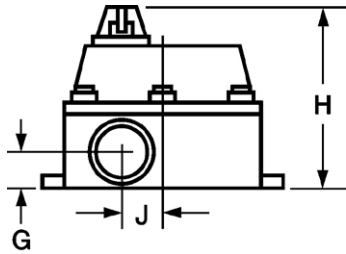
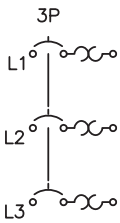
MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3	Drain and breather
SU40	Lock "ON"

NOTE: Only Cutler-Hammer Series "C" breakers fit this series. See B7C series on page DE4-7 for other brands.

ELECTRICAL RATINGS INTERRUPTING CAPACITY			
FRAME	VOLTS	AMPS SYMMETRICAL	AMPS D.C.
EHD 15-100 AMPS	240 VAC	18,000	—
	277 VAC	14,000	—
	480 VAC	14,000	—
	250 VDC	—	10,000
FDB 15-150 AMPS	240 VAC	18,000	—
	480 VAC	14,000	—
	600 VAC	14,000	—
	250 VDC	—	10,000

XEC DIMENSIONS											
CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	G	H	J	EST. ENCL. WT. LBS (KG)
XECD-4A	1"	8-3/8" (213)	7-7/16" (189)	13/16" (21)	10-1/4" (260)	6" (152)	11-7/8" (302)	1-3/8" (35)	6-7/8" (175)	1-1/2" (38)	10.50 (4.76)
XECE-6A	1-1/4"	8-3/8" (213)	8-3/4" (222)	13/16" (21)	10-1/4" (260)	7-3/8" (187)	11-7/8" (302)	1-3/8" (35)	6-7/8" (175)	2" (51)	16.15 (7.32)
XECF-6A	2"	10-7/8" (276)	9-1/8" (232)	13/16" (21)	13-7/8" (352)	7-3/4" (197)	16" (406)	1-3/4" (44)	7" (178)	2" (51)	20.00 (9.07)

DIMENSIONS



NOTE: Space for additional drill & tap conduit opening
 1" for XECD-4A
 1-1/4" for XECE-6A
 2" for XECF-6A
 Also is location for drain and breather when requested.



Circuit Breaker Enclosures

PRISM[®]

Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III, Div. 1 & 2
TYPE 3, 4, 4x, 7 (B, C, D), 9 (E, F, G)

UL #UL1203-Explosion Proof and Dust-Ignition-Proof Electrical Equipment For Use In Hazardous (Classified) Locations.
File #E83969 Indoor/Outdoor

CSA #C22.2 NO. 30-M1986-Explosion Proof Enclosures For Use In Class I Hazardous Locations.
File #LR11714

FEATURES-SPECIFICATIONS**Features**

- Copper-free, cast aluminum construction (less than 4/10 of 1%).
- High strength, lighter in weight, corrosion resistant.
- Hinged Cover is standard.
- More Wiring Room – Meets the latest NEC/CEC wire bending requirements for circuit breaker enclosures.
- Ductile Mounting Lugs – Lugs are made of ductile aluminum alloy to adjust to irregular mounting surfaces without damage to enclosure.
- Universal Mounting Pan – Sheet aluminum pan is pre-drilled to facilitate easy field installation of major circuit breaker brands. Provisions for grounding supplied as standard.
- Conduit Openings Supplied – Standard conduit openings include power conduit top and bottom and a plugged opening suitable for field installation of drain and breather.
- Special conduit openings can be supplied at factory, or can be field installed.
- Breaker Handle – Provisions for lock “ON” or “OFF” positions with up to three padlocks. Spring loaded to prevent damage of breaker toggle and provides positive handle alignment. “O” ring on shaft to prevent water seeping into enclosure.
- Recessed Flange Notches – Flanges are notched to allow for easier cover opening with prying instrument without flange damage.
- Gasketed Flange – Nitrile (BUNA-N) “O” ring gasket is located inside cover bolt circle to prevent water seeping into enclosure.
- Quick Release, Captivated Cover – Bolts of 316 Grade Stainless Steel Triple lead bolts require only 3-1/2 turns to disengage.

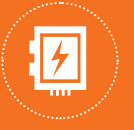
Materials

- Enclosure: Copper-free, cast aluminum (less than 4/10 of 1%)
- Aluminum lacquer paint finish is standard, with special epoxy finish available. See page DE6
- Cover Bolts: 316 grade stainless steel
- Mounting Pan: Sheet aluminum
- Handle Mechanism: Cast aluminum with stainless steel shaft and hardware.
- Hinges: Aluminum with stainless steel hardware.

Electrical Rating

- 600VAC, 2,3 or 4 Pole, 50/60Hz

DISTRIBUTION EQUIPMENT
B7C SERIES



B7C CIRCUIT BREAKER ENCLOSURES

ENCLOSURE ONLY CATALOG NUMBER	WILL ACCEPT THE FOLLOWING CIRCUIT BREAKERS:			
	MANUFACTURER	FRAME SIZE	CIRCUIT BREAKER TYPE	MAX. AMP
B7CA	EATON/CUTLER HAMMER/WESTINGHOUSE	F	EHD, FDB, FD, HFD, FDC	100
	GENERAL ELECTRIC	E	TEB, TED, THED, TEL	100
	ITE - SIEMENS	ED	ED2, ED4, ED6, HED4, HED6	90
	SCHNIEDER/SQUARE D	H	HDL, HGL, HJL, FAL, FHL, FCL	100
	ABB	XT1, XT2	XT1, XT2	100
B7CB	EATON/CUTLER HAMMER/WESTINGHOUSE	F	FDB, FD, HFD, FDC	150
	GENERAL ELECTRIC	E	TEB, TED, THED, TEL	150
	ITE - SIEMENS	ED	ED2, ED4, ED6, HED4, HED6	90
	SCHNIEDER/SQUARE D	H	HDL, HGL, HJL, FAL, FHL, FCL	150
B7CC	EATON/CUTLER HAMMER/WESTINGHOUSE	J	JD, JDB, JDC, HJD	250
	GENERAL ELECTRIC	F	TFJ, TFK, THFK, TFL	225
	SCHNIEDER/SQUARE D	J	JDL, JGL, JJL	250
	ITE - SIEMENS	FD	FXD6, FD6, HFD6, CFD6	250
	ABB	XT3, XT4	XT3, XT4	225/250
B7CD	EATON/CUTLER HAMMER/WESTINGHOUSE	K	DK, KDB, KD, HKD, KDC	400
	GENERAL ELECTRIC	J	TJJ, TJK, THJK	400
	ITE - SIEMENS	JD	JXD2, JXD6, JD6, HJD6, HHJD6, CJD6	400
	SCHNIEDER/SQUARE D	L	LDL, LGL	400
	ABB	T5	T5N, T5S, T5H	400
B7CE	EATON/CUTLER HAMMER/WESTINGHOUSE	L	LDB, LD, HLD, LDC	600
	GENERAL ELECTRIC	J	TJK, THJK	600
	ITE - SIEMENS	L	LXD6, LD6, HLD6, HHLD6, CLD6	600
	SCHNIEDER/SQUARE D	L	LDL, LGL	600
	ABB	T6	T6N, T6S, T6H	600
B7CF	EATON/CUTLER HAMMER/WESTINGHOUSE	N	ND, HND, NDC	1200
	GENERAL ELECTRIC	K	TKM, THKM	1200
	ITE - SIEMENS	MD/ND	MD, MXD, HMXD, HMD, CMD	800/1200
	SCHNIEDER/SQUARE D	P	PDL, PGL	1200
	ABB	T7	T7N, T7S, T7H	1200

NOTE: Enclosure includes mounting pan which is pre-drilled to accept circuit breakers illustrated above.



Circuit Breaker Enclosures

B7C ENCLOSURE WITH CIRCUIT BREAKER INSTALLED										
BREAKER AMP TRIP	MAX. VOLTAGE	CATALOG NUMBER			CATALOG NUMBER			CATALOG NUMBER		
		CUTLER-HAMMER/EATON BREAKERS			SCHNIEDER/SQUARE D BREAKERS			ABB		
		FRAME	2 POLE	3 POLE	FRAME	2 POLE	3 POLE	FRAME	3 POLE	4 POLE
15	480	EHD	B7CA-WEHD-42015	B7CA-WEHD-43015	HDL	B7CA-SHDL-42015	B7CA-SHDL-43015	XTI	B7CA-AXT1-43015	B7CA-AXT1-44015
15	600	FDB	B7CA-WFDB-62015	B7CA-WFDB-63015	HDL	B7CA-SHDL-62015	B7CA-SHDL-63015	XTI	B7CA-AXT1-63015	B7CA-AXT1-64015
20	480	EHD	B7CA-WEHD-42020	B7CA-WEHD-43020	HDL	B7CA-SHDL-42020	B7CA-SHDL-43020	XTI	—	—
20	600	FDB	B7CA-WFDB-62020	B7CA-WFDB-63020	HDL	B7CA-SHDL-62020	B7CA-SHDL-63020	XTI	B7CA-AXT1-63020	B7CA-AXT1-64020
25	480	EHD	B7CA-WEHD-42025	B7CA-WEHD-43025	HDL	B7CA-SHDL-42025	B7CA-SHDL-43025	XTI	—	—
25	600	FDB	B7CA-WFDB-62025	B7CA-WFDB-63025	HDL	B7CA-SHDL-62025	B7CA-SHDL-63025	XTI	B7CA-AXT1-63025	B7CA-AXT1-64025
30	480	EHD	B7CA-WEHD-42030	B7CA-WEHD-43030	HDL	B7CA-SHDL-42030	B7CA-SHDL-43030	XTI	—	—
30	600	FDB	B7CA-WFDB-62030	B7CA-WFDB-63030	HDL	B7CA-SHDL-62030	B7CA-SHDL-63030	XTI	B7CA-AXT1-63030	B7CA-AXT1-64030
35	480	EHD	B7CA-WEHD-42035	B7CA-WEHD-43035	HDL	B7CA-SHDL-42035	B7CA-SHDL-43035	XTI	—	—
35	600	FDB	B7CA-WFDB-62035	B7CA-WFDB-63035	HDL	B7CA-SHDL-62035	B7CA-SHDL-63035	XTI	B7CA-AXT1-63035	B7CA-AXT1-64035
40	480	EHD	B7CA-WEHD-42040	B7CA-WEHD-43040	HDL	B7CA-SHDL-42040	B7CA-SHDL-43040	XTI	—	—
40	600	FDB	B7CA-WFDB-62040	B7CA-WFDB-63040	HDL	B7CA-SHDL-62040	B7CA-SHDL-63040	XTI	B7CA-AXT1-63040	B7CA-AXT1-64040
50	480	EHD	B7CA-WEHD-42050	B7CA-WEHD-43050	HDL	B7CA-SHDL-42050	B7CA-SHDL-43050	XTI	—	—
50	600	FDB	B7CA-WFDB-62050	B7CA-WFDB-63050	HDL	B7CA-SHDL-62050	B7CA-SHDL-63050	XTI	B7CA-AXT1-63050	B7CA-AXT1-64050
60	480	EHD	B7CA-WEHD-42060	B7CA-WEHD-43060	HDL	B7CA-SHDL-42060	B7CA-SHDL-43060	XTI	—	—
60	600	FDB	B7CA-WFDB-62060	B7CA-WFDB-63060	HDL	B7CA-SHDL-62060	B7CA-SHDL-63060	XTI	B7CA-AXT1-63060	B7CA-AXT1-64060
70	480	EHD	B7CA-WEHD-42070	B7CA-WEHD-43070	HDL	B7CA-SHDL-42070	B7CA-SHDL-43070	XTI	—	—
70	600	FDB	B7CA-WFDB-62070	B7CA-WFDB-63070	HDL	B7CA-SHDL-62070	B7CA-SHDL-63070	XTI	B7CA-AXT1-63070	B7CA-AXT1-64070
80	480	EHD	B7CA-WEHD-42080	B7CA-WEHD-43080	HDL	B7CA-SHDL-42080	B7CA-SHDL-43080	XTI	—	—
80	600	FDB	B7CA-WFDB-62080	B7CA-WFDB-63080	HDL	B7CA-SHDL-62080	B7CA-SHDL-63080	XTI	B7CA-AXT1-63080	B7CA-AXT1-64080
90	480	EHD	B7CA-WEHD-42090	B7CA-WEHD-43090	HDL	B7CA-SHDL-42090	B7CA-SHDL-43090	XTI	—	—
90	600	FDB	B7CA-WFDB-62090	B7CA-WFDB-63090	HDL	B7CA-SHDL-62090	B7CA-SHDL-63090	XTI	B7CA-AXT1-63090	B7CA-AXT1-64090
100	480	EHD	B7CA-WEHD-42100	B7CA-WEHD-43100	HDL	B7CA-SHDL-42100	B7CA-SHDL-43100	XTI	—	—
100	600	FDB	B7CA-WFDB-62100	B7CA-WFDB-63100	HDL	B7CA-SHDL-62100	B7CA-SHDL-63100	XTI	B7CA-AXT1-63100	B7CA-AXT1-64100
125	600	FDB	B7CB-WFDB-62125	B7CB-WFDB-63125	HDL	B7CB-SHDL-62125	B7CB-SHDL-63125	XTI	B7CB-AXT1-63125	B7CB-AXT1-64125
125	600	JDB	B7CC-WJDB-62125	B7CC-WJDB-63125						
150	600	FDB	B7CB-WFDB-62150	B7CB-WFDB-63150	HDL	B7CB-SHDL-62150	B7CB-SHDL-63150			
150	600	JDB	B7CC-WJDB-62150	B7CC-WJDB-63150	JDL	B7CC-SJDL-62150	B7CC-SJDL-63150	XT3	B7CC-AXT3N-63150	B7CC-AXT3N-64150
175	600	JDB	B7CC-WJDB-62175	B7CC-WJDB-63175	JDL	B7CC-SJDL-62175	B7CC-SJDL-63175	XT3	B7CC-AXT3N-63175	B7CC-AXT3N-64175
200	600	JDB	B7CC-WJDB-62200	B7CC-WJDB-63200	JDL	B7CC-SJDL-62200	B7CC-SJDL-63200	XT3	B7CC-AXT3N-63200	B7CC-AXT3N-64200
225	600	JDB	B7CC-WJDB-62225	B7CC-WJDB-63225	JDL	B7CC-SJDL-62225	B7CC-SJDL-63225	XT3	B7CC-AXT3N-63225	B7CC-AXT3N-64225
250	600	JDB	B7CC-WJDB-62250	B7CC-WJDB-63250	JDL	B7CC-SJDL-62250	B7CC-SJDL-63250			
250	600	KD	B7CD-WKD-62250	B7CD-WKD-63250	LDL	B7CD-SJDL-62250	B7CD-SJDL-63250	XT4	B7CD-AXT4N-63250	B7CD-AXT4N-64250
300	600	KD	B7CD-WKD-62300	B7CD-WKD-63300				T5N	B7CD-AT5N-63300	B7CD-AT5N-64300
350	600	KD	B7CD-WKD-62350	B7CD-WKD-63350						
400	600	KD	B7CD-WKD-62400	B7CD-WKD-63400	LDL	B7CD-SLDL-62400	B7CD-SLDL-63400	T5N	B7CD-AT5N-63400	B7CD-AT5N-64400
400	600	LD	B7CE-WLD-62400	B7CE-WLD-63400						
500	600	LD	B7CE-WLD-62500	B7CE-WLD-63500						
600	600	LD	B7CE-WLD-62600	B7CE-WLD-63600	LDL	B7CE-SLDL-62600	B7CE-SLDL-63600			
600	600	ND	B7CF-WND-62600	B7CF-WND-63600				T6N	B7CF-AT6N-63600	B7CF-AT6N-64600
700	600	ND	B7CF-WND-62700	B7CF-WND-63700						
800	600	ND	B7CF-WND-62800	B7CF-WND-63800				T6N	B7CF-AT6N-63800	B7CF-AT6N-64800
1000	600	ND	B7CF-WND-621000	B7CF-WND-631000				T7N	B7CF-AT7N-631000	B7CF-AT7N-641000
1200	600	ND	B7CF-WND-621200	B7CF-WND-631200	PDL	B7CF-SPDL-621200	B7CF-SPDL-631200	T7N	B7CF-AT7N-631200	B7CF-AT7N-641200



Circuit Breaker Enclosures

TECHNICAL DATA INTERRUPTING CAPACITY RATINGS (SYMMETRICAL AMPERES)				
BREAKER FRAME	VOLTS AC			VOLTS DC
CUTLER-HAMMER/EATON	240	480	600	250
EHD	18,000	14,000	—	10,000
FDB	18,000	14,000	14,000	10,000
JDB	65,000	25,000	18,000	10,000
KD	65,000	35,000	25,000	10,000
LD	65,000	35,000	25,000	22,000
ND	65,000	50,000	25,000	—
SQUARE D				
HDL	25,000	18,000	14,000	10,000
JDL	42,000	25,000	22,000	10,000
LDL	25,000	18,000	14,000	10,000
LGL	65,000	35,000	18,000	—
PDL	42,000	50,000	50,000	14,000
ABB				
XT1, XT2	50,000	22,000	10,000	25,000
XT3	50,000	25,000	10,000	25,000
XT4	65,000	25,000	18,000	25,000
T5N	65,000	25,000	18,000	25,000
T6N	65,000	35,000	20,000	35,000
T7N	65,000	50,000	25,000	NA

DIMENSIONS

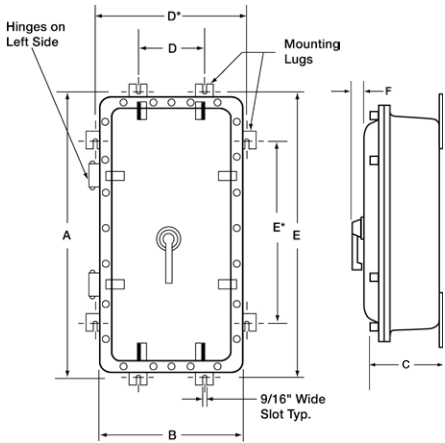


Figure 1

Consult factory for requirements on higher interrupting rated breakers.
NOTE: Modifications to Internal Circuit Breaker such as Shunt Trip, Auxiliary Switches, Alarm Switch and Undervoltage Release Mechanism are available and should be ordered by description.

ACCESSORIES / OPTIONS	
CATALOG NUMBER	DESCRIPTION
SU-3B-4X	Drain/Breather TYPE 4X/7 B,C,D
SU-10B-4X	Drain TYPE 4X/7 B,C,D
SU-11B-4X	Breather TYPE 4X/7 B,C,D
B7CGRND	Grounding lug kit
B7C-SN1	Solid neutral 150 AMP
B7C-SN2	Solid neutral 250 AMP
B7C-SN3	Solid neutral 600 AMP
B7C-SN4	Solid neutral 1200 AMP
B7SF	Special epoxy finish
B7SPNPT	Change standard conduit openings

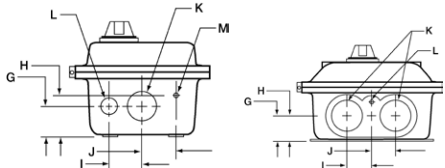
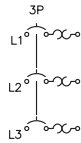
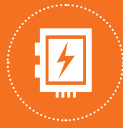


Figure 2

Figure 3




B7C DIMENSIONS																	
CATALOG NUMBER	USE FIGURES	DIMENSIONS											CONDUIT OPENINGS TOP & BTM. (NPT)			EST. ENCL. WT. LBS (KG)	
		A	B	C	D	D*	E	E*	F	G	H	I	J	K	L		M
B7CA	1, 2	18" (457)	11" (279)	9-1/8" (232)	3-5/8" (92)	N/A	16-3/8" (416)	N/A	1-3/4" (44)	2-15/16" (76)	3-11/16" (94)	2-3/8" (60)	2-1/8" (54)	1-1/2"	3/4"	1/2"	46 (20.86)
B7CB	1, 2	26-1/4" (667)	12-1/2" (318)	10-3/4" (273)	5" (127)	N/A	24-5/8" (625)	N/A	1-3/4" (44)	4-5/16" (110)	5-3/4" (146)	2-3/4" (70)	2-1/2" (64)	2"	1"	1/2"	80 (36.28)
B7CC	1, 2	34-1/4" (870)	16-1/2" (419)	11-1/2" (292)	9" (229)	N/A	32-5/8" (829)	N/A	1-3/4" (44)	4-11/16" (119)	6-1/4" (159)	4" (102)	3-3/4" (95)	3"	1"	1/2"	155 (70.30)
B7CD	1, 2	34-1/4" (870)	16-1/2" (419)	11-1/2" (292)	9" (229)	N/A	32-5/8" (829)	N/A	2-5/8" (67)	4-11/16" (119)	6-1/4" (159)	4" (102)	3-3/4" (95)	3"	1"	1/2"	155 (70.30)
B7CE	1, 3	45-3/8" (1153)	17-1/2" (445)	9-5/8" (244)	N/A	15-1/4" (387)	N/A	33" (838)	2-5/8" (67)	3-3/16" (838)	4-1/2" (114)	2-3/4" (70)	2-3/4" (70)	3"	1/2"	N/A	215 (97.52)
B7CF	1, 3	62-1/4" (1581)	20-1/4" (514)	15" (381)	N/A	18-1/2" (470)	N/A	43-1/2" (1105)	2-5/8" (67)	5-3/8" (137)	7-3/8" (187)	3-1/2" (89)	3-1/2" (89)	4"	1/2"	N/A	540 (244.93)



Disconnect Switches • Pole / Non-Fusible



**Class II, Div. 1 & 2, Groups E, F, G
Class III
TYPE 3R, 4, 9 (E, F, G)**

 LISTED - File E53290 Indoor/Outdoor
 Certified - File LR11714
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Features

(30-60-100 Amp Housing Styles)

- Bolted and gasketed cabinet type construction insures the exclusion of conductive or combustible dusts from entering the assembly. Enclosure and external handle is copper-free aluminum alloy (less than 4/10 of 1%)
- Cover bolts are stainless steel
- External handle is vault type with standard provisions for locking in the "OFF" position with up to three padlocks
- Provisions for locking in "ON" position available as factory modification. (Add suffix SU40 to catalog number)
- Cutler-Hammer Type-DS Switches
- Two cast conduit hubs; one top and one bottom
- Internal disconnect handle mechanism is a sliding plate mounted to the cover
- Aluminum lacquer paint finish is standard

Electrical Ratings

- 600VAC, 3 Pole, 50/60Hz



Disconnect Switches • Pole / Non-Fusible

DEDS DISCONNECT SWITCHES				
CATALOG NUMBER				SWITCH RATING
ENCLOSURE WITH SWITCH	ENCLOSURE WITH SWITCH AND AUXILIARY CONTACTS	ENCLOSURE WITH SWITCH AND TWO AUXILIARY CONTACTS	ENCLOSURE ONLY (WITHOUT SWITCH OR AUXILIARY CONTACTS)	
DEDS-30	DEDS-30A	DEDS-30AA	DEDS-A	30 AMP
DEDS-60	DEDS-60A	DEDS-60AA	DEDS-B	60 AMP
DEDS-100	DEDS-100A	DEDS-100AA	DEDS-B	100 AMP

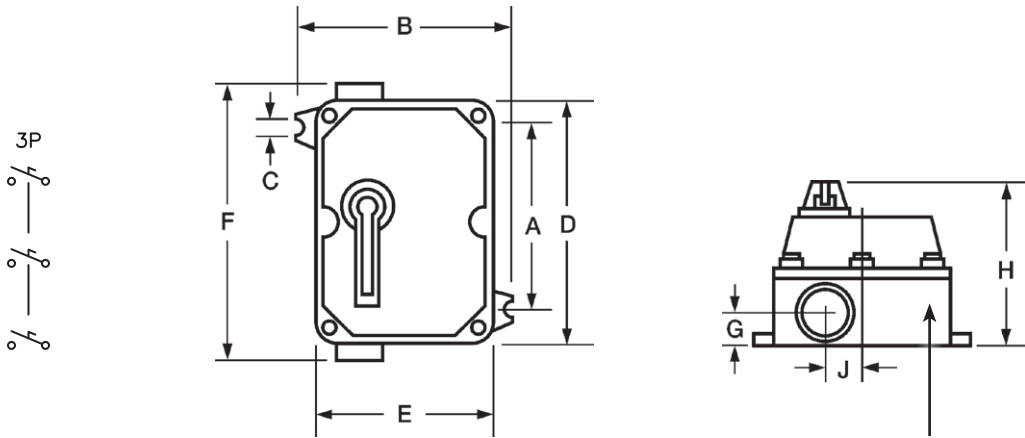
Auxiliary Switch Kits are available for separate control circuit applications. Each auxiliary switch has one normally open and one normally closed contact. Each switch includes three soldered, identified leads. Rated 15 amps at 250 volts maximum.

DEDS ELECTRICAL RATINGS					
SWITCH AMPERES	MAXIMUM HORSEPOWER—THREE PHASE—3-POLE				
	120 VAC	240 VAC	480 VAC	600 VAC	250 VDC
30	5	10	20	25	7-1/2
60	10	20	40	60	15
100	15	30	75	75	25

DEDS DIMENSIONS											
ENCLOSURE CATALOG NUMBER	CONDUIT SIZE	A	B	C	D	E	F	G	H	J	EST. ENCL. WT. LBS (KG)
DEDS-A	1-1/4"	8-3/8" (213)	8-13/16" (224)	7/16" (11)	10-1/4" (260)	7-3/8" (187)	12-1/8" (308)	1-3/8" (35)	6-7/8" (175)	2" (51)	14.50 (6.57)
DEDS-B	2"	10-7/8" (276)	9-1/8" (232)	7/16" (11)	13-7/8" (252)	7-3/4" (197)	15-3/8" (391)	1-3/4" (44)	6-7/8" (175)	2" (51)	19.50 (8.84)

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3B-4X	Drain and breather
SU17	100 Amp solid neutral
SU40	Lock "on" for handle
KIT-251	100 Amp ground lug

DIMENSIONS



Note: Space for additional drill & top conduit opening. 1-1/4" for DEDS-A. 2" for DEDS-B. Also is location for SU3 drain and breather when required.



Disconnect Switches 3 Pole / Non-Fusible



XEDS-30

Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
TYPE 7 (C, D) 9 (E, F, G)

 LISTED - File E53290 Indoor

 Certified - File LR1171
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Features

30-60-100 Amp Housing

- External handle is vault type with standard provisions for locking in "OFF" position with up to three padlocks
- Provisions for locking in "ON" position available as factory modification (add suffix SU40 to catalog number)
- Enclosure and external handle is cast copper-free aluminum alloy (less than 4/10 of 1%)
- Cover bolts are stainless steel
- Cutler-Hammer Type-DS Switches

30-60-100 Amp Housing

- Two cast conduit hubs; one top and one bottom
- Internal disconnect handle mechanism is a sliding plate mounted to the cover
- Aluminum lacquer paint finish is standard

Electrical Rating

- 600VAC, 3 Pole, 50/60Hz



Disconnect Switches 3 Pole / Non-Fusible

XEDS DISCONNECT SWITCHES				
CATALOG NUMBER				
ENCLOSURE WITH SWITCH	ENCLOSURE WITH SWITCH AND AUXILIARY CONTACTS	ENCLOSURE WITH SWITCH AND TWO AUXILIARY CONTACTS	ENCLOSURE ONLY (WITHOUT SWITCH OR AUXILIARY CONTACTS)	SWITCH RATING
XEDS-30	XEDS-30A	XEDS-30AA	XEDS-A	30
XEDS-60	XEDS-60A	XEDS-60AA	XEDS-B	60
XEDS-100	XEDS-100A	XEDS-100AA	XEDS-B	100

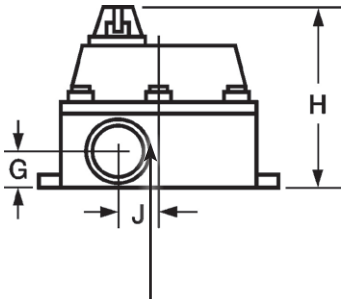
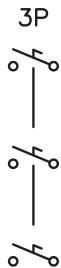
MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3	Drain and breather
SU17	100 Amp solid neutral
SU18	225 Amp solid neutral
SU40	Lock "on" for handle
KIT-251	100 Amp ground lug

Auxiliary switch kits are available for separate control circuit applications. Each auxiliary switch has one normally open and one normally closed contact. Each switch includes three soldered, identified leads. Rated 15 amps at 250 volts maximum.

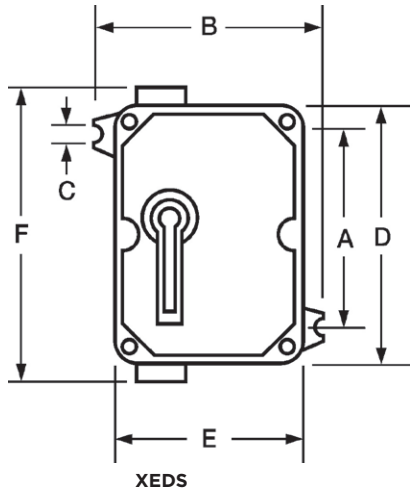
XEDS ELECTRICAL RATINGS					
SWITCH AMPERES	MAXIMUM HORSEPOWER – THREE PHASE – 3-POLE				
	120 VAC	240 VAC	480 VAC	600 VAC	250 VDC
30	5	10	20	25	7-1/2
60	10	20	40	60	15
100	15	30	75	75	25

XEDS DIMENSIONS											
CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	G	H	J	EST. ENCL. WT. LBS (KG)
XEDS-A	1-1/4"	8-3/8" (213)	8-3/4" (222)	7/16" (11)	10-1/4" (260)	7-3/8" (187)	11-7/8" (302)	1-3/8" (35)	6-7/8" (175)	2" (51)	11.0 (4.98)
XEDS-B	2"	10-7/8" (276)	9-1/8" (232)	7/16" (11)	13-7/8" (352)	7-3/4" (197)	16" (406)	1-3/4" (44)	7" (178)	2" (51)	17.0 (7.71)

DIMENSIONS

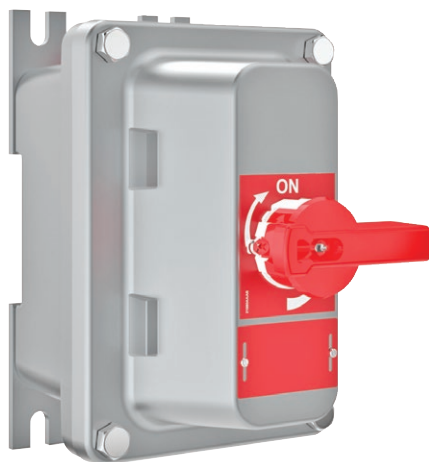


*NOTE: Space for additional drill & tap conduit opening
1-1/4" for XEDS-30
2" for XEDS-60-100
Also is location for SU3 drain and breather when requested.*





Compact Non-Fused Disconnect Switches



B7NFD1



B7NFD2

Class I, Div. 1 & 2, Groups B, C, D
 Class I, Zones 1 & 2, Groups IIB+ H2, IIA
 Class II, Div. 1 & 2, Groups E, F, G^①
 Class III
 TYPE 3, 4, 4X, 7 (B, C, D) 9 (E, F, G)

 Certified - File LR11714 Indoor/Outdoor

FEATURES-SPECIFICATIONS

PRISM® enclosures universal design accommodates the following manufacturers switches as standard:

- Advance Controls 14046 Series
- Allen-Bradley 194E Series (B7NFD1 only)
- ABB OT Series
- Cutler-Hammer R9 Series
- Sprecher + Schuh LA7 Series
- Ferraz Shawmut LBS Series

Advance Controls © Advance Controls Inc.

Allen-Bradley © Rockwell Automation

ABB © The ABB Group

Cutler-Hammer © Eaton Corporation

Sprecher + Schuh © Sprecher + Schuh

Features

- Compact size enclosures provide application flexibility with cost savings over industry standard sizes
- Fewer cover bolts reduces installation and maintenance time
- Gasketed flange with O-ring located in side bolt circle to seal out moisture

- Rotary handle style operating mechanism with lockout provision as standard
- Removable ductile mounting lugs adjust to irregular mounting surfaces
- Bodies have top and bottom drilled and tapped conduit entrances for power connection, with custom openings available

Materials

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied.
- Electrical rating: 600VAC, 30 - 100 Amp

ADAPTER KIT

- Required for Allen-Bradley and Sprecher + Schuh disconnects Order separately B7KIT - NRW

Electrical Rating

- 600VAC, 30 - 100 Amp 3 Pole



Compact Non-Fused Disconnect Switches

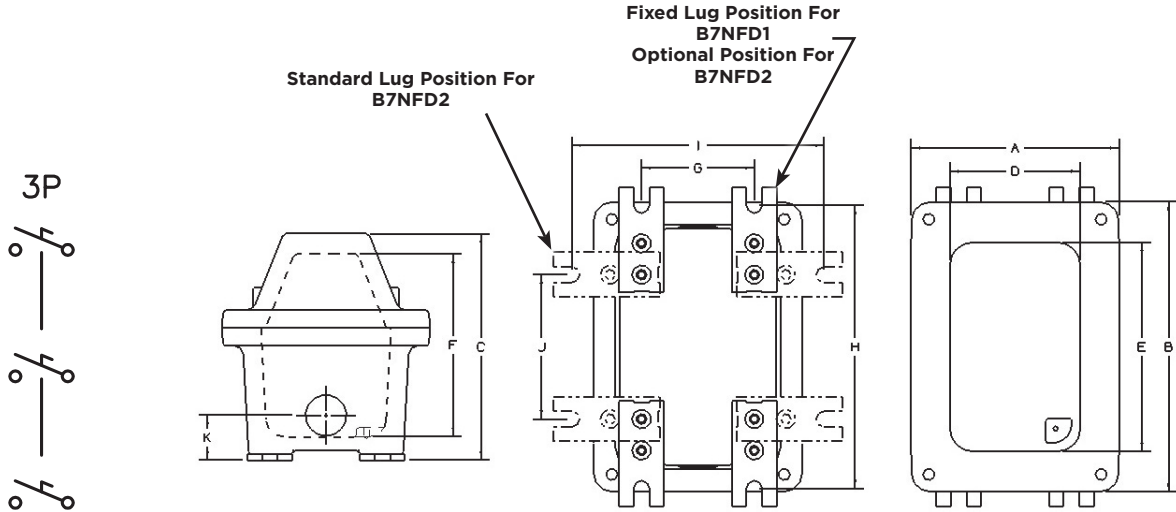
COMPACT NON-FUSED DISCONNECT SWITCHES											
CATALOG NUMBER		SWITCH RATING IEC/NEC		SINGLE PHASE HP		THREE PHASE HP				TERMINAL LUG SIZE (MM/AWG)	WEIGHT (KG/LBS)
ENCLOSURE ONLY	W/ABB SWITCH	AMPS	PHASE	120 VAC	230 VAC	208 VAC	230 VAC	480 VAC	600 VAC		
UL508 & IEC - Suitable for use in equipment or machinery as motor controllers & motor disconnect and are horsepower and ampere rated.											
B7NFD1	B7NFD16A	16/20	3	1	2	3	5	10	10	.75 - 10mm / #18 - 8 AWG	4.98 / 11
B7NFD1	B7NFD25A	25/30	3	1.5	3	7.5	7.5	15	20	.75 - 10mm / #18 - 8 AWG	4.98 / 11
B7NFD1	B7NFD32A	32/40	3	2	5	10	10	20	25	.75 - 10mm / #18 - 8 AWG	4.98 / 11
B7NFD1	B7NFD63A	63/60	3	2	5	15	15	30	30	1.5 - 35mm / #14 - 2 AWG	4.98 / 11
B7NFD2	B7NFD80A	80/80	3	2	5	20	20	40	40	1.5 - 35mm / #14 - 2 AWG	10.53 / 23.2
UL 98 & IEC - Suitable for use as motor disconnects or industrial control panel disconnects on service entrance equipment, panelboards, switchboards, industrial control equipment, motor control centers, etc. and are horsepower rated and ampere rated.											
B7NFD1	B7NFD13A	40/30	3	2	5	10	10	20	30	2.5 - 25mm / #14 - 4 AWG	4.98 / 11
B7NFD2	B7NFD26A	63/60	3	3	7.5	20	20	40	40	2.5 - 25mm / #14 - 4 AWG	10.53 / 23.2
B7NFD2	B7NFD21A	100/100	3	5	15	25	30	50	50	10 - 70mm / #8 - 2/0 AWG	10.53 / 23.2

**Use MN. 75°C wire

ENCLOSURE	DIMENSIONS											
	OUTSIDE BOX DIMENSIONS (INCH/MM)			NOMINAL INSIDE BOX (INCH/MM)			MOUNTING DIMENSION (INCH/MM)					OUTLET
	A	B	C	D	E	F	G	H	I	J	K	
B7NFD1	5.75 (145)	8.0625 (205)	6.3125 (160)	3.625 (92)	5.8125 (148)	5.0625 (129)	3.125 (79)	8.125 (206)	NA	NA	1.25 (32)	1"
B7NFD2	8.125 (206)	13.0625 (332)	7.8125 (198)	4.25 (108)	9.1875 (233)	6.3125 (160)	2.50 (64)	11.375 (289)	6.375 (162)	7.50 (191)	1.8125 (46)	1½"

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
SU-2	SU-2 Hinge-9 Installed
SU-3B-4X	Drain/Breather NEMA 4X/7 B,C,D
SU-10B-4X	Drain NEMA 4X/7 B,C,D
SU-11B-4X	Breather NEMA 4X/7 B,C,D
SU9	Special paint finish
A*	1 NC-1NO Auxiliary
B7SPNPT	Change std. conduit size and location
SU14	Fungus proofing of enclosures

* NOTE: Only one auxiliary contact (Form C) will fit.





DISTRIBUTION EQUIPMENT EXBLTP-FDS SERIES

Fused Disconnect Switches



ATEX & IEC Ex
 II 2 G Ex db IIB+H2 T6 CE 0518

II 2 D Ex tb IIIC T85°C IP66

Ta -50°C to +70°C

IECEX QPS 17.0013U

IECEX QPS 17.0014

CML17 ATEX (pending)

CML17 ATEX (pending)

NORTH AMERICA

Class I, Div. 1 & 2, Groups B, C & D;
 Class I, Zone 1 & 2, Groups IIB+H2
 IIA;

Class II, Div. 1 & 2, Groups E, F & G;
 Class III, Encl. Type 4 & 4X

UL Ta = -25°C to +70°C

CSA Ta = -50°C to +70°C

UL Classified File E83969

CSA Certified File LR11716

TYPE 3, 4, 4X, 7 (B,C,D) 9 (E, F, G)

FEATURES-SPECIFICATIONS

Features

- New lighter (up to 35%) EXBLT enclosure, fewer cover bolts than our competitors, gasketed plate cover, 316 stainless steel cover bolts, ductile mounting lugs.
- UL98 Fused Disconnect Switch, Horsepower Rated.
- Available as 3 Pole switch.
- Auxiliary Contacts, accepts up to two contacts per side of switch.
- Switch has removable fuse clips, retaining the fuse for safe replacement.
- Solid Neutral, Detachable Neutral and Ground Terminal available as an option.
- Can be ordered with or without the switch, allows for field installation of switch while maintaining product certification.
- Switch operating handle can be padlocked in the "ON" or "OFF" position providing lockout/tagout protection.
- Conduit outlets top and bottom drilled and tapped for power connections, with custom openings available.

Materials

- Box: Molded from 356-T6 copper free aluminum, less than 4/10 of 1% copper alloy and less than 6% magnesium.
- Cover: Plate cover is made of 6061-T6 aluminum alloy.
- Hinges: Extruded aluminum with stainless steel pin hardware.
- Bolts: 316 Stainless Steel.
- Finish: Natural finish without paint.

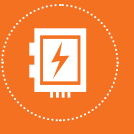
Electrical Rating

- 600VAC, 3 Pole, 50/60Hz

EXBLTP-FDS FUSED DISCONNECT SWITCHES

UL98 & IEC - Suitable for use as motor disconnects or industrial control panel disconnects on service entrance equipment, panelboards, switchboards, industrial control equipment, motor control centers, etc. and are horsepower rated and ampere rated.

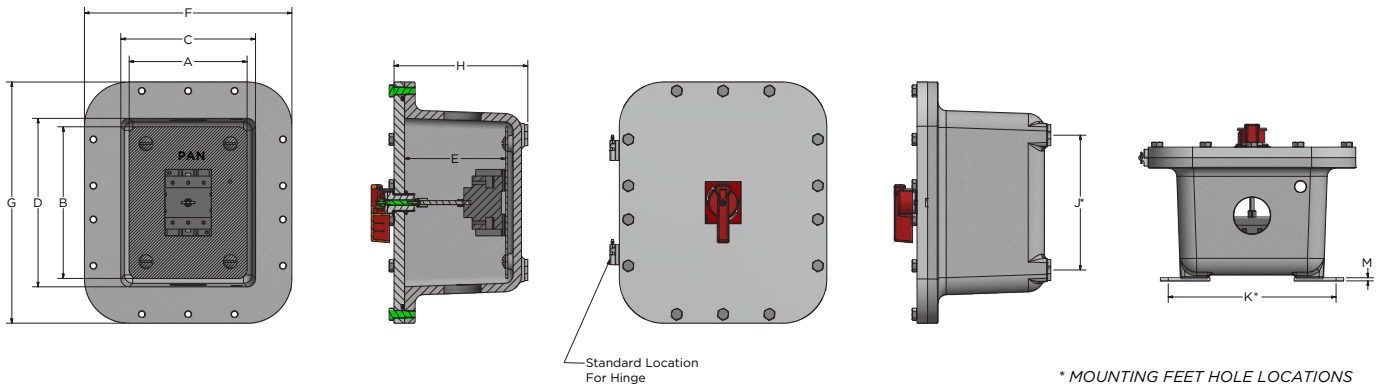
CATALOG NUMBER		SWITCH RATING IEC/NEC		SINGLE PHASE HP		THREE PHASE HP				TERMINAL LUG SIZE (MM/AWG)	WEIGHT (KG/LBS)	CONDUITS TOP/BOTTOM
EXBLTP	W/ ABB SWITCH	AMPS	TYPE	120 VAC	230 VAC	208 VAC	230 VAC	480 VAC	600 VAC			
686	EXBLTP-FDS-0303P	40/30	3 Pole	2	5	10	10	20	30	2.5 - 25mm/#14 - 4 AWG	23.7/10.8	(1) 1" (1) 1/2"
886	EXBLTP-FDS-0603P	63/60	3 Pole	3	7.5	20	20	40	40	2.5 - 25mm/#14 - 4 AWG	27.9/12.7	(1) 1-1/2" (1) 1/2"
12188	EXBLTP-FDS-1003P	100	3 Pole	1	15	25	30	50	50	#14AWG - 4 AWG	45.4/100	(1) 2" (1) 1/2"



Dimensions

ENCLOSURE CATALOG NUMBER	INTERNAL DIMENSIONS - INCHES (MM)						EXTERNAL DIMENSIONS - INCHES (MM)		
	PAN		AVAILABLE EQUIPMENT SPACE				F	G	H ("P" PLATE)
	A	B	C	D	E ("P" PLATE)	E ("C" CAST)			
EXBLT-686 N4	5 (172)	7 (178)	8 (203)	6 (152)	6 (152)	6.32 (160)	10.25 (260)	12.25 (311)	7.88 (200)
EXBLT-886 N4	7 (178)	7 (178)	8 (203)	8 (203)	6 (152)	6.16 (156)	12.32 (313)	12.32 (313)	7.94 (202)
EXBLT-8106 N4	7 (178)	9 (229)	10 (254)	8 (203)	6 (152)	6.18 (157)	12.32 (313)	14.32 (364)	7.94 (202)
EXBLT-10108 N4	9 (229)	9 (229)	10.5 (267)	10.5 (267)	8 (203)	8.41 (214)	15.25 (387)	15.25 (387)	10.18 (259)

ENCLOSURE CATALOG NUMBER	MOUNTING DIMENSIONS - INCHES (MM)						CONDUIT AREA - INCHES (MM)				
	I	J	K	L	M	SLOT WIDTH	SIDE WALL		CENTER	TOP & BOTTOM WALL	
							O	Q	R	S	U
EXBLT-686 N4	N/A	4 (1002)	7.88 (200)	N/A	0.19 (5)	0.44 (11)	4.81 (122)	6.59 (167)	3.78 (96)	4.81 (122)	4.59 (167)
EXBLT-886 N4	N/A	6 (152)	9.88 (251)	N/A	0.19 (5)	0.44 (11)	4.81 (122)	6.56 (167)	3.78 (96)	4.81 (122)	6.56 (167)
EXBLT-8106 N4	N/A	8 (203)	9.88 (251)	N/A	0.19 (5)	0.44 (11)	4.81 (122)	8.56 (217)	3.78 (96)	4.81 (122)	6.56 (167)
EXBLT-10108 N4	4.94 (125)	4.94 (125)	12.94 (329)	12.94 (329)	0.25 (6)	0.56 (14)	5.94 (151)	7.97 (202)	5.09 (129)	5.94 (151)	7.97 (202)
EXBLT-12188 N4	6.94 (176)	12.88 (327)	14.94 (379)	20.88 (530)	0.25 (6)	0.56 (14)	5.88 (149)	15.34 (390)	5.03 (128)	9.34 (237)	2.5 (63)



Replacement Parts

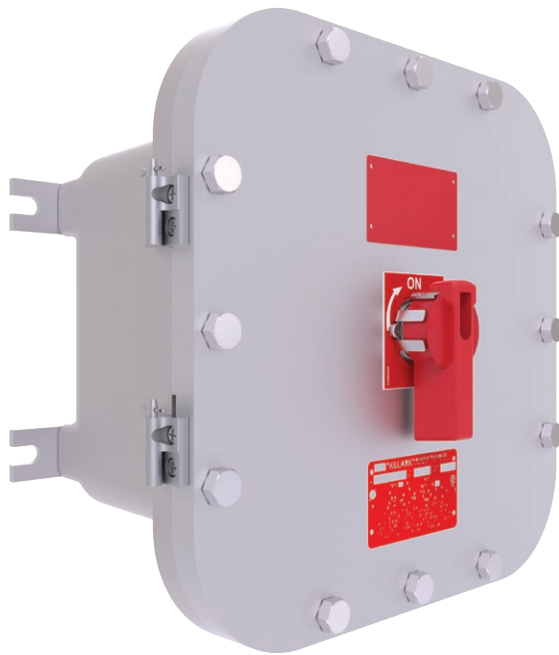
OPTIONS	
KIT-251	100 Amp Ground Lug
KIT-252	200 Amp Ground Lug
SU3B-4X	Drain & Breather installed Class 1 Groups B, Type 4, 4X
SU14	Fungus Proof Internal
SU9	Special Paint
A	1 NC+1 NO Auxiliary Contact
AA	2 NC+2 NO Auxiliary Contact
B7C-SN1	Solid Neutral 150 Amp
B7C-SN2	Solid Neutral 250 Amp
CEN	ATEX/IEC Ex d (Pending)

ENCLOSURE CATALOG NUMBER	COVER GASKET	MOUNTING LUG KIT (Contains four mounting lugs and hardware)	REPLACEMENT PARTS			
			COVER BOLTS - SOLD PER EACH			HANDLE
			NO. OF BOLTS PER ENCLOSURE	316 STAINLESS STEEL "N4X"	ATEX IEC EX 316 STAINLESS STEEL "N4CEN" (PENDING)	
EXBLTP-686 N4	EXB68RG	EXB-MTL1	10	25952BAAB	20790AAAB	B7EPD1SHAN
EXBLTP-886 N4	EXB88RG	EXB-MTL1	12	25952BAAB	20790AAAB	
EXBLTP-8106 N4	EXB810RG	EXB-MTL1	14	25952BAAB	20790AAAB	
EXBLTP-10108 N4	EXB1010RG	EXB-MTL2	12	25952AAAB	20790BAAB	



DISTRIBUTION EQUIPMENT
EXBLTP-NFD SERIES

Non-Fused Disconnect Switches



ATEX & IEC Ex

Ex II 2 G Ex db IIB+H2 T6 CE 0518

Ex II 2 D Ex tb IIIC T85°C IP66

Ta -50°C to + 70°C

IECEX QPS 17.0013U

IECEX QPS 17.0014

CML17 ATEX (pending)

CML17 ATEX (pending)

NORTH AMERICA

Class I, Div. 1 & 2, Groups B, C & D;

Class I, Zone 1 & 2, Groups IIB+H2

IIA;

Class II, Div. 1 & 2, Groups E, F & G;

Class III, Encl. Type 4 & 4X

UL Ta = -25°C to +70°C

CSA Ta = -50°C to +70°C

UL Classified File E83969

CSA Certified File LR11716

TYPE 3, 4, 4X, 7 (B,C,D), 9 (E,F,G)

FEATURES-SPECIFICATIONS

Features

- New lighter (up to 35%) EXBLT enclosure, fewer cover bolts than our competitors, gasketed plate cover, 316 stainless steel cover bolts, ductile mounting lugs.
- UL98 & UL508 Non-Fused Disconnect Switch, Horsepower Rated.
- Available as 3 Pole, 3 Pole Double Throw and 6 pole switches.
- Auxiliary Contacts, accepts up to two contacts per side of switch.
- Terminal Poles, Solid Neutral, Detachable Neutral and Ground Terminal available as an option.
- Fourth power pole available for switch
- Can be ordered with or without the switch, allows for field installation of switch while maintaining product certification.
- Switch operating handle can be padlocked in the "ON" or "OFF" position providing lockout/tagout protection.

- Conduit outlets top and bottom drilled and tapped for power connections, with custom openings available.

Materials

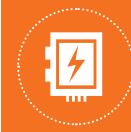
- **Box:** Molded from 356-T6 copper free aluminum, less than 4/10 of 1% copper alloy and less than 6% magnesium.

- **Cover:** Plate cover is made of 6061-T6 aluminum alloy.
- **Hinges:** Extruded aluminum with stainless steel pin hardware.
- **Bolts:** 316 Stainless Steel.
- **Finish:** Natural finish without paint.

Electrical Rating

- 600VAC, 50Hz





Ordering Information / Options

EXBLTP-NFD NON FUSED DISCONNECT SWITCHES

UL98 & IEC - Suitable for use as motor disconnects or industrial control panel disconnects on service entrance equipment, panelboards, switchboards, industrial control equipment, motor control centers, etc. and are horsepower rated and ampere rated.

CATALOG NUMBER		SWITCH RATING IEC/NEC		SINGLE PHASE HORSEPOWER		THREE PHASE HORSEPOWER				TERMINAL LUG SIZE (MM/AWG)	WEIGHT (KG/LBS)	CONDUITS TOP/BOTTOM
EXBLTP	W/ ABB SWITCH	AMPS	TYPE	120 VAC	230 VAC	208 VAC	230 VAC	480 VAC	600 VAC			
686	EXBLTP-NFD-0303P	40/30	3 Pole	2	5	10	10	20	30	2.5 - 25mm/#14 - 4 AWG	23.7/10.8	(1) 1" (1) 1/2"
886	EXBLTP-NFD-0306P	40/30	6 Pole	2	5	10	10	20	30	2.5 - 25mm/#14 - 4 AWG	27.9/12.7	(2) 1" (1) 1/2"
886	EXBLTP-NFD-0303PDT	40/30	3P Double Throw	2	5	10	10	20	30	2.5 - 25mm/#14 - 4 AWG	27.9/12.7	(2) 1" (1) 1/2"
686	EXBLTP-NFD-0603P	63/60	3 Pole	3	7.5	20	20	40	40	2.5 - 25mm/#14 - 4 AWG	23.7/10.8	(1) 1-1/2" (1) 1/2"
886	EXBLTP-NFD-0606P	63/60	6 Pole	3	7.5	20	20	40	40	2.5 - 25mm/#14 - 4 AWG	27.9/12.7	(2) 1-1/2" (1) 1/2"
886	EXBLTP-NFD-0603PDT	63/60	3P Double Throw	3	7.5	20	20	40	40	2.5 - 25mm/#14 - 4 AWG	27.9/12.7	(2) 2" (1) 1/2"
8106	EXBLTP-NFD-1003P	100/100	3 Pole	5	15	25	30	50	50	10 - 70mm/#8 - 2/0 AWG	31.9/14.5	(1) 2" (1) 1/2"
8106	EXBLTP-NFD-1006P	100/100	6 Pole	5	15	25	30	50	50	10 - 70mm/#8 - 2/0 AWG	31.9/14.5	(2) 2" (1) 1/2"
8106	EXBLTP-NFD-1003PDT	100/100	3P Double Throw	5	15	25	30	50	50	10 - 70mm/#8 - 2/0 AWG	31.9/14.5	(2) 2" (1) 1/2"

UL508 & IEC - Suitable for use in equipment or machinery as motor controllers & motor disconnect and are horsepower and ampere rated.

CATALOG NUMBER		SWITCH RATING IEC/NEC		SINGLE PHASE HORSEPOWER		THREE PHASE HORSEPOWER				TERMINAL LUG SIZE (MM/AWG)	WEIGHT (KG/LBS)	CONDUITS TOP/BOTTOM
EXBLTP	W/ ABB SWITCH	AMPS	TYPE	120 VAC	230 VAC	208 VAC	230 VAC	480 VAC	600 VAC			
686	EXBLTP-NFD-1603P	16/20	3 Pole	1	2	3	5	10	10	.75 - 10mm/#18 - 8 AWG	27.9/12.7	(1) 1" (1) 1/2"
886	EXBLTP-NFD-1606P	16/20	6 Pole	1	2	3	5	10	10	.75 - 10mm/#18 - 8 AWG	27.9/12.7	(2) 1" (1) 1/2"
686	EXBLTP-NFD-2503P	25/30	3 Pole	1.5	3	7.5	7.5	15	20	.75 - 10mm/#18 - 8 AWG	23.7/10.8	(1) 1" (1) 1/2"
886	EXBLTP-NFD-2506P	25/30	6 Pole	1.5	3	7.5	7.5	15	20	.75 - 10mm/#18 - 8 AWG	27.9/12.7	(2) 1" (1) 1/2"
886	EXBLTP-NFD-3203P	32/40	3 Pole	2	5	10	10	20	25	.75 - 10mm/#18 - 8 AWG	27.9/12.7	(1) 1" (1) 1/2"
886	EXBLTP-NFD-3206P	32/40	6 Pole	2	5	10	10	20	25	.75 - 10mm/#18 - 8 AWG	27.9/12.7	(2) 1" (1) 1/2"
886	EXBLTP-NFD-6303P	63/60	3 Pole	2	5	15	15	30	30	1.5 - 35mm/#14 - 2 AWG	27.9/12.7	(1) 1-1/2" (1) 1/2"
886	EXBLTP-NFD-6306P	63/60	6 Pole	2	5	15	15	30	30	1.5 - 35mm/#14 - 2 AWG	27.9/12.7	(2) 1-1/2" (1) 1/2"
8106	EXBLTP-NFD-8003P	80/80	3 Pole	2	5	20	20	40	40	1.5 - 35mm/#14 - 2 AWG	31.9/14.5	(1) 2" (1) 1/2"
8106	EXBLTP-NFD-8006P	80/80	6 Pole	2	5	20	20	40	40	1.5 - 35mm/#14 - 2 AWG	31.9/14.5	(2) 2" (1) 1/2"

OPTIONS

KIT-251	100 Amp Ground Lug
KIT-252	200 Amp Ground Lug
SU3B-4X	Drain & Breather installed Class 1 Groups B, Type 4, 4X
SU14	Fungus Proof Internal
SU9	Special Paint
4P	4th Pole, 30, 60, 100A - 3 Pole Only (NFD Only)
A	1 NC-1 NO Auxiliary Contact
AA	2 NC+2 NO Auxiliary Contact
B7C-SN1	Solid Neutral 150 Amp
B7C-SN2	Solid Neutral 250 Amp
CEN	ATEX/IEC Ex d (Pending)



EXB-NFD, EXB-FDS SERIES

Disconnect Switches • 3 Pole / Non-Fusible & Fusible



ATEX / IEC Ex Certified

Class I, Div. 1 & 2, Groups B¹, C, D
Class I, Zones 1 & 2, Groups IIB+ H2, IIA

Class II, Div. 1 & 2, Groups E, F, G
Class III, Div. 1 & 2 ENCL TYPE 3, 4, 4X
TYPE 3, 4, 4X, 7 (B, C, D), 9 (E, F, G)
CENELEC/ATEX/IEC Ex
Ex d IIB + H2 T5 or T6
Ex tD A21 IP66
Tamb ≤ +70°C

Indoor/Outdoor



#UL886 - Outlet Boxes and Fittings for use in Hazardous (Classified) Locations. File #E10514 cer



#UL698 & #UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment. Files #E83969 & E12379



#C22.2 No. 30-M1986 - Explosion Proof Enclosure for use in Class I Hazardous Locations. File #LR11716
CENELEC II 2 GD
PTB 07 ATEX 1025U (Empty Housing)
PTB 07 ATEC 1024x (Enclosure with Controls)
IEC Ex 07.0022U
IEC Ex 07.0023

FEATURES-SPECIFICATIONS

Features

- Copper-free aluminum construction, high strength, lighter in weight and corrosion resistant.
- Fewer cover bolts (no corner bolts required) reduces installation and maintenance time. Cover bolts are stainless steel.
- Gasketed flange with O-ring located in side bolt circle to seal out moisture.
- Stainless steel hinges are standard.
- Switch operating handle of copperfree aluminum can be padlocked, with up to 3 locks, in either the "ON" or "OFF" position.
- Ductile mounting lugs adjust to irregular mounting surfaces.
- Bodies have top and bottom drilled and tapped conduit entrances for power and drain/breather.
- **Global applications (ATEX)**
Enclosures are available for global applications with "CEN" suffix.
Assemblies that are modified to CENELEC/ATEX standards maintain their North American certifications

- Switches are used on all 30 to 400 Ampere assemblies.
- Disconnect Switches suitable for type 'J' fuses only.

Materials

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Hinges and Cover Bolts: Stainless steel
- Aluminum lacquer paint finish

Electrical Rating

- 600 VAC
- 30, 60, 100, 200 and 400 Amp

Consult Factory for special conduit layouts

DISTRIBUTION EQUIPMENT
EXB-NFD, EXB-FDS SERIES



Disconnect Switches • 3 Pole / Non-Fusible & Fusible

EXB-NFD NON FUSED DISCONNECT SWITCHES						
CATALOG NUMBER	SWITCH RATING	TYPE	CONDUITS TOP/BOT.	WIRE SIZE	EST. ENCL. WT (LBS)	KG
EXB-NFD-0303P	30	3 Pole	(1) 1-1/2" (1) 1/2"	#14-4	40.0	(18.14)
EXB-NFD-0306P	30	6 Pole	(2) 2" (1) 1/2"	#14-4	41.0	(18.59)
EXB-NFD-0303PDT	30	3P Double Throw	(2) 2" (1) 1/2"	#14-4	41.0	(18.59)
EXB-NFD-0603P	60	3 Pole	(1) 2" (1) 1/2"	#14-4	40.0	(18.14)
EXB-NFD-0606P	60	6 Pole	(2) 2" (1) 1/2"	#14-4	42.0	(19.05)
EXB-NFD-0603PDT	60	3P Double Throw	(2) 2" (1) 1/2"	#14-4	41.0	(18.59)
EXB-NFD-1003P	100	3 Pole	(1) 2" (1) 1/2"	#8-1/0	48.0	(21.77)
EXB-NFD-1006P	100	6 Pole	(2) 2" (1) 1/2"	#8-1/0	50.0	(22.67)
EXB-NFD-1003PDT	100	3P Double Throw	(2) 2" (1) 1/2"	#8-1/0	48.0	(21.77)
EXB-NFD-2003P	200	3 Pole	(1) 3" (1) 1/2"	#4-300MCM	170.0	(77.11)
EXB-NFD-4003P	400	3 Pole (2)	(2) 3" (1) 1/2"	#2-600MCM	241.0	(109.31)

EXB-FDS FUSED DISCONNECT SWITCHES (TYPE J FUSES)						
CATALOG NUMBER	SWITCH RATING	TYPE	CONDUITS TOP/BOT.	WIRE SIZE	EST. ENCL. WT. LBS (KG)	
EXB-FDS-0303P	30	3 Pole	(1) 2" (1) 1/2"	#14-4	40.0 (18.14)	
EXB-FDS-0603P	60	3 Pole	(1) 2" (1) 1/2"	#14-4	82.0 (37.18)	
EXB-FDS-1003P	100	3 Pole	(1) 2" (1) 1/2"	#14-2/0	130.0 (58.96)	
EXB-FDS-2003P	200	3 Pole	(1) 3" (1) 1/2"	#4-300MCM	170.0 (77.11)	
EXB-FDS-4003P	400	3 Pole	(2) 3" (1) 1/2"	#2-600MCM	425.0 (192.77)	

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU-3B-4X	Drain/Breather NEMA 4X/7 B,C,D
SU-10B-4X	Drain NEMA 4X/7 B,C,D
SU-11B-4X	Breather NEMA 4X/7 B,C,D
SU9	Special Paint Finish
4P	4th pole 30, 60, 100A - 3 pole only*
A	1 NC-1NO Auxiliary
AA	2 NC-2NO Auxiliary
CEN	ATEX/IEC Ex d
SN2	Solid Neutral



DISTRIBUTION EQUIPMENT

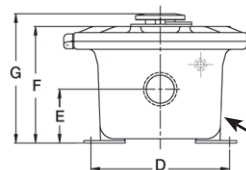
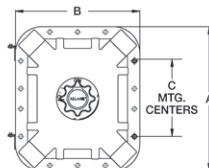
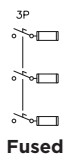
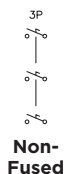
EXB-NFD, EXB-FDS SERIES

EXB-NFD ELECTRICAL RATINGS													
SWITCH AMPERES	MAXIMUM KW / HORSEPOWER SINGLE PHASE						MAXIMUM KW / HORSEPOWER - 3 PHASE						
UL508 & IEC													
UL508	120 VAC	200 VAC	240 VAC	200 VAC	208 VAC		240 VAC			480 VAC		600 VAC	
IEC						220 VAC		400 VAC	415 VAC		500 VAC		690 VAC
16	1 HP	2 HP	2 HP	3 HP	3 HP	3 KW	5 HP	7.5 KW	7.5 KW	10 HP	7.5 KW	10 HP	7.5 KW
25	1.5 HP	3 HP	3 HP	7.5 HP	7.5 HP	4 KW	7.5 HP	9 KW	9 KW	15 HP	9 KW	20 HP	9 KW
32	2 HP	5 HP	5 HP	10 HP	10 HP	5.5 KW	10 HP	11 KW	11 KW	20 HP	11 KW	25 HP	11 KW
63	2 HP	5 HP	5 HP	15 HP	15 HP	11 KW	15 HP	22 KW	22 KW	30 HP	22 KW	30 HP	11 KW
80	2 HP	5 HP	5 HP	20 HP	20 HP	22 KW	20 HP	37 KW	37 KW	40 HP	37 KW	40 HP	18.5 KW
UL98 & IEC													
UL98	120 VAC	200 VAC	240 VAC	200 VAC	208 VAC		240 VAC			480 VAC		600 VAC	
IEC						220 VAC		400 VAC	415 VAC		500 VAC		690 VAC
30	2 HP	5 HP	5 HP	10 HP	10 HP	7.5 KW	7.5 HP	15 KW	15 KW	15 HP	15 KW	20 HP	15 KW
60	3 HP	5 HP	7.5 HP	20 HP	20 HP	11 KW	20 HP	18.5 KW	18.5 KW	40 HP	18.5 KW	40 HP	15 KW
100	5 HP	15 HP	15 HP	25 HP	25 HP	22 KW	30 HP	37 KW	37 KW	50 HP	37 KW	50 HP	37 KW
200	NA	NA	NA	NA	NA	75 KW	75 HP	132 KW	132 KW	150 HP	170 KW	200 HP	240 KW
400	NA	NA	NA	NA	NA	110 KW	125 HP	220 KW	220 KW	250 HP	280 KW	350 HP	355 KW

EXB-FDS ELECTRICAL RATINGS													
SWITCH AMPERES	MAXIMUM HORSEPOWER - THREE PHASE - 3 POLE						MAXIMUM KW / HORSEPOWER - 3 PHASE						
UL98 & IEC													
UL98	120 VAC	200 VAC	240 VAC	200 VAC	208 VAC		240 VAC			480 VAC		600 VAC	
IEC						220 VAC		400 VAC	415 VAC		500 VAC		690 VAC
30	2 HP	3 HP	5 HP	5 HP	7.5 HP	7.5 KW	7.5 HP	15 KW	15 KW	15 HP	15 KW	20 HP	25 KW
60	3 HP	5 HP	10 HP	15 HP	15 HP	11 KW	15 HP	30 KW	30 KW	30 HP	30 KW	50 HP	60 KW
100	5 HP	10 HP	15 HP	25 HP	25 HP	22 KW	30 HP	90 KW	90 KW	60 HP	37 KW	75 HP	130 KW
200	NA	NA	NA	50 HP	50 HP	75 KW	60 HP	90 KW	90 KW	125 HP	170 KW	150 HP	200 KW
400	NA	NA	NA	100 HP	100 HP	110 KW	125 HP	230 KW	230 KW	250 HP	230 KW	350 HP	400 KW

EXB-NFD DIMENSIONS													
AMP RATING	BASIC ENCLOSURE	A	B	C	D	E	F	G	NEC STANDARD CONDUIT OUTLETS		IEC STANDARD CONDUIT OUTLETS		
									TOP	BOTTOM	TOP	BOTTOM	
16/20	EXB-664 N34 SU1	10.32 (262)	10.32 (262)	6.09 (155)	4.00 (102)	2.75 (70)	6.50 (165)	6.50 (165)	1" NPT	1" NPT	M25	M25	
25/30	EXB-664 N34 SU1	10.32 (262)	10.32 (262)	6.09 (155)	4.00 (102)	2.75 (70)	6.50 (165)	6.50 (165)	1" NPT	1" NPT	M25	M25	
32/40	EXB-664 N34 SU1	10.32 (262)	10.32 (262)	6.09 (155)	4.00 (102)	2.75 (70)	6.50 (165)	6.50 (165)	1" NPT	1" NPT	M25	M25	
63/60	EXB-664 N34 SU1	10.32 (262)	10.32 (262)	6.09 (155)	4.00 (102)	2.75 (70)	6.50 (165)	6.50 (165)	1 1/2" NPT	1 1/2" NPT	M40	M40	
80/80	EXB-886 N34 SU1	12.3125 (313)	12.3125 (313)	8.00 (203)	9.875 (251)	3.8125 (97)	8.125 (206)	9.4375 (240)	2" NPT	2" NPT	M50	M50	
16/30/60	EXB-886 N34 SU1	12.3125 (313)	12.3125 (313)	8.00 (203)	9.875 (251)	3.8125 (97)	8.125 (206)	9.4375 (240)	1 1/2" NPT	1 1/2" NPT	M40	M40	
100	EXB-8106 N34 SU1	14.3125 (364)	12.3125 (313)	8.00 (203)	9.875 (251)	3.875 (98)	8.3125 (211)	8.625 (219)	2" NPT	2" NPT	M50	M50	
200	EXB-12248 N34 SU1	28.375 (721)	16.375 (416)	18.875 (479)	15.9375 (405)	5.375 (137)	11.9375 (303)	12.625 (321)	3" NPT	3" NPT	M63	M63	
400	EXB-12368 N34 SU1	41.25 (1048)	17.25 (438)	31.00 (787)	15.00 (381)	5.1875 (81)	11.375 (289)	12.6875 (322)	(2) 3" NPT	(2) 3" NPT	(2) M63	(2) M63	

EXB-FDS DIMENSIONS													
AMP RATING	BASIC ENCLOSURE	A	B	C	D	E	F	G	NEC STANDARD CONDUIT OUTLETS		IEC STANDARD CONDUIT OUTLETS		
									TOP	BOTTOM	TOP	BOTTOM	
30	EXB-8106 N34 SU1	14.3125 (364)	12.3125 (313)	8.00 (203)	9.875 (251)	3.875 (98)	8.9375 (227)	9.625 (244)	2" NPT	2" NPT	M40	M40	
60	EXB-10106 N34 SU1	15.25 (387)	15.25 (387)	14.9375 (379)	12.9375 (329)	5.062 (129)	10.9375 (278)	12.25 (311)	2" NPT	2" NPT	M40	M40	
100	EXB-12188 N34 SU1	22.375 (568)	16.375 (416)	12.875 (327)	14.9375 (379)	5.375 (137)	11.0625 (281)	12.375 (314)	2" NPT	2" NPT	M50	M50	
200	EXB-12248 N34 SU1	28.375 (721)	16.375 (416)	18.875 (479)	14.9375 (379)	5.375 (137)	11.9375 (303)	13.375 (340)	3" NPT	3" NPT	M63	M63	
400	EXB-18368 N34 SU1	40.375 (1026)	22.375 (568)	31.50 (800)	21.25 (546)	14.375 (365)	14.375 (365)	16.50 (419)	(2) 3" NPT	(2) 3" NPT	(2) M63	(2) M63	



1/2-14 NPT, (1) TOP & (1) BOTTOM FOR DRAIN BREATHER.

H, (1) TOP & (1) BOTTOM. ON 400 AMP (2) TOP & (2) BOTTOM.



Circuit Breaker Panelboards



B7L

Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III, Div. 1 & 2
Type 3, 4, 4x, 7 (B, C, D) 9 (E, F, G)



Classified – File E83969

See files for details or call Killark.



Certified – File LR 11713 for B7L

Indoor/Outdoor

FEATURES-SPECIFICATIONS

Features

- TYPE 4, 4x rated for protection from hose directed water and corrosion
- Standard electrical components: B7L-Cutler-Hammer Quicklag Breakers B7P-Cutler-Hammer Series C Breakers
- B7L is furnished with copper buss
- Main lugs. Mechanical solderless type, approved for CU or AL conductors
- Solid Neutral standard. Single phase 3 wire. Three phase 4 wire
- Copper ground bar standard
- Main and branch breaker handles can be padlocked in “ON” or “OFF” position
- Top feed panel standard with bottom feed optional
- Hinged cover, installed as standard
- Quick release, captivated coverbolts of 316 stainless steel

Materials

- Enclosure: Copper-free aluminum (less than 4/10 of 1%)
- Main Breaker Handle: Copper-free aluminum
- Cover bolts: 316 grade stainless steel
- Flange Gasket “O” Ring: Buna-N Nitrile
- Branch Breaker Operators: Valox Thermoplastic Polyester handle molded onto 316 stainless steel shaft with neoprene “O” ring

- Hinges: Copper-free aluminum with stainless steel pin and hardware
- Mounting Lugs: 1/4” thick aluminum
- Aluminum lacquer paint finish standard

Panel Selection Factors

Basic information required when specifying panelboards is as follows:

- » Environment
- » Service (Voltage/Frequency/Phase)
- » Interrupting capacity
- » AMP Rating of Main (Lugs only or Breaker)
- » Branch Breaker (Type/Number of Poles/Amperage)

Ordering Information

Specifying and ordering a complete panelboard assembly requires the selection of three components. (1) Basic Panel (2) Branch Breaker and (3) Options (if required). This method of cataloging permits a wide variety and maximizes circuit flexibility in our panelboard offering. Components supplied in each of these selections include:

1) Basic Panelboard Enclosures

- » Explosion-proof enclosure consisting of box and cover
- » Cover predrilled and plugged for maximum number of branch breaker handles (handles not supplied)
- » Box supplied with conduit openings

- » Main circuit breaker and external handle (when specified)
- » Panelboard internal chassis with buss bars but less branch circuit breakers

2) Branch Circuit Breakers

- » Internal circuit breaker
- » External handle mechanism with internal tripping mechanism
- » Test pushbutton for GFI (when ordered)
- » Lockout shield with on-off-trip-reset identification

3) Options – Accessories

Ordering Example

Specification is for a 3 phase 120/208 volt panel with 100 Amp main lugs complete with (4) single pole 20 Amp (2) double pole 20 Amp and (1) three pole 30 Amp branch breakers.

Branch Breaker Total =

- (4) 1 Pole = 4 Poles Total
- (2) 2 Pole = 4 Poles Total
- (1) 3 Pole = 3 Poles Total

Total 11 Branch Poles

Specification/Ordering Example

B7L20 - 312 - ML100 (Basic panelboard enclosure) with:

- (4) B7BLA1020 (1 Pole 20 Amp Branch)
- (2) B7BLA2020 (2 Pole 20 Amp Branch)
- (1) B7BLB3030 (3 Pole 30 Amp Branch)



Lighting Panelboards

Cutler-Hammer type BA circuit breaker 1 - 2 or 3 pole.

Catalog numbers on this page are for the basic panelboard enclosure only with a panel interior chassis containing main lugs or main breaker as illustrated.

Internal branch breakers and external handles are NOT included in the basic enclosure catalog number and must be ordered as separate items.

Branch circuit loads

The interior panel chassis supplied in B7L panel is limited to a maximum of 140 amperes at any one connection point. Breakers of 50 thru 100 amps must be installed opposite breakers of smaller amperage so as not to exceed the 140 ampere limitation.

CIRCUIT BREAKER RATINGS			
TYPE	NO. OF POLES	VOLT	AMPERES SYMMETRICAL
BAB ^①	1	120	10,000 AIC
BAB ^①	2	120/240	10,000 AIC
BAB ^①	3	240	10,000 AIC
BABSWN ^①	1	120/240	10,000 AIC
BABSWN ^①	2	120/240	10,000 AIC
QBGF	1	120	10,000 AIC
QBGF	2	120/240	10,000 AIC
QBGFEP	1	120	10,000 AIC
QBGFEP	2	120/240	10,000 AIC
BAB*D ^②	1	120	10,000 AIC
BAB*D ^②	2	120/240	10,000 AIC

① Type BAB also rated for 80V DC at 5,000 AIC.

② Type BAB* D designed for HID lighting applications.

NOTE: Main breaker panel includes main breaker and its price in basic enclosure part number. Refer to page DE15 for branch breaker ordering information.

B7L PANEL WITHOUT MAIN BREAKER (MAIN LUGS ONLY) LESS BRANCH BREAKERS						
ELECTRICAL RATING	MAIN LUG RATING	NUMBER OF BRANCH POLES	CATALOG NUMBER BASIC ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE	LBS
Single phase 3 wire with solid neutral 120/240 VAC	100	12	B7L20 - 112 - ML100	A	E	140
	100	18	B7L29 - 118 - ML100	B	G	190
	225	18	B7L29 - 118 - ML225	B	F	190
	100	24	B7L29 - 124 - ML100	B	G	190
	225	24	B7L41 - 124 - ML225	C	F	250
	100	30	B7L41 - 130 - ML100	C	G	250
	225	30	B7L41 - 130 - ML225	C	F	250
	225	36	B7L41 - 136 - ML225	C	F	250
Three phase 4 wire with solid neutral 120/208 VAC	100	12	B7L20 - 312 - ML100	A	E	140
	100	18	B7L29 - 318 - ML100	B	G	190
	225	18	B7L29 - 318 - ML225	B	F	190
	100	24	B7L29 - 324 - ML100	B	G	190
	225	24	B7L41 - 324 - ML225	C	F	250
	100	30	B7L41 - 330 - ML100	C	G	250
	225	30	B7L41 - 330 - ML225	C	F	250
	225	36	B7L41 - 336 - ML225	C	F	250
	225	42	B7L41 - 342 - ML225	C	F	250

B7L PANEL WITH MAIN BREAKER LESS BRANCH BREAKERS							
ELECTRICAL RATING	MAIN BREAKER FRAME	MAIN BREAKER AND RATING	NUMBER OF BRANCH POLES	CATALOG NUMBER BASIC ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE	LBS
Single phase 3 wire with solid neutral 120/240 VAC	EHD	100	12	B7L29 - 112 - MBE100	B	H	190
	EHD	100	18	B7L41 - 118 - MBE100	C	H	250
	EHD	100	24	B7L41 - 124 - MBE100	C	H	250
	ED	225	24	B7L41 - 124 - MBC225	C	I	250
	EHD	100	30	B7L41 - 130 - MBE100	C	H	250
	ED	225	30	B7L41 - 130 - MBC225	C	I	250
	ED	225	36	B7L50 - 136 - MBC225	D	I	300
	ED	225	42	B7L50 - 142 - MBC225	D	I	300
Three phase 4 wire with solid neutral 120/208 VAC	EHD	100	12	B7L29 - 312 - MBE100	B	H	190
	EHD	100	18	B7L41 - 318 - MBE100	C	H	250
	EHD	100	24	B7L41 - 324 - MBE100	C	H	250
	ED	225	24	B7L41 - 324 - MBC225	C	I	250
	EHD	100	30	B7L41 - 330 - MBE100	C	H	250
	ED	225	30	B7L41 - 330 - MBC225	C	I	250
	ED	225	36	B7L50 - 336 - MBC225	D	I	300
	ED	225	42	B7L50 - 342 - MBC225	D	I	300

B7L PANEL WITH BACK FEED MAIN BREAKER LESS BRANCH BREAKERS							
ELECTRICAL RATING	MAIN BREAKER FRAME	MAIN BREAKER AND RATING	NUMBER OF BRANCH POLES	CATALOG NUMBER BASIC ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE	LBS
Single phase 3 wire with solid neutral 120/240 VAC	BAB	100	12	B7L29 - 112 - MBB100	B	J	190
	BAB	100	18	B7L29 - 118 - MBB100	B	J	190
	BAB	100	24	B7L41 - 124 - MBB100	C	J	250
	BAB	100	30	B7L41 - 130 - MBB100	C	J	250
Three phase 4 wire with solid neutral 120/208 VAC	BAB	100	12	B7L29 - 312 - MBB100	B	J	190
	BAB	100	18	B7L29 - 318 - MBB100	B	J	190
	BAB	100	24	B7L41 - 324 - MBB100	C	J	250
	BAB	100	30	B7L41 - 330 - MBB100	C	J	250



Branch Breakers Accessories / Options

BRANCH CIRCUIT BREAKERS						
NUMBER OF POLES PER BREAKER	TRIP AMP RATING	B7L SERIES LIGHTING PANEL				
		BAB FRAME STANDARD	BAB FRAME HID HIGH INTENSITY DISCHARGE	BAB FRAME SWITCH NEUTRAL	QBGF GROUND FAULT 5MA	QBGEF EQUIPMENT PROTECTION 30MA
(1) Single Phase 120 Volt	SPACE	B7BLA1000	B7BLD1000	—	B7BLC1000	B7BLE1000
	15	B7BLA1015	B7BLD1015	—	B7BLC1015	B7BLE1015
	20	B7BLA1020	B7BLD1020	—	B7BLC1020	B7BLE1020
	30	B7BLA1030	B7BLD1030	—	B7BLC1030	B7BLE1030
	40	B7BLA1040	B7BLD1040	—	B7BLC1040	B7BLE1040
	50	B7BLA1050	B7BLD1050	—	—	—
	60	B7BLA1060	B7BLD1060	—	—	—
	70	B7BLA1070	—	—	—	—
	90	—	—	—	—	—
(2) Double Pole 120/240 Volt	SPACE	B7BLA2000	B7BLD2000	B7BLF2000	B7BLC2000	B7BLE2000
	15	B7BLA2015	B7BLD2015	B7BLF2015	B7BLC2015	B7BLE2015
	20	B7BLA2020	B7BLD2020	B7BLF2020	B7BLC2020	B7BLE2020
	30	B7BLA2030	B7BLD2030	B7BLF2030	B7BLC2030	B7BLE2030
	40	B7BLA2040	B7BLD2040	—	B7BLC2040	B7BLE2040
	50	B7BLA2050	B7BLD2050	—	B7BLC2050	B7BLE2050
	60	B7BLA2060	B7BLD2060	—	—	—
	70	B7BLA2070	—	—	—	—
	90	B7BLA2090	—	—	—	—
(3) Three Pole 120/240 Volt	SPACE	B7BLB3000	—	B7BLF3000	—	—
	15	B7BLB3015	—	B7BLF3015	—	—
	20	B7BLB3020	—	B7BLF3020	—	—
	30	B7BLB3030	—	B7BLF3030	—	—
	40	B7BLB3040	—	—	—	—
	50	B7BLB3050	—	—	—	—
	60	B7BLB3060	—	—	—	—
	70	B7BLB3070	—	—	—	—
	90	B7BLB3090	—	—	—	—
	100	B7BLB3100	—	—	—	—
	110	—	—	—	—	—
	125	—	—	—	—	—
	150	—	—	—	—	—

MODIFICATIONS	
CATALOG NUMBER	DESCRIPTION
SU-3B-4X	Drain/Breather NEMA 4X/7 B,C,D
SU-10B-4X	Drain NEMA 4X/7 B,C,D
SU-11B-4X	Breather NEMA 4X/7 B,C,D
KIT-251	Grounding kit, 100 AMP
KIT-252	Grounding kit, 225 AMP
B7SF	Special baked epoxy finish
B7EYEBOLT	Eye bolts for ease of installation ^①
B7ML225	Change 100 amp buss to 225 amp B7P series
B7MLBTM	Main lugs at bottom
B7SPNPT	Change standard conduit size and location
B7GSN	Kit to ground neutral bar

Branch Breaker Notes:

- 1) B7L panels are factory drilled for maximum number of single pole branch breaker handles and B7P for maximum number of 3 pole branch breaker handles as standard.
- 2) Part numbers illustrated above include external handle, trip mechanism, locking tab and internal breaker. Refer to page DE12 for complete ordering information and examples.
- 3) Space = External handle, shaft and trip mechanism installed to allow for future installation of breaker.
- 4) Ground Fault & Equipment protection breakers include external pushbutton for each breaker to test ground fault sensing circuit and the mechanical operation of breaker.
- 5) Switch Neutral Breaker note. A two pole breaker has one pole for breaking from main buss and one pole that breaks neutral. Three pole breaker consists of two poles for breaking from main buss and one pole that breaks neutral.

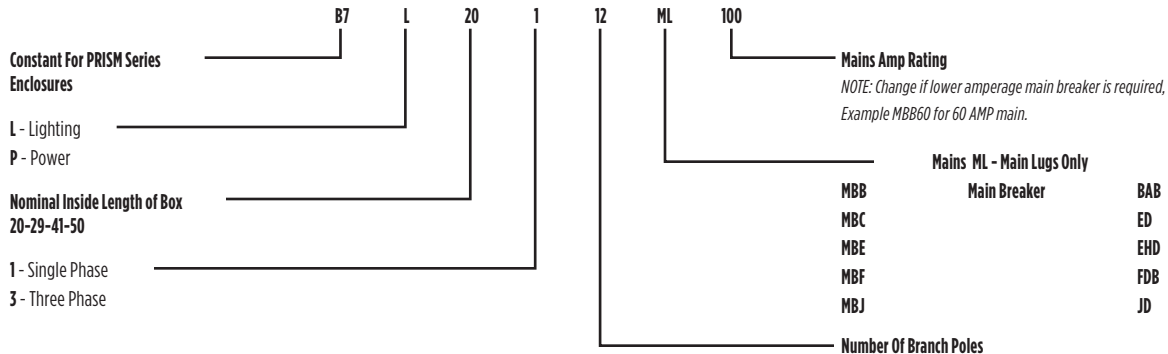
* To be ordered as separate item with notation on order for assembly into enclosure.

① Lifting eyebolts are installed in two conduit openings located in top of box and are to be removed after installation.



Catalog Logic / Wiring / Data Dimensions

Catalog Logic - for basic Panelboard Enclosures

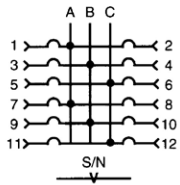


WIRE SIZES									
E	F	G	H	I	J	K	L	M	N
#12-#1	#6-250MCM	#12-1/0	#14-1/0	2/0-250MCM	#14-#1	#6-2/0	#6-4/0	#2-4/0	#2-2/0

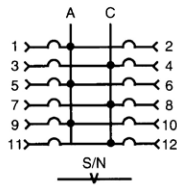
Wiring Diagrams B7L Series

(Note: B7P Series are single column)

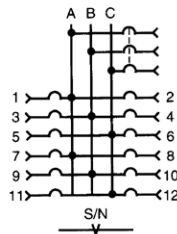
**Main Lug Only
Three Phase 4-Wire
Solid Neutral
120/208 VAC**



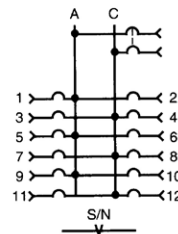
**Main Lug Only
Single Phase 3-Wire
Solid Neutral
120/240 VAC**



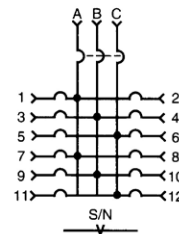
**Back Feed
Main Breaker
Three Phase 4-Wire
Solid Neutral
120/208 VAC**



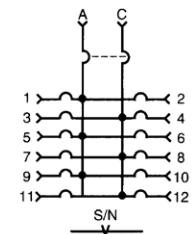
**Back Feed
Main Breaker
Single Phase 3-Wire
Solid Neutral
120/240 VAC**



**Vertical
Main Breaker
Three Phase 4-Wire
Solid Neutral
120/208 VAC**



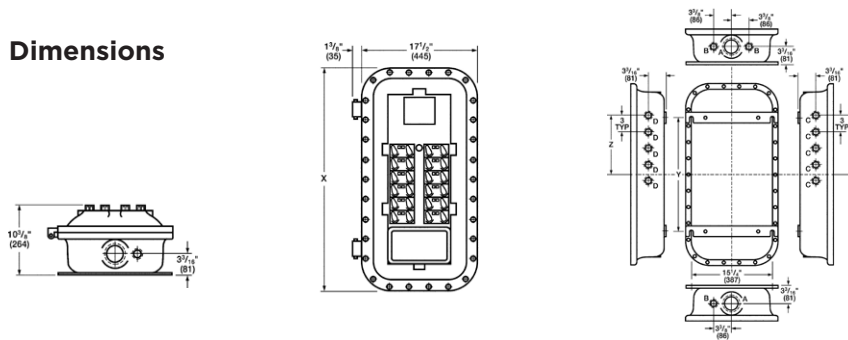
**Vertical
Main Breaker
Single Phase 3-Wire
Solid Neutral
120/240 VAC**



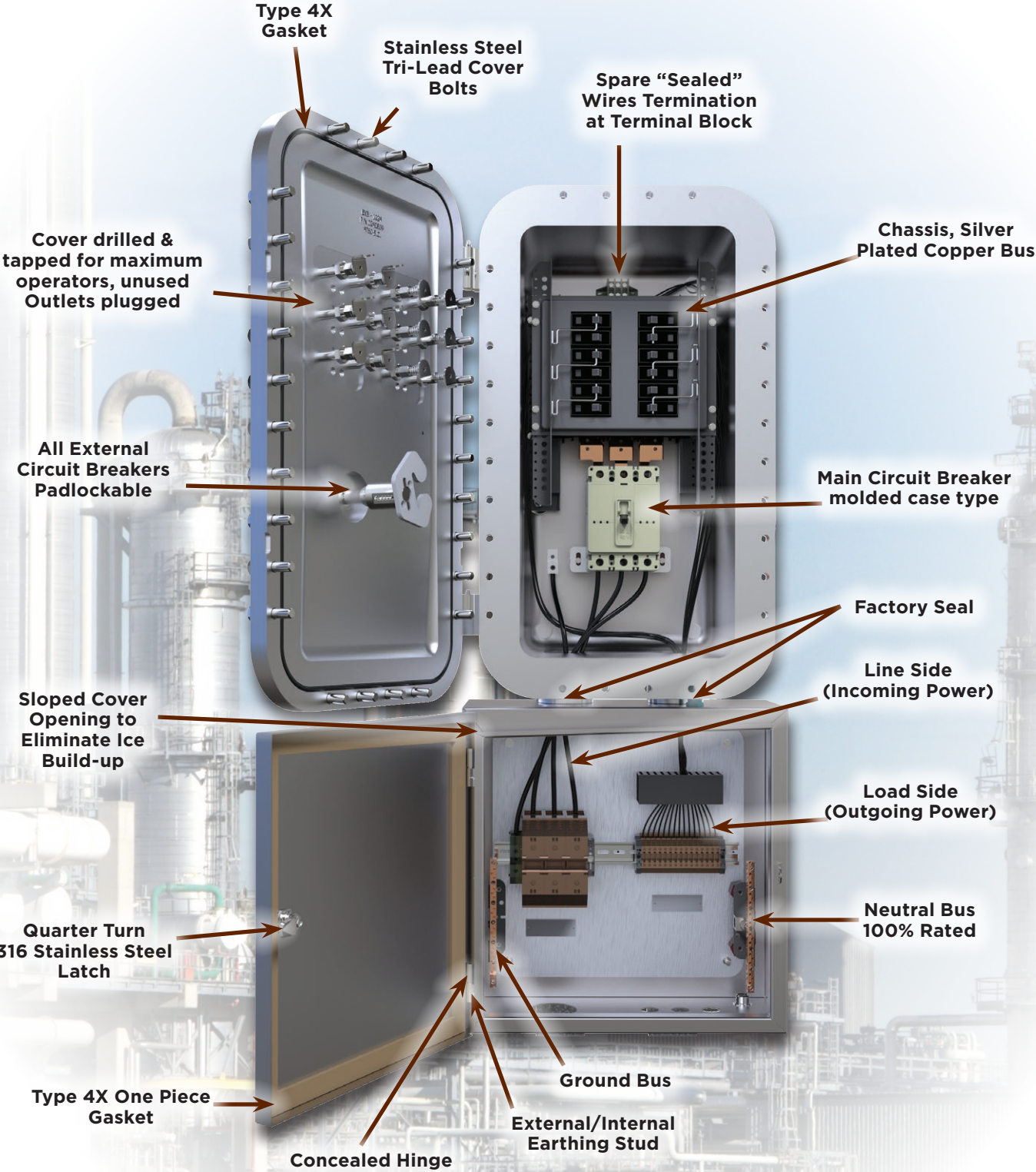
DIMENSIONS										
ENCLOSURE BOX SIZE		X	Y	CONDUIT SIZE		Z	CONDUIT QUANTITY			
LETTER	BASE BOX NUMBER ①			A	B, C, D		A	B	C	D
A	MXB-13207	24-3/4" (629)	13" (330)	2"	1"	6-7/8" (175)	2	3	3	4
B	MXB-13297	33-3/8" (848)	21" (533)	2-1/2"	1"	10-7/8" (276)	2	3	4	5
C	MXB-13417	45-3/8" (1153)	33" (838)	3"	1"	16-7/8" (429)	2	3	5	6
D	MXB-13507	54-3/8" (1381)	42" (1067)	3"	1"	21-3/8" (543)	2	3	6	7

① See pages DE13 and DE14 for complete enclosure ordering information.

Dimensions



DISTRIBUTION EQUIPMENT
D2LC SERIES





Factory Sealed Circuit Breaker Panelboards



Class I, Div. 2, Groups B, C & D (Type 7)
Class II, Div. 2, Groups E, F & G (Type 9)
Class III, Div. 1 & 2
Class I, Zone 2, Group IIB + H2
TYPE 3, 4, 4X, 7 (B,C,D), 9 (E,F,G)



UL Classified – Standard 877, 1203



CSA Certified – Standard C22.2, Nos. 29, 30

FEATURES-SPECIFICATIONS

Features

- All hardware is stainless steel, cover bolts are quick release Tri-Lead.
- Line and load connection are pre-wired for ease of installation.
- Standard wiring chamber is stainless steel, bottom entry.
- Both enclosures are set up as a standard feature for breather/drain fittings and base to cover static ground strap.
- All circuit breakers are pad lockable in the “ON” or “OFF” positions for up to three padlocks (to allow ease of lock out – tag out capabilities).
- Silver plated copper bus panelboard interiors are standard and the cover of the explosion proof enclosure is pre-drilled for future expansion or changing breakers in the field.
- External ground lug standard.
- Solid neutral (tin plated) standard for single and three phase.
- 50°C calibrated circuit breakers are available upon request, with a “V” suffix rating.

Materials

- **Breaker enclosure:** Cast copper free aluminum (less than 4/10 of 1%)
- **Cover Bolts:** Type 316 stainless steel quick turn (Tri-Lead), finish Aluminum Lacquer Paint.
- **Wiring enclosure:** 316L Stainless Steel 14 gauge.

Electrical Ratings

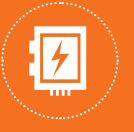
- Single Phase – 120/240VAC, 3 Wire, 60hz
- Three Phase – 120/208VAC, 4 Wire, 60Hz
- Main Circuit Breaker MCCB Type (150AF/15 to 150AT for the 12 Circuit, 225AF/15 to 225AT for the 18, 24, 30, 36 & 42 Circuit), Standard AIC rating is 14KAIC at 480VAC, however higher interrupting capacity rating are available up to 65KAIC.
- MLO main lug Silver Plated Copper Bus Bars only (100A Rated for 12 Circuit, 225A FOR 18, 24, 30, 36 & 42)
- Branch Breakers (120/240VAC

Quicklag Bolt-On Trip Ranges

- » Standard BAB (10KAIC) Thermal Magnetic Breaker, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100 amp trip rating.
- » Higher Rated QBHW (22KAIC) Thermal Magnetic Breaker, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100 amp trip rating.
- » Ground Fault QBGF GFI (5mA Sensitivity) Type, 1 and 2 pole, 15, 20, 25, 30, 40, (50A available in two pole only).
- » Equipment Protection QBGEP EPD (30mA Sensitivity) Type, 15, 1 and 2 pole, 20, 25, 30, 40, (50A available in two pole only).
- » High Intensity Discharge BAB HID, 1 and 2 Pole, 15, 20, 25, 30, 40, 50, 60 amp rating.

MODIFICATIONS

CATALOG NO.	DESCRIPTION
KIT-251	Grounding kit, 100 AMP
KIT-252	Grounding kit, 225 AMP
B7SF	Special baked epoxy finish
B7EYEBOLT	Eye bolts for ease of installation
B7GSN	Kit to ground neutral bar



Factory Sealed Circuit Breaker Panelboards



Class I, Div. 2, Groups B, C, D
(Type 7 for Gas Group)
Class I, Zone 2, Groups IIB+H2, IIA
Class II, Div. 2, Groups F, G
(Type 9 for Dust Group)
Class III, Div. 1 & 2
TYPE 3, 4, 4X, 7 & 9

Classified - File E83969

Certified - File LR11713

Catalog Numbers on this page are for the basic Termination Enclosure with distribution, neutral, ground bar and terminal blocks plus a Breaker Enclosure with internal pan. Enclosures are connected together with factory poured sealing chambers and mounted on aluminum frame for wall mounting.

External breaker handles and internal branch breakers are not included and must be ordered as separate items for factory installation.

CIRCUIT BREAKER RATINGS			
TYPE	NO. OF POLES	VOLT	AMPERES SYMMETRICAL
BAB ^①	1	120	10,000 AIC
BAB ^①	2	120/240	10,000 AIC
BAB ^①	3	240	10,000 AIC
QBHW	1	120/240	22,000AIC
QBHW	2	120/240	22,000AIC
QBHW	2	240	22,000AIC
QBHW	3	240	22,000AIC
BABSWN ^①	1	120/240	10,000 AIC
BABSWN ^①	2	120/240	10,000 AIC
QBGF	1	120	10,000 AIC
QBGF	2	120/240	10,000 AIC
QBGFEP	1	120	10,000 AIC
QBGFEP	2	120/240	10,000 AIC
BAB*D ^②	1	120	10,000 AIC
BAB*D ^②	2	120/240	10,000 AIC

D2LC FACTORY SEALED LIGHTING PANELBOARD

MAIN LUG ONLY							
ELECTRICAL RATING	# OF BRANCH POLES	MAIN LUG RATING AMPS	CATALOG NO. BASIC ENCLOSURE	MAIN WIRE RANGE	PANEL SIZE	ENCLOSURE EXB	ENCLOSURE TERMINAL BOX
SINGLE PHASE 3 WIRE WITH SOLID NEUTRAL 120/240VAC	12	100	D2LC-112-ML100	#14AWG-2/0	A	EXB-12188 N34	USFS181808
	18	225	D2LC-118-ML225	#6AWG-350MCM	B	EXB-12248 N34	USFS181808
	24	225	D2LC-124-ML225	#6AWG-350MCM	B	EXB-12248 N34	USFS181808
	30	225	D2LC-130-ML225	#6AWG-350MCM	C	EXB-12368 N34	USF241808
	36	225	D2LC-136-ML225	#6AWG-350MCM	C	EXB-12368 N34	USF241808
	42	225	D2CL-142-ML225	#6AWG-400MCM	D	EXB-12368 N34	USF241808
THREE PHASE 4 WIRE WITH SOLID NEUTRAL 120/208VAC	12	100	D2LC-312-ML100	#14AWG-2/0	A	EXB-12188 N34	USFS181808
	18	225	D2LC-318-ML225	#6AWG-350MCM	B	EXB-12248 N34	USFS181808
	24	225	D2LC-324-ML225	#6AWG-350MCM	B	EXB-12248 N34	USFS181808
	30	225	D2LC-330-ML225	#6AWG-350MCM	C	EXB-12368 N34	USF241808
	36	225	D2LC-336-ML225	#6AWG-350MCM	C	EXB-12368 N34	USF241808
	42	225	D2CL-342-ML225	#6AWG-400MCM	D	EXB-12368 N34	USF241808

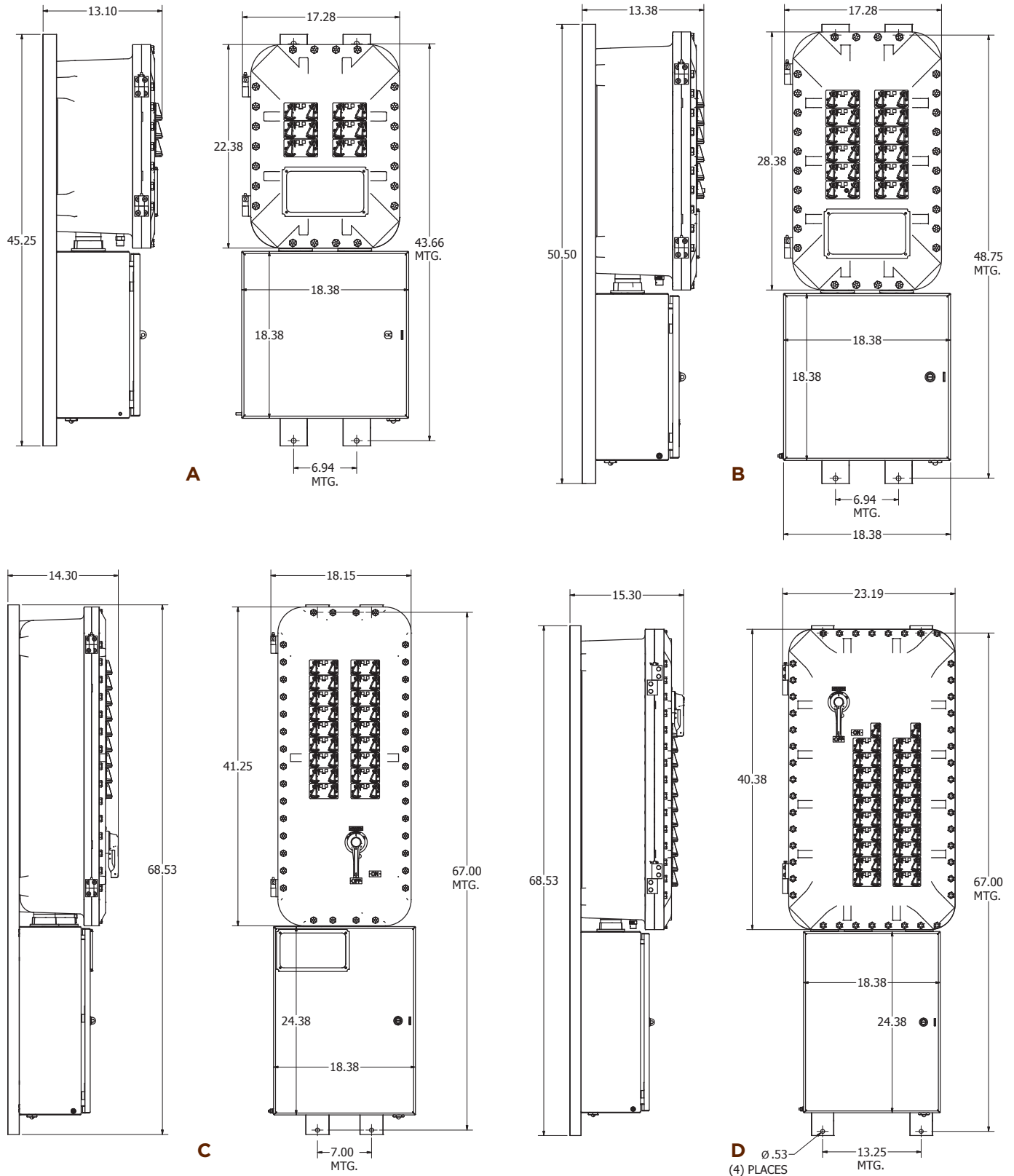
MAIN CIRCUIT BREAKER (MCCB)								
ELECTRICAL RATING	# OF BRANCH POLES	MAIN CIRCUIT BREAKER		CATALOG NO. BASIC ENCLOSURE	INCOMING MAIN WIRE RANGE	PANEL SIZE	ENCLOSURE EXB	ENCLOSURE TERMINAL BOX
		FRAME	AMPS					
SINGLE PHASE 3 WIRE WITH SOLID NEUTRAL 120/240VAC	12	EHD	100	D2LC-112-MB100	#14AWG - 1/0	B	EXB-12248 N34	USFS181808
	18	ED	225	D2LC-118-MB225	#4AWG - 4/0	C	EXB-12368 N34	USFS241808
	24	ED	225	D2LC-124-MB225	#4AWG - 4/0	C	EXB-12368 N34	USFS241808
	30	ED	225	D2LC-130-MB225	#4AWG - 4/0	C	EXB-12368 N34	USF241808
	36	ED	225	D2LC-136-MB225	#4AWG - 4/0	C	EXB-12368 N34	USF241808
	42	ED	225	D2CL-142-MB225	#4AWG - 4/0	D	EXB-12368 N34	USF241808
THREE PHASE 4 WIRE WITH SOLID NEUTRAL 120/208VAC	12	EHD	100	D2LC-312-MB100	#14AWG - 1/0	B	EXB-12218 N34	USFS181808
	18	ED	225	D2LC-318-MB225	#4AWG - 4/0	C	EXB-12368 N34	USFS241808
	24	ED	225	D2LC-324-MB225	#4AWG - 4/0	C	EXB-12368 N34	USFS241808
	30	ED	225	D2LC-330-MB225	#4AWG - 4/0	C	EXB-12368 N34	USF241808
	36	ED	225	D2LC-336-MB225	#4AWG - 4/0	C	EXB-12368 N34	USF241808
	42	EC	225	D2CL-342-MB225	#4AWG - 4/0	D	EXB-12368 N34	USF241808

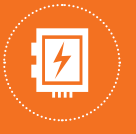
NOTE: To substitute a lower amperage main breaker change last three digits of catalog number to desired amperage.
Example: For a 50 amp main breaker part number = D2L-309-MB0050
See page DE4 for Branch Breaker Selection
See page DE5 for Dimensions, Wire Range Chart and Wiring Diagrams.
Panels are constructed with Terminal Box on Bottom Feed.
If Bottom Feed is required order modification D2MLBTM for inverted panel with Terminal Box on Bottom.

① Type BAB also rated for 80V DC at 5,000 AIC.
② Type BAB*D designed for HID lighting applications.



Dimensional Drawings





Branch Breakers Accessories / Options



**Class I, Div. 2, Groups B, C, D (Type 7)
Gas Group**
Class I, Zone 2, Groups IIB+H2, IIA
**Class II, Div. 2, Groups F, G (Type 9 Dust
Group)**
Class III, Div. 1 & 2
TYPE 3, 4, 4X, 7 & 9

 Classified - File E83969

 Certified - File LR11713

NOTES:

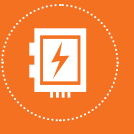
- 1) Part numbers below include external handle, trip mechanism, locking tab and internal branch circuit breaker.
- 2) Refer to page DE2 for complete ordering information and examples.
- 3) Refer to pages DE3 and DE4 for maximum voltage and ratings of circuit breakers.
- 4) Space = External handle, trip mechanism installed to allow for future installations of breakers.
- 5) Ground Fault and Equipment protection breakers include external button for test purpose.
- 6) Handle only.

BRANCH CIRCUIT BREAKERS							
NUMBER OF POLES PER BREAKER	TRIP AMP RATING	BAB FRAME 10KAIC STANDARD	QBHW FRAME 22KAIC HIGH BREAK	QBGF GROUND FAULT 5MA	QBGEQ EQUIPMENT PROTECTION 30MA	BAB FRAME HID HIGH INTENSITY DISCHARGE	BAB FRAME SWITCHED NEUTRAL
(1) ONE POLE 120/240VAC 62.5VDC	SPACE (HANDLE ONLY)	B7BLA1000	B7BLG1000	B7BLC1000	B7BLE1000	B7BLD1000	
	10	B7BLA1010	B7BLG1010				
	15	B7BLA1015	B7BLG1015	B7BLC1015	B7BLE1015	B7BLD1015	
	20	B7BLA1020	B7BLG1020	B7BLC1020	B7BLE1020	B7BLD1020	
	25	B7BLA1025	B7BLG1025	B7BLC1025	B7BLE1025		
	30	B7BLA1030	B7BLG1030	B7BLC1030	B7BLE1030	B7BLD1030	
	35	B7BLA1035	B7BLG1035				
	40	B7BLA1040	B7BLG1040	B7BLC1040	B7BLE1040	B7BLD1040	
	45	B7BLA1045	B7BLG1045				
	50	B7BLA1050	B7BLG1050			B7BLD1050	
	55	B7BLA1055	B7BLG1055				
	60	B7BLA1060	B7BLG1060			B7BLD1060	
	70	B7BLA1070	B7BLG1070				
	80						
	90						
100	B7BLA1100						
110							
125							

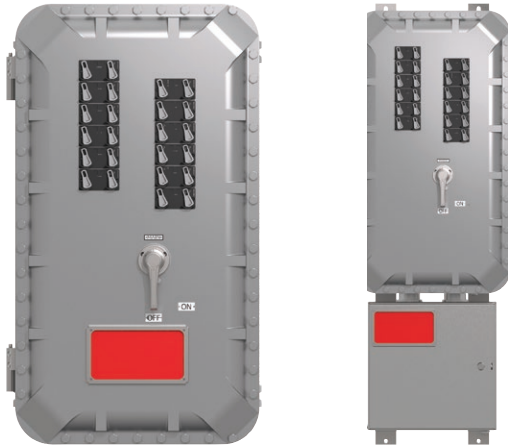


Branch Breakers Accessories / Options

BRANCH CIRCUIT BREAKERS							
NUMBER OF POLES PER BREAKER	TRIP AMP RATING	BAB FRAME 10KAIC STANDARD	QBHW FRAME 22KAIC HIGH BREAK	QBGF GROUND FAULT 5MA	QBGEQ EQUIPMENT PROTECTION 30MA	BAB FRAME HID HIGH INTENSITY DISCHARGE	BAB FRAME SWITCHED NEUTRAL
(2) DOUBLE POLE 120/240VAC 80VDC	SPACE (HANDLE ONLY)	B7BLA2000	B7BLG2000	B7BLC2000	B7BLE2000	B7BLD2000	B7BLF2000
	10	B7BLA2010	B7BLG2010				
	15	B7BLA2015	B7BLG2015	B7BLC2015	B7BLE2015	B7BLD2015	B7BLF2015
	20	B7BLA2020	B7BLG2020	B7BLC2020	B7BLE2020	B7BLD2020	B7BLF2020
	25	B7BLA2025	B7BLG2025	B7BLC2025	B7BLE2025		
	30	B7BLA2030	B7BLG2030	B7BLC2030	B7BLE2030	B7BLD2030	B7BLF2030
	35	B7BLA2035	B7BLG2035				
	40	B7BLA2040	B7BLG2040	B7BLC2040	B7BLE2040	B7BLD2040	
	45	B7BLA2045	B7BLG2045				
	50	B7BLA2050	B7BLG2050	B7BLC2050	B7BLE2050	B7BLD2050	
	55	B7BLA2055	B7BLG2055				
	60	B7BLA2060	B7BLG2060			B7BLD2060	
	70	B7BLA2070	B7BLG2070				
	80	B7BLA2080	B7BLG2080				
	90	B7BLA2090	B7BLG2090				
	100	B7BLA2100	B7BLG2100				
110	B7BLA2110	B7BLG2110					
125	B7BLA2125	B7BLG2125					
(2) DOUBLE POLE 240VAC	SPACE (HANDLE ONLY)		B7BLG2000				
	10		B7BLG2010H				
	15		B7BLG2015H				
	20		B7BLG2020H				
	25		B7BLG2025H				
	30		B7BLG2030H				
	35		B7BLG2035H				
	40		B7BLG2040H				
	45		B7BLG2045H				
	50		B7BLG2050H				
	55		B7BLG2055H				
	60		B7BLG2060H				
	70		B7BLG2070H				
	80		B7BLG2080H				
	90		B7BLG2090H				
	100		B7BLG2100H				
110		B7BLG2110H					
125		B7BLG2125H					
(3) THREE POLE 240VAC	SPACE (HANDLE ONLY)	B7BLB3000	B7BLG3000				B7BLF3000
	10	B7BLB3010	B7BLG3010H				
	15	B7BLB3015	B7BLG3015H				B7BLF3015
	20	B7BLB3020	B7BLG3020H				B7BLF3020
	25	B7BLB3025	B7BLG3025H				
	30	B7BLB3030	B7BLG3030H				B7BLF3030
	35	B7BLB3035	B7BLG3035H				
	40	B7BLB3040	B7BLG3040H				
	45	B7BLB3045	B7BLG3045H				
	50	B7BLB3050	B7BLG3050H				
	55	B7BLB3055	B7BLG3055H				
	60	B7BLB3060	B7BLG3060H				
	70	B7BLB3070	B7BLG3070H				
	80	B7BLB3080	B7BLG3080H				
	90	B7BLB3090	B7BLG3090H				
	100	B7BLB3100	B7BLG3100H				
110	B7BLB3110	B7BLG3110H					
125	B7BLB3125	B7BLG3125H					



EXPB²™



EXPB
 Panelboard

NEC / CEC Certifications

NEC / CEC Certifications

Class I, Groups B, C & D

Class I, Zone 1, AEx d IIB+H2

Class II, Groups E, F & G

Class III

Type 3, 4, 4X, 7 (B,C,D), 9 (E,F,G)

Ta = -60°C to +70°C (UL & CSA) T5 or T6



Files E83969

File LR11713

NOTE: Non-factory seal is available as QUAD labeled.

II 2 GD CE 0518

PTB 07 ATEX 1024 (Enclosure with Controls)



IEC Ex 07.0022U

IEC Ex 07.0023

FEATURES-SPECIFICATIONS

Features

- All hardware is stainless steel, cover bolts are quick release Tri-Lead.
- All circuit breaker are pad lockable in the “ON” or “OFF” position for up to three padlocks (to allow ease of lock out - tag out capabilities).
- Operating Temperature of 0°C to +40°C
- Copper bus panelboard interiors are standard with dead front trim plate for safety.
- Available as non-factory sealed or factory sealed.
- Factory sealed has a stainless steel wiring chamber set up for bottom entry.
- Line and Load connections are pre-wired for ease of installation on factory sealed version.

Materials

Breaker Enclosure

- Cast copper free aluminum (less than 4/10 of 1%). Finish aluminum wet lacquer paint.
- Main Breaker Handle: Copper-free aluminum.
- Flange Gasket “O” Ring: Bunna-N-Nitrile.
- Branch Breaker Operators: Valox Thermoplastic Polyester handle molded onto 316 stainless steel shaft with neoprene “O” ring.
- Hinges: Copper-free aluminum with stainless steel pin and hardware.
- Mounting Lugs: 1/4” thick aluminum.

Wiring Enclosure

- Type 316 Stainless Steel, 14 Gauge. Killark USF style enclosure suitable for direct entry via hub or cable gland knockouts. Cable gland plates are available upon request.
- Quarter turn 316 stainless steel latch.
- Sloped cover opening to eliminate ice build-up.
- Concealed hinge.
- External/Internal earthing stud.

- Type 4X one piece gasket.
- Ground bus.
- Neutral bus, optional if required.

Electrical Rating

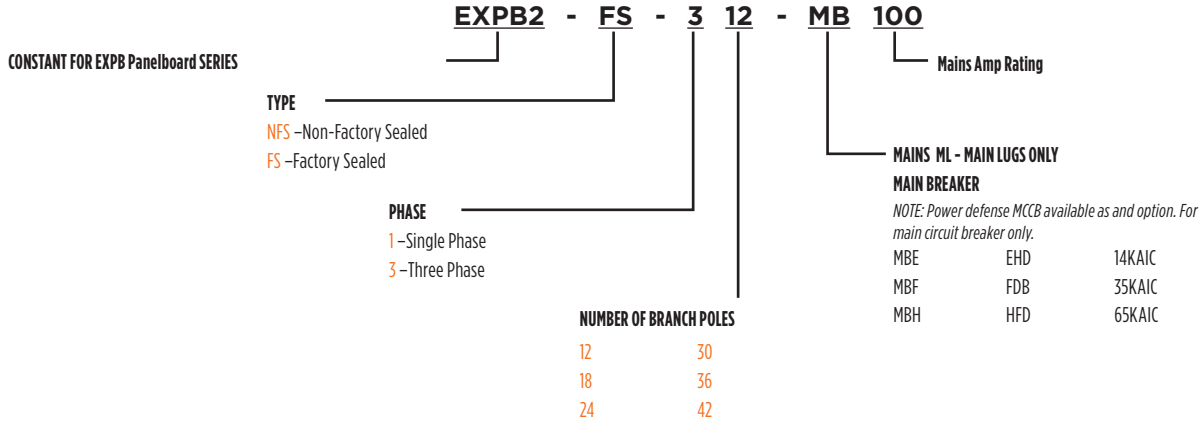
- 277/480 Wye VAC, 3 Phase, 3 or 4 Wire. US
- 347/600 Wye VAC, 3 Phase, 3 or 4 Wire.Canada
- 50/60Hz Frequency
- 14K AIC Standard.
- 35K AIC Optional.
- 65K AIC Optional.
- Main Circuit Breaker Options

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3-ATEX	ATEX IECEx Drain & breather installed. Groups B & Ex d IIB+H2
SU3B-4X	Type 4X drain D & breather installed. Group B, C, D Type 4X
SU2	Install hinges (8x10 and smaller enclosures)
SU9	Special paint finish
SU14	Fungus proofing of enclosures
SU93	Do not paint enclosures



EXPB2 SMALL POWER PANELBOARD

CATALOG LOGIC



EXPB2 FACTORY SEALED POWER PANELBOARD

MAIN LUG ONLY

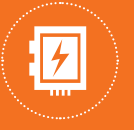
ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN LUG RATING AMPS	CATALOG NUMBER BASIC ENCLOSURE	MAIN WIRE RANGE	ENCLOSURE EXB	ENCLOSURE TERMINAL BOX
SINGLE PHASE 277/480Y VAC 125 VDC	12	100	EXPB2-FS-112-ML100	#14AWG-2/0AWG	EXB-18248 N34	USF181808
	18	225	EXPB2-FS-118-ML225	#6AWG-350MCM	EXB-18248 N34	USF181808
	24	225	EXPB2-FS-124-ML225	#6AWG-350MCM	EXB-18248 N34	USF181808
	30	225	EXPB2-FS-130-ML225	#6AWG-350MCM	EXB-18368 N34	USF181808
	36	225	EXPB2-FS-136-ML225	#6AWG-350MCM	EXB-18368 N34	USF181808
	42	225	EXPB2-FS-142-ML225	#6AWG-350MCM	EXB-18368 N34	USF181808
THREE PHASE 277/480Y VAC 125 VDC	12	100	EXPB2-FS-312-ML100	#14AWG-2/0AWG	EXB-18248 N34	USF181808
	18	225	EXPB2-FS-318-ML225	#6AWG-350MCM	EXB-18248 N34	USF181808
	24	225	EXPB2-FS-324-ML225	#6AWG-350MCM	EXB-18248 N34	USF181808
	30	225	EXPB2-FS-330-ML225	#6AWG-350MCM	EXB-18368 N34	USF181808
	36	225	EXPB2-FS-336-ML225	#6AWG-350MCM	EXB-18368 N34	USF181808
	42	225	EXPB2-FS-342-ML225	#6AWG-350MCM	EXB-18368 N34	USF181808

MAIN CIRCUIT BREAKER (MCCB)

ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN CIRCUIT BREAKER		CATALOG NUMBER BASIC ENCLOSURE	INCOMING MAIN WIRE RANGE	ENCLOSURE EXB	ENCLOSURE TERMINAL BOX
		FRAME	AMPS				
SINGLE PHASE 277/480Y VAC 125 VDC	12	EHD	100	EXPB2-FS-112-MB100	#14AWG - 1/0AWG	EXB-18248 N34	USF181808
	18	FD	225	EXPB2-FS-118-MB225	#4AWG - 4/0AWG	EXB-18248 N34	USF181808
	24	FD	225	EXPB2-FS-124-MB225	#4AWG - 4/0AWG	EXB-18368 N34	USF181808
	30	FD	225	EXPB2-FS-130-MB225	#4AWG - 4/0AWG	EXB-18368 N34	USF181808
	36	FD	225	EXPB2-FS-136-MB225	#4AWG - 4/0AWG	EXB-18368 N34	USF181808
	42	FD	225	EXPB2-FS-142-MB225	#4AWG - 4/0AWG	EXB-24368 N34	USF242408
THREE PHASE 277/480Y VAC 125 VDC	12	EHD	100	EXPB2-FS-312-MB100	#14AWG - 1/0AWG	EXB-18248 N34	USF181808
	18	FD	225	EXPB2-FS-318-MB225	#4AWG - 4/0AWG	EXB-18248 N34	USF181808
	24	FD	225	EXPB2-FS-324-MB225	#4AWG - 4/0AWG	EXB-18368 N34	USF181808
	30	FD	225	EXPB2-FS-330-MB225	#4AWG - 4/0AWG	EXB-18368 N34	USF181808
	36	FD	225	EXPB2-FS-336-MB225	#4AWG - 4/0AWG	EXB-18368 N34	USF181808
	42	FD	225	EXPB2-FS-342-MB225	#4AWG - 4/0AWG	EXB-24368 N34	USF242408

DISTRIBUTION EQUIPMENT

EXPB2 SMALL POWER PANELBOARD



EXPB2 NON-FACTORY SEALED POWER PANELBOARD

MAIN LUG ONLY

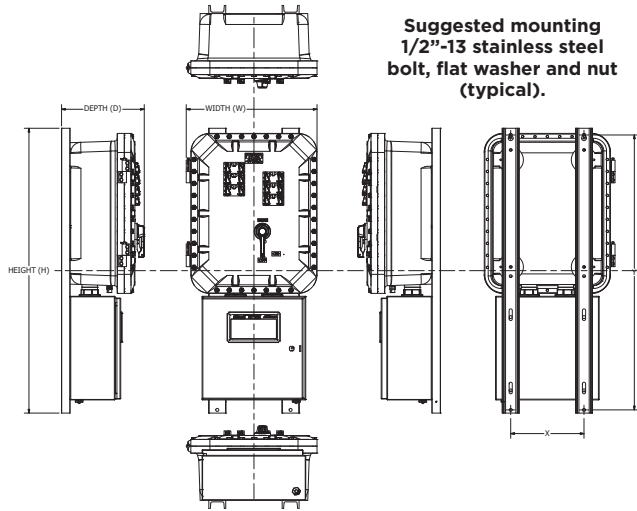
ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN LUG RATING AMPS	CATALOG NUMBER BASIC ENCLOSURE	MAIN WIRE RANGE	ENCLOSURE EXB
SINGLE PHASE 277/480Y VAC 125 VDC	12	100	EXPB2-NFS-112-ML100	#14AWG-2/0	EXB-18248 N34
	18	225	EXPB2-NFS-118-ML225	#6AWG-350MCM	EXB-18248 N34
	24	225	EXPB2-NFS-124-ML225	#6AWG-350MCM	EXB-18248 N34
	30	225	EXPB2-NFS-130-ML225	#6AWG-350MCM	EXB-18368 N34
	36	225	EXPB2-NFS-136-ML225	#6AWG-350MCM	EXB-18368 N34
	42	225	EXPB2-NFS-142-ML225	#6AWG-400MCM	EXB-18368 N34
THREE PHASE 277/480Y VAC 125 VDC	12	100	EXPB2-NFS-312-ML100	#14AWG-2/0	EXB-18248 N34
	18	225	EXPB2-NFS-318-ML225	#6AWG-350MCM	EXB-18248 N34
	24	225	EXPB2-NFS-324-ML225	#6AWG-350MCM	EXB-18248 N34
	30	225	EXPB2-NFS-330-ML225	#6AWG-350MCM	EXB-18368 N34
	36	225	EXPB2-NFS-336-ML225	#6AWG-350MCM	EXB-18368 N34
	42	225	EXPB2-NFS-342-ML225	#6AWG-400MCM	EXB-18368 N34

MAIN CIRCUIT BREAKER (MCCB)

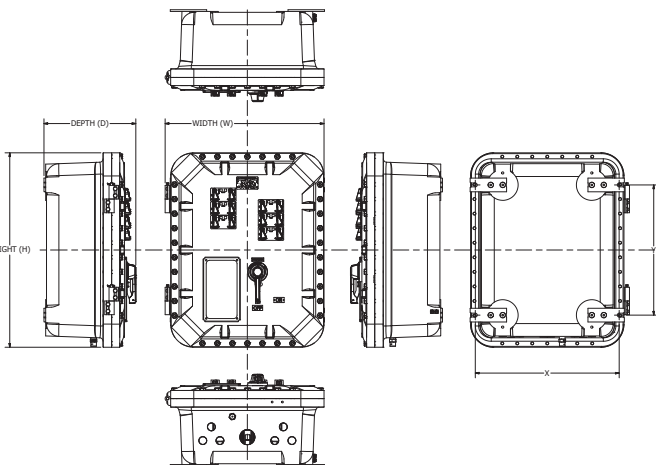
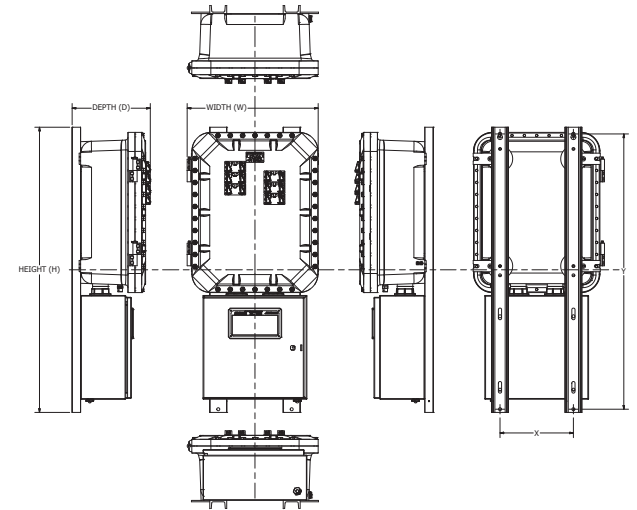
ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN CIRCUIT BREAKER		CATALOG NUMBER BASIC ENCLOSURE	INCOMING MAIN WIRE RANGE	ENCLOSURE EXB
		FRAME	AMPS			
SINGLE PHASE 277/480Y VAC 125 VDC	12	EHD	100	EXPB2-NFS-112-MB100	#14AWG - 1/0	EXB-18248 N34
	18	FD	225	EXPB2-NFS-118-MB225	#4AWG - 4/0	EXB-18308 N34
	24	FD	225	EXPB2-NFS-124-MB225	#4AWG - 4/0	EXB-18368 N34
	30	FD	225	EXPB2-NFS-130-MB225	#4AWG - 4/0	EXB-18368 N34
	36	FD	225	EXPB2-NFS-136-MB225	#4AWG - 4/0	EXB-24368 N34
	42	FD	225	EXPB2-NFS-142-MB225	#4AWG - 4/0	EXB-24368 N34
THREE PHASE 277/480Y VAC 125 VDC	12	EHD	100	EXPB2-NFS-312-MB100	#14AWG - 1/0	EXB-18248 N34
	18	FD	225	EXPB2-NFS-318-MB225	#4AWG - 4/0	EXB-18368 N34
	24	FD	225	EXPB2-NFS-324-MB225	#4AWG - 4/0	EXB-24368 N34
	30	FD	225	EXPB2-NFS-330-MB225	#4AWG - 4/0	EXB-24368 N34
	36	FD	225	EXPB2-NFS-336-MB225	#4AWG - 4/0	EXB-24368 N34
	42	FD	225	EXPB2-NFS-342-MB225	#4AWG - 4/0	EXB-24368 N34



EXPB2 SMALL POWER PANELBOARD



Suggested mounting
1/2"-13 stainless steel
bolt, flat washer and nut
(typical).



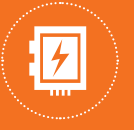
EXPB2FS-MB							
CIRCUITS	EXB	USF	OVERALL			MOUNTING	
			HEIGHT (H)	WIDTH (W)	DEPTH (D)	X	Y
12	EXB-18248	USF-18188	50.5 (1283)	23.19 (589)	14.66 (372)	13 (330)	48.75 (1238)
18	EXB-18248	USF-18188	50.5 (1283)	23.19 (589)	14.66 (372)	13 (330)	48.75 (1238)
24	EXB-18368	USF-18188	63 (1600)	23.19 (589)	15.15 (385)	13.25 (337)	61.75 (1568)
30	EXB-18368	USF-18188	63 (1600)	23.19 (589)	15.31 (389)	13.25 (337)	61.75 (1568)
36	EXB-18368	USF-18188	63 (1600)	23.19 (589)	15.31 (389)	13.25 (337)	61.75 (1568)
42	EXB-24368	USF-24248	68.53 (1741)	30.06 (764)	15.25 (387)	19.56 (497)	67 (1702)

EXPB2FS-MLO							
CIRCUITS	EXB	USF	OVERALL			MOUNTING	
			HEIGHT (H)	WIDTH (W)	DEPTH (D)	X	Y
12	EXB-18248	USF-18188	50.5 (1283)	23.19 (589)	13.84 (352)	13 (330)	48.75 (1238)
18	EXB-18248	USF-18188	50.5 (1283)	23.19 (589)	13.84 (352)	13 (330)	48.75 (1238)
24	EXB-18248	USF-18188	50.5 (1283)	23.19 (589)	13.84 (352)	13 (330)	48.75 (1238)
30	EXB-18368	USF-18188	63 (1600)	23.19 (589)	14.49 (368)	13.25 (337)	61.75 (1568)
36	EXB-18368	USF-18188	63 (1600)	23.19 (589)	14.49 (368)	13.25 (337)	61.75 (1568)
42	EXB-18368	USF-18188	63 (1600)	23.19 (589)	14.49 (368)	13.25 (337)	61.75 (1568)

EXPB2NFS-MB							
CIRCUITS	EXB SIZE	OVERALL			MOUNTING		
		HEIGHT (H)	WIDTH (W)	DEPTH (D)	X	Y	
12	EXB-18248	28.38 (721)	23.19 (589)	13.41 (341)	21 (533)	19 (483)	
18	EXB-18308	35.38 (889)	22.38 (568)	14.01 (356)	21.25 (540)	26.50 (673)	
24	EXB-18368	40.38 (1026)	23.19 (589)	14.06 (357)	21.25 (540)	31.5 (800)	
30	EXB-18368	40.38 (1026)	23.19 (589)	14.06 (357)	21.25 (540)	31.5 (800)	
36	EXB-24368	41.25 (1048)	30.06 (764)	14.01 (356)	27.56 (700)	31.56 (802)	
42	EXB-24368	41.25 (1048)	30.06 (764)	14.01 (356)	27.56 (700)	31.56 (802)	

DISTRIBUTION EQUIPMENT

EXPB2 SMALL POWER PANELBOARD

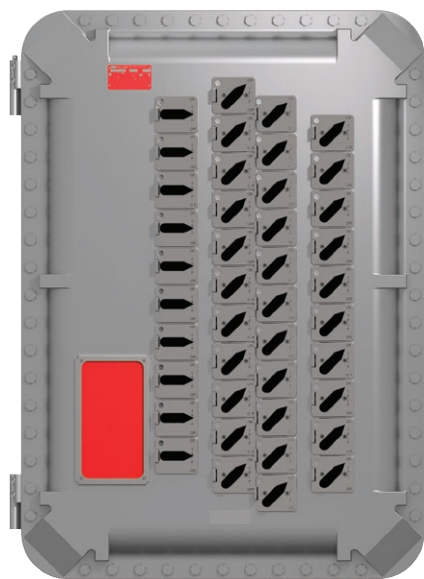


U.S. BRANCH CIRCUIT BREAKERS										
NUMBER OF POLES PER BREAKER	TRIP AMP RATING	GHB 277/480Y VAC 125 VDC 14KAIC @ 277VAC	HGHB 277 VAC 125 VDC 25KAIC @ 277 VAC	GHBGFEP 277 VAC 1P+N, 30MA EPD 14KAIC @ 277 VAC	NUMBER OF POLES PER BREAKER	TRIP AMP RATING	GHB 277/480Y VAC 125/259 VDC 14KAIC @ 480Y VAC	NUMBER OF POLES PER BREAKER	TRIP AMP RATING	GHB 277/480Y VAC 125/259 VDC 14KAIC @ 480Y VAC
(1) ONE POLE	SPARE (HANDLE ONLY)	FUT1000	FUT1000	FUTEPD1	(2) TWO POLE	SPARE (HANDLE ONLY)	FUT2000	(3) THREE POLE	SPARE (HANDLE ONLY)	FUT3000
	15	GHB1015	HGHB1015	GHBGFEP1015		15	GHB2015		15	GHB3015
	20	GHB1020	HGHB1020	GHBGFEP1020		20	GHB2020		20	GHB3020
	25	GHB1025	HGHB1025			25	GHB2025		25	GHB3025
	30	GHB1030	HGHB1030	GHBGFEP1030		30	GHB2030		30	GHB3030
	35	GHB1035				35	GHB2035		35	GHB3035
	40	GHB1040		GHBGFEP1040		40	GHB2040		40	GHB3040
	45	GHB1045				45	GHB2045		45	GHB3045
	50	GHB1050		GHBGFEP1050		50	GHB2050		50	GHB3050
	60	GHB1060		GHBGFEP1060		60	GHB2060		60	GHB3060
	70	GHB1070				70	GHB2070		70	GHB3070
	80	GHB1080				80	GHB2080		80	GHB3080
	90	GHB1090				90	GHB2090		90	GHB3090
100	GHB1100			100	GHB2100	100	GHB3100			

CANADA BRANCH CIRCUIT BREAKERS								
NUMBER OF POLES PER BREAKER	TRIP AMP RATING	GBH 347/600Y VAC 125 VDC 14KAIC @ 347/600Y VAC	NUMBER OF POLES PER BREAKER	TRIP AMP RATING	GBH 347/600Y VAC 125 VDC 14KAIC @ 347/600Y VAC	NUMBER OF POLES PER BREAKER	TRIP AMP RATING	GBH 347/600Y VAC 125 VDC 14KAIC @ 347/600Y VAC
(1) ONE POLE	SPARE (HANDLE ONLY)	FUT1000	(2) TWO POLE	SPARE (HANDLE ONLY)	FUT2000	(3) THREE POLE	SPARE (HANDLE ONLY)	FUT3000
	15	GBH1015		15	GBH2015		15	GBH3015
	20	GBH1020		20	GBH2020		20	GBH3020
	25	GBH1025		25	GBH2025		25	GBH3025
	30	GBH1030		30	GBH2030		30	GBH3030
	35	GBH1035		35	GBH2035		35	GBH3035
	40	GBH1040		40	GBH2040		40	GBH3040
	45	GBH1045		45	GBH2045		45	GBH3045
	50	GBH1050		50	GBH2050		50	GBH3050
	60	GBH1060		60	GBH2060		60	GBH3060
	70	GBH1070		70	GBH2070		70	GBH3070
	80	GBH1080		80	GBH2080		80	GBH3080
	90	GBH1090		90	GBH2090		90	GBH3090
100	GBH1100	100	GBH2100	100	GBH3100			



EXPB3™



EXPB
Panelboard

NEC / CEC Certifications

NEC / CEC Certifications

Class I, Groups B, C & D

Class I, Zone 1, AEx d IIB+H2

Class II, Groups E, F & G

Class III

Type 3, 4, 4X, 7 (B,C,D), 9 (E,F,G)

Ta = -60°C to +70°C (UL & CSA) T5

or T6

Files E83969

File LR11713

NOTE: Non-factory seal is available as QUAD labeled.



II 2 GD CE 0518

PTB 07 ATEX 1024 (Enclosure with Controls)



IEC Ex 07.0022U

IEC Ex 07.0023

FEATURES-SPECIFICATIONS

Features

- All hardware is stainless steel, cover bolts are quick release Tri-Lead.
- All circuit breaker are pad lockable in the "ON" or "OFF" position for up to three padlocks (to allow ease of lock out - tag out capabilities).
- Operating Temperature of -0°C to +40°C
- Silver plated copper bus panelboard interiors are standard with dead front trim plate for safety.
- Available as non-factory sealed or factory sealed.
- Factory sealed has a stainless steel wiring chamber set up for bottom entry.
- Line and Load connections are pre-wired for ease of installation on factory sealed version.

Materials

Breaker Enclosure

- Cast copper free aluminum (less than 4/10 of 1%). Finish aluminum wet lacquer paint.
- Main Breaker Handle: Copper-free aluminum.
- Flange Gasket "O" Ring: Bunna-N-Nitrile.
- Branch Breaker Operators: Valox Thermoplastic Polyester handle molded onto 316 stainless steel shaft with neoprene "O" ring.
- Hinges: Copper-free aluminum with stainless steel pin and hardware.
- Mounting Lugs: 1/4" thick aluminum.
- Consult factory for single and two pole spacing.

Wiring Enclosure

- Type 316 Stainless Steel, 14 Gauge. Killark USF style enclosure suitable for direct entry via hub or cable gland knockouts. Cable gland plates are available upon request.

- Quarter turn 316 stainless steel latch.
- Sloped cover opening to eliminate ice build-up.
- Concealed hinge.
- External/Internal earthing stud.
- Type 4X one piece gasket.
- Ground bus.
- Neutral bus, optional if required.

Electrical Rating

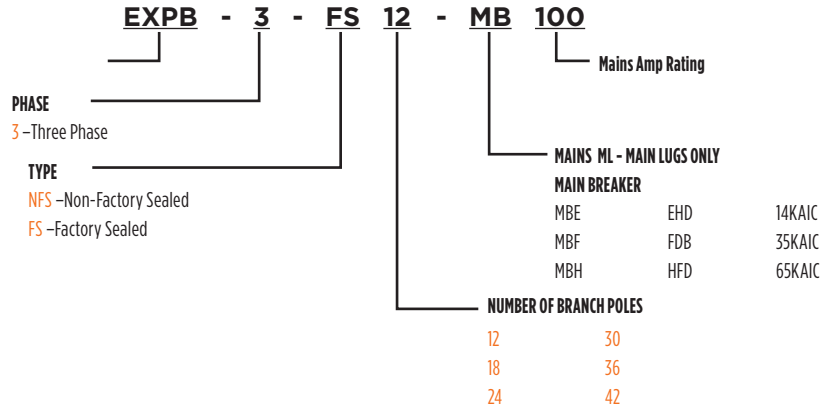
- 480 VAC, 3 Phase, 3 or 4 Wire
- 600 VAC, 3 Phase, 3 or 4 Wire
- 50/60 Hz
- 14K, 35K or 65K AIC Optional

DISTRIBUTION EQUIPMENT EXPB3 POWER PANELBOARD



CATALOG LOGIC

CONSTANT FOR EXPB Panelboard SERIES



EXPB3 FACTORY SEALED POWER PANELBOARD

MAIN LUG ONLY

ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN LUG RATING AMPS	CATALOG NUMBER BASIC ENCLOSURE	MAIN WIRE RANGE	ENCLOSURE EXB	ENCLOSURE TERMINAL BOX
THREE PHASE 4 WIRE WITH SOLID NEUTRAL 480 VAC 250 VDC	12	100	EXPB3-FS-312-ML100	#14AWG-2/0	EXB-18368 N34	USF181808
	18	225	EXPB3-FS-318-ML225	#6AWG-350MCM	EXB-18368 N34	USF181808
	24	225	EXPB3-FS-324-ML225	#6AWG-350MCM	EXB-18368 N34	USF242408
	30	225	EXPB3-FS-330-ML225	#6AWG-350MCM	EXB-24368 N34	USF242408
	36	225	EXPB3-FS-336-ML225	#6AWG-350MCM	EXB-24368 N34	USF242408
	42	225	EXPB3-FS-342-ML225	#6AWG-400MCM	EXB-24368 N34	USF242408

MAIN CIRCUIT BREAKER (MCCB)

ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN CIRCUIT BREAKER		CATALOG NUMBER BASIC ENCLOSURE	INCOMING MAIN WIRE RANGE	ENCLOSURE EXB	ENCLOSURE TERMINAL BOX
		FRAME	AMPS				
THREE PHASE 4 WIRE WITH SOLID NEUTRAL 480 VAC 250 VDC	12	EHD	100	EXPB3-FS-312-MB100	#14AWG - 1/0	EXB-18368 N34	USF181808
	18	FD	225	EXPB3-FS-318-MB225	#4AWG - 4/0	EXB-18368 N34	USF 181808
	24	FD	225	EXPB3-FS-324-MB225	#4AWG - 4/0	EXB-24368 N34	USF181808
	30	FD	225	EXPB3-FS-330-MB225	#4AWG - 4/0	EXB-24368 N34	USF242408
	36	FD	225	EXPB3-FS-336-MB225	#4AWG - 4/0	EXB-24368 N34	USF242408
	42	FD	225	EXPB3-FS-342-MB225	#4AWG - 4/0	EXB-24368 N34	USF242408



EXPB3 POWER PANELBOARD

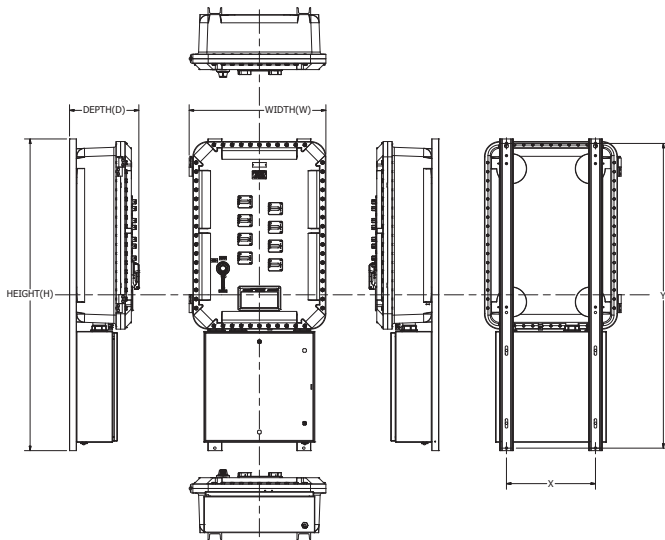
EXPB3 NON-FACTORY SEALED POWER PANELBOARD

MAIN LUG ONLY

ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN LUG RATING AMPS	CATALOG NUMBER BASIC ENCLOSURE	MAIN WIRE RANGE	ENCLOSURE EXB
THREE PHASE 4 WIRE WITH SOLID NEUTRAL 480 VAC 250 VDC	12	100	EXPB3-NFS-312-ML100	#14AWG-2/0	EXB-18368 N34
	18	225	EXPB3-NFS-318-ML225	#6AWG-350MCM	EXB-18368 N34
	24	225	EXPB3-NFS-324-ML225	#6AWG-350MCM	EXB-18368 N34
	30	225	EXPB3-NFS-330-ML225	#6AWG-350MCM	EXB-24368 N34
	36	225	EXPB3-NFS-336-ML225	#6AWG-350MCM	EXB-24368 N34
	42	225	EXPB3-NFS-342-ML225	#6AWG-400MCM	EXB-24368 N34

MAIN CIRCUIT BREAKER (MCCB)

ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN CIRCUIT BREAKER		CATALOG NUMBER BASIC ENCLOSURE	INCOMING MAIN WIRE RANGE	ENCLOSURE EXB
		FRAME	AMPS			
THREE PHASE 4 WIRE WITH SOLID NEUTRAL 480 VAC 250 VDC	12	EHD	100	EXPB3-NFS-312-MB100	#14AWG - 1/0	EXB-18368 N34
	18	FD	225	EXPB3-NFS-318-MB225	#4AWG - 4/0	EXB-18368 N34
	24	FD	225	EXPB3-NFS-324-MB225	#4AWG - 4/0	EXB-24368 N34
	30	FD	225	EXPB3-NFS-330-MB225	#4AWG - 4/0	EXB-24368 N34
	36	FD	225	EXPB3-NFS-336-MB225	#4AWG - 4/0	EXB-24368 N34
	42	FD	225	EXPB3-NFS-342-MB225	#4AWG - 4/0	EXB-24368 N34

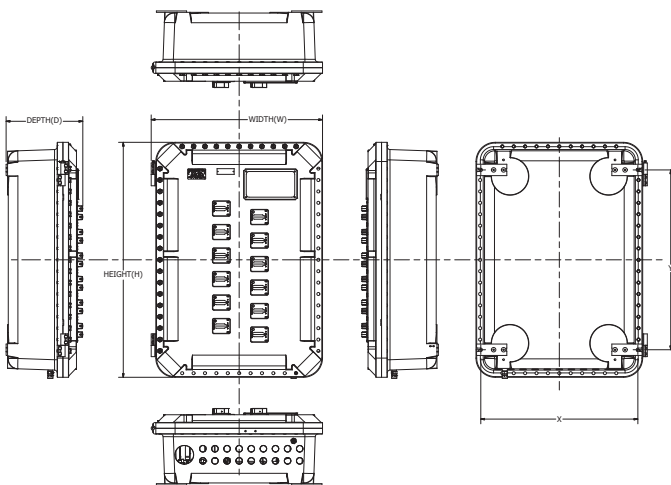
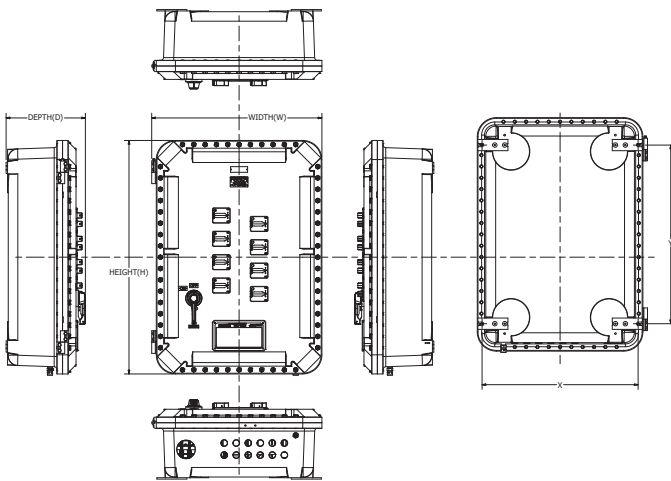
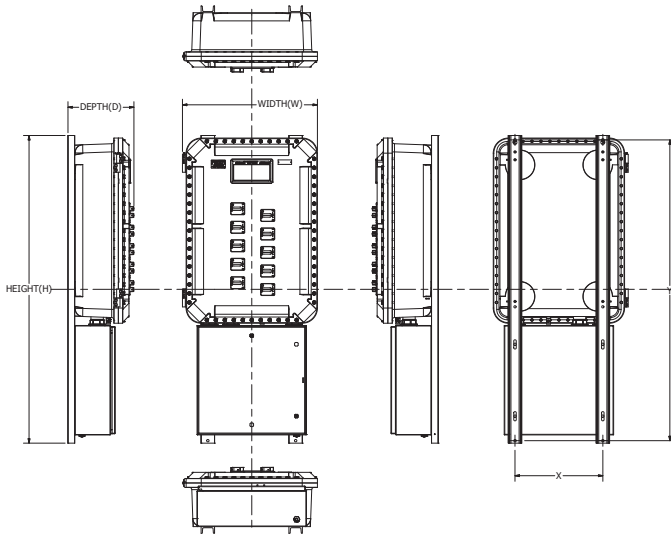
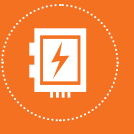


EXPB3FS-MB

CIRCUITS	EXB	USF	OVERALL			MOUNTING	
			HEIGHT (H)	WIDTH (W)	DEPTH (D)	X	Y
12	EXB-18368	USF-18188	63 (1600)	23.19 (589)	15.31 (389)	13.25 (337)	61.75 (1568)
18	EXB-18368	USF-18188	63 (1600)	23.19 (589)	15.29 (388)	13.25 (337)	61.75 (1568)
24	EXB-24368	USF-24248	68.53 (1741)	30.06 (764)	15.25 (387)	19.56 (497)	67 (1702)
30	EXB-24368	USF-24248	68.53 (1741)	30.06 (764)	15.25 (387)	19.56 (497)	67 (1702)
36	EXB-24368	USF-24248	68.53 (1741)	30.06 (764)	15.25 (387)	19.56 (497)	67 (1702)
42	EXB-24368	USF-24248	68.53 (1741)	30.06 (764)	15.25 (387)	19.56 (497)	67 (1702)

DISTRIBUTION EQUIPMENT

EXPB3 POWER PANELBOARD



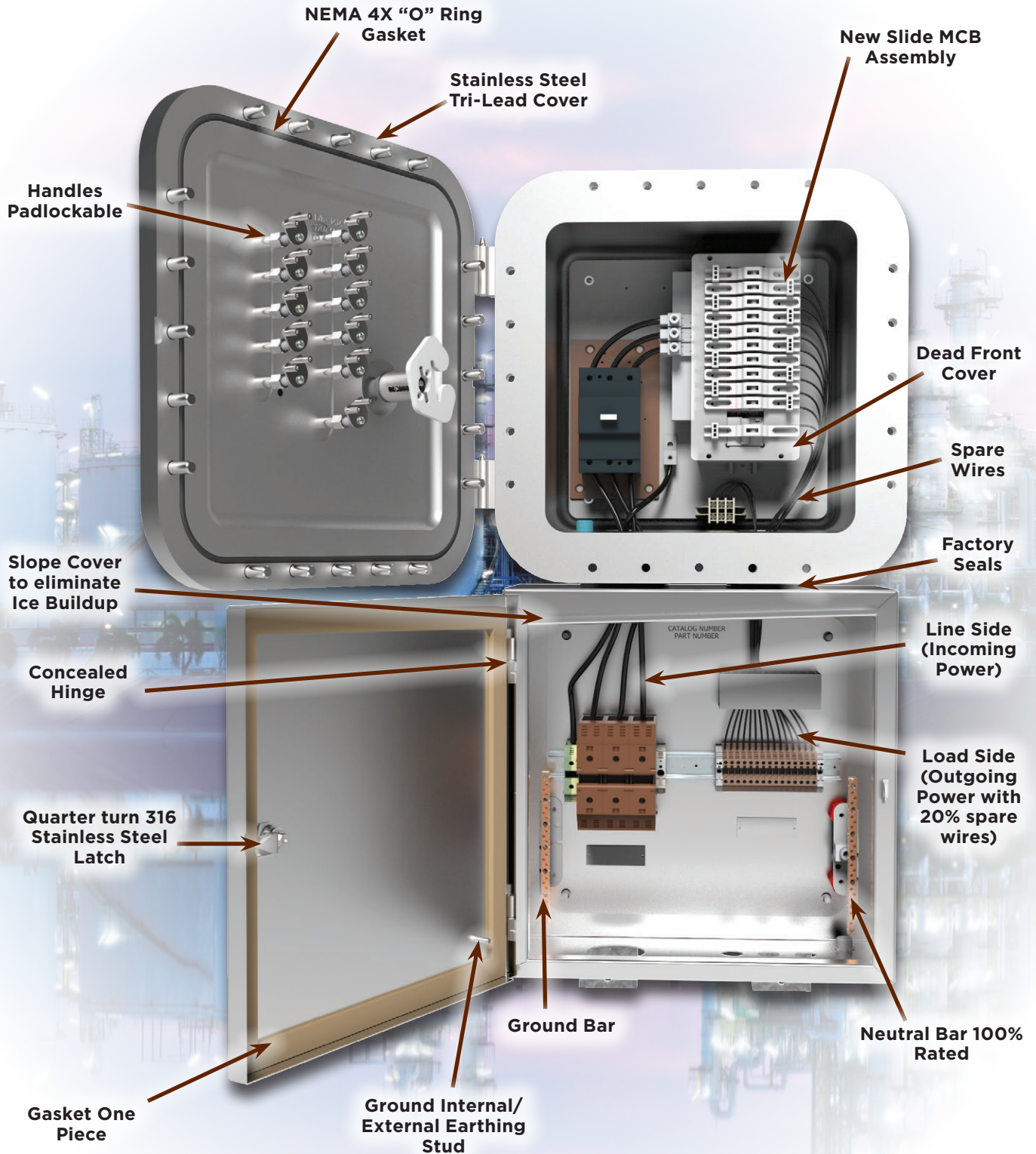
EXPB3FS-ML							
CIRCUITS	EXB	USF	OVERALL			MOUNTING	
			HEIGHT (H)	WIDTH (W)	DEPTH (D)	X	Y
12	EXB-18368	USF-18188	63 (1600)	23.19 (589)	14.76 (375)	13.25 (337)	61.75 (1568)
18	EXB-18368	USF-18188	63 (1600)	23.19 (589)	14.76 (375)	13.25 (337)	61.75 (1568)
24	EXB-18368	USF-24248	68.53 (1741)	24.38 (619)	14.76 (375)	13.25 (337)	67 (1702)
30	EXB-24368	USF-24248	68.53 (1741)	30.06 (764)	14.70 (373)	19.56 (497)	67 (1702)
36	EXB-24368	USF-24248	68.53 (1741)	30.06 (764)	14.70 (373)	19.56 (497)	67 (1702)
42	EXB-24368	USF-24248	68.53 (1741)	30.06 (764)	14.70 (373)	19.56 (497)	67 (1702)

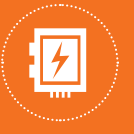
EXPB3NFS-MB						
CIRCUITS	EXB	OVERALL			MOUNTING	
		HEIGHT (H)	WIDTH (W)	DEPTH (D)	X	Y
12	EXB-18368	40.38 (1026)	23.19 (589)	14.06 (357)	21.25 (540)	31.50 (800)
18	EXB-18368	40.38 (1026)	23.19 (589)	14.06 (357)	21.25 (540)	31.50 (800)
24	EXB-24368	41.25 (1048)	30.06 (764)	14.00 (356)	27.56 (696)	31.56 (801)
30	EXB-24368	41.25 (1048)	30.06 (764)	14.00 (356)	27.56 (696)	31.56 (801)
36	EXB-24368	41.25 (1048)	30.06 (764)	14.00 (356)	27.56 (696)	31.56 (801)
42	EXB-24368	41.25 (1048)	30.06 (764)	14.00 (356)	27.56 (696)	31.56 (801)

EXPB3NFS-ML						
CIRCUITS	EXB	OVERALL			MOUNTING	
		HEIGHT (H)	WIDTH (W)	DEPTH (D)	X	Y
12	EXB-18368	40.38 (1026)	23.19 (589)	13.51 (343)	21.25 (540)	31.50 (800)
18	EXB-18368	40.38 (1026)	23.19 (589)	13.51 (343)	21.25 (540)	31.50 (800)
24	EXB-18368	40.38 (1026)	23.19 (589)	13.51 (343)	21.25 (540)	31.50 (800)
30	EXB-24368	41.25 (1048)	30.06 (764)	13.45 (342)	27.56 (696)	31.56 (801)
36	EXB-24368	41.25 (1048)	30.06 (764)	13.45 (342)	27.56 (696)	31.56 (801)
42	EXB-24368	41.25 (1048)	30.06 (764)	13.45 (342)	27.56 (696)	31.56 (801)

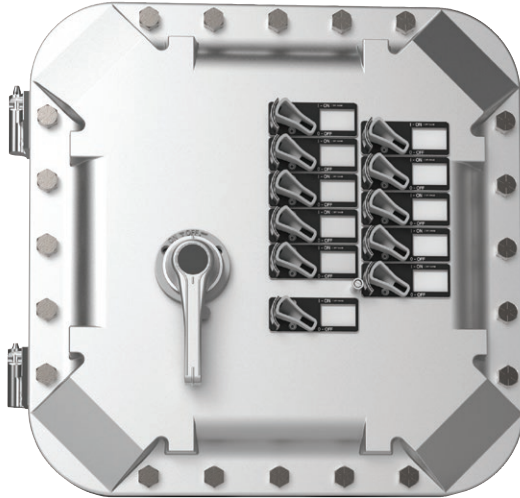


DISTRIBUTION EQUIPMENT
EXBLI/EXBSPI SERIES





IEC/NEC Circuit Breaker Panelboards



ATEX Certified

Class I, Div. 1 & 2, Groups B¹,C,D
Class I, Zones 1 & 2,
Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Type 4, 4X, 7(B,C,D), 9(E,F,G)
CENELEC/ATEX/IEC - Ex
Ex d IIB + H2 T5 or T6
Ex tD A21 IP66
Ta < +70°C

Indoor/Outdoor



#UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment. Files #E83969 & E12379



#C22.2 No. 30 - Explosion Proof Enclosure for use in Class I Hazardous Locations. File #LR11716



II 2 GD

PTB 07 ATEX 1025U (Empty Housing)

PTB 07 ATEX 1024x (Enclosures w/Controls)

IEC Ex 07.0022U

IEC Ex 07.0023

FEATURES-SPECIFICATIONS

Features

The IEC (UL1077) panel offers both single and three phase applications with or without switched neutrals. Branch MCB's in single, two, three and four pole, RCBO's for earth leakage detection are available in 30, 100 or 300mA Sensitivity.

The NEC (UL489) panel offer single and three phase applications, branch MCB's in single, two, three and four pole. This type can also offer a factory sealed arrangement using our USF 316L stainless steel wiring chamber with or without removable gland plates. All incoming "Line" and outgoing "Load" connections are made in the wiring chamber; this eliminates the need for seal fittings for Division 2 areas.

- All hardware is stainless steel, cover bolts are quick release Tri-Lead.
- All circuit breakers are pad lockable in the "ON" or "OFF" positions for up to three padlocks (to allow ease of lock out - tag out capabilities).
- Insulated copper bus bars mount on our Din Rail mounted branch breakers and the cover of the explosion proof enclosure is pre-drilled for future expansion or changing breakers in the field.

- Solid neutral (tin plated) standard for single and three phase.
- ABB circuit breakers have a wide temperature range from -20 to +70°C.
- Aluminum lacquer paint finish is standard

Materials

- Breaker enclosure: Cast copper free aluminum (less than 4/10 of 1%), Cover Bolts: Type 316 stainless steel quick turn (Tri-Lead), finish Aluminum Lacquer Paint.

SUFFIX NUMBER	DESCRIPTION
SU-3B-4X	Drain & Breather installed, NEMA 4X/7 BCD
SU-10B-4X	Drain installed, NEMA 4X/7 BCD
SU-11B-4X	Breather installed NEMA 4X/7 BCD
SU-3ATEX	Drain & Breather installed ATEX Group B
EB	Eyebolt, Qty of 2
TP	Toe Plate (recommended for larger panels)
GS150	150 Amp Ground Strap
SU1	Stainless steel external hardware NEMA 4X
SU9PEEEX	Grey powder polyester outer surface
SU9PEIO	Grey powder polyester in & out surface
SU9PESEX	Specify color outer surface (RAL number)
SU14	Fungus proofing inner surface
SU93	Do not paint

Electrical Rating

EXBLI

- Single Phase - 120/240 VAC, 3 Wire, 60Hz
- Three Phase - 120/208 VAC, 4 Wire, 60Hz

EXBSPI

- Single Phase - 277 VAC, 3 Wire, 60Hz
- Three Phase - 277/480Y VAC, 4 Wire, 60Hz

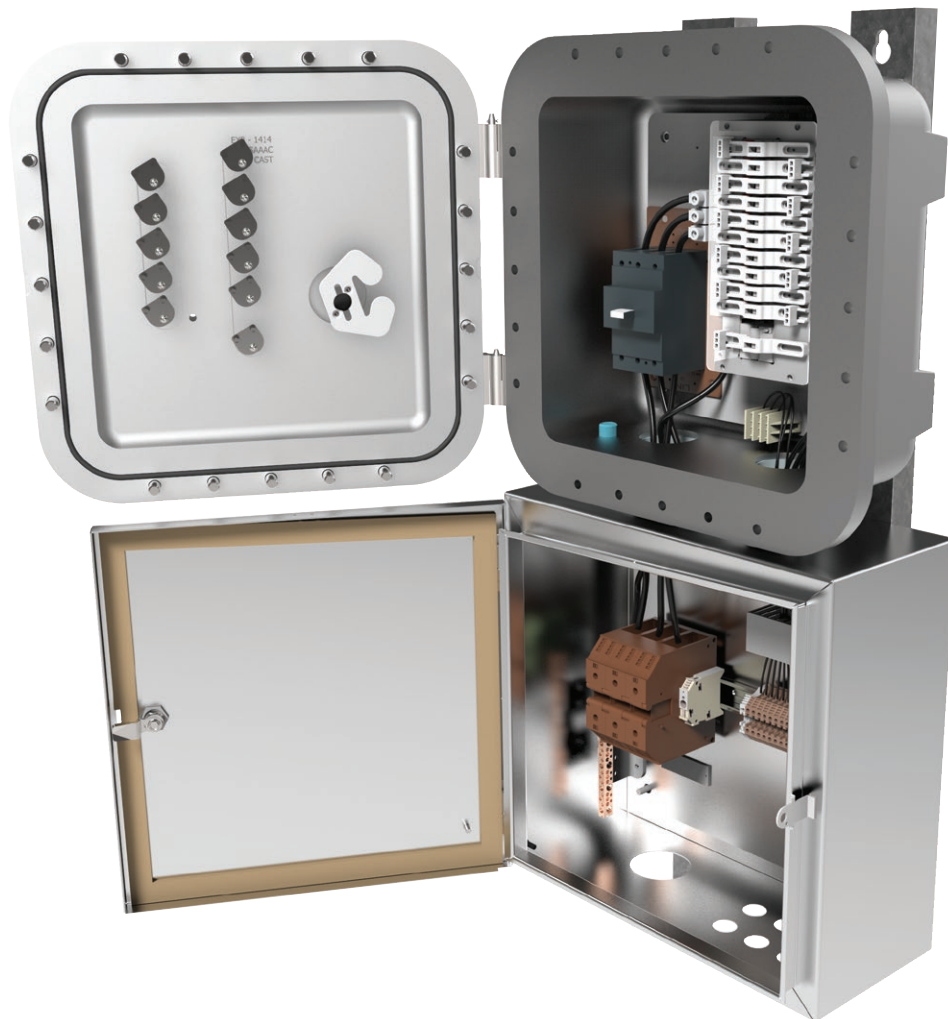
Panel Selection Factors

- Basic information required when specifying panelboards is as follows:
- Service Requirements - Voltage, phases and frequency
- Interrupting capacity
- Amperage Rating of Main (Lugs only or Breaker)
- Branch Breaker Requirements
 - » Type
 - » Number
 - » Poles
 - » Amperage
 - » RDC Requirements



DISTRIBUTION EQUIPMENT
EXBLI/EXBSPI SERIES

EXBLI Lighting Panelboard



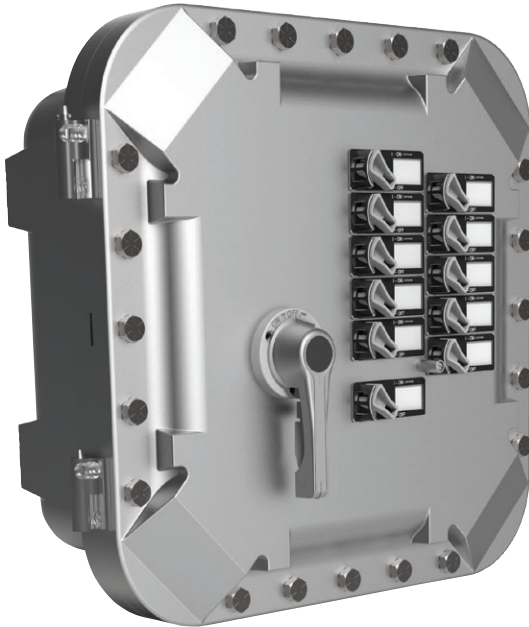
OPTIONAL
NEC (UL 489) Factory Sealed Panelboard

EXBLI LIGHTING PANELBOARD

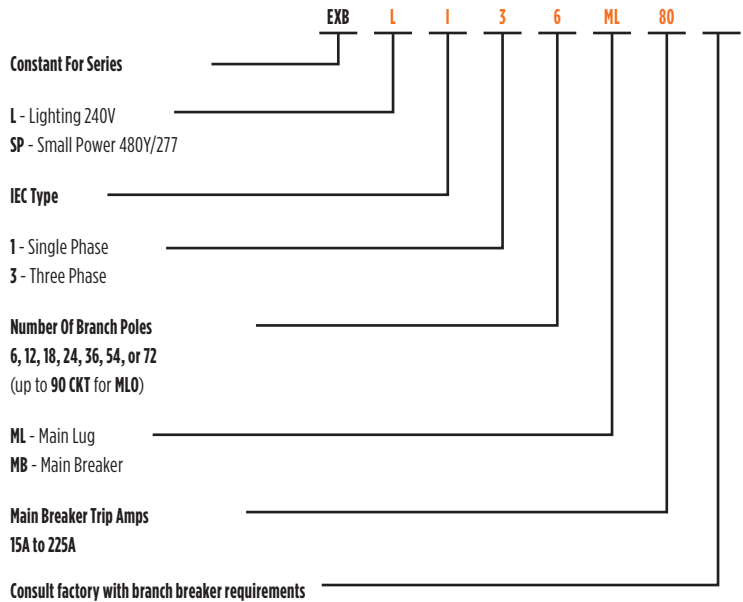
MAIN LUG ONLY					MAIN CIRCUIT BREAKER				
ELECTRICAL RATING	NUMBER OF BRANCH POLE	MAIN LUG RATING AMP	CATALOG NUMBER BASIC NUMBER	PANEL SIZE	ELECTRICAL RATING	NUMBER OF BRANCH POLE	MAIN LUG RATING AMP	CATALOG NUMBER BASIC NUMBER	PANEL SIZE
Single Phase 3 Wire with Solid Neutral 120/240VAC	6	80	EXBLI-16ML80	H	Single Phase 3 Wire with Solid Neutral 120/240VAC	6	80	EXBLI-16MB*	A
	12	130	EXBLI-112ML130	I		12	130	EXBLI-112MB*	B
	18	130	EXBLI-118ML130	J		18	130	EXBLI-118MB*	C
	24	260	EXBLI-124ML260	K		24	260	EXBLI-124MB*	D
	36	260	EXBLI-136ML260	L		36	260	EXBLI-136MB*	E
	54	260	EXBLI-154ML260	M		54	260	EXBLI-154MB*	F
Three Phase 4 Wire with Solid Neutral 120/208VAC	90	260	EXBLI-172ML260	N	72	260	EXBLI-172MB*	G	
	6	80	EXBLI-36ML80	H	Three Phase 4 Wire with Solid Neutral 120/208VAC	6	80	EXBLI-36MB*	A
	12	130	EXBLI-312ML130	I		12	130	EXBLI-312MB*	B
	18	130	EXBLI-318ML130	J		18	130	EXBLI-318MB*	C
	24	260	EXBLI-324ML260	K		24	260	EXBLI-324MB*	D
	36	260	EXBLI-336ML260	L		36	260	EXBLI-336MB*	E
54	260	EXBLI-354ML260	M	54		260	EXBLI-354MB*	F	
90	260	EXBLI-372ML260	N	72	260	EXBLI-372MB*	G		



EXBSPI Lighting Panelboard



CATALOG LOGIC - FOR BASIC IEC PANELBOARD ENCLOSURES



EXBSPI LIGHTING PANELBOARD

MAIN LUG ONLY					MAIN CIRCUIT BREAKER				
ELECTRICAL RATING	NUMBER OF BRANCH POLE	MAIN LUG RATING AMP	CATALOG NUMBER BASIC NUMBER	PANEL SIZE	ELECTRICAL RATING	NUMBER OF BRANCH POLE	MAIN LUG RATING AMP	CATALOG NUMBER BASIC NUMBER	PANEL SIZE
Single Phase 3 Wire with Solid Neutral 277VAC	6	80	EXBSPI-16ML80	H	Single Phase 3 Wire with Solid Neutral 277VAC	6	80	EXBSPI-16MB*	A
	12	130	EXBSPI-112ML130	I		12	130	EXBSPI-112MB*	B
	18	130	EXBSPI-118ML130	J		18	130	EXBSPI-118MB*	C
	24	260	EXBSPI-124ML260	K		24	260	EXBSPI-124MB*	D
	36	260	EXBSPI-136ML260	L		36	260	EXBSPI-136MB*	E
	54	260	EXBSPI-154ML260	M		54	260	EXBSPI-154MB*	F
	90	260	EXBSPI-172ML260	N		72	260	EXBSPI-172MB*	G
Three Phase 4 Wire with Solid Neutral 277/480YVAC	6	80	EXBSPI-36ML80	H	Three Phase 4 Wire with Solid Neutral 277/480YVAC	6	80	EXBSPI-36MB*	A
	12	130	EXBSPI-312ML130	I		12	130	EXBSPI-312MB*	B
	18	130	EXBSPI-318ML130	J		18	130	EXBSPI-318MB*	C
	24	260	EXBSPI-324ML260	K		24	260	EXBSPI-324MB*	D
	36	260	EXBSPI-336ML260	L		36	260	EXBSPI-336MB*	E
	54	260	EXBSPI-354ML260	M		54	260	EXBSPI-354MB*	F
	90	260	EXBSPI-372ML260	N		72	260	EXBSPI-372MB*	G



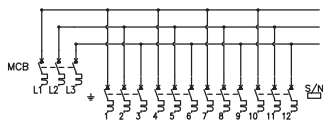
DISTRIBUTION EQUIPMENT EXBLI/EXBSPI SERIES

Breaker Ratings

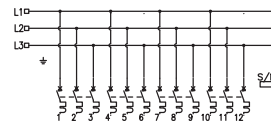
EXBLI & EXBSPI CIRCUIT BREAKER RATINGS, ABB				
IEC (UL1077), MCB				
TYPE	POLE	VOLTS VAC	AMPERES SYMMERTICAL	
S200C	1	277	6,000 AIC	TYPE RCBO
	2	277/480Y	6,000 AIC	DS201
	3	277/480Y	6,000 AIC	POLE
	4	277/480Y	6,000 AIC	2
S200D	1	277	6,000 AIC	VOLTS VAC
	2	277/480Y	6,000 AIC	230
	3	277/480Y	6,000 AIC	AMPERES SYMMERTICAL
	4	277/480Y	6,000 AIC	10,000 AIC
S200M	1	277	10,000 AIC	SENSITIVITY
	2	277/480Y	10,000 AIC	30, 100, 300mA
	3	277/480Y	10,000 AIC	
	4	277/480Y	10,000 AIC	

NEC (UL489), MCB, NOT RATED FOR SWITCHED NEUTRAL			
TYPE	POLE	VOLTS VAC	AMPERES SYMMERTICAL
SU200MC	1	240	10,000 AIC
	2	277/480Y	10,000 AIC
	3	277/480Y	10,000 AIC
	4	277/480Y	10,000 AIC
S200U-K	1	240	10,000 AIC
	2	240	10,000 AIC
	3	240	10,000 AIC
	4	240	10,000 AIC
S200UP-K	1	277	10,000 AIC
	2	277/480Y	10,000 AIC
	3	277/480Y	10,000 AIC
	4	277/480Y	10,000 AIC

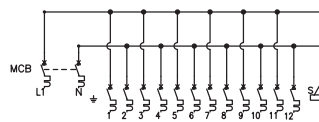
MAIN CIRCUIT BREAKER				
TYPE	POLE	VOLTS VAC	AMPERES SYMMERTICAL	AMP TRIP
Tmax XT1	3	347/600Y	25, 35, 65,000 AIC	15 - 125
	4	347/600Y	25, 35, 65,000 AIC	15 - 125
Tmax XT2	3	600	25, 35, 65,000 AIC	15 - 125
	4	600	25, 35, 65,000 AIC	15 - 125
Tmax XT3	3	347/600Y	25, 35, 65,000 AIC	60 - 225
	4	347/600Y	25, 35, 65,000 AIC	60 - 225
Tmax XT4	3	600	25, 35, 65,000 AIC	25 - 250
	4	600	25, 35, 65,000 AIC	25 - 250



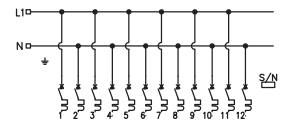
**Three Phase
Main Circuit Breaker**



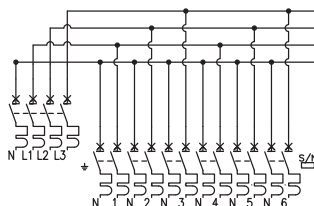
**Three Phase
Main Lug Only**



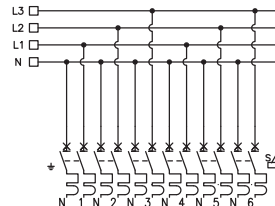
**Single Phase
Main Circuit Breaker**



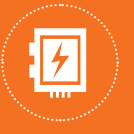
**Single Phase
Main Lug Only**



**Three Phase w/
Switched Neutral
4 Pole Main Circuit Breaker**



**Three Phase w/
Switched Neutral
Main Lug Only**



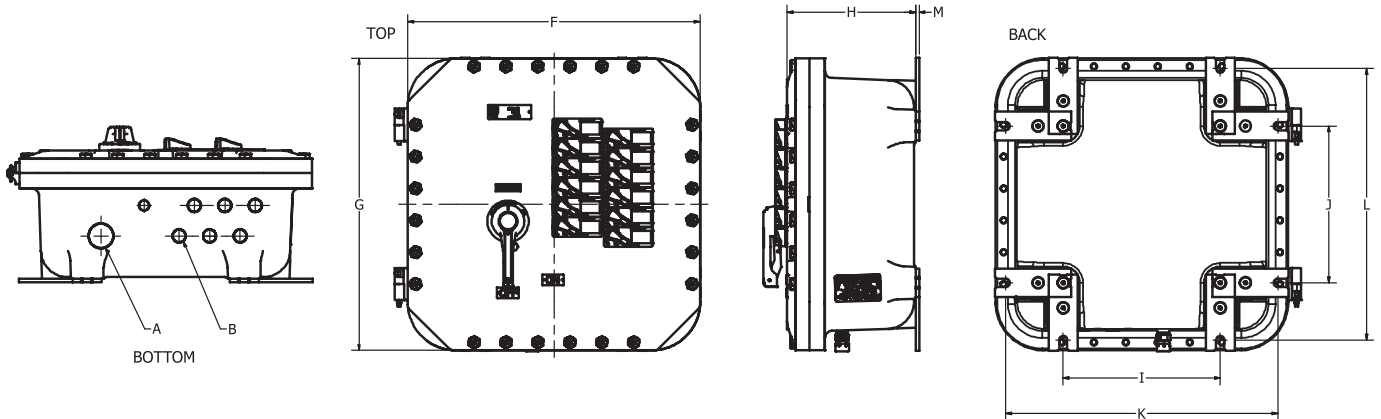
IEC Circuit Breaker Panelboards

EXB DIMENSIONS MAIN BREAKER

CATALOG NUMBER	# OF CIRCUITS W/MAIN BREAKER	STD CONDUITS AT BOTTOM (NPT)				EXTERNAL DIMENSION (NI)			MOUNTING DIMENSIONS (INCHES)					LBS (KG)
		A	B	QTY B	QTY B RH SIDE	F WIDE	G HIGH	H DEEP	I	J	K	L	M	
EXB-10146 N34	6	1-1/2"	3/4"	3	—	15.25 (387.35)	19.25 (488.95)	8.90 (226.06)	4.94 (125.98)	8.94 (227.08)	12.94 (328.68)	16.94 (438.28)	0.25 (6)	119 (53.98)
EXB-16166 N34	12	1-1/2"	3/4"	6	—	20.38 (517.65)	20.38 (517.65)	9.19 (235.43)	10.94 (277.88)	10.94 (277.88)	18.94 (481.08)	18.94 (481.08)	0.25 (6)	195 (88.45)
EXB-12246 N34	18	1-1/2"	3/4"	9	—	16.38 (416.05)	28.38 (720.85)	9.32 (236.73)	6.94 (176.28)	18.88 (479.55)	14.94 (379.43)	26.88 (682.75)	0.25 (6)	196 (88.45)
EXB-16248 N34	24	1-1/2"	3/4"	12	—	21.25 (539.75)	29.25 (742.95)	12.00 (304.80)	11.38 (289.05)	19.38 (492.25)	19.38 (492.25)	27.38 (695.45)	0.25 (6)	220 (99.79)
EXB-18368 N34	36	1-1/2"	3/4"	18	—	22.38 (568.45)	40.38 (1025.65)	12.38 (314.45)	13.25 (336.55)	31.50 (800.10)	21.25 (539.75)	39.50 (1003.30)	0.25 (6)	410 (185.97)
EXB-24368 N34	54	2-1/2"	3/4"	20	7	29.25 (743)	41.25 (1048)	12.4 (315)	19.56 (497)	31.56 (802)	27.56 (700)	39.56 (1005)	0.25 (6)	560 (254.01)
EXB-24368 N34	72	2-1/2"	3/4"	30	6	29.25 (743)	41.25 (1048)	12.4 (315)	19.56 (497)	31.56 (802)	27.56 (700)	39.56 (1005)	0.25 (6)	560 (254.01)

EXB DIMENSIONS MAIN LUG ONLY

CATALOG NUMBER	# OF CIRCUITS MAIN LUG ONLY	STD CONDUITS AT BOTTOM (NPT)				EXTERNAL DIMENSION (NI)			MOUNTING DIMENSIONS (INCHES)					LBS (KG)
		A	B	QTY B	QTY B RH SIDE	F WIDE	G HIGH	H DEEP	I	J	K	L	M	
EXB-8126 N34	6	1-1/2"	3/4"	3	—	13.25 (336.55)	17.25 (438.15)	8.70 (220.98)	3.82 (97.05)	7.82 (198.63)	10.38 (263.65)	14.38 (365.25)	0.25 (6)	160 (72.57)
EXB-12186 N34	12	1-1/2"	3/4"	6	—	16.38 (416.05)	22.38 (568.45)	9.06 (230.12)	6.94 (176.28)	12.88 (327.15)	14.94 (379.43)	20.88 (530.35)	0.25 (6)	195 (88.45)
EXB-12186 N34	18	1-1/2"	3/4"	9	—	16.38 (416)	22.38 (568)	9.06 (230)	6.94 (176)	12.88 (327)	14.94 (379)	20.88 (530)	0.25 (6)	195 (88.45)
EXB-16248 N34	24	1-1/2"	3/4"	12	—	21.25 (539.75)	29.25 (742.95)	12.00 (304.80)	11.38 (289.05)	19.38 (492.25)	19.38 (492.25)	27.38 (695.45)	0.25 (6)	270 (122.46)
EXB-18248 N34	36	1-1/2"	3/4"	16	2	22.38 (568.45)	28.38 (720.85)	11.75 (298.45)	13.00 (330.70)	19.50 (492.60)	21.00 (533.40)	27.00 (685.80)	0.25 (6)	290 (131.54)
EXB-24368 N34	54	2-1/2"	3/4"	18	7	29.25 (743)	41.25 (1048)	12.4 (315)	19.56 (497)	31.56 (802)	27.56 (700)	39.56 (1005)	0.25 (6)	560 (254.01)
EXB-24368 N34	72	2-1/2"	3/4"	18	18	29.25 (743)	41.25 (1048)	12.4 (315)	19.56 (497)	31.56 (802)	27.56 (700)	39.56 (1005)	0.25 (6)	560 (254.01)
EXB-24368 N34	90	2-1/2"	3/4"	18	18	29.25 (743)	41.25 (1048)	12.4 (315)	19.56 (497)	31.56 (802)	27.56 (700)	39.56 (1005)	0.25 (6)	560 (254.01)





DISTRIBUTION EQUIPMENT

GFCS SERIES

Ground Fault Control Station (Factory Sealed)



Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III, Div. 1 & 2
TYPE 3, 7 (B, C, D) 9 (E, F, G)

Indoor/Outdoor



Listed - File E83969



Certified - File LR061895-2

FEATURES-SPECIFICATIONS

Features

- Factory Sealed Ground Fault Chamber. (Assemblies in Group B areas must be sealed within 6" of enclosure. Other area classifications do not require the use of seals)
- 1" NPT top and bottom conduit openings
- External Push-to-Test Button and Pilot Light for monitoring
- On-Off-Trip-Reset External Handle can be locked in On-Off positions
- 5ma Ground Fault Circuit Breaker for People Protection. 30ma Ground Fault circuit Breaker for Equipment Protection and heat tracing circuits
- Electrical Rating-120 VAC (single pole) 120/240 VAC (two pole) (10,000 AIC)

Materials

- Enclosure: Copper-free cast aluminum (less than 4/10 of 1%)
- External Hardware: Stainless Steel
- Standard Finish: Electrostatically applied gray powder epoxy polyester finish

Electrical Ratings

- 240VAC, 50/60Hz

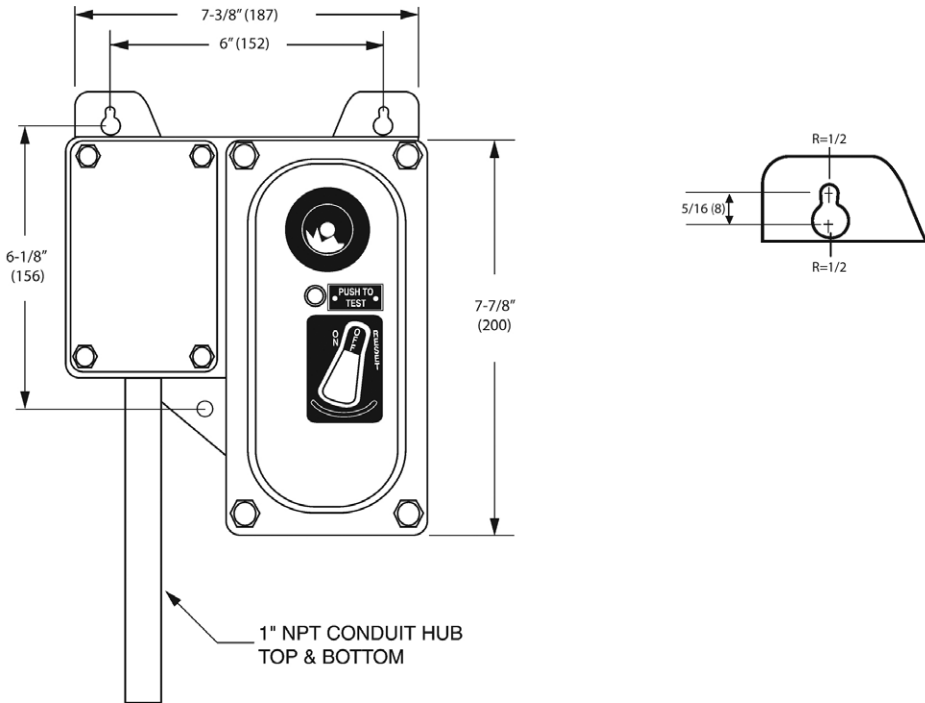


Ground Fault Control Station (Factory Sealed)

GFCS GROUND FAULT CONTROL STATION					
CATALOG NUMBER	NUMBER OF POLES	MILLIAMP TRIP	BREAKER AMPERAGE	LBS	KG
GFCS05151	1	5	15	13	5.89
GFCS05201	1	5	20	13	5.89
GFCS05301	1	5	30	13	5.89
GFCS30151	1	30	15	13	5.89
GFCS30201	1	30	20	13	5.89
GFCS30301	1	30	30	13	5.89
GFCS05152	2 ^①	5	15	13	5.89
GFCS05202	2 ^①	5	20	13	5.89
GFCS05302	2 ^①	5	30	13	5.89
GFCS30152	2 ^①	30	15	13	5.89
GFCS30202	2 ^①	30	20	13	5.89
GFCS30302	2 ^①	30	30	13	5.89

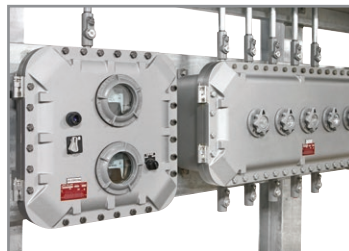
① 2P Units are for 120/240V or 120/208Y Grounded Power Supply Systems ONLY.
Do NOT use with Delta supply systems

DIMENSIONS





DISTRIBUTION EQUIPMENT CUSTOM SOLUTIONS



Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III, Div. 1 & 2
TYPE 3, 4X, 7 (B, C, D) 9 (E, F, G)

Indoor/Outdoor

Compliances

- All wiring is in accordance with current NEC requirements
- Each enclosure carries at minimum one of the following



FEATURES-SPECIFICATIONS

Features

- NEMA 3, 4X (optional) rated for protection from hose directed water and corrosion
- Completely assembled and wired for customer connections to load side of starters and breakers
- Single sided or double sided assemblies per customer specification
- Killark components supplied include series EXB, B7C, B70, D2L, B7L, GR, HKB, D2P, B7P, EZ, VM, EM, ENY, EYS and others

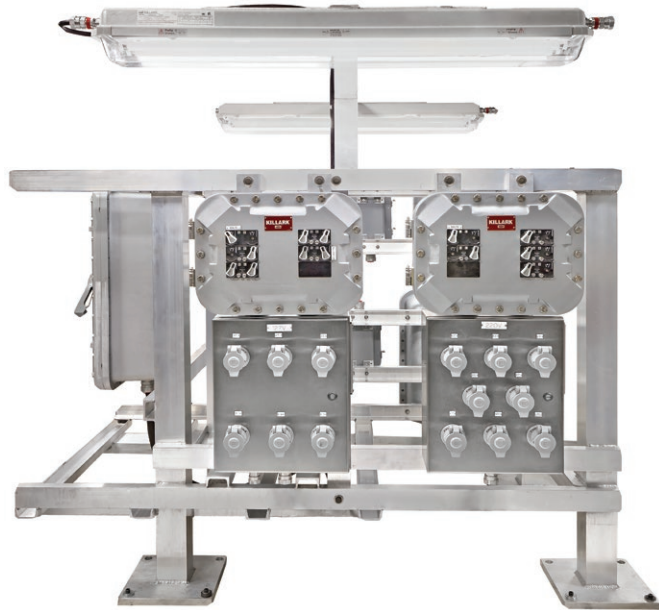
Materials

- Enclosures: Copper-free aluminum (less than 4/10 of 1%)
- Bus Enclosure (when supplied) is painted steel or stainless steel
- Frame: Steel (Hot Dipped Galvanized) or Aluminum. All welded construction
- Bus Bars: Copper, bare or insulated

Optional Components

- Circuit breakers
- Automatic Transfer Switch
- Motor Starters
- Contractors
- Junction Boxes
- Control Stations
- Meter/Instrument Enclosures
- Ground Detection
- Panelboards
- Welding and Convenience Receptacles
- Photo Cells
- Light Fixtures
- Transformers
- Space Heaters

DISTRIBUTION EQUIPMENT SWITCHRACK ASSEMBLIES



Self Sufficient Power Supply

Provides a mix of 120/240V and 480VAC receptacles and includes panel boards and one main shut off. May be supplied with trailer as mobile unit or used at a permanent location.

Ordering Information

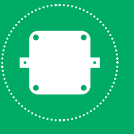
- Supply one line diagram or bill of material and Killark will do the rest. Assembly drawing and wiring diagram will be supplied for customer approval.

Basic Data Required	
Class _____	Div. _____ GRPS. _____
NEMA Ratings for BUS _____	
Incoming Voltage _____	
Incoming Amperage _____	
Wire: 3w/GND _____	4w/GND _____
Framing:	Single Side _____
	Double Side _____
Material:	Steel HD/galv. _____
	Aluminum _____
Canopy: Yes _____	No _____



Notes

Lined area for taking notes, consisting of multiple horizontal lines.



Enclosures Table of Contents

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ENCLOSURES

ENCLOSURES SECTION

Enclosures for Harsh & Hazardous Environments



SJIC & SJICH Series



EXBLTP



USF Series



GR Series



HKBX Series

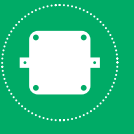


EXB Series



GEB Series





USF Enclosures Only

TECHNE-TERM[®]



USF Series



USF-JB

Empty Enclosure

NEC / CEC Certifications

**Class II, Div. 1 & 2, Groups E, F, & G
Class III**

**Ex tb / Zone 21 AEx tb,
IIIC T80°C/T100°C/T130°C Db**

Type 3, 4, 4X IP66

Ta=-50°C to +90°C

CSB Certificate 70013827

ATEX / IEC Ex Certificate

II 2 G D 2813

Ex e IIC Gb

Ex tb IIIC Db IP66

**Service Temperature -55°C to
+135°C**

Sira 14ATEX3156U

IECEX SIR 14.0053U

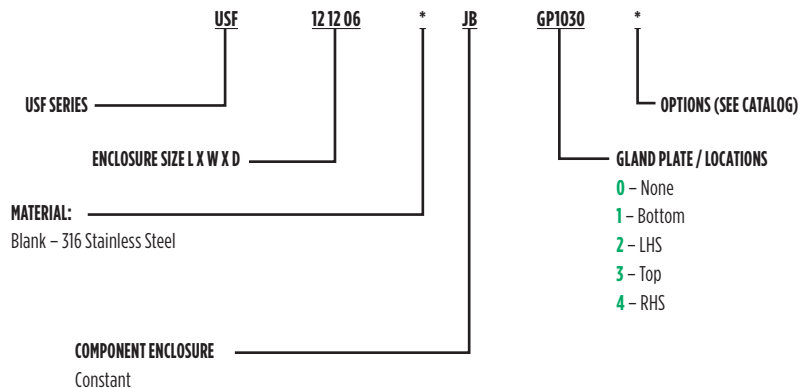
FEATURES-SPECIFICATIONS

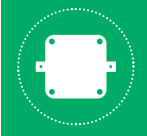
**USF Enclosures Features -
38 Sizes**

- Externally sloped top flange directs water, melting ice/snow and dust build-up away from the opening side of the door
- Continuous robot welded seams for a hose down tight seal
- Concealed hinges with removable hinge pins

- Doors are interchangeable and easily removable
- Ground/earthing studs in both cover and through wall of the box
- Quarter-turn 316 stainless steel latch
- One-piece, high temperature, closed cell silicone gasket with superior recovery and re-sealing properties
- Sturdy 14 gauge box construction helps prevent bending or permanent deflection of the walls when field installing openings

- Bi-directional, movable mounting lugs for the widest flexibility during installations
- Openings for cable gland conduit can be factory or field installed. Gland plates available for all configurations.





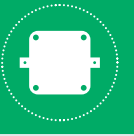
ENCLOSURES
USF SERIES

USF Slope Flange Enclosure



CATALOG NUMBER	HEIGHT IN. (MM)	WIDTH	DEPTH	"E"	"F"	"G"	"H"	"A" GLAND PLATE	"B" GLAND PLATE	"C" GLAND PLATE	WEIGHT LBS (KG)
USF121206-JB	12 (305)	12 (305)	6 (153)	10.69 (272)	10.69 (272)	13.63 (346)	13.63 (346)	4.06 (103)	9.38 (238)	9.63 (245)	14 (6.3)
USF161206-JB	16 (407)	12 (305)	6 (153)	10.69 (272)	14.69 (373)	13.63 (346)	17.63 (448)	4.06 (103)	13.38 (340)	9.63 (245)	20 (9.1)
USF161208-JB	16 (407)	12 (305)	8 (203)	10.69 (272)	14.69 (373)	13.63 (346)	17.63 (448)	6.06 (154)	13.38 (340)	9.63 (245)	22 (10)
USF161210-JB	16 (407)	12 (305)	10 (254)	10.69 (272)	14.69 (373)	13.63 (346)	17.63 (448)	8.06 (205)	13.38 (340)	9.63 (245)	24 (10.9)
USF161606-JB	16 (407)	16 (407)	6 (153)	14.69 (373)	14.69 (373)	17.63 (448)	17.63 (448)	4.06 (103)	13.38 (340)	13.38 (340)	26 (11.8)
USF161608-JB	16 (407)	16 (407)	8 (203)	14.69 (373)	14.69 (373)	17.63 (448)	17.63 (448)	6.06 (154)	13.38 (340)	13.38 (340)	27 (12.2)
USF161610-JB	16 (407)	16 (407)	10 (254)	14.69 (373)	14.69 (373)	17.63 (448)	17.63 (448)	8.06 (205)	13.38 (340)	13.38 (340)	29 (13.2)
USF201606-JB	20 (508)	16 (407)	6 (153)	18.69 (475)	14.69 (373)	21.63 (549)	17.63 (448)	4.06 (103)	17.38 (441)	13.38 (340)	29 (13.2)
USF201608-JB	20 (508)	16 (407)	8 (203)	14.69 (373)	18.69 (475)	17.63 (448)	21.63 (549)	6.06 (154)	17.38 (441)	13.38 (340)	31 (14)
USF201610-JB	20 (508)	16 (407)	10 (254)	14.69 (373)	18.69 (475)	17.63 (448)	21.63 (549)	8.06 (205)	17.38 (441)	13.38 (340)	32 (14.5)
USF202006-JB	20 (508)	20 (508)	6 (153)	14.69 (373)	18.69 (475)	17.63 (448)	21.63 (549)	4.06 (103)	17.38 (441)	17.38 (441)	35 (15.9)
USF202008-JB	20 (508)	20 (508)	8 (203)	18.69 (475)	18.69 (475)	21.63 (549)	21.63 (549)	6.06 (154)	17.38 (441)	17.38 (441)	37 (16.8)
USF202010-JB	20 (508)	20 (508)	10 (254)	18.69 (475)	18.69 (475)	21.63 (549)	21.63 (549)	8.06 (205)	17.38 (441)	17.38 (441)	39 (17.7)
USF202012-JB	20 (508)	20 (508)	12 (305)	18.69 (475)	18.69 (475)	21.63 (549)	21.63 (549)	10.06 (255)	17.38 (441)	17.38 (441)	44 (20)
USF241606-JB	24 (610)	16 (407)	6 (153)	14.69 (373)	22.69 (576)	17.63 (448)	25.63 (651)	4.06 (103)	21.38 (543)	13.38 (340)	35 (15.9)
USF241608-JB	24 (610)	16 (407)	8 (203)	18.69 (475)	18.69 (475)	21.63 (549)	21.63 (549)	6.06 (154)	21.38 (543)	13.38 (340)	36 (16.3)
USF241610-JB	24 (610)	16 (407)	10 (254)	14.69 (373)	22.69 (576)	17.63 (448)	25.63 (651)	8.06 (205)	21.38 (543)	13.38 (340)	38 (17.2)
USF242006-JB	24 (610)	20 (508)	6 (153)	14.69 (373)	22.69 (576)	17.63 (448)	25.63 (651)	4.06 (103)	21.38 (543)	17.38 (441)	42 (19)
USF242008-JB	24 (610)	20 (508)	8 (203)	18.69 (475)	22.69 (576)	21.63 (549)	25.63 (651)	6.06 (154)	21.38 (543)	17.38 (441)	43 (19.5)
USF242010-JB	24 (610)	20 (508)	10 (254)	18.69 (475)	22.69 (576)	21.63 (549)	25.63 (651)	8.06 (205)	21.38 (543)	17.38 (441)	44 (20)
USF242012-JB	24 (610)	20 (508)	12 (305)	18.69 (475)	22.69 (576)	21.63 (549)	25.63 (651)	10.06 (255)	21.38 (543)	17.38 (441)	46 (20.9)
USF242406-JB	24 (610)	24 (610)	6 (153)	18.69 (475)	22.69 (576)	21.63 (549)	25.63 (651)	4.06 (103)	21.38 (543)	21.38 (543)	49 (22.2)
USF242408-JB	24 (610)	24 (610)	8 (203)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	6.06 (154)	21.38 (543)	21.38 (543)	53 (24)
USF242410-JB	24 (610)	24 (610)	10 (254)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	8.06 (205)	21.38 (543)	21.38 (543)	58 (26.3)
USF242412-JB	24 (610)	24 (610)	12 (305)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	10.06 (255)	21.38 (543)	21.38 (543)	62 (28.1)
USF242416-JB	24 (610)	24 (610)	16 (407)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	14.06 (357)	21.38 (543)	21.38 (543)	71 (32.2)
USF242420-JB	24 (610)	24 (610)	20 (508)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	18.06 (458)	21.38 (543)	21.38 (543)	78 (35.4)
USF302008-JB	30 (762)	20 (508)	8 (203)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	6.06 (154)	26.00 (660)	17.38 (441)	59 (26.8)
USF302010-JB	30 (762)	20 (508)	10 (254)	18.69 (475)	28.69 (729)	21.63 (549)	31.63 (803)	8.06 (205)	26.00 (660)	17.38 (441)	61 (27.7)
USF302408-JB	30 (762)	24 (610)	8 (203)	18.69 (475)	28.69 (729)	21.63 (549)	31.63 (803)	6.06 (154)	26.00 (660)	21.38 (543)	56 (25.4)
USF302410-JB	30 (762)	24 (610)	10 (254)	22.69 (576)	28.69 (729)	25.63 (651)	31.63 (803)	8.06 (205)	26.00 (660)	21.38 (543)	63 (28.6)
USF302412-JB	30 (762)	24 (610)	12 (305)	22.69 (576)	28.69 (729)	25.63 (651)	31.63 (803)	10.06 (255)	26.00 (660)	21.38 (543)	64 (29)
USF302420-JB	30 (762)	24 (610)	20 (508)	22.69 (576)	28.69 (729)	25.63 (651)	31.63 (803)	18.06 (458)	26.00 (660)	21.38 (543)	99 (45)
USF303008-JB	30 (762)	30 (762)	8 (203)	22.69 (576)	28.69 (729)	25.63 (651)	31.63 (803)	6.06 (154)	26.00 (660)	26.00 (660)	68 (30.8)
USF303010-JB	30 (762)	30 (762)	10 (254)	28.69 (729)	28.69 (729)	31.63 (803)	31.63 (803)	8.06 (205)	26.00 (660)	26.00 (660)	72 (32.7)
USF303012-JB	30 (762)	30 (762)	12 (305)	28.69 (729)	28.69 (729)	31.63 (803)	31.63 (803)	10.06 (255)	26.00 (660)	26.00 (660)	89 (40.4)
USF362408-JB	36 (915)	24 (610)	8 (203)	34.69 (881)	28.69 (729)	37.63 (956)	31.63 (803)	6.06 (154)	33.00 (838)	21.38 (543)	66 (30)
USF362410-JB	36 (915)	24 (610)	10 (254)	9.79 (249)	35.20 (894)	8.15 (207)	27.63 (702)	8.06 (205)	33.00 (838)	21.38 (543)	70 (31.8)

All dimension in. (mm)

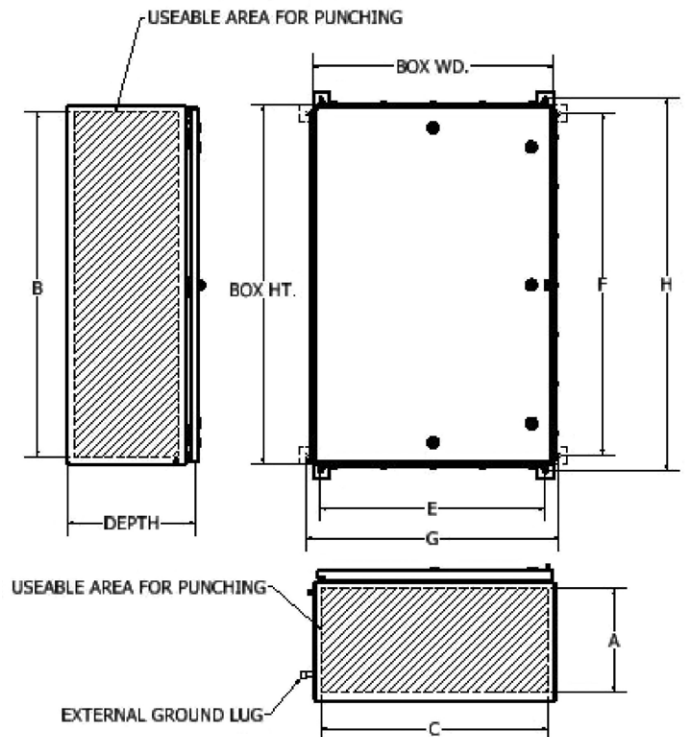


USF Slope Flange Enclosure

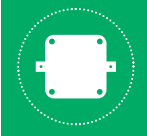
TECHNETERM[®]

CATALOG NUMBER	"A" BLANK WALL AREA	"B" BLANK WALL AREA	"C" BLANK WALL AREA	(W) MAX. POWER
USF121206-JB	5.74 (146)	10.93 (277)	10.93 (277)	15.0
USF161206-JB	5.74 (146)	14.93 (379)	10.93 (277)	17.0
USF161208-JB	7.74 (196)	14.93 (379)	10.93 (277)	20.6
USF161210-JB	9.74 (247)	14.93 (379)	10.93 (277)	23.5
USF161606-JB	5.74 (146)	14.93 (379)	14.93 (379)	19.0
USF161608-JB	7.74 (196)	14.93 (379)	14.93 (379)	20.0
USF161610-JB	9.74 (247)	14.93 (379)	14.93 (379)	25.0
USF201606-JB	5.74 (146)	18.93 (480)	14.93 (379)	21.0
USF201608-JB	7.74 (196)	18.93 (480)	14.93 (379)	23.0
USF201610-JB	9.74 (247)	18.93 (480)	14.93 (379)	26.0
USF202006-JB	5.74 (146)	18.93 (480)	18.93 (480)	24.3
USF202008-JB	7.74 (196)	18.93 (480)	18.93 (480)	26.0
USF202010-JB	9.74 (247)	18.93 (480)	18.93 (480)	30.0
USF202012-JB	11.74 (298)	18.93 (480)	18.93 (480)	36.0
USF241606-JB	5.74 (146)	22.93 (582)	14.93 (379)	35.0
USF241608-JB	7.74 (196)	22.93 (582)	14.93 (379)	36.0
USF241610-JB	9.74 (247)	22.93 (582)	14.93 (379)	31.0
USF242006-JB	5.74 (146)	22.93 (582)	18.93 (480)	24.5
USF242008-JB	7.74 (196)	22.93 (582)	18.93 (480)	31.5
USF242010-JB	9.74 (247)	22.93 (582)	18.93 (480)	33.6
USF242012-JB	11.74 (298)	22.93 (582)	18.93 (480)	36.0
USF242406-JB	5.74 (146)	22.93 (582)	22.93 (582)	25.8
USF242408-JB	7.74 (196)	22.93 (582)	22.93 (582)	34.0
USF242410-JB	9.74 (247)	22.93 (582)	22.93 (582)	34.0
USF242412-JB	11.74 (298)	22.93 (582)	22.93 (582)	38.0
USF242416-JB	15.74 (400)	22.93 (582)	22.93 (582)	42.0
USF242420-JB	19.74 (501)	22.93 (582)	22.93 (582)	57.3
USF302008-JB	7.74 (196)	28.93 (735)	18.93 (480)	36.5
USF302010-JB	9.74 (247)	28.93 (735)	18.93 (480)	36.0
USF302408-JB	7.74 (196)	28.93 (735)	22.93 (582)	39.0
USF302410-JB	9.74 (247)	28.93 (735)	22.93 (582)	38.0
USF302412-JB	11.74 (298)	28.93 (735)	22.93 (582)	40.0
USF302420-JB	19.74 (501)	28.93 (735)	22.93 (582)	57.3
USF303008-JB	7.74 (196)	28.93 (735)	28.93 (735)	43.0
USF303010-JB	9.74 (247)	28.93 (735)	28.93 (735)	40.0
USF303012-JB	11.74 (298)	28.93 (735)	28.93 (735)	46.0
USF362408-JB	7.74 (196)	34.93 (887)	22.93 (582)	44.0
USF362410-JB	9.74 (247)	34.93 (887)	22.93 (582)	40.0

All dimension in. (mm)



USF MAXIMUM CONDUIT / GLAND OPENINGS					
W/O GLAND PLATE			W/ GLAND PLATE		
BOX DEPTH	MAX NPT	MAX METRIC	BOX DEPTH	MAX NPT	MAX METRIC
6	3-1/2"	M100	6	2-1/2"	M75
8	4"	M100	8	4"	M100
10	4"	M100	10	4"	M100
12	4"	M100	12	4"	M100
16	4"	M100	16	4"	M100
20	4"	M100	20	4"	M100



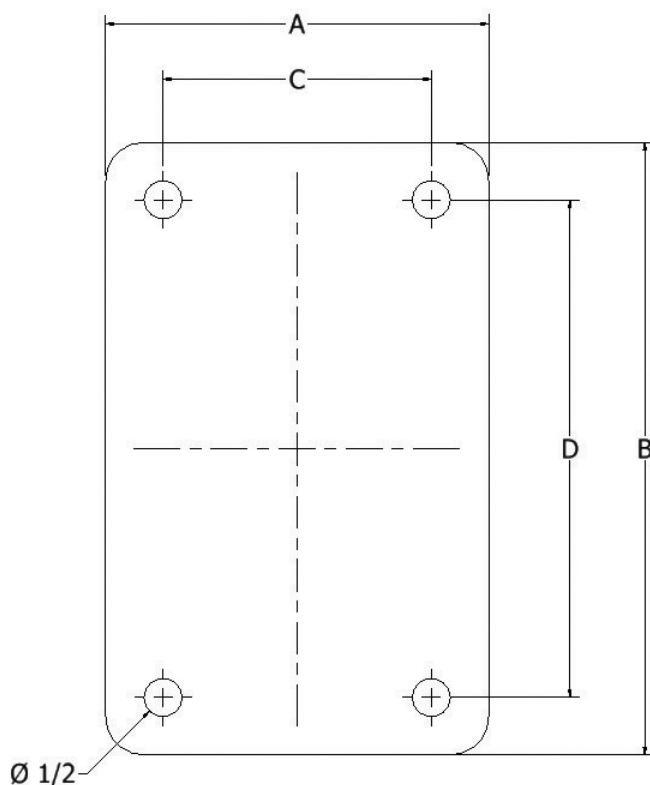
ENCLOSURES
USF SERIES

USF Slope Flange Enclosures



USF SERIES INTERNAL MOUNTING PAN					
CATALOG NO.	A	B	C	D	THICKNESS
USF1212P	9.00 (229)	9.00 (229)	7.25 (184)	7.25 (184)	.13 (3.3)
USF1612P	9.00 (229)	13.00 (330)	7.25 (184)	11.25 (286)	.13 (3.3)
USF1616P	13.00 (330)	13.00 (330)	11.25 (286)	11.25 (286)	.13 (3.3)
USF2016P	13.00 (330)	17.00 (432)	11.25 (286)	15.25 (387)	.13 (3.3)
USF2020P	17.00 (432)	17.00 (432)	15.25 (387)	15.25 (387)	.13 (3.3)
USF2416P	13.00 (330)	21.00 (533)	11.25 (286)	19.25 (489)	.13 (3.3)
USF2420P	17.00 (432)	21.00 (533)	15.25 (387)	19.25 (489)	.13 (3.3)
USF2424P	21.00 (533)	21.00 (533)	19.25 (489)	19.25 (489)	.13 (3.3)
USF3020P	17.00 (432)	25.63 (651)	15.25 (387)	23.88 (606)	.13 (3.3)
USF3024P	21.00 (533)	25.63 (651)	19.25 (489)	23.88 (606)	.13 (3.3)
USF3030P	25.63 (651)	25.63 (651)	23.88 (606)	23.88 (606)	.13 (3.3)
USF3624P	21.00 (533)	32.63 (829)	19.25 (489)	30.88 (784)	.19 (4.8)

All dimension in. (mm)

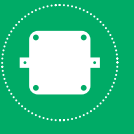


Internal mounting pans are made from high strength aluminum alloy. The aluminum alloy is corrosion resistant and can be drilled and tapped in the field for ease of installation of components.

Pans come standard with mounting hardware.

SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X. Ex e IIC Zone 1 IP66 Drain and breather installed.
SU10-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X. Ex e IIC Zone 1 IP66 Drain only installed.
DC	Document Wallet (enclosures 10 x 10 and larger only)
SU9	Special paint finish
SU14	Fungus proofing of enclosures

See enclosure modification page for conduit / gland hole sizes and spacing.



SJIC Enclosures Only • Screw Cover

TECHNETERM[®]



SJIC Series



SJIC-JB
Empty Enclosure

NEC / CEC Certifications

Class II, Div. 1 & 2, Groups E, F, & G
Class III

Ex tb / Zone 21 AEx tb, IIIC T80°C/
T100°C/T130°C Db

Type 3, 4, 4X IP66

Ta=-50°C to +90°C

UL Certificate 70013827

ATEX / IEC Ex Certificate

II 2 G D 2813

Ex e IIC Gb

Ex tb IIIC Db IP66

Service Temperature -55°C to
+135°C

Sira 14ATEX3156U

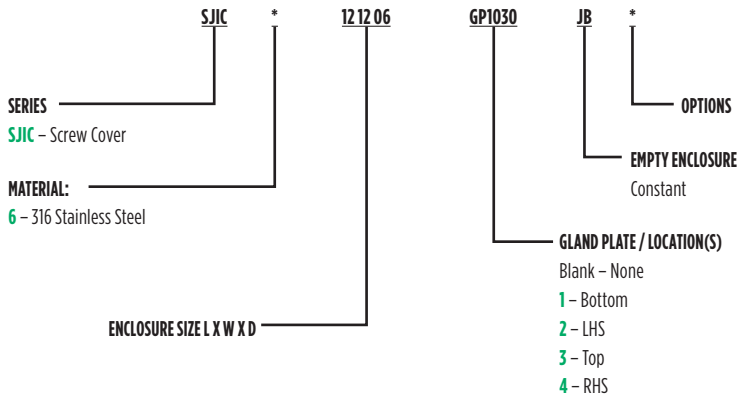
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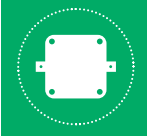
FEATURES-SPECIFICATIONS

**SJIC Enclosures Features -
15 Sizes**

- 316 stainless steel cover screws
- Continuous robot welded seams for a hose down tight seal
- SJIC doors are interchangeable and easily removable

- Ground/earthing studs in both cover and through wall of the box
- One-piece, high temperature, closed cell silicone gasket with superior recovery and re-sealing properties
- Sturdy 14 gauge box construction helps prevent bending or permanent deflection of the walls when field installing openings
- Welded, one-piece mounting flanges on top and bottom for strength
- Openings for cable glands conduit can be factory or field installed. Gland plates available for all configurations.



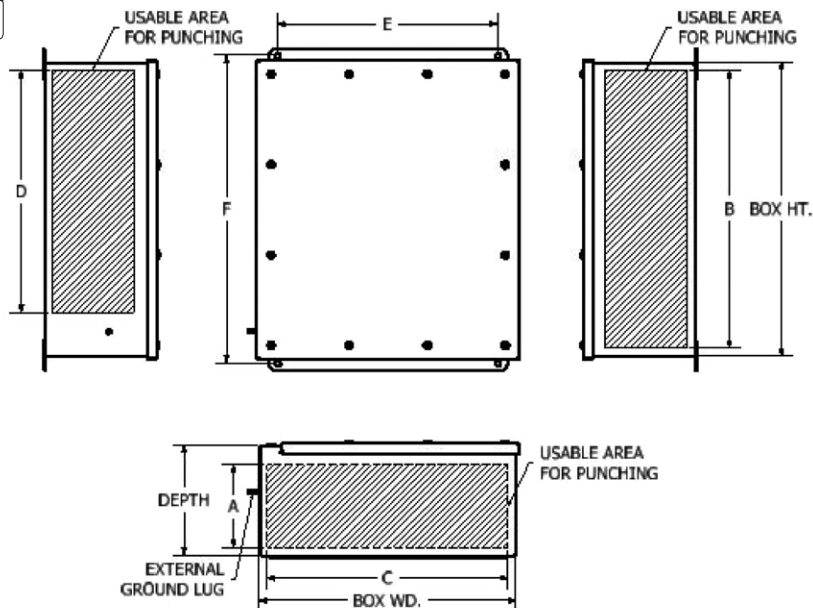


ENCLOSURES SJIC SERIES

SJIC Enclosures Only

TECHNE-TERM[®]

SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X. Ex e IIC Zone 1 IP 66 Drain and breather installed.
SU10-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X. Ex e IIC Zone 1 IP 66 Drain only installed.
DC	Document Wallet (enclosures 10 x 10 and larger only)
SU9	Special paint finish
SU14	Fungus proofing of enclosures

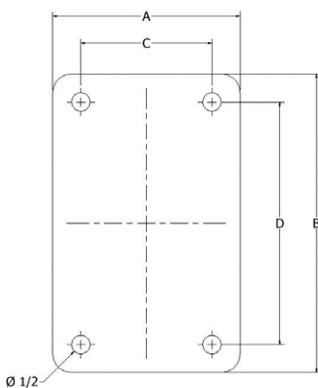


See enclosure modification page for conduit / gland hole sizes and spacing.

CATALOG NUMBER	HEIGHT IN. (MM)	WIDTH	DEPTH	"E"	"F"	"A" BLANK WALL	"B" BLANK WALL	"C" BLANK WALL	"D" BLANK WALL	(W) MAX. POWER	WEIGHT LBS (KG)
SJIC6040404-JB	4 (102)	4 (102)	4 (102)	2.00 (51)	4.75 (121)	2.47(63)	3.13 (79)	3.13 (79)	1.19 (30)	4.1	2.83 (1.3)
SJIC6060404-JB	6 (152)	4 (102)	4 (102)	2.00 (51)	6.75 (171)	2.47(63)	5.13 (130)	3.13 (79)	3.19 (81)	5.2	3.6 (1.6)
SJIC6060604-JB	6 (152)	6 (152)	4 (102)	4.00 (102)	6.75 (171)	2.47(63)	5.13 (130)	5.13 (130)	3.19 (81)	6.1	4.9 (2.2)
SJIC6060606-JB	6 (152)	6 (152)	6 (152)	4.00 (102)	6.75 (171)	4.47 (114)	5.13 (130)	5.13 (130)	3.19 (81)	8.4	5.9 (2.7)
SJIC6080606-JB	8 (203)	6 (152)	6 (152)	4.00 (102)	8.75 (222)	4.47 (114)	7.13 (181)	7.13 (181)	5.19 (132)	10.5	7.5 (3.4)
SJIC6080804-JB	8 (203)	8 (203)	4 (102)	6.00 (152)	8.75 (222)	2.47(63)	7.13 (181)	7.13 (181)	5.19 (132)	8.4	7.9 (3.6)
SJIC6080806-JB	8 (203)	8 (203)	6 (152)	6.00 (152)	8.75 (222)	4.47 (114)	7.13 (181)	7.13 (181)	5.19 (132)	11.4	8.33 (3.8)
SJIC6100804-JB	10 (254)	8 (203)	4 (102)	6.00 (152)	10.75 (273)	2.47(63)	9.13 (232)	7.13 (181)	7.19 (183)	8.4	9.5 (4.4)
SJIC6100806-JB	10 (254)	8 (203)	6 (152)	6.00 (152)	10.75 (273)	4.47 (114)	9.13 (232)	7.13 (181)	7.19 (183)	12.2	10 (4.5)
SJIC6101006-JB	10 (254)	10 (254)	6 (152)	8.00 (203)	10.75 (273)	4.47 (114)	9.13 (232)	9.13 (232)	7.19 (183)	13	11 (5)
SJIC6121005-JB	12 (305)	10 (254)	5 (127)	8.00 (203)	12.75 (324)	3.47 (88)	11.13 (283)	9.13 (232)	9.19 (233)	8.4	12 (5.4)
SJIC6121006-JB	12 (305)	10 (254)	6 (152)	8.00 (203)	12.75 (324)	4.47 (114)	11.13 (283)	9.13 (232)	9.19 (233)	14	13 (5.9)
SJIC6121206-JB	12 (305)	12 (305)	6 (152)	10.00 (254)	12.75 (324)	4.47 (114)	11.13 (283)	11.13 (283)	9.19 (233)	15	15 (6.8)
SJIC6141206-JB	14 (356)	12 (305)	6 (152)	10.00 (254)	14.75 (375)	4.47 (114)	13.13 (334)	11.13 (283)	11.19 (284)	16	16 (7.3)
SJIC6161406-JB	16 (406)	14 (356)	6 (152)	12 (305)	16.75 (425)	4.47 (114)	15.13 (384)	13.13 (334)	13.19 (335)	18	20 (9)

SJIC(H) SERIES INTERNAL MOUNTING PAN					
CATALOG NO.	A	B	C	D	THICKNESS
SJIC1010P	7.63 (194)	7.63 (194)	7.00 (178)	7.00 (178)	.13 (3.2)
SJIC1210P	7.63 (194)	9.63 (244)	7.00 (178)	9.00 (228)	.13 (3.2)
SJIC1212P	9.63 (244)	9.63 (244)	9.00 (228)	9.00 (228)	.13 (3.2)
SJIC1412P	9.63 (244)	11.63 (295)	9.00 (228)	11.00 (279)	.13 (3.2)
SJIC1614P	11.63 (295)	13.63 (346)	11.00 (279)	13.00 (330)	.13 (3.2)

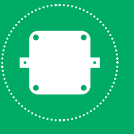
All dimension in. (mm)



Internal mounting pans are made from high strength aluminum alloy. The aluminum alloy is corrosion resistant and can be drill and tapped in the field for ease of installation of components.

Pans come standard with mounting hardware.

SJIC / SJICH MAXIMUM CONDUIT / GLAND OPENINGS					
W/O GLAND PLATE			W/ GLAND PLATE		
BOX DEPTH	MAX NPT	MAX METRIC	BOX DEPTH	MAX NPT	MAX METRIC
4	1"	M32	4	1/2"	M20
5	1-1/2"	M50	5	1-1/4"	M40
6	3"	M80	6	2"	M63



SJICH Enclosures Only • Hinged Screw Cover

TECHNETERM[®]



SJICH Series



SJICH-JB
Empty Enclosure

NEC / CEC Certifications

Class II, Div. 1 & 2, Groups E, F, & G
Class III
**Ex tb / Zone 21 AEx tb, IIIC T80°C/
T100°C/T130°C Db**
Type 3, 4, 4X IP66
Ta=-50°C to +90°C
Certificate 70013827



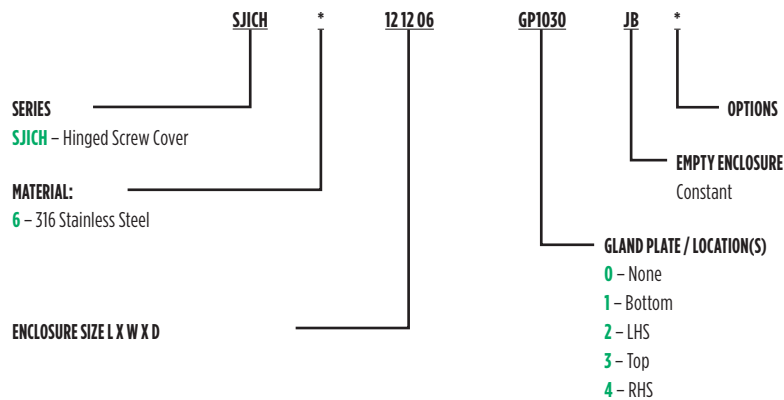
ATEX / IEC Ex Certificate

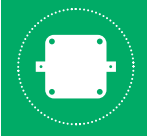


II 2 G D 2813
Ex e IIC Gb
Ex tb IIIC Db IP66
**Service Temperature -55°C to
+135°C**
Sira 14ATEX3156U
IECEX SIR 14.0053U

FEATURES-SPECIFICATIONS

- SJICH Enclosures Features - 11 Sizes
- 316 stainless steel cover screws
- Continuous robot welded seams for a hose down tight seal
- SJICH have continuous, one-piece hinge construction
- Ground/earthing studs in both cover and through wall of the box
- One-piece, high temperature, closed cell silicone gasket with superior recovery and re-sealing properties
- Sturdy 14 gauge box construction helps prevent bending or permanent deflection of the walls when field installing openings
- Welded, one-piece mounting flanges on top and bottom for strength
- Openings for cable glands conduit can be factory or field installed. Gland plates available for all configurations.





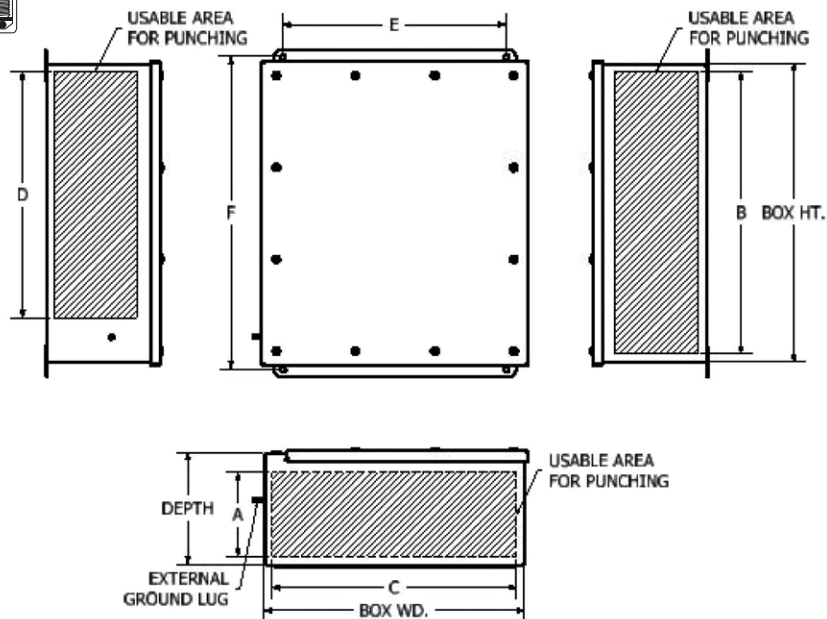
ENCLOSURES SJICH SERIES

SJICH Enclosures Only

TECHNE-TERM[®]

SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X. Ex e IIC Zone 1 IP66 Drain and breather installed.
SU10-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X. Ex e IIC Zone 1 IP66 Drain only installed.
DC	Document Wallet (enclosures 10 x 10 and larger only)
SU9	Special paint finish
SU14	Fungus proofing of enclosures

See enclosure modification page for conduit / gland hole sizes and spacing.



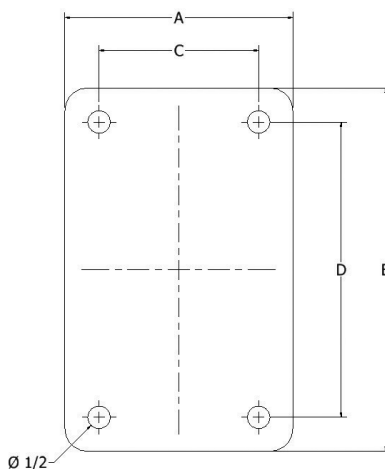
CATALOG NUMBER	HEIGHT IN. (MM)	WIDTH	DEPTH	"E"	"F"	"A" BLANK WALL	"B" BLANK WALL	"C" BLANK WALL	"D" BLANK WALL	(W) MAX. POWER	WEIGHT LBS (KG)
SJICH6080606-JB	8 (203)	6 (152)	6 (152)	4.00 (102)	8.75 (222)	4.47 (114)	7.13 (181)	7.13 (181)	5.19 (132)	10.5	7.5 (3.4)
SJICH6080804-JB	8 (203)	8 (203)	4 (102)	6.00 (152)	8.75 (222)	2.47(63)	7.13 (181)	7.13 (181)	5.19 (132)	8.4	7.9 (3.6)
SJICH6080806-JB	8 (203)	8 (203)	6 (152)	6.00 (152)	8.75 (222)	4.47 (114)	7.13 (181)	7.13 (181)	5.19 (132)	11.4	8.33 (3.8)
SJICH6100804-JB	10 (254)	8 (203)	4 (102)	6.00 (152)	10.75 (273)	2.47(63)	9.13 (232)	7.13 (181)	7.19 (185)	8.4	9.5 (4.4)
SJICH6100806-JB	10 (254)	8 (203)	6 (152)	6.00 (152)	10.75 (273)	4.47 (114)	9.13 (232)	7.13 (181)	7.19 (185)	12.2	10 (4.5)
SJICH6101006-JB	10 (254)	10 (254)	6 (152)	8.00 (203)	10.75 (273)	4.47 (114)	9.13 (232)	9.13 (232)	7.19 (185)	13	11 (5)
SJICH6121005-JB	12 (305)	10 (254)	5 (127)	8.00 (203)	12.75 (324)	3.47 (88)	11.13 (283)	9.13 (232)	9.19 (233)	8.4	12 (5.4)
SJICH6121006-JB	12 (305)	10 (254)	6 (152)	8.00 (203)	12.75 (324)	4.47 (114)	11.13 (283)	9.13 (232)	9.19 (233)	14	13 (5.9)
SJICH6121206-JB	12 (305)	12 (305)	6 (152)	10.00 (254)	12.75 (324)	4.47 (114)	11.13 (283)	11.13 (283)	9.19 (233)	15	15 (6.8)
SJICH6141206-JB	14 (356)	12 (305)	6 (152)	10.00 (254)	14.75 (375)	4.47 (114)	13.13 (334)	11.13 (283)	11.19 (284)	16	16 (7.3)
SJICH6161406-JB	16 (406)	14 (356)	6 (152)	12 (305)	16.75 (425)	4.47 (114)	15.13 (384)	13.13 (334)	13.19 (335)	18	20 (9)

SJIC(H) SERIES INTERNAL MOUNTING PAN					
CATALOG NO.	A	B	C	D	THICKNESS
SJIC1010P	7.63 (194)	7.63 (194)	7.00 (178)	7.00 (178)	.13 (3.2)
SJIC1210P	7.63 (194)	9.63 (244)	7.00 (178)	9.00 (228)	.13 (3.2)
SJIC1212P	9.63 (244)	9.63 (244)	9.00 (228)	9.00 (228)	.13 (3.2)
SJIC1412P	9.63 (244)	11.63 (295)	9.00 (228)	11.00 (279)	.13 (3.2)
SJIC1614P	11.63 (295)	13.63 (346)	11.00 (279)	13.00 (330)	.13 (3.2)

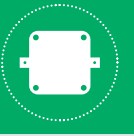
All dimension in. (mm)

Internal mounting pans are made from high strength aluminum alloy. The aluminum alloy is corrosion resistant and can be drill and tapped in the field for ease of installation of components.

Pans come standard with mounting hardware.



SJIC / SJICH MAXIMUM CONDUIT / GLAND OPENINGS					
W/O GROUND PLATE			W/ GROUND PLATE		
BOX DEPTH	MAX NPT	MAX METRIC	BOX DEPTH	MAX NPT	MAX METRIC
4	1"	M32	4	1/2"	M20
5	1-1/2"	M50	5	1-1/4"	M40
6	3"	M80	6	2"	M63



USF / SJIC / SJICH Enclosures



TABLE 1: Minimum distance from edge of box to the center of the conduit / cable entry.

NPT (METRIC)	4"	3-1/2"	3" (M75)	2-1/2" (M63)	2" (M50)	1-1/2" (M40)	1-1/4" (M32)	1" (M25)	3/4" (M20)	1/2" (M16)
IN. (MM)	2-3/4 (70)	2-1/2 (64)	2 (51)	2 (51)	1-5/8 (41)	1-3/8 (35)	1-1/4 (32)	1 (25)	7/8 (22)	3/4 (19)

TABLE 2 Minimum distance from edge of gland plate to the center of the conduit / cable entry.

NPT (METRIC)	4" (M100)	3-1/2" (M80)	3" (M75)	2-1/2" (M63)	2" (M50)	1-1/2" (M40)	1-1/4" (M32)	1" (M25)	3/4" (M20)	1/2" (M16)
IN. (MM)	3-1/4 (83)	3 (76)	2-3/4 (70)	2-1/2 (64)	2-1/8 (54)	1-7/8 (48)	1-3/4 (44)	1-1/2 (38)	1-3/8 (35)	1-1/4 (32)

TABLE 3: NEC / CEC minimum wire bending space from inside wall of the enclosure, North America applications only.

SIZE AWG (MM2)	16 (1.5)	14 (2.5)	12 (4)	10 (6)	8 (10)	6 (16)	4 (25)	2 (35)	1/0 (50)	2/0 (70)	3/0 (95)	4/0 (120)
IN. (MM)	1.5 (38)	1.5 (38)	1.5 (38)	1.5 (38)	1.5 (38)	2 (51)	3 (76)	3.5 (89)	5.5 (140)	6 (152)	6.5 (164)	7 (178)

TABLE 4: Punched hole diameters. For additional sizes not shown please contact the factory.

NPT	4"	3-1/2"	3"	2-1/2"	2"	1-1/2"	1-1/4"	1"	3/4"	1/2"
MAX. HOLE DIA. IN. (MM)	4.53 (115.06)	4.03 (102.36)	3.53 (89.66)	2.905 (73.79)	2.405 (61.08)	1.93 (49.2)	1.69 (42.93)	1.345 (34.16)	1.08 (27.4)	.87 (22.09)
METRIC	M100	M80	M75	M63	M50	M40	M32	M25	M20	M16
MAX. HOLE DIA. MM (IN.)	100.7 (3.94)	80.7 (3.15)	75.7 (2.95)	63.7 (2.48)	50.7 (1.97)	40.7 (1.58)	32.7 (1.26)	25.7 (0.98)	20.7 (0.79)	16.7 (0.63)

TABLE 5: Minimum distance of the center line to center line of the conduit / cable entries.

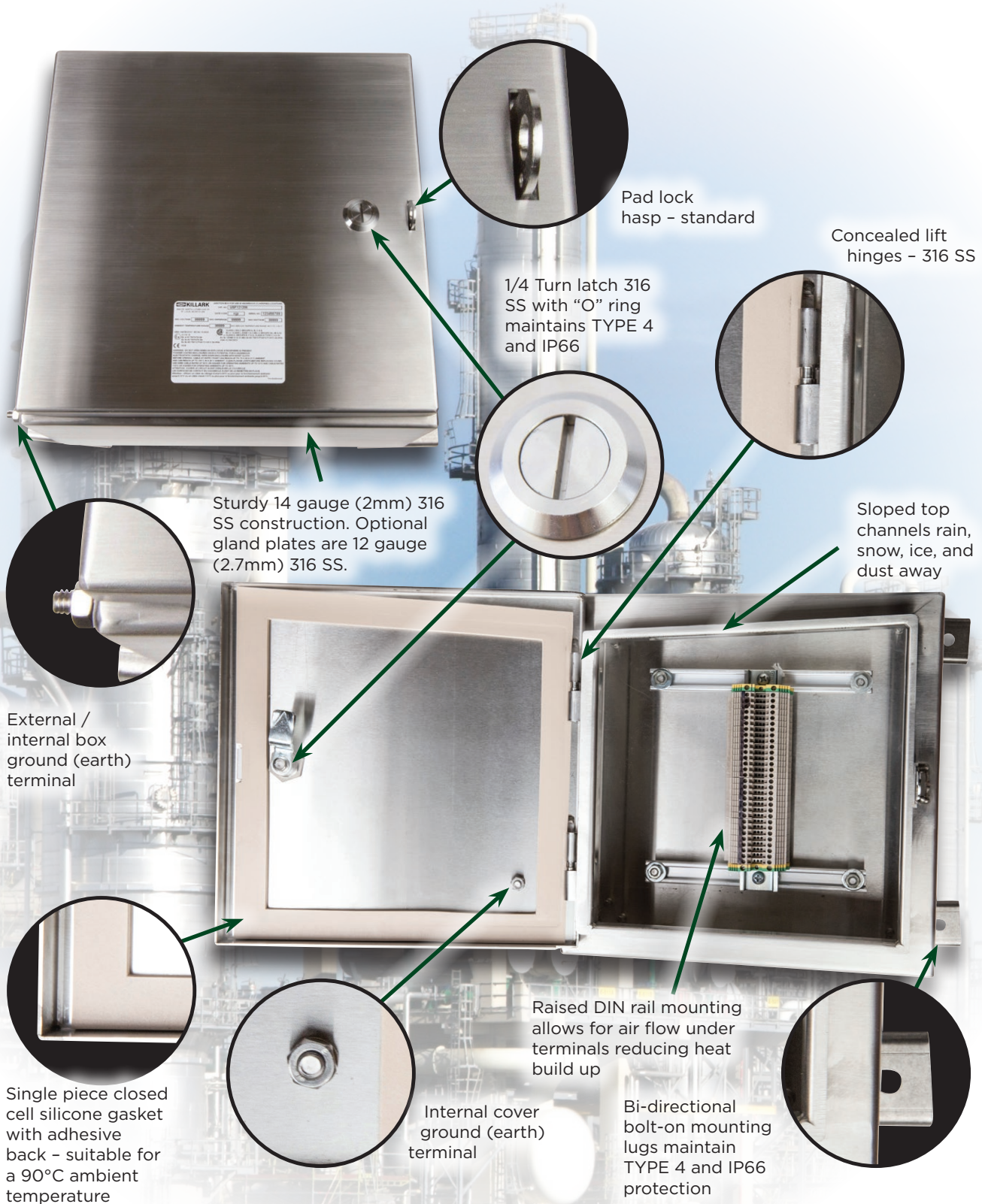
(NPT) [METRIC]	4 [M100]	3 1/2 [M80]	3 [M75]	2 1/2 [M63]	2 [M50]	1 1/2 [M40]	1 1/4 [M32]	1 [M25]	3/4 [M20]	1/2 [M16]
1/2 [M16]	3 5/8 [92mm]	3 3/8 [86mm]	3 1/8 [80mm]	2 3/4 [70mm]	2 1/2 [64mm]	2 1/4 [58mm]	2 1/8 [54mm]	1 7/8 [48mm]	1 3/4 [45mm]	1 5/8 [41mm]
3/4 [M20]	3 3/4 [96mm]	3 1/2 [89mm]	3 1/4 [83mm]	2 7/8 [74mm]	2 5/8 [68mm]	2 3/8 [60mm]	2 1/4 [58mm]	2 [51mm]	1 7/8 [48mm]	
1 [M25]	3 7/8 [99mm]	3 5/8 [92mm]	3 3/8 [86mm]	3 [77mm]	2 3/4 [70mm]	2 1/2 [64mm]	2 3/8 [60mm]	2 1/8 [54mm]		
1 1/4 [M32]	4 1/8 [105mm]	3 7/8 [99mm]	3 1/2 [89mm]	3 1/4 [83mm]	3 [77mm]	2 3/4 [70mm]	2 1/2 [64mm]			
1 1/2 [M40]	4 1/4 [108mm]	4 [102mm]	3 3/4 [96mm]	3 3/8 [86mm]	3 1/8 [80mm]	2 7/8 [73mm]				
2 [M50]	4 3/4 [121mm]	4 1/2 [115mm]	4 [102mm]	3 5/8 [92mm]	3 3/8 [86mm]					
2 1/2 [M63]	4 7/8 [124mm]	4 5/8 [118mm]	4 1/4 [108mm]	3 7/8 [99mm]						
3 [M75]	5 1/4 [134mm]	5 [127mm]	4 5/8 [118mm]							
3 1/2 [M80]	5 3/4 [147mm]	5 1/2 [140mm]								
4 [M100]	6 1/4 [159mm]									

All dimension in. (mm)



ENCLOSURES
USF SERIES

Terminal Boxes for Harsh & Hazardous Environments



Pad lock
hasp - standard

Concealed lift
hinges - 316 SS

1/4 Turn latch 316
SS with "O" ring
maintains TYPE 4
and IP66

Sturdy 14 gauge (2mm) 316
SS construction. Optional
gland plates are 12 gauge
(2.7mm) 316 SS.

Sloped top
channels rain,
snow, ice, and
dust away

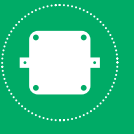
External /
internal box
ground (earth)
terminal

Raised DIN rail mounting
allows for air flow under
terminals reducing heat
build up

Single piece closed
cell silicone gasket
back - suitable for
a 90°C ambient
temperature

Internal cover
ground (earth)
terminal

Bi-directional
bolt-on mounting
lugs maintain
TYPE 4 and IP66
protection



USF Terminal Boxes

TECHNE-TERM[®]



USF Series



USF
Terminal Boxes

NEC / CEC Certifications

Class I, Div. 2 Groups A, B, C, & D
Ex eb / Class I Zone 1 AEx eb IIC Gb
Class II, Div. 1 & 2, Groups E, F, & G
Class III
Ex tb Zone 21 AEx tb, IIC T80°C / T100°C/T130°C Db
Type 3, 4, 4X IP66
Ta = -50°C to +40°C T6
Ta = -50°C to +55°C T5
Ta = -50°C to +90°C T4
Certificate 70013827



ATEX / IEC Ex Certificate

II 2 G D CE 2813
Ex eb IIC T6/T5/T4 Gb
Ex ib IIC T6/T5/T4 Gb
Ex tb IIC T80°C/T100°C/T130°C Db IP66
Ta = -50°C to +40°C
Ta = -50°C to +55°C
Ta = -50°C to +90°C
Service Temperature -55°C to +135°C
Sira 14ATEX3157
IECEx SIR 14.0055
IEEx 15.0155X



FEATURES-SPECIFICATIONS

USF Terminal Box Features - 38 Sizes

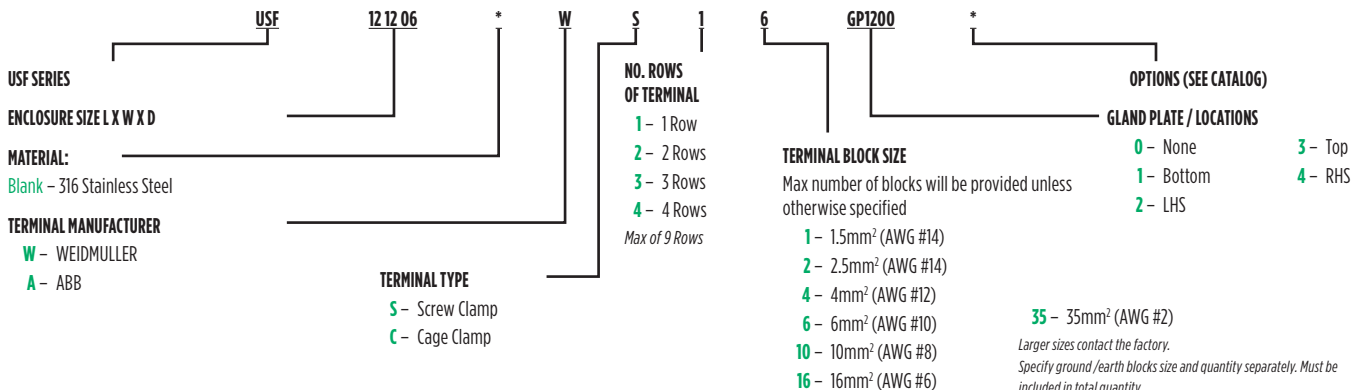
- Offered with ABB or Weidmuller terminal blocks in choice of screw terminal or cage (spring) clamp style with DIN rail mounted. Intrinsically safe terminals also available.
- Externally sloped top flange directs water, melting ice/snow and dust build-up away from the opening side of the door
- Continuous robot welded seams for a hose down tight seal

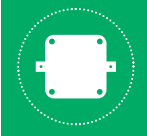
- Concealed hinges with removable hinge pins. Standard on left side.
- Doors are interchangeable and easily removable
- Ground/earthing studs in both cover and through wall of the box
- Quarter-turn 316 stainless steel latch
- One-piece, high temperature, closed cell silicone gasket with superior recovery and re-sealing properties
- Sturdy 14 gauge box construction helps prevent bending or permanent deflection of the walls when field installing openings

- Bi-directional, movable mounting lugs for the widest flexibility during installations
- Openings for cable glands conduit can be factory or field installed. Gland plates available for all configurations.

Materials

- 316 stainless steel as standard.
- Optional material 304 stainless steel, carbon steel or aluminum.
- All external hardware 316 stainless steel.
- Gasket - one-piece, high temperature closed cell silicone





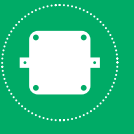
ENCLOSURES
USF SERIES

USF Terminal Boxes



CATALOG NUMBER	HEIGHT IN. (MM)	WIDTH	DEPTH	"E"	"F"	"G"	"H"	"A" GLAND PLATE	"B" GLAND PLATE	"C" GLAND PLATE	WEIGHT LBS (KG)
USF121206	12 (305)	12 (305)	6 (153)	10.69 (272)	10.69 (272)	13.63 (346)	13.63 (346)	4.06 (103)	9.63 (245)	9.63 (245)	14 (6.3)
USF161206	16 (407)	12 (305)	6 (153)	10.69 (272)	14.69 (373)	13.63 (346)	17.63 (448)	4.06 (103)	13.38 (340)	9.63 (245)	20 (9.1)
USF161208	16 (407)	12 (305)	8 (203)	10.69 (272)	14.69 (373)	13.63 (346)	17.63 (448)	6.06 (154)	13.38 (340)	9.63 (245)	22 (10)
USF161210	16 (407)	12 (305)	10 (254)	10.69 (272)	14.69 (373)	13.63 (346)	17.63 (448)	8.06 (205)	13.38 (340)	9.63 (245)	24 (10.9)
USF161606	16 (407)	16 (407)	6 (153)	14.69 (373)	14.69 (373)	17.63 (448)	17.63 (448)	4.06 (103)	13.38 (340)	13.38 (340)	26 (11.8)
USF161608	16 (407)	16 (407)	8 (203)	14.69 (373)	14.69 (373)	17.63 (448)	17.63 (448)	6.06 (154)	13.38 (340)	13.38 (340)	27 (12.2)
USF161610	16 (407)	16 (407)	10 (254)	14.69 (373)	14.69 (373)	17.63 (448)	17.63 (448)	8.06 (205)	13.38 (340)	13.38 (340)	29 (13.2)
USF201606	20 (508)	16 (407)	6 (153)	18.69 (475)	14.69 (373)	21.63 (549)	17.63 (448)	4.06 (103)	17.38 (441)	13.38 (340)	29 (13.2)
USF201608	20 (508)	16 (407)	8 (203)	14.69 (373)	18.69 (475)	17.63 (448)	21.63 (549)	6.06 (154)	17.38 (441)	13.38 (340)	31 (14)
USF201610	20 (508)	16 (407)	10 (254)	14.69 (373)	18.69 (475)	17.63 (448)	21.63 (549)	8.06 (205)	17.38 (441)	13.38 (340)	32 (14.5)
USF202006	20 (508)	20 (508)	6 (153)	14.69 (373)	18.69 (475)	17.63 (448)	21.63 (549)	4.06 (103)	17.38 (441)	17.38 (441)	35 (15.9)
USF202008	20 (508)	20 (508)	8 (203)	18.69 (475)	18.69 (475)	21.63 (549)	21.63 (549)	6.06 (154)	17.38 (441)	17.38 (441)	37 (16.8)
USF202010	20 (508)	20 (508)	10 (254)	18.69 (475)	18.69 (475)	21.63 (549)	21.63 (549)	8.06 (205)	17.38 (441)	17.38 (441)	39 (17.7)
USF202012	20 (508)	20 (508)	12 (305)	18.69 (475)	18.69 (475)	21.63 (549)	21.63 (549)	10.06 (255)	17.38 (441)	17.38 (441)	44 (20)
USF241606	24 (610)	16 (407)	6 (153)	14.69 (373)	22.69 (576)	17.63 (448)	25.63 (651)	4.06 (103)	21.38 (543)	13.38 (340)	35 (15.9)
USF241608	24 (610)	16 (407)	8 (203)	18.69 (475)	18.69 (475)	21.63 (549)	21.63 (549)	6.06 (154)	21.38 (543)	13.38 (340)	36 (16.3)
USF241610	24 (610)	16 (407)	10 (254)	14.69 (373)	22.69 (576)	17.63 (448)	25.63 (651)	8.06 (205)	21.38 (543)	13.38 (340)	38 (17.2)
USF242006	24 (610)	20 (508)	6 (153)	14.69 (373)	22.69 (576)	17.63 (448)	25.63 (651)	4.06 (103)	21.38 (543)	17.38 (441)	42 (19)
USF242008	24 (610)	20 (508)	8 (203)	18.69 (475)	22.69 (576)	21.63 (549)	25.63 (651)	6.06 (154)	21.38 (543)	17.38 (441)	43 (19.5)
USF242010	24 (610)	20 (508)	10 (254)	18.69 (475)	22.69 (576)	21.63 (549)	25.63 (651)	8.06 (205)	21.38 (543)	17.38 (441)	44 (20)
USF242012	24 (610)	20 (508)	12 (305)	18.69 (475)	22.69 (576)	21.63 (549)	25.63 (651)	10.06 (255)	21.38 (543)	17.38 (441)	46 (20.9)
USF242406	24 (610)	24 (610)	6 (153)	18.69 (475)	22.69 (576)	21.63 (549)	25.63 (651)	4.06 (103)	21.38 (543)	21.38 (543)	49 (22.2)
USF242408	24 (610)	24 (610)	8 (203)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	6.06 (154)	21.38 (543)	21.38 (543)	53 (24)
USF242410	24 (610)	24 (610)	10 (254)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	8.06 (205)	21.38 (543)	21.38 (543)	58 (26.3)
USF242412	24 (610)	24 (610)	12 (305)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	10.06 (255)	21.38 (543)	21.38 (543)	62 (28.1)
USF242416	24 (610)	24 (610)	16 (407)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	14.06 (357)	21.38 (543)	21.38 (543)	71 (32.2)
USF242420	24 (610)	24 (610)	20 (508)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	18.06 (458)	21.38 (543)	21.38 (543)	78 (35.4)
USF302008	30 (762)	20 (508)	8 (203)	22.69 (576)	22.69 (576)	25.63 (651)	25.63 (651)	6.06 (154)	26.00 (660)	17.38 (441)	59 (26.8)
USF302010	30 (762)	20 (508)	10 (254)	18.69 (475)	28.69 (729)	21.63 (549)	31.63 (803)	8.06 (205)	26.00 (660)	17.38 (441)	61 (27.7)
USF302408	30 (762)	24 (610)	8 (203)	18.69 (475)	28.69 (729)	21.63 (549)	31.63 (803)	6.06 (154)	26.00 (660)	21.38 (543)	56 (25.4)
USF302410	30 (762)	24 (610)	10 (254)	22.69 (576)	28.69 (729)	25.63 (651)	31.63 (803)	8.06 (205)	26.00 (660)	21.38 (543)	63 (28.6)
USF302412	30 (762)	24 (610)	12 (305)	22.69 (576)	28.69 (729)	25.63 (651)	31.63 (803)	10.06 (255)	26.00 (660)	21.38 (543)	64 (29)
USF302420	30 (762)	24 (610)	20 (508)	22.69 (576)	28.69 (729)	25.63 (651)	31.63 (803)	18.06 (458)	26.00 (660)	21.38 (543)	99 (45)
USF303008	30 (762)	30 (762)	8 (203)	22.69 (576)	28.69 (729)	25.63 (651)	31.63 (803)	6.06 (154)	26.00 (660)	26.00 (660)	68 (30.8)
USF303010	30 (762)	30 (762)	10 (254)	28.69 (729)	28.69 (729)	31.63 (803)	31.63 (803)	8.06 (205)	26.00 (660)	26.00 (660)	72 (32.7)
USF303012	30 (762)	30 (762)	12 (305)	28.69 (729)	28.69 (729)	31.63 (803)	31.63 (803)	10.06 (255)	26.00 (660)	26.00 (660)	89 (40.4)
USF362408	36 (915)	24 (610)	8 (203)	34.69 (881)	28.69 (729)	37.63 (956)	31.63 (803)	6.06 (154)	33.00 (838)	21.38 (543)	66 (30)
USF362410	36 (915)	24 (610)	10 (254)	9.79 (249)	35.20 (894)	8.15 (207)	27.63 (702)	8.06 (205)	33.00 (838)	21.38 (543)	70 (31.8)

All dimension in. (mm)



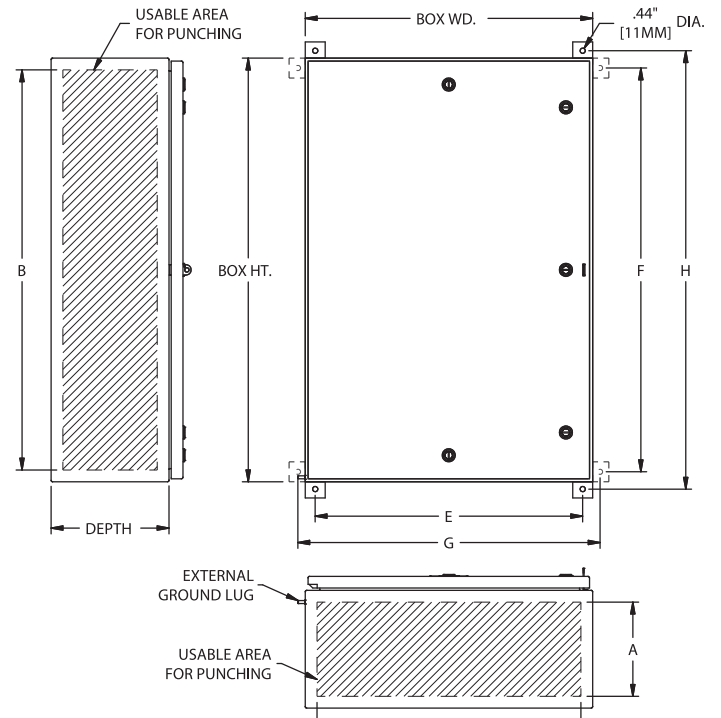
USF Terminal Boxes



CATALOG NUMBER	"A" BLANK WALL AREA	"B" BLANK WALL AREA	"C" BLANK WALL AREA	(W) MAX. POWER
USF121206	5.74 (146)	10.93 (277)	10.93 (277)	15.0
USF161206	5.74 (146)	14.93 (379)	10.93 (277)	17.0
USF161208	7.74 (196)	14.93 (379)	10.93 (277)	20.6
USF161210	9.74 (247)	14.93 (379)	10.93 (277)	23.5
USF161606	5.74 (146)	14.93 (379)	14.93 (379)	19.0
USF161608	7.74 (196)	14.93 (379)	14.93 (379)	20.0
USF161610	9.74 (247)	14.93 (379)	14.93 (379)	25.0
USF201606	5.74 (146)	18.93 (480)	14.93 (379)	21.0
USF201608	7.74 (196)	18.93 (480)	14.93 (379)	23.0
USF201610	9.74 (247)	18.93 (480)	14.93 (379)	26.0
USF202006	5.74 (146)	18.93 (480)	18.93 (480)	24.3
USF202008	7.74 (196)	18.93 (480)	18.93 (480)	26.0
USF202010	9.74 (247)	18.93 (480)	18.93 (480)	30.0
USF202012	11.74 (298)	18.93 (480)	18.93 (480)	36.0
USF241606	5.74 (146)	22.93 (582)	14.93 (379)	35.0
USF241608	7.74 (196)	22.93 (582)	14.93 (379)	36.0
USF241610	9.74 (247)	22.93 (582)	14.93 (379)	31.0
USF242006	5.74 (146)	22.93 (582)	18.93 (480)	24.5
USF242008	7.74 (196)	22.93 (582)	18.93 (480)	31.5
USF242010	9.74 (247)	22.93 (582)	18.93 (480)	33.6
USF242012	11.74 (298)	22.93 (582)	18.93 (480)	36.0
USF242406	5.74 (146)	22.93 (582)	22.93 (582)	25.8
USF242408	7.74 (196)	22.93 (582)	22.93 (582)	34.0
USF242410	9.74 (247)	22.93 (582)	22.93 (582)	34.0
USF242412	11.74 (298)	22.93 (582)	22.93 (582)	38.0
USF242416	15.74 (400)	22.93 (582)	22.93 (582)	42.0
USF242420	19.74 (501)	22.93 (582)	22.93 (582)	57.3
USF302008	7.74 (196)	28.93 (735)	18.93 (480)	36.5
USF302010	9.74 (247)	28.93 (735)	18.93 (480)	36.0
USF302408	7.74 (196)	28.93 (735)	22.93 (582)	39.0
USF302410	9.74 (247)	28.93 (735)	22.93 (582)	38.0
USF302412	11.74 (298)	28.93 (735)	22.93 (582)	40.0
USF302420	19.74 (501)	28.93 (735)	22.93 (582)	57.3
USF303008	7.74 (196)	28.93 (735)	28.93 (735)	43.0
USF303010	9.74 (247)	28.93 (735)	28.93 (735)	40.0
USF303012	11.74 (298)	28.93 (735)	28.93 (735)	46.0
USF362408	7.74 (196)	34.93 (887)	22.93 (582)	44.0
USF362410	9.74 (247)	34.93 (887)	22.93 (582)	40.0

All dimension in. (mm)

USF MAXIMUM CONDUIT / GLAND OPENINGS					
W/O GLAND PLATE			W/ GLAND PLATE		
BOX DEPTH	MAX NPT	MAX METRIC	BOX DEPTH	MAX NPT	MAX METRIC
6	3-1/2"	M100	6	2-1/2"	M75
8	4"	M100	8	4"	M100
10	4"	M100	10	4"	M100
12	4"	M100	12	4"	M100
16	4"	M100	16	4"	M100
20	4"	M100	20	4"	M100



Standard terminal offering

- ABB ZS Screw Clamp
- ABB ZK Cage (Spring) Clamp
- Weidmuller WD Screw Clamp
- Weidmuller ZD Cage (Spring) Clamp

Additional ABB and Weidmuller terminal blocks available. Contact the factory for more information.

Terminals are mounted on TS-35 DIN rail. The rails are mounted to raised collared studs or unistrut rails which adds additional air flow and wire room.

See terminal block pages for maximum quantity, sizes and rows of blocks per enclosures.

Specify ground / earth blocks size and quantity separately. Must be included in total quantity.

The USF terminal boxes are suitable for use with Wago, Phoenix and Klemsan Elektrik terminals.

Options

- Panel ID tag 316 stainless steel
- Tamperproof latches
- Key latches
- Copper ground / earth bars

See enclosure modification page for conduit / gland holes sizes and spacing.



ENCLOSURES
USF SERIES

ABB Terminals

ABB ZS Series Screw Terminal

ZS 4	32 AMPS 4MM2 690VAC (12 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	33	66	99					
USF1612**	52	104	156					
USF1616**	52	104	156	208				
USF2016**	72	144	216	288				
USF2020**	72	144	216	288	360			
USF2416**	91	182	273	364				
USF2420**	91	182	273	364	455			
USF2424**	91	182	273	364	455	546		
USF3020**	114	228	342	456	570			
USF3024**	114	228	342	456	570	684		
USF3030**	114	228	342	456	570	684	798	912
USF3624**	148	296	444	592	740	888		

ZS 6	41 AMPS 6MM2 690VAC (10 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	29	58	87					
USF1612**	45	90	135					
USF1616**	45	90	135	180				
USF2016**	62	124	186	248				
USF2020**	62	124	186	248	310			
USF2416**	79	158	237	316				
USF2420**	79	158	237	316	395			
USF2424**	79	158	237	316	395	474		
USF3020**	98	196	294	392	490			
USF3024**	98	196	294	392	490	588		
USF3030**	98	196	294	392	490	588	686	784
USF3624**	128	256	384	512	640	768		

ZS 10	57 AMPS 10MM2 690VAC (6 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	21	42						
USF1612**	34	68						
USF1616**	34	68	102					
USF2016**	47	94	141					
USF2020**	47	94	141	188				
USF2416**	59	118	177					
USF2420**	59	118	177	236				
USF2424**	59	118	177	236	295			
USF3020**	74	148	222	296				
USF3024**	74	148	222	296	370			
USF3030**	74	148	222	296	370	444		
USF3624**	96	192	288	384	480			

ZS 16	76 AMPS 16MM2 690VAC (4 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	17	34						
USF1612**	27	54						
USF1616**	27	54						
USF2016**	37	74						
USF2020**	37	74	111					
USF2416**	47	94						
USF2420**	47	94	141					
USF2424**	47	94	141	188				
USF3020**	59	118	177					
USF3024**	59	118	177	236				
USF3030**	59	118	177	236	295			
USF3624**	77	154	231	308				

ZS 35	125 AMPS 35MM2 690VAC (1/0 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	10							
USF1612**	17							
USF1616**	17							
USF2016**	23							
USF2020**	23	46						
USF2416**	29							
USF2420**	29	58						
USF2424**	29	58						
USF3020**	37	74						
USF3024**	37	74						
USF3030**	37	74	111					
USF3624**	48	96						

ZS 4-D1	29 AMPS 4MM2 440VAC (12 AWG)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	33	66						
USF1612**	52	104						
USF1616**	52	104	156					
USF2016**	72	144	216	288				
USF2020**	72	144	216	288				
USF2416**	91	182	273	364				
USF2420**	91	182	273	364	455			
USF2424**	91	182	273	364	455			
USF3020**	114	228	342	456	570			
USF3024**	114	228	342	456	570	684		
USF3030**	114	228	342	456	570	684		
USF3624**	148	296	444	592	740			

ABB ZS Series Screw Terminal

ZS 6-D1	40 AMPS 6MM2 440VAC (10 AWG)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	28	56						
USF1612**	45	90						
USF1616**	45	90	135					
USF2016**	62	124	186					
USF2020**	62	124	186	248				
USF2416**	79	158	237					
USF2420**	79	158	237	316				
USF2424**	79	158	237	316	395			
USF3020**	98	196	294	392				
USF3024**	98	196	294	392	490			
USF3030**	98	196	294	392	490	588		
USF3624**	128	256	384	512	640			

ZS 4-D2	29 AMPS 4MM2 440VAC (12 AWG)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	33	66						
USF1612**	52	104						
USF1616**	52	104	156					
USF2016**	72	144	216					
USF2020**	72	144	216	288				
USF2416**	91	182	273					
USF2420**	91	182	273	364				
USF2424**	91	182	273	364	455			
USF3020**	114	228	342	456	570			
USF3024**	114	228	342	456	570	684		
USF3030**	114	228	342	456	570	684		
USF3624**	148	296	444	592	740			

ZS 6-D2	40 AMPS 6MM2 440VAC (10 AWG)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	28	56						
USF1612**	45	90						
USF1616**	45	90	135					
USF2016**	62	124	186					
USF2020**	62	124	186	248				
USF2416**	79	158	237					
USF2420**	79	158	237	316				
USF2424**	79	158	237	316	395			
USF3020**	98	196	294	392	490			
USF3024**	98	196	294	392	490	588		
USF3030**	98	196	294	392	490	588		
USF3624**	128	256	384	512	640			

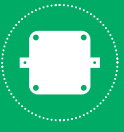
ABB ZK SERIES CAGE CLAMP TERMINALS								
ZK 2.5	21 AMPS 2.5MM2 690VAC (14 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	35	70	105					
USF1612**	54	108	162					
USF1616**	54	108	162	216				
USF2016**	74	148	222	296				
USF2020**	74	148	222	296	370			
USF2416**	93	186	279	372				
USF2420**	93	186	279	372	465			
USF2424**	93	186	279	372	465	558		
USF3020**	116	232	348	464	580			
USF3024**	116	232	348	464	580	696		
USF3030**	116	232	348	464	580	696	812	928
USF3624**	150	300	450	600	750	900		

ZK 4	29 AMPS 4MM2 690VAC (12 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	31	62	93					
USF1612**	47	94	141					
USF1616**	47	94	141	188				
USF2016**	64	128	192	256				
USF2020**	64	128	192	256	320			
USF2416**	81	162	243	324				
USF2420**	81	162	243	324	405			
USF2424**	81	162	243	324	405	486		
USF3020**	101	202	303	404	505			
USF3024**	101	202	303	404	505	606		
USF3030**	101	202	303	404	505	606	707	808
USF3624**	130	260	390	520	650	780		

ZK 6	37 AMPS 6MM2 690VAC (10 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	23	46						
USF1612**	35	70						
USF1616**	35	70	105					
USF2016**	48	96	144					
USF2020**	48	96	144	192				
USF2416**	61	122	183					
USF2420**	61	122	183	244				
USF2424**	61	122	183	244	305			
USF3020**	75	150	225	300				
USF3024**	75	150	225	300	375			
USF3030**	75	150	225	300	375	450		
USF3624**	97	194	291	388	485			

ABB ZK Series Cage Clamp Terminals

ZK 10	51 AMPS 10MM2 690VAC (6 AWG 600VAC)							
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS
USF1212**	18	36						
USF1612**	28	56						
USF1616**	28	56						
USF2016**	38	76						
USF2020**	38	76	114					
USF2416**	48	96						
USF2420**	48	96	144					
USF2424**	48	96	144	192				
USF3020**	60	120	180					
USF3024**	60	120						



Weidmuller Terminals

Weidmuller WDU Series Screw Terminal

WDU 2.5	15 AMPS 2.5MM ² 550VAC (14 AWG)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	35	70					
USF1612**	55	110					
USF1616**	55	110	165				
USF2016**	75	150	225				
USF2020**	75	150	225	300	375		
USF2416**	95	190	285				
USF2420**	95	190	285	380	475		
USF2424**	95	190	285	380	475	570	
USF3020**	118	236	354	472	590		
USF3024**	118	236	354	472	590	708	
USF3030**	118	260	354	472	590	708	826
USF3624**	153	306	459	612	765	918	

WDU 4	28 AMPS 4MM ² 690VAC (12 AWG 600VAC)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	29	58					
USF1612**	46	92					
USF1616**	46	92	138				
USF2016**	62	124	186				
USF2020**	62	124	186	248	310		
USF2416**	79	158	237				
USF2420**	79	158	237	316	395		
USF2424**	79	158	237	316	395	474	
USF3020**	98	196	294	392	490		
USF3024**	98	196	294	392	490	588	
USF3030**	98	260	294	392	490	588	686
USF3624**	127	254	381	508	635	762	

WDU 6	36 AMPS 6MM ² 550VAC (10 AWG)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	23	46					
USF1612**	35	70					
USF1616**	35	70	105				
USF2016**	48	96	144				
USF2020**	48	96	144	192	240		
USF2416**	61	122	183				
USF2420**	61	122	183	244	305		
USF2424**	61	122	183	244	305	366	
USF3020**	76	152	228	304	380		
USF3024**	76	152	228	304	380	456	
USF3030**	76	152	228	304	380	456	532
USF3624**	98	196	294	392	490	588	

WDU 10	50 AMPS 10MM ² 550VAC (8 AWG)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	18	36					
USF1612**	28	56					
USF1616**	28	56	84				
USF2016**	38	76	114				
USF2020**	38	76	114	152			
USF2416**	48	96	144				
USF2420**	48	96	144	192			
USF2424**	48	96	144	192	240		
USF3020**	60	120	180	240			
USF3024**	60	120	180	240	300		
USF3030**	60	120	180	240	300	360	420
USF3624**	78	156	234	312	390		

WDU 16	66 AMPS 16MM ² 690VAC (6 AWG 600VAC)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	14	28					
USF1612**	22	44					
USF1616**	22	44	66				
USF2016**	30	60	90				
USF2020**	30	60	90	120			
USF2416**	39	78	117				
USF2420**	39	78	117	156			
USF2424**	39	78	117	156	195		
USF3020**	48	96	144	192			
USF3024**	48	96	144	192	240		
USF3030**	48	96	144	192	240	288	
USF3624**	63	126	189	252	315		

WDU 35	109 AMPS 35MM ² 690VAC (2 AWG 600VAC)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	10						
USF1612**	17						
USF1616**	17	34					
USF2016**	23	46					
USF2020**	23	46	69				
USF2416**	29	58					
USF2420**	29	58	87				
USF2424**	29	58	87				
USF3020**	37	74	111				
USF3024**	37	74	111				
USF3030**	37	74	111	148			
USF3624**	48	96	144				

Weidmuller ZDU Series Cage Clamp Terminals

ZDU 2.5	21 AMPS 2.5MM ² 550VAC (14 AWG)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	35	70					
USF1612**	55	110					
USF1616**	55	110	165				
USF2016**	75	150	225				
USF2020**	75	150	225	300			
USF2416**	95	190	285				
USF2420**	95	190	285	380			
USF2424**	95	190	285	380	475	570	
USF3020**	118	236	354	472			
USF3024**	118	236	354	472	590	708	
USF3030**	118	236	354	472	590	708	826
USF3624**	153	306	459	612	765	918	

ZDU 4	28 AMPS 4MM ² 550VAC (12 AWG)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	29	58					
USF1612**	45	90					
USF1616**	45	90	135				
USF2016**	62	124	186				
USF2020**	62	124	186	248			
USF2416**	79	158	237				
USF2420**	79	158	237	316			
USF2424**	79	158	237	316	395	474	
USF3020**	98	196	294	392			
USF3024**	98	196	294	392	490	588	
USF3030**	98	196	294	392	490	588	686
USF3624**	127	254	381	508	635	762	

ZDU 6	36 AMPS 6MM ² 550VAC (10 AWG)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	21	42					
USF1612**	34	68					
USF1616**	34	68	102				
USF2016**	46	92	138				
USF2020**	46	92	138	184			
USF2416**	59	118	177				
USF2420**	59	118	177	236			
USF2424**	59	118	177	236	295		
USF3020**	73	146	219	292			
USF3024**	73	146	219	292	365		
USF3030**	73	146	219	292	365	438	511
USF3624**	95	190	285	380	475		

ZDU 10	50 AMPS 10MM ² 550VAC (8 AWG)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	17	35					
USF1612**	27	54					
USF1616**	27	54	81				
USF2016**	37	74	111				
USF2020**	37	74	111	148			
USF2416**	47	94	141				
USF2420**	47	94	141	188			
USF2424**	47	94	141	188	236		
USF3020**	59	118	177	236			
USF3024**	59	118	177	236	295		
USF3030**	59	118	177	236	295		
USF3624**	76	152	228	304			

ZDU 16	66 AMPS 16MM ² 690VAC (6 AWG 600VAC)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	14	28					
USF1612**	22	44					
USF1616**	22	44	66				
USF2016**	30	60	90				
USF2020**	30	60	90	120			
USF2416**	39	78	117				
USF2420**	39	78	117	156			
USF2424**	39	78	117	156	195		
USF3020**	48	96	144	192			
USF3024**	48	96	144	192	240		
USF3030**	48	96	144	192	240	288	
USF3624**	63	126	189	252			

ZDU 35	109 AMPS 35MM ² 690VAC (2 AWG 600VAC)						
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS
USF1212**	11						
USF1612**	17						
USF1616**	17	34					
USF2016**	23	46					
USF2020**	23	46	69				
USF2416**	29	58					
USF2420**	29	58	87				
USF2424**	29	58	87				
USF3020**	37	74	111				
USF3024**	37	74	111				
USF3030**	37	74	111	148			
USF3624**	48	96					

Weidmuller WDUN Series Screw Clamp Terminals

WDU 2.5N	15 AMPS 2.5MM ² 440VAC (14 AWG)								
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS	9ROWS
USF1212**	34	68	102						
USF1612**	54	108	162						
USF1616**	54	108	162	216					
USF2016**	74	148	222	296					
USF2020**	74	148	222	296	370				
USF2416**	94	188	282	376					
USF2420**	94	188	282	376	470				
USF2424**	94	188	282	376	470	564	658		
USF3020**	118	236	354	472	590				
USF3024**	118	236	354	472	590	708	826		
USF3030**	118	260	354	472	590	708	826	944	1062
USF3624**	153	306	459	612	765	918	1377		

WDU 4N	27 AMPS 4MM ² 440VAC (12 AWG)								
	1ROW	2ROWS	3ROWS	4ROWS	5ROWS	6ROWS	7ROWS	8ROWS	9ROWS
USF1212**	29	58							
USF1612**	45	90							
USF1616**	45	90	135						
USF2016**	62	124	186						
USF2020**	62	124	186	248	310				
USF2416**	79	158	237						
USF2420**	79	158	237	316	395				
USF2424**	79	158	237	316	395	474	553		
USF3020**	98	196	294	392	490				

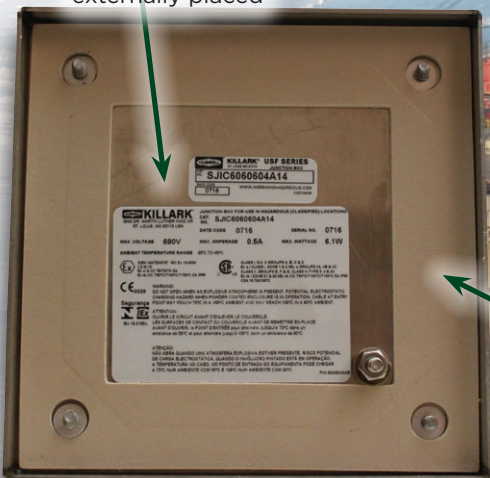


ENCLOSURES SJIC SERIES

Terminal Boxes for Harsh & Hazardous Environments



Certification and electrical rating labels internally and externally placed

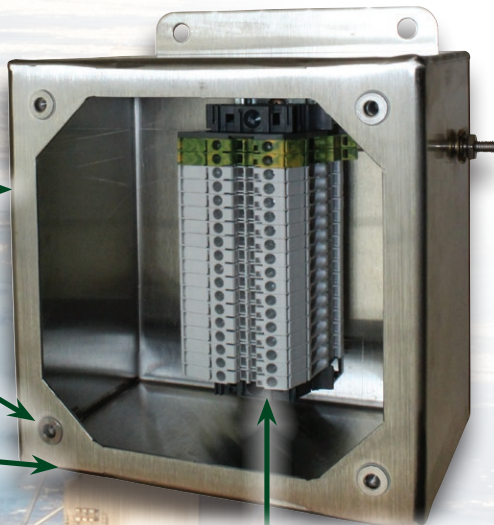


Screw cover style, with or without continuous hinge

3/16" (5mm) wide flat flange for maximum gasket surface contact

Sealed press fit threaded inserts for Type 4 and IP66 applications

Continuous robot welded seams for hose down tight seal



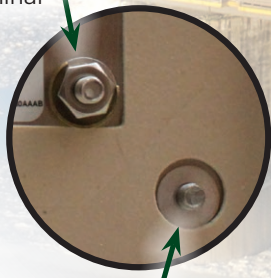
Raised DIN rail mounting allows for air flow and additional wire bend area

Sturdy 14 gauge (2mm) 316 SS construction. Optional gland plates 12 gauge (2.7mm) 316 SS.



Single piece closed cell silicone gasket - adhesive back, suitable for a 90°C ambient temperature

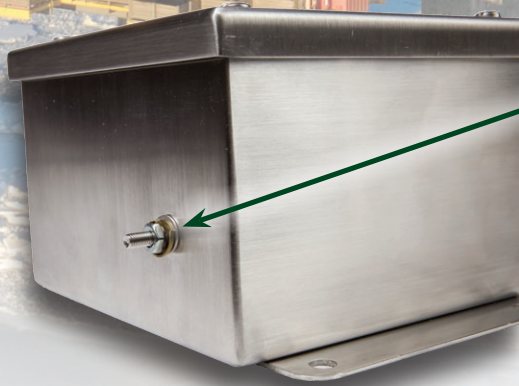
Internal cover ground (earth) terminal

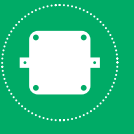


Captive cover screws

Welded mounting lugs, 14 gauge (2mm) top and bottom, 316 SS

External/internal box ground (earth) terminals





SJIC & SJICH Terminal Boxes • Screw Cover & Hinged Screw Cover

TECHNE-TERM[®]



SJIC Series



USF
 Terminal Boxes

NEC / CEC Certifications

Class I, Div. 2 Groups A, B, C, & D
Ex eb / Class I Zone 1 AEx eb IIC Gb
Class II, Div. 1 & 2, Groups E, F, & G
Class III
**Ex tb Zone 21 AEx tb, IIC T80°C/
 T100°C/T130°C Db**
Type 3, 4, 4X IP66
Ta = -50°C to +40°C T6
Ta = -50°C to +55°C T5
Ta = -50°C to +90°C T4
Certificate 70013827



ATEX / IEC Ex Certificate

II 2 G D CE 2813
Ex eb IIC T6/T5/T4 Gb
Ex ib IIC T6/T5/T4 Gb
Ex tb IIC T80°C/T100°C/T130°C
Db IP66
Ta = -50°C to +40°C
Ta = -50°C to +55°C
Ta = -50°C to +90°C
Service Temperature -55°C to +135°C
Sira 14ATEX3157
IECEX SIR 14.0055
IEEx 15.0155X



FEATURES-SPECIFICATIONS

SJIC Enclosures Features - 15 Sizes

SJICH Enclosures Features - 11 Sizes

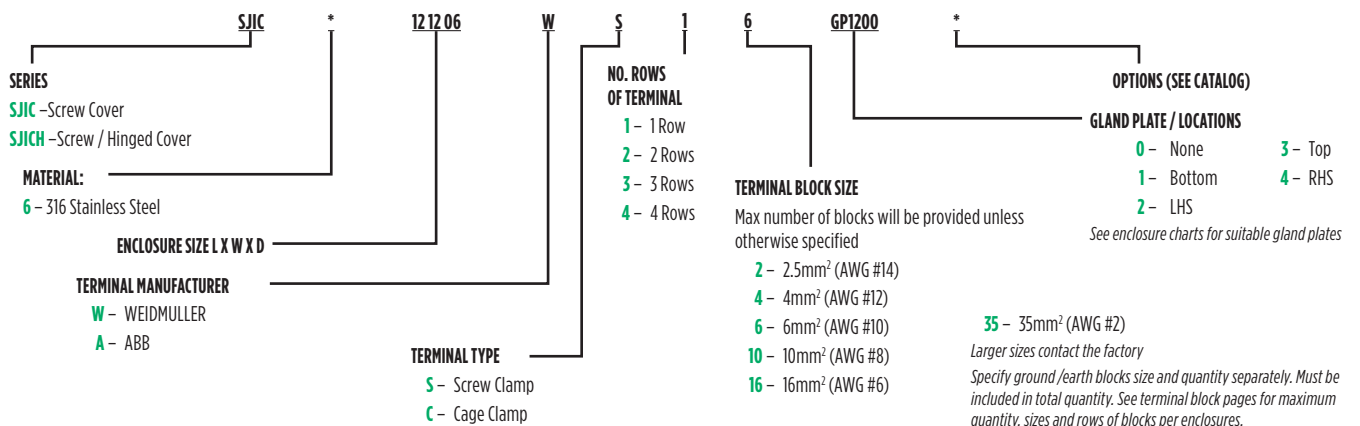
- Offered with ABB or Weidmuller terminal blocks in choice of screw terminal or cage (spring) clamp style with DIN rail mounted. Intrinsically safe terminals also available.
- Screw covers 316 stainless steel
- Continuous robot welded seams for a hose down tight seal

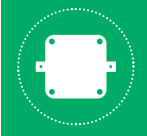
- SJIC doors are interchangeable and easily removable
- SJICH have continuous, one-piece hinge construction. Standard on left side.
- Ground/earthing studs in both cover and through wall of the box
- One-piece, high temperature, closed cell silicone gasket with superior recovery and re-sealing properties
- Sturdy 14 gauge box construction helps prevent bending or permanent deflection of the walls when field installing openings

- Welded, one-piece mounting flanges on top and bottom for strength
- Openings for glands or conduit factory or field installed - option for gland plates

Materials

- 316 stainless steel as standard
- Optional material 304 stainless steel, carbon steel or aluminum
- All external hardware 316 stainless steel
- Gasket - one-piece, high temperature closed cell silicone





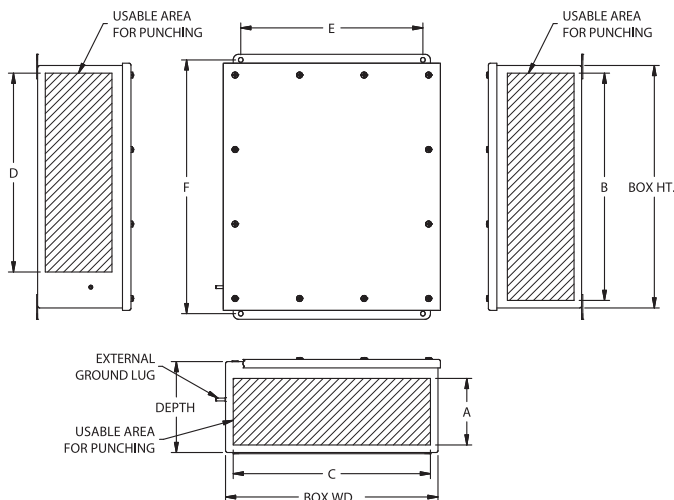
ENCLOSURES SJIC SERIES

SJIC Terminal Boxes

TECHNE-TERM[®]

SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X, Ex e IIC Zone 1 IP66 Drain and breather installed.
SU10-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X, Ex e IIC Zone 1 IP66 Drain only installed.
DC	Document Wallet (enclosures 10 x 10 and larger only)
SU9	Special paint finish
SU14	Fungus proofing of enclosures

See enclosure modification page for conduit / gland hole sizes and spacing.



CATALOG NUMBER	HEIGHT IN. (MM)	WIDTH	DEPTH	"E"	"F"	"A" BLANK WALL	"B" BLANK WALL	"C" BLANK WALL	"D" BLANK WALL
SJIC6040404	4 (102)	4 (102)	4 (102)	2.00 (51)	4.75 (121)	2.47(65)	3.13 (79)	3.13 (79)	1.19 (30)
SJIC6060404	6 (152)	4 (102)	4 (102)	2.00 (51)	6.75 (171)	2.47(65)	5.13 (130)	3.13 (79)	3.19 (81)
SJIC6060604	6 (152)	6 (152)	4 (102)	4.00 (102)	6.75 (171)	2.47(65)	5.13 (130)	5.13 (130)	3.19 (81)
SJIC6060606	6 (152)	6 (152)	6 (152)	4.00 (102)	6.75 (171)	4.47 (114)	5.13 (130)	5.13 (130)	3.19 (81)
SJIC6080606*	8 (203)	6 (152)	6 (152)	4.00 (102)	8.75 (222)	4.47 (114)	7.13 (181)	7.13 (181)	5.19 (132)
SJIC6080804	8 (203)	8 (203)	4 (102)	6.00 (152)	8.75 (222)	2.47(65)	7.13 (181)	7.13 (181)	5.19 (132)
SJIC6080806*	8 (203)	8 (203)	6 (152)	6.00 (152)	8.75 (222)	4.47 (114)	7.13 (181)	7.13 (181)	5.19 (132)
SJIC6100804	10 (254)	8 (203)	4 (102)	6.00 (152)	10.75 (273)	2.47(65)	9.13 (232)	7.13 (181)	7.19 (183)
SJIC6100806*	10 (254)	8 (203)	6 (152)	6.00 (152)	10.75 (273)	4.47 (114)	9.13 (232)	7.13 (181)	7.19 (183)
SJIC6101006*	10 (254)	10 (254)	6 (152)	8.00 (203)	10.75 (273)	4.47 (114)	9.13 (232)	9.13 (232)	7.19 (183)
SJIC6121005*	12 (305)	10 (254)	5 (127)	8.00 (203)	12.75 (324)	3.47 (88)	11.13 (283)	9.13 (232)	9.19 (233)
SJIC6121006*	12 (305)	10 (254)	6 (152)	8.00 (203)	12.75 (324)	4.47 (114)	11.13 (283)	9.13 (232)	9.19 (233)
SJIC6121206*	12 (305)	12 (305)	6 (152)	10.00 (254)	12.75 (324)	4.47 (114)	11.13 (283)	11.13 (283)	9.19 (233)
SJIC6141206*	14 (356)	12 (305)	6 (152)	10.00 (254)	14.75 (375)	4.47 (114)	13.13 (334)	11.13 (283)	11.19 (284)
SJIC6161406*	16 (406)	14 (356)	6 (152)	12 (305)	16.75 (425)	4.47 (114)	15.13 (384)	13.13 (334)	13.19 (335)

All dimension in. (mm)

*Enclosure can be supplied with gland plates

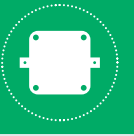
CATALOG NUMBER	(W) MAX. POWER	WEIGHT LBS / (KG)
SJIC6040404	4.1	2.83 (1.3)
SJIC6060404	5.2	3.6 (1.6)
SJIC6060604	6.1	4.9 (2.2)
SJIC6060606	8.4	5.9 (2.7)
SJIC(H)6080606	10.5	7.5 (3.4)
SJIC(H)6080804	8.4	7.9 (3.6)
SJIC(H)6080806	11.4	8.33 (3.8)
SJIC(H)6100804	8.4	9.5 (4.4)
SJIC(H)6100806	12.2	10 (4.5)
SJIC(H)6101006	13	11 (5)
SJIC(H)6121005	8.4	12 (5.4)
SJIC(H)6121006	14	13 (5.9)
SJIC(H)6121206	15	15 (6.8)
SJIC(H)6141206	16	16 (7.3)
SJIC(H)6161406	18	20 (9)

SJIC & SJICH Terminal Boxes

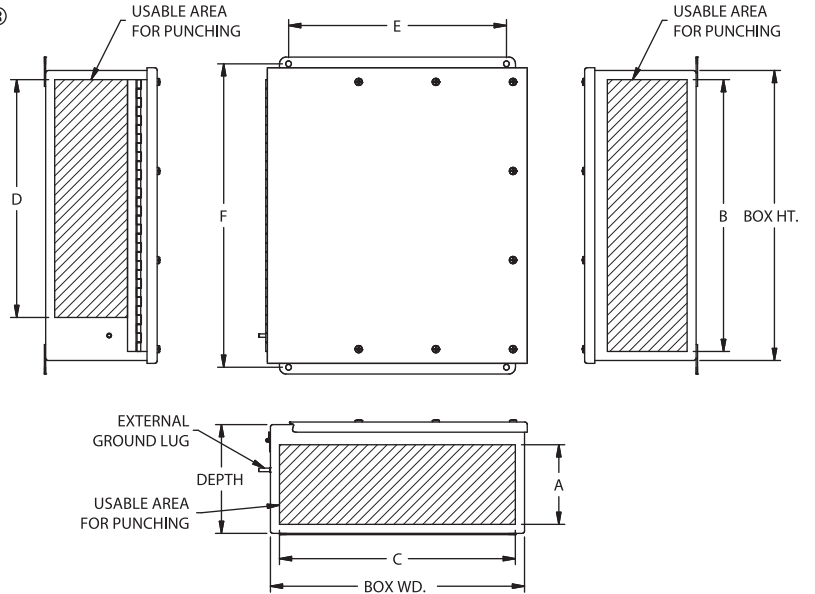
Instock Terminal Boxes

- Populated with ABB ZS4, 32 Amps 4mm² 690VAC (12 AWG 600VAC) terminal blocks.
- Supplied with two ZS 4-PE ground / earth blocks per rail.
- Blank enclosures for field modifications for gland or conduit openings.
- Material - 316 stainless steel

CATALOG NUMBER	TOTAL QTY OF TERMINALS	NO. OF RAILS
SJIC6040404A14	6	1
SJIC6060604A14	16	1
SJIC6100806A14	30	1
SJIC6101006A24	60	2
SJIC6121206A24	80	2



SJICH Terminal Boxes



SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X. Ex e IIC Zone 1 IP66 Drain and breather installed.
SU10-KDE	Class I Div. 2 Grps A, B, C & D, Type 4X. Ex e IIC Zone 1 IP66 Drain only installed.
DC	Document Wallet (enclosures 10 x 10 and larger only)
SU9	Special paint finish
SU14	Fungus proofing of enclosures

See enclosure modification page for conduit / gland hole sizes and spacing.

CATALOG NUMBER	HEIGHT IN. (MM)	WIDTH	DEPTH	"E"	"F"	"A" BLANK WALL	"B" BLANK WALL	"C" BLANK WALL	"D" BLANK WALL	"E" BLANK WALL
SJICH6080606*	8 (203)	6 (152)	6 (152)	4.00 (102)	8.75 (222)	4.47 (114)	7.13 (181)	7.13 (181)	5.19 (132)	3.81 (97)
SJICH6080804	8 (203)	8 (203)	4 (102)	6.00 (152)	8.75 (222)	2.47(63)	7.13 (181)	7.13 (181)	5.19 (132)	1.81 (46)
SJICH6080806*	8 (203)	8 (203)	6 (152)	6.00 (152)	8.75 (222)	4.47 (114)	7.13 (181)	7.13 (181)	5.19 (132)	3.81 (97)
SJICH6100804	10 (254)	8 (203)	4 (102)	6.00 (152)	10.75 (273)	2.47(63)	9.13 (232)	7.13 (181)	7.19 (183)	1.81 (46)
SJICH6100806*	10 (254)	8 (203)	6 (152)	6.00 (152)	10.75 (273)	4.47 (114)	9.13 (232)	7.13 (181)	7.19 (183)	3.81 (97)
SJICH6101006*	10 (254)	10 (254)	6 (152)	8.00 (203)	10.75 (273)	4.47 (114)	9.13 (232)	9.13 (232)	7.19 (183)	3.81 (97)
SJICH6121005*	12 (305)	10 (254)	5 (127)	8.00 (203)	12.75 (324)	3.47 (88)	11.13 (283)	9.13 (232)	9.19 (233)	2.81 (71)
SJICH6121006*	12 (305)	10 (254)	6 (152)	8.00 (203)	12.75 (324)	4.47 (114)	11.13 (283)	9.13 (232)	9.19 (233)	3.81 (97)
SJICH6121206*	12 (305)	12 (305)	6 (152)	10.00 (254)	12.75 (324)	4.47 (114)	11.13 (283)	11.13 (283)	9.19 (233)	3.81 (97)
SJICH6141206*	14 (356)	12 (305)	6 (152)	10.00 (254)	14.75 (375)	4.47 (114)	13.13 (334)	11.13 (283)	11.19 (284)	3.81 (97)
SJICH6161406*	16 (406)	14 (356)	6 (152)	12 (305)	16.75 (425)	4.47 (114)	15.13 (384)	13.13 (334)	13.19 (335)	3.81 (97)

*Enclosure can be supplied with gland plates
All dimension in. (mm)

Standard terminal offering

- ABB ZS Screw Clamp
- ABB ZK Cage (Spring) Clamp
- Weidmuller WD Screw Clamp
- Weidmuller ZD Cage (Spring) Clamp

Terminals are mounted on TS-35 DIN rail. The rails are mounted to raised collared studs or unistrut rails which adds additional air flow and wire room.

Additional ABB and Weidmuller terminal blocks available. Contact the factory for more information.

See terminal block page for maximum number of terminals and rows per enclosure

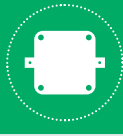
Specify ground / earth blocks size and quantity separately. Must be included in total quantity.

The SJIC(H) terminal boxes are suitable for use with Wago, Phoenix and Klemsan Elektrik terminals

Options

- Panel ID tag 316 stainless steel
- Copper ground / earth bars

SJIC / SJICH MAXIMUM CONDUIT / GLAND OPENINGS					
W/O GLAND PLATE			W/ GLAND PLATE		
BOX DEPTH	MAX NPT	MAX METRIC	BOX DEPTH	MAX NPT	MAX METRIC
4	1"	M32	4	1/2"	M20
5	1-1/2"	M50	5	1-1/4"	M40
6	3"	M80	6	2"	M63



ENCLOSURES

SJIC / SJICH SERIES

ABB Terminals

ABB ZS Series Screw Terminal

ZS 4	32 AMPS 4MM ² 690VAC (12 AWG 600VAC)		
	1 ROW	2 ROWS	3 ROWS
SJIC604040*	8		
SJIC606040*	18		
SJIC606060*	18		
SJIC(H)608060*	28		
SJIC(H)608080*	28		
SJIC(H)610080*	32		
SJIC(H)610100*	32	64	
SJIC(H)612100*	42	84	
SJIC(H)612120*	42	84	
SJIC(H)614120*	51	102	
SJIC(H)616140*	61	122	183
ZS 6	41 AMPS 6MM ² 690VAC (10 AWG 600VAC)		
SJIC604040*	7		
SJIC606040*	15		
SJIC606060*	15		
SJIC(H)608060*	23		
SJIC(H)608080*	23		
SJIC(H)610080*	28		
SJIC(H)610100*	28	56	
SJIC(H)612100*	36	72	
SJIC(H)612120*	36	72	
SJIC(H)614120*	45	90	
SJIC(H)616140*	53	106	159
ZS 10	57 AMPS 10MM ² 690VAC (6 AWG 600VAC)		
SJIC604040*	0		
SJIC606040*	0		
SJIC606060*	11		
SJIC(H)608060*	18		
SJIC(H)608080*	18		
SJIC(H)610080*	21		
SJIC(H)610100*	21		
SJIC(H)612100*	27		
SJIC(H)612120*	27	54	
SJIC(H)614120*	33	66	
SJIC(H)616140*	40	80	
ZS 16	76 AMPS 16MM ² 690VAC (4 AWG 600VAC)		
SJIC604040*	0		
SJIC606040*	0		
SJIC606060*	0		
SJIC(H)608060*	0		
SJIC(H)608080*	14		
SJIC(H)610080*	16		
SJIC(H)610100*	16		
SJIC(H)612100*	22		
SJIC(H)612120*	22	44	
SJIC(H)614120*	27	54	
SJIC(H)616140*	32	64	
ZS 35	125 AMPS 35MM ² 690VAC (1/0 AWG 600VAC)		
SJIC604040*	0		
SJIC606040*	0		
SJIC606060*	0		
SJIC(H)608060*	0		
SJIC(H)608080*	0		
SJIC(H)610080*	10		
SJIC(H)612100*	13		
SJIC(H)612120*	13		
SJIC(H)614120*	16		
SJIC(H)616140*	20	40	
ZS 4-D1	29 AMPS 4MM ² 440VAC (12 AWG)		
SJIC604040*	7		
SJIC606040*	17		
SJIC606060*	17		
SJIC(H)608060*	27		
SJIC(H)608080*	27		
SJIC(H)610080*	32		
SJIC(H)610100*	32	64	
SJIC(H)612100*	41	82	
SJIC(H)612120*	41	82	
SJIC(H)614120*	51	102	
SJIC(H)616140*	61	122	183
ZS 4-D2	40 AMPS 6MM ² 440VAC (10 AWG)		
SJIC604040*	7		
SJIC606040*	17		
SJIC606060*	17		
SJIC(H)608060*	27		
SJIC(H)608080*	27		
SJIC(H)610080*	32		
SJIC(H)610100*	32	64	
SJIC(H)612100*	41	82	
SJIC(H)612120*	41	82	
SJIC(H)614120*	51	102	
SJIC(H)616140*	61	122	183

ZS 6-D1	29 AMPS 4MM ² 440VAC (12 AWG)		
SJIC604040*	6		
SJIC606040*	15		
SJIC606060*	15		
SJIC(H)608060*	23		
SJIC(H)608080*	23		
SJIC(H)610080*	27		
SJIC(H)610100*	27	54	
SJIC(H)612100*	36	72	
SJIC(H)612120*	36	72	
SJIC(H)614120*	44	88	
SJIC(H)616140*	53	106	159
ZS 6-D2	40 AMPS 6MM ² 440VAC (10 AWG)		
SJIC604040*	6		
SJIC606040*	15		
SJIC606060*	15		
SJIC(H)608060*	23		
SJIC(H)608080*	23		
SJIC(H)610080*	27		
SJIC(H)610100*	27	54	
SJIC(H)612100*	36	72	
SJIC(H)612120*	36	72	
SJIC(H)614120*	44	88	
SJIC(H)616140*	53	106	159

ABB ZK Series Cage Clamp Terminals

ZK 2.5	21 AMPS 2.5MM ² 690VAC (14 AWG 600VAC)		
	1 ROW	2 ROWS	3 ROWS
SJIC604040*	10		
SJIC606040*	19		
SJIC606060*	19		
SJIC(H)608060*	29		
SJIC(H)608080*	29		
SJIC(H)610080*	34		
SJIC(H)610100*	34	68	
SJIC(H)612100*	43	86	
SJIC(H)612120*	43	86	129
SJIC(H)614120*	53	106	159
SJIC(H)616140*	63	126	189
ZK 4	29 AMPS 4MM ² 690VAC (12 AWG 600VAC)		
SJIC604040*	8		
SJIC606040*	16		
SJIC606060*	16		
SJIC(H)608060*	25		
SJIC(H)608080*	25		
SJIC(H)610080*	29		
SJIC(H)610100*	29	58	
SJIC(H)612100*	38	76	
SJIC(H)612120*	38	76	114
SJIC(H)614120*	46	92	138
SJIC(H)616140*	55	110	165
ZK 6	37 AMPS 6MM ² 690VAC (10 AWG 600VAC)		
SJIC604040*	6		
SJIC606040*	12		
SJIC606060*	12		
SJIC(H)608060*	19		
SJIC(H)608080*	19		
SJIC(H)610080*	22		
SJIC(H)610100*	22	44	
SJIC(H)612100*	28	56	
SJIC(H)612120*	28	56	
SJIC(H)614120*	35	70	
SJIC(H)616140*	41	82	
ZK 10	51 AMPS 10MM ² 690VAC (6 AWG 600VAC)		
SJIC604040*	10		
SJIC606040*	15		
SJIC606060*	15		
SJIC(H)608060*	17		
SJIC(H)608080*	17		
SJIC(H)610080*	22		
SJIC(H)612100*	22	44	
SJIC(H)612120*	27	54	
SJIC(H)614120*	32	64	
ZK 16	69 AMPS 16MM ² 690VAC (4 AWG 600VAC)		
SJIC604040*	12		
SJIC606040*	14		
SJIC606060*	14		
SJIC(H)608060*	19		
SJIC(H)608080*	19		
SJIC(H)610080*	25		
SJIC(H)612100*	27	54	
ZK 2.5-3P	21 AMPS 2.5MM ² 690VAC (14 AWG 600VAC)		
SJIC604040*	10		
SJIC606040*	19		
SJIC606060*	19		
SJIC(H)608060*	29		
SJIC(H)608080*	29		
SJIC(H)610080*	34		
SJIC(H)610100*	34	68	
SJIC(H)612100*	43	86	
SJIC(H)612120*	43	86	
SJIC(H)614120*	53	106	
SJIC(H)616140*	63	126	189
ZK 4-3P	29 AMPS 4MM ² 690VAC (12 AWG 600VAC)		
SJIC604040*	16		
SJIC606040*	25		
SJIC(H)608060*	25		
SJIC(H)608080*	29		
SJIC(H)610080*	29		
SJIC(H)610100*	29	58	
SJIC(H)612100*	38	76	
SJIC(H)612120*	38	76	
SJIC(H)614120*	46	92	
SJIC(H)616140*	55	110	165
ZK 6-3P	37 AMPS 6MM ² 690VAC (10 AWG 600VAC)		
SJIC604040*	19		
SJIC606040*	22		
SJIC606060*	22		
SJIC(H)608060*	28		
SJIC(H)608080*	28	56	
SJIC(H)610080*	35	70	
SJIC(H)616140*	41	82	
ZK 2.5-4P	21 AMPS 2.5MM ² 690VAC (14 AWG 600VAC)		
SJIC604040*	19		
SJIC606040*	29		
SJIC606060*	29		
SJIC(H)608060*	34		
SJIC(H)608080*	34		
SJIC(H)610080*	43	86	
SJIC(H)612100*	43	86	
SJIC(H)614120*	53	106	
SJIC(H)616140*	63	126	
ZK 4-4P	29 AMPS 4MM ² 690VAC (12 AWG 600VAC)		
SJIC604040*	16		
SJIC606040*	25		
SJIC606060*	25		
SJIC(H)608060*	29		
SJIC(H)608080*	29		
SJIC(H)610080*	29		
SJIC(H)610100*	29		
SJIC(H)612100*	38		
SJIC(H)612120*	38	76	
SJIC(H)614120*	46	92	
SJIC(H)616140*	55	110	





Weidmuller Terminals

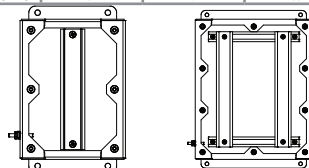
Weidmuller WD Series Screw Terminals

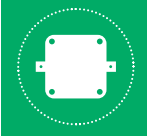
WDU 2.5	15 AMPS 2.5MM ² 550VAC (14 AWG)		
	1 ROW	2 ROWS	3 ROWS
SJIC604040*	9		
SJIC606040*	19		
SJIC606060*	19		
SJIC(H)608060*	29		
SJIC(H)608080*	29		
SJIC(H)610080*	34		
SJIC(H)610100*	34	68	
SJIC(H)612100*	44	88	
SJIC(H)612120*	44	88	
SJIC(H)614120*	54	108	
SJIC(H)616140*	64	128	192
WDU 4	28 AMPS 4MM ² 690VAC (12 AWG 600VAC)		
SJIC604040*	8		
SJIC606040*	16		
SJIC606060*	16		
SJIC(H)608060*	24		
SJIC(H)608080*	24		
SJIC(H)610080*	28		
SJIC(H)610100*	28	56	
SJIC(H)612100*	37	74	
SJIC(H)612120*	37	74	
SJIC(H)614120*	45	90	
SJIC(H)616140*	53	106	159
WDU 6	36 AMPS 6MM ² 550VAC (10 AWG)		
SJIC604040*	6		
SJIC606040*	12		
SJIC606060*	12		
SJIC(H)608060*	18		
SJIC(H)608080*	18		
SJIC(H)610080*	22		
SJIC(H)610100*	22	44	
SJIC(H)612100*	28	56	
SJIC(H)612120*	28	56	
SJIC(H)614120*	35	70	
SJIC(H)616140*	41	82	123
WDU 10	50 AMPS 10MM ² 550VAC (8 AWG)		
SJIC604040*	0		
SJIC606040*	0		
SJIC606060*	9		
SJIC(H)608060*	14		
SJIC(H)608080*	14		
SJIC(H)610080*	17		
SJIC(H)610100*	17		
SJIC(H)612100*	22		
SJIC(H)612120*	22	44	
SJIC(H)614120*	27	54	
SJIC(H)616140*	32	64	
WDU 16	66 AMPS 16MM ² 690VAC (6 AWG 600VAC)		
SJIC604040*	0		
SJIC606040*	0		
SJIC606060*	7		
SJIC(H)608060*	11		
SJIC(H)608080*	11		
SJIC(H)610080*	13		
SJIC(H)610100*	13		
SJIC(H)612100*	17		
SJIC(H)612120*	17	34	
SJIC(H)614120*	21	42	
SJIC(H)616140*	25	50	
WDU 35	109 AMPS 35MM ² 690VAC (2 AWG 600VAC)		
SJIC604040*	0		
SJIC606040*	0		
SJIC606060*	0		
SJIC(H)608060*	0		
SJIC(H)608080*	8		
SJIC(H)610080*	10		
SJIC(H)610100*	10		
SJIC(H)612100*	13		
SJIC(H)612120*	13		
SJIC(H)614120*	16		
SJIC(H)616140*	19	38	

WDU 2.5N	15 AMPS 2.5MM ² 440VAC (14 AWG)			
	1 ROW	2 ROWS	3 ROWS	4 ROWS
SJIC604040*	9			
SJIC606040*	19			
SJIC606060*	19			
SJIC(H)608060*	29			
SJIC(H)608080*	29			
SJIC(H)610080*	34			
SJIC(H)610100*	34	68		
SJIC(H)612100*	44	88		
SJIC(H)612120*	44	88	132	
SJIC(H)614120*	54	108	162	
SJIC(H)616140*	64	128	192	256
WDU 4N	27 AMPS 4MM ² 440VAC (12 AWG)			
SJIC604040*	8			
SJIC606040*	16			
SJIC606060*	16			
SJIC(H)608060*	24			
SJIC(H)608080*	24			
SJIC(H)610080*	28			
SJIC(H)610100*	28	56		
SJIC(H)612100*	37	74		
SJIC(H)612120*	37	74	111	
SJIC(H)614120*	45	90	135	
SJIC(H)616140*	53	106	159	212
WDK 2.5N	21 AMPS 2.5MM ² 550VAC (14 AWG) DOUBLE POLE FEED THROUGH			
SJIC604040*	7			
SJIC606040*	17			
SJIC606060*	17			
SJIC(H)608060*	27			
SJIC(H)608080*	27			
SJIC(H)610080*	32			
SJIC(H)610100*	32	64		
SJIC(H)612100*	42	84		
SJIC(H)612120*	42	84		
SJIC(H)614120*	52	104		
SJIC(H)616140*	62	124	186	
WDK 4N	28 AMPS 4MM ² 550VAC (12 AWG) DOUBLE POLE FEED THROUGH			
SJIC604040*	6			
SJIC606040*	14			
SJIC606060*	14			
SJIC(H)608060*	22			
SJIC(H)608080*	22			
SJIC(H)610080*	26			
SJIC(H)610100*	26	52		
SJIC(H)612100*	35	70		
SJIC(H)612120*	35	70		
SJIC(H)614120*	43	86		
SJIC(H)616140*	51	102	153	
WDK 2.5N V	21 AMPS 2.5MM ² 550VAC (14 AWG) FOUR POLES FEED THROUGH			
SJIC604040*	7			
SJIC606040*	17			
SJIC606060*	17			
SJIC(H)608060*	27			
SJIC(H)608080*	27			
SJIC(H)610080*	32			
SJIC(H)610100*	32	64		
SJIC(H)612100*	42	84		
SJIC(H)612120*	42	84		
SJIC(H)614120*	52	104		
SJIC(H)616140*	62	124	186	
WDK 4N V	28 AMPS 4MM ² 550VAC (12 AWG) FOUR POLES FEED THROUGH			
SJIC604040*	6			
SJIC606040*	14			
SJIC606060*	14			
SJIC(H)608060*	22			
SJIC(H)608080*	22			
SJIC(H)610080*	26			
SJIC(H)610100*	26	52		
SJIC(H)612100*	35	70		
SJIC(H)612120*	35	70		
SJIC(H)614120*	43	86		
SJIC(H)616140*	51	102	153	

Weidmuller ZD Series Cage Clamp Terminals

ZDU 2.5	21 AMPS 2.5MM ² 550VAC (14 AWG)		
	1 ROW	2 ROWS	3 ROWS
SJIC604040*	9		
SJIC606040*	19		
SJIC606060*	19		
SJIC(H)608060*	29		
SJIC(H)608080*	29		
SJIC(H)610080*	34		
SJIC(H)610100*	34	68	
SJIC(H)612100*	44	88	
SJIC(H)612120*	44	88	
SJIC(H)614120*	54	108	
SJIC(H)616140*	64	128	201
ZDU 4	28 AMPS 4MM ² 550VAC (12 AWG)		
SJIC604040*	8		
SJIC606040*	16		
SJIC606060*	16		
SJIC(H)608060*	24		
SJIC(H)608080*	24		
SJIC(H)610080*	28		
SJIC(H)610100*	28	56	
SJIC(H)612100*	37	74	
SJIC(H)612120*	37	74	
SJIC(H)614120*	45	90	
SJIC(H)616140*	53	106	201
ZDU 6	36 AMPS 6MM ² 550VAC (10 AWG)		
SJIC604040*	6		
SJIC606040*	12		
SJIC606060*	12		
SJIC(H)608060*	18		
SJIC(H)608080*	18		
SJIC(H)610080*	21		
SJIC(H)610100*	21	42	
SJIC(H)612100*	27	54	
SJIC(H)612120*	27	54	
SJIC(H)614120*	34	68	
SJIC(H)616140*	40	80	201
ZDU 10	50 AMPS 10MM ² 550VAC (8 AWG)		
SJIC604040*			
SJIC606040*			
SJIC606060*	9		
SJIC(H)608060*	14		
SJIC(H)608080*	14		
SJIC(H)610080*	17		
SJIC(H)610100*	17		
SJIC(H)612100*	22		
SJIC(H)612120*	22	44	
SJIC(H)614120*	27	54	
SJIC(H)616140*	32	64	
ZDU 16	66 AMPS 16MM ² 690VAC (6 AWG 600VAC)		
SJIC604040*			
SJIC606040*			
SJIC606060*			
SJIC(H)608060*			
SJIC(H)608080*	12		
SJIC(H)610080*	14		
SJIC(H)610100*	14		
SJIC(H)612100*	18		
SJIC(H)612120*	18	36	
SJIC(H)614120*	22	44	
SJIC(H)616140*	26	52	
ZDU 35	109 AMPS 35MM ² 690VAC (2 AWG 600VAC)		
SJIC604040*			
SJIC606040*			
SJIC606060*			
SJIC(H)608060*			
SJIC(H)608080*			
SJIC(H)610080*			
SJIC(H)610100*	11		
SJIC(H)612100*	14		
SJIC(H)612120*	14		
SJIC(H)614120*	17		
SJIC(H)616140*	20		





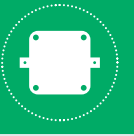
ENCLOSURES
USF / SJIC / SJICH SERIES

IEC Ex E Ratings

ABB TERM BLOCK	TERMINAL RESISTIVE OHMS	MAX AMPS	MAX VAC	MAX WIRE SIZE			WIRE STRIP LENGTH IN. (MM)	TORQUE VALUES		AMBIENT TEMPERATURE	
				MAX WIRE - METRIC		MAX WIRE - USA		NM	LB.IN		
				MM ²	RESISTIVE OHMS/M	AWG					RESISTIVE OHMS/M
ZS4	0.0098	32	690	4	0.00461	12	0.005210	0.413 (10.5)	0.6	5.3	-55°C to +105°C
ZS6	0.0077	41	690	6	0.00308	10	0.003277	0.413 (10.5)	0.85	7.5	
ZS10	0.0018	57	690	10	0.00183	6	0.001296	0.472 (12.0)	1.3	11.5	
ZS16	0.0024	76	690	16	0.0015	4	0.000813	0.531 (13.5)	1.8	15.9	
ZS35	0.004	125	690	35	0.000524	1/0	0.000323	0.669 (17.0)	2.9	25.7	
ZS4-D1	0.00226	29	440	4	0.00461	12	0.005210	0.394 (10.0)	0.6	5.3	
ZS6-D1	0.00226	40	440	6	0.00308	10	0.003277	0.394 (10.0)	0.85	7.5	
ZS4-D2	0.0026	29	440	4	0.00461	12	0.005210	0.394 (10.0)	0.6	5.3	
ZS6-D2	0.0026	40	440	6	0.00308	10	0.003277	0.394 (10.0)	0.85	7.5	
ZK2.5	0.0008	21	630	2.5	0.00741	12	0.005210	0.433 (11.0)	N/A	N/A	
ZK4	0.001	29	630	4	0.00461	10	0.003277	0.492 (12.5)			
ZK6	0.0013	37	630	6	0.00308	8	0.002061	0.492 (12.5)			
ZK10	0.0018	51	630	10	0.0015	6	0.001296	0.591 (15.0)			
ZK16	0.0024	69	630	16	0.000524	4	0.000813	0.591 (15.0)			
ZK2.5-3P	0.0008	21	630	2.5	0.00741	12	0.005210	0.433 (11.0)			
ZK4-3P	0.001	29	630	4	0.00461	10	0.003277	0.492 (12.5)			
ZK6-3P	0.0013	37	630	6	0.00308	8	0.002061	0.492 (12.5)			
ZK2.5-4P	0.0008	21	630	2.5	0.00741	12	0.005210	0.433 (11.0)			
ZK4-4P	0.001	29	630	4	0.00461	10	0.003277	0.492 (12.5)			

WEIDMULLER TERM BLOCK	TERMINAL RESISTIVE OHMS	MAX AMPS	MAX VAC	MAX WIRE SIZE			WIRE STRIP LENGTH IN. (MM)	TORQUE VALUES		AMBIENT TEMPERATURE	
				MAX WIRE - METRIC		MAX WIRE - USA		NM	LB.IN		
				MM ²	RESISTIVE OHMS/M	AWG					RESISTIVE OHMS/M
WDU 2.5	0.00033	15	550	2.5	0.00741	14	0.008284	0.394 (10.0)	0.4 - 0.8	0.3 - 0.6	-50°C to +100°C
WDU 4	0.00031	28	690	4	0.00461	12	0.005210	0.394 (10.0)	0.5 - 1.0	0.4 - 0.7	
WDU 6	0.00028	36	550	6	0.00308	10	0.003277	0.472 (12.0)	0.8 - 1.6	0.6 - 1.2	
WDU 10	0.0002	50	550	10	0.00183	8	0.002061	0.472 (12.0)	1.2 - 2.4	0.9 - 1.8	
WDU 16	0.00015	66	690	16	0.0015	6	0.001296	0.630 (16.0)	2.0 - 4.0	1.5 - 3.0	
WDU 35	0.0001	109	690	35	0.000524	2	0.000513	0.708 (18.0)	4.0 - 5.0	3.0 - 3.7	
WDU 2.5N	0.00036	15	440	2.5	0.00741	14	0.008284	0.394 (10.0)	0.4 - 0.6	0.3 - 0.4	
WDU 4N	0.00033	27	440	4	0.00461	12	0.005210	0.433 (11.0)	0.5 - 1.0	0.4 - 0.7	
WDK 2.5N	0.00053	21	550	2.5	0.00741	14	0.008284	0.315 (8.0)	0.4 - 0.6	0.3 - 0.4	
WDK 4N	0.00033	28	550	4	0.00461	12	0.005210	0.315 (8.0)	0.5 - 1.0	0.4 - 0.7	
WDK 2.5NV	0.00076	21	550	2.5	0.00741	14	0.008284	0.315 (8.0)	0.4 - 0.6	0.3 - 0.4	
WDK 4NV	0.00045	28	550	4	0.00461	12	0.005210	0.315 (8.0)	0.5 - 1.0	0.4 - 0.7	
ZDU 2.5	0.00033	21	550	2.5	0.00741	14	0.008284	0.394 (10.0)	N/A	N/A	
ZDU 4	0.00031	28	550	4	0.00461	12	0.005210	0.472 (12.0)			
ZDU 6	0.00028	36	550	6	0.00308	10	0.003277	0.512 (13.0)			
ZDU 10	0.0002	50	550	10	0.00183	8	0.002061	0.708 (18.0)			
ZDU 16	0.00015	66	550	16	0.0015	6	0.001296	0.708 (18.0)			
ZDU 35	0.0001	109	550	35	0.000524	2	0.000513	0.980 (25.0)			

PHOENIX TERM BLOCK	TERMINAL RESISTIVE OHMS	MAX AMPS	MAX VAC	MAX WIRE SIZE			WIRE STRIP LENGTH IN. (MM)	TORQUE VALUES		AMBIENT TEMPERATURE	
				MAX WIRE - METRIC		MAX WIRE - USA		NM	LB.FT		
				MM ²	RESISTIVE OHMS/M	AWG					RESISTIVE OHMS/M
UT 2.5	0.00041	22	690	2.5	0.00741	12	0.005210	0.35 (9.00)	0.5 - 0.6	0.4	-60°C to +110°C
UT 4	0.00026	30	690	4	0.00461	10	0.003277	0.35 (9.00)	0.6 - 0.8	0.4 - 0.6	
UT 6	0.0002	40	690	6	0.00308	8	0.002061	0.39 (10.00)	1.5 - 1.8	1.1 - 1.3	
UT 10	0.00014	54	690	10	0.00183	6	0.001296	0.39 (10.00)	1.5 - 1.8	1.1 - 1.3	
UT 16	0.00016	73.5	690	16	0.0015	4	0.000813	0.55 (14.00)	2.5 - 3	1.8 - 2.2	
UT 35	0.00006	126	690	35	0.000524	1/0	0.000323	0.708 (18.00)	3.2 - 3.7	2.4 - 2.7	
UK 2.5N	0.00041	24	550	2.5	0.00741	14	0.008284	0.28 (7.00)	0.6 - 0.8	0.4 - 0.6	
UK 3N	0.0005	29	690	2.5	0.00461	12	0.005210	0.315 (8.0)	0.6 - 0.8	0.4 - 0.6	
UK 5N	0.00037	32	690	4	0.00308	10	0.003277	0.315 (8.0)	0.6 - 0.8	0.4 - 0.6	
UK 6N	0.00016	41	690	6	0.00183	8	0.002061	0.39 (10.00)	1.5 - 1.8	1.1 - 1.3	
UK 10N	0.00012	57	690	10	0.0015	6	0.001296	0.39 (10.00)	1.5 - 1.8	1.1 - 1.3	
UK 16N	0.00017	74	690	16	0.000524	4	0.000813	0.433 (11.0)	1.5 - 1.8	1.1 - 1.3	
ST 2.5	0.00141	21	550	2.5	0.00741	12	0.005210	0.39 (10.00)	N/A	N/A	
ST 4	0.00063	30	550	4	0.00461	10	0.003277	0.39 (10.00)			
ST 6	0.00056	36.5	550	6	0.00308	8	0.002061	0.472 (12.0)			
ST 10	0.0004	50	550	10	0.00183	6	0.001296	0.708 (18.00)			
ST 16	0.00034	65	550	16	0.0015	4	0.000813	0.708 (18.00)			
ST 35	0.00021	108	690	35	0.000524	2	0.000513	0.980 (25.0)			



USF / SJIC / SJICH Enclosures



TABLE 1: Minimum distance from edge of box to the center of the conduit / cable entry.

NPT (METRIC)	4"	3-1/2"	3" (M75)	2-1/2" (M63)	2" (M50)	1-1/2" (M40)	1-1/4" (M32)	1" (M25)	3/4" (M20)	1/2" (M16)
IN. (MM)	2-3/4 (70)	2-1/2 (64)	2 (51)	2 (51)	1-5/8 (41)	1-3/8 (35)	1-1/4 (32)	1 (25)	7/8 (22)	3/4 (19)

TABLE 2: Minimum distance from edge of gland plate to the center of the conduit / cable entry.

NPT (METRIC)	4" (M100)	3-1/2" (M80)	3" (M75)	2-1/2" (M63)	2" (M50)	1-1/2" (M40)	1-1/4" (M32)	1" (M25)	3/4" (M20)	1/2" (M16)
IN. (MM)	3-1/4 (83)	3 (76)	2-3/4 (70)	2-1/2 (64)	2-1/8 (54)	1-7/8 (48)	1-3/4 (44)	1-1/2 (38)	1-3/8 (35)	1-1/4 (32)

TABLE 3: NEC / CEC minimum wire bending space from inside wall of the enclosure, North America applications only.

SIZE AWG (MM2)	16 (1.5)	14 (2.5)	12 (4)	10 (6)	8 (10)	6 (16)	4 (25)	2 (35)	1/0 (50)	2/0 (70)	3/0 (95)	4/0 (120)
IN. (MM)	1.5 (38)	1.5 (38)	1.5 (38)	1.5 (38)	1.5 (38)	2 (51)	3 (76)	3.5 (89)	5.5 (140)	6 (152)	6.5 (164)	7 (178)

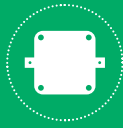
TABLE 4: Punched hole diameters. For additional sizes not shown please contact the factory.

NPT	4"	3-1/2"	3"	2-1/2"	2"	1-1/2"	1-1/4"	1"	3/4"	1/2"
MAX. HOLE DIA. IN. (MM)	4.53 (115.06)	4.03 (102.36)	3.53 (89.66)	2.905 (73.79)	2.405 (61.08)	1.93 (49.2)	1.69 (42.93)	1.345 (34.16)	1.08 (27.4)	.87 (22.09)
METRIC	M100	M80	M75	M63	M50	M40	M32	M25	M20	M16
MAX. HOLE DIA. MM (IN.)	100.7 (3.94)	80.7 (3.15)	75.7 (2.95)	63.7 (2.48)	50.7 (1.97)	40.7 (1.58)	32.7 (1.26)	25.7 (0.98)	20.7 (0.79)	16.7 (0.63)

TABLE 5: Minimum distance of the center line to center line of the conduit / cable entries.

(NPT) [METRIC]	4 [M100]	3 1/2 [M80]	3 [M75]	2 1/2 [M63]	2 [M50]	1 1/2 [M40]	1 1/4 [M32]	1 [M25]	3/4 [M20]	1/2 [M16]
1/2 [M16]	3 5/8 [92mm]	3 3/8 [86mm]	3 1/8 [80mm]	2 3/4 [70mm]	2 1/2 [64mm]	2 1/4 [58mm]	2 1/8 [54mm]	1 7/8 [48mm]	1 3/4 [45mm]	1 5/8 [41mm]
3/4 [M20]	3 3/4 [96mm]	3 1/2 [89mm]	3 1/4 [83mm]	2 7/8 [74mm]	2 5/8 [68mm]	2 3/8 [60mm]	2 1/4 [58mm]	2 [51mm]	1 7/8 [48mm]	
1 [M25]	3 7/8 [99mm]	3 5/8 [92mm]	3 3/8 [86mm]	3 [77mm]	2 3/4 [70mm]	2 1/2 [64mm]	2 3/8 [60mm]	2 1/8 [54mm]		
1 1/4 [M32]	4 1/8 [105mm]	3 7/8 [99mm]	3 1/2 [89mm]	3 1/4 [83mm]	3 [77mm]	2 3/4 [70mm]	2 1/2 [64mm]			
1 1/2 [M40]	4 1/4 [108mm]	4 [102mm]	3 3/4 [96mm]	3 3/8 [86mm]	3 1/8 [80mm]	2 7/8 [73mm]				
2 [M50]	4 3/4 [121mm]	4 1/2 [115mm]	4 [102mm]	3 5/8 [92mm]	3 3/8 [86mm]					
2 1/2 [M63]	4 7/8 [124mm]	4 5/8 [118mm]	4 1/4 [108mm]	3 7/8 [99mm]						
3 [M75]	5 1/4 [134mm]	5 [127mm]	4 5/8 [118mm]							
3 1/2 [M80]	5 3/4 [147mm]	5 1/2 [140mm]								
4 [M100]	6 1/4 [159mm]									

All dimension in. (mm)

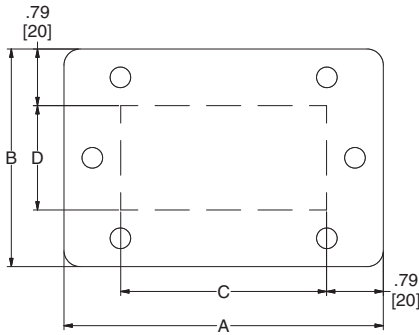


USF / SJIC(H) Terminal Boxes and Enclosures

Replacement Gland Plates

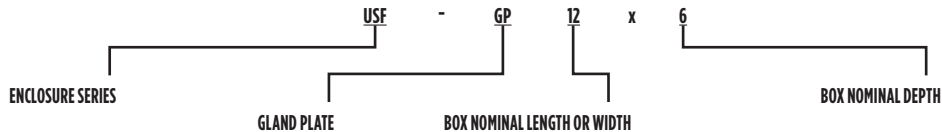
Gland plate kit comes with the following:

- Gland plate in 316 stainless steel
- Mounting screws and retaining washers
- One-piece, closed cell silicone gasket

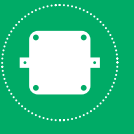


REPLACEMENT GLAND PLATES				
CATALOG NUMBER: 316 STAINLESS STEEL	"A" OVER ALL LENGTH	"B" OVER ALL WIDTH	"C" AREA FOR OPENINGS	"D" AREA FOR OPENINGS
USF-GP12X6	10.97 [279]	5.74 [146]	9.40 [239]	4.16 [106]
USF-GP12X8	10.97 [279]	7.74 [197]	9.40 [239]	6.16 [156]
USF-GP12X10	10.97 [279]	9.74 [247]	9.40 [239]	8.16 [207]
USF-GP16X6	14.97 [380]	5.74 [146]	13.40 [340]	4.16 [106]
USF-GP16X8	14.97 [380]	7.74 [197]	13.40 [340]	6.16 [156]
USF-GP16X10	14.97 [380]	9.74 [247]	13.40 [340]	8.16 [207]
USF-GP20X6	18.97 [482]	5.74 [146]	17.40 [442]	4.16 [106]
USF-GP20X8	18.97 [482]	7.74 [197]	17.40 [442]	6.16 [156]
USF-GP20X10	18.97 [482]	9.74 [247]	17.40 [442]	8.16 [207]
USF-GP20X12	18.97 [482]	11.74 [298]	17.40 [442]	10.16 [258]
USF-GP24X6	22.97 [583]	5.74 [146]	21.40 [544]	4.16 [106]
USF-GP24X8	22.97 [583]	7.74 [197]	21.40 [544]	6.16 [156]
USF-GP24X10	22.97 [583]	9.74 [247]	21.40 [544]	8.16 [207]
USF-GP24X12	22.97 [583]	11.74 [298]	21.40 [544]	10.16 [258]
USF-GP24X16	22.97 [583]	15.74 [400]	21.40 [544]	14.16 [360]
USF-GP24X20	22.97 [583]	19.74 [501]	21.40 [544]	18.16 [461]
USF-GP30X8	27.59 [701]	7.74 [197]	26.02 [661]	6.16 [156]
USF-GP30X10	27.59 [701]	9.74 [247]	26.02 [661]	8.16 [207]
USF-GP30X12	27.59 [701]	11.74 [298]	26.02 [661]	10.16 [258]
USF-GP30X16	27.59 [701]	15.74 [400]	26.02 [661]	14.16 [360]
USF-GP30X20	27.59 [701]	19.74 [501]	33.02 [839]	18.16 [461]
USF-GP36X8	34.59 [879]	7.74 [197]	33.02 [839]	6.16 [156]
USF-GP36X10	34.59 [879]	9.74 [247]	33.02 [839]	8.16 [207]
USF-GP36X12	34.59 [879]	11.74 [298]	33.02 [839]	10.16 [258]
SJIC6-GP0404	3.74 [95]	3.28 [83]	2.16 [55]	1.71 [43]
SJIC6-GP0604	5.74 [146]	3.28 [83]	4.16 [106]	1.71 [43]
SJIC6-GP0804	7.74 [197]	3.28 [83]	6.16 [156]	1.71 [43]
SJIC6-GP1004	9.74 [247]	3.28 [83]	8.16 [207]	1.71 [43]
SJIC6-GP1005	9.74 [247]	4.28 [109]	8.16 [207]	2.71 [69]
SJIC6-GP0606	5.74 [146]	5.28 [134]	4.16 [106]	3.71 [94]
SJIC6-GP0806	7.74 [197]	5.28 [134]	6.16 [156]	3.71 [94]
SJIC6-GP1006	9.74 [247]	5.28 [134]	8.16 [207]	3.71 [94]
SJIC6-GP1206	11.74 [298]	5.28 [134]	10.16 [258]	3.71 [94]
SJIC6-GP1406	13.74 [349]	5.28 [134]	12.16 [309]	3.71 [94]

CATALOG LOGIC



Note: Gland plates not supplied with ground stud / earth connection. If one is required, contact the factory for price and special part number.



KDE Drain / Breather



KDE
Drain / Breather

NEC / CEC Certifications

Class I, Div. 2, Groups A, B, C, & D

Class I, Zone 1 AEx e IIC Gb

Class II, Div. 1, Groups E, F, & G
(Canada Only)

Class II, Div. 2, Groups E, F, & G
Class III

Ex e IIC Gb / Ex tb IIIC Db

Zone 21 AEx tb, IIIC Db

Type 3, 4, 4X IP66

Ta = -55°C to +80°C

CS Certificate LR11716 - 2714851

ATEX / IEC Ex Certifications

II 2 G D CE 2813

Ex e IIC Gb

Ex tb IIIC Db IP66

Service Temperature -55°C to
+80°C



CML 15ATEX3028X
IECEx QPS 15.0002X
IEx 15.0154X

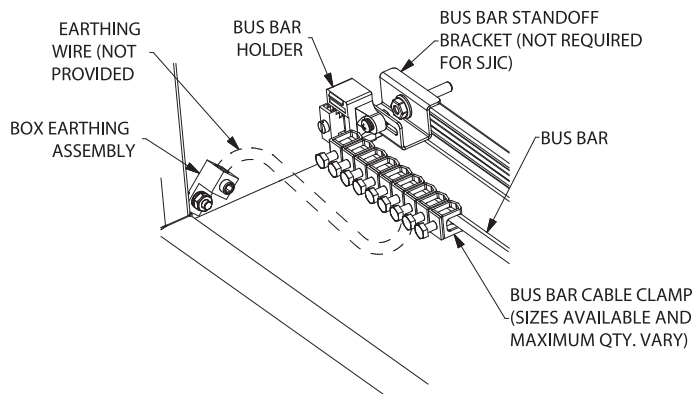
Available In

- KDEAL0050 - Alum 1/2" NPT
- KDEALOM20 - Alum M20
- KDES60050 - 316SS 1/2" NPT
- KDES60M20 - 316SS M20
- KDEGF0050 - Plastic 1/2" NPT
- KDEGF0M20 - Plastic M20

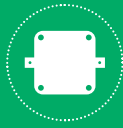
Bus Bar / Ground Bus Option

Description:

- **BUS BAR** - Tin plated copper, 10mm wide x 3 mm thick, rated for 140 amperes
- **BUS CLAMPS** - ZB 4 wire range 0.5 - 6mm² (#20 to #10 AWG)
ZB 10 wire range 1.5 - 10mm² (#16 to #8 AGW)
- **KIT CONTAINS** - mounting hardware, mounting brackets, bus bar and bus clamps



CATALOG NUMBER	CLAMP SIZE	QTY	BOX SERIES / WIDTH
SJIC-GB10N4-26	ZB 4	26	SJIC 10"
SJIC-GB10N10-17	ZB 10	17	
SJIC-GB12N4-36	ZB 4	36	SJIC 12"
SJIC-GB12N10-23	ZB 10	23	
SJIC-GB14N4-45	ZB 4	45	SJIC 14"
SJIC-GB14N10-30	ZB 10	30	
USF-GB12N4-35	ZB 4	35	USF 12"
USF-GB12N10-22	ZB 10	22	
USF-GB16N4-54	ZB 4	54	USF 16"
USF-GB16N10-35	ZB 10	35	
USF-GB18N4-63	ZB 4	63	USF 18"
USF-GB18N10-41	ZB 10	41	
USF-GB20N4-73	ZB 4	73	USF 20"
USF-GB20N10-48	ZB 10	48	
USF-GB24N4-92	ZB 4	92	USF 24"
USF-GB24N10-61	ZB 10	61	
USF-GB30N4-114	ZB 4	114	USF 30"
USF-GB30N10-75	ZB 10	75	



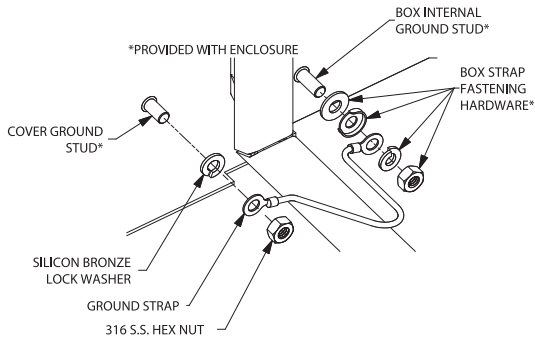
ENCLOSURES USF/SJIC(H) SERIES

Accessories

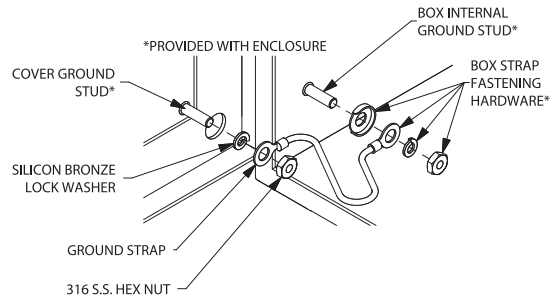
CATALOG NUMBER	DESCRIPTION
USF-DC	Document Door Wallet
USF-CVGRD	Cover Ground (earth) Kit
USF-BOXGRD	Box Ground (earth) Kit
USF-MTGFEET	Mounting Feet, Pack of 4
SJIC-CVGRD	Cover Ground (earth) Kit
SJIC-INTGRD	Box Ground (earth) Kit
SJIC-EXTGRD	External Ground (earth) Kit



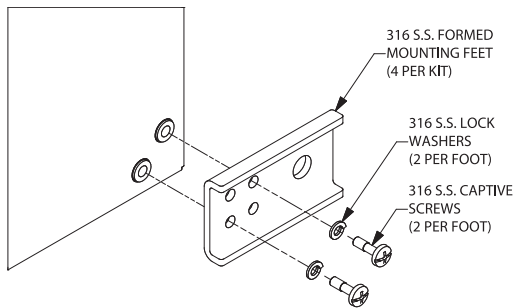
USF-DC



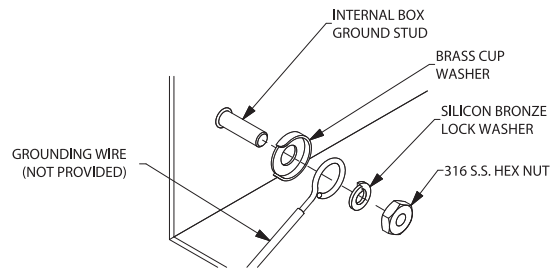
USF-CVGRD



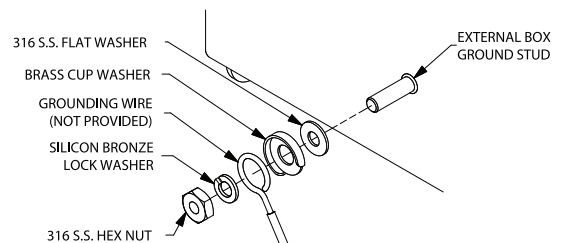
SJIC-CVGRD



USF-MTGFEET

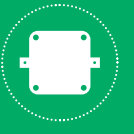


SJIC-INTGRD

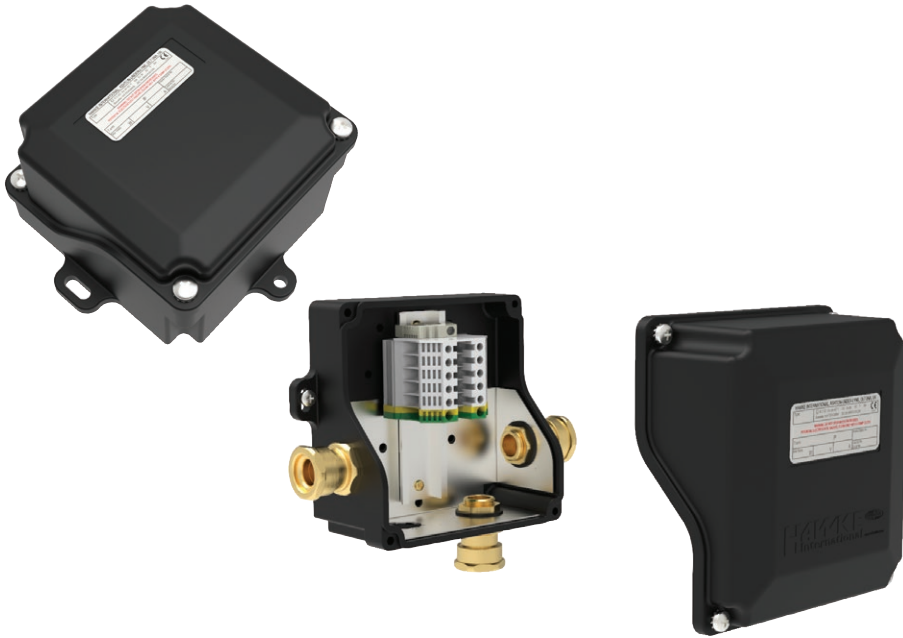


SJIC-EXTGRD

HAWKE ENCLOSURES - PL5 SERIES



Non-Metallic Junction/Terminal Boxes



PL5

Empty/Terminal Enclosure

NEC/CEC Certifications

Class I, Zone 1, AEx e IIC Gb
Zone 21, AEx tb IIIC T80°C Db
IP66/67

Ta= -60°C to +75°C

CSA Certificate 70039997

ATEX/IEC Ex Certifications

II 2 GD

Ex eb IIC Gb

Ex tb IIIC Db IP66/67

Baseefa14ATEX0268X

Baseefa14ATEX0248U

IECEX BAS 14.0123X

IECEX BAS 14.0120U

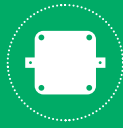
FEATURES-SPECIFICATIONS

Features

- Glass Reinforced Plastic (GRP) construction - lightweight, economical, corrosion resistant, and designed to withstand impact up to 7Nm.
- External mounting feet eliminate need to remove lid when mounting enclosure on wall
- Captive stainless steel cover screws - prevent loss of screws during assembly and maintenance
- Dropped lid design (PL511 and PL514 models) facilitates hand access to make wiring and inspections of terminations easier than that of traditional square, rectangular, or octagonal enclosures
- Earth continuity plate available in Zintec

Materials

- **BOX/LID:** Glass Reinforced Plastic (GRP)
- **SCREWS:** 316 stainless steel
- **EARTH CONTINUITY PLATE:** Zintec



ENCLOSURES

HAWKE ENCLOSURES - PL5 SERIES

Non-Metallic Junction/Terminal Boxes

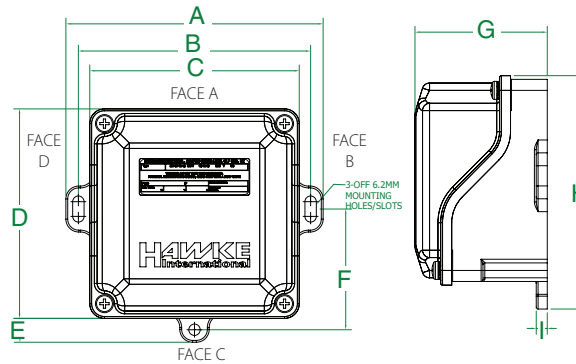
PL511/PL514 DIMENSIONS									
CATALOG NUMBER	A	B	C	D	E	F	G	H	I
PL511	5.51 (140)	4.98 (126.4)	4.49 (114)	4.49 (114)	0.51 (13)	2.59 (65.7)	2.83 (72)	5.00 (127)	0.24 (6)
PL514	6.69 (170)	6.16 (156.4)	5.68 (144.2)	5.69 (144.4)	0.51 (13)	3.57 (90.7)	3.66 (93)	6.18 (157)	0.28 (7)

All dimensions in. (mm)

MAXIMUM QUANTITY OF ENTRIES PER FACE									
CATALOG NUMBER	THREAD SIZE	M16	M20	M25	M32	M40	M50	M63	M74
PL511 *	Face B	—	1	—	—	—	—	—	—
	Face C	—	2	—	—	—	—	—	—
	Face D	—	1	—	—	—	—	—	—
PL514	Face B	2	2	1	—	—	—	—	—
	Face C	6	6	2	2	—	—	—	—
	Face D	2	2	1	—	—	—	—	—

CAUTION: Entry quantities are calculated based on standard gland diameters. Entry quantity may be affected if using accessories (locknuts, washers etc) with large diameters.

* PL511 comes standard with four M20 holes

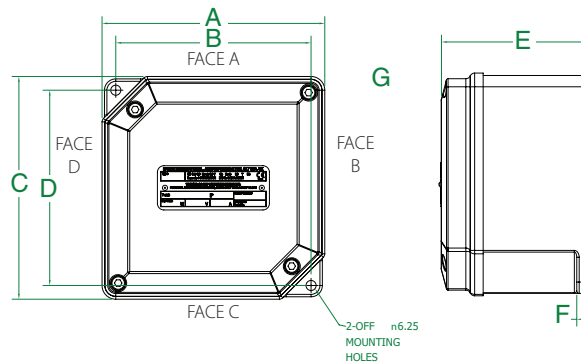


PL513/PL520 DIMENSIONS					
CATALOG NUMBER	A	B	C	D	F
PL513	5.43 (138)	4.76 (121)	5.43 (138)	4.76 (121)	0.43 (11)
PL520	7.87 (200)	7.32 (186)	5.31 (135)	4.76 (121)	0.43 (11)

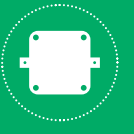
All dimensions in. (mm)

MAXIMUM QUANTITY OF ENTRIES PER FACE									
CATALOG NUMBER	THREAD SIZE	M16/ M20/O	M20/A	M25	M32	M40	M50	M63	M74
PL513	Face A/B/C/D	5	3	2	—	—	—	—	—
	Face A/C	9	5	3	—	—	—	—	—
PL520	Face B/D	5	3	2	—	—	—	—	—

CAUTION: Entry quantities are calculated based on standard gland diameters. Entry quantity may be affected if using accessories (locknuts, washers etc) with large diameters.



HAWKE ENCLOSURES - PL5 SERIES



Non-Metallic Junction/Terminal Boxes

PL 511 TERMINAL CAPACITY

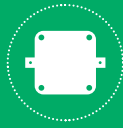
TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5N	0.5	2.5	440	V	9	1	11	3	17
WDU 2.5	0.5	2.5	690	V	9		11	3	17
UT 2.5	0.14	3	690	V	9		11	6	15
WDU 4	0.5	4	690	V	8		15	3	22
UT 4	0.14	4	690	V	8		15	5	20
WDU 6	0.5	6	690	V	5		23	3	29
UT6	0.2	6	690	V	6		21	4	28

Max terminals are split across the quantity of terminal rails

PL513 TERMINAL CAPACITY

TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5N	0.5	2.5	440	V/H D	16 18	1	12 11	7	17
WDU 2.5	0.5	3	690	V/H D	16 18		12 11	7	17
UT 2.5	0.14	3	690	V/H D	16 17		12 11	10	15
WDU 4	0.5	4	690	V/H D	13 15		16 15	7	22
UT 4	0.14	4	690	V/H D	13 14		17 16	9	20
WDU 6	0.5	6	690	V/H D	10 11		23 22	6	29
UT6	0.2	6	690	V/H D	9 11		24 22	6	28
WDU 10	1.5	10	690	V/H D	8 9		32 30	5	40
UT 10	0.5	10	690	V/H D	7 8		35 33	5	39

* Max terminals are split across the quantity of terminal rails



ENCLOSURES

HAWKE ENCLOSURES - PL5 SERIES

Non-Metallic Junction/Terminal Boxes

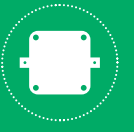
PL514 TERMINAL CAPACITY									
TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5N	0.5	2.5	440	V	18	1	11	7	17
WDU 2.5	0.5	2.5	690	V	18		11	7	17
UT 2.5	0.1	2.5	690	V	17		11	10	15
WDU 4	0.5	4.0	690	V	14		15	7	22
UT 4	0.1	4.0	690	V	14		16	9	20
WDU 6	0.5	6.0	690	V	11		22	6	29
UT6	0.2	6.0	690	V	10		23	6	28
WDU 10	1.5	10.0	690	V	8		32	5	40
UT 10	0.5	10.0	690	V	8		33	5	39

* Max terminals are split across the quantity of terminal rails

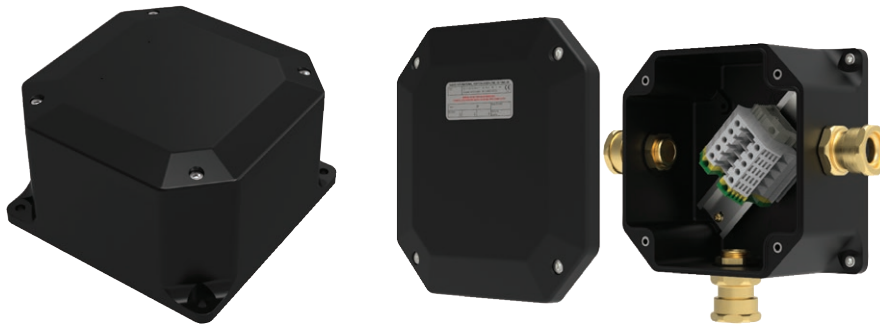
PL520 TERMINAL CAPACITY									
TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5	0.5	2.5	690	V H	16 30	1	12 8	7	17
UT 2.5	0.14	3	690	V H	16 29		11 8	9	15
WDU 4	0.5	4	690	V H	13 25		16 11	7	22
UT 4	0.14	4	690	V H	13 24		16 12	8	20
WDU 6	0.5	6	690	V H	10 19		23 16	6	29
UT6	0.2	6	690	V H	9 18		24 17	6	28
WDU 10	1.5	10	690	V H	8 15		32 23	5	40
UT 10	0.5	10	690	V H	7 14		35 24	5	39

* Max terminals are split across the quantity of terminal rails

HAWKE ENCLOSURES - PL6 SERIES



Non-Metallic Junction Boxes



PL6

Empty/Terminal Enclosure

NEC/CEC Certifications

Class I, Zone 1, AEx e IIC Gb
Zone 21, AEx tb IIIC T80°C Db
IP66/67

Ta= -60°C to +75°C



Certificate 70039997

ATEX/IEC Ex Certifications



II 2 GD

Ex eb IIC Gb

Ex tb IIIC Db IP66/67

Baseefa14ATEX0268X

Baseefa14ATEX0248U

IECEX BAS 14.0123X

IECEX BAS 14.0120U

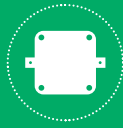
FEATURES-SPECIFICATIONS

Features

- Glass Reinforced Plastic (GRP) construction - robust, corrosion resistant, and designed to withstand impact up to 20Nm.
- Anti-Static properties remove risk of ignition sources from static induced sparking
- External mounting feet eliminate need to remove lid when mounting enclosure on wall
- Captive stainless steel cover screws - prevent loss of screws during assembly and maintenance
- Earth continuity plate available in Zintec

Materials

- **BOX/LID:** Glass Reinforced Plastic (GRP)
- **SCREWS:** 316 stainless steel
- **EARTH CONTINUITY PLATE:** Zintec



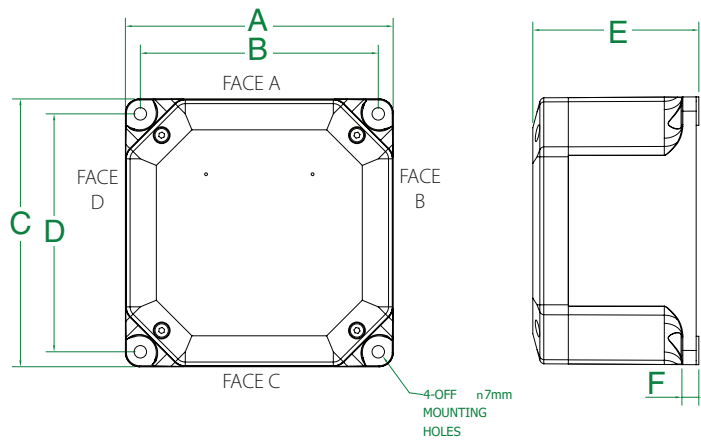
Non-Metallic Junction Boxes

PL612/PL615/PL620/PL630 DIMENSIONS						
CATALOG NUMBER	A	B	C	D	E	F
PL612	4.72 (120)	4.02 (102)	4.72 (120)	4.02 (102)	2.95 (75)	0.41 (10.5)
PL615	5.94 (151)	5.28 (134)	5.94 (151)	5.28 (134)	3.70 (94)	0.37 (9.5)
PL620	7.94 (201.8)	7.09 (180)	7.94 (201.8)	7.09 (180)	4.92 (125)	0.47 (12)
PL626	10.24 (260)	9.53 (242)	6.30 (160)	5.59 (142)	4.19 (106.5)	0.49 (12.5)
PL630	11.81 (300)	11.02 (280)	11.81 (300)	11.02 (280)	5.00 (127)	0.45 (11.5)

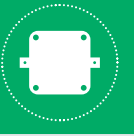
All dimensions in. (mm)

MAXIMUM QUANTITY OF ENTRIES PER FACE									
CATALOG NUMBER	THREAD SIZE	M16/M20	M20/A	M25	M32	M40	M50	M63	M74
PL612	Face A/B/C/D	2	—	1	1	—	—	—	—
PL615	Face A/B/C/D	2	—	2	1	—	—	—	—
PL620	Face A/B/C/D	6	—	4	2	1	1	—	—
PL626	Face B/D	3	—	2	1	—	—	—	—
	Face A/C	9	—	2	1	—	—	—	—
PL630	Face A/B/C/D	10	—	8	3	3	2	2	1

CAUTION: Entry quantities are calculated based on standard gland diameters. Entry quantity may be affected if using accessories (locknuts, washers etc) with large diameters.



HAWKE ENCLOSURES - PL6 SERIES



Non-Metallic Junction Boxes

PL612 TERMINAL CAPACITY									
TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5N	0.5	2.5	440	D	12	1	15	9	17
WDU 2.5	0.5	2.5	690	D	10		17	9	17
UT 2.5	0.14	2.5	690	D	10		15	10	15
WDU 4	0.5	4	690	D	9		22	9	22
UT 4	0.14	4	690	D	9		20	9	20
WDU 6	0.5	6	690	D	6		29	6	29
UT6	0.2	6	690	D	6		28	6	28
WDU 10	1.5	10	690	D	5		40	5	40
UT 10	0.5	10	690	D	5		39	5	39

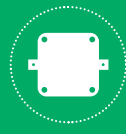
* Max terminals are split across the quantity of terminal rails

PL615 TERMINAL CAPACITY									
TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5	0.5	2.5	690	D/V/H	19	1	14	12	17
UT 2.5	0.14	2.5	690	D/V/H	19		14	16	15
WDU 4	0.5	4	690	D/V/H	16		19	11	22
UT 4	0.14	4	690	D/V/H	15		19	14	20
WDU 6	0.5	6	690	D/V/H	12		27	10	29
UT6	0.2	6	690	D/V/H	11		28	11	28
WDU 10	1.5	10	690	D/V/H	9		38	8	40
UT 10	0.5	10	690	D/V/H	9		39	9	39
WDU 16	1.5	16	690	D/V/H	7		50	6	53
UT 16	1.5	16	690	D/V/H	7		50	6	53

* Max terminals are split across the quantity of terminal rails

PL620 TERMINAL CAPACITY									
TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5	0.5	2.5	690	D/V	24	1	14	17	17
UT 2.5	0.14	2.5	690	D/V	26		14	22	15
WDU 4	0.5	4	690	D/V	20		20	16	22
UT 4	0.14	4	690	D/V	21		19	20	20
WDU 6	0.5	6	690	D/V	15		28	14	29
UT6	0.2	6	690	D/V	16		27	15	28
WDU 10	1.5	10	690	D/V	12		40	12	40
UT 10	0.5	10	690	D/V	12		39	12	39
WDU 16	1.5	16	690	D/V	9		53	9	53
UT 16	1.5	16	690	D/V	10		51	9	53
WDU 35	2.5	35	690	D/V	6		80	6	80
UT 35	1.5	35	690	D/V	7		70	7	70
WDU 50N	6	50	690	D/V	5		88	5	88
UKH 50	16	50	690	D/V	5		87	5	87
WDU 70N	10	70	690	D/V	4		117	3	129

* Max terminals are split across the quantity of terminal rails



ENCLOSURES

HAWKE ENCLOSURES - PL6 SERIES

Non-Metallic Junction Boxes

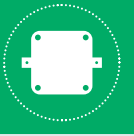
PL626 TERMINAL CAPACITY									
TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5	0.5	2.5	690	H	38	1	11	15	17
UT 2.5	0.14	2.5	690	H	41		10	20	15
WDU 4	0.5	4	690	H	32		15	14	22
UT 4	0.14	4.0	690	H	34		14	18	20
WDU 6	0.5	6	690	H	24		21	12	29
UT6	0.2	6	690	H	25		20	13	28
WDU 10	1.5	10	690	H	19		30	10	40
UT 10	0.5	10	690	H	20		29	11	39
WDU 16	1.5	16	690	H	16		38	8	53
UT 16	1.5	16	690	H	17		37	8	53
WDU 35	2.5	35	690	H	12		57	6	80
UT 35	1.5	35	690	H	12		68	11	70

* Max terminals are split across the quantity of terminal rails

PL630 TERMINAL CAPACITY									
TERMINAL TYPE	CONDUCTOR SIZE (MM2)		MAX VOLTS	RAIL ORIENTATION	MAX. PHYSICAL TERMINAL CONTENT			REDUCED TERMINAL CONTENT AT MAX AMPS	
	MIN.	MAX.			TERMINAL QTY	RAIL QTY	AMPS	TERMINAL QTY	AMPS
WDU 2.5	0.5	2.5	690	V/H D	76 55	2 1	9 11	22	17
UT 2.5	0.14	3	690	V/H D	76 53	2 1	9 11	29	15
WDU 4	0.5	4	690	V/H D	64 46	2 1	12 15	20	22
UT 4	0.14	4	690	V/H D	62 44	2 1	13 15	26	20
WDU 6	0.5	6	690	V/H D	48 35	2 1	18 21	18	29
UT6	0	6	690	V/H D	46 33	2 1	18 21	19	28
WDU 10	1.5	10	690	V/H D	36 28	2 1	26 30	15	40
UT 10	0.5	10	690	V/H D	36 26	2 1	26 31	16	39
WDU 16	1.5	16	690	V/H D	30 22	2 1	34 40	12	53
UT 16	1.50	16	690	V/H D	30 22	2 1	34 40	12	53
WDU 35	2.5	35	690	V/H D	22 16	2 1	53 62	9	80
UT 35	1.50	35	690	V/H D	22 16	2 1	61 70	16	70
WDU 50N	6.0	50	690	D	11	1	80	8	88
UKH 50	16.0	50	690	D	11	1	87	11	87
WDU 70N	10.0	70	690	D	11	1	88	5	129

* Max terminals are split across the quantity of terminal rails

ENCLOSURES
HKBX SERIES



3-5/8" (92mm) diameter viewing window while maintaining the compact body diameter of 5" (127mm)

Smooth die cast finish with gray powder paint for an aesthetically pleasing look to an OEM product - other colors available

Die cast from 413 aluminum alloy, copper free and low magnesium content

Internal pad for additional openings through the back wall can be drilled and tapped: 1/2" NPT or NPSM, 3/4" NPT or NPSM, M20, M25

Large straight internal opening, 4-1/4" (108mm) diameter with a full depth - no wasted space

Large wire way opening for ease of wire pull in the field

Anti-turn internal ground screw assembly

Anti-turn external ground screw assembly

Recessed cross notches for wrenching when required

Large recess grip slots for opening and closing of cover even while wearing heavy gloves

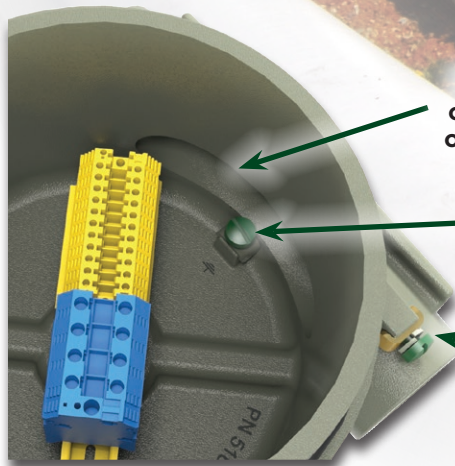
Cover locking set screw standard in all covers. Prevents tampering and unauthorized access to the internal components.

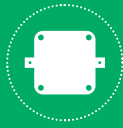
Large "X" pad which will accept any diameter bolt circle

Standard with three 3/4" NPTs openings. Optional sizes of 3/4" NPSM and M25 can be special ordered

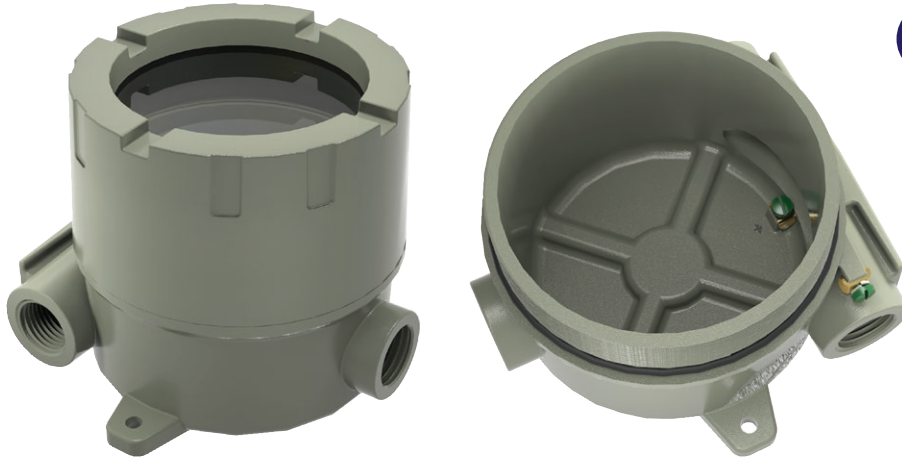
O-ring gasket for a Type 3, 4 IP66 environment rating

Mounting lugs with 1/4" (6.3mm) diameter mounting holes





ENCLOSURES HKBX SERIES



HKBX
Empty Enclosure

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups A, B, C, & D

Class I, Zone 1, AEx db IIC

Class II, Div. 1 & 2, Groups E, F, & G

Class III

Type 3, 4, 4X



Ta = -60°C to +70°C (UL & CSA)



Files E83969 E150827

File LR11716 - 1750685



ATEX / IEC Ex Certificate

II 2 G D CE 2813

Ex db IIC Gb

Ex tb IIIC Db IP66

Ta = -60°C to +70°C

DEMKO 01ATEX 15742U

IECEx UL 14.0071U

FEATURES-SPECIFICATIONS

Features

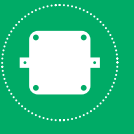
- Explosion/flame proof, dust/ignition proof, weather/hose-down proof and tamper resistant
- ATEX & IEC Ex standard on all assemblies
- Box and covers are die cast from copper-free aluminum
- Neoprene o-ring for water resistance in Type 3, 4 / IP66 conditions
- Large viewing diameter of 3-5/8"(92mm)
- Large 4-1/4"(108mm) diameter internal cover opening with a full depth - no wasted space
- Three 3/4" NPT offset feed-through conduit openings. Optional 3/4" NPSM or M25 openings available.
- Large internal mounting pad supplied in a "X" configuration for the flexibility of adapting to any OEM bolt circle
- Internal and external anti-turn ground (earth) terminals
- Cover with shrouded tamper-resistant set screw
- Recessed cover lugs permit easy removal and tightening. Large recess grip slots for opening and closing of the cover.
- Cast-on mounting lugs with 1/4" (6.3mm) diameter mounting holes
- Same mounting foot print as the legacy HKB Series boxes

Materials

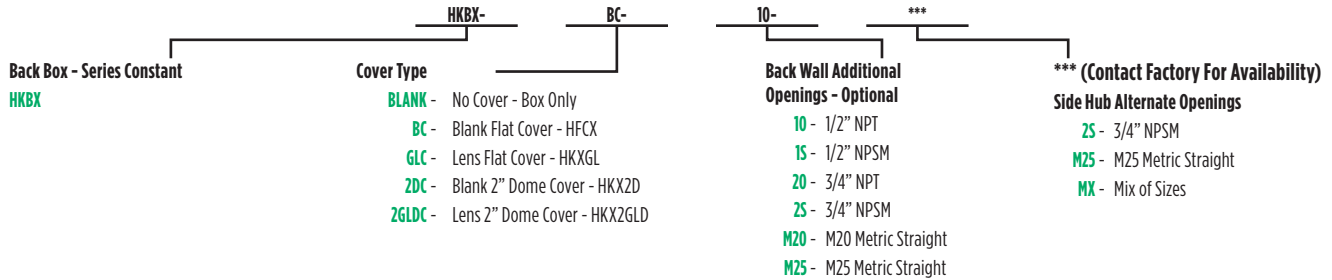
- **BOX AND COVER:** die cast from 413 copper-free aluminum, containing less than 4/10 of 1% alloy and less than 6% magnesium
- **O-RING GASKET NEOPRENE** - 70 durometer nitrile compound
- **GROUND (EARTH) SCREW** - 316 stainless steel with green plating
- **ALLEN HEAD COVER LOCKING SCREW** - 316 stainless steel
- **GLASS LENS** - 3/8"(9.5mm) thick tempered float glass
- **FINISH** - silver powder epoxy paint electrostatically applied
- Special colors available in quantity

Factory / Field Modifications

- **UL AND CSA APPROVALS** allow for the field drilling and tapping of blind holes into the internal "X" ribs for mounting of customer equipment. The internal pad allows for the field drilling and tapping for one additional opening, 1/2" NPT or NPSM, 3/4" NPT or NPSM, M20 or M25.
- **ATEX IEC EX APPROVALS** all machining modifications must be done by the factory



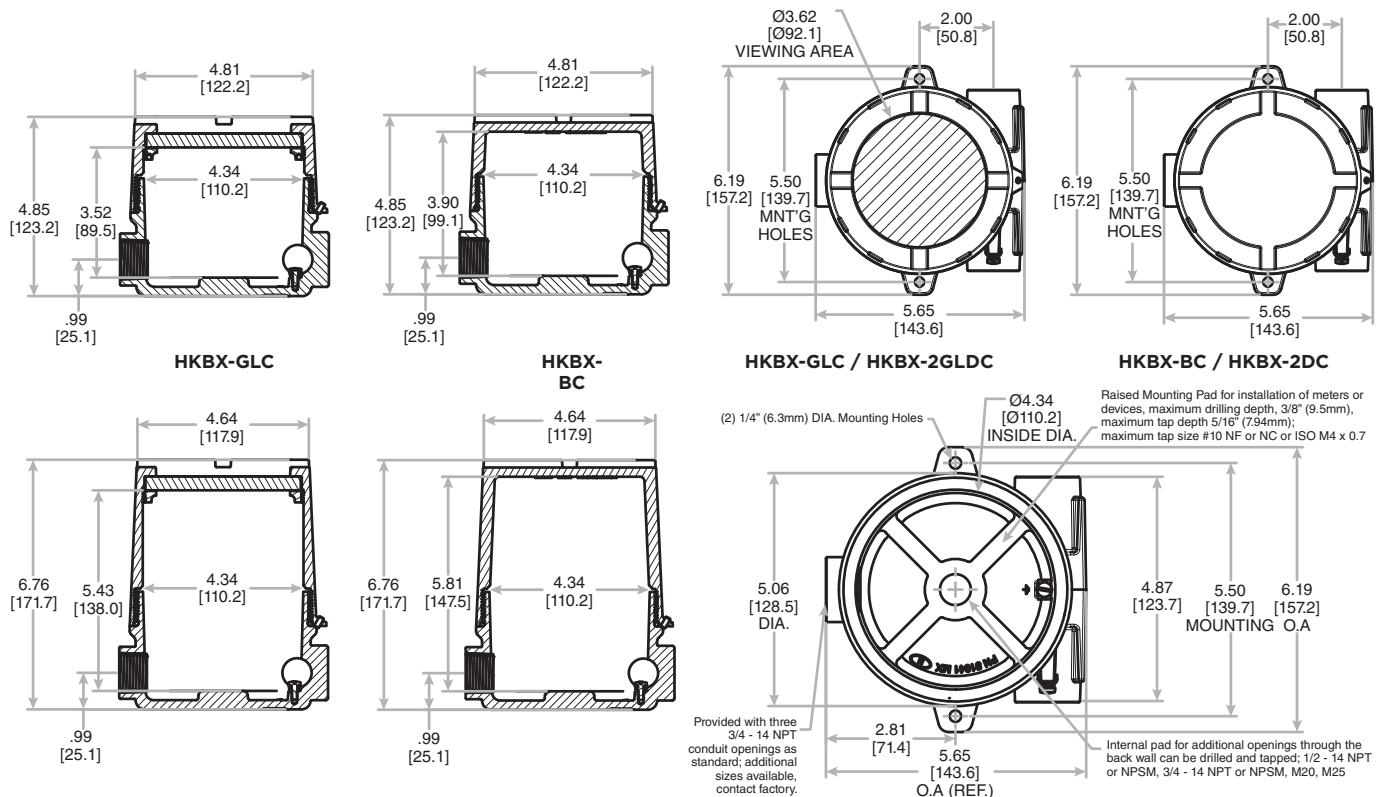
CATALOG LOGIC

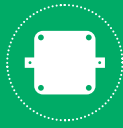


HKBX COMPONENT AND ASSEMBLY NUMBERS	
CATALOG NUMBER	ITEM DESCRIPTION
HKBX	Box only 4-1/4" (108mm) internal diameter opening
HFCX	Flat cover 4-1/4" (108mm) internal diameter opening
HKXGL	Lens cover 3-5/8" (92mm) diameter viewing
HKX2D	Dome 2" cover 4-1/4" (108mm) internal diameter
HKX2GLD	Dome 2" lens cover 3-5/8" (92mm) diameter viewing
HKBX-BC	Box with flat cover 4-1/4" (108mm) internal diameter QUAD Approvals
HKBX-GLC	Box with lens cover 3-5/8" (92mm) viewing QUAD Approvals
HKBX-2DC	Box with 2" dome cover 4-1/4" (108mm) internal diameter QUAD Approvals
HKBX-2GLDC	Box with 2" dome lens cover 3-5/8" (92mm) viewing QUAD Approvals
HKBX-GRD	HKBX replacement ground kit
15722JABB	HKBX replacement "O" ring

HKBX FACTORY MODIFICATIONS	
OPTIONAL FACTORY MACHINING	
CATALOG SUFFIX	MODIFICATION DESCRIPTION
-10	1/2" NPT in the back wall
-1S	1/2" NPSM in the back wall
-20	3/4" NPT in the back wall
-2S	3/4" NPSM in the back wall
-2SS	3/4" NPSM in the side hubs <i>Consult Factory for Pricing</i>
-M20	M20 in the back wall
-M25	M25 in the back wall
-M25S	M25 in the side hubs <i>Consult Factory for Pricing</i>
-MX	Mix of sizes and locations <i>Consult Factory for Pricing</i>

Note: The HKBX covers are non-interchangeable with the legacy HKB covers.

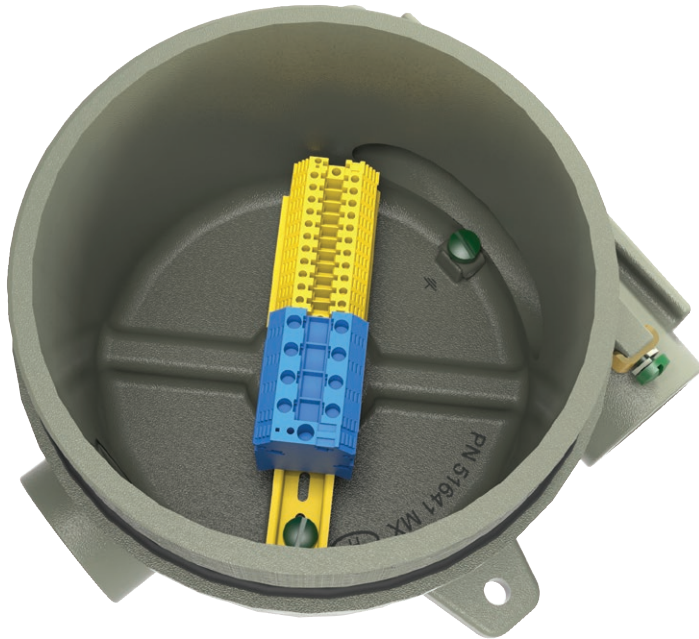




ENCLOSURES

HKBX-TB SERIES

HKBX Terminal Box - UL / CSA / ATEX / IEC EX



HKBX-TB Terminal Box

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups A, B, C, & D

Class I, Zone 1, AEx db IIC

**Class II, Div. 1 & 2, Groups E, F, & G
Class III**

Type 3, 4, 4X

UL Ta = -60°C to +70°C

CSA File E83969

File LR11716 - 1750685

ATEX / IEC Ex Certificate

II 2 G D CE 2813

Ex db IIC T4...T3 Gb

Ex eb IIC T4...T3 Gb

Ex tb IIIC T110°C...T140°C IP66

Ta = -60°C to +70°C

DEMKO 06ATEX 141023X

DEMKO 06ATEX 0521635X

IECEX UL 14.0060X

IECEX UL 14.0069X

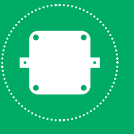
FEATURES-SPECIFICATIONS

Features

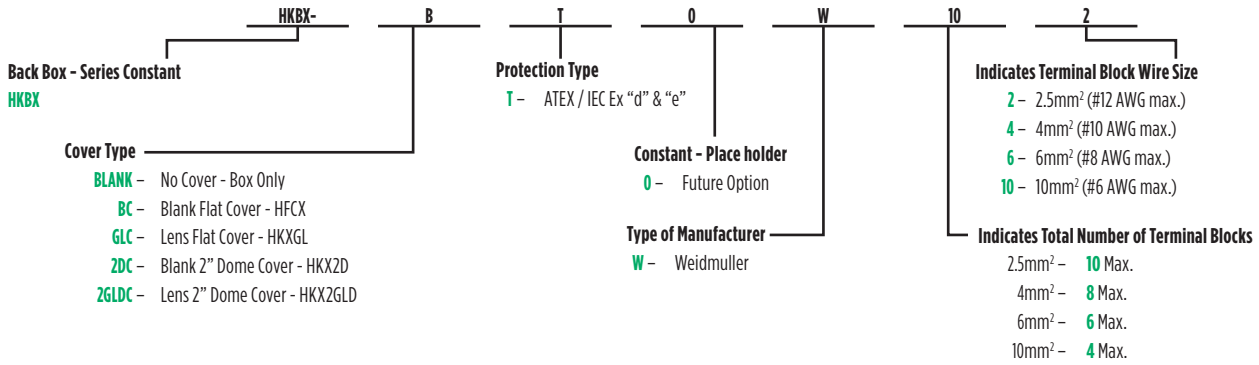
- Maximum (10) 2.5mm² terminal blocks
- Maximum 630VAC, 60 AMPs
- Enclosures are explosion/flame proof, dust/ignition proof, weather/hose-down proof and tamper resistant
- ATEX & IEC Ex standard on all assemblies
- Box and cover without ATEX IEC Ex can be sold separately
- Box and covers are die cast from copper-free aluminum
- Neoprene o-ring for water resistance in Type 3, 4 / IP66 conditions
- Large 4-1/4" (108mm) diameter internal cover opening with a full depth - no wasted space
- Three 3/4" NPT offset feed-through conduit openings. Optional 3/4" NPSM or M25 openings available.
- Large internal mounting pad supplied in a "X" configuration for the flexibility of adapting to any OEM bolt circle
- Internal and external anti-turn ground (earth) terminals
- Cover with shrouded tamper-resistant set screw
- Recessed cover lugs permit easy removal and tightening. Large recess grip slots for opening and closing of the cover.
- Cast-on mounting lugs with 1/4" (6.3mm) diameter mounting holes
- Same mounting foot print as the legacy HKB Series boxes

Materials

- **BOX AND COVER:** die cast from 413 copper-free aluminum, containing less than 4/10 of 1% alloy and less than 6% magnesium
- **O-RING GASKET NEOPRENE** - 70 durometer nitrile compound
- **GROUND (EARTH) SCREW** - 316 stainless steel with green plating.
- **ALLEN HEAD COVER LOCKING SCREW** - 316 stainless steel
- **FINISH** - silver powder epoxy paint electrostatically applied
- Special colors available in quantity



CATALOG LOGIC



REPLACEMENT COMPONENTS	
CATALOG NUMBER	DESCRIPTIONS
HKBX-GRD	HKBX replacement ground kit
15722AAAB	HKBX replacement "0" ring

Note: The HKBX covers are non-interchangeable with the legacy HKB's covers.

HKBX FACTORY MODIFICATIONS	
OPTIONAL FACTORY MACHINING	
CATALOG SUFFIX	MODIFICATION DESCRIPTION
-2SS	3/4" NPSM in the side hubs Consult Factory for Pricing
-M25S	M25 in the side hubs Consult Factory for Pricing
-MX	Mix of sizes and locations Consult Factory for Pricing



ENCLOSURES HK/2HK SERIES

Instrument / Device Enclosures



HK



2HK



HKB
Empty Enclosure

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups A, B, C, & D

Class I, Zone 1, AEx db IIC

Class II, Div. 1 & 2, Groups E, F, & G

Class III

Type 3, 4, 4X

Ta = -60°C to +70°C (UL & CSA)

Ta = -20°C to +40°C (FM)

Files E83969 / E150827

File LR11716 - 1750685

File 1W1R4-RE



ATEX / IEC Ex Certificate

II 2 G D CE 2813

Ex db IIC Gb

Ex tb IIIC Db IP66

Ta = -60°C to +70°C

DEMKO 01ATEX 15742U

IECEx UL 14.0071U

Gas Group "A" certified by FM only, add suffix "-GA". Seal within 6"

For Group BCD seal within 18" of the box.

For Ex db IIC seal adjacent to the box.

FEATURES-SPECIFICATIONS

Features

- Explosion/flame proof, dust/ignition proof, weather/hose-down proof and tamper resistant
- Boxes and covers are cast from a copper-free aluminum alloy
- Cast stainless steel box, flat, and lens cover available (HKSB-BC + HKSB-GLC)
- Neoprene o-ring for water resistance in Type 3, 4 / IP66 conditions
- Three box styles available: HKB, HKBD single cover design and the 2HKB double cover design. 2HKB enclosure has two separate chambers for isolation between power and instrument.
- HKB, HKBD box has offset feed-thru conduit openings (3/4" NPT) for maximum use of interior volume
- 2HKB box has offset feed-thru conduit openings (3/4" NPT) on power side and one (3/4" NPT) on bottom instrument side
- Interior mounting pad (HKB, HKBD) in an "X" configuration for flexibility of adapting to OEM bolt circle
- Location of the internal ground screw boss does not interfere with the mounting of the instrument or device

- Eight different cover styles are available: standard flat cover, standard glass lens cover, 1" dome cover, 1" dome lens cover, 2" dome cover, 2" glass lens dome cover, 4" dome cover, and 4" dome lens cover.
- All covers have shrouded tamper-resistant set screws as standard which can help to combat excessive vibration in rugged settings
- Lugs on cover permit easy removal and tightening

Materials

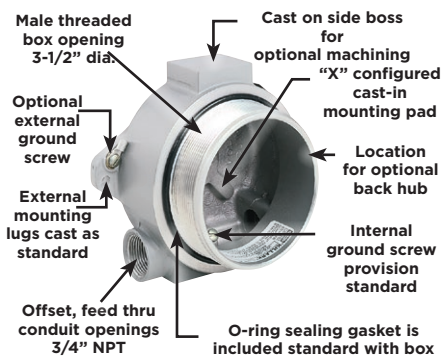
- Boxes and covers - copper-free aluminum (less than 4/10 of 1%)
- HKSB series is 316 cast stainless steel

- O-ring sealing gasket - Neoprene rubber
- Ground screws - zinc plated steel with green dye (stainless steel on HKSB)
- Allen head cover screw - cadmium plated steel (stainless steel on HKSB)
- Glass lens - 3/8" thick tempered glass
- Finish - silver powder epoxy paint, electrostatically applied
- Special colors available in quantity

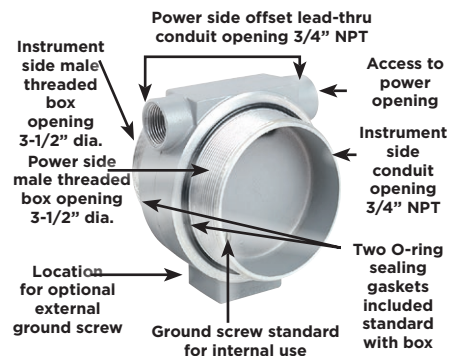
2HKB Series Boxes

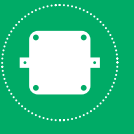
- The wall that separates the instrument side from the power side can be machined for slots or holes up to a maximum of two slots 5/16" by 1-1/2".
- Submit drawings for machining requirements to Killark.

HK Design Features



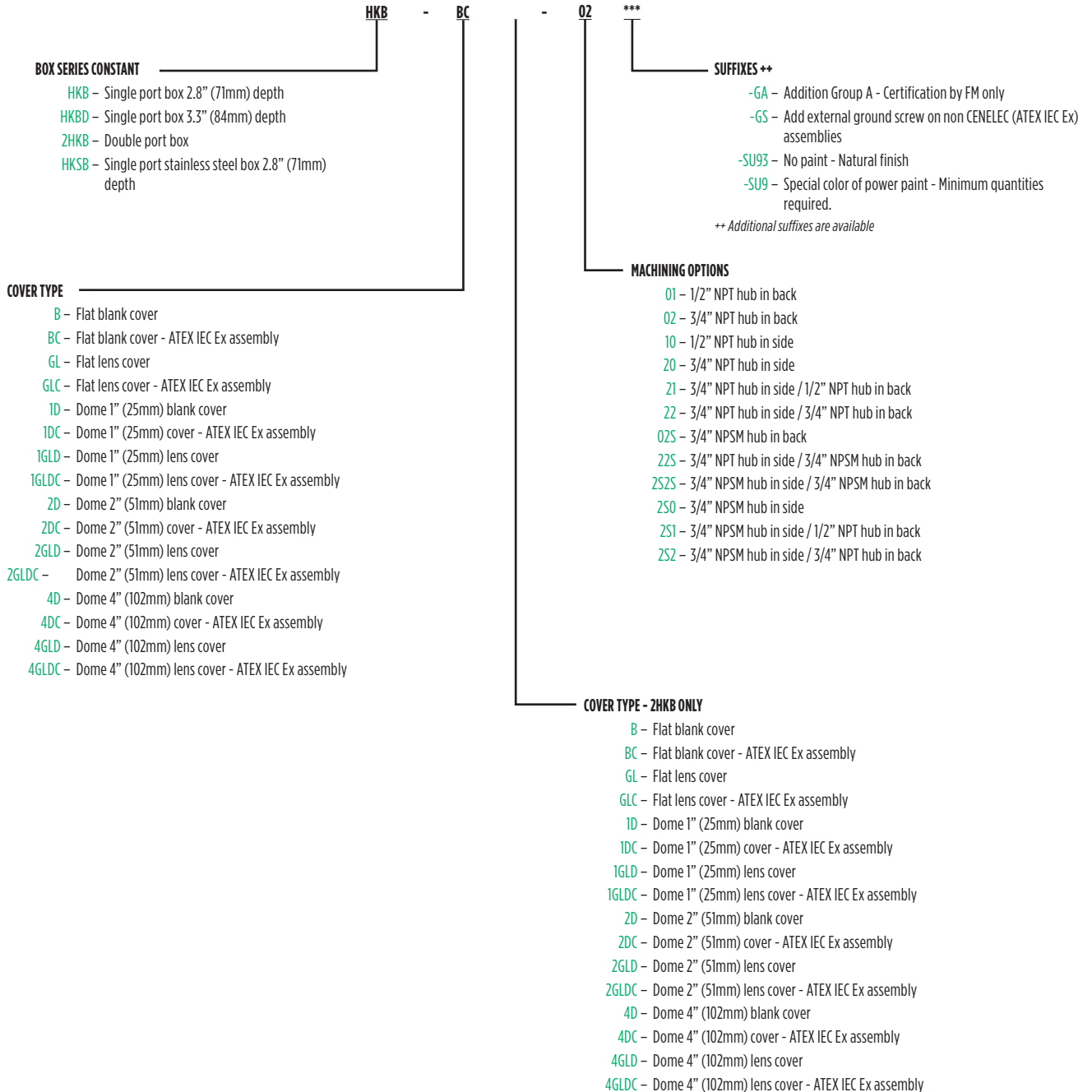
2HK Design Features

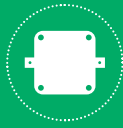




Instrument / Device Enclosures

CATALOG LOGIC





ENCLOSURES HK/2HK SERIES

Instrument / Device Enclosures BOXES



FLAT AND 1" DOME COVERS



2" AND 4" DOME COVERS



FEATURES

2HKB Series Boxes

The wall that separates the instrument side from the power side can be machined for slots or holes up to a maximum of two slots 5/16" by 1-1/2". Submit drawings for machining requirements to Killark.

Factory Modifications

Approvals allow for factory or field modifications on HKB box for drilling and tapping conduit openings on side or back of enclosure without voiding UL-CSA-FM approvals. Internal mounting pad holes on "X" configured boss can be factory added by drilling from inside of box without piercing the bottom of enclosures. Assemblies with ATEX/IEC Ex approvals must be factory modified in order to comply with certifications.

Note: The HKB boxes and covers are not interchangeable with the HKBX series enclosures.

HK ASSEMBLED PARTS

CATALOG NUMBER (CAST ALUMINUM)

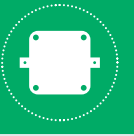
HKB BOX AND COVERS		HKBD BOX & COVERS	2HKB BOX W/ BLANK COVER ON POWER SIDE & OPTIONAL COVER ON INSTRUMENT SIDE		COVER TYPE
UL-CSA-FM APPROVED	CENELEC UL-CSA-FM APPROVED	UL-CSA-FM APPROVED	(UL-CSA-FM)	CENELEC UL-CSA-FM APPROVED	
HKB-B	HKB-BC	HKBD-B	2HKB-B-B	2HKB-BC-BC	Standard flat
HKB-2D	HKB-2DC	HKBD-2D	2HKB-B-2D	2HKB-BC-2DC	2" Dome
HKB-4D	HKB-4DC	HKBD-4D	2HKB-B-4D	2HKB-BC-4DC	4" Dome
HKB-GL	HKB-GLC	HKBD-GL	2HKB-B-GL	2HKB-BC-GLC	Lens
HKB-2GLD	HKB-2GLDC	HKBD-2GLD	2HKB-B-2GLD	2HKB-BC-2GLDC	2" Dome lens

HK COMPONENT PARTS

CATALOG NUMBER	DESCRIPTION
HKB	Single cover box only
HKBD	Single deep box only
2HKB	Double cover Box only
HFC	Flat cover
HKGL	Lens cover
HK1D	1" Dome cover
HK1GLD	1" Dome lens cover
HK2D	2" Dome cover
HK4D	4" Dome cover
HK2GLD	2" Dome lens cover
HK4GLD	4" Dome lens cover
15722LABB	Rep. "O" Ring Gasket

HKSB STAINLESS STEEL ASSEMBLED PARTS

HKSB BOX AND COVERS CENELEC UL-CSA-FM APPROVED	COVER TYPE
HKSB-BC	Standard flat
HKSB-GLC	Lens



Instrument / Device Enclosures



HK

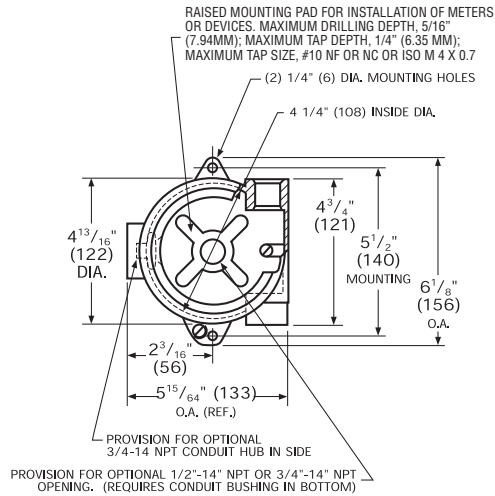


HKSB - Stainless Steel

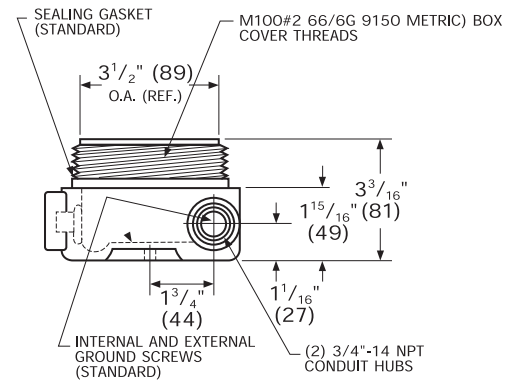
Dimensions

Note: Add 1/2" to all depth dimensions when using HKBD Deep Box.

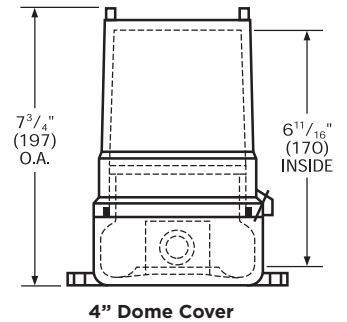
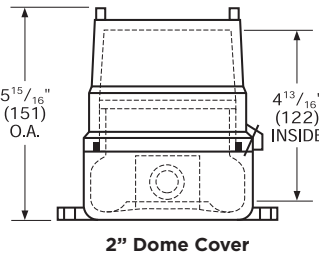
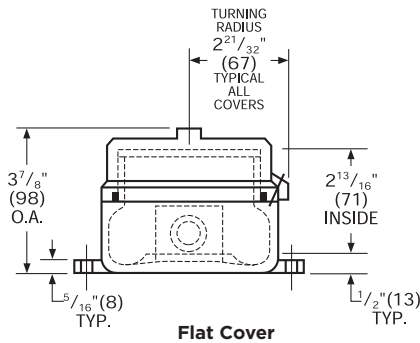
HKBD volume = 33 cu.in.



HKB Volume: 31 cu. in.



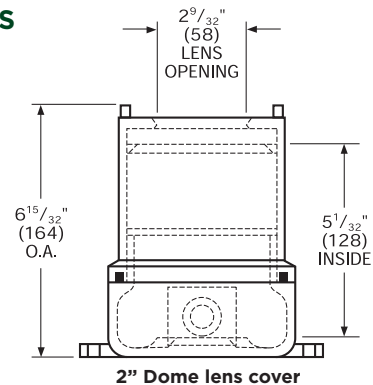
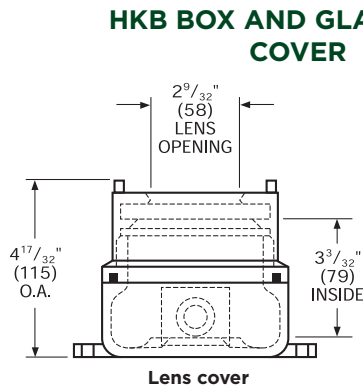
HKB BOX AND BLANK COVER

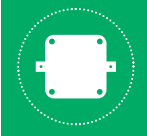


For HK1GLD (1" Dome Lens Cover), add 1" to lens cover verticle height dimensions

For HK4GLD (4" Dome Lens Cover), add 2" to 2 dome lens cover verticle height dimensions

HKB BOX AND GLASS LENS COVER





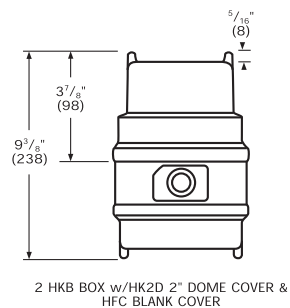
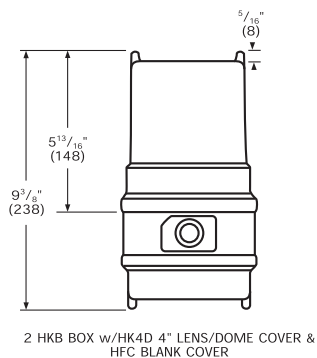
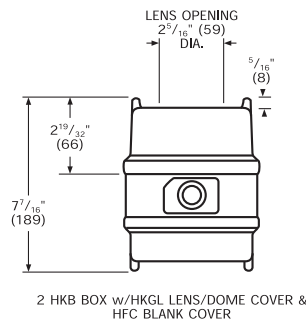
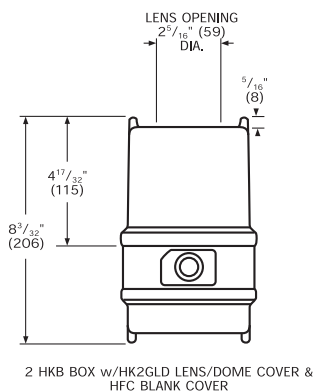
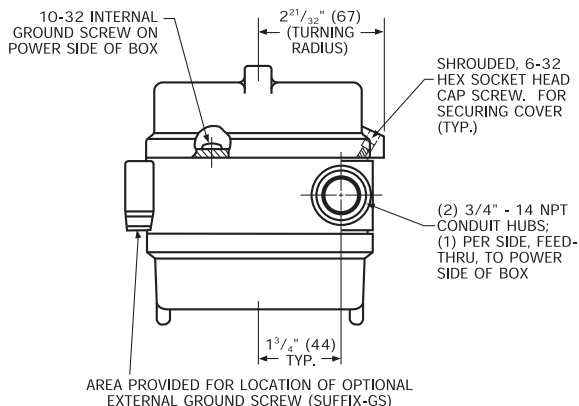
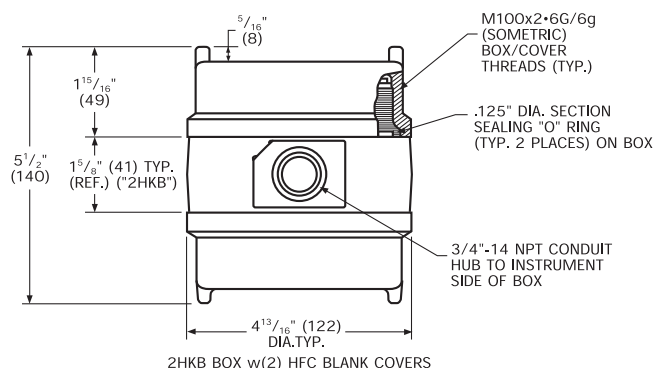
ENCLOSURES
2HK SERIES

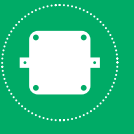
Instrument / Device Enclosures



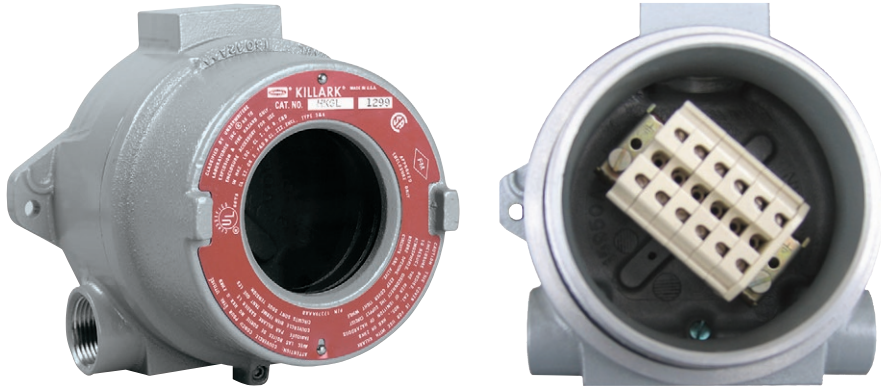
2HK

Dimensions





HK Terminal Box - UL / CSA / ATEX / IEC Ex



HKB-TB
Terminal Box

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups A, B, C, & D

Class I, Zone 1, AEx db IIC

Class II, Div. 1 & 2, Groups E, F, & G
Class III

Type 3, 4, 4X

Ta = -60°C to +70°C (UL & CSA)

Ta = -20°C to +40°C (FM)

File E83969

File LR11716 - 1750685

File 1W1R4-RE



ATEX / IEC Ex Certificate

II 2 G D CE 2813

Ex db IIC T4...T3 Gb

Ex eb IIC T4...T3 Gb

Ex tb IIIC T110°C...T140°C IP66

Ta = -60°C to +70°C

DEMKO 06ATEX 141023X

DEMKO 06ATEX 0521635X

IECEX UL 14.0060X

IECEX UL 14.0069X

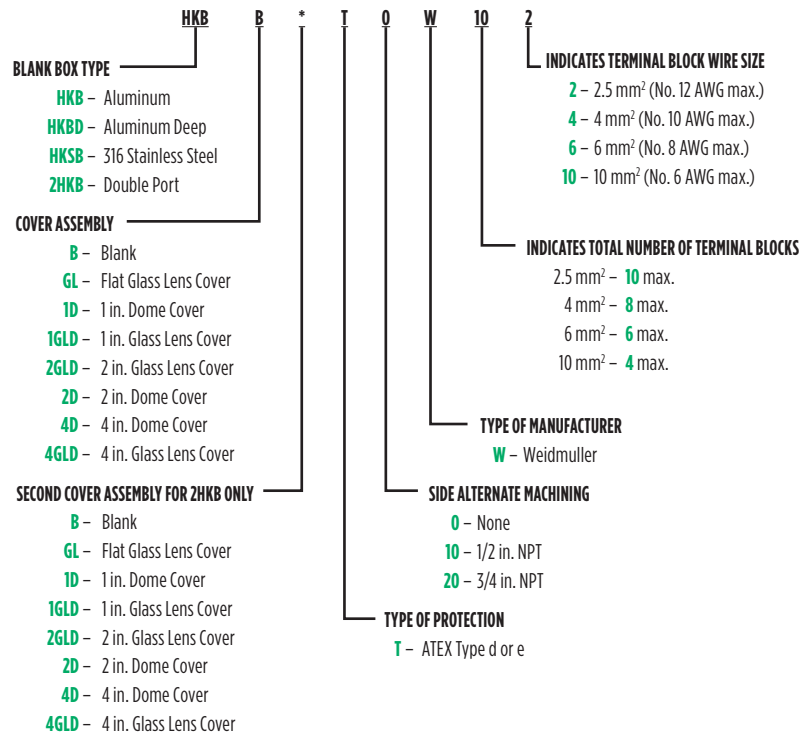
FEATURES-SPECIFICATIONS

UL DEMKO Increased Safety/Flame Proof Terminal Enclosure

Features

- Select from 4 body types and 8 different covers
- Single port box provided with two 3/4" NPT standard openings. One additional 1/2" or 3/4" NPT can be added.
- Double port has three 3/4" NPT's as standard
- Maximum (10) 2.5mm² blocks. Quantity doubles for 2HKB's.
- 630 Volts max. and 60 Amps max.
- Group A FM only on HK single cover box.
- Seal within 18" of enclosure for Group BCD and within 6" for group A in Class and Division applications.
- Seal immediately adjacent to enclosure for EX db IIC applications.

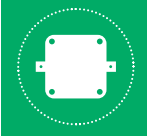
Catalog Number Logic HK Series ATEX/IEC Ex Terminal Box



ORDERING EXAMPLE: HKB-B-T1W102

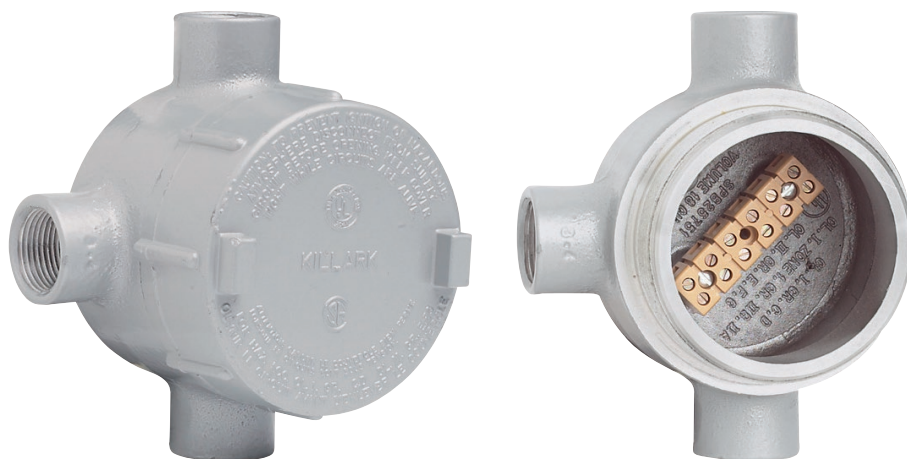
DESCRIPTION: HKB box with blank cover, with 1/2" NPT (in the side) pad, with qty. ten 2.5mm² Weidmuller terminal blocks.

DIMENSIONS: See the HKB empty enclosure section at the end of this section.v



ENCLOSURES
GE SERIES

Aluminum Outlet Bodies with Terminal Block - UL / CSA



GECTT-2-6TB



GEC-6TB
Terminal Box

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D
Class I, Zone 1 & 2

Groups IIB+H2, IIA

Class II, Div. 1 & 2, Groups E, F, & G
Class III

Type 3, 4, 4X

Ta = -25°C to +40°C (UL)

Ta = -50°C to +40°C (CSA)



File E10514



File LR11716

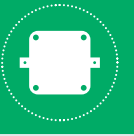
FEATURES-SPECIFICATIONS

Features

- Water shedding cover - suitable for wet locations
- External cover threads on body protect conductors from damage during pulling
- No pinching of conductors during cover installation
- Three different hub arrangements
- Taper threaded hubs to provide ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Weather-resistant finish
- Green ground screw standard in all boxes
- Weidmuller 6 point MK3 terminal block is mounted inside box on raised pads
- Type 4 "O" Ring Standard
- Terminal rated 600V UL / 300V CSA / 20 AMP for wire size #22 - 12AWG
- Hub type XTF furnished with mounting flange

Materials

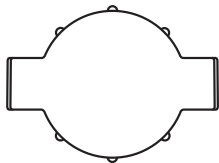
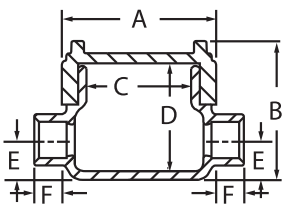
- Body and cover are copper-free aluminum (less than 4/10 of 1%)
- **FINISH** - Electrostatically applied powder coating



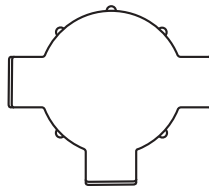
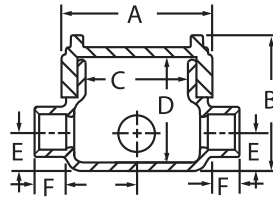
GE SERIES OUTLET BOX WITH 6 POINT TERMINAL BLOCK

HUB TYPE	CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	COVER OPENING	VOLUME CU. IN./ML
C	GECCT-2-6TB	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19 (311)
T	GECTT-2-6TB	3/4"								
X	GECXT-2-6TB	3/4"								
XTF	GECXTF-2-6TB	3/4"									3/4" (19)

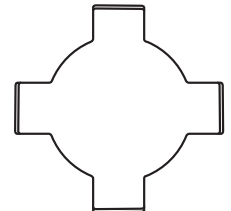
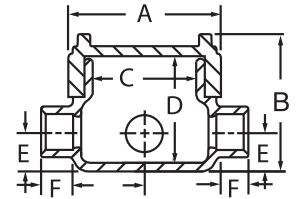
Dimensions in. (mm)



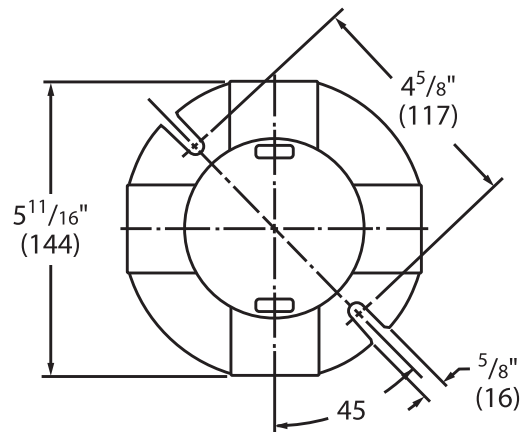
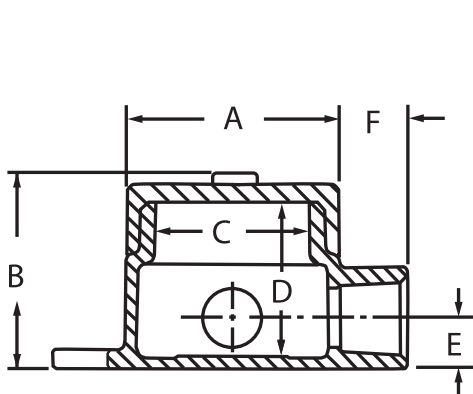
C Type



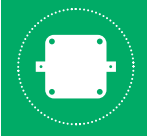
T Type



X Type

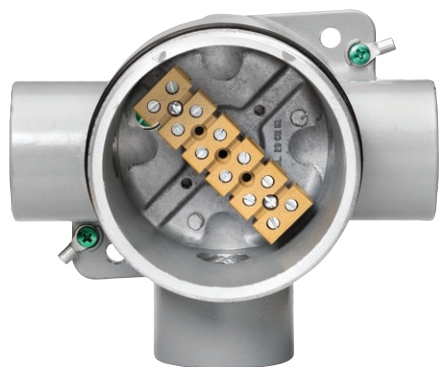


**XTF Type
With Mounting Flange**

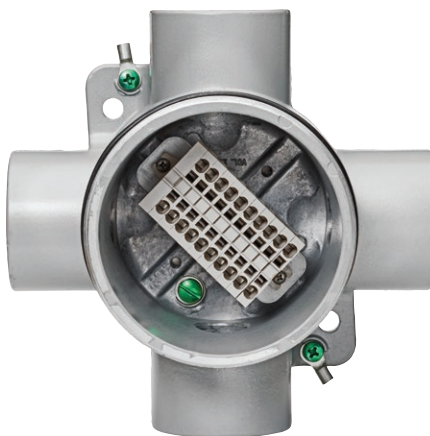


ENCLOSURES
GEB SERIES

Stock Terminal Boxes - UL / CSA / ATEX / IEC Ex with **Panel Mounted** Terminals



GEBT



GEBX



GEB-TB
Terminal Box

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D
Class I Zone 1 IIB+H2 Gb
Class II, Div. 1 & 2, Groups E, F, & G
Class III

Type 3, 4, 4X

Ta = -25°C to +40°C

Ta = -50°C to +40°C



File E83969

Certificate LR11716 - 1820607

ATEX / IEC Ex Certificate



II 2 G D CE 2813

Ex d IIC T* Gb

Ex tb IIIC T°C Db IP66**

Service Temperature -40°C to +163°C

Sira 12ATEX1244

IECEx SIR 12.0107

FEATURES-SPECIFICATIONS

Features

- Cover o-ring supplied as standard for Type 4X and IP66 applications
- Available in 3 configurations with either 3/4" or 1" NPT threaded hubs providing ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Also available in M20 through M50 metric sizes
- No pinching of conductors during cover installation
- Three options of terminal blocks
- One internal and two external grounding (earthing) screws
- Lugs on cover for easy removal and tightening

Materials

- Box and cover: Copper free aluminum (less than 4/10 of 1%)
- Finish: Electrostatically applied powder coating - Grey
- O-Ring Gasket: Nitrile compound
- Stainless steel, tamper-proof locking set screw in cover

Terminal Blocks Specifications

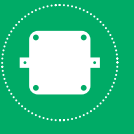
8TBMK: Weidmuller® MK3/8 Qty 8 points
UL = 600VAC, 5AMP, #22 to #12 AWG
CSA = 300VAC, 25AMP, #22 to #12 AWG
IEC = 400VAC, 24AMP, 2.5mm²

6TBMK: Weidmuller® MK6/6 Qty 6 points
UL = 300VAC, 20AMP, #22 to #10 AWG
CSA = 300VAC, 40AMP, #22 to #10 AWG
IEC = 490VAC, 41AMP, 6mm²

10TBZD: Weidmuller® ZDUB2.5 Qty 10 points
UL = 600VAC, 20AMP, #26 to #12 AWG
CSA = 600VAC, 25AMP, #26 to #12 AWG
IEC = 690VAC, 24AMP, 2.5mm²

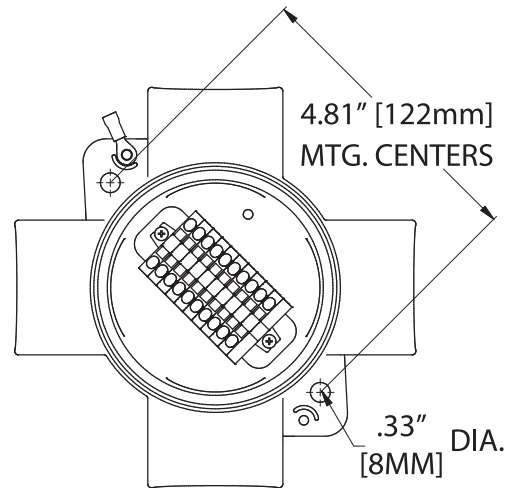
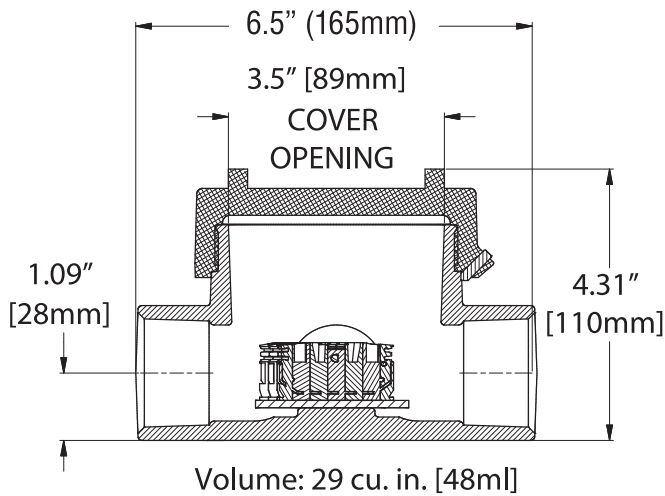
*T Codes Ratings / Wattage Input

- 20 Watts of Power
 - Ta 48°C = T6 / T85°C
 - Ta 63°C = T5 / T100°C
 - Ta 98°C = T4 / T135°C
 - Ta 163°C = T3 / T200°C
- 30 Watts of Power
 - Ta 50°C = T5 / T100°C
 - Ta 85°C = T4 / T135°C
 - Ta 150°C = T3 / T200°C
- 40 Watts of Power
 - Ta 38°C = T5 / T100°C
 - Ta 73°C = T4 / T135°C
 - Ta 138°C = T3 / T200°C



Stock Terminal Boxes - UL / CSA / ATEX / IEC Ex with **Panel Mounted** Terminals

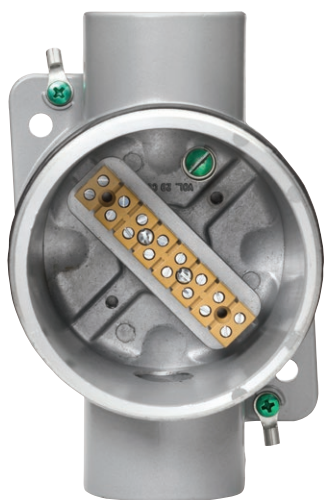
HUB TYPE	CATALOG NUMBER	HUB SIZE	CATALOG NUMBER	HUB SIZE
C	GEBC-2-8TBMK-EX GEBC-2-6TBMK-EX GEBC-2-10TBZD-EX	3/4"	GEBC-3-8TBMK-EX GEBC-3-6TBMK-EX GEBC-3-10TBZD-EX	1"
T	GEBT-2-8TBMK-EX GEBT-2-6TBMK-EX GEBT-2-10TBZD-EX	3/4"	GEBT-3-8TBMK-EX GEBT-3-6TBMK-EX GEBT-3-10TBZD-EX	1"
X	GEBX-2-8TBMK-EX GEBX-2-6TBMK-EX GEBX-2-10TBZD-EX	3/4"	GEBX-3-8TBMK-EX GEBX-3-6TBMK-EX GEBX-3-10TBZD-EX	1"



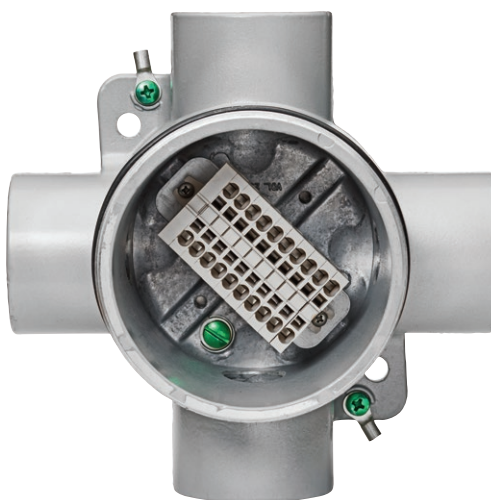


ENCLOSURES
GEB SERIES

Terminal Boxes - UL / CSA / ATEX / IEC Ex Configured **Panel Mounted** Terminals



GEB-C
Open



GEB-X Open



GEB-TB
Terminal Box

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D
Class I Zone 1 IIB+H2 Gb
Class II, Div. 1 & 2, Groups E, F, & G
Class III

Type 3, 4, 4X
Ta = -25°C to +40°C
Ta = -50°C to +40°C



File E83969



Certificate LR11716 - 1820607



ATEX / IEC Ex Certificate

II 2 G D CE 2813
Ex d IIC T* Gb
Ex tb IIIC T**°C Db IP66
Service Temperature -40°C to +163°C
Sira 12ATEX1244
IECEX SIR 12.0107

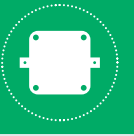
FEATURES-SPECIFICATIONS

Features

- Cover o-ring supplied as standard for Type 4X and IP66 applications
- Available in 4 configurations with either 3/4" or 1" NPT threaded hubs providing ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Also available in M20 through M50 metric sizes
- External cover threads on the body protects conductors from damages during pulling
- No pinching of conductors during cover installation
- Two terminal block manufacturers to choose from: Weidmuller® and ABB®
- Three options of terminal blocks
- One internal and two external grounding (earthing) screws
- Lugs on cover for easy removal and tightening

Materials

- Box and cover: Copper free aluminum (less than 4/10 of 1%)
- Finish: Electrostatically applied powder coating - Grey
- O-Ring Gasket: Nitrile compound
- Stainless steel, tamper-proof locking set screw in cover



Terminal Blocks Specifications

8TBMK: Weidmuller® MK3/8 Qty 8 points
UL = 600VAC, 5AMP, #22 to #12 AWG
CSA = 300VAC, 25AMP, #22 to #12 AWG
IEC = 400VAC, 24AMP, 2.5mm²

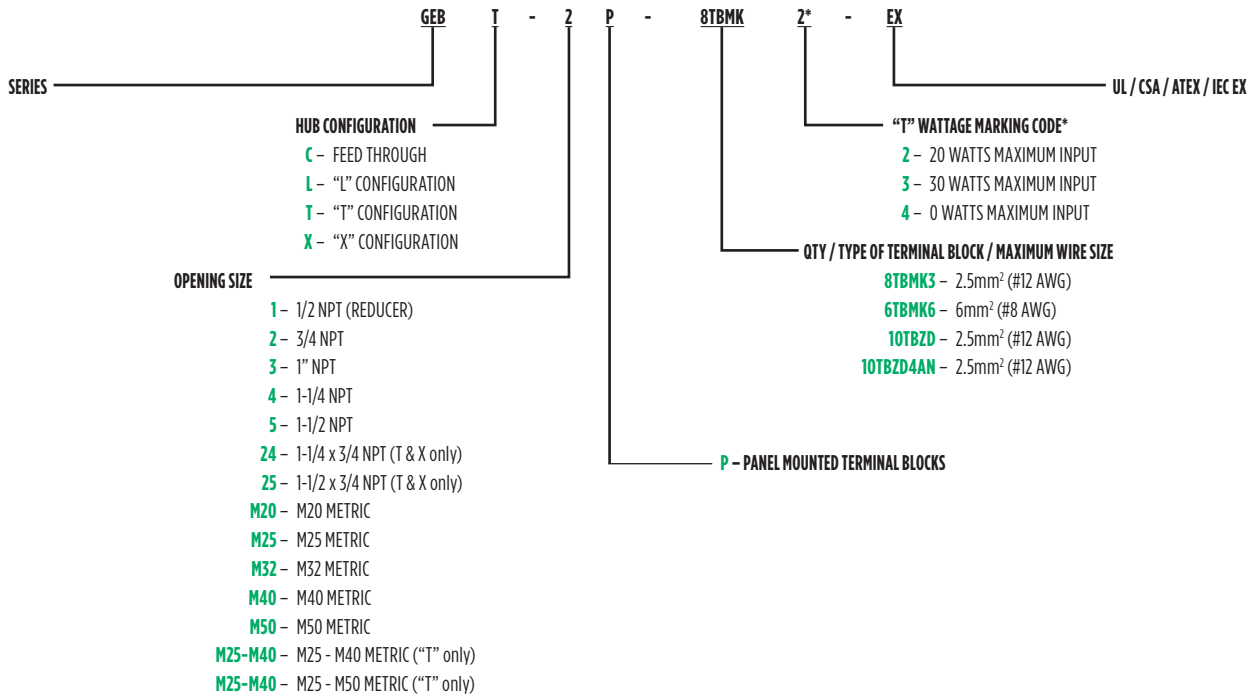
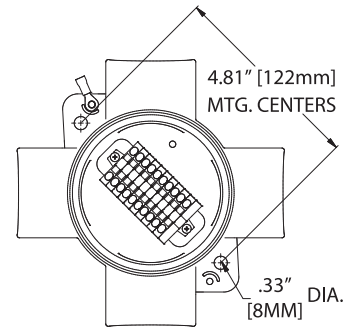
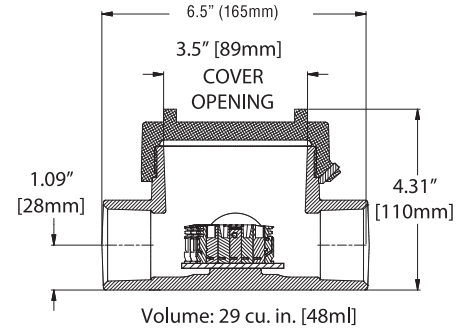
6TBMK: Weidmuller® MK6/6 Qty 6 points
UL = 300VAC, 20AMP, #22 to #10 AWG
CSA = 300VAC, 40AMP, #22 to #10 AWG
IEC = 690VAC, 41AMP, 6mm²

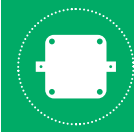
10TBZD: Weidmuller® ZDUB2.5 Qty 10 points
UL = 600VAC, 20AMP, #26 to #12 AWG
CSA = 600VAC, 25AMP, #26 to #12 AWG
IEC = 490VAC, 24AMP, 2.5mm²

10TBZD4AN: Weidmuller® ZDUB2.5/4AN/DM 4 Connections Qty 10 points
UL = 600VAC, 20AMP, #26 to #12 AWG
CSA = 600VAC, 25AMP, #26 to #12 AWG
IEC = 690VAC, 24AMP, 2.5mm²

***T Codes Ratings / Wattage Input**

- 20 Watts of Power
Ta 48°C = T6 / T85°C
Ta 63°C = T5 / T100°C
Ta 98°C = T4 / T135°C
Ta 163°C = T3 / T200°C
- 30 Watts of Power
Ta 50°C = T5 / T100°C
Ta 85°C = T4 / T135°C
Ta 150°C = T3 / T200°C
- 40 Watts of Power
Ta 38°C = T5 / T100°C
Ta 73°C = T4 / T135°C
Ta 138°C = T3 / T200°C





ENCLOSURES
GEB SERIES

Terminal Boxes - UL / CSA / ATEX / IEC Ex **Din Rail Mounted** Terminals



GEBX



GEB-TB
Terminal Box

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D
Class I Zone 1 IIB+H2 Gb
Class II, Div. 1 & 2, Groups E, F, & G
Class III

Type 3, 4, 4X

Ta = -25°C to +40°C

Ta = -50°C to +40°C



File E83969



Certificate LR11716 - 1820607



ATEX / IEC Ex Certificate

II 2 G D CE 2813

Ex d IIC T* Gb

Ex tb IIIC T°C Db IP66**

Service Temperature -40°C to +163°C

Sira 12ATEX1244

IECEx SIR 12.0107

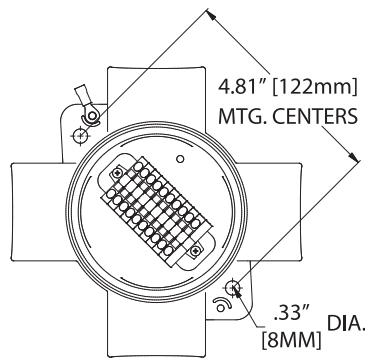
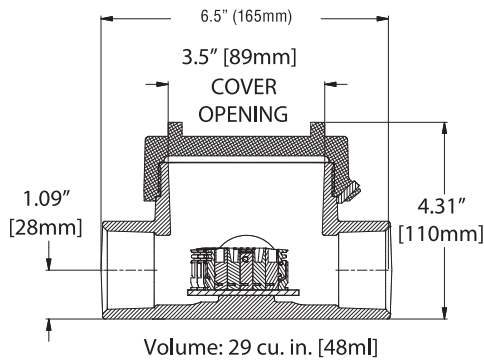
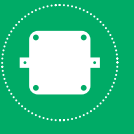
FEATURES-SPECIFICATIONS

Features

- Cover o-ring supplied as standard for Type 4X and IP66 applications
- Available in 4 configurations with either 3/4" or 1" NPT threaded hubs providing ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Also available in M20 through M50 metric sizes
- External cover threads on the body protect conductors from damage during pulling
- No pinching of conductors during cover installation
- Two terminal block manufacturers to choose from: Weidmuller® and ABB®
- Three options of terminal blocks to select from
- One internal and two external grounding (earthing) screws.
- Lugs on cover for easy removal and tightening
- Available with SKK 4mm² blocks up to qty 6. The SKK are rated up to 250°C continuous service.

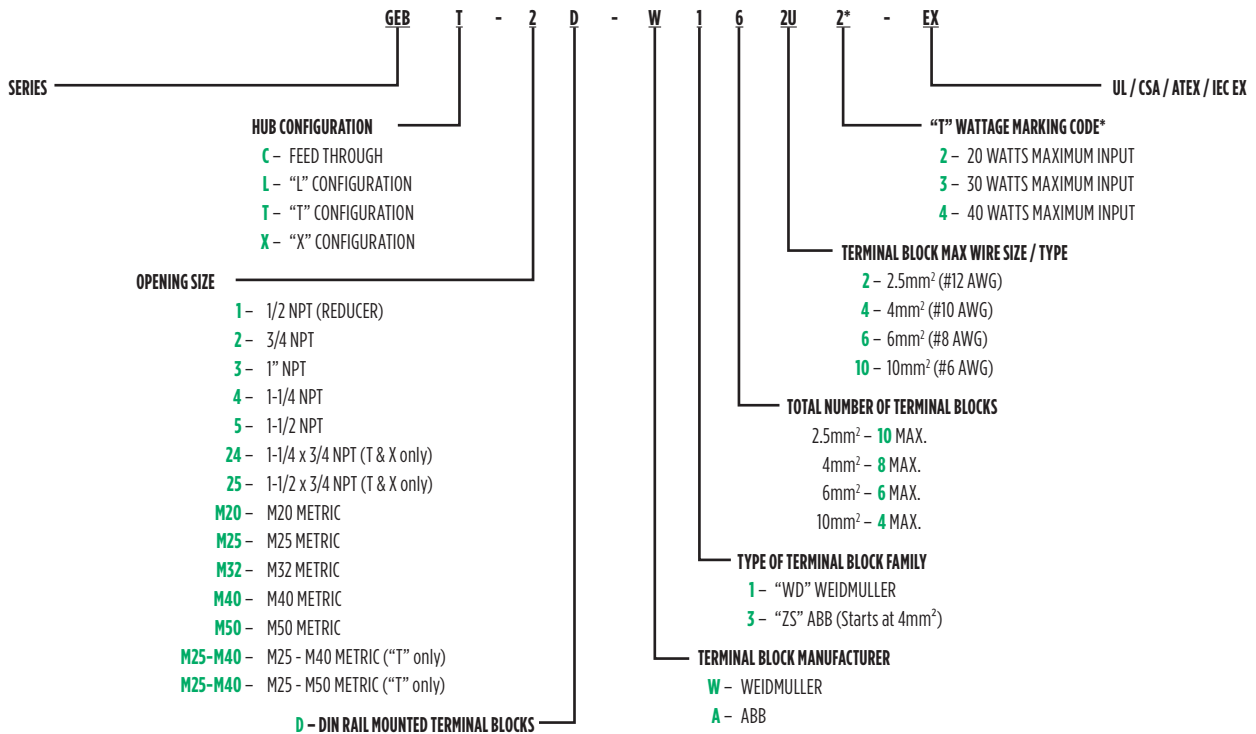
Materials

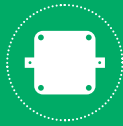
- Box and cover: Copper free aluminum (less than 4/10 of 1%)
- Finish: Electrostatically applied powder coating - Grey
- O-Ring Gasket: Nitrile compound
- Stainless steel, tamper-proof locking set screw in cover



***T Codes Ratings / Wattage Input**

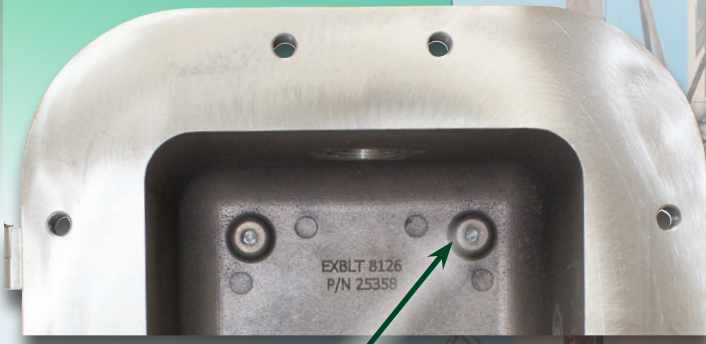
- 20 Watts of Power
 Ta 48°C = T6 / T85°C
 Ta 63°C = T5 / T100°C
 Ta 98°C = T4 / T135°C
 Ta 163°C = T3 / T200°C
- 30 Watts of Power
 Ta 50°C = T5 / T100°C
 Ta 85°C = T4 / T135°C
 Ta 150°C = T3 / T200°C
- 40 Watts of Power
 Ta 38°C = T5 / T100°C
 Ta 73°C = T4 / T135°C
 Ta 138°C = T3 / T200°C



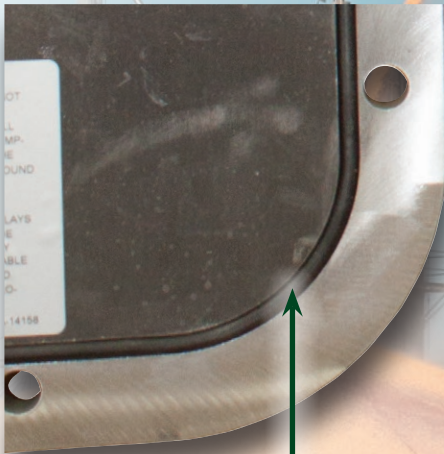


ENCLOSURES
EXBLT SERIES

**EXBLT Series
is up to 35%
lighter than EXB
Series**

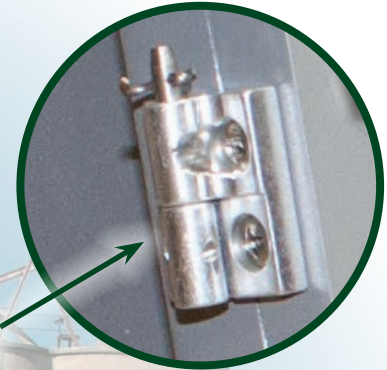


Predrilled internal mounting pan bosses. Uses same mounting pans as the EXB series.



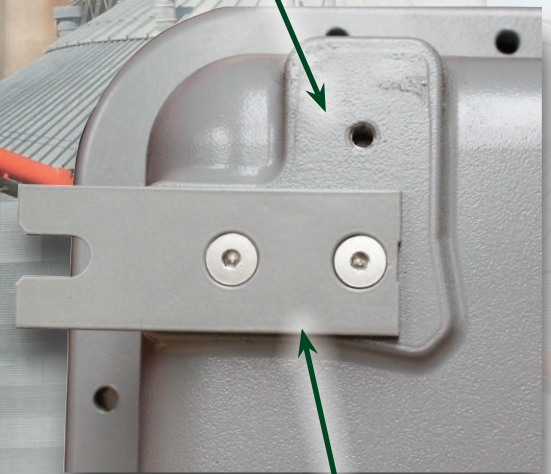
Nitrile (BUNA-N) "O" ring gasket is located inside the bolt circle for wet locations, Type 4 & IP66

Fewer cover bolts required - faster in and out

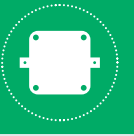


Hinges are extruded aluminum with stainless steel pin and hardware

Mounting lugs can be rotated 90°



Ductile mounting lugs. Lugs are made of a ductile aluminum alloy to adjust to irregular mounting surfaces without damaging the enclosure. Easily replaced if damaged.



Junction Boxes

EXBLITE



EXBLT

Empty / Control Enclosure

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D
Class I, Zone 1, IIB+H2
Class II, Div. 1 & 2, Groups E, F, & G
Class III
Type 3, 4, 4X
Ta = -25°C to +70°C (UL)
Ta = -50°C to +70°C (CSA)
Files E83969
File LR11716 - 1723354



ATEX Certificate

II 2 G D CE 2813
Ex d IIB+H2 Gb 6 or T5
Ex tb IIIC Db IP66 T85°C or T100°C
Ta = -50°C to +70°C
QPS 21 ATEX 0001U
QPS 21 ATEX 0002X



IEC Ex Certificate

Ex db IIB+H2 Gb T6 or T5
Ex tb IIIC Db IP66 T85°C or T100°C
Ta = -50°C to +70°C
IECEX QPS 17.0013U
IECEX QPS 17.0014X

FEATURES-SPECIFICATIONS

EXBLT- For North America and for Global Applications by Adding Suffix "CEN".

Features

- The EXBLT Series is up to 35% lighter than the EXB Series enclosures.
- Copper-free cast/plate aluminum construction. High strength, lighter in weight, highly corrosion resistant.
- Choice of two covers:
 - » Flat aluminum plate cover (EXBLTP)
 - » Original aluminum sand cast cover (EXBLTC)
- Fewer cover bolts - reduces installation and maintenance time. Offered in plated carbon steel, 316SS and 316SS Tri-Lead for quicker access.
- Gasketed cover flange as standard. Nitrile (BUNA-N) "O" ring gasket is located inside the bolt circle to prevent water from seeping into the enclosure
- Mounting lugs are made of ductile aluminum alloy to adjust to irregular mounting surfaces without damaging the enclosure. EXBLTs 8x12x6x and larger supplied with bi-directional

mounting pads. Lugs can installed either horizontal or vertical by the factory or in the field. Easily replaced if damage does occur.

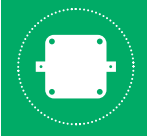
- Hinges supplied as standard on the 6x12x4, 6x12x6 8x12x6 and larger. Smaller sizes can be ordered with hinges by adding SU2 to the catalog number. Hinges can be mounted on any of the 4 sides.
- Enclosures can be drilled and tapped with conduit openings up to 2" NPT or M63 in factory or field.
- Covers can be drilled and tapped (factory or field) for GZ Series control operators openings and EXH disconnect handles. The original aluminum sand cast cover, EXBLTC, can be provided with the GLXR rectangular viewing windows and the GL round threaded viewing windows.
- Cover flanges supplied with recessed notches for prying the covers open without damaging the ground flame path
- The mounting pan bosses are pre-drilled for the factory or field installation of the optional back pans

Material/Finish

- **BOX:** Molded from 356-T6 copper free aluminum, less than 4/10 of 1% copper alloy and less than 6% magnesium
- **COVER:** EXBLTP plate cover is made of 6061-T6 aluminum alloy
- **COVER:** EXBLTC cast from 310 copper free aluminum, less than 4/10 of 1% copper alloy and less than 6% magnesium
- **BOLTS:** Plated carbon steel
- **HINGES:** Extruded aluminum with stainless steel pin and hardware
- **OPTIONAL:** Mounting pans sheet aluminum 6061-T6 or 5052-H34
- **OPTIONAL:** Viewing windows tempered soda lime glass
- **FINISH:** Plate cover supplied with natural finish. Box and cast cover are painted with wet lacquer

Notes:

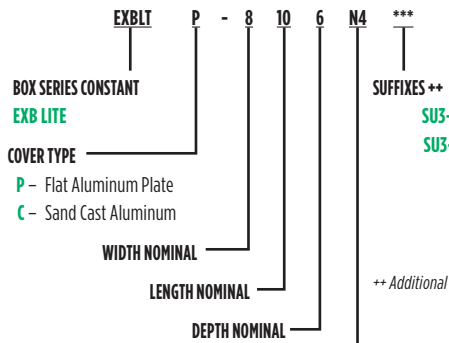
- Conduits must be sealed within 18" for Class I Group B applications
- All conduits or gland openings must be sealed adjacent to the wall for Ex d applications
- For Type 4X rating, add N4X or N4XTL



ENCLOSURES EXBLT SERIES

Catalog Logic And Modifications

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
N4CEN	ATEX & IEC Ex Certifications, IP66 Type 4X
N4X	Stainless steel external hardware for Type 4X
N4TL	Tri-lead stainless steel external hardware for Type 4X
KIT-251	100 amp ground lug
KIT-252	200 amp ground lug
SU3B-QA	cCSAus, ATEX, IEC Ex drain and breather installed Class I Groups B, C, & D Ex d IIB + H2, Type 4, 4x IP66 (enclosures up to 28 liters*)
SU3B-4X	Drain and breather installed Class I Groups B, Type 4, 4X
SU2	Install hinges - EXB-8106 and smaller.
SU14	Fungus Proof Internal
SU9	Special paint
SU93	Do not paint



EXBLT - Global Application, IEC Ex and ATEX Add Suffix "N4CEN" to the catalog logic.

SUFFIXES **

- SU3-B-4X** - Type 4X drain and breather installed Groups BCD
 - SU3-ATEX** - ATEX IEC Ex drain and breather installed Groups B and Ex d+IIB
 - SU2** - Install hinges - EXBLT-8106 and smaller
 - SU9** - Special paint
 - SU93** - Do not paint
- ** Additional suffixes are available

ENVIRONMENTAL RATING

- N4** - Type 4 Steel external hardware
- N4X** - Type 4X Stainless steel external hardware
- N4TL** - Type 4X Tri-lead stainless steel external hardware
- N4CEN** - Type 4X, IP66 ATEX and IEC Ex Certifications

* For enclosures greater than 28 liters, the KBOA drain/breather can be ordered separately and new ratings are: Class I Groups C & D Ex d IIB, Type 4, 4x IP66.

The chart below indicates which enclosures are less than 28 liters.

CATALOG NUMBER	NOMINAL ENCLOSURE INSIDE DIMENSIONS W" L" D" (MM)	MAXIMUM SIZES - NPT / METRIC	OPTIONAL MOUNTING PAN NUMBER	MAXIMUM NUMBER OF OPERATORS	EXBLTP WEIGHT LBS (KGS)	EXBLTC WEIGHT LBS (KGS)	EXBLTP HINGES	EXBLTC HINGES
EXBLT*-664 N4*	6x6x4 (152x152x102)	2" / M63	7997-5	2 rows of 2 = 4	18.2 (8.3)	20.4 (9.3)	HINGE-12L	HINGE-12L
EXBLT*-684 N4*	6x8x4 (152x203x102)	2" / M63	7997-1	2 rows of 3 = 6	21.1 (9.6)	22.7 (10.3)	HINGE-12L	HINGE-12L
EXBLT*-686 N4*	6x8x6 (152x203x152)	2" / M63	7997-1	2 rows of 3 = 6	23.7 (10.8)	25.3 (11.5)	HINGE-12L	HINGE-12L
EXBLT*-6124 N4*	6x12x4 (152x305x102)	2" / M63	7997-6	4 rows of 2 = 8	29.2 (13.2)	39.2 (17.8)	HINGE-12L	HINGE-12L
EXBLT*-6126 N4*	6x12x6 (152x305x152)	2" / M63	7997-6	4 rows of 2 = 8	32.6 (14.8)	42.6 (19.3)	HINGE-12L	HINGE-12L
EXBLT*-886 N4*	8x8x6 (203x203x152)	2" / M63	7996-1	3 rows of 3 = 9	27.9 (12.7)	32.6 (17.8)	HINGE-12L	HINGE-12L
EXBLT*-8104 N4*	8x10x4 (203x254x102)	2" / M63	7996-2	4 rows of 3 = 12	28.6 (13)	35.5 (16.1)	HINGE-12L	HINGE-12L
EXBLT*-8106 N4*	8x10x6 (203x254x152)	2" / M63	7996-2	4 rows of 3 = 12	31.9 (14.5)	38.8 (17.6)	HINGE-12L	HINGE-12L
EXBLT*-8126 N4*	8x12x6 (203x305x152)	2" / M63	17619	4 rows of 3 = 12	46.9 (21.3)	58.3 (26.4)	HINGE-12L	HINGE-11L
EXBLT*-8128 N4*	8x12x8 (203x305x203)	2" / M63	17619	4 rows of 3 = 12	51.6 (23.4)	63 (28.6)	HINGE-12L	HINGE-11L
EXBLT*-9116 N4*	9x11x6 (229x280x152)	2" / M63	25803	4 rows of 3 = 12	36.2 (16.4)	42.5 (19.3)	HINGE-12L	HINGE-12L
EXBLT*-10106 N4*	10x10x6 (254x254x152)	2" / M63	17618	4 rows of 3 = 12	48.8 (22.1)	64.5 (29.3)	HINGE-12L	HINGE-11L
EXBLT*-10108 N4*	10x10x8 (254x254x203)	2" / M63	17618	4 rows of 3 = 12	53.5 (24.3)	69.2 (31.4)	HINGE-12L	HINGE-11L
EXBLT*-10146 N4*	10x14x6 (254x356x152)	2" / M63	17617	5 rows of 3 = 15	59.7 (27.07)	77.9 (35.3)	HINGE-12L	HINGE-11L
EXBLT*-10148 N4*	10x14x8 (254x356x203)	2" / M63	17617	5 rows of 3 = 15	65.3 (29.6)	83.5 (37.9)	HINGE-12L	HINGE-11L
EXBLT*-12126 N4*	12x12x6 (305x305x152)	2" / M63	7988-1	4 rows of 4 = 16	55 (25)	71.8 (32.6)	HINGE-12L	HINGE-11L
EXBLT*-12128 N4*	12x12x8 (305x305x203)	2" / M63	7988-1	4 rows of 4 = 16	60.3 (27.4)	77.1 (35)	HINGE-12L	HINGE-11L
EXBLT*-12186 N4*	12x18x6 (305x457x152)	2" / M63	15515	7 rows of 4 = 28	82 (37.2)	93 (42.2)	HINGE-11L	HINGE-11L
EXBLT*-12188 N4	12x18x8 (305x457x203)	2" / M63	15515	7 rows of 4 = 28	89 (40.7)	100 (45.4)	HINGE-11L	HINGE-11L
EXBLT*-12246 N4*	12x24x6 (305x610x152)	4" / M100	7988-4	9 rows of 4 = 36	110 (50)	133 (60.3)	HINGE-11L	HINGE-11L
EXBLT*-12248 N4	12x24x8 (305x610x203)	4" / M100	7988-4	9 rows of 4 = 36	122 (55.4)	145 (65.8)	HINGE-11L	HINGE-11L
EXBLT*-14148 N4*	14x14x8 (356x356x203)	2" / M63	17621	5 rows of 5 = 25	88 (40)	108 (49)	HINGE-11L	HINGE-11L
EXBLT*-14248 N4	14x24x8 (406x610x203)	4" / M100	51705-1	9 rows of 5 = 45	142 (64.4)	N/A	HINGE-11L	HINGE-11L
EXBLT*-14308 N4	14x30x8 (406x762x203)	4" / M100	51698-1	11 rows of 5 = 55	166 (75.3)	N/A	HINGE-11L	HINGE-11L
EXBLT*-16168 N4	16x16x8 (406x406x203)	2" / M63	7995-1	6 rows of 6 = 36	98 (44.4)	118 (53.5)	HINGE-11L	HINGE-11L
EXBLT*-16248 N4	16x24x8 (406x610x203)	5" / M100	17622	8 rows of 5 = 40	166 (75.3)	213 (96.6)	HINGE-11L	HINGE-11L

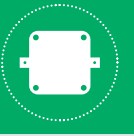
* Add "P" for aluminum plate cover. Add "C" for sand cast cover. Cast cover not available for 14x24x8 and 14x30x8 sizes.

+ Enclosures less than 28 liters. KBOA breather/drain rated for Class I Groups B, C, & D Ex d IIB + H2, Type 4, 4x IP66.

Mounting Pan - Order mounting pan as separate item and specify if factory of field installed.

Note: For Group B applications all conduit must be sealed within 18" of enclosure wall.

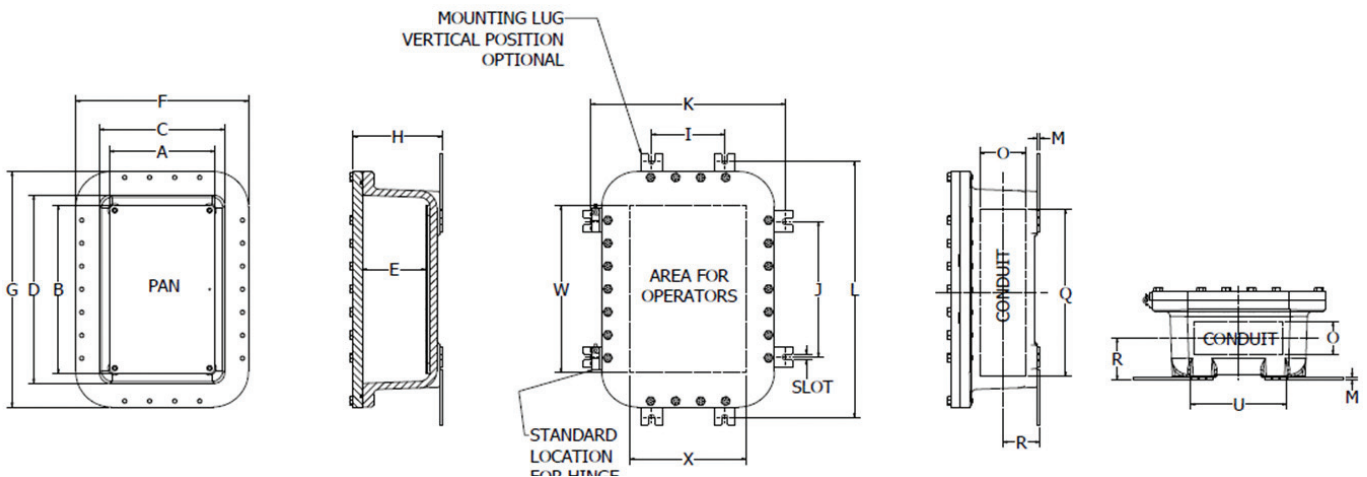
Note: For IEC Ex applications all conduit must be sealed at the wall of the enclosure.

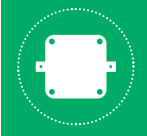


Dimensions

ENCLOSURE CATALOG NUMBER	INTERNAL DIMENSIONS - INCHES (MM)						EXTERNAL DIMENSIONS - INCHES (MM)			
	PAN		AVAILABLE EQUIPMENT SPACE				F	G	H ("P" PLATE)	H ("C" CAST)
	A	B	C	D	E ("P" PLATE)	E ("C" CAST)				
EXBLT-664 N4	5 (127)	5 (127)	6 (152)	6 (152)	4 (102)	4.25 (108)	10.32 (262)	10.32 (262)	5.94 (151)	6.18 (157)
EXBLT-684 N4	5 (127)	7 (178)	6 (152)	8 (203)	4 (102)	4.32 (110)	10.25 (260)	12.25 (311)	5.88 (149)	6.13 (156)
EXBLT-686 N4	5 (127)	7 (178)	6 (152)	8 (203)	6 (152)	6.32 (160)	10.25 (260)	12.25 (311)	7.88 (200)	8.13 (206)
EXBLT-6124 N4	5 (127)	11 (279)	6.25 (159)	12.25 (311)	4 (102)	4.56 (116)	10.69 (272)	16.69 (424)	5.88 (149)	6.75 (171)
EXBLT-6126 N4	5 (127)	11 (279)	6.25 (159)	12.25 (311)	6 (152)	6.56 (167)	10.69 (272)	16.69 (424)	7.88 (200)	8.75 (222)
EXBLT-886 N4	7 (178)	7 (178)	8 (203)	8 (203)	6 (152)	6.16 (156)	12.32 (313)	12.32 (313)	7.94 (202)	8.34 (212)
EXBLT-8104 N4	7 (178)	9 (229)	8 (203)	10 (254)	4 (102)	4.18 (106)	12.32 (313)	14.32 (364)	5.94 (151)	6.53 (166)
EXBLT-8106 N4	7 (178)	9 (229)	8 (203)	10 (254)	6 (152)	6.18 (157)	12.32 (313)	14.32 (364)	7.94 (202)	8.53 (217)
EXBLT-8126 N4	7 (178)	11 (279)	8.5 (216)	12.5 (318)	6 (152)	6.6 (167)	13.25 (337)	17.25 (438)	8 (203)	8.88 (225)
EXBLT-8128 N4	7 (178)	11 (279)	8.5 (216)	12.5 (318)	8 (203)	8.6 (218)	13.25 (337)	17.25 (438)	10 (254)	10.88 (276)
EXBLT-9116 N4	8 (203)	10 (254)	9 (229)	11 (279)	6 (152)	6.18 (157)	13.32 (338)	15.32 (389)	7.94 (202)	8.53 (217)
EXBLT-10106 N4	9 (229)	9 (229)	10.5 (267)	10.5 (267)	6 (152)	6.41 (163)	15.25 (387)	15.25 (387)	8.18 (208)	9.13 (232)
EXBLT-10108 N4	9 (229)	9 (229)	10.5 (267)	10.5 (267)	8 (203)	8.41 (214)	15.25 (387)	15.25 (387)	10.18 (259)	11.13 (284)
EXBLT-10146 N4	9 (229)	13 (330)	10.5 (267)	14.5 (368)	6 (152)	6.22 (158)	15.25 (387)	19.25 (489)	8.18 (208)	9.13 (232)
EXBLT-10148 N4	9 (229)	13 (330)	10.5 (267)	14.5 (368)	8 (203)	8.22 (209)	15.25 (387)	19.25 (489)	10.18 (259)	11.13 (284)
EXBLT-12126 N4	10.5 (267)	10.5 (267)	11.87(301)	11.87(301)	6 (152)	6.3 (160)	16.38 (416)	16.38 (416)	8.18 (208)	9.06 (230)
EXBLT-12128 N4	10.5 (267)	10.5 (267)	11.87(301)	11.87(301)	8 (203)	8.3 (211)	16.38 (416)	16.38 (416)	10.18 (259)	11.06 (281)
EXBLT-12186 N4	10 (254)	16 (406.4)	11.88 (301)	17.88 (454)	6 (152)	6.09 (155)	16.38 (416)	22.38 (568.4)	8.44 (214.4)	8.97 (228)
EXBLT-12188 N4	10 (254)	16 (406.4)	11.88 (301)	17.88 (454)	8 (203)	8.09 (206)	16.38 (416)	22.38 (568.4)	10.44 (265)	10.97 (279)
EXBLT-12246 N4	10.25 (260)	22.25 (565)	11.88 (301)	23.88 (606)	6 (152)	6.13 (156)	16.38 (416)	28.38 (722)	8.57 (218)	9.28 (236)
EXBLT-12248 N4	10.25 (260)	22.25 (565)	11.88 (301)	23.88 (606)	8 (203)	8.13 (206)	16.38 (416)	28.38 (722)	10.57 (268.5)	11.28 (286)
EXBLT-14148 N4	13 (330)	13 (330)	14.5 (368)	14.5 (368)	8 (203)	8.34 (212)	19.25 (489)	19.25 (489)	10.44 (265)	11.34 (288)
EXBLT-14248 N4	13 (330)	22.25 (565)	14.5 (368)	24.5 (622)	8 (203)	N/A	19.25 (489)	29.25 (743)	10.57 (268.5)	N/A
EXBLT-14308 N4	13 (330)	29 (736)	14.5 (368)	30.5 (775)	8 (203)	N/A	19.25 (489)	35.25 (895.3)	10.57 (268.5)	N/A
EXBLT-16168 N4	14 (355)	14 (355)	15.88 (403)	15.88 (403)	8 (203)	8.14 (207)	20.38 (518)	20.38 (518)	10.44 (265)	11.11 (282)
EXBLT-16248 N4	15 (381)	23 (584)	16.5 (419)	24.5 (622)	8 (203)	8.34 (212)	21.25 (540)	29.25 (743)	10.69 (271.5)	11.91 (302)

All dimensions in. (mm)



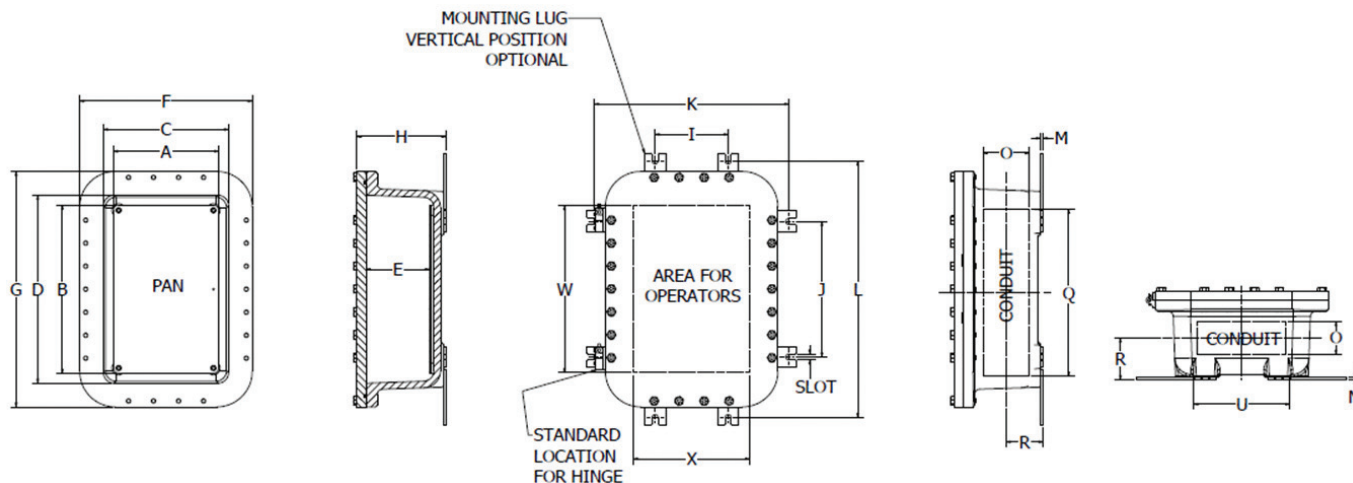


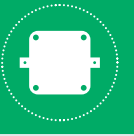
ENCLOSURES EXBLT SERIES

ENCLOSURE CATALOG NUMBER	MOUNTING DIMENSIONS - INCHES (MM)						CONDUIT AREA - INCHES (MM)					OPERATOR AREA SPECIFICATION	
							SIDE WALL		CENTER	TOP/ BOTTOM WALL			
	I	J	K	L	M	SLOT WIDTH	O	Q	R	S	U	W	X
EXBLT-664 N4	N/A	4 (102)	7.88 (200)	N/A	0.19 (5)	0.44 (11)	2.81 (71)	4.72 (120)	2.75 (70)	4.72 (120)	2.5 (63)	5 (127)	5 (127)
EXBLT-684 N4	N/A	4 (102)	7.88 (200)	N/A	0.19 (5)	0.44 (11)	2.81 (71)	6.59 (167)	2.75 (70)	4.59 (117)	2.5 (63)	5 (127)	5 (127)
EXBLT-686 N4	N/A	4 (102)	7.88 (200)	N/A	0.19 (5)	0.44 (11)	4.81 (122)	6.59 (167)	3.75 (95)	4.59 (117)	2.5 (63)	5 (127)	5 (127)
EXBLT-6124 N4	N/A	7.82 (199)	7.88 (200)	N/A	0.19 (5)	0.44 (11)	2.81 (71)	10.84 (275)	2.75 (70)	4.84 (123)	2.5 (63)	5 (127)	5 (127)
EXBLT-6126 N4	N/A	7.82 (199)	7.88 (200)	N/A	0.19 (5)	0.44 (11)	4.81 (122)	10.84 (275)	3.75 (95)	4.84 (123)	2.5 (63)	5 (127)	5 (127)
EXBLT-886 N4	N/A	6 (152)	9.88 (251)	N/A	0.19 (5)	0.44 (11)	4.81 (122)	6.56 (167)	3.75 (95)	6.56 (167)	2.5 (63)	7 (178)	7 (178)
EXBLT-8104 N4	N/A	8 (203)	9.88 (251)	N/A	0.19 (5)	0.44 (11)	2.81 (71)	8.56 (217)	2.75 (70)	6.56 (167)	2.5 (63)	7 (178)	7 (178)
EXBLT-8106 N4	N/A	8 (203)	9.88 (251)	N/A	0.19 (5)	0.44 (11)	4.81 (122)	8.56 (217)	3.75 (95)	6.56 (167)	2.5 (63)	7 (178)	7 (178)
EXBLT-8126 N4	3.82 (97)	7.82 (199)	10.38 (264)	14.38 (365)	0.19 (5)	0.44 (11)	3.94 (100)	10.13 (257)	3.95 (100)	6.13 (156)	2.5 (63)	7 (178)	7 (178)
EXBLT-8128 N4	3.82 (97)	7.82 (199)	10.38 (264)	14.38 (365)	0.19 (5)	0.44 (11)	5.94 (151)	9.97 (253)	4.95 (126)	5.97 (152)	2.5 (63)	7 (178)	7 (178)
EXBLT-9116 N4	N/A	7.5 (191)	10.88 (276)	N/A	0.19 (5)	0.44 (11)	4.81 (122)	9.56 (243)	3.81 (97)	7.56 (192)	2.5 (63)	8 (203)	8 (203)
EXBLT-10106 N4	4.94 (125)	4.94 (125)	12.94 (329)	12.94 (329)	0.25 (6)	0.56 (14)	3.94 (100)	8.13 (206)	4.09 (104)	8.13 (206)	2.5 (63)	9 (229)	9 (229)
EXBLT-10108 N4	4.94 (125)	4.94 (125)	12.94 (329)	12.94 (329)	0.25 (6)	0.56 (14)	5.94 (151)	7.97 (202)	5.09 (129)	7.97 (202)	2.5 (63)	9 (229)	9 (229)
EXBLT-10146 N4	4.94 (125)	8.94 (227)	12.94 (329)	16.94 (430)	0.25 (6)	0.56 (14)	3.94 (100)	12.13 (308)	4.09 (104)	8.13 (206)	2.5 (63)	9 (229)	9 (229)
EXBLT-10148 N4	4.94 (125)	8.94 (227)	12.94 (329)	16.94 (430)	0.25 (6)	0.56 (14)	5.94 (151)	11.97 (303)	5.09 (129)	7.97 (202)	2.5 (63)	9 (229)	9 (229)
EXBLT-12126 N4	6.94 (176)	6.94 (176)	14.94 (379)	14.94 (379)	0.25 (6)	0.56 (14)	3.94 (100)	9.5 (241)	4.09 (104)	9.5 (241)	2.5 (63)	10 (254)	10 (254)
EXBLT-12128 N4	6.94 (176)	6.94 (176)	14.94 (379)	14.94 (379)	0.25 (6)	0.56 (14)	5.94 (151)	9.34 (237)	5.09 (129)	9.34 (237)	2.5 (63)	10 (254)	10 (254)
EXBLT-12186 N4	6.94 (176)	12.88 (327)	14.94 (379)	20.88 (530)	0.25 (6)	0.56 (14)	3.88 (98)	15.5 (394)	4.03 (102)	9.5 (241)	2.5 (63)	10 (254)	10 (254)
EXBLT-12188 N4	6.94 (176)	12.88 (327)	14.94 (379)	20.88 (530)	0.25 (6)	0.56 (14)	5.88 (149)	15.34 (390)	5.03 (128)	9.34 (237)	2.5 (63)	10 (254)	10 (254)
EXBLT-12246 N4	6.94 (176)	18.88 (480)	14.91 (379)	26.88 (683)	0.25 (6)	0.56 (14)	3.88 (98)	21.5 (546)	4.03 (102)	9.5 (241)	2.5 (63)	10 (254)	10 (254)
EXBLT-12248 N4	6.94 (176)	18.88 (480)	14.91 (379)	26.88 (683)	0.25 (6)	0.56 (14)	5.88 (149)	21.34 (542)	5.03 (128)	9.34 (237)	2.5 (63)	10 (254)	10 (254)
EXBLT-14148 N4	9.00 (229)	9.00 (229)	17 (432)	17 (432)	0.25 (6)	0.56 (14)	5.94 (151)	11.97 (304)	5.09 (129)	11.97 (304)	2.5 (63)	13 (330)	13 (330)
EXBLT-14248 N4	9.00 (229)	19.38 (492)	17 (432)	27.38 (695)	0.25 (6)	0.56 (14)	5.88 (149)	21.97 (686)	5.16 (131)	11.97 (304)	2.5 (63)	13 (330)	13 (330)
EXBLT-14308 N4	9.00 (229)	26.25 (668)	17 (432)	34.25 (870)	0.25 (6)	0.56 (14)	5.94 (151)	27.97 (710)	5.19 (132)	11.97 (304)	2.5 (63)	13 (330)	13 (330)
EXBLT-16168 N4	10.94 (278)	10.94 (278)	17.19 (437)	18.94 (481)	0.25 (6)	0.56 (14)	5.94 (151)	13.34 (339)	5.06 (129)	13.34 (339)	2.5 (63)	14 (356)	14 (356)
EXBLT-16248 N4	10.94 (278)	19.38 (492)	17.19 (437)	27.38 (695)	0.25 (6)	0.56 (14)	5.94 (151)	21.97 (686)	5.31 (135)	13.97 (355)	2.5 (63)	14 (356)	14 (356)

Use "LONG" style GZ Series Operators

All dimensions in. (mm)





Conduit Opening Data

Instructions

Drilled and tapped conduit openings will be evenly spaced and located in the area indicated on the location chart. Critical conduit opening locations may be indicated by supplying a diagram similar to the one shown at right indicating critical dimensions and locations. Specific conduit openings must be located dimensionally from box centerlines to conduit centerlines and from outside back surface of box to conduit centerline.

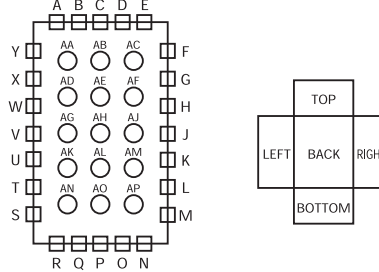
Ordering Information:

- (1) Select the letter on location chart which indicates conduit opening position desired.
- (2) Select symbol number from chart

which indicates conduit opening type and size.

- (3) Combine the conduit location letter, size and type number, and add as a suffix to junction box catalog number.

Example: EXB-12248 N34-C3-J5-PI3-AH4



Drawing indicates position as looking into open face of box with short side (top) up.

EXB/EXBLT/B7/GR SYMBOL NUMBERS		
CONDUIT SIZE	CONDUIT OPENINGS DRILLED AND TAPPED	UNION
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15
2"	6	16
2-1/2"	7	17
3"	8	18
3-1/2"	9	19
4"	0	10
5"	02	—
6"	04	—

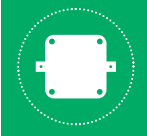
Union = GUM series male NPT unions

EXB/EXBLT/B7/GR - MINIMUM CENTER TO CENTER SPACING FOR DRILLED AND TAPPED OPENINGS AND UNION HUBS

NPT (METRIC)	SPACE CENTERS	1/2" (M16)	3/4" (M20)	1" (M25)	1-1/4" (M32)	1-1/2" (M40)	2" (M50)	2-1/2" (M63)	3" (M75)	3-1/2" (M80)	4" (M100)	5"	6"
1/2" (M16)	MIN	1.18 (30)	—	—	—	—	—	—	—	—	—	—	—
	PRE	1.38 (35)	—	—	—	—	—	—	—	—	—	—	—
	GU	1.63 (41)	—	—	—	—	—	—	—	—	—	—	—
3/4" (M20)	MIN	1.38 (35)	1.5 (38)	—	—	—	—	—	—	—	—	—	—
	PRE	1.5 (38)	1.63 (41)	—	—	—	—	—	—	—	—	—	—
	GU	1.75 (44)	1.81 (46)	—	—	—	—	—	—	—	—	—	—
1" (M25)	MIN	1.5 (38)	1.75 (44)	1.81 (46)	—	—	—	—	—	—	—	—	—
	PRE	1.75 (44)	1.88 (48)	2 (108)	—	—	—	—	—	—	—	—	—
	GU	1.88 (48)	2 (108)	2.13 (54)	—	—	—	—	—	—	—	—	—
1-1/4" (M32)	MIN	1.69 (43)	1.94 (49)	2.06 (52)	2.31 (59)	—	—	—	—	—	—	—	—
	PRE	1.94 (49)	2.06 (52)	2.25 (57)	2.5 (64)	—	—	—	—	—	—	—	—
	GU	2.06 (52)	2.25 (57)	2.31 (59)	2.5 (64)	—	—	—	—	—	—	—	—
1-1/2" (M40)	MIN	1.94 (49)	2.06 (52)	2.19 (56)	2.5 (64)	2.63 (67)	—	—	—	—	—	—	—
	PRE	2.13 (54)	2.25 (57)	2.38 (60)	2.63 (67)	2.75 (70)	—	—	—	—	—	—	—
	GU	2.19 (56)	2.28 (58)	2.44 (62)	2.63 (67)	2.75 (70)	—	—	—	—	—	—	—
2" (M50)	MIN	2.25 (57)	2.38 (60)	2.56 (65)	2.81 (71)	2.94 (75)	3.19 (81)	—	—	—	—	—	—
	PRE	2.38 (60)	2.5 (64)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	—	—	—	—	—	—
	GU	2.5 (64)	2.59 (66)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	—	—	—	—	—	—
2-1/2" (M63)	MIN	2.44 (62)	2.56 (65)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	3.63 (92)	—	—	—	—	—
	PRE	2.63 (67)	2.75 (70)	3 (76)	3.25 (82)	3.38 (86)	3.63 (92)	4 (102)	—	—	—	—	—
	GU	3.13 (97)	3.22 (82)	3.38 (86)	3.56 (90)	3.69 (94)	4 (102)	4.63 (117)	—	—	—	—	—
3" (M75)	MIN	2.81 (71)	2.94 (75)	3.06 (78)	3.31 (84)	3.44 (87)	3.75 (95)	4 (102)	4.31 (110)	—	—	—	—
	PRE	3 (76)	3.13 (97)	3.38 (86)	3.63 (92)	3.75 (95)	4 (102)	4.38 (111)	4.75 (121)	—	—	—	—
	GU	3.56 (90)	3.66 (93)	3.81 (97)	4 (102)	4.13 (105)	4.44 (113)	5.06 (129)	5.5 (140)	—	—	—	—
3-1/2" (M80)	MIN	3.13 (97)	3.25 (82)	3.38 (86)	3.63 (92)	3.75 (95)	4.06 (103)	4.31 (110)	4.63 (117)	4.94 (125)	—	—	—
	PRE	3.38 (86)	3.5 (89)	3.63 (92)	3.88 (98)	4 (102)	4.38 (111)	4.63 (117)	5 (127)	5.38 (136)	—	—	—
	GU	4 (102)	4.09 (104)	4.25 (108)	4.44 (113)	4.56 (116)	4.88 (124)	5.5 (140)	5.94 (151)	6.38 (162)	—	—	—
4" (M100)	MIN	3.44 (87)	3.56 (90)	3.69 (94)	3.94 (100)	4.06 (103)	4.38 (111)	4.63 (117)	4.94 (125)	5.25 (133)	5.56 (141)	—	—
	PRE	3.75 (95)	3.88 (98)	4 (102)	4.25 (108)	4.38 (111)	4.75 (121)	5 (127)	5.75 (146)	5.63 (143)	6 (152)	—	—
	GU	4 (102)	4.09 (104)	4.25 (108)	4.44 (113)	4.56 (116)	4.88 (124)	5.5 (140)	5.94 (151)	6.38 (162)	6.38 (162)	—	—
5"	MIN	4.13 (105)	4.25 (108)	4.38 (111)	4.63 (117)	4.75 (121)	5 (127)	5.25 (133)	5.56 (141)	5.88 (149)	6.19 (157)	6.19 (157)	—
	PRE	4.38 (111)	4.5 (114)	4.63 (117)	4.88 (124)	5 (127)	5.38 (136)	5.63 (143)	6 (152)	6.25 (159)	6.63 (168)	7.25 (184)	—
6"	MIN	4.75 (121)	4.88 (124)	5 (127)	5.25 (133)	5.38 (136)	5.63 (143)	5.88 (149)	6.19 (157)	6.5 (165)	6.81 (173)	7.44 (190)	8.13 (206)
	PRE	5 (127)	5.13 (130)	5.25 (133)	5.5 (140)	5.63 (143)	6 (152)	6.25 (159)	6.63 (168)	7 (178)	7.25 (184)	8 (203)	8.63 (220)
LOCKNUT O.D.		1.25 (32)	1.13 (29)	1.69 (43)	2.19 (56)	2.44 (62)	3 (76)	3.44 (87)	4.19 (106)	4.81 (122)	5.38 (136)	6.69 (170)	7.94 (202)
CONDUIT BUSHING		1 (25)	1.25 (32)	1.5 (38)	1.88 (48)	2.13 (54)	2.63 (67)	3.19 (81)	3.88 (98)	4.44 (113)	5 (127)	6.25 (159)	7.38 (187)
CONDUIT O.D.			1.06 (27)	1.38 (35)	1.69 (43)	1.94 (49)	2.38 (60)	2.88 (73)	3.5 (89)	4 (102)	4.5 (114)	5.56 (141)	6.63 (168)

MIN: The minimum space required to provide enough clearance over locknuts and bushings.
PRE: The preferred more liberal center to center spacing of openings. To be used whenever possible.
GU: The required spacing between openings using GUM Series male NPT unions.

All dimension in. (mm)



ENCLOSURES EXBLT SERIES

Replacement Parts

REPLACEMENT PARTS										
ENCLOSURE CATALOG NUMBER	COVER GASKET	MOUNTING LUG KIT (Contains four mounting lugs and hardware)	COVER BOLTS – SOLD PER EACH						HINGES	
			NO. OF BOLTS PER ENCLOSURE	CARBON STEEL “N4”	316 STAINLESS STEEL “N4X”	316 STAINLESS STEEL TRI-LEAD PLATE COVERS “N4XTL”	316 STAINLESS STEEL TRI-LEAD CAST COVERS “N4XTL”	ATEX IEC EX 316 STAINLESS STEEL “N4CEN”	EXBLTP BOXES (*) ADD “L” FOR LEFT OR “R” FOR RIGHT	EXBLTC BOXES (*) ADD “L” FOR LEFT OR “R” FOR RIGHT
EXBLT*-664 N4	EXB66RG	EXB-MTL1	8	0725115B	Z5952BAAB	xxxxx	xxxxx	20790AAAB	HINGE-12*	HINGE-12*
EXBLT*-684 N4	EXB68RG	EXB-MTL1	10	0725115B	Z5952BAAB	xxxxx	xxxxx	20790AAAB	HINGE-12*	HINGE-12*
EXBLT*-686 N4	EXB68RG	EXB-MTL1	10	0725115B	Z5952BAAB	xxxxx	xxxxx	20790AAAB	HINGE-12*	HINGE-12*
EXBLT*-6124 N4	EXB612RG	EXB-MTL1	12	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-12*
EXBLT*-6126 N4	EXB612RG	EXB-MTL1	12	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-12*
EXBLT*-886 N4	EXB88RG	EXB-MTL1	12	0725115B	Z5952BAAB	xxxxx	xxxxx	20790AAAB	HINGE-12*	HINGE-12*
EXBLT*-8104 N4	EXB810RG	EXB-MTL1	14	0725115B	Z5952BAAB	xxxxx	xxxxx	20790AAAB	HINGE-12*	HINGE-12*
EXBLT*-8106 N4	EXB810RG	EXB-MTL1	14	0725115B	Z5952BAAB	xxxxx	xxxxx	20790AAAB	HINGE-12*	HINGE-12*
EXBLT*-8126 N4	EXB812RG	EXB-MTL1	12	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-11*
EXBLT*-8128 N4	EXB812RG	EXB-MTL1	12	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-11*
EXBLT*-9116 N4	EXB911RG	EXB-MTL1	14	0725115B	Z5952BAAB	xxxxx	xxxxx	20790AAAB	HINGE-12*	HINGE-12*
EXBLT*-10106 N4	EXB1010RG	EXB-MTL2	12	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-11*
EXBLT*-10108 N4	EXB1010RG	EXB-MTL2	12	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-11*
EXBLT*-10146 N4	EXB1014RG	EXB-MTL2	16	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-11*
EXBLT*-10148 N4	EXB1014RG	EXB-MTL2	16	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-11*
EXBLT*-12126 N4	EXB1212RG	EXB-MTL2	16	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-11*
EXBLT*-12128 N4	EXB1212RG	EXB-MTL2	16	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-12*	HINGE-11*
EXBLT*-12186 N4	EXB1218RG	EXB-MTL2	28	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*
EXBLT*-12188 N4	EXB1218RG	EXB-MTL2	28	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*
EXBLT*-12246 N4	EXB1224RG	EXB-MTL2	36	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*
EXBLT*-12248 N4	EXB1224RG	EXB-MTL2	36	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*
EXBLT*-14148 N4	EXB1224RG	EXB-MTL2	20	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*
EXBLT*-14248 N4	EXB1224RG	EXB-MTL2	28	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*
EXBLT*-14308 N4	EXB1224RG	EXB-MTL2	36	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*
EXBLT*-16168 N4	EXB1224RG	EXB-MTL2	24	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*
EXBLT*-16248 N4	EXB1224RG	EXB-MTL2	30	0720361B	Z5952AAAB	Z5904AAAB	17339AAAB	20790BAAB	HINGE-11*	HINGE-11*

Hinges

Hinges are provided as a standard on EXBLT*-6124, EXBLT*-6126 and sizes EXBLT*-8126 and larger. See chart for replacement hinge catalog number. Sold in sets of (2).

“G” Series Operators

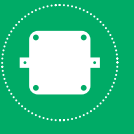
The EXBLT* uses the GZ Long Style operators.

Touch-Up Paint

The touch-up paint comes in a 12 oz aerosol can.

Wet lacquer silver gray touch-up paint: KTPALS.

Epoxy powder gray touch-up paint: KTPEPG.



Junction Boxes

QUANTUM[®]



EXB

Empty / Control Enclosure

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D

Class I, Zone 1, IIB+H2

Class II, Div. 1 & 2, Groups E, F, & G

Class III

Type 3, 4, 4X

Ta = -25°C to +70°C (UL)

Ta = -50°C to +70°C (CSA)



Files E83969



File LR11716 - 1723354

ATEX Certificate



II 2 G D CE 2813

Ex d IIB+H2 Gb 6 or T5

Ex tb IIIC Db IP66 T85°C or T100°C

Ta = -50°C to +70°C

QPS 21 ATEX 0001U

QPS 21 ATEX 0002X

IEC Ex Certificate

Ex db IIB+H2 Gb T6 or T5

Ex tb IIIC Db IP66 T85°C or T100°C

Ta = -50°C to +70°C

IECEx QPS 17.0013U

IECEx QPS 17.0014X

FEATURES-SPECIFICATIONS

Features

- Copper-free cast aluminum construction - high strength, light in weight, corrosion resistant
- Fewer Cover Bolts. Computer-aided design lessens the number of cover bolts by eliminating corner bolts. Reduces installation and maintenance time
- Nitrile (BUNA-N) "O" ring gasket is located inside bolt circle to prevent water seeping into enclosure
- Mounting lugs are made of ductile aluminum alloy to adjust to irregular mounting surfaces without damaging the enclosure. EXBLTs 8x12x6x and larger supplied with bi-directional mounting pads. Lugs can installed either horizontal or vertical by the factory or in the field. Easily replaced if damage does occur.

Notes:

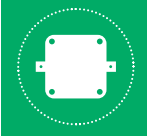
- Conduits must be sealed within 18" for Group B applications.
- Type 4X with optional SU-1 modification.
- All conduit or gland openings must be sealed adjacent to the wall of Ex d applications.

- All enclosure sizes 8x12x6 and larger are supplied standard with hinges mounted on the left side. Smaller enclosures are drilled for field installation of two Killark HINGE-9 assemblies or can be installed at factory by adding SU2 to catalog number. For hinges to be located in other positions, specify when ordering.
- Recessed Flange Notches - Flanges are notched to allow for easier cover opening with prying instrument without flange damage
- Cast with wall thickness suitable for drilling and tapping of conduit openings in all sides and back of boxes. Conduit size and location information is found on dimensional chart in this section. Conduit openings can be factory or field installed.
- Mounting pan bosses are pre-drilled at factory for field mounting of optional mounting pan.

Materials

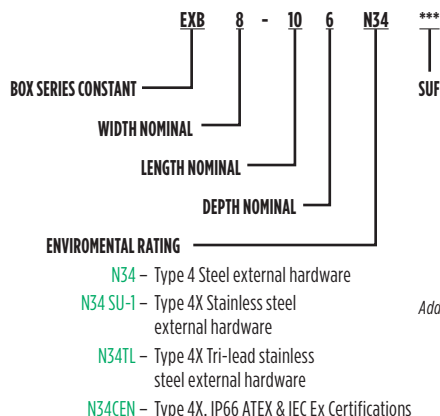
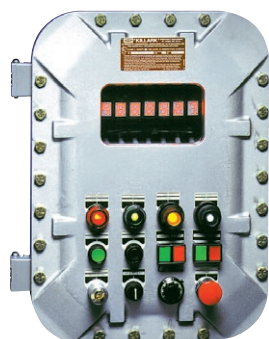
- Enclosure: Copper-free aluminum (less than 4/10 of 1%)
- Hinges: Aluminum with stainless steel hardware
- Steel cover bolts
- Optional Mounting Pans: Sheet aluminum
- Optional Windows: Tempered soda lime glass
- Finish: Aluminum lacquer

EXB - For Global Applications, ATEX and IEC Ex, Add Suffix "CEN" to the catalog logic.



ENCLOSURES EXB SERIES

Junction Boxes



- SU3B-4X** – Type 4X drain and breather installed Groups BCD
 - SU3B-ATEX** – ATEX IEC Ex drain & breather installed Groups B & Ex d+IIB
 - SU2** – Install hinges - EXB-8106 and smaller
 - SU9** – Special paint
 - SU93** – Do not paint
- Additional suffixes are available*

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
N34CEN	ATEX & IEC Ex Certifications, IP66 Type 4X. Cover bolts 316 SS
N34 SU-1	316 Stainless steel external hardware for Type 4X
N34TL	Tri-lead captive 316 stainless steel external hardware for Type 4X
KIT-251	100 amp grounding lug
KIT-252	200 amp grounding lug
SU3B-QA	cCSAus, ATEX, IEC Ex drain and breather installed Class I Groups B, C, & D Ex d IIB + HZ, Type 4, 4x IP66 (enclosures up to 28 liters*)
SU3B-4X	UL and CSA drain and breather installed Class I Groups B, Type 4, 4X
SU3B-ATEX	UL CSA, ATEX, IEC Ex drain and breather installed Class I Groups B & Ex d IIB, Voids Type 4 & IP66
SU2	Install hinges EXB 8106 and smaller
SU9PEEX	External gray powder coated epoxy paint
SU14	Fungus Proof internally
SU9	Special paint - specify
SU93	Do not paint
TOE PLATE KIT	Door guide plate to assist in aligning installing cover bolts

* For enclosures greater than 28 liters, the KBQA drain/breather can be ordered separately and new ratings are: Class I Groups C & D Ex d IIB, Type 4, 4x IP66.

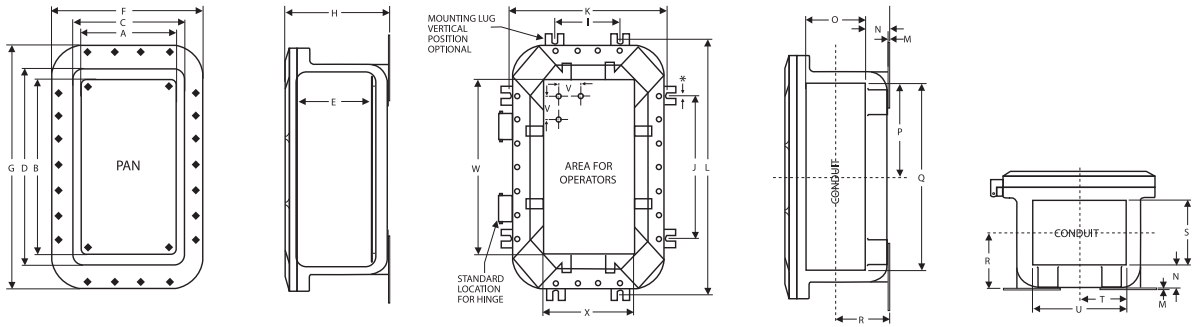
The chart to the right indicates which enclosures are less than 28 liters.

+ Enclosures less than 28 liters. KBQA breather/drain rated for Class I Groups B, C, & D Ex d IIB + HZ, Type 4, 4x IP66.

EXB JUNCTION BOXES AND ENCLOSURES					
CATALOG NUMBER	NOMINAL ENCLOSURE INSIDE DIMENSIONS W" L" D" (MM)	MAXIMUM CONDUIT SIZE	OPTIONAL MOUNTING PAN NUMBER	MAXIMUM NUMBER OF OPERATORS [†]	WEIGHT LBS (KGS)
EXB-664 N34*	6x6x4 (152x152x102)	2"	7997-5	2 rows of 2 = 4	18 (8.17)
EXB-886 N34*	8x8x6 (203x203x152)	2"	7996-1	3 rows of 3 = 9	30 (15.62)
EXB-8104 N34*	8x10x4 (203x254x102)	2"	7996-2	4 rows of 3 = 12	35 (15.89)
EXB-8106 N34*	8x10x6 (203x254x152)	2"	7996-2	4 rows of 3 = 12	38 (17.25)
EXB-8126 N34*	8x12x6 (203x305x152)	3"	17619	4 rows of 3 = 12	47 (21.34)
EXB-8128 N34*	8x12x8 (203x305x203)	4"	17619	4 rows of 3 = 12	67 (30.42)
EXB-10106 N34*	10x10x6 (254x254x152)	3"	17618	4 rows of 3 = 12	68.5 (31)
EXB-10108 N34*	10x10x8 (254x254x203)	5"	17618	4 rows of 3 = 12	80.5 (37)
EXB-10146 N34*	10x14x6 (254x356x152)	3"	17617	5 rows of 3 = 15	82 (37.23)
EXB-10148 N34*	10x14x8 (254x356x203)	5"	17617	5 rows of 3 = 15	89 (40.41)
EXB-12126 N34*	12x12x6 (305x305x152)	3"	7988-1	4 rows of 4 = 16	75 (34.05)
EXB-12128 N34*	12x12x8 (305x305x203)	5"	7988-1	4 rows of 4 = 16	83 (37.68)
EXB-12186 N34*	12x18x6 (305x457x152)	3"	15515	7 rows of 4 = 28	110 (49.94)
EXB-12188 N34*	12x18x8 (305x457x203)	5"	15515	7 rows of 4 = 28	120 (54.48)
EXB-12246 N34*	12x24x6 (305x610x152)	3"	7988-4	9 rows of 4 = 36	145 (65.83)
EXB-12248 N34	12x24x8 (305x610x203)	5"	7988-4	9 rows of 4 = 36	160 (72.64)
EXB-122412 N34	12x24x12 (305x610x305)	5"	7988-4	9 rows of 4 = 36	190 (86.26)
EXB-12368 N34	12x36x8 (305x914x203)	5"	17620	14 rows of 4 = 56	231 (104.87)
EXB-123610 N34	12x36x10 (305x914x254)	6"	17620	14 rows of 4 = 56	245 (111.23)
EXB-14146 N34*	14x14x6 (356x356x152)	3"	17621	5 rows of 5 = 25	121 (54.93)
EXB-14148 N34*	14x14x8 (356x356x203)	5"	17621	5 rows of 5 = 25	136 (61.74)
EXB-16166 N34*	16x16x6 (406x406x152)	3"	7995-1	6 rows of 6 = 36	127 (57.66)
EXB-16168 N34	16x16x8 (406x406x203)	5"	7995-1	6 rows of 6 = 36	138 (62.65)
EXB-16248 N34	16x24x8 (406x610x203)	5"	17622	8 rows of 5 = 40	251 (113.95)
EXB-162410 N34	16x24x10 (406x610x254)	6"	17622	8 rows of 5 = 40	266 (120.76)
EXB-18186 N34	18x18x6 (457x457x152)	3"	17623	6 rows of 6 = 36	206 (93.52)
EXB-18188 N34	18x18x8 (457x457x203)	5"	17623	6 rows of 6 = 36	220 (99.88)
EXB-18248 N34	18x24x8 (457x610x203)	5"	15516	9 rows of 7 = 63	240 (108.96)
EXB-182410 N34	18x24x10 (457x610x254)	6"	15516	9 rows of 7 = 63	260 (118.04)
EXB-18308 N34	18x30x8 (457x762x203)	5"	22061	11 rows of 7 = 77	320 (145.28)
EXB-18368 N34	18x36x8 (457x914x203)	5"	15517	13 rows of 7 = 91	380 (172.52)
EXB-183610 N34	18x36x10 (457x914x254)	6"	15517	13 rows of 7 = 91	405 (183.87)
EXB-203611 N34	20x36x11 (508x914x279)	6"	17596	13 rows of 7 = 91	540 (245.16)
EXB-24248 N34	24x24x8 (610x610x203)	5"	8000-1	9 rows of 9 = 81	330 (149.82)
EXB-242410 N34	24x24x10 (610x610x254)	6"	8000-1	9 rows of 9 = 81	350 (158.90)
EXB-24308 N34	24x30x8 (610x762x203)	5"	20567	9 rows of 7 = 63	430 (195.22)
EXB-24368 N34	24x36x8 (610x914x203)	5"	17624	11 rows of 7 = 77	531 (241.07)
EXB-243610 N34	24x36x10 (610x914x254)	6"	17624	11 rows of 7 = 77	506 (229.72)



Junction Boxes

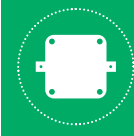


* Mounting lug opening 7/16" for boxes up to and including 8128 and 9/16" for boxes 10 x 10 and larger

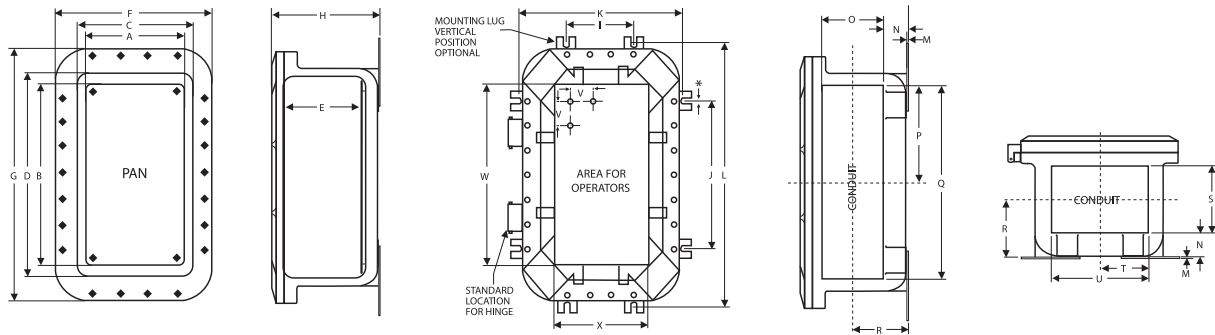
EXB DIMENSIONS

CATALOG NUMBER	INTERNAL DIMENSIONS - INCHES (MM)					EXTERNAL DIMENSIONS - INCHES (MM)			MOUNTING DIMENSIONS - INCHES (MM)				
	PAN		AVAILABLE FOR DEVICES			F	G	H	I	J	K	L	M
	A	B	C	D	E								
EXB-664 N34	5 (127.0)	5 (127.0)	5.73 (145.5)	5.73 (145.5)	4.31 (109.47)	10.32 (262.13)	10.32 (262.13)	6.09 (154.69)	N/A	4.00 (101.60)	7.88 (200.15)	N/A	0.19 (4.83)
EXB-886 N34	7 (177.8)	7 (177.8)	7.59 (192.8)	7.59 (192.8)	6.06 (153.92)	12.32 (312.93)	12.32 (312.93)	8.09 (205.49)	N/A	6.00 (152.40)	9.88 (250.95)	N/A	0.19 (4.83)
EXB-8104 N34	7 (177.8)	9 (228.6)	7.73 (196.3)	9.73 (247.1)	4.06 (103.12)	12.32 (312.93)	14.32 (363.73)	6.32 (160.53)	N/A	8.00 (203.20)	9.88 (250.95)	N/A	0.19 (4.83)
EXB-8106 N34	7 (177.8)	9 (228.6)	7.59 (192.8)	9.59 (243.6)	6.06 (153.92)	12.32 (312.93)	14.32 (363.73)	8.52 (211.53)	N/A	8.00 (203.20)	9.88 (250.95)	N/A	0.19 (4.83)
EXB-8126 N34	7 (177.8)	11 (279.4)	8 (203.2)	12 (304.8)	6.38 (161.54)	13.25 (336.55)	17.25 (438.15)	8.70 (220.98)	3.82 (97.03)	7.82 (198.63)	10.38 (263.65)	14.38 (365.25)	0.19 (6.35)
EXB-8128 N34	7 (177.8)	11 (279.4)	8 (203.2)	12 (304.8)	8.38 (212.34)	13.25 (336.55)	17.25 (438.15)	10.70 (271.78)	3.82 (97.03)	7.82 (198.63)	10.38 (263.65)	14.38 (365.25)	0.19 (6.35)
EXB-10106 N34	9 (228.6)	9 (228.6)	10 (254.0)	10 (254.0)	6.20 (157.48)	15.25 (387.35)	15.25 (387.35)	8.90 (226.06)	4.94 (125.48)	4.94 (125.48)	12.94 (328.68)	12.94 (328.68)	0.25 (6.35)
EXB-10108 N34	9 (228.6)	9 (228.6)	10 (254.0)	10 (254.0)	8.20 (208.28)	15.25 (387.35)	15.25 (387.35)	10.90 (276.86)	4.94 (125.48)	4.94 (125.48)	12.94 (328.68)	12.94 (328.68)	0.25 (6.35)
EXB-10146 N34	9 (228.6)	13 (330.2)	10 (254.0)	14 (355.6)	6.20 (157.48)	15.25 (387.35)	19.25 (488.95)	8.90 (226.06)	4.94 (125.48)	8.94 (227.08)	12.94 (328.68)	16.94 (430.28)	0.25 (6.35)
EXB-10148 N34	9 (228.6)	13 (330.2)	10 (254.0)	14 (355.6)	8.20 (208.28)	15.25 (387.35)	19.25 (488.95)	10.90 (276.86)	4.94 (125.48)	8.94 (227.08)	12.94 (328.68)	16.94 (430.28)	0.25 (6.35)
EXB-12126 N34	10.5 (266.7)	10.5 (266.7)	11.5 (292.1)	11.5 (292.1)	6.00 (152.40)	16.38 (416.05)	16.38 (416.05)	8.69 (220.73)	6.94 (176.28)	6.94 (176.28)	14.94 (379.48)	14.94 (379.48)	0.25 (6.35)
EXB-12128 N34	10.5 (266.7)	10.5 (266.7)	11.37 (288.8)	11.37 (288.8)	8.00 (203.20)	16.38 (416.05)	16.38 (416.05)	10.69 (271.53)	6.94 (176.28)	6.94 (176.28)	14.94 (379.48)	14.94 (379.48)	0.25 (6.35)
EXB-12186 N34	10 (254.0)	16 (406.4)	11.5 (292.1)	17.5 (444.5)	6.00 (152.40)	16.38 (416.05)	22.38 (568.45)	9.06 (230.12)	6.94 (176.28)	12.88 (327.15)	14.94 (379.48)	20.88 (530.35)	0.25 (6.35)
EXB-12188 N34	10 (254.0)	16 (406.4)	11.37 (288.8)	17.37 (441.2)	8.00 (203.20)	16.38 (416.05)	22.38 (568.45)	11.06 (280.92)	6.94 (176.28)	12.88 (327.15)	14.94 (379.48)	20.88 (530.35)	0.25 (6.35)
EXB-12246 N34	10.25 (260.4)	22.25 (565.2)	11.5 (292.1)	23.5 (596.9)	6.00 (152.40)	16.38 (416.05)	28.38 (720.85)	9.32 (236.73)	6.94 (176.28)	18.88 (479.55)	14.94 (379.48)	26.88 (682.75)	0.25 (6.35)
EXB-12248 N34	10.25 (260.4)	22.25 (565.2)	11.37 (288.8)	23.37 (593.6)	8.00 (203.20)	16.38 (416.05)	28.38 (720.85)	11.32 (287.53)	6.94 (176.28)	18.88 (479.55)	14.94 (379.48)	26.88 (682.75)	0.25 (6.35)
EXB-122412 N34	10.25 (260.4)	22.25 (565.2)	11.37 (288.8)	23.37 (593.6)	12.00 (304.80)	16.38 (416.05)	28.38 (720.85)	15.32 (389.13)	6.94 (176.28)	18.88 (479.55)	14.94 (379.48)	26.88 (682.75)	0.25 (6.35)
EXB-12368 N34	11 (279.4)	35 (889.0)	12 (304.8)	36 (914.4)	8.12 (206.25)	17.25 (438.15)	41.25 (1047.75)	11.40 (289.56)	7.00 (177.80)	31.00 (787.40)	15.00 (381.00)	39.00 (990.60)	0.25 (6.35)
EXB-123610 N34	11 (279.4)	35 (889.0)	12 (304.8)	36 (914.4)	10.12 (257.05)	17.25 (438.15)	41.25 (1047.75)	13.40 (340.36)	7.00 (177.80)	31.00 (787.40)	15.00 (381.00)	39.00 (990.60)	0.25 (6.35)
EXB-14146 N34	13 (330.2)	13 (330.2)	14 (355.6)	14 (355.6)	6.20 (157.48)	19.25 (488.95)	19.25 (488.95)	9.40 (238.76)	9.00 (228.60)	9.00 (228.60)	17.00 (431.80)	17.00 (431.80)	0.25 (6.35)
EXB-14148 N34	13 (330.2)	13 (330.2)	14 (355.6)	14 (355.6)	8.20 (208.28)	19.25 (488.95)	19.25 (488.95)	11.40 (289.56)	9.00 (228.60)	9.00 (228.60)	17.00 (431.80)	17.00 (431.80)	0.25 (6.35)
EXB-16166 N34	14 (355.6)	14 (355.6)	15.5 (393.7)	15.5 (393.7)	6.00 (152.40)	20.38 (517.65)	20.38 (517.65)	9.19 (233.43)	10.94 (277.88)	10.94 (277.88)	18.94 (481.08)	18.94 (481.08)	0.25 (6.35)
EXB-16168 N34	14 (355.6)	14 (355.6)	15.37 (390.4)	15.37 (390.4)	8.00 (203.20)	20.38 (517.65)	20.38 (517.65)	11.19 (284.23)	10.94 (277.88)	10.94 (277.88)	18.94 (481.08)	18.94 (481.08)	0.25 (6.35)
EXB-16248 N34	15 (381.0)	23 (584.2)	16 (406.4)	24 (609.6)	8.12 (206.25)	21.25 (539.75)	29.25 (742.95)	12.00 (304.80)	11.38 (289.05)	19.38 (492.25)	19.38 (492.25)	27.38 (695.45)	0.25 (6.35)
EXB-162410 N34	15 (381.0)	23 (584.2)	16 (406.4)	24 (609.6)	10.12 (257.05)	21.25 (539.75)	29.25 (742.95)	14.00 (355.60)	11.38 (289.05)	19.38 (492.25)	19.38 (492.25)	27.38 (695.45)	0.25 (6.35)
EXB-18186 N34	17 (431.8)	17 (431.8)	18 (457.2)	18 (457.2)	6.12 (155.45)	23.25 (590.55)	23.25 (590.55)	10.00 (254.00)	13.38 (339.85)	13.38 (339.85)	21.38 (543.05)	21.38 (543.05)	0.25 (6.35)
EXB-18188 N34	17 (431.8)	17 (431.8)	18 (457.2)	18 (457.2)	8.12 (206.25)	23.25 (590.55)	23.25 (590.55)	12.00 (304.80)	13.38 (339.85)	13.38 (339.85)	21.38 (543.05)	21.38 (543.05)	0.25 (6.35)
EXB-18248 N34	16.38 (416.1)	22.13 (562.1)	17.37 (441.2)	23.37 (593.6)	8.00 (203.20)	22.38 (568.45)	28.38 (720.85)	11.75 (298.45)	13.00 (330.20)	19.00 (482.60)	21.00 (533.40)	27.00 (685.80)	0.25 (6.35)
EXB-182410 N34	16.38 (416.1)	22.13 (562.1)	17.23 (437.6)	23.23 (590.0)	10.00 (254.00)	22.38 (568.45)	28.38 (720.85)	13.75 (349.25)	13.00 (330.20)	19.00 (482.60)	21.25 (539.75)	27.00 (685.80)	0.25 (6.35)
EXB-18308 N34	16 (406.4)	29 (736.6)	17.87 (453.9)	30.8 (782.3)	8.00 (203.20)	22.37 (568.20)	35.37 (898.40)	12.37 (314.20)	13.25 (336.55)	26.5 (673.10)	21.00 (533.40)	34.50 (876.30)	0.25 (6.35)
EXB-18368 N34	16 (406.4)	34 (863.6)	17.37 (441.2)	35.37 (898.4)	8.00 (203.20)	22.38 (568.45)	40.38 (1025.65)	12.38 (314.45)	13.25 (336.55)	31.50 (800.10)	21.25 (539.75)	39.50 (1003.30)	0.25 (6.35)
EXB-183610 N34	16 (406.4)	34 (863.6)	17.23 (437.6)	35.23 (894.8)	10.00 (254.00)	22.38 (568.45)	40.38 (1025.65)	14.38 (365.25)	13.25 (336.55)	31.50 (800.10)	21.25 (539.75)	39.50 (1003.30)	0.25 (6.35)
EXB-203611 N34	18.75 (476.3)	34.75 (882.7)	20.14 (511.6)	36.14 (918.0)	11.13 (282.70)	26.44 (671.58)	42.44 (1077.98)	15.56 (395.22)	15.75 (400.05)	31.75 (806.45)	23.75 (603.25)	39.75 (1009.65)	0.25 (6.35)
EXB-24248 N34	22.25 (565.2)	22.25 (565.2)	23.37 (593.6)	23.37 (593.6)	8.06 (204.72)	28.38 (720.85)	28.38 (720.85)	12.19 (309.63)	19.50 (495.30)	19.50 (495.30)	27.50 (698.50)	27.50 (698.50)	0.25 (6.35)
EXB-242410 N34	22.25 (565.2)	22.25 (565.2)	23.23 (590.0)	23.23 (590.0)	10.06 (255.52)	28.38 (720.85)	28.38 (720.85)	14.19 (360.43)	19.50 (495.30)	19.50 (495.30)	27.50 (698.50)	27.50 (698.50)	0.25 (6.35)
EXB-24308 N34	23 (584.2)	29 (736.6)	24 (609.6)	30 (762.0)	8.12 (206.25)	29.25 (742.95)	35.25 (895.35)	12.40 (314.96)	19.56 (496.82)	25.56 (649.25)	27.56 (700.03)	33.56 (852.43)	0.25 (6.35)
EXB-24368 N34	23 (584.2)	35 (889.0)	24 (609.6)	36 (914.4)	8.12 (206.25)	29.25 (742.95)	41.25 (1047.75)	12.40 (314.96)	19.56 (496.82)	31.56 (801.63)	27.56 (700.03)	39.56 (1004.83)	0.25 (6.35)
EXB-243610 N34	23 (584.2)	35 (889.0)	24 (609.6)	36 (914.4)	10.12 (257.05)	29.25 (742.95)	41.25 (1047.75)	14.40 (365.76)	19.56 (496.82)	31.56 (801.63)	27.56 (700.03)	39.56 (1004.83)	0.25 (6.35)

Full dimensional details are available on .DFX or .DWG format. See Killark website.



ENCLOSURES EXB SERIES



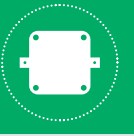
* Mounting lug opening 7/16" for boxes up to and including 8128 and 916" for boxes 10 x 10 and larger

EXB CONDUIT AND OPERATOR LAYOUT INFORMATION

CATALOG NUMBER	CONDUIT AREA											OPERATOR AREA AND SPECS	
	N	O	P	Q	R	S	T	U	V	W	X	GZ OPERATOR TYPE	GO OPERATOR TYPE
EXB-664 N34	1.18 (30.0)	2.81 (71.4)	2.44 (62.0)	4.88 (124.0)	2.75 (69.85)	2.81 (71.37)	2.44 (61.98)	4.88 (123.95)	2.5 (63.50)	5 (127.00)	5 (127.00)	Use "LONG"	
EXB-886 N34	1.18 (30.0)	4.81 (122.2)	3.44 (87.4)	6.88 (174.8)	3.75 (95.25)	4.81 (122.17)	3.44 (87.38)	6.88 (174.75)	2.5 (63.50)	7 (177.80)	7 (177.80)		
EXB-8104 N34	1.18 (30.0)	2.81 (71.4)	4.44 (112.8)	8.88 (225.6)	2.75 (69.85)	2.81 (71.37)	3.44 (87.38)	6.88 (174.75)	2.5 (63.50)	9 (228.60)	7 (177.80)		
EXB-8106 N34	1.18 (30.0)	4.18 (106.2)	4.44 (112.8)	8.88 (225.6)	3.45 (87.63)	4.81 (122.17)	3.44 (87.38)	6.88 (174.75)	2.5 (63.50)	9 (228.60)	7 (177.80)		
EXB-8126 N34	1.78 (45.2)	3.75 (95.3)	5 (127.0)	10 (254.0)	3.66 (92.96)	3.75 (95.25)	3 (76.20)	6 (152.40)	2.5 (63.50)	11 (279.40)	7 (177.80)		
EXB-8128 N34	1.78 (45.2)	5.75 (146.1)	5 (127.0)	10 (254.0)	4.66 (118.36)	5.75 (146.05)	3 (76.20)	6 (152.40)	2.5 (63.50)	11 (279.40)	7 (177.80)		
EXB-10106 N34	1.91 (48.5)	3.75 (95.3)	4 (101.6)	8 (203.2)	3.79 (96.27)	3.75 (95.25)	4 (101.60)	8 (203.20)	2.5 (63.50)	9 (228.60)	9 (228.60)		
EXB-10108 N34	1.91 (48.5)	5.75 (146.1)	4 (101.6)	8 (203.2)	4.79 (121.67)	5.75 (146.05)	4 (101.60)	8 (203.20)	2.5 (63.50)	9 (228.60)	9 (228.60)		
EXB-10146 N34	1.91 (48.5)	3.75 (95.3)	6 (152.4)	12 (304.8)	3.79 (96.27)	3.75 (95.25)	4 (101.60)	8 (203.20)	2.5 (63.50)	13 (330.20)	9 (228.60)		
EXB-10148 N34	1.91 (48.5)	5.75 (146.1)	6 (152.4)	12 (304.8)	4.79 (121.67)	5.75 (146.05)	4 (101.60)	8 (203.20)	2.5 (63.50)	13 (330.20)	9 (228.60)		
EXB-12126 N34	1.88 (47.8)	3.81 (96.8)	4.94 (125.5)	9.88 (251.0)	4.00 (101.60)	3.81 (96.77)	4.94 (125.48)	9.88 (250.95)	2.5 (63.50)	10 (254.00)	10 (254.00)		
EXB-12128 N34	1.88 (47.8)	5.81 (147.6)	4.94 (125.5)	9.88 (251.0)	5.00 (127.00)	5.81 (147.57)	4.94 (125.48)	9.88 (250.95)	2.5 (63.50)	10 (254.00)	10 (254.00)		
EXB-12186 N34	2.06 (52.3)	3.13 (79.5)	7.94 (201.7)	15.88 (403.4)	3.88 (98.55)	3.75 (95.25)	4.94 (125.48)	9.88 (250.95)	2.5 (63.50)	16 (406.40)	10 (254.00)		
EXB-12188 N34	2.06 (52.3)	5.13 (130.3)	7.94 (201.7)	15.88 (403.4)	4.88 (123.95)	5.75 (146.05)	4.94 (125.48)	9.88 (250.95)	2.5 (63.50)	16 (406.40)	10 (254.00)		
EXB-12246 N34	2.13 (54.1)	3.13 (79.5)	10.94 (277.9)	21.88 (555.8)	3.94 (100.08)	3.81 (96.77)	4.94 (125.48)	9.88 (250.95)	2.5 (63.50)	22.25 (565.15)	10.25 (260.35)		
EXB-12248 N34	2.13 (54.1)	5.13 (130.3)	10.94 (277.9)	21.88 (555.8)	4.94 (125.48)	5.81 (147.57)	4.94 (125.48)	9.88 (250.95)	2.5 (63.50)	22.25 (565.15)	10.25 (260.35)		
EXB-122412 N34	2.13 (54.1)	9.13 (231.9)	10.94 (277.9)	21.88 (555.8)	6.94 (176.28)	9.81 (249.17)	4.94 (125.48)	9.88 (250.95)	2.5 (63.50)	22.25 (565.15)	10.25 (260.35)		
EXB-12368 N34	2.09 (53.1)	5.75 (146.1)	17 (431.8)	34 (863.6)	4.97 (126.24)	5.75 (146.05)	5 (127.00)	10 (254.00)	2.5 (63.50)	35 (889.00)	11 (279.40)		
EXB-123610 N34	2.09 (53.1)	7.75 (196.9)	17 (431.8)	34 (863.6)	5.97 (151.64)	7.75 (196.85)	5 (127.00)	10 (254.00)	2.5 (63.50)	35 (889.00)	11 (279.40)		
EXB-14146 N34	2.09 (53.1)	3.75 (95.3)	6 (152.4)	12 (304.8)	3.97 (100.84)	3.75 (95.25)	6 (152.40)	12 (304.80)	2.5 (63.50)	13 (330.20)	13 (330.20)		
EXB-14148 N34	2.09 (53.1)	5.75 (146.1)	6 (152.4)	12 (304.8)	4.97 (126.24)	5.75 (146.05)	6 (152.40)	12 (304.80)	2.5 (63.50)	13 (330.20)	13 (330.20)		
EXB-16166 N34	2.06 (53.1)	3.75 (95.3)	6.94 (176.3)	13.88 (352.6)	4.18 (106.17)	3.75 (95.25)	6.94 (176.28)	13.88 (352.55)	2.5 (63.50)	14 (355.60)	14 (355.60)		
EXB-16168 N34	2.06 (53.1)	5.75 (146.1)	6.94 (176.3)	13.88 (352.6)	5.18 (131.57)	5.75 (146.05)	6.94 (176.28)	13.88 (352.55)	2.5 (63.50)	14 (355.60)	14 (355.60)		
EXB-16248 N34	2.34 (59.4)	5.75 (146.1)	11 (279.4)	22 (558.8)	5.22 (132.59)	5.75 (146.05)	7 (177.80)	14 (355.60)	2.5 (63.50)	22 (558.80)	14 (355.60)		
EXB-162410 N34	2.34 (59.4)	7.75 (196.9)	11 (279.4)	22 (558.8)	6.22 (157.99)	7.75 (196.85)	7 (177.80)	14 (355.60)	2.5 (63.50)	22 (558.80)	14 (355.60)		
EXB-18186 N34	2.34 (59.4)	3.75 (95.3)	8 (203.2)	16 (406.4)	4.22 (107.19)	3.75 (95.25)	8 (203.20)	16 (406.40)	2.5 (63.50)	16 (406.40)	16 (406.40)		
EXB-18188 N34	2.34 (59.4)	5.75 (146.1)	8 (203.2)	16 (406.4)	5.22 (132.59)	5.75 (146.05)	8 (203.20)	16 (406.40)	2.5 (63.50)	16 (406.40)	16 (406.40)		
EXB-18248 N34	2.32 (58.9)	4.88 (124.0)	10.94 (277.9)	21.88 (555.8)	5.00 (127.00)	5.56 (141.22)	7.94 (201.68)	15.88 (403.35)	2.5 (63.50)	22 (558.80)	16 (406.40)		
EXB-182410 N34	2.32 (58.9)	6.88 (174.8)	10.94 (277.9)	21.88 (555.8)	6.00 (152.40)	8.56 (217.42)	7.94 (201.68)	15.88 (403.35)	2.5 (63.50)	22 (558.80)	16 (406.40)		
EXB-18308 N34	2.50 (63.5)	4.88 (124.0)	14.44 (366.8)	28.88 (735.6)	5.18 (131.57)	6.06 (153.92)	7.94 (201.68)	15.88 (403.35)	2.5 (63.50)	29 (736.60)	16 (406.40)		
EXB-18368 N34	2.50 (63.5)	4.88 (124.0)	16.94 (430.3)	33.88 (860.6)	5.18 (131.57)	6.06 (153.92)	7.94 (201.68)	15.88 (403.35)	2.5 (63.50)	34 (863.60)	16 (406.40)		
EXB-183610 N34	2.50 (63.5)	6.88 (174.8)	16.94 (430.3)	33.88 (860.6)	6.18 (156.97)	8.06 (204.72)	7.94 (201.68)	15.88 (403.35)	2.5 (63.50)	34 (863.60)	16 (406.40)		
EXB-203611 N34	2.47 (62.7)	8.44 (214.4)	16.72 (424.7)	33.97 (862.8)	6.88 (174.75)	8.47 (215.14)	8.72 (221.49)	17.47 (443.74)	2.5 (63.50)	34.88 (885.95)	18.88 (479.55)		
EXB-24248 N34	2.88 (73.2)	5.50 (139.7)	10.88 (276.4)	21.88 (555.8)	5.88 (149.35)	5.50 (139.70)	10.94 (277.80)	21.88 (555.75)	2.5 (63.50)	22 (558.80)	22 (558.80)		
EXB-242410 N34	2.88 (73.2)	7.50 (190.5)	10.88 (276.4)	21.88 (555.8)	6.88 (174.75)	7.50 (190.50)	10.94 (277.80)	21.88 (555.75)	2.5 (63.50)	22 (558.80)	22 (558.80)		
EXB-24308 N34	2.47 (62.7)	5.75 (146.1)	14 (355.6)	28 (711.2)	5.35 (135.89)	5.75 (146.05)	11 (279.40)	22 (558.80)	3.0 (76.20)	28 (711.20)	22 (558.80)		
EXB-24368 N34	2.47 (62.7)	5.75 (146.1)	17 (431.8)	34 (863.6)	5.35 (135.89)	5.75 (146.05)	11 (279.40)	22 (558.80)	3.0 (76.20)	34 (863.60)	22 (558.80)		
EXB-243610 N34	2.47 (62.7)	7.75 (196.9)	17 (431.8)	34 (863.6)	6.35 (161.29)	7.75 (196.85)	11 (279.40)	22 (558.80)	3.0 (76.20)	34 (863.60)	22 (558.80)		

All dimension in. (mm)

Full dimensional details are available on .DFX or .DWG format. See KILLARK web-site.



Conduit Opening Data

Instructions

Drilled and tapped conduit openings will be evenly spaced and located in the area indicated on the location chart. Critical conduit opening locations may be indicated by supplying a diagram similar to the one shown at right indicating critical dimensions and locations. Specific conduit openings must be located dimensionally from box centerlines to conduit centerlines and from outside back surface of box to conduit centerline.

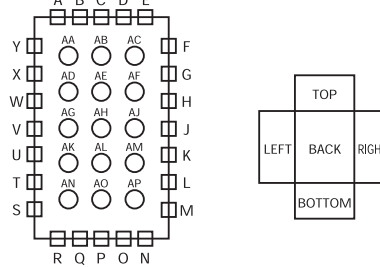
Ordering Information:

- (1) Select the letter on location chart which indicates conduit opening position desired.
- (2) Select symbol number from chart

which indicates conduit opening type and size.

- (3) Combine the conduit location letter, size and type number, and add as a suffix to junction box catalog number.

Example: EXB-12248 N34-C3-J5-PI3-AH4



Drawing indicates position as looking into open face of box with short side (top) up.

EXB/EXBLT/B7/GR SYMBOL NUMBERS		
CONDUIT SIZE	CONDUIT OPENINGS DRILLED AND TAPPED	UNION
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15
2"	6	16
2-1/2"	7	17
3"	8	18
3-1/2"	9	19
4"	0	10
5"	02	—
6"	04	—

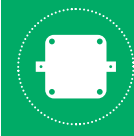
Union = GUM series male NPT unions

EXB/EXBLT/B7/GR - MINIMUM CENTER TO CENTER SPACING FOR DRILLED AND TAPPED OPENINGS AND UNION HUBS

NPT (METRIC)	SPACE CENTERS	1/2" (M16)	3/4" (M20)	1" (M25)	1-1/4" (M32)	1-1/2" (M40)	2" (M50)	2-1/2" (M63)	3" (M75)	3-1/2" (M80)	4" (M100)	5"	6"
1/2" (M16)	MIN	1.18 (30)	—	—	—	—	—	—	—	—	—	—	—
	PRE	1.38 (35)	—	—	—	—	—	—	—	—	—	—	—
	GU	1.63 (41)	—	—	—	—	—	—	—	—	—	—	—
3/4" (M20)	MIN	1.38 (35)	1.5 (38)	—	—	—	—	—	—	—	—	—	—
	PRE	1.5 (38)	1.63 (41)	—	—	—	—	—	—	—	—	—	—
	GU	1.75 (44)	1.81 (46)	—	—	—	—	—	—	—	—	—	—
1" (M25)	MIN	1.5 (38)	1.75 (44)	1.81 (46)	—	—	—	—	—	—	—	—	—
	PRE	1.75 (44)	1.88 (48)	2 (108)	—	—	—	—	—	—	—	—	—
	GU	1.88 (48)	2 (108)	2.13 (54)	—	—	—	—	—	—	—	—	—
1-1/4" (M32)	MIN	1.69 (43)	1.94 (49)	2.06 (52)	2.31 (59)	—	—	—	—	—	—	—	—
	PRE	1.94 (49)	2.06 (52)	2.25 (57)	2.5 (64)	—	—	—	—	—	—	—	—
	GU	2.06 (52)	2.25 (57)	2.31 (59)	2.5 (64)	—	—	—	—	—	—	—	—
1-1/2" (M40)	MIN	1.94 (49)	2.06 (52)	2.19 (56)	2.5 (64)	2.63 (67)	—	—	—	—	—	—	—
	PRE	2.13 (54)	2.25 (57)	2.38 (60)	2.63 (67)	2.75 (70)	—	—	—	—	—	—	—
	GU	2.19 (56)	2.28 (58)	2.44 (62)	2.63 (67)	2.75 (70)	—	—	—	—	—	—	—
2" (M50)	MIN	2.25 (57)	2.38 (60)	2.56 (65)	2.81 (71)	2.94 (75)	3.19 (81)	—	—	—	—	—	—
	PRE	2.38 (60)	2.5 (64)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	—	—	—	—	—	—
	GU	2.5 (64)	2.59 (66)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	—	—	—	—	—	—
2-1/2" (M63)	MIN	2.44 (62)	2.56 (65)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	3.63 (92)	—	—	—	—	—
	PRE	2.63 (67)	2.75 (70)	3 (76)	3.25 (82)	3.38 (86)	3.63 (92)	4 (102)	—	—	—	—	—
	GU	3.13 (97)	3.22 (82)	3.38 (86)	3.56 (90)	3.69 (94)	4 (102)	4.63 (117)	—	—	—	—	—
3" (M75)	MIN	2.81 (71)	2.94 (75)	3.06 (78)	3.31 (84)	3.44 (87)	3.75 (95)	4 (102)	4.31 (110)	—	—	—	—
	PRE	3 (76)	3.13 (97)	3.38 (86)	3.63 (92)	3.75 (95)	4 (102)	4.38 (111)	4.75 (121)	—	—	—	—
	GU	3.56 (90)	3.66 (93)	3.81 (97)	4 (102)	4.13 (105)	4.44 (113)	5.06 (129)	5.5 (140)	—	—	—	—
3-1/2" (M80)	MIN	3.13 (97)	3.25 (82)	3.38 (86)	3.63 (92)	3.75 (95)	4.06 (103)	4.31 (110)	4.63 (117)	4.94 (125)	—	—	—
	PRE	3.38 (86)	3.5 (89)	3.63 (92)	3.88 (98)	4 (102)	4.38 (111)	4.63 (117)	5 (127)	5.38 (136)	—	—	—
	GU	4 (102)	4.09 (104)	4.25 (108)	4.44 (113)	4.56 (116)	4.88 (124)	5.5 (140)	5.94 (151)	6.38 (162)	—	—	—
4" (M100)	MIN	3.44 (87)	3.56 (90)	3.69 (94)	3.94 (100)	4.06 (103)	4.38 (111)	4.63 (117)	4.94 (125)	5.25 (133)	5.56 (141)	—	—
	PRE	3.75 (95)	3.88 (98)	4 (102)	4.25 (108)	4.38 (111)	4.75 (121)	5 (127)	5.75 (146)	5.63 (143)	6 (152)	—	—
	GU	4 (102)	4.09 (104)	4.25 (108)	4.44 (113)	4.56 (116)	4.88 (124)	5.5 (140)	5.94 (151)	6.38 (162)	6.38 (162)	—	—
5"	MIN	4.13 (105)	4.25 (108)	4.38 (111)	4.63 (117)	4.75 (121)	5 (127)	5.25 (133)	5.56 (141)	5.88 (149)	6.19 (157)	6.19 (157)	—
	PRE	4.38 (111)	4.5 (114)	4.63 (117)	4.88 (124)	5 (127)	5.38 (136)	5.63 (143)	6 (152)	6.25 (159)	6.63 (168)	7.25 (184)	—
6"	MIN	4.75 (121)	4.88 (124)	5 (127)	5.25 (133)	5.38 (136)	5.63 (143)	5.88 (149)	6.19 (157)	6.5 (165)	6.81 (173)	7.44 (190)	8.13 (206)
	GU	5 (127)	5.13 (130)	5.25 (133)	5.5 (140)	5.63 (143)	6 (152)	6.25 (159)	6.63 (168)	7 (178)	7.25 (184)	8 (203)	8.63 (220)
LOCKNUT O.D.		1.25 (32)	1.13 (29)	1.69 (43)	2.19 (56)	2.44 (62)	3 (76)	3.44 (87)	4.19 (106)	4.81 (122)	5.38 (136)	6.69 (170)	7.94 (202)
CONDUIT BUSHING		1 (25)	1.25 (32)	1.5 (38)	1.88 (48)	2.13 (54)	2.63 (67)	3.19 (81)	3.88 (98)	4.44 (113)	5 (127)	6.25 (159)	7.38 (187)
CONDUIT O.D.			1.06 (27)	1.38 (35)	1.69 (43)	1.94 (49)	2.38 (60)	2.88 (73)	3.5 (89)	4 (102)	4.5 (114)	5.56 (141)	6.63 (168)

All dimension in. (mm)

- MIN:** The minimum space required to provide enough clearance over locknuts and bushings.
- PRE:** The preferred more liberal center to center spacing of openings. To be used whenever possible.
- GU:** The required spacing between openings using GUM Series male NPT unions.



ENCLOSURES EXB SERIES

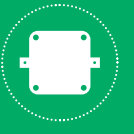
REPLACEMENT PARTS								
ENCLOSURE CATALOG NUMBER	COVER GASKET	MOUNTING LUG KIT CONTAINS FOUR MOUNTING LUGS AND HARDWARE	COVER BOLTS - SOLD PER EACH					HINGES
			NO. OF BOLTS PER ENCLOSURE	CARBON STEEL "N34"	316 STAINLESS STEEL "SUI"	316 STAINLESS STEEL TRI-LEAD "SUTL"	ATEX IEC EX 316 STAINLESS STEEL "CEN"	EXB BOXES (*) ADD "L" FOR LEFT OR "R" FOR RIGHT
EXB-664 N34	EXB66RG	EXB-MTL1	8	0725115B	25952BAAB	xxxxx	20790AAAB	HINGE-12*
EXB-886 N34	EXB88RG	EXB-MTL1	12	0725115B	25952BAAB	xxxxx	20790AAAB	HINGE-12*
EXB-8104 N34	EXB810RG	EXB-MTL1	14	0725115B	25952BAAB	xxxxx	20790AAAB	HINGE-12*
EXB-8106 N34	EXB810RG	EXB-MTL1	14	0725115B	25952BAAB	xxxxx	20790AAAB	HINGE-12*
EXB-8126 N34	EXB812RG	EXB-MTL1	12	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-8128 N34	EXB812RG	EXB-MTL1	12	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-10106 N34	EXB1010RG	EXB-MTL2	12	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-10108 N34	EXB1010RG	EXB-MTL2	12	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-10146 N34	EXB1014RG	EXB-MTL2	16	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-10148 N34	EXB1014RG	EXB-MTL2	16	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-12126 N34	EXB1212RG	EXB-MTL2	16	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-12128 N34	EXB1212RG	EXB-MTL2	16	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-12186 N34	EXB1212RG	EXB-MTL2	22	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-12188 N34	EXB1212RG	EXB-MTL2	22	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-12246 N34	EXB1224RG	EXB-MTL2	28	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-12248 N34	EXB1224RG	EXB-MTL2	28	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-122412 N34	EXB1224RG	EXB-MTL2	28	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-12368 N34	EXB1236RG	EXB-MTL2	38	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-123610 N34	EXB1236RG	EXB-MTL2	38	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-14146 N34	EXB1414RG	EXB-MTL2	20	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-14148 N34	EXB1414RG	EXB-MTL2	20	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-16166 N34	EXB1616RG	EXB-MTL2	24	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-16168 N34	EXB1616RG	EXB-MTL2	24	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-16248 N34	EXB1624RG	EXB-MTL2	30	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-162410 N34	EXB1624RG	EXB-MTL2	30	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-18186 N34	EXB1818RG	EXB-MTL2	24	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-18188 N34	EXB1818RG	EXB-MTL2	24	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-11*
EXB-18248 N34	EXB1824RG	EXB-MTL2	34	0720362B	25952CAAB	17339AAAB	20790CAAB	HINGE-10*
EXB-182410 N34	EXB1824RG	EXB-MTL2	34	0720362B	25952CAAB	17339AAAB	20790CAAB	HINGE-10*
EXB-18308 N34	EXB1830RG	EXB-MTL2	40	0720362B	25952CAAB	xxxxx	20790CAAB	HINGE-10*
EXB-18368 N34	EXB1836RG	EXB-MTL2	44	0720362B	25952CAAB	xxxxx	20790CAAB	HINGE-10*
EXB-183610 N34	EXB1836RG	EXB-MTL2	44	0720362B	25952CAAB	xxxxx	20790CAAB	HINGE-10*
EXB-203611 N34	EXB2036RG	EXB-MTL2	48	0720362B	25952CAAB	xxxxx	20790CAAB	HINGE-10*
EXB-24248 N34	EXB2424RG	EXB-MTL2	40	0720362B	25952CAAB	xxxxx	20790CAAB	HINGE-10*
EXB-242410 N34	EXB2424RG	EXB-MTL2	40	0720362B	25952CAAB	xxxxx	20790CAAB	HINGE-10*
EXB-24308 N34	EXB2430RG	EXB-MTL2	50	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-10*
EXB-24368 N34	EXB2436RG	EXB-MTL2	56	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-10*
EXB-243610 N34	EXB2436RG	EXB-MTL2	56	0720361B	25952AAAB	17339AAAB	20790BAAB	HINGE-10*

Hinges

Hinges are provided as a standard on the EXB-8126 N4 and larger sizes. See the replacement part chart for the hinge's catalog number. Hinges are sold in sets of two. For hinges to be installed on smaller sizes add suffix "SU2" to catalog number.

Touch-Up Paint

The touch-up paint comes in a 12 oz aerosol can. Wet laquer silver gray touch-up paint: KTPALS Epoxy powder gray touch-up paint is a wet lacquer: KTPEPG



Blank Mounting Pans

EXB / EXBLT Series Mounting Pans Ordering Instructions

Select proper mounting pan based on inside (length and width) of box. Order and price as separate item from junction box catalog number.

EXAMPLE:

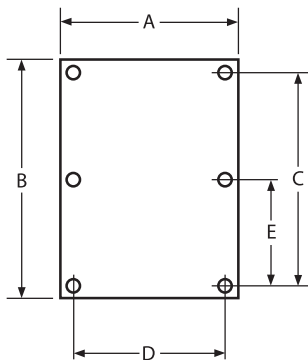
EXB-12186N34 (box) } assembly
15155 (mounting pan) }

EXB / EXBLT Series boxes have cast bosses which are drilled and tapped for direct mounting when pans are ordered.

Mounting pans are 1/8" or 3-16" thick sheet aluminum and are sized to provide the maximum usable surface area when installed.

All EXB / EXBLT series boxes have internal bosses that are factory machined to accept mounting pans.

Dimensions



EXB / EXBLT MOUNTING PAN								
CATALOG NUMBER	NOMINAL INSIDE BOX SIZE		MOUNTING PAN DIMENSION		MOUNTING HOLE SPACINGS			PAN THICKNESS
	WIDTH	LENGTH	A WIDTH	B LENGTH	C	D	E	
7997-5	6"	6"	5"	5"	3"	3"	—	.125
7997-1	6"	8"	5"	7"	5"	3"	—	.125
7997-6	6"	12"	5"	11"	9"	3"	—	.125
7996-1	8"	8"	7"	7"	5"	5"	—	.125
7996-2	8"	10"	7"	9"	7"	5"	—	.125
17619	8"	12"	7"	11"	9"	5"	—	.125
17617	10"	14"	9"	13"	11"	7"	—	.125
17618	10"	10"	9"	9"	7"	7"	—	.125
7988-1	12"	12"	10-1/2"	10-1/2"	9"	9"	—	.125
15515	12"	18"	10"	16"	15"	9"	—	.125
7988-4	12"	24"	10-1/4"	22-1/4"	21"	9"	—	.125
17620	12"	36"	11"	35"	33"	9"	17-1/2"	.125
17621	14"	14"	13"	13"	11"	11"	—	.125
51705-1	14"	24"	12-1/2"	22-1/2"	11"	21"	—	.125
51698-1	14"	30"	12-1/2"	28-1/2"	11"	27"	13-1/2"	.125
7995-1	16"	16"	14"	14"	13"	13"	—	.125
7995-2	16"	24"	14-1/2"	23"	21"	13"	—	.125
17622	16"	24"	15"	23"	21"	13"	—	.125
17623	18"	18"	17"	17"	15"	15"	—	.190
15516	18"	24"	16-3/8"	22-1/8"	21"	15"	—	.125
22061	18"	30"	16"	29"	28"	15"	14"	.125
15517	18"	36"	16"	34"	33"	15"	16-1/2"	.125
17596	20"	36"	18-3/4"	34-3/4"	32-3/4"	16-3/4"	16-3/8"	.190
8000-1	24"	24"	22-1/4"	22-1/4"	21"	21"	—	.125
17624	24"	36"	23"	35"	33"	21"	16-1/2"	.190
20567	24"	30"	23"	29"	27"	21"	13-1/2"	.190

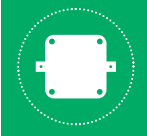
HINGES

For use with all EXB & EXBLT series boxes. Set of two hinges installed on flanged enclosures for easier and safer installation and maintenance of internal components.



HINGE-10L and HINGE-10R
HINGE-11L and HINGE-11R
HINGE-12L and HINGE-12R

HINGES		
CATALOG NUMBER	SERIES USED	MOUNTING SIDE
HINGE-10L	Larger sizes EXB / EXBLT	Left
HINGE-10R		Right
HINGE-11L	Mid Sizes EXB / EXBLT	Left
HINGE-11R		Right
HINGE-12L	Small EXB / EXBLT	Left
HINGE-12R		Right



Round Glass Lens Covers / Rectangular Viewing Windows



GL Series

GL ROUND GLASS LENS COVERS

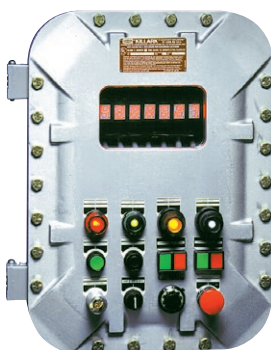
For use with all EXB and EXBLTC series boxes.

Tempered soda lime glass mounted into a copper free sand cast aluminum threaded frame. Five viewing sizes, 2.75" through 7.75". Factory installation only.

Maintains all third party certifications of the EXBs and EXBLTCs.

GLASS LENS TYPE	GL RECOMMENDED MINIMUM SPACING – CENTERLINE TO CENTERLINE						VIEWING DIAMETER	OUTSIDE DIAMETER
	GL-275	GL-300	GL-375	GL-537	GL-600	GL-775		
GL-275	7 (177.8)	7.5 (190.5)	7.75 (196.9)	8.75 (222.3)	9 (228.6)	10 (254.0)	2.75 (69.9)	4.63 (117.6)
GL-300	7.5 (190.5)	8 (203.2)	8.25 (209.6)	9.25 (235.0)	9.5 (241.3)	10.5 (266.7)	2.93 (74.4)	5.25 (133.4)
GL-375	7.75 (196.9)	8.25 (209.6)	8.5 (215.9)	9.5 (241.3)	9.75 (247.7)	10.75 (273.1)	3.75 (95.3)	6.25 (158.8)
GL-537	8.75 (222.3)	9.25 (235.0)	9.5 (241.3)	10.5 (266.7)	10.75 (273.1)	11.75 (298.5)	5.38 (136.7)	7.88 (200.2)
GL-600	9 (228.6)	9.5 (241.3)	9.75 (247.7)	10.75 (273.1)	11 (279.4)	12 (304.8)	6 (152.4)	8.88 (225.6)
GL-775	10 (254.0)	10.5 (266.7)	10.75 (273.1)	11.75 (298.5)	12 (304.8)	13 (330.2)	7.75 (196.9)	10.25 (260.4)

Note: For spacing less than minimum in table, (shown in inches) consult factory.



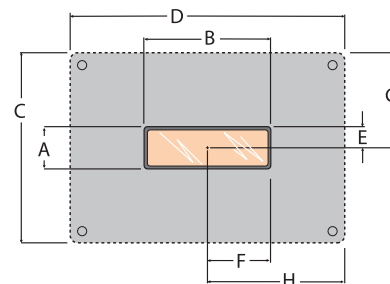
GLXR Series

GLXR RECTANGULAR VIEWING WINDOWS

For use with all EXB and EXBLTC series boxes. Tempered soda lime glass viewing lens. Additional viewing sizes available contact the factory for information.

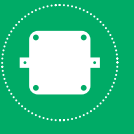
Factory installation only.

Maintains all third party certifications of the EXBs and EXBLTCs.

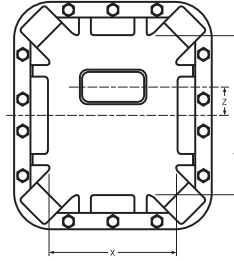


CATALOG NUMBER	GLXR RECTANGULAR LENS COVER ASSEMBLIES							
	VIEWING AREA		MINIMUM SPACE		OTHER DIMENSIONS			
	A	B	C	D	E	F	G	H
GLXR13	1 (25.4)	3 (76.2)	4.5 (114.3)	6.5 (165.1)	0.5 (12.7)	1.5 (38.1)	2.25 (57.2)	3.25 (82.6)
GLXR24	2 (50.8)	4 (101.6)	5.5 (139.7)	7.5 (190.5)	1 (25.4)	2 (50.8)	2.72 (69.1)	3.75 (95.3)
GLXR27	2 (50.8)	7 (177.8)	5.5 (139.7)	10.5 (266.7)	1 (25.4)	3.5 (88.9)	2.75 (69.9)	5.25 (133.4)
GLXR34	3.5 (88.9)	4 (101.6)	7 (177.8)	7.5 (190.5)	1.75 (44.5)	2 (50.8)	3.5 (88.9)	3.75 (95.3)
GLXR36	3 (76.2)	6 (152.4)	6.5 (165.1)	9.5 (241.3)	1.5 (38.1)	3 (76.2)	3.25 (82.6)	4.75 (120.7)
GLXR47	4 (101.6)	7 (177.8)	7.5 (190.5)	10.5 (266.7)	2 (50.8)	3.5 (88.9)	3.75 (95.3)	5.25 (133.4)
GLXR59	5 (127.0)	9 (228.6)	8.5 (215.9)	12.5 (317.5)	2.5 (63.5)	4.5 (114.3)	4.25 (108.0)	6.25 (158.8)
GLXR99	9 (228.6)	9 (228.6)	12.5 (317.5)	12.5 (317.5)	4.5 (114.3)	4.5 (114.3)	6.25 (158.8)	6.25 (158.8)

All dimension in. (mm)



Glass Lens Cover



GLXR LAYOUT GUIDE

CATALOG NUMBER	USEABLE COVER AREA		Z = MAXIMUM CENTER LINE OF COVER TO CENTERLINE OF GLASS LENS							
	X	Y	GLXR13	GLXR24	GLXR27	GLXR34	GLXR36	GLXR47	GLXR59	GLXR99
EXBLTC-684	5 (127)	7 (178)	1.25 (32)	N	N	N	N	N	N	N
EXBLTC-686	5 (127)	7 (178)	1.25 (32)	N	N	N	N	N	N	N
EXBLTC-6124	5 (127)	11 (279)	3.25 (83)	R	N	N	N	N	N	N
EXBLTC-6126	5 (127)	11 (279)	3.25 (83)	R	N	N	N	N	N	N
EXB/EXBLTC-886	7 (178)	7 (178)	1.25 (32)	0.75 (19)	N	N	N	N	N	N
EXB/EXBLTC-8104	7 (178)	9 (229)	2.25 (57)	1.75 (44)	N	1 (25)	N	N	N	N
EXB/EXBLTC-8106	7 (178)	9 (229)	2.25 (57)	1.75 (44)	N	1 (25)	N	N	N	N
EXB/EXBLTC-8126	7 (178)	11 (279)	3.25 (83)	2.75 (70)	N	2 (51)	N	N	N	N
EXB/EXBLTC-8128	7 (178)	11 (279)	3.25 (83)	2.75 (70)	N	2 (51)	N	N	N	N
EXBLTC-9116	8 (203)	10 (254)	2.75 (70)	2.25 (57)	N	1.5 (38)	N	N	N	N
EXB/EXBLTC-10106	9 (229)	9 (229)	2.25 (57)	1.75 (44)	N	1 (25)	N	N	N	N
EXB/EXBLTC-10108	9 (229)	9 (229)	2.25 (57)	1.75 (44)	N	1 (25)	N	N	N	N
EXB/EXBLTC-10146	9 (229)	13 (330)	4.25 (108)	3.75 (95)	R	3 (76)	R	R	R	N
EXB/EXBLTC-10148	9 (229)	13 (330)	4.25 (108)	3.75 (95)	R	3 (76)	R	R	R	N
EXB/EXBLTC-12126	10 (254)	10 (254)	2.75 (70)	2.25 (57)	2.25 (57)	1.5 (38)	1.75 (44)	1.25 (32)	N	N
EXB/EXBLTC-12128	10 (254)	10 (254)	2.75 (70)	2.25 (57)	2.25 (57)	1.5 (38)	1.75 (44)	1.25 (32)	N	N
EXB/EXBLTC-12186	10 (254)	16 (406)	5.75 (146)	5.25 (133)	5.25 (133)	4.5 (114)	4.75 (121)	4.25 (108)	N	N
EXB/EXBLTC-12188	10 (254)	16 (406)	5.75 (146)	5.25 (133)	5.25 (133)	4.5 (114)	4.75 (121)	4.25 (108)	N	N
EXB/EXBLTC-12246	10.3 (260)	22.3 (565)	8.88 (226)	8.38 (213)	8.38 (213)	7.63 (194)	7.88 (200)	7.38 (188)	R	N
EXB/EXBLTC-12248	10.3 (260)	22.3 (565)	8.88 (226)	8.38 (213)	8.38 (213)	7.63 (194)	7.88 (200)	7.38 (188)	R	N
EXB-122412	10.3 (260)	22.3 (565)	8.88 (226)	8.38 (213)	8.38 (213)	7.63 (194)	7.88 (200)	7.38 (188)	R	N
EXB-12368	11 (279)	35 (889)	15.25 (387)	14.75 (375)	14.75 (375)	14 (356)	14.25 (362)	13.75 (349)	N	N
EXB-123610	11 (279)	35 (889)	15.25 (387)	14.75 (375)	14.75 (375)	14 (356)	14.25 (362)	13.75 (349)	N	N
EXB-14146	13 (330)	13 (330)	4.25 (108)	3.75 (95)	3.75 (95)	3 (76)	3.25 (83)	2.75 (70)	2.25 (57)	*
EXB/EXBLTC-14148	13 (330)	13 (330)	4.25 (108)	3.75 (95)	3.75 (95)	3 (76)	3.25 (83)	2.75 (70)	2.25 (57)	*
EXB-16166	14 (356)	14 (356)	4.75 (121)	4.25 (108)	4.25 (108)	3.5 (89)	3.75 (95)	3.25 (83)	2.75 (70)	0.75 (19)
EXB/EXBLTC-16168	14 (356)	14 (356)	4.75 (121)	4.25 (108)	4.25 (108)	3.5 (89)	3.75 (95)	3.25 (83)	2.75 (70)	0.75 (19)
EXB/EXBLTC-16248	14 (356)	22 (559)	8.75 (222)	8.25 (210)	8.25 (210)	7.5 (190)	7.75 (197)	7.25 (184)	6.75 (172)	4.75 (121)
EXB-162410	14 (356)	22 (559)	8.75 (222)	8.25 (210)	8.25 (210)	7.5 (190)	7.75 (197)	7.25 (184)	6.75 (172)	4.75 (121)
EXB-18186	16 (406)	16 (406)	5.75 (146)	5.25 (133)	5.25 (133)	4.5 (114)	4.75 (121)	4.25 (108)	3.75 (95)	1.75 (44)
EXB-18188	16 (406)	16 (406)	5.75 (146)	5.25 (133)	5.25 (133)	4.5 (114)	4.75 (121)	4.25 (108)	3.75 (95)	1.75 (44)
EXB-18248	16 (406)	22 (559)	8.75 (222)	8.25 (210)	8.25 (210)	7.5 (190)	7.75 (197)	7.25 (184)	6.75 (172)	4.75 (121)
EXB-182410	16 (406)	22 (559)	8.75 (222)	8.25 (210)	8.25 (210)	7.5 (190)	7.75 (197)	7.25 (184)	6.75 (172)	4.75 (121)
EXB-18308	16 (406)	29 (737)	12.25 (311)	11.75 (298)	11.75 (298)	11 (279)	11.25 (286)	9.75 (248)	10.25 (260)	8.25 (210)
EXB-18368	16 (406)	34 (864)	14.75 (375)	14.25 (362)	14.25 (362)	13.5 (343)	13.75 (349)	13.25 (336)	12.75 (324)	10.75 (273)
EXB-183610	16 (406)	34 (864)	14.75 (375)	14.25 (362)	14.25 (362)	13.5 (343)	13.75 (349)	13.25 (336)	12.75 (324)	10.75 (273)
EXB-203611	18.9 (480)	34.9 (886)	15.18 (386)	14.68 (373)	14.68 (373)	13.94 (354)	14.19 (360)	13.68 (348)	13.19 (335)	11.19 (284)
EXB-24248	22 (559)	22 (559)	8.75 (222)	8.25 (210)	8.25 (210)	7.5 (190)	7.75 (197)	7.25 (184)	6.75 (172)	4.75 (121)
EXB-242410	22 (559)	22 (559)	8.75 (222)	8.25 (210)	8.25 (210)	7.5 (190)	7.75 (197)	7.25 (184)	6.75 (172)	4.75 (121)
EXB-24308	22 (559)	28 (711)	11.75 (298)	11.25 (286)	11.25 (286)	10.5 (267)	10.75 (273)	10.25 (260)	9.75 (248)	7.75 (197)
EXB-24368	22 (559)	34 (864)	14.75 (375)	14.25 (362)	14.25 (362)	13.5 (343)	13.75 (349)	13.25 (336)	12.75 (324)	10.75 (273)
EXB-243610	22 (559)	34 (864)	14.75 (375)	14.25 (362)	14.25 (362)	13.5 (343)	13.75 (349)	13.25 (336)	12.75 (324)	10.75 (273)

Symbols: N = Enclosure will not accommodate this lens size
 R = Rotate lens 90°, consult factory for layout assistance
 * = Indicates center line

All dimension in. (mm)



ENCLOSURES
B7E SERIES

Junction Boxes



B7E

Empty / Control Enclosure

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D

Class I Zone 1 IIB+H2 Gb

Class II, Div. 1 & 2, Groups E, F, & G

Class III

Type 3, 4, 4X

Ta = -25°C to +40°C

Ta = -50°C to +40°C



File E83969

Certificate LR11716

FEATURES-SPECIFICATIONS

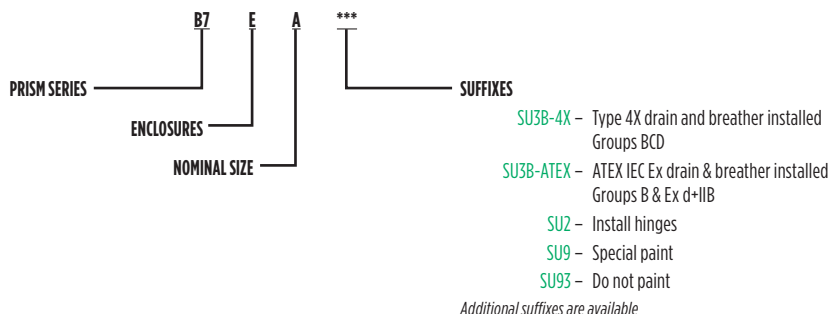
Features

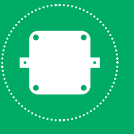
- Copper-free cast aluminum construction - high strength, light in weight, corrosion resistant
- Quick release, captive cover bolts of 316 Grade Stainless Steel. Triple-lead bolts require only 3-1/2 turns to disengage. Stainless steel (316 grade) for maximum protection from corrosion.
- Nitrile (BUNA-N) "O" ring gasket is located inside bolt circle to prevent water seeping into enclosure
- Mounting lugs are made of ductile aluminum alloy to adjust to irregular mounting surfaces without damaging the enclosure.
- Hinged cover is standard
- Recessed Flange Notches - Flanges are notched to allow for easier cover opening with prying instrument without flange damage
- Conduit openings can be supplied at factory, or can be field installed

Materials

- Enclosure: Copper-free aluminum (less than 4/10 of 1%)
- Hinges: Aluminum with stainless steel hardware
- Cover Bolts: 316 stainless steel
- Finish: Aluminum lacquer standard except B7EP and B7EQ which are powder epoxy.

CATALOG LOGIC





Junction Boxes

Figure 1

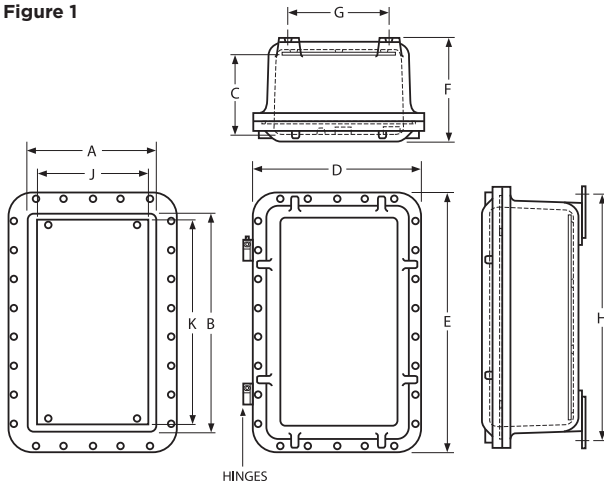
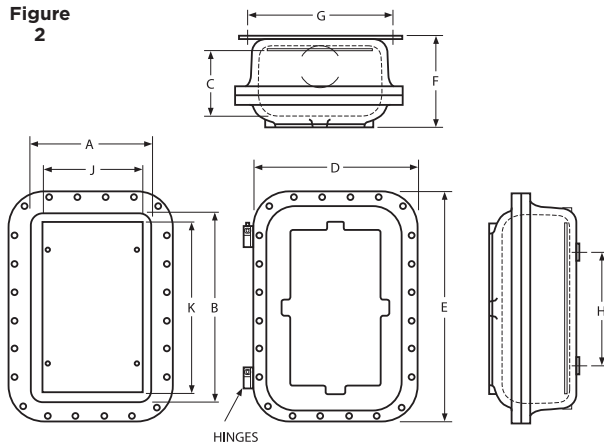


Figure 2



MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3B-QA	cCSAus, ATEX, IEC Ex drain and breather installed Class I Groups C & D & Ex d IIB, Type 4, 4X, IP66
SU3B-4X	UL and CSA drain and breather installed Class I Groups B, TYPE 4, 4X
SU9PEEX	External gray powder coated epoxy paint
SU14	Fungus proof internally
SU9	Special paint- specify
SU93	Do not paint enclosure
TOE PLATE KIT	Door guide plate to assist in aligning and installing cover bolts

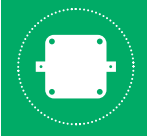
B7E JUNCTION BOXES AND ENCLOSURES			
CATALOG NUMBER	PAN		
	CATALOG NUMBER	WIDTH (J)	LENGTH (K)
B7EA	19919	5"	11-3/4"
B7EB	19920	8-1/4"	16-3/4"
B7EC	18245	6-1/4"	13-3/4"
B7ED	19921	8-3/8"	19-3/8"
B7EE	19923	6-3/8"	20-3/8"
B7EF	18472	11-5/8"	21-1/4"
B7EG	19924	10"	28"
B7EH	19925	15-3/8"	28-3/8"
B7EK	19926	11"	18"
B7EL	19927	11"	27"
B7EM	19928	11"	39"
B7EN	19929	11"	47"
B7EP	—	N/A	N/A
B7EQ	—	N/A	N/A

Internal Mounting Pan Thickness is 1/8" except on B7EJ it is 3/16" thick.

B7E JUNCTION BOXES AND ENCLOSURES												
CATALOG NUMBER	DIMENSIONS								DRAWING FIGURE	MAXIMUM CONDUIT SIZE		MAXIMUM NUMBER OF OPERATORS
	NOMINAL INSIDE			OUTSIDE			MOUNTING			TOP AND BOTTOM	SIDES	
	WIDTH (A)	LENGTH (B)	DEPTH (C)	WIDTH (D)	LENGTH (E)	DEPTH (F)	WIDTH (G)	LENGTH (H)				
B7EA	6-1/2"	13-1/2"	6-11/16"	11"	18"	9-1/8"	3-5/8"	16-3/8"	1	1-1/2"	1"	4 rows of 2 = 8
B7EB	10"	18-1/2"	6-5/8"	14-1/2"	23"	9-1/8"	7"	21-3/8"	1	1-1/2"	1"	7 rows of 3 = 21
B7EC	8"	15-1/2"	6-11/16"	12-1/2"	20"	9-1/8"	5"	18-3/8"	1	1-1/2"	1"	5 rows of 2 = 10
B7ED	10"	21"	6-11/16"	14-1/2"	25-1/2"	9-1/8"	7"	23-7/8"	1	1-1/2"	1"	8 rows of 3 = 24
B7EE	8"	21-3/4"	8-5/16"	12-1/2"	26-1/4"	10-3/4"	5"	24-5/8"	1	2"	2"	8 rows of 2 = 16
B7EF	13"	22-3/4"	8-3/8"	17-7/8"	27-1/4"	11"	10-3/8"	25-5/8"	1	4"	4"	8 rows of 4 = 32
B7EG	12"	29-3/4"	8-7/8"	16-1/2"	34-1/4"	11-1/2"	9"	32-5/8"	1	5"	4"	8 rows of 3 = 24
B7EH	17"	29-3/4"	8-11/16"	21-1/2"	34-1/4"	11-7/8"	14"	32-5/8"	1	5"	4"	9 rows of 5 = 45
B7EK	13"	20"	6-5/8"	17-1/2"	24-3/4"	9-1/2"	15-1/4"	13"	2	3"	1-1/2"	6 rows of 4 = 24
B7EL	13"	29"	6-5/8"	17-1/2"	33-3/8"	9-1/2"	15-1/4"	21"	2	3"	1-1/2"	9 rows of 4 = 36
B7EM	13"	41"	6-5/8"	17-1/2"	45-3/8"	9-1/2"	15-1/4"	33"	2	3"	1-1/2"	14 rows of 4 = 56
B7EN	13"	50"	6-5/8"	17-1/2"	54-3/8"	9-1/2"	15-1/4"	42"	2	3"	1-1/2"	17 rows of 4 = 68
B7EP	3-5/8"	5-13/16"	5-1/16"	5-3/4"	8-1/16"	6-5/16"	3-1/8"	8-1/8"	1	1"	1"	1 row of 2 = 2
B7EQ	4-1/4"	9-3/16"	6-5/16"	8-1/8"	13-1/16"	7-13/16"	6-3/8"	7-1/2"	2	1-1/2"	1-1/2"	1 row of 4 = 4

All Conduits must be sealed within 18" when used in Group B Locations.

Operator spacing is 2-1/2" to center except on B7EG & B7EH spacing is 3" to center. Internal Mounting Pan Thickness is 1/8". Consult Killark for drawing details before layout of cover devices. Maximum number of "G" series control operators permitted in cover, down + across = total.



ENCLOSURES B7E SERIES

Conduit Opening Data

Instructions

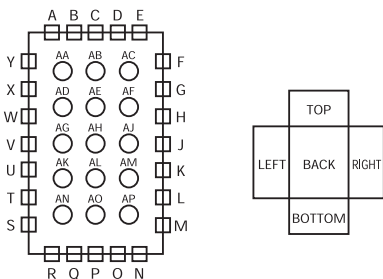
Drilled and tapped conduit openings will be evenly spaced and located in the area indicated on the location chart. Critical conduit opening locations may be indicated by supplying a diagram similar to the one shown at right indicating critical dimensions and locations. Specific conduit openings must be located dimensionally from box centerlines to conduit centerlines and from outside back surface of box to conduit centerline.

Ordering Information:

- Select the letter on location chart which indicates conduit opening position desired.
- Select symbol number from chart which indicates conduit opening type and size.

- Combine the conduit location letter, size and type number, and add as a suffix to junction box catalog number.

Example: EXB-12248 N34-C3-J5-PI3-AH4



Drawing indicates position as looking into open face of box with short side (top) up.

EXB/EXBLT/B7/GR SYMBOL NUMBERS		
CONDUIT SIZE	CONDUIT OPENINGS DRILLED AND TAPPED	UNION
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15
2"	6	16
2-1/2"	7	17
3"	8	18
3-1/2"	9	19
4"	0	10
5"	02	--
6"	04	--

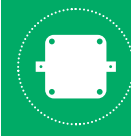
Union = GUM series male NPT unions

EXB/EXBLT/B7/GR - MINIMUM CENTER TO CENTER SPACING FOR DRILLED AND TAPPED OPENINGS AND UNION HUBS

NPT (METRIC)	SPACE CENTERS	1/2" (M16)	3/4" (M20)	1" (M25)	1-1/4" (M32)	1-1/2" (M40)	2" (M50)	2-1/2" (M63)	3" (M75)	3-1/2" (M80)	4" (M100)	5"	6"
1/2" (M16)	MIN	1.18 (30)	--	--	--	--	--	--	--	--	--	--	--
	PRE	1.38 (35)	--	--	--	--	--	--	--	--	--	--	--
	GU	1.63 (41)	--	--	--	--	--	--	--	--	--	--	--
3/4" (M20)	MIN	1.38 (35)	1.5 (38)	--	--	--	--	--	--	--	--	--	--
	PRE	1.5 (38)	1.63 (41)	--	--	--	--	--	--	--	--	--	--
	GU	1.75 (44)	1.81 (46)	--	--	--	--	--	--	--	--	--	--
1" (M25)	MIN	1.5 (38)	1.75 (44)	1.81 (46)	--	--	--	--	--	--	--	--	--
	PRE	1.75 (44)	1.88 (48)	2 (108)	--	--	--	--	--	--	--	--	--
	GU	1.88 (48)	2 (108)	2.13 (54)	--	--	--	--	--	--	--	--	--
1-1/4" (M32)	MIN	1.69 (43)	1.94 (49)	2.06 (52)	2.31 (59)	--	--	--	--	--	--	--	--
	PRE	1.94 (49)	2.06 (52)	2.25 (57)	2.5 (64)	--	--	--	--	--	--	--	--
	GU	2.06 (52)	2.25 (57)	2.31 (59)	2.5 (64)	--	--	--	--	--	--	--	--
1-1/2" (M40)	MIN	1.94 (49)	2.06 (52)	2.19 (56)	2.5 (64)	2.63 (67)	--	--	--	--	--	--	--
	PRE	2.13 (54)	2.25 (57)	2.38 (60)	2.63 (67)	2.75 (70)	--	--	--	--	--	--	--
	GU	2.19 (56)	2.28 (58)	2.44 (62)	2.63 (67)	2.75 (70)	--	--	--	--	--	--	--
2" (M50)	MIN	2.25 (57)	2.38 (60)	2.56 (65)	2.81 (71)	2.94 (75)	3.19 (81)	--	--	--	--	--	--
	PRE	2.38 (60)	2.5 (64)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	--	--	--	--	--	--
	GU	2.5 (64)	2.59 (66)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	--	--	--	--	--	--
2-1/2" (M63)	MIN	2.44 (62)	2.56 (65)	2.75 (70)	3 (76)	3.13 (97)	3.38 (86)	3.63 (92)	--	--	--	--	--
	PRE	2.63 (67)	2.75 (70)	3 (76)	3.25 (82)	3.38 (86)	3.63 (92)	4 (102)	--	--	--	--	--
	GU	3.13 (97)	3.22 (82)	3.38 (86)	3.56 (90)	3.69 (94)	4 (102)	4.63 (117)	--	--	--	--	--
3" (M75)	MIN	2.81 (71)	2.94 (75)	3.06 (78)	3.31 (84)	3.44 (87)	3.75 (95)	4 (102)	4.31 (110)	--	--	--	--
	PRE	3 (76)	3.13 (97)	3.38 (86)	3.63 (92)	3.75 (95)	4 (102)	4.38 (111)	4.75 (121)	--	--	--	--
	GU	3.56 (90)	3.66 (93)	3.81 (97)	4 (102)	4.13 (105)	4.44 (113)	5.06 (129)	5.5 (140)	--	--	--	--
3-1/2" (M80)	MIN	3.13 (97)	3.25 (82)	3.38 (86)	3.63 (92)	3.75 (95)	4.06 (103)	4.31 (110)	4.63 (117)	4.94 (125)	--	--	--
	PRE	3.38 (86)	3.5 (89)	3.63 (92)	3.88 (98)	4 (102)	4.38 (111)	4.63 (117)	5 (127)	5.38 (136)	--	--	--
	GU	4 (102)	4.09 (104)	4.25 (108)	4.44 (113)	4.56 (116)	4.88 (124)	5.5 (140)	5.94 (151)	6.38 (162)	--	--	--
4" (M100)	MIN	3.44 (87)	3.56 (90)	3.69 (94)	3.94 (100)	4.06 (103)	4.38 (111)	4.63 (117)	4.94 (125)	5.25 (133)	5.56 (141)	--	--
	PRE	3.75 (95)	3.88 (98)	4 (102)	4.25 (108)	4.38 (111)	4.75 (121)	5 (127)	5.75 (146)	5.63 (143)	6 (152)	--	--
	GU	4 (102)	4.09 (104)	4.25 (108)	4.44 (113)	4.56 (116)	4.88 (124)	5.5 (140)	5.94 (151)	6.38 (162)	6.38 (162)	--	--
5"	MIN	4.13 (105)	4.25 (108)	4.38 (111)	4.63 (117)	4.75 (121)	5 (127)	5.25 (133)	5.56 (141)	5.88 (149)	6.19 (157)	6.19 (157)	--
	PRE	4.38 (111)	4.5 (114)	4.63 (117)	4.88 (124)	5 (127)	5.38 (136)	5.63 (143)	6 (152)	6.25 (159)	6.63 (168)	7.25 (184)	--
	GU	4.75 (121)	4.88 (124)	5 (127)	5.25 (133)	5.38 (136)	5.63 (143)	5.88 (149)	6.19 (157)	6.5 (165)	6.81 (173)	7.44 (190)	8.13 (206)
6"	MIN	5 (127)	5.13 (130)	5.25 (133)	5.5 (140)	5.63 (143)	6 (152)	6.25 (159)	6.63 (168)	7 (178)	7.25 (184)	8 (203)	8.63 (220)
	PRE	5.25 (133)	5.38 (136)	5.5 (138)	5.75 (145)	5.88 (149)	6.19 (157)	6.5 (165)	6.81 (173)	7.13 (181)	7.44 (190)	8.13 (206)	8.63 (220)
	GU	5.63 (143)	5.75 (146)	5.88 (149)	6.19 (157)	6.38 (162)	6.63 (168)	6.94 (176)	7.25 (184)	7.56 (192)	7.88 (199)	8.5 (209)	9.13 (229)
LOCKNUT O.D.		1.25 (32)	1.13 (29)	1.69 (43)	2.19 (56)	2.44 (62)	3 (76)	3.44 (87)	4.19 (106)	4.81 (122)	5.38 (136)	6.69 (170)	7.94 (202)
CONDUIT BUSHING		1 (25)	1.25 (32)	1.5 (38)	1.88 (48)	2.13 (54)	2.63 (67)	3.19 (81)	3.88 (98)	4.44 (113)	5 (127)	6.25 (159)	7.38 (187)
CONDUIT O.D.			1.06 (27)	1.38 (35)	1.69 (43)	1.94 (49)	2.38 (60)	2.88 (73)	3.5 (89)	4 (102)	4.5 (114)	5.56 (141)	6.63 (168)

All dimension in. (mm)

MIN: The minimum space required to provide enough clearance over locknuts and bushings.
PRE: The preferred more liberal center to center spacing of openings. To be used whenever possible.
GU: The required spacing between openings using GUM Series male NPT unions.



Junction Boxes



B7EP



B7EQ

B7E

Empty / Control Enclosure

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D

Class I Zone 1 IIB+H2 Gb

Class II, Div. 1 & 2, Groups E, F, & G

Class III

Type 3, 4, 4X

Ta = -25°C to +40°C

Ta = -50°C to +40°C

File E83969

Certificate LR11716



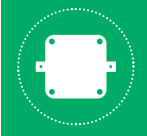
FEATURES-SPECIFICATIONS

Features

- Compact size enclosures for application flexibility
- Type 4, 4X rated - providing protection from hose directed water and corrosion
- Fewer cover bolts reduce installation and maintenance time
- Removable ductile mounting lugs adjust to irregular mounting surfaces
- See Controls section for "G Series" control operators and accessories
- Use 'long style' operators

Materials

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 stainless steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied.

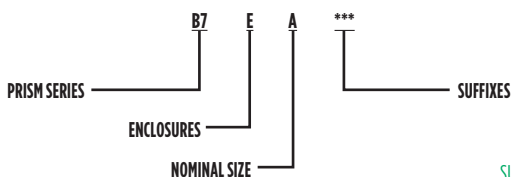


ENCLOSURES B7EP, B7EQ SERIES

Junction Boxes

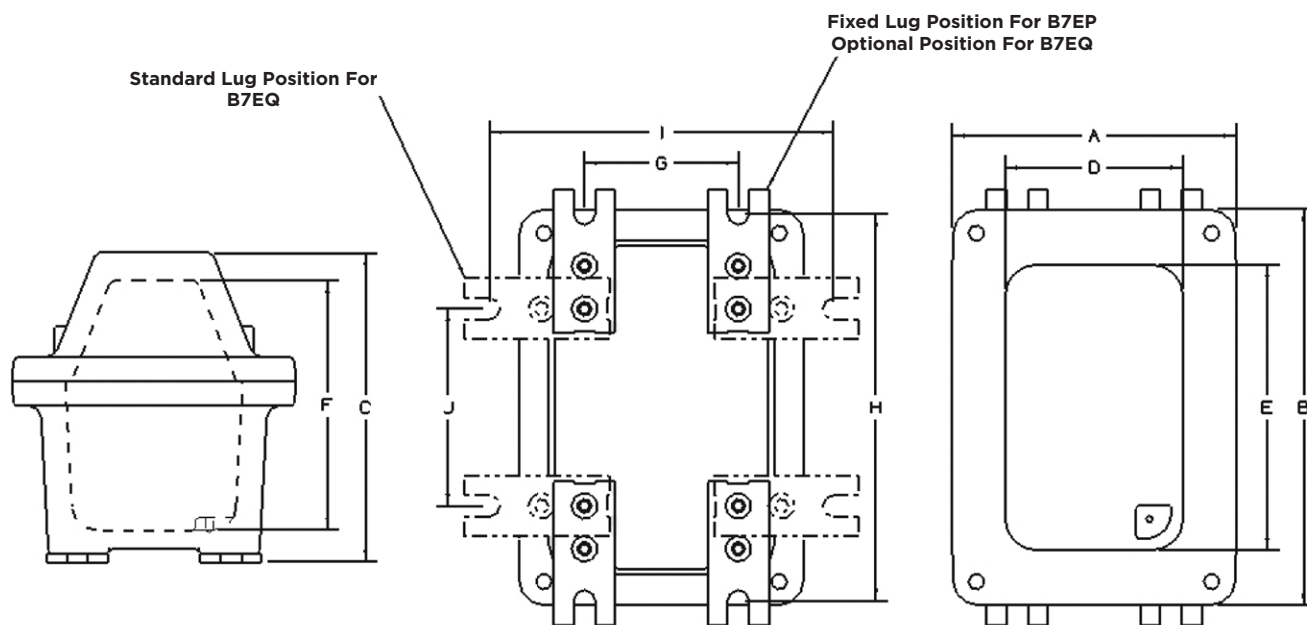
CATALOG LOGIC

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
SU-2	HINGE-12L INSTALLED
SU3B4X	Drain and Breather installed (Class 1, Div. 1 & 2, Group B, C, and D, Type 4x)
SU9	Special paint finish
SU14	Fungus proofing of enclosure



- SUFFIXES**
- SU3B-4X – Type 4X drain and breather installed Groups BCD
 - SU3B-ATEX – ATEX IEC Ex drain & breather installed Groups B & Ex d+IB
 - SU2 – Install hinges
 - SU9 – Special paint
 - SU93 – Do not paint

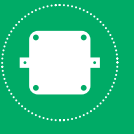
Additional suffixes are available



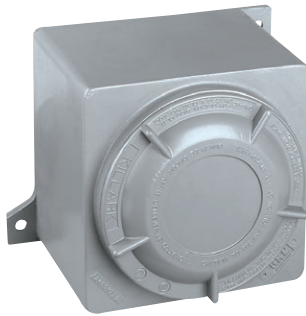
DIMENSIONS

CATALOG NUMBER	EXTERNAL DIMENSIONS			INTERNAL DIMENSIONS			MOUNTING DIMENSIONS				MAX. NO. OPERATORS	OPERATOR SPACING	MAX. SIZE CONDUIT
	A	B	C	D	E	F	G	H	I	J			
B7EP	5.75 (146)	8.06 (205)	6.31 (160)	3.63 (92)	5.81 (148)	5.06 (128)	3.13 (80)	8.13 (206)	N/A	N/A	2	2.5 (64)	1"
B7EQ	8.13 (207)	13.06 (332)	7.81 (198)	4.25 (108)	9.18 (233)	6.93 (176)	2.5 (64)	11.38 (289)	6.38 (162)	7.5 (190)	4	2 (51)	1-1/2"

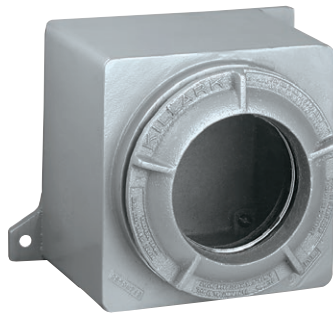
All dimension in. (mm)



Threaded Enclosures



Box with blank cover



Box with lens cover



Box with dome cover



GR
Empty Enclosures

NEC / CEC Certifications

Class I, Div. 1 & 2, Groups B, C, & D

Class I Zone 1 IIB+H2 Gb

Class II, Div. 1 & 2, Groups E, F, & G

Class III

Type 3, 4, 4X

Ta = -25°C to +40°C (UL)

Ta = -50°C to +40°C (CSA)

File E83969, File E10514

Certificate LR11716 - 1820607

File 2Y4A5.AE



ATEX / IEC Ex Certificate



II 2 G D CE 2813

Ex d IIC Gb T6 or T5

Ex tD A21 T80°C or T90°C

Service Temperature -20°C to +40°C

PTB ATEX1071U

PTB ATEX1072

IECEX PTB 05.0028U

IECEX PTB 05.002

FEATURES-SPECIFICATIONS

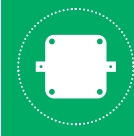
Features

- Compact square or rectangular enclosure with threaded screw type cover provide easy access to interior
- Can be shipped in component parts and still maintain third party UL-CSA-FM approvals
- Available in three different cover types: flat blank, lens and dome covers
- Cast mounting lugs are standard on all assemblies
- Available as blank box or can be custom drilled and tapped for conduit openings which may be factory or field installed on the four sides or back wall
- Gaskets are standard on all assemblies and with covers when component part ordering
- Internal ground screw supplied on all boxes

- CEN suffix modification for ATEX/IEC Ex certification includes an external ground screw, cover locking screw, and nameplate displaying certification and area classifications. Feature is only available on complete assemblies and not available when component part ordering.

Materials

- Enclosures:
Copper-free aluminum
(less than 4/10 of 1%)
- Optional Mounting Pans:
Sheet aluminum
- Lens Cover Glass:
Tempered soda lime glass
- Cover Gaskets:
GRB, GRE, GRM, GRK, GRL
70 Durometer NITRILE
GRH, GRHA, GRHC
57 63 Durometer BUNA-N
- Finish: Electrostatically applied gray powder epoxy/polyester on box exterior and cover



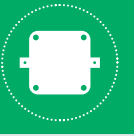
ENCLOSURES
GR SERIES

Threaded Enclosures



For ATEX and IEC Ex Global Certifications
Add Suffix "CEN" to the Catalog Logic

GR COMPLETE ASSEMBLIES									
COVER OPENING DIAMETER	NOMINAL EXTERNAL BOX DIMENSIONS WITHOUT COVER			CATALOG NUMBER		VIEWING AREA	CATALOG NUMBER	DEPTH OF DOME	MAXIMUM CONDUIT SIZE
	L	W	D	BOX WITH BLANK COVER	BOX WITH LENS COVER		BOX WITH DOME COVER		
3.906 (99.21)	4.63 (117.60)	4.63 (117.60)	4.15 (105.41)	GRB	GRB-275L	2.75 (70)	2GRB	2 (51)	1-1/2"
							4GRB	4 (102)	
4.34 (110.24)	6.63 (168.40)	5.5 (139.70)	5.25 (133.35)	GRE	GRE-300L	3 (76)	—	—	2"
5.28 (134.11)	6.87 (174.50)	6.87 (174.50)	5.93 (150.62)	GRM	GRM-375L	3.75 (95)	5GRM	5 (127)	2"
7.25 (184.15)	9.87 (250.70)	8.38 (212.85)	6.53 (165.86)	GRK	GRK-537L	5.38 (137)	4GRK	4 (102)	2-1/2"
7.87 (199.90)	10.5 (266.70)	8.87 (225.30)	7.18 (182.37)	GRL	GRL-600L	6 (152)	—	—	2"
9.63 (244.60)	12 (304.80)	11 (279.40)	7.63 (193.80)	GRH	GRH-775L	7.75 (197)	4GRH	4 (102)	3 1/2"
							8GRH	8 (203)	
9.63 (244.60)	12.18 (309.37)	11 (279.40)	11 (279.40)	GRHC	GRHC-775L	7.75 (197)	4GRHC	4 (102)	4"
							8GRHC	8 (203)	
9.63 (244.60)	12 (304.80)	11 (279.40)	16.18 (410.97)	GRHA	GRHA-775L	7.75 (197)	4GRHA	4 (102)	4"
							8GRHA	8 (203)	



Threaded Enclosures

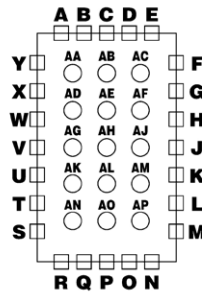


GR COMPONENT PARTS							
ENCLOSURE SERIES	CATALOG NUMBER OF COMPONENTS						
	BOX WITHOUT COVER	BLANK COVER	LENS COVER	DOME COVER	GASKET REPLACEMENT	FLAT PAN	DIMENSIONS FOR MTG. PANS
GRB	GRBB	GRB-BC	GL-275	2"- 2GRBD 4"- 4GRBD	GRB-RG	6086PAN	3.4 x 3.5 (86 x 89)
GRE	GREB	GRE-BC	GL-300	—	GRE-RG	6074	4 x 4.5 (102 x 114)
GRM	GRMB	GRM-BC	GL-375	5"- 5GRMD	GRM-RG	6064	5 x 5 (127 x 127)
GRK	GRKB	GRK-BC	GL-537	4"- 4GRKD	GRK-RG	6038	5.5 x 7.5 (140 x 191)
GRL	GRLB	GRL-BC	GL-600	—	GRL-RG	6053	6 x 8.5 (152 x 216)
GRH	GRHB	GRH-BC	GL-775	4"- 4GRHD 8"- 8GRHD	GRH-RG	6058	8 x 9 (203 x 229)
GRHC	GRHCB	GRH-BC	GL-775	4"- 4GRHD 8"- 8GRHD	GRH-RG	6058	
GRHA	GRHAB	GRH-BC	GL-775	4"- 4GRHD 8"- 8GRHD	GRH-RG	6058	

GR MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
CEN	ATEX and IEC Ex Certifications, IP66
P	Drill, tap and install Mounting Pan
SU-8	Drill and tap only for Mounting Pan
KIT-251	100 amp ground lug
KIT-252	200 amp ground lug
SU3B-QA	cCSAus, ATEX, IEC Ex drain and breather installed Class I Groups C & D and Ex d IIB, Type 4, 4x, IP66
SU3B-4X	UL and CSA drain and breather installed Class I Groups B, Type 4, 4x
SU3B-ATEX	UL CSA, ATEX, IEC Ex drain and breather installed Class I groups B and Ex d IIB, Voids Type 4 and IP66
SU-6	Remove external mounting lugs
SU14	Fungus Proof internally
SU9	Special paint - specify
SU93	Do not paint

Drilled and Tapped Conduit Openings

Boxes are furnished blank for field drilling and tapping of conduit openings. If factory openings are requested submit drawing or select from chart

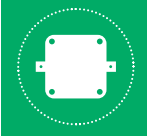


SYMBOL NUMBER	
SIZE	SYMBOL
1/2"	1
3/4"	2
1"	3
1-1/4"	4
1-1/2"	5
2"	6
2-1/2"	7
3"	8
3-1/2"	9
4"	10

EXAMPLE: GRB-C3-J2-P1=
GRB enclosure with 1" NPT top center,
3/4" NPT right side center,
1/2" NPT bottom center

GR ENCLOSURE VOLUMES	
CATALOG NUMBER	VOLUME CU IN (LT)
GRB	45 (0.74)
GRE	105 (1.72)
GRM	180 (2.95)
GRK	305 (5.00)
GRL	405 (6.64)
GRH	615 (10.09)
GRHA	1450 (23.78)
GRHC	985 (16.15)
GRB-275L	40 (0.66)
GRE-300L	95 (1.56)
GRM-375L	170 (2.79)
GRK-537L	280 (4.59)
GRL-600L	380 (6.23)
GRH-775L	570 (9.35)
GRHA-775L	1400 (22.96)
GRHC-775L	940 (15.42)
2GRB	60 (0.98)
4GRB	80 (1.31)
5GRM	250 (4.10)
4GRK	410 (6.72)
4GRH	820 (13.45)
8GRH	1050 (17.22)
4GRHA	1660 (27.22)
8GRHA	1890 (31.00)
4GRHC	1195 (19.60)
8GRHC	1425 (23.37)

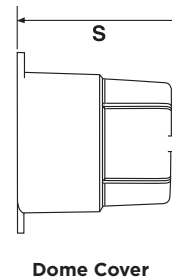
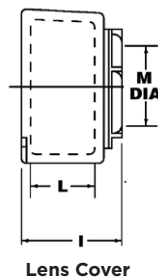
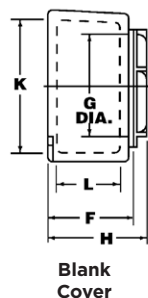
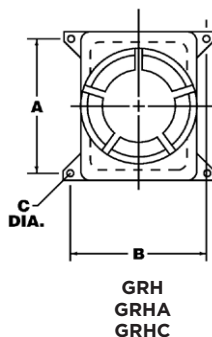
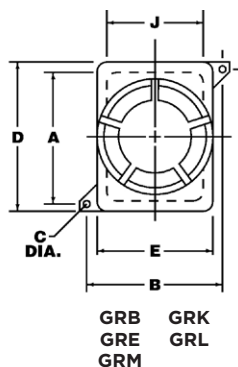
Notes: Replacement covers are supplied with the O-ring gasket. For Group B applications all conduit openings must be sealed within 18" (457mm) from the enclosure wall. For ATEX and IEC Ex applications all conduit and gland openings must be sealed immediately to the enclosure wall.



ENCLOSURES GR SERIES

Threaded Enclosures

DIMENSIONS



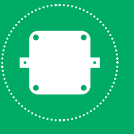
CAT. NO.	MOUNTING DIMENSIONS			EXTERNAL DIMENSIONS			BLANK COVER		LENS COVER		INTERNAL DIMENSIONS			WEIGHT LBS (KG)
	A	B	C	D	E	F	G*	H	I	M+	J	K	L	
GRB	4 (102)	6 (527)	0.31 (8)	4.63 (118)	4.63 (118)	4.15 (105)	3.91 (99)	4.56 (116)	4.53 (116)	2.75 (70)	3.75 (95)	3.75 (95)	2.68 (68)	5.6 (2.54)
GRE	5.75 (146)	6.5 (165)	0.31 (8)	6.63 (168)	5.5 (149)	5.25 (133)	4.34 (110)	5.75 (146)	5.72 (145)	3 (76)	4.63 (118)	5.75 (146)	3.28 (83)	7.9 (4.4)
GRM	5.87 (149)	8.13 (206)	0.31 (8)	6.87 (174)	6.87 (174)	5.93 (151)	5.28 (134)	6.56 (167)	6.56 (167)	3.75 (95)	6 (527)	6 (527)	4.18 (106)	11.8 (5.4)
GRK	9.13 (232)	9.63 (245)	0.31 (8)	9.87 (251)	8.38 (213)	6.53 (166)	7.25 (184)	7.28 (185)	7.18 (182)	5.38 (137)	7.06 (179)	8.31 (211)	4.13 (105)	23.5 (10.7)
GRL	9.5 (241)	10.5 (267)	0.44 (11)	10.5 (267)	8.87 (225)	7.18 (182)	7.87 (200)	7.97 (202)	7.95 (201)	6 (527)	7.63 (194)	9.13 (234)	4.95 (125)	26.2 (11.9)
GRH	10.75 (273)	12.13 (308)	0.44 (11)	12 (305)	11.63 (295)	7.63 (194)	9.63 (245)	8.38 (213)	8.63 (219)	7.75 (197)	9.5 (241)	10.5 (267)	5 (127)	39.7 (18)
GRHA	8.25 (207)	12.13 (308)	0.44 (11)	12 (305)	11.63 (295)	16.18 (411)	9.63 (245)	16.93 (430)	17.18 (436)	7.75 (197)	9.5 (241)	10.5 (267)	13.56 (344)	70.5 (32)
GRHC	8.25 (207)	12.13 (308)	0.56 (14)	12.18 (309)	11.63 (295)	11 (279)	9.63 (245)	11.75 (298)	12 (305)	7.75 (197)	9.56 (243)	10.63 (270)	8.43 (214)	54.9 (24.9)

Notes: All dimensions in. (mm)

*Box opening diameter

+Viewing lens diameter

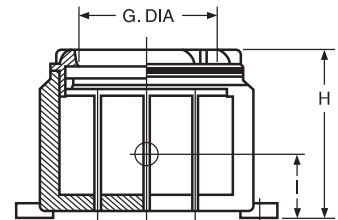
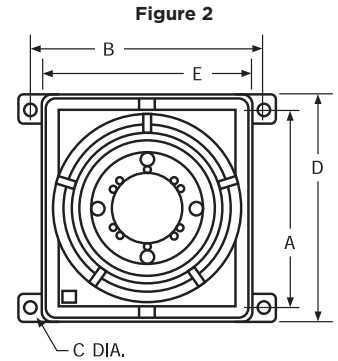
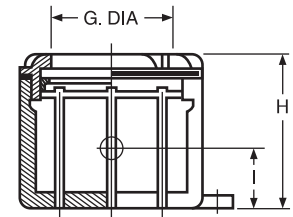
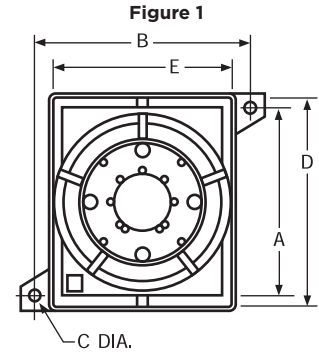
CATALOG NUMBER BASIC BOX W/DOME COVER	S DIM INCHES (MM)
2GRB	7 (177.80)
4GRB	9 (228.60)
5GRM	12.25 (311.15)
4GRK	11.93 (303.02)
4GRH	13 (330.20)
8GRH	17 (431.80)
4GRHA	21.5 (546.10)
8GRHA	25.5 (647.70)
4GRHC	16.31 (414.27)
8GRHC	20.31 (515.88)



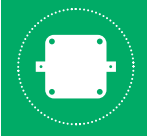
Instrument Enclosures

DIMENSIONS

RECOMMENDED GR ENCLOSURE BASED ON INSTRUMENT MODEL (INSTRUMENTS NOT SUPPLIED)				
CATALOG NUMBER	MANUFACTURER	INSTRUMENT		
		MODEL	SIZE	TYPE
GRM-375L52	Weston	1930 Series	3-1/2"	Rectangular
		301 Series	3"	Rectangular
		301 Series	3-1/2"	Round
GRM-375L52	General Electric	KT w/o reset	3"	Rectangular
		KT w/o reset	3-1/2"	Round
GRM-375L52	Cutler Hammer	R-351	3"	Rectangular
		B-351 w/o reset	3"	Rectangular
		N-351	3-1/2"	Round
GRM-375L52	Simpson	27, 27T, 37, 47, 57, 77 Series	3"	Rectangular
		2100 Series	3-1/2"	Rectangular
		25, 25T, 35, 45, 55 Series	3-1/2"	Round
		55ET	3-1/2"	Round
		75	3-1/2"	Round
		1300 Series	3-1/2"	Rectangular
		3223	3-1/2"	Round
3223	3-1/2"	Rectangular		
GRM-375L52	Cutler Hammer	N-371 Series	4-1/2"	Round
GRK-537L52A	Cutler Hammer	R-371 Series	4"	Rectangular
GRK-537L52A	Simpson	3224	4-1/2"	Round
GRK-537L52A	General Electric	250, 162, 167, 251 Series	3-1/2"	Rectangular
		178 Series	4-1/2"	Rectangular
		171 Series frequency meter	4-1/2"	Rectangular
		236 w/o Reset	3-1/2"	Rectangular
GRK-537L52B	Weston	1940 Series	4-1/2"	Rectangular
GRK-537L52B	General Electric	AB/DB-30 AC ammeter	4-1/2"	Rectangular
		AB/DB-30 AC/DC ammeter	4-1/2"	Rectangular
GRL-600L52B	General Electric	AB/DB-40 AC ammeter	4-1/2"	Rectangular
		DB-40 DC ammeter	4-1/2"	Rectangular
GRK-537L52B	General Electric	DB-40 DC voltmeter	4-1/2"	Rectangular
		171, 250, 251 Series	4-1/2"	Rectangular
		29, 29T, 39, 49, 59, 79, 1300, 2100 Series	4-1/2"	Rectangular
GRL-600L52C	Simpson	29, 29T, 39, 49, 59, 79, 1300, 2100 Series	4-1/2"	Rectangular
GRH-775L52B	General Electric	AB/DB-40 AC voltmeter	4-1/2"	Rectangular



GR DIMENSIONS									
CATALOG NUMBER	FIG. NO.	A	B	C	D	E	G	H	I
GRM-375L52	1	5-7/8"	8-1/8"	5/16"	6-7/8"	6-7/8"	3-9/16"	6-13/32"	2-5/8"
GRK-537L52A	1	9-1/8"	9-1/8"	5/16"	9-7/8"	7-7/8"	4-7/8"	6-11/16"	2-1/2"
GRK-537L52B	1	9-1/8"	9-1/8"	5/16"	9-7/8"	7-7/8"	4-7/8"	6-11/16"	2-1/2"
GRL-600L52B	1	9-1/2"	10-1/2"	7/16"	10-1/2"	8-7/8"	5-13/16"	7-17/32"	2-3/4"
GRL-600L52C	1	9-1/2"	10-1/2"	7/16"	10-1/2"	8-7/8"	5-13/16"	7-17/32"	2-3/4"
GRH-775L52B	2	10-3/4"	12-1/8"	7/16"	12"	11"	7-7/16"	8-3/4"	3"



ENCLOSURES

B7/EXBLT/EXB/GR SERIES

Conduit Opening Data

Instructions

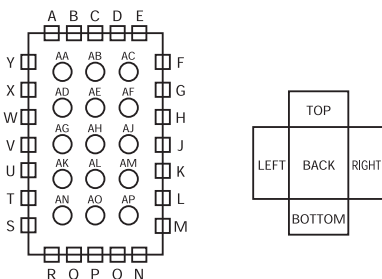
Drilled and tapped conduit openings will be evenly spaced and located in the area indicated on the location chart. Critical conduit opening locations may be indicated by supplying a diagram similar to the one shown at right indicating critical dimensions and locations. Specific conduit openings must be located dimensionally from box centerlines to conduit centerlines and from outside back surface of box to conduit centerline.

Ordering Information:

- (1) Select the letter on location chart which indicates conduit opening position desired.
- (2) Select symbol number from chart which indicates conduit opening type and size.

- (3) Combine the conduit location letter, size and type number, and add as a suffix to junction box catalog number.

Example: EXB-12248 N34-C3-J5-PI3-AH4



Drawing indicates position as looking into open face of box with short side (top) up.

EXB/EXBLT/B7/GR SYMBOL NUMBERS		
CONDUIT SIZE	CONDUIT OPENINGS DRILLED AND TAPPED	UNION
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15
2"	6	16
2-1/2"	7	17
3"	8	18
3-1/2"	9	19
4"	0	10
5"	02	—
6"	04	—

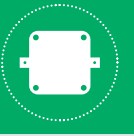
Union = GUM series male NPT unions

EXB/EXBLT/B7/GR - MINIMUM CENTER TO CENTER SPACING FOR DRILLED AND TAPPED OPENINGS AND UNION HUBS

NPT (METRIC)	SPACE CENTERS	1/2" (M16)	3/4" (M20)	1" (M25)	1-1/4" (M32)	1-1/2" (M40)	2" (M50)	2-1/2" (M63)	3" (M75)	3-1/2" (M80)	4" (M100)	5"	6"
1/2" (M16)	MIN	1.18 (30)	—	—	—	—	—	—	—	—	—	—	—
	PRE	1.38 (35)	—	—	—	—	—	—	—	—	—	—	—
	GU	1.63 (41)	—	—	—	—	—	—	—	—	—	—	—
3/4" (M20)	MIN	1.38 (35)	1.5 (38)	—	—	—	—	—	—	—	—	—	—
	PRE	1.5 (38)	1.63 (41)	—	—	—	—	—	—	—	—	—	—
	GU	1.75 (44)	1.81 (46)	—	—	—	—	—	—	—	—	—	—
1" (M25)	MIN	1.5 (38)	1.75 (44)	1.81 (46)	—	—	—	—	—	—	—	—	—
	PRE	1.75 (44)	1.88 (48)	2 (108)	—	—	—	—	—	—	—	—	—
	GU	1.88 (48)	2 (108)	2.13 (54)	—	—	—	—	—	—	—	—	—
1-1/4" (M32)	MIN	1.69 (43)	1.94 (49)	2.06 (52)	2.31 (59)	—	—	—	—	—	—	—	—
	PRE	1.94 (49)	2.06 (52)	2.25 (57)	2.5 (64)	—	—	—	—	—	—	—	—
	GU	2.06 (52)	2.25 (57)	2.31 (59)	2.5 (64)	—	—	—	—	—	—	—	—
1-1/2" (M40)	MIN	1.94 (49)	2.06 (52)	2.19 (56)	2.5 (64)	2.63 (67)	—	—	—	—	—	—	—
	PRE	2.13 (54)	2.25 (57)	2.38 (60)	2.63 (67)	2.75 (70)	—	—	—	—	—	—	—
	GU	2.19 (56)	2.28 (58)	2.44 (62)	2.63 (67)	2.75 (70)	—	—	—	—	—	—	—
2" (M50)	MIN	2.25 (57)	2.38 (60)	2.56 (65)	2.81 (71)	2.94 (75)	3.19 (81)	—	—	—	—	—	—
	PRE	2.38 (60)	2.5 (64)	2.75 (70)	3 (76)	3.13 (87)	3.38 (86)	—	—	—	—	—	—
	GU	2.5 (64)	2.59 (66)	2.75 (70)	3 (76)	3.13 (87)	3.38 (86)	—	—	—	—	—	—
2-1/2" (M63)	MIN	2.44 (62)	2.56 (65)	2.75 (70)	3 (76)	3.13 (87)	3.38 (86)	3.63 (92)	—	—	—	—	—
	PRE	2.63 (67)	2.75 (70)	3 (76)	3.25 (82)	3.38 (86)	3.63 (92)	4 (102)	—	—	—	—	—
	GU	3.13 (87)	3.22 (82)	3.38 (86)	3.56 (90)	3.69 (94)	4 (102)	4.63 (117)	—	—	—	—	—
3" (M75)	MIN	2.81 (71)	2.94 (75)	3.06 (78)	3.31 (84)	3.44 (87)	3.75 (95)	4 (102)	4.31 (110)	—	—	—	—
	PRE	3 (76)	3.13 (87)	3.38 (86)	3.63 (92)	3.75 (95)	4 (102)	4.38 (111)	4.75 (121)	—	—	—	—
	GU	3.56 (90)	3.66 (93)	3.81 (97)	4 (102)	4.13 (105)	4.44 (113)	5.06 (129)	5.5 (140)	—	—	—	—
3-1/2" (M80)	MIN	3.13 (87)	3.25 (82)	3.38 (86)	3.63 (92)	3.75 (95)	4.06 (103)	4.31 (110)	4.63 (117)	4.94 (125)	—	—	—
	PRE	3.38 (86)	3.5 (89)	3.63 (92)	3.88 (98)	4 (102)	4.38 (111)	4.63 (117)	5 (127)	5.38 (136)	—	—	—
	GU	4 (102)	4.09 (104)	4.25 (108)	4.44 (113)	4.56 (116)	4.88 (124)	5.5 (140)	5.94 (151)	6.38 (162)	—	—	—
4" (M100)	MIN	3.44 (87)	3.56 (90)	3.69 (94)	3.94 (100)	4.06 (103)	4.38 (111)	4.63 (117)	4.94 (125)	5.25 (133)	5.56 (141)	—	—
	PRE	3.75 (95)	3.88 (98)	4 (102)	4.25 (108)	4.38 (111)	4.75 (121)	5 (127)	5.75 (146)	5.63 (143)	6 (152)	—	—
	GU	4 (102)	4.09 (104)	4.25 (108)	4.44 (113)	4.56 (116)	4.88 (124)	5.5 (140)	5.94 (151)	6.38 (162)	6.38 (162)	—	—
5"	MIN	4.13 (105)	4.25 (108)	4.38 (111)	4.63 (117)	4.75 (121)	5 (127)	5.25 (133)	5.56 (141)	5.88 (149)	6.19 (157)	6.19 (157)	—
	PRE	4.38 (111)	4.5 (114)	4.63 (117)	4.88 (124)	5 (127)	5.38 (136)	5.63 (143)	6 (152)	6.25 (159)	6.63 (168)	7.25 (184)	—
	MIN	4.75 (121)	4.88 (124)	5 (127)	5.25 (133)	5.38 (136)	5.63 (143)	5.88 (149)	6.19 (157)	6.5 (165)	6.81 (173)	7.44 (190)	8.13 (206)
6"	MIN	5 (127)	5.13 (130)	5.25 (133)	5.5 (140)	5.63 (143)	6 (152)	6.25 (159)	6.63 (168)	7 (178)	7.25 (184)	8 (203)	8.63 (220)
	LOCKNUT O.D.	1.25 (32)	1.13 (29)	1.69 (43)	2.19 (56)	2.44 (62)	3 (76)	3.44 (87)	4.19 (106)	4.81 (122)	5.38 (136)	6.69 (170)	7.94 (202)
	CONDUIT BUSHING	1 (25)	1.25 (32)	1.5 (38)	1.88 (48)	2.13 (54)	2.63 (67)	3.19 (81)	3.88 (98)	4.44 (113)	5 (127)	6.25 (159)	7.38 (187)
CONDUIT O.D.		1.06 (27)	1.38 (35)	1.69 (43)	1.94 (49)	2.38 (60)	2.88 (73)	3.5 (89)	4 (102)	4.5 (114)	5.56 (141)	6.63 (168)	

All dimension in. (mm)

MIN: The minimum space required to provide enough clearance over locknuts and bushings.
PRE: The preferred more liberal center to center spacing of openings. To be used whenever possible.
GU: The required spacing between openings using GUM Series male NPT unions.



KB Drains / Breathers

UL / CSA / ATEX / IEC Ex Certified

See chart below for certifications

DRAINS / BREATHERS

When installed in the top or side wall of the enclosure it acts as a breather. When installed in the bottom of the enclosure the fitting allows moisture to drain out of the enclosure.

Features

Made of 6061 Aluminium or 316 stainless steel with internal nickel plated brass sinter flame arrestor.

Volume

For use in enclosures with a maximum internal volume to 9526 cubic inches (160 liters). See note for additional restriction.



KB1-4X



KB1B



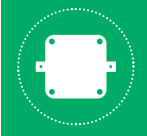
KB1D



KBQA

CAT. NO.	TYPE	BODY MATERIAL	THREAD SIZE	USA	USA SUITABILITY	ENVIRO- MENTAL	CANADA	CANADA SUITABILITY	ENVIRO- MENTAL	IEC Ex / ATEX	IEC Ex ATEX SUITABILITY	ENVIRO- MENTAL				
KB1B	Drain	Aluminum	1/2" NPT	UL, FM, CSAus	Class I Groups BCD Class I Zone 1 & 2 IIB+H2 Class II Groups EFG Class III Service Temperature -25°C to +40°C (KBQA see note for Group B Applications)	Type 3	CSA	Class I Groups CD Class I Zone 1 & 2 IIB Class II Groups EFG Class III Service Temperature -50°C to +40°C (KBQA = -50°C to +60°C. See note for Group B Applications)	Type 3	N/A	N/A	N/A				
KB1D	Drain															
KB1BCEN	Breather															
KB1DCEN	Drain	316 SS	M20	CSAus					Type 3	CSA / SIRA	Ex db IIB+H2 Gb Ex db IIB Gb Ex tb IIC Db Ambient Temperature -50°C to +60°C (KBQA = -60°C to +200°C. See note for IIB+H2 limitation)	IP44				
KB1DSS6CEN	Drain															
KBM20BCEN	Breather															
KBM20DCEN	Drain	Aluminum	1/2" NPT	CSAus					Type 3, 4 & 4X			IP66				
KBM20BSS6CEN	Breather															
KBM20DSS6CEN	Drain															
KBQAAL0050*	Drain / Breather	316 SS	1/2" NPT	UL, CSAus					Type 3, 4 & 4X	N/A	N/A	N/A				
KBQAS60050*	Drain / Breather															
KB1-4X	Drain / Breather	316 SS	1/2" NPT	UL, CSAus					Type 3, 4 & 4X	N/A	N/A	N/A				
KB1-4XS6	Drain / Breather															

*The KBQA is for use in Class I Group B and Ex db IIB+H2 areas for enclosures with maximum volumes of 1709 in³ (28 liters). In larger enclosures the KBQA is suitable for Class I Group C and Ex db IIB areas.



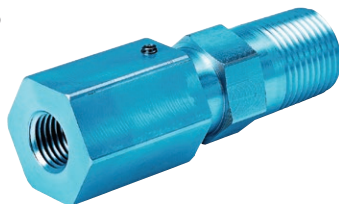
KB FLAME ARRESTORS/EXH BREAKER HANDLES

KB Flame Arrestors

FEATURES-SPECIFICATIONS

Connects gas analysis equipment and electro pneumatic device pipe or tubing system through the wall of an explosion-proof enclosure.

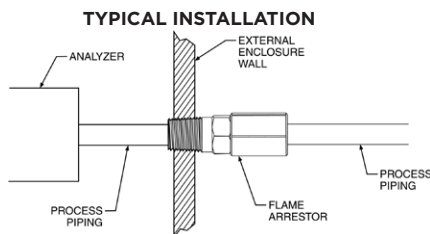
BODY MATERIAL: 6061-T6 series aluminum provided as standard. Optional stainless steel.



Specifications

Air flow = 83 + 15 / -25 SCFH at 5PSI
 Pressure drop = 1.3 PSI at 100 PSI
 Maximum flow pressure = 800 PSI
 Volume = For use in enclosures with a maximum internal volume of 9526 cubic inches or 160 liters.

CAT. NO.	EXTERNAL THREAD	INTERNAL THREAD	BODY MATERIAL	USA	USA SUITABILITY	ENVIRONMENTAL	CANADA	CANADA SUITABILITY	ENVIRONMENTAL	IEC Ex / ATEX	IEC Ex ATEX SUITABILITY	ENVIRONMENTAL
KB1FA25	1/2" NPT	1/4" NPT	Aluminum	CSAus	Class I Groups BCD Class I Zone 1 & 2 IIB+H2 Class II Groups EFG Class III Service Temperature -25°C to +40°C	Type 3, 4, 4X	CSA	Class I Groups CD Class I Zone 1 & 2 IIB Class II Groups EFG Class III Service Temperature -50°C to +40°C	Type 3, 4, 4X	CSA / SIRA	Ex db IIB+H2 Gb Ex tb IIIC Db Ambient Temperature -50°C to +60°C	IP66
KB1FAM16	1/2" NPT	M16				Type 3			Type 3			
KBM20FA25	M20	1/4" NPT				Type 3, 4, 4X			Type 3, 4, 4X			
KBM20FAM16	M20	M16				Type 3			Type 3			
KB1FA25SS6	1/2" NPT	1/4" NPT	316 SS	CSAus	Class I Groups BCD Class I Zone 1 & 2 IIB+H2 Class II Groups EFG Class III Service Temperature -25°C to +40°C	Type 3, 4, 4X	CSA	Class I Groups CD Class I Zone 1 & 2 IIB Class II Groups EFG Class III Service Temperature -50°C to +40°C	Type 3, 4, 4X	CSA / SIRA	Ex db IIB+H2 Gb Ex tb IIIC Db Ambient Temperature -50°C to +60°C	IP66
KB1FAM16SS6	1/2" NPT	M16				Type 3			Type 3			
KBM20FA25SS6	M20	1/4" NPT				Type 3, 4, 4X			Type 3, 4, 4X			
KBM20FAM16SS6	M20	M16				Type 3			Type 3			



EXH Series Circuit Breaker Handles

FEATURES

EXH Series circuit breaker handles are for use with the following Series of Killark enclosures: EXB, B7E and EXBLT.

- Used to activate circuit breakers and motor circuit protectors from front cover
- Factory or field installed in a 3/4" NPSM opening for EXH1 and EXH2 and a 1-1/4" NPSM for EXH3
- Has provision for Lock-On and Lock-Off with up to three padlocks
- External handle mechanism with through-the-enclosure shaft and internal toggle mechanism and breaker pan

Materials

- Copper-free aluminum with 316 stainless steel shaft and screens
- O-ring: 70 durometer nitrile



EXH Handle

EXH

Handle Assemble

NEC / CEC Certifications

- Class I, Div. 1 & 2, Groups B, C, & D
- Class I Zone 1 IIB+H2 Gb
- Class II, Div. 1 & 2, Groups E, F, & G
- Class III
- Type 3, 4, 4X
- Ta = -25°C to +40°C (UL)
- Ta = -50°C to +40°C (CSA)
- File 150827
- Certificate LR11714



EXH CIRCUIT BREAKER HANDLE WITH SHAFT AND PAN						
6" DEEP BOX	CATALOG NUMBER		BREAKER MANUFACTURER	BREAKER FRAMES TO OPERATE	MAX. AMPS	
	8" DEEP BOX	10" DEEP BOX				
EXH1A6	EXH1A8	EXH1A10	GE	TEB-TED-THED-TEL	150	
			ITE/Siemens	ED2-ED4-ED6-HED4-HED6	125	
			Square D	FAL-FHL-FCL	100	
N/A	EXH1B8	EXH1B10	Cutler Hammer	EHD-FDB-FD-HFD-FDC-HMCP	150	
			GE	TFJ-TFK-THFK-TFL	225	
			Square D	KAL-KHL-KCL	250	
N/A	EXH2C8	EXH2C10	Cutler Hammer	JDB-JD-HJD-JDC	250	
			Cutler Hammer	DK-KDB-KD-HKD-KDC	400	
			GE	TJJ-TJK4-TJK6-THJK4-THJK6	600	
N/A	EXH3D8	EXH3D10	ITE/Siemens	FXD6-FD6-HFD6-CFD6	250	
			ITE/Siemens	JXD2-JXD6-JD6-HJD6-HHJD6-CJD6	400	
			ITE/Siemens	LXD6-LD6-HXD6-HHLD6-CLD6	600	
			Square D	LAL-LHL	400	
			Cutler Hammer	LDB-LD-HLD-LDC	600	
			GE	TKM8-THKM8-TKM12-THKM12	1200	
N/A	N/A	EXH3E10	ITE/Siemens	MXD6-MD6-HMXD6-HMD6-CMD6	800	
			ITE/Siemens	NXD6-ND6-HNXD6-HND6-CND6	1200	
			Square D	LCL	600	
			Square D	MAL-MHL	1000	
			Cutler Hammer	ND-HND-NDC	1200	



Notes

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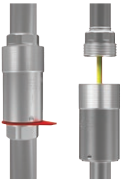


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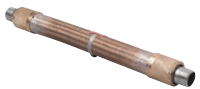
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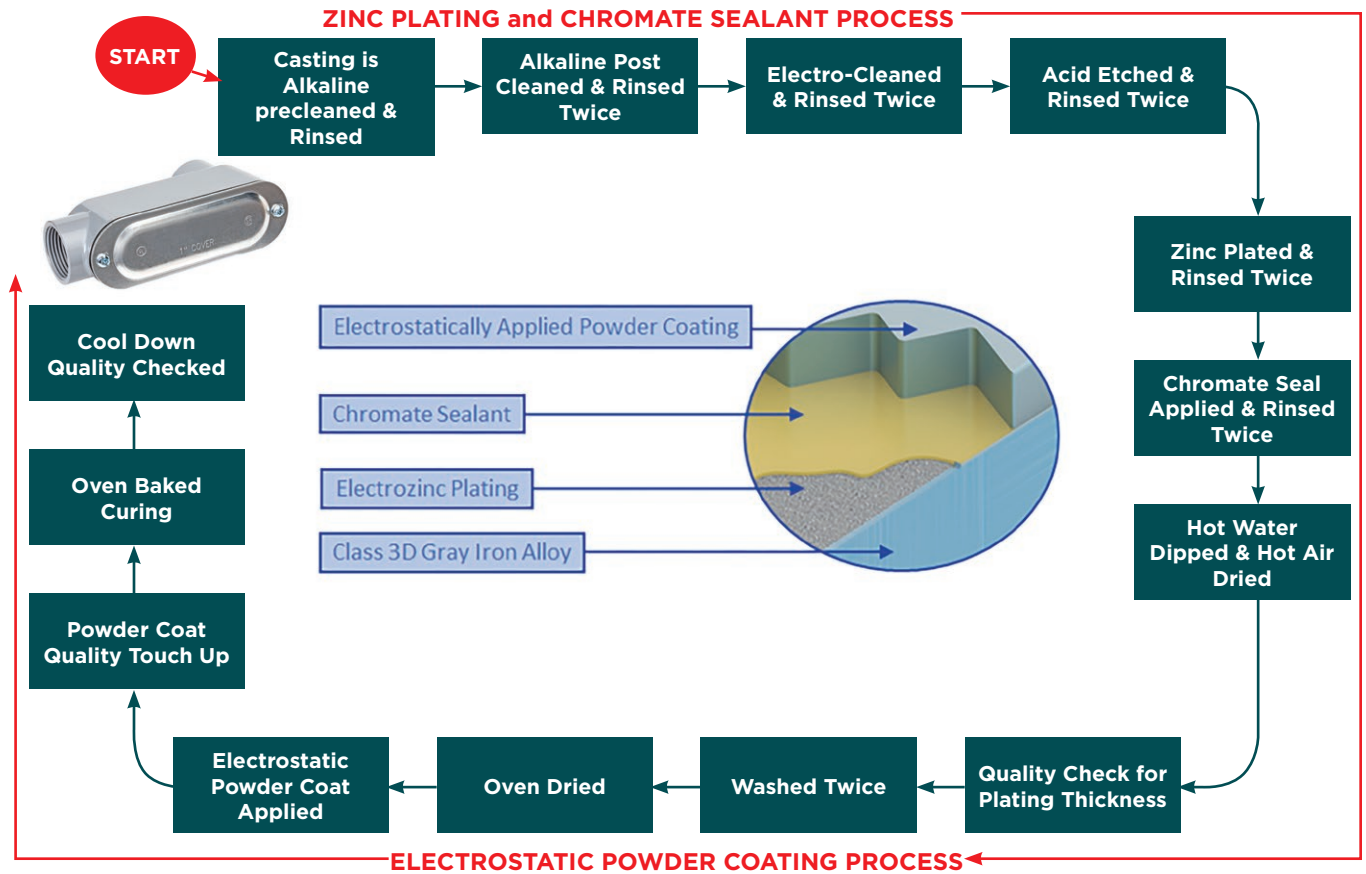
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Duraloy® Finishing Process



A Quick Guide to Our Iron Fittings

CHARACTERISTICS	DUCTILE IRON	GRAY IRON
	HAZARDOUS	STANDARD
Castability	None	
Ease of Machining	–	●
Vibration Damping	–	●
Surface Hardenability	None	
Modulus of Elasticity	●	–
Impact Resistance	●	–
Corrosion Resistance	None	
Strength/Weight	●	–
Wear Resistance	None	
Cost of Manufacturing	–	●



Improved Corrosion Resistant Paint On Fittings

Duraloy⁺ PLUS

What is Duraloy Plus?

It's Killark's latest paint added to all standard and most hazardous rated fittings series. Its benefits include...

- Silver textured color for interchangeability with competitors
- An enhanced resistance to corrosion

See the results of 1000 hours ATSM 117 salt spray chamber results of old Duraloy[®] to the new Duraloy[®] Plus!



OLD PAINT



Representative samples of old Duraloy[®] paint after 1,000 hours of exposure

NEW PAINT



Representative samples of new Duraloy[®] Plus paint after 1,000 hours of exposure



FITTINGS

WIRE FILL CONDUIT

TRADE SIZE	CATALOG NUMBER	HUB TYPE	WIRE SIZE (AWG, MCM)												
			6	4	3	2	1	1/0	2/0	3/0	4/0	250	300	350	400	500
4" (-0)	OLB-0M*, LB108, MOUB-0, MOT-0, MOLBD-0, MOC-0, MOLB-0	All	58	49	41	31	26	21	18	15	12	10	9	8	3
	OLB-0	All	58	49	41	31	26	21	18	15	12	10	9	3	
	OC-0M*, OLR-0, OLL-0, OT-0M*	All	58	49	41	31	26	21	18	15	12	10	3		
	OC-0, LB107	All	58	49	41	31	26	21	18	15	12	3			
	OR-0, LL107, LR107	All	58	49	41	31	26	21	18	15	3				
	T107, C107	All	58	49	41	31	26	21	3						
3-1/2" (-9)	OLB-9M*, LB98, MOUB-9, MOT-9, MOLBD-9, MOC-9, MOLB-9	All	45	38	32	24	20	16	14	11	9	8	7	6	3
	OLB-9	All	45	38	32	24	20	16	14	11	9	8	7	3	
	OC-9M*, OLR-9, OLL-9, OT-9M*	All	45	38	32	24	20	16	14	11	9	8	3		
	OC-9, LB97	All	45	38	32	24	20	16	14	11	9	3			
	OT-9, LL97, LR97	All	45	38	32	24	20	16	14	11	3				
	T97, C97	All	45	38	32	24	20	16	3						
3" (-8)	MOUB-8, MOT-8, MOLBD-8, MOC-8, MOLB-8	All	34	28	24	18	15	12	10	8	7	6	5	4	3
	OLB-8, OLR-8, OLL-8, C88, LB888, LL888, LR88	All	34	28	24	18	15	12	10	8	7	6	3		
	OC-8, LL87, LR87, T88	All	34	28	24	18	15	12	10	8	3				
	OT-8M*	All	34	28	24	18	15	12	10	3					
	OT-8, LB87	All	34	28	24	18	15	12	3						
	C87, T87, L87	All	34	28	24	18	15	3							
2-1/2" (-7)	OLB-7	All	22	18	15	11	9	8	6	5	4	4	3		
	OLR-7, OLL-7, C78, LB78, LL78, LR78, MOUB-7, MOT-7, MOLBD-7, MOC-7, MOLB-7	All	22	18	15	11	9	8	6	5	4	3			
	OC-7, LL77, LR77, T78	All	22	18	15	11	9	8	6	5	3				
	OT-7M*	All	22	18	15	11	9	8	6	3					
	OT-7, LB77	All	22	18	15	11	9	8	3						
	C77, T77, L77	All	22	18	15	11	9	3							
2" (-6)	OLR-6, OLL-6	All	15	13	11	8	6	5	4	4	3				
	OLB-6M*, C68, LB68, LL68, LR68, MOUB-6, MOT-6, MOLBD-6, MOC-6	All	15	13	11	8	6	5	4	3					
	T68, TB68, X68	THRU	15	13	11	8	6	5	4	3					
	OC-6M*, OLB-6	All	15	13	11	8	6	5	3						
	T68, TB68, X68	SIDE	15	13	11	8	6	5	3						
	OC-6, OX-6	All	15	13	11	8	6	3							
	OT-6M*, OTB-6M*, C67, LB67, LL67, LR67, T67, TA67, TB67, X67	All	15	13	11	8	3								
	OT-6	All	15	13	11	3									
OTB-6	All	15	3												
1-1/2" (-5)	OC-5, OLB-5, OLR-5, OLL-5, C58, LB58, LL58, LR58, MOUB-5, MOT-5, MOLBD-5, MOC-5	All	9	8	6	5	3								
	T58, TB58, X58	THRU	9	8	6	5	3								
	C57, LB57, LR57, T57, TA57, TB57, X57	All	9	8	6	3									
	T58, TB58, X58	SIDE	9	8	6	3									
	OT-5, OX-5	All	9	8	3										
	OTB-5	All	3												
1-1/4" (-4)	OC-4, OLB-4, OLR-4, OLL-4, OT-4 OX-4, C47, LB47, LL47, T47, TA47, TB47, X47, C448, LB448, LL448, LR448, T448, TB448, X448, MOUB-4, MOT-4, MOLBD-4, MOC-4	All	6	5	3										
	OTB-4	All	3												
1" (-3)	OC-3, OLB-3, OLR-3, OLL-3, OT-3, OTB-3, OX-3, OE-3, C37, E37, LB37, LL37, LR37, LR37, T37, TA37, TB37, X37, C38, LB38, LL38, LR38, T38, TB38, X38, MOUB-3, MOT-3, MOLBD-3, MOC-3	All	3												
	OTA-3	All	3												
3/4" (-2)	OC-2, OLB-2, OLR-2, OLL-2, OT-2, OTA-2, OTB-2, OX-2, OE-2, C27, E27, LB27, LL27, LR27, T27, TA27, TB27, X27, C28, LB28, LL28, LR28, T28, TB28, X28, MOLBD-2	All	3												



A Quick Glance at the Difference Between Conduit Bodies



FORM 5 (O- SERIES)

- Die cast copper-free aluminum and Iron
- Compact in size with screw covers
- Interchangeable with competitors' Form 5
- Ideal for commercial and heavy industrial locations



DURALOY 7

- Die cast copper-free aluminum and Iron
- Compact in size with Spring Clip Cover with integral gasket
- Interchangeable with competitors' Form 7
- Ideal for Industrial locations



DURALOY 8

- Ductile Iron only
- Screw in cover
- Larger volume for extra wiring capacity
- Thick walls ideal for heavy industrial applications



FITTINGS

O SERIES / DURALOY®5 SERIES

Duraloy®5 Conduit Bodies, Covers, and Gaskets

DURALOY®5



Type 4 when cover gasketed
Federal Specification W-C 586/A-A
50563

Suitable for use in Class 1 Div. 2
applications when installed in
accordance to NEC Article 501.10

UL LISTED E3397

SP Certified LR11852

FEATURES-SPECIFICATIONS

Features

- 419 and tapered hubs specifications
- Type 4 when used with neoprene gasket and cover
- Malleable iron suitable for use in concrete
- Interchangeable with competitive cover/gasket
- Staked stainless steel screws on stamped covers
- 1-1/4" - 4" LB and C hub configurations now available with rollers for relief of pulling conductors
- Killark K-Pak available which neatly packs cover and gasket together with displayed part number and UPC bar code store front displaying
- For conduit body packaged with cover and gasket, add **CG** to the catalog number

Materials

- **BODIES** - Copper-free aluminum or malleable iron
- **GASKETS** - Neoprene standard (fiber and silicone available)
- **COVERS** - Stamped (aluminum or steel) or Cast (iron)
- **COVER SCREWS** - Stainless steel
- **ROLLERS** - Steel

Material Finishes:

- Copper-free aluminum (less than 4/10 of 1%)
 - » Electrostatically applied powder coat paint
- Duraloy malleable gray iron
 - » Tri-coat finish of electro-zinc and chromate sealant with electrostatically applied Duraloy Plus powder coat paint

O SERIES / DURALOY® 5 SERIES



Aluminum or Malleable Iron Conduit Bodies



LL Type



E Type

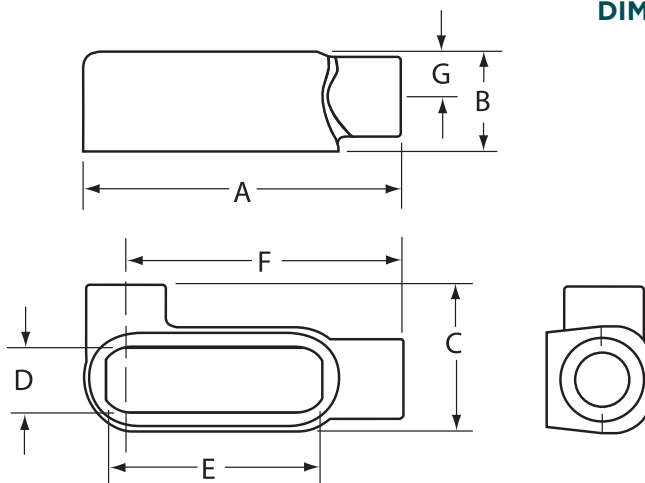
LL TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OLL-1	OLL-1M	1/2"	4-5/8" (117)	1-3/8" (35)	2" (51)	1" (25)	3-5/32" (80)	-	5/8" (16)	4.0
OLL-2	OLL-2M	3/4"	5-3/8" (137)	1-5/8" (41)	2-3/16" (56)	1-7/32" (31)	3-25/32" (96)	-	3/4" (19)	7.0
OLL-3	OLL-3M	1"	6-1/4" (159)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	-	15/16" (24)	12.0
OLL-4	OLL-4M	1-1/4"	8-1/8" (206)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	-	1-3/16" (30)	32.0
OLL-5	OLL-5M	1-1/2"	8-1/8" (206)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	-	1-3/8" (32)	36.0
OLL-6	OLL-6M	2"	10-9/16" (268)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	-	1-5/8" (38)	70.0
OLL-7	OLL-7M	2-1/2"	13-11/16" (348)	4" (102)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	-	1-13/16" (46)	142.0
OLL-8	OLL-8M	3"	13-11/16" (348)	4-3/4" (121)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	-	2-3/16" (54)	173.0
OLL-9	OLL-9M	3-1/2"	16-1/2" (419)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	-	2-1/2" (67)	292.0
OLL-0	OLL-0M	4"	16-1/2" (419)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	-	2-3/4" (70)	324.0

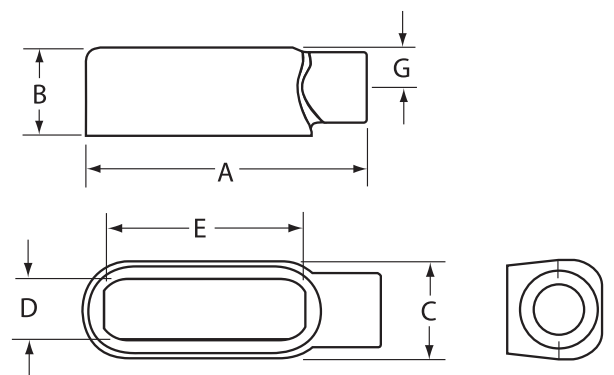
E TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OE-1	OE-1M	1/2"	4-5/8" (117)	1-3/8" (35)	1-3/8" (35)	1" (25)	3-9/32" (83)	-	5/8" (16)	4.0
OE-2	OE-2M	3/4"	5-3/8" (41)	1-5/8" (137)	1-5/8" (41)	1-7/32" (29)	3-15/16" (100)	-	3/4" (19)	7.0
OE-3	OE-3M	1"	6-1/4" (159)	2" (51)	1-7/8" (48)	1-15/32" (35)	4-17/32" (115)	-	7/8" (22)	12.0

DIMENSIONS



LL Type



E Type



FITTINGS

O SERIES / DURALOY®5 SERIES

Aluminum or Malleable Iron Conduit Bodies



LB Type



C Type

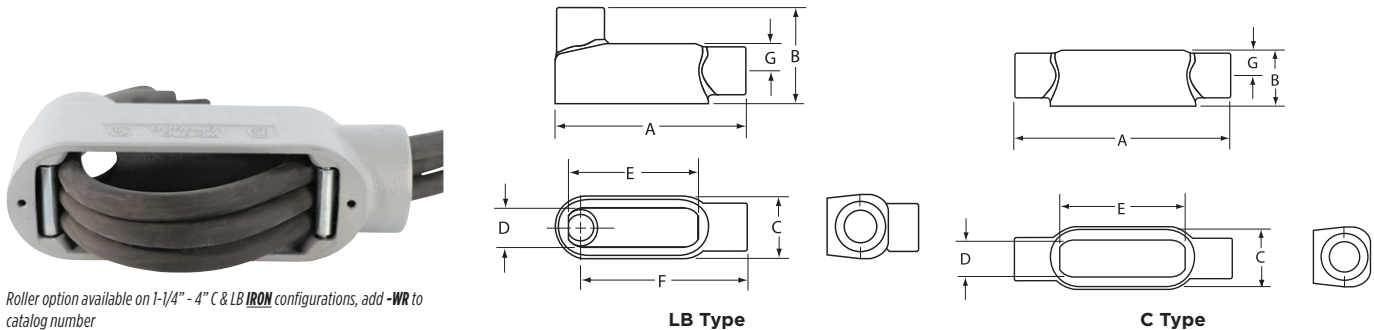
LB TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OLB-1	OLB-1M	1/2"	4-17/32" (115)	2-9/32" (83)	1-3/8" (35)	1" (25)	3-5/32" (80)	4-3/8" (111)	5/8" (16)	4.0
OLB-2	OLB-2M	3/4"	5-3/4" (146)	2-1/2" (64)	1-5/8" (41)	1-7/32" (31)	3-25/32" (96)	4-29/32" (125)	3/4" (19)	7.0
OLB-3	OLB-3M	1"	6-5/8" (168)	2-29/32" (74)	1-7/8" (48)	1-15/32" (37)	4-17/32" (115)	5-23/32" (145)	15/16" (24)	12.0
OLB-4	OLB-4M	1-1/4"	7-1/2" (191)	3-3/16" (81)	2-5/8" (67)	2" (51)	6" (152)	6-13/32" (162)	1-3/16" (30)	28.8
OLB-5	OLB-5M	1-1/2"	9-1/8" (232)	4" (102)	2-5/8" (67)	2" (51)	6" (152)	17-3/4" (451)	1-3/8" (32)	36.0
OLB-6	OLB-6M	2"	10" (254)	4-13/16" (122)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	8-5/32" (207)	1-5/8" (38)	70.0
OLB-7	OLB-7M	2-1/2"	13-15/16" (354)	6-1/8" (156)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	11-7/16" (291)	2-1/2" (64)	142.0
OLB-8	OLB-8M	3"	13-15/16" (354)	6-1/2" (165)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	11-7/16" (291)	2-3/16" (54)	173.0
OLB-9	OLB-9M	3-1/2"	16-7/8" (429)	7-9/16" (192)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-1/2" (67)	292.0
OLB-0	OLB-0M	4"	16-7/8" (429)	7-13/16" (198)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-3/4" (70)	324.0

C TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OC-1	OC-1M	1/2"	5-3/16" (132)	1-3/8" (35)	1-3/8" (35)	1" (25)	3-5/32" (80)	-	5/8" (16)	4.0
OC-2	OC-2M	3/4"	6-1/8" (156)	1-5/8" (41)	1-5/8" (41)	1-7/32" (31)	3-25/32" (96)	-	3/4" (19)	7.0
OC-3	OC-3M	1"	7-1/8" (181)	2" (51)	1-7/8" (48)	1-15/32" (37)	4-17/32" (115)	-	15/16" (24)	12.0
OC-4	OC-4M	1-1/4"	9-1/8" (232)	2-5/8" (67)	2-5/8" (67)	2" (51)	6" (152)	-	1-3/16" (30)	32.0
OC-5	OC-5M	1-1/2"	9-1/4" (235)	2-3/4" (70)	2-5/8" (67)	2" (51)	6" (152)	-	1-3/8" (32)	36.0
OC-6	OC-6M	2"	11-7/8" (302)	3-1/2" (89)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	-	1-5/8" (38)	70.0
OC-7	OC-7M	2-1/2"	15-1/8" (384)	4" (102)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	-	1-13/16" (54)	153.0
OC-8	OC-8M	3"	15-1/8" (384)	4-3/4" (121)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	-	2-3/16" (54)	181.0
OC-9	OC-9M	3-1/2"	18-3/8" (467)	5-1/2" (140)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	-	2-1/2" (67)	290.0
OC-0	OC-0M	4"	18-3/8" (467)	5-5/8" (143)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	-	2-3/4" (67)	320.0

DIMENSIONS



O SERIES / DURALOY® 5 SERIES



Aluminum or Malleable Iron Conduit Bodies



LR Type



T Type

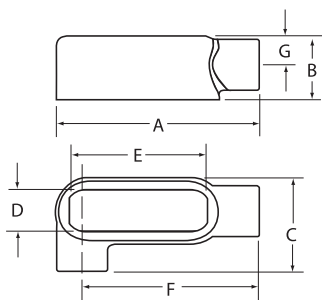
LR TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OLR-1	OLR-1M	1/2"	4-5/8" (117)	1-3/8" (35)	2" (35)	1" (25)	3-5/32" (80)	4-3/8" (111)	5/8" (16)	4.0
OLR-2	OLR-2M	3/4"	5-3/8" (137)	1-5/8" (41)	2-3/16" (67)	1-7/32" (31)	3-25/32" (96)	4-29/32" (125)	3/4" (19)	7.0
OLR-3	OLR-3M	1"	6-1/4" (159)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	5-23/32" (145)	15/16" (24)	12.0
OLR-4	OLR-4M	1-1/4"	8-1/8" (206)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	6-13/32" (162)	1-3/16" (30)	32.0
OLR-5	OLR-5M	1-1/2"	8-1/8" (206)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	17-3/4" (451)	1-3/8" (32)	31.0
OLR-6	OLR-6M	2"	10-9/16" (268)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	9-5/32" (233)	1-5/8" (38)	70.0
OLR-7	OLR-7M	2-1/2"	13-11/16" (348)	4" (102)	5-3/4" (146)	3-11/16" (93)	10-5/8" (270)	11-7/16" (291)	1-13/16" (54)	142.0
OLR-8	OLR-8M	3"	13-11/16" (348)	4-3/4" (121)	5-3/4" (146)	3-11/16" (93)	10-5/8" (270)	11-7/16" (291)	2-3/16" (54)	173.0
OLR-9	OLR-9M	3-1/2"	16-1/2" (419)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-1/2" (67)	292.0
OLR-0	OLR-0M	4"	16-1/2" (419)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-3/4" (67)	324.0

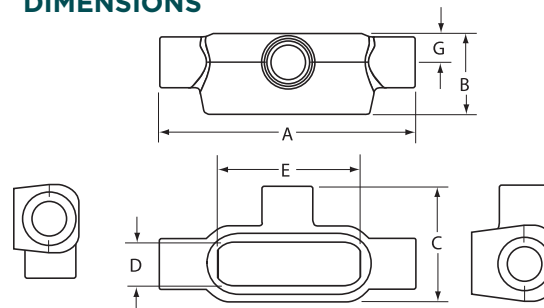
T TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OT-1	OT-1M	1/2"	5-3/8" (137)	1-3/8" (35)	2" (35)	1" (25)	3-5/32" (80)	-	5/8" (16)	4.0
OT-2	OT-2M	3/4"	6-1/16" (154)	1-5/8" (41)	2-3/16" (67)	1-7/32" (31)	3-25/32" (96)	-	3/4" (19)	7.0
OT-3	OT-3M	1"	7-1/8" (181)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	-	15/16" (24)	12.0
OT-4	OT-4M	1-1/4"	9-3/16" (233)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	-	1-3/16" (30)	32.0
OT-5	OT-5M	1-1/2"	9-3/16" (233)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	-	1-3/8" (32)	33.0
OT-6	OT-6M	2"	11-5/8" (295)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	-	1-5/8" (38)	70.0
OT-7	OT-7M	2-1/2"	15-1/8" (384)	4" (102)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	-	1-13/16" (54)	142.0
OT-8	OT-8M	3"	15-1/8" (384)	4-3/4" (121)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	-	2-3/16" (54)	173.0
OT-9	OT-9M	3-1/2"	18-1/8" (460)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	-	2-1/2" (67)	292.0
OT-0	OT-0M	4"	18-1/8" (460)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	-	2-3/4" (67)	324.0

DIMENSIONS



LR Type



T Type



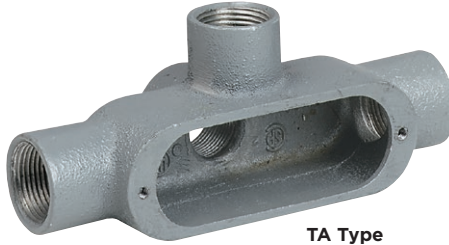
FITTINGS

O SERIES / DURALOY® 5 SERIES

Aluminum or Malleable Iron Conduit Bodies



TB Type



TA Type



X Type

TA TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OTA-1	OTA-1M	1/2"	5-3/8" (137)	2-1/8" (54)	2" (51)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OTA-2	OTA-2M	3/4"	6-1/16" (154)	2-15/16" (75)	2-3/16" (56)	1-7/32" (29)	3-25/32" (96)	—	3/4" (19)	7.0
—	OTA-3M	1"	7-1/8" (181)	2-11/16" (68)	2-9/16" (65)	1-15/32" (35)	4-17/32" (115)	—	15/16" (24)	12.0

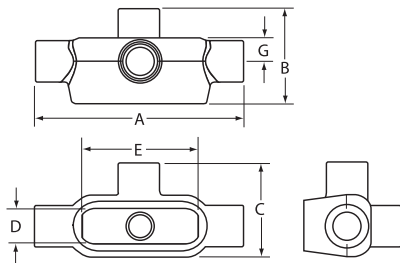
TB TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OTB-1	OTB-1M	1/2"	5-3/8" (137)	2-1/8" (54)	1-5/16" (33)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OTB-2	OTB-2M	3/4"	6-1/16" (160)	2-5/16" (59)	1-9/16" (40)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
OTB-3	OTB-3M	1"	7-1/8" (181)	2-11/16" (68)	1-13/16" (46)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
OTB-4	OTB-4M	1-1/4"	9-3/16" (233)	3-9/16" (90)	2-1/2" (64)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
OTB-5	OTB-5M	1-1/2"	9-3/16" (233)	3-3/4" (92)	2-1/2" (64)	2" (51)	6" (152)	—	1-3/8" (35)	36.0
OTB-6	OTB-6M	2"	11-5/8" (295)	4-5/8" (117)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (41)	70.0

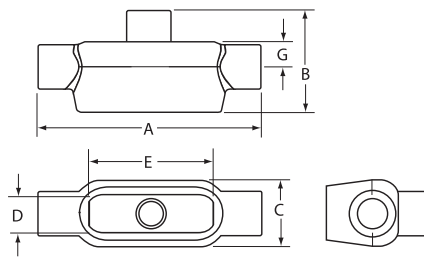
X TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OX-1	OX-1M	1/2"	5-3/8" (137)	1-3/4" (44)	1-11/16" (43)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OX-2	OX-2M	3/4"	6-1/16" (160)	2" (51)	2-7/8" (73)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
OX-3	OX-3M	1"	7-1/8" (181)	2-1/4" (57)	3-5/8" (86)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
OX-4	OX-4M	1-1/4"	9-3/16" (233)	2-9/16" (65)	4-1/2" (114)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
OX-5	OX-5M	1-1/2"	9-3/16" (233)	2-3/4" (70)	4-1/2" (114)	2" (51)	6" (152)	—	1-3/8" (35)	36.0
OX-6	OX-6M	2"	11-5/8" (295)	3-3/8" (85)	5-1/4" (133)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (41)	70.0

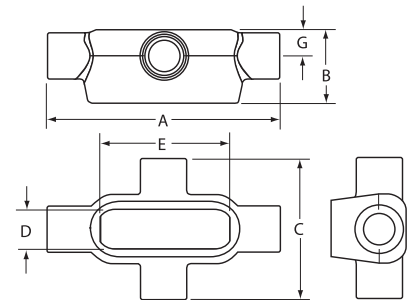
DIMENSIONS



TA Type



TB Type



X Type

O SERIES / DURALOY® 5 SERIES



Covers and Gaskets



Aluminum and Steel Stamped Covers



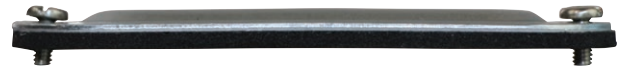
Neoprene Gasket



Fiber Gasket



Cast Iron Covers



Adhered Integral gasket to cover

COVER

Stamped Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Natural finish
- 300 Series stainless steel screws

Galvanized Steel

- Natural finish
- 300 Series stainless steel screws
- Stamped Aluminum & Steel covers now available with integral adhesive gasketing

Cast Material/Finish

Duraloy Malleable Iron

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating
- 300 Series stainless steel screws

ALUMINUM AND STEEL STAMPED COVERS							
CATALOG NUMBER				HUB SIZE	DIMENSIONS		
KILLARK ALUMINUM		STEEL			LENGTH	WIDTH	HEIGHT
	WITH INT. GASKET		WITH INT. GASKET				
OL-10	OL-10G	OL-10M	OL-10MG	1/2"	3-15/16"(100)	1-3/8"(35)	3/8"(10)
OL-20	OL-20G	OL-20M	OL-20MG	3/4"	4-5/8"(117)	1-5/8"(41)	3/8"(10)
OL-30	OL-30G	OL-30M	OL-30MG	1"	5-3/8"(137)	1-7/8"(48)	5/8"(16)
OL-450	OL-450G	OL-45M	OL-45MG	1-1/4"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-450	OL-450G	OL-45M	OL-45MG	1-1/2"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-60	OL-60G	OL-60M	OL-60MG	2"	9-1/2"(241)	3-1/8"(79)	5/8"(16)
OL-780	OL-780G	OL-78M	OL-78MG	2-1/2"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-780	OL-780G	OL-78M	OL-78MG	3"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-900	OL-900G	OL-90M	OL-90MG	3-1/2"	14-7/8"(378)	5-1/2"(140)	5/8"(16)
OL-900	OL-900G	OL-90M	OL-90MG	4"	14-7/8"(378)	5-1/2"(140)	5/8"(16)

CAST IRON COVERS				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
OL-10CM	1/2"	3-15/16"(100)	1-3/8"(35)	3/8"(10)
OL-20CM	3/4"	4-5/8"(117)	1-5/8"(41)	3/8"(10)
OL-30CM	1"	5-3/8"(137)	1-7/8"(48)	5/8"(16)
OL-45CM	1-1/4"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-45CM	1-1/2"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-60CM	2"	9-1/2"(241)	3-1/8"(79)	5/8"(16)
OL-78CM	2-1/2"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-78CM	3"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-90CM	3-1/2"	14-7/8"(378)	5-1/2"(140)	5/8"(16)
OL-90CM	4"	14-7/8"(378)	5-1/2"(140)	5/8"(16)

GASKET

Material/Finish

- Neoprene, fiber, or silicone

GASKETS			
HUB SIZE	CATALOG NUMBER		
	NEOPRENE	FIBER	SILICONE
1/2"	OLK-1RG	OLK-1VG	OLK-1-SG
3/4"	OLK-2RG	OLK-2VG	OLK-2-SG
1"	OLK-3RG	OLK-3VG	OLK-3-SG
1-1/4"	OL-45-RG	OL-45-VG	OL-45-SG
1-1/2"	OL-45-RG	OL-45-VG	OL-45-SG
2"	OL-6-RG	OL-6-VG	OL-6-SG
2-1/2"	OL-78-RG	OL-78-VG	OL-78-SG
3"	OL-78-RG	OL-78-VG	OL-78-SG
3-1/2"	OL-90-RG	OL-90-VG	—
4"	OL-90-RG	OL-90-VG	—



FITTINGS

DURALOY® 7 SERIES

Aluminum or Iron Conduit Bodies

DURALOY® 7



Suitable for wet locations when used with gasketed covers.
Federal Specification W-C-586D/A-A 50563.
Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

 LISTED E3397

 Certified LR11852

FEATURES-SPECIFICATIONS

Features

- Intermateability UL Listed and CSA Certified interchangeability with competitive products
- Enhanced sealing capabilities with neoprene sealing gaskets provide a Type 4 Seal
- High-quality sealing hardware 316 stainless steel cover screws and washers with neoprene gaskets
- Suitable for wet locations when used with gaskets
- Innovative spring clip design for installation ease and repeat usage
- Smooth integral wire bushings protect cable from damage when wires are pulled through opening
- For use with threaded rigid conduit steel or aluminum
- Flat-back design for greater wiring capacity and mounting stability

Materials

Aluminum

- Copper-free aluminum (less than 4/10 of 1%)
 - » Electrostatically applied powder coat paint

Duraloy Iron

- Duraloy malleable gray iron
 - » Tri-coat finish of electro-zinc and chromate sealant with electrostatically applied Duraloy Plus powder coat paint



Aluminum or Iron Conduit Bodies

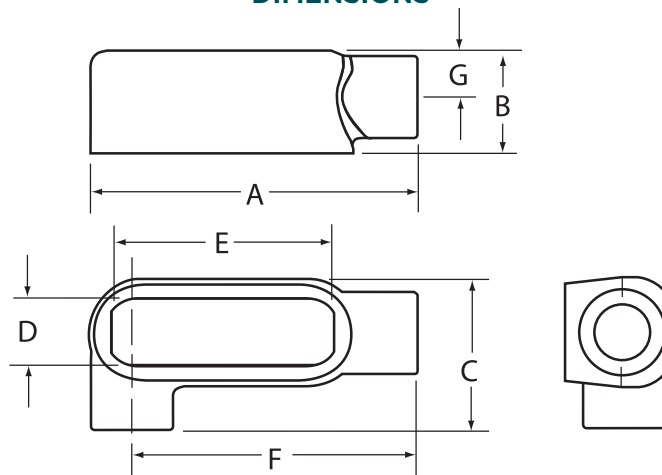


LR Type

LR TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
LR17SA	LR17	1/2"	4-11/16" (119)	1-7/16" (37)	2-5/16" (59)	1" (25)	3-3/16" (81)	4-1/16" (103)	5/8" (16)	4.0
LR27SA	LR27	3/4"	5-3/8" (137)	1-11/16" (43)	2-5/8" (67)	1-1/8" (29)	3-13/16" (97)	4-5/8" (117)	3/4" (19)	7.0
LR37SA	LR37	1"	6-5/16" (160)	1-7/8" (48)	3-1/16" (78)	1-3/8" (35)	4-1/2" (114)	5-3/8" (137)	7/8" (22)	11.0
LR47SA	LR47	1-1/4"	6-13/16" (173)	2-5/16" (59)	3-1/2" (89)	1-13/16" (46)	5" (127)	5-3/4" (146)	1-1/8" (29)	19.5
LR57SA	LR57	1-1/2"	7-1/4" (184)	2-9/16" (65)	3-11/16" (94)	2-1/16" (52)	5-7/16" (138)	6-1/16" (154)	1-1/4" (32)	26.0
LR67SA	LR67	2"	8-1/4" (210)	3-1/8" (79)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	6-3/4" (171)	1-1/2" (38)	48.0
LR77SA	LR77	2-1/2"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LR87SA	LR87	3"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LR97SA	LR97	3-1/2"	13" (330)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0
LR107SA	LR107	4"	13" (330)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0

*For conduit body packaged with cover and gasket, add **CG** to the catalog number.

DIMENSIONS



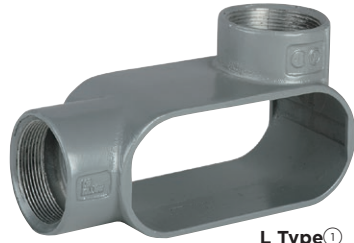
LR Type



FITTINGS

DURALOY® 7 SERIES

Aluminum or Iron Conduit Bodies



L Type ①



T Type

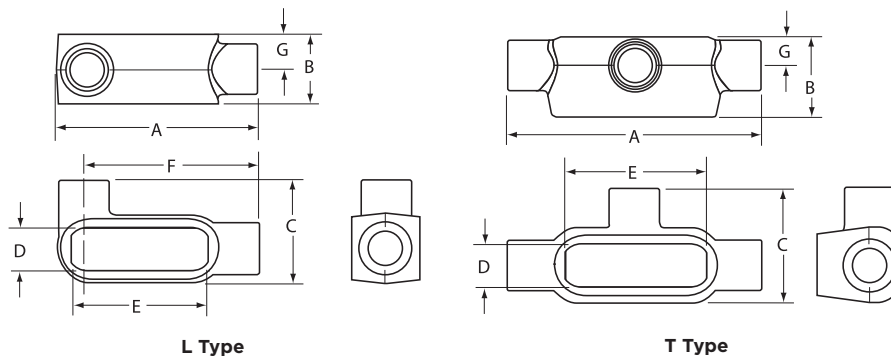
L TYPE ① CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
L17SA	L17	1/2"	4-11/16" (119)	1-7/16" (37)	2-5/16" (59)	1" (25)	3-3/16" (81)	4-1/16" (103)	5/8" (16)	4.0
L27SA	L27	3/4"	5-3/8" (137)	1-11/16" (43)	2-5/8" (67)	1-1/8" (29)	3-13/16" (97)	4-5/8" (117)	3/4" (19)	7.0
L37SA	L37	1"	6-5/16" (160)	1-7/8" (48)	3-1/16" (78)	1-3/8" (35)	4-1/2" (114)	5-3/8" (137)	7/8" (22)	11.0
L47SA	L47	1-1/4"	6-13/16" (173)	2-5/16" (59)	3-1/2" (89)	1-13/16" (46)	5" (127)	5-3/4" (146)	1-1/8" (29)	19.5
L57SA	L57	1-1/2"	7-1/4" (184)	2-9/16" (65)	3-11/16" (94)	2-1/16" (52)	5-7/16" (138)	6-1/16" (154)	1-1/4" (32)	26.0
L67SA	L67	2"	8-1/4" (210)	3-1/8" (79)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	6-3/4" (171)	1-1/2" (38)	48.0
L77SA	L77	2-1/2"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
L87SA	L87	3"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5

① L type is double faced and may be used as LL or LR. Has 2 openings, one of which is furnished with a blank sheet cover.

T TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
T17SA	T17	1/2"	5-11/16" (000)	1-13/16" (46)	2-1/2" (64)	1" (25)	3-3/16" (81)	-	5/8" (16)	6.2
T27SA	T27	3/4"	6-5/16" (000)	2-1/16" (52)	2-3/4" (67)	1-1/8" (29)	3-13/16" (97)	-	3/4" (19)	9.5
T37SA	T37	1"	7-5/8" (194)	2-1/4" (57)	3-1/4" (83)	1-3/8" (35)	4-1/2" (114)	-	7/8" (22)	11.5
T47SA	T47	1-1/4"	8" (203)	2-5/16" (59)	3-1/2" (89)	1-13/16" (46)	5" (127)	-	1-1/8" (29)	20.0
T57SA	T57	1-1/2"	8-7/16" (214)	2-9/16" (65)	3-11/16" (94)	2-1/16" (52)	5-7/16" (138)	-	1-1/4" (32)	27.0
T67SA	T67	2"	9-7/16" (240)	3-1/8" (79)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	-	1-1/2" (38)	50.0
T77SA	T77	2-1/2"	12-3/4" (324)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	-	2-1/8" (54)	134.0
T87SA	T87	3"	12-3/4" (324)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	-	2-1/8" (54)	134.0
T97SA	T97	3-1/2"	14-7/8" (378)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	-	2-5/8" (67)	238.0
T107SA	T107	4"	14-7/8" (378)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	-	2-5/8" (67)	238.0

* For conduit body packaged with cover and gasket, add CG to the catalog number.

DIMENSIONS



L Type

T Type



Aluminum or Iron Conduit Bodies



TA Type



E Type



TB Type

E TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
E17SA	E17	1/2"	4-11/16" (119)	1-7/16" (37)	1-1/2" (38)	1" (25)	3-3/16" (81)	—	5/8" (16)	4.0
E27SA	E27	3/4"	5-3/8" (137)	1-11/16" (43)	1-3/4" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	7.0
E37SA	E37	1"	6-5/16" (160)	1-7/8" (48)	1-15/16" (49)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	11.0

TA TYPE CONDUIT BODY*

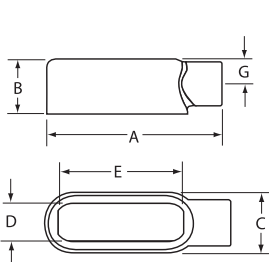
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
TA17SA	TA17	1/2"	5-11/16" (144)	2-5/8" (67)	2-1/2" (64)	1" (25)	3-3/16" (81)	—	5/8" (16)	6.2
TA27SA	TA27	3/4"	6-5/16" (160)	2-7/8" (73)	2-3/4" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	9.5
TA37SA	TA37	1"	7-5/8" (194)	3-3/8" (86)	3-1/4" (86)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	15.5
TA47SA	TA47	1-1/4"	8" (203)	3-1/2" (89)	3-1/2" (89)	1-13/16" (46)	5" (127)	—	1-1/8" (32)	20.0
TA57SA	TA57	1-1/2"	8-7/16" (214)	3-3/4" (95)	3-11/16" (94)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	27.0
TA67SA	TA67	2"	9-7/16" (240)	4-5/16" (110)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	50.0

TB TYPE CONDUIT BODY*

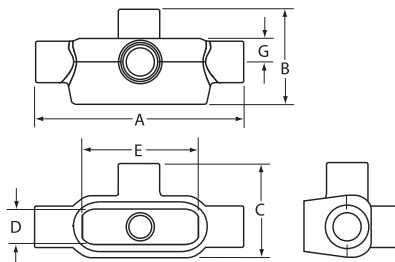
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
TB17SA	TB17	1/2"	5-11/16" (144)	2-5/8" (67)	1-11/16" (43)	1" (25)	3-3/16" (81)	—	5/8" (16)	6.2
TB27SA	TB27	3/4"	6-5/16" (160)	2-7/8" (73)	1-7/8" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	9.5
TB37SA	TB37	1"	7-5/8" (194)	3-3/8" (86)	3-3/8" (86)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	15.5
TB47SA	TB47	1-1/4"	8" (203)	3-1/2" (89)	3-1/2" (89)	1-13/16" (46)	5" (127)	—	1-1/8" (29)	20.0
TB57SA	TB57	1-1/2"	8-7/16" (214)	3-3/4" (95)	3-3/4" (95)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	27.0
TB67SA	TB67	2"	9-7/16" (240)	4-5/16" (110)	4-5/16" (110)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	50.0

*For conduit body packaged with cover and gasket, add CG to the catalog number.

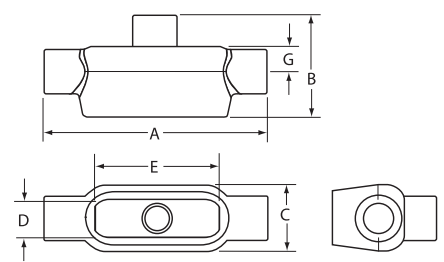
DIMENSIONS



E Type



TA Type



TB Type



FITTINGS

DURALOY® 7 SERIES

Aluminum or Iron conduit Bodies



X Type



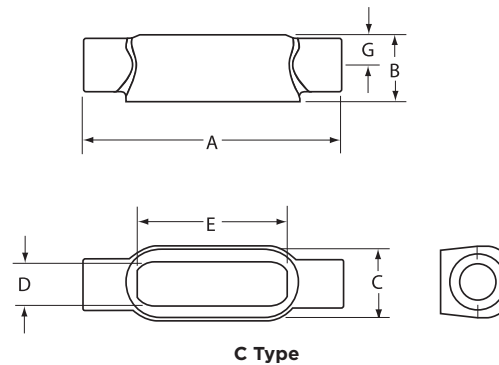
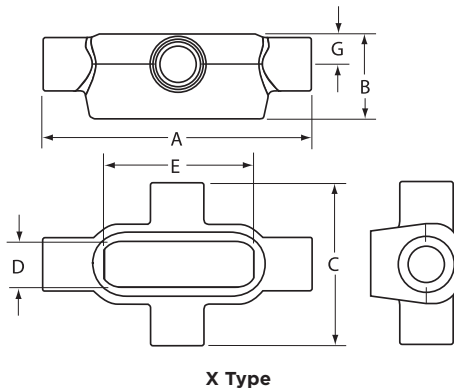
C Type

X TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
X17SA	X17	1/2"	5-11/16" (144)	1-3/8" (35)	3-3/8" (86)	1" (25)	3-3/16" (81)	—	5/8" (16)	6.2
X27SA	X27	3/4"	6-5/16" (160)	2-1/16" (52)	3-9/16" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	9.5
X37SA	X37	1"	7-5/8" (194)	2-1/4" (57)	4-3/8" (111)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	15.5
X47SA	X47	1-1/4"	8" (203)	2-5/16" (59)	4-11/16" (000)	1-13/16" (46)	5" (127)	—	1-1/8" (29)	20.0
X57SA	X57	1-1/2"	8-7/16" (214)	2-9/16" (65)	4-7/8" (124)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	27.0
X67SA	X67	2"	9-7/16" (240)	3-1/8" (79)	5-7/16" (138)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	50.0

C TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
C17SA	C17	1/2"	5-1/2" (140)	1-7/16" (37)	1-1/2" (38)	1" (25)	3-3/16" (81)	—	5/8" (16)	4.0
C27SA	C27	3/4"	6-3/16" (157)	1-11/16" (43)	1-3/4" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	7.0
C37SA	C37	1"	7-7/16" (189)	1-7/8" (48)	1-15/16" (49)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	11.0
C47SA	C47	1-1/4"	8" (203)	2-5/16" (59)	2-5/16" (59)	1-13/16" (46)	5" (127)	—	1-1/8" (29)	19.5
C57SA	C57	1-1/2"	8-7/16" (214)	2-9/16" (65)	2-1/2" (64)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	26.0
C67SA	C67	2"	9-7/16" (240)	3-1/8" (79)	3-1/16" (78)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	48.0
C77SA	C77	2-1/2"	12-3/4" (324)	4-3/8" (111)	4-3/8" (111)	3-7/8" (98)	8-3/8" (213)	—	2-1/8" (54)	131.5
C87SA	C87	3"	12-3/4" (324)	4-3/8" (111)	4-3/8" (111)	3-7/8" (98)	8-3/8" (213)	—	2-1/8" (54)	131.5
C97SA	C97	3-1/2"	14-7/8" (378)	5-3/8" (137)	5-3/8" (137)	4-3/4" (121)	10-1/4" (260)	—	2-5/8" (67)	238.0
C107SA	C107	4"	14-7/8" (378)	5-3/8" (137)	5-3/8" (137)	4-3/4" (121)	10-1/4" (260)	—	2-5/8" (67)	238.0

* For conduit body packaged with cover and gasket, add CG to the catalog number.

DIMENSIONS





Aluminum or Iron Conduit Bodies



LB Type



LL Type

LB TYPE CONDUIT BODY*

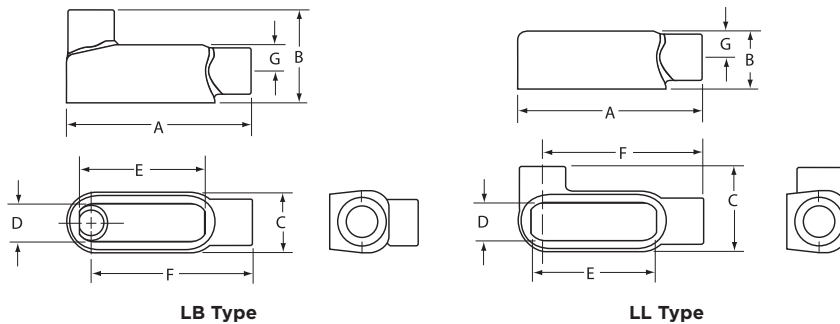
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
LB17SA	LB17	1/2"	4-11/16" (119)	2-1/4" (57)	1-1/2" (38)	1" (25)	3-3/16" (81)	4-1/16" (103)	5/8" (16)	4.0
LB27SA	LB27	3/4"	5-3/8" (137)	2-1/2" (64)	1-3/4" (67)	1-1/8" (29)	3-13/16" (97)	4-5/8" (117)	3/4" (19)	7.0
LB37SA	LB37	1"	6-5/16" (160)	3" (76)	1-15/16" (49)	1-3/8" (35)	4-1/2" (114)	5-3/8" (137)	7/8" (22)	11.0
LB47SA	LB47	1-1/4"	6-13/16" (173)	3-1/2" (89)	2-5/16" (59)	1-13/16" (46)	5" (127)	5-3/4" (146)	1-1/8" (29)	19.5
LB57SA	LB57	1-1/2"	7-1/4" (184)	3-3/4" (95)	2-1/2" (64)	2-1/16" (52)	5-7/16" (138)	6-1/16" (154)	1-1/4" (32)	26.0
LB67SA	LB67	2"	8-1/4" (210)	4-5/16" (109)	3-1/16" (78)	2-5/8" (67)	6-3/8" (162)	6-3/4" (171)	1-1/2" (38)	48.0
LB77SA	LB77	2-1/2"	10-15/16" (278)	6-3/16" (157)	4-3/8" (111)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LB87SA	LB87	3"	10-15/16" (278)	6-3/16" (157)	4-3/8" (111)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LB97SA	LB97	3-1/2"	13" (330)	7-1/4" (184)	5-3/8" (137)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0
LB107SA	LB107	4"	13" (330)	7-1/4" (184)	5-3/8" (137)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0

LL TYPE CONDUIT BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
LL17SA	LL17	1/2"	4-11/16" (119)	1-7/16" (37)	2-5/16" (59)	1" (25)	3-3/16" (81)	4-1/16" (103)	5/8" (16)	4.0
LL27SA	LL27	3/4"	5-3/8" (137)	1-11/16" (43)	2-5/8" (67)	1-1/8" (29)	3-13/16" (97)	4-5/8" (117)	3/4" (19)	7.0
LL37SA	LL37	1"	6-5/16" (160)	1-7/8" (48)	3-1/16" (78)	1-3/8" (35)	4-1/2" (114)	5-3/8" (137)	7/8" (22)	11.0
LL47SA	LL47	1-1/4"	6-13/16" (173)	2-5/16" (59)	3-1/2" (89)	1-13/16" (46)	5" (127)	5-3/4" (146)	1-1/8" (29)	19.5
LL57SA	LL57	1-1/2"	7-1/4" (184)	2-9/16" (65)	3-11/16" (94)	2-1/16" (52)	5-7/16" (138)	6-1/16" (154)	1-1/4" (32)	26.0
LL67SA	LL67	2"	8-1/4" (210)	3-1/8" (79)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	6-3/4" (171)	1-1/2" (38)	48.0
LL77SA	LL77	2-1/2"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LL87SA	LL87	3"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LL97SA	LL97	3-1/2"	13" (330)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0
LL107SA	LL107	4"	13" (330)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.

DIMENSIONS



LB Type

LL Type



FITTINGS

DURALOY® 7 SERIES

Aluminum and Steel Covers and Gaskets



Stamped Covers



Stamped Covers with Integral Neoprene Gasket



Cast Covers



Cast Covers with Integral Neoprene Gasket

Stamped Material/Finish

Aluminum

- Gasketed 316 stainless steel screws
- Natural finish

Galvanized Steel

- 316 stainless steel screws
- Natural finish

Gasket

- Neoprene

STAMPED ALUMINUM AND STAMPED STEEL COVERS WITHOUT AND WITH GASKETS							
CATALOG NUMBER				HUB SIZE	DIMENSIONS		
ALUMINUM W/O GASKET	ALUMINUM W/ GASKET	STEEL W/O GASKET	STEEL W/ GASKET		LENGTH	WIDTH	HEIGHT*
170SA	170GSA	170	170G	1/2"	3-11/16" (94)	1-3/8" (35)	5/16" (8)
270SA	270GSA	270	270G	3/4"	4-1/4" (108)	1-1/2" (32)	5/16" (8)
370SA	370GSA	370	370G	1"	5" (127)	1-3/4" (44)	5/16" (8)
470SA	470GSA	470	470G	1-1/4"	5-1/2" (140)	2-3/16" (56)	5/16" (8)
570SA	570GSA	570	570G	1-1/2"	6" (152)	2-7/16" (62)	5/16" (8)
670SA	670GSA	670	670G	2"	7" (178)	3" (76)	5/16" (8)
870SA	870GSA	870	870G	2-1/2"	9" (229)	4-1/4" (108)	9/16" (14)
870SA	870GSA	870	870G	3"	9" (229)	4-1/4" (108)	9/16" (14)
970SA	970GSA	970	970G	3-1/2"	11" (279)	5-1/4" (133)	9/16" (14)
970SA	970GSA	970	970G	4"	11" (279)	5-1/4" (133)	9/16" (14)

* For covers with integral gasket, add 1/8" (3) to height.

Cast Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating

Duraloy Gray Iron Alloy

- Duraloy malleable gray iron
 - » Tri-coat finish of electro-zinc and chromate sealant with electrostatically applied Duraloy Plus powder coat paint
- Gasketed 316 stainless steel screws

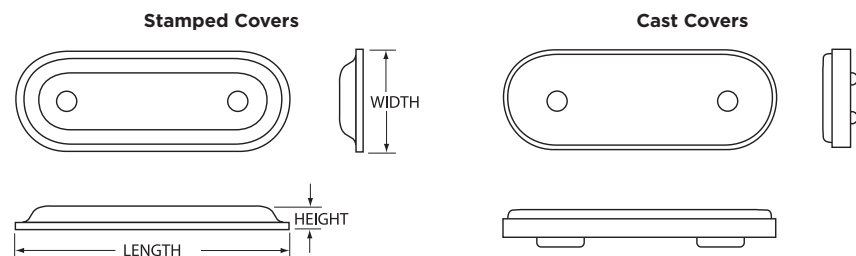
Gasket

- Neoprene

CAST ALUMINUM AND CAST IRON COVERS WITHOUT AND WITH GASKETS							
CATALOG NUMBER				HUB SIZE	DIMENSIONS		
ALUMINUM W/O GASKET	ALUMINUM W/ GASKET	IRON W/O GASKET	IRON W/ GASKET		LENGTH	WIDTH	HEIGHT*
170CSA	170CGSA	170C	170CG	1/2"	3-11/16" (94)	1-3/8" (35)	5/16" (8)
270CSA	270CGSA	270C	270CG	3/4"	4-1/4" (108)	1-1/2" (32)	5/16" (8)
370CSA	370CGSA	370C	370CG	1"	5" (127)	1-3/4" (44)	5/16" (8)
470CSA	470CGSA	470C	470CG	1-1/4"	5-1/2" (140)	2-3/16" (56)	5/16" (8)
570CSA	570CGSA	570C	570CG	1-1/2"	6" (152)	2-7/16" (62)	5/16" (8)
670CSA	670CGSA	670C	670CG	2"	7" (178)	3" (76)	5/16" (8)
870CSA	870CGSA	870C	870CG	2-1/2"	9" (229)	4-1/4" (108)	9/16" (14)
870CSA	870CGSA	870C	870CG	3"	9" (229)	4-1/4" (108)	9/16" (14)
970CSA	970CGSA	970C	970CG	3-1/2"	11" (279)	5-1/4" (133)	9/16" (14)
970CSA	970CGSA	970C	970CG	4"	11" (279)	5-1/4" (133)	9/16" (14)

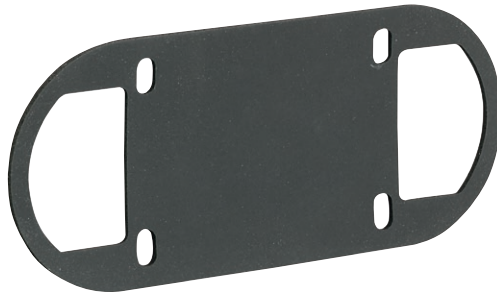
* For covers with integral gasket, add 1/8" (3) to height.

DIMENSIONS





Gaskets



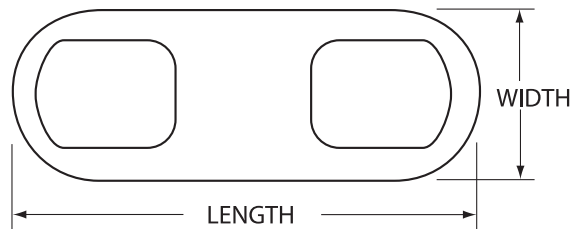
Cover Gaskets

Material

- Open cell neoprene

COVER GASKETS (OPEN CELL NEOPRENE)				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
GASK571	1/2"	3-11/16" (94)	1-3/8" (35)	1/8" (3)
GASK572	3/4"	4-1/4" (108)	1-1/2" (38)	1/8" (3)
GASK573	1"	5" (127)	1-3/4" (44)	1/8" (3)
GASK574	1-1/4"	5-1/2" (140)	2-3/16" (56)	1/8" (3)
GASK575	1-1/2"	6" (152)	2-7/16" (62)	1/8" (3)
GASK576	2"	7" (178)	3" (76)	1/8" (3)
GASK578	2-1/2"	9" (229)	4-1/4" (108)	1/8" (3)
GASK578	3"	9" (229)	4-1/4" (108)	1/8" (3)
GASK579	3-1/2"	11" (279)	5-1/4" (133)	1/8" (3)
GASK579	4"	11" (279)	5-1/4" (133)	1/8" (3)

DIMENSIONS





K-Pak Shelf Cartons



FEATURES-SPECIFICATIONS

K-PAK® packaging enables Killark distributors to feature fast-moving products in counter display areas.

The uniformly sized (width and height are consistent) cartons allow items to be merchandised on a typical 48" w x 54" H x 18" gondola unit (not supplied by Killark).

Features

- Cartons are suitable for counter merchandising display and/or warehouse storage.
- Open-top bin box displays products for easy customer self-service.
- All cartons are bar coded for easy electronic identification.
- Conduit bodies are packaged with appropriate covers and gaskets.
- Intact shrink-wrap packaging allows for clean install every time

K-PAK Carton Dimensions (Aluminum)

- Full depth cartons:
 - » 6" W x 81/2" H x 15" D
- Half depth cartons:
 - » 6" W x 81/2" H x 71/2" D
- Display face (width & height) same for all cartons.

Additional Information:

- K-packing available in both Duraloy® 5 and 7 Malleable, but carton sizes will vary



K-Pak Shelf Cartons

O FITTINGS		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
OC-1CG	1/2" C w/cover & gasket	40
OC-2CG	3/4" C w/cover & gasket	25
OC-3CG	1" C w/cover & gasket	20
OC-4CG	1-1/4" C w/cover & gasket	8
OC-5CG	1-1/2" C w/cover & gasket	8
OC-6CG	2" C w/cover & gasket	3
OLB-1CG	1/2" LB w/cover & gasket	40
OLB-2CG	3/4" LB w/cover & gasket	25
OLB-3CG	1" LB w/cover & gasket	15
OLB-4CG	1-1/4" LB w/cover & gasket	8
OLB-5CG	1-1/2" LB w/cover & gasket	5
OLB-6CG	2" LB w/cover & gasket	3
OLB-7CG	2-1/2" LB w/cover & gasket	1
OLB-8CG	3" LB w/cover & gasket	1
OLB-9CG	3-1/2" LB w/cover & gasket	1
OLB-0CG	4" LB w/cover & gasket	1
OLL-1CG	1/2" LL w/cover & gasket	40
OLL-2CG	3/4" LL w/cover & gasket	25
OLL-3CG	1" LL w/cover & gasket	15
OLL-4CG	1-1/4" LL w/cover & gasket	8
OLL-5CG	1-1/2" LL w/cover & gasket	8
OLL-6CG	2" LL w/cover & gasket	3
OLR-1CG	1/2" LR w/cover & gasket	40
OLR-2CG	3/4" LR w/cover & gasket	25
OLR-3CG	1" LR w/cover & gasket	15
OLR-4CG	1-1/4" LR w/cover & gasket	8
OLR-5CG	1-1/2" LR w/cover & gasket	8
OLR-6CG	2" LR w/cover & gasket	3
OT-1CG	1/2" T w/cover & gasket	30
OT-2CG	3/4" T w/cover & gasket	25
OT-3CG	1" T w/cover & gasket	15
OT-4CG	1-1/4" T w/cover & gasket	8
OT-5CG	1-1/2" T w/cover & gasket	8
OT-6CG	2" T w/cover & gasket	2

SLB FITTINGS		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
SLB-1-CP	1/2" Service entrance LB	50
SLB-2-CP	3/4" Service entrance LB	25
SLB-3-CP	1" Service entrance LB	25

CO FITTINGS*		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
COC-1CG	1/2" C w/cover & gasket	10
COC-2CG	3/4" C w/cover & gasket	10
COC-3CG	1" C w/cover & gasket	5
COLB-1CG	1/2" LB w/cover & gasket	10
COLB-2CG	3/4" LB w/cover & gasket	10
COLB-3CG	1" LB w/cover & gasket	5
COLL-1CG	1" L w/cover & gasket	10
COLL-2CG	2" L w/cover & gasket	10
COLL-3CG	3" L w/cover & gasket	5
COLR-1CG	1/2" LR w/cover & gasket	10
COLR-2CG	3/4" LR w/cover & gasket	10
COLR-3CG	1" LR w/cover & gasket	5
COT-1CG	1/2" LR w/cover & gasket	10
COT-2CG	3/4" LR w/cover & gasket	10
COT-3CG	1" LR w/cover & gasket	5

FS/FD BACK BOXES/COVERS		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
1FA-CP	Duplex cover	50
1FT-CP	Toggle cover	50
FCLA-CP	Duplex cover	25
FDC-1-CP	1/2" FDC box	10
FDC-2-CP	3/4" FDC box	10
FD-1-CP	1/2" FD box	10
FD-2-CP	3/4" FD box	10
FSBC-CP	Blank cover	50
FSC-1-CP	1/2" FSC box	15
FSC-2-CP	3/4" FSC box	15
FST-CP	Cover	25
FS-1-CP	1/2" FS box	20
FS-2-CP	3/4" FS box	20

WH WEATHERPROOF HUBS		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
WH-1	1/2" Conduit hub	25
WH-2	3/4" Conduit hub	25
WH-3	1" Conduit hub	25



FITTINGS

DURALOY® 8 SERIES

Iron Conduit Bodies

DURALOY® 8



Suitable for wet locations when used with gasketed covers.
Federal Specification
W-C-586D/A-A 50563.
Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

 LISTED E3397

 Certified LR11852

FEATURES-SPECIFICATIONS

Features

- Completely interchangeable with competitive bodies, gaskets, and covers
- Flat back design provides greater cubic capacity for easier wire pulling and more room for splicing
- Raintight when used with gasketed covers
- Stainless steel screws on stamped and cast covers
- Smooth integral wire bushings
- Larger volume than Duraloy® 5 and 7 for bigger space for maintenance
- Add PP to end of catalog logic for cover and gasket packaging.

Materials

Duraloy Gray Iron Alloy

- Duraloy malleable gray iron
 - » Tri-coat finish of electro-zinc and chromate sealant with electrostatically applied Duraloy Plus powder coat paint



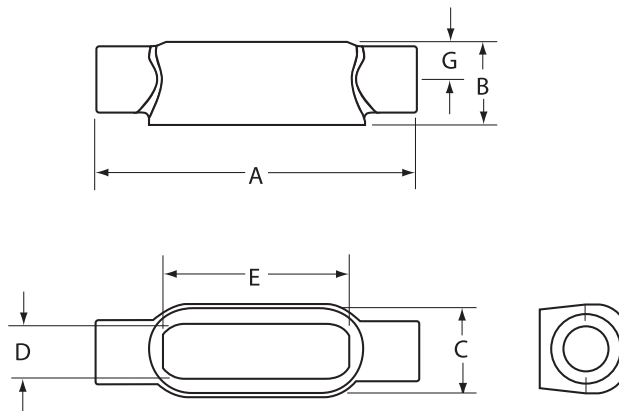
Iron Conduit Bodies



C Type

C TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
C18	1/2"	5-5/16" (135)	1-15/32" (37)	1-15/32" (37)	1" (25)	3-9/32" (83)	—	5/8" (16)	5.0
C28	3/4"	6-9/16" (167)	1-11/16" (43)	1-21/32" (42)	1-3/16" (30)	3-15/16" (100)	—	3/4" (19)	8.0
C38	1"	7-9/16" (192)	1-31/32" (50)	1-27/32" (47)	1-3/8" (35)	4-17/32" (115)	—	7/8" (22)	12.25
C448	1-1/4"	8-7/16" (214)	2-3/8" (60)	2-5/32" (55)	1-3/4" (44)	5-15/16" (151)	—	1-3/32" (28)	23.25
C58	1-1/2"	10-3/8" (264)	2-25/32" (71)	2-25/32" (71)	2-3/32" (53)	6-1/2" (165)	—	1-3/8" (35)	42.50
C68	2"	12-3/8" (314)	3-9/16" (90)	3-27/32" (98)	3" (76)	8-5/8" (219)	—	1-7/8" (48)	105.00
C78	2-1/2"	15-5/8" (397)	4-7/16" (113)	5" (127)	4-1/4" (108)	10-7/8" (276)	—	2-1/2" (64)	200.00
C88	3"	15-5/8" (397)	4-13/16" (122)	5" (127)	4-1/4" (108)	10-7/8" (276)	—	2-1/2" (64)	217.00

DIMENSIONS



C Type



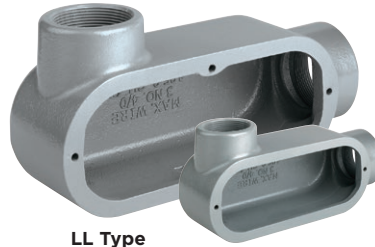
FITTINGS

DURALOY® 8 SERIES

Iron Conduit Bodies



LB Type



LL Type

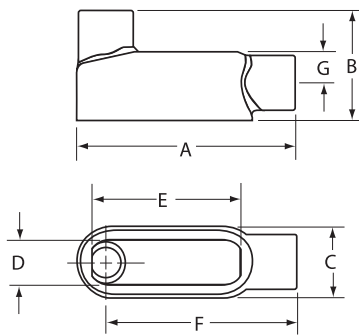
LB TYPE CONDUIT BODY*

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
LB18	1/2"	5-3/32" (129)	2-9/32" (58)	1-15/32" (37)	1" (25)	3-9/32" (83)	4-3/8" (111)	5/8" (16)	5.0
LB28	3/4"	5-3/4" (146)	2-1/2" (64)	1-21/32" (42)	1-3/16" (30)	3-15/16" (100)	4-29/32" (125)	3/4" (19)	8.0
LB38	1"	6-5/8" (168)	2-29/32" (74)	1-27/32" (47)	1-3/8" (35)	4-17/32" (115)	5-23/32" (145)	7/8" (22)	13.0
LB448	1-1/4"	7-1/2" (191)	3-5/16" (84)	2-5/32" (55)	1-3/4" (44)	5-15/16" (151)	6-13/32" (163)	1-3/32" (28)	24.0
LB58	1-1/2"	9-1/8" (232)	4-1/32" (102)	4-25/32" (121)	2-3/32" (53)	6-1/2" (165)	7-3/4" (197)	1-3/8" (35)	42.0
LB68	2"	11-1/8" (283)	4-13/16" (122)	4-13/16" (122)	3" (76)	8-5/8" (219)	9-3/16" (233)	1-7/8" (48)	105.0
LB78	2-1/2"	13-15/16" (354)	6-1/8" (156)	6-1/8" (156)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	200.0
LB888	3"	13-15/16" (354)	6-1/2" (165)	6-1/2" (165)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	217.0
LB98	3-1/2"	16-7/8" (429)	7-9/16" (192)	7-9/16" (192)	5-7/16" (138)	13-7/8" (352)	13-3/4" (349)	3-1/8" (79)	380.0
LB108	4"	16-7/8" (429)	7-13/16" (198)	7-13/16" (198)	5-7/16" (138)	13-7/8" (352)	13-3/4" (349)	3-1/8" (79)	400.0

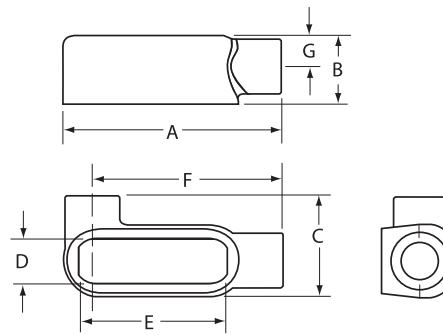
LL TYPE CONDUIT BODY*

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
LL18	1/2"	5-3/32" (129)	2-9/32" (56)	1-15/32" (37)	1" (25)	3-9/32" (83)	4-3/8" (111)	5/8" (16)	5.0
LL28	3/4"	5-3/4" (146)	2-1/2" (64)	1-21/32" (42)	1-3/16" (30)	3-15/16" (100)	4-29/32" (125)	3/4" (19)	8.0
LL38	1"	6-5/8" (168)	2-29/32" (74)	1-27/32" (47)	1-3/8" (35)	4-17/32" (115)	5-23/32" (145)	7/8" (22)	13.0
LL448	1-1/4"	7-1/2" (191)	3-5/16" (84)	2-5/32" (55)	1-3/4" (44)	5-15/16" (151)	6-13/32" (163)	1-3/32" (28)	24.0
LL58	1-1/2"	9-1/8" (232)	4-1/32" (102)	4-25/32" (121)	2-3/32" (53)	6-1/2" (165)	7-3/4" (197)	1-3/8" (35)	42.0
LL68	2"	11-1/8" (283)	4-13/16" (122)	4-13/16" (122)	3" (76)	8-5/8" (219)	9-3/16" (233)	1-7/8" (48)	105.0
LL78	2-1/2"	13-15/16" (354)	6-1/8" (156)	6-1/8" (156)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	200.0
LL888	3"	13-15/16" (354)	6-1/2" (165)	6-1/2" (165)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	217.0

DIMENSIONS



LB Type



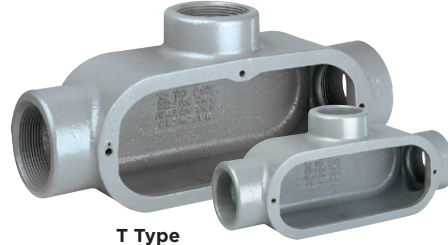
LL Type



Iron Conduit Bodies



LR Type



T Type

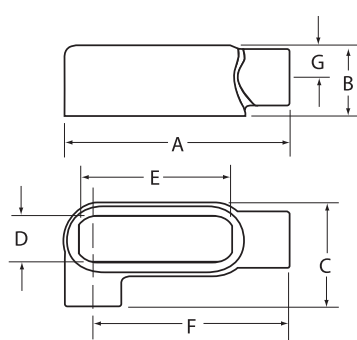
LR TYPE CONDUIT BODY*

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
LR18	1/2"	5-3/32" (129)	1-15/16" (49)	2-9/32" (58)	1" (52)	3-9/32" (83)	4-3/8" (111)	5/8" (16)	5.0
LR28	3/4"	5-3/4" (146)	1-11/16" (45)	2-1/2" (64)	1-3/16" (30)	3-15/16" (84)	4-29/32" (125)	3/4" (19)	8.0
LR38	1"	6-5/8" (168)	1-31/32" (50)	2-29/32" (74)	1-3/8" (35)	4-17/32" (115)	5-23/32" (145)	7/8" (22)	13.0
LR448	1-1/4"	7-1/2" (191)	2-3/8" (60)	3-5/16" (84)	1-3/4" (44)	5-15/16" (151)	6-13/32" (163)	1-3/32" (28)	24.0
LR58	1-1/2"	9-1/8" (232)	2-25/32" (71)	4-1/32" (102)	2-3/32" (53)	6-1/2" (165)	7-3/4" (199)	1-3/8" (35)	42.0
LR68	2"	11-1/8" (283)	3-9/16" (90)	4-13/16" (122)	3" (76)	8-5/8" (219)	9-3/16" (233)	1-7/8" (48)	105.0
LR78	2-1/2"	13-15/16" (354)	4-7/16" (113)	6-1/8" (156)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	200.0
LR888	3"	13-15/16" (354)	4-13/16" (122)	6-1/2" (165)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	217.0

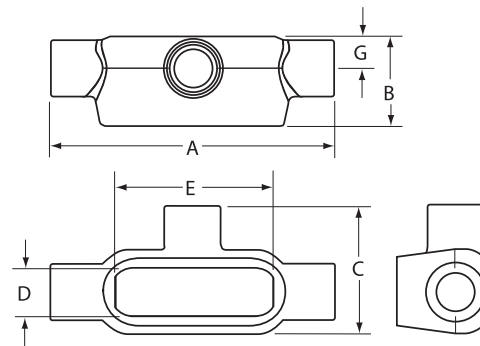
T TYPE CONDUIT BODY*

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
T18	1/2"	5-15/16" (151)	1-25/32" (45)	2-5/16" (59)	1" (25)	3-9/32" (83)	—	5/8" (16)	6.0
T28	3/4"	6-9/16" (167)	2" (51)	2-1/2" (64)	1-3/16" (30)	3-15/16" (100)	—	3/4" (19)	10.0
T38	1"	7-9/16" (192)	2-9/32" (58)	2-25/32" (71)	1-3/8" (35)	4-17/32" (115)	—	7/8" (22)	15.0
T448	1-1/4"	8-7/16" (214)	2-5/8" (67)	3-1/8" (79)	1-3/4" (44)	5-5/16" (135)	—	1-3/32" (28)	25.0
T58	1-1/2"	10-3/8" (264)	2-25/32" (71)	4-1/32" (102)	2-3/32" (53)	6-1/2" (165)	—	1-3/8" (35)	44.0
T68	2"	12-3/8" (314)	3-9/16" (90)	5-1/8" (130)	3" (76)	8-5/8" (219)	—	1-7/8" (48)	105.0
T78	2-1/2"	15-5/8" (397)	4-7/16" (113)	6-11/16" (170)	4-1/4" (108)	10-11/16" (271)	—	2-1/2" (64)	200.0
T88	3"	15-5/8" (397)	4-13/16" (122)	6-11/16" (170)	4-1/4" (108)	10-11/16" (271)	—	2-1/2" (64)	217.0

DIMENSIONS



LR Type



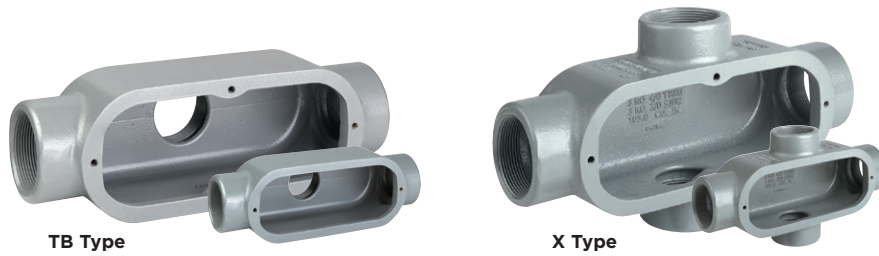
T Type



FITTINGS

DURALOY® 8 SERIES

Iron Conduit Bodies



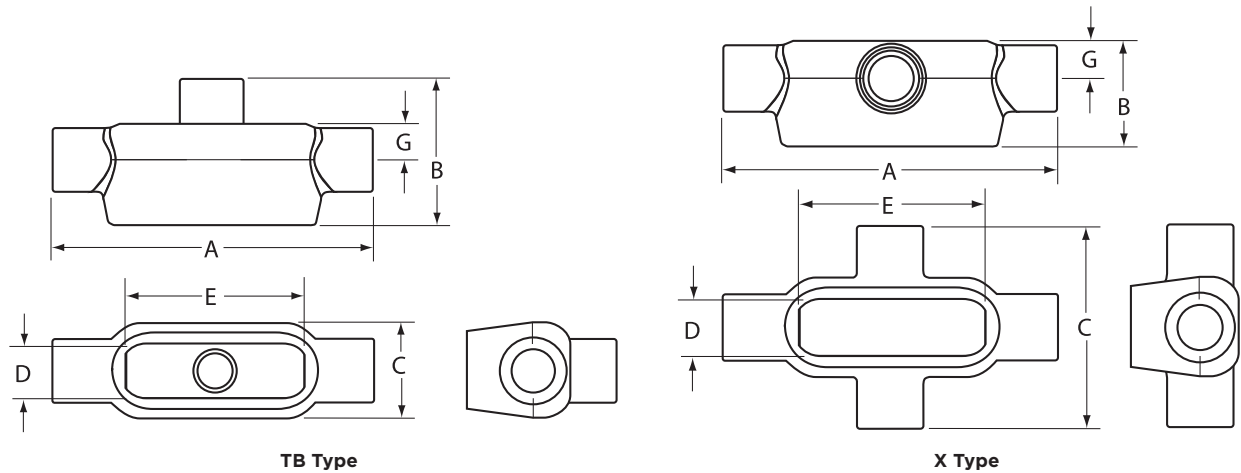
TB Type

X Type

TB TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
TB18	1/2"	5-15/16" (151)	2-15/16" (75)	1-15/16" (49)	1" (25)	3-9/32" (83)	—	5/8" (16)	6.0
TB28	3/4"	6-9/16" (167)	2-1/2" (64)	1-21/32" (42)	1-3/16" (30)	3-15/16" (100)	—	3/4" (19)	10.0
TB38	1"	7-9/16" (192)	2-25/32" (71)	1-27/32" (47)	1-3/8" (35)	4-17/32" (115)	—	7/8" (22)	15.0
TB448	1-1/4"	8-7/16" (214)	3-1/8" (79)	2-3/16" (55)	1-3/4" (44)	5-5/16" (135)	—	1-3/32" (26)	25.0
TB58	1-1/2"	10-3/8" (264)	4-1/32" (102)	2-25/32" (71)	2-3/32" (53)	6-1/2" (165)	—	1-3/8" (35)	44.0
TB68	2"	12-3/8" (314)	5-1/8" (130)	3-7/8" (98)	3" (76)	8-5/8" (219)	—	1-7/8" (48)	105.0

X TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
X18	1/2"	5-15/16" (151)	1-25/32" (45)	3-1/8" (79)	1" (25)	3-9/32" (83)	—	5/8" (16)	6.0
X28	3/4"	6-9/16" (167)	2" (51)	3-15/16" (100)	1-3/16" (30)	3-15/16" (100)	—	3/4" (19)	10.0
X38	1"	7-9/16" (192)	2-9/32" (58)	3-23/32" (94)	1-3/8" (35)	4-17/32" (115)	—	7/8" (22)	15.0
X448	1-1/4"	8-7/16" (214)	2-5/8" (67)	4-1/16" (103)	1-3/4" (44)	5-5/16" (135)	—	1-3/32" (26)	25.0
X58	1-1/2"	10-3/8" (264)	2-25/32" (71)	5-9/32" (134)	2-3/32" (53)	6-1/2" (165)	—	1-3/8" (35)	44.0
X68	2"	12-3/8" (314)	3-9/16" (90)	6-3/8" (162)	3" (76)	8-5/8" (219)	—	1-7/8" (48)	105.0

DIMENSIONS



TB Type

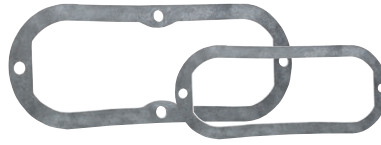
X Type



Iron Covers and Gaskets



Cast Covers



Cover Gaskets (Neoprene)



Stamped Steel Covers

Cast Material/Finish

Duraloy Gray Iron Alloy

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating
- 300 Series stainless steel screws

Galvanized Steel

- Natural finish
- 300 Series stainless steel screws

Material/Finish

- Neoprene. Compression molded.

CAST IRON COVERS				
CATALOG NUMBER	HUB SIZE	OVERALL DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
180F	1/2"	4-7/32"(107)	1-15/32"(37)	3/8"(10)
280F	3/4"	4-13/16"(122)	1-21/32"(42)	3/8"(10)
380F	1"	5-19/32"(142)	1-27/32"(47)	5/8"(16)
480F	1-1/4"	6-9/16"(167)	2-3/16"(56)	5/8"(16)
580F	1-1/2"	7-7/8"(200)	2-25/32"(71)	5/8"(16)
680F	2"	9-3/4"(248)	3-7/8"(98)	5/8"(16)
880F	2-1/2"	12-1/4"(311)	5"(127)	5/8"(16)
880F	3"	12-1/4"(311)	5"(127)	5/8"(16)
980F	3-1/2"	15"(381)	6-1/4"(159)	5/8"(16)
980F	4"	15"(381)	6-1/4"(159)	5/8"(16)

STAMPED STEEL COVERS				
CATALOG NUMBER	HUB SIZE	OVERALL DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
180S	1/2"	4-7/32"(107)	1-15/32"(37)	5/16"(8)
280S	3/4"	4-13/16"(122)	1-21/32"(42)	5/16"(8)
380S	1"	5-19/32"(142)	1-27/32"(47)	5/16"(8)
480S	1-1/4"	6-9/16"(167)	2-3/16"(56)	5/16"(8)
580S	1-1/2"	7-7/8"(200)	2-25/32"(71)	5/16"(8)
680S	2"	9-3/4"(248)	3-7/8"(98)	5/16"(8)
880S	2-1/2"	12-1/4"(311)	5"(127)	9/16"(14)
880S	3"	12-1/4"(311)	5"(127)	9/16"(14)
980S	3-1/2"	15"(381)	6-1/4"(159)	9/16"(14)
980S	4"	15"(381)	6-1/4"(159)	9/16"(14)

COVER GASKETS				
CATALOG NUMBER	HUB SIZE	OVERALL DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
GASK851N	1/2"	4-7/32"(107)	1-15/32"(37)	1/8"(3)
GASK852N	3/4"	4-13/16"(122)	1-21/32"(42)	1/8"(3)
GASK853N	1"	5-19/32"(142)	1-27/32"(47)	1/8"(3)
GASK854N	1-1/4"	6-9/16"(167)	2-3/16"(56)	1/8"(3)
GASK805N	1-1/2"	7-7/8"(200)	2-25/32"(71)	1/8"(3)
GASK806N	2"	9-3/4"(248)	3-7/8"(98)	1/8"(3)
GASK808N	2-1/2"	12-1/4"(311)	5"(127)	1/8"(3)
GASK808N	3"	12-1/4"(311)	5"(127)	1/8"(3)
GASK809N	3-1/2"	15"(381)	6-1/4"(159)	1/8"(3)
GASK809N	4"	15"(381)	6-1/4"(159)	1/8"(3)

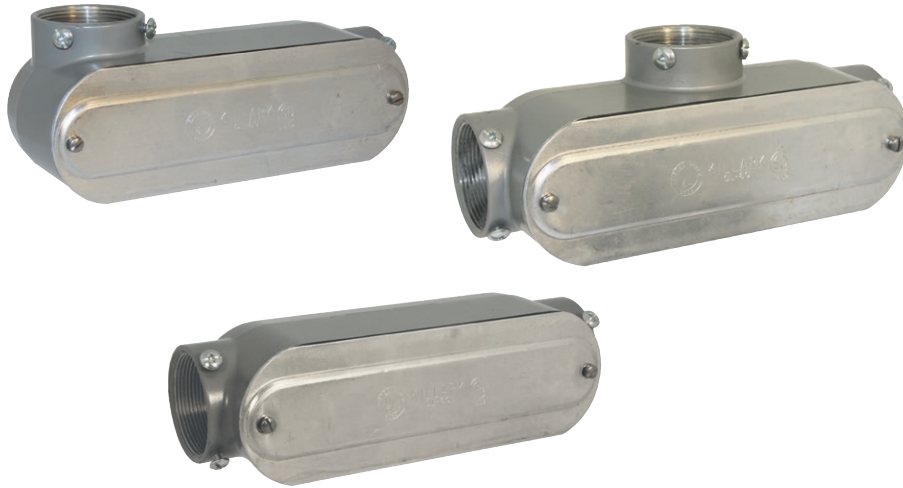
NOTE - (2) screws 1/2" through 1-1/4", (4) screws 1-1/2" through 4"



FITTINGS

CO & TW SERIES

Combo and EMT Conduit Bodies



UL LISTED E3397

SP Certified LR11852

FEATURES-SPECIFICATIONS

Features

- Combination bodies have threaded and set screw hubs
- Pre-packaged with body, cover, and gasket.
- For use with IMC and EMT conduit
- Covers furnished with stainless steel screws
- Thread types are NPSM
- Type 3 rating with Rigid/IMC Conduit

Materials

- **CONDUIT BODIES** - Die cast, copper-free aluminum (less than 4/10 of 1%) with electrostatically applied powder coating.
- **COVERS** - Stamped Aluminum/Natural Finish
- **GASKETS** - Neoprene



Combo and EMT Conduit Bodies



C Type - COC-1,2,3



C Type - COC-4,5,6



LB Type - COLB-1,2,3



LB Type - COLB-4,5,6

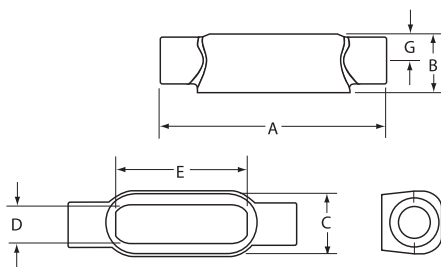
C TYPE CONDUIT BODY

	CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME CU. IN.	
			A	B	C	D	E	F		G
C O M B O	COC-1CG	1/2"	5-3/8" (137)	1-3/8" (35)	1-3/8" (35)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
	COC-2CG	3/4"	6-1/8" (156)	1-5/8" (41)	1-5/8" (67)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
	COC-3CG	1"	7-1/8" (181)	2" (51)	1-7/8" (48)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
	COC-4CG	1-1/4"	9-1/8" (232)	2-5/8" (67)	2-5/8" (67)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
	COC-5CG	1-1/2"	9-1/4" (235)	2-3/4" (70)	2-5/8" (67)	2" (51)	6" (152)	—	1-3/8" (32)	36.0
	COC-6CG	2"	11-7/8" (302)	3-1/2" (89)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (38)	70.0
E M T	TWOC-7CG	2-1/2"	15-1/8" (384)	4" (102)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	—	1-13/16" (54)	153.0
	TWOC-8CG	3"	15-1/8" (384)	4-3/4" (121)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	—	2-3/16" (54)	181.0
	TWOC-9CG	3-1/2"	18-3/8" (467)	5-1/2" (140)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	—	2-1/2" (67)	290.0
	TWOC-0CG	4"	18-3/8" (467)	5-5/8" (143)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	—	2-3/4" (67)	320.0

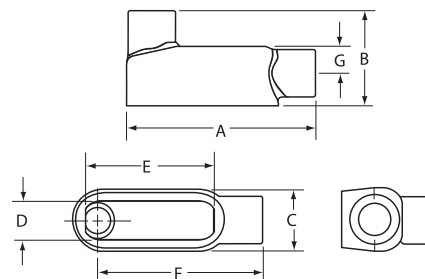
LB TYPE CONDUIT BODY

	CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME CU. IN.	
			A	B	C	D	E	F		G
C O M B O	COLB-1CG	1/2"	4-17/32" (115)	2-9/32" (83)	1-3/8" (35)	1" (25)	3-5/32" (80)	4-3/8" (111)	5/8" (16)	4.0
	COLB-2CG	3/4"	5-3/4" (146)	2-1/2" (64)	1-5/8" (41)	1-7/32" (31)	3-25/32" (96)	4-29/32" (125)	3/4" (19)	7.0
	COLB-3CG	1"	6-5/8" (168)	2-29/32" (74)	1-7/8" (48)	1-15/32" (37)	4-17/32" (115)	5-23/32" (145)	15/16" (24)	12.0
	COLB-4CG	1-1/4"	7-1/2" (191)	3-3/16" (81)	2-5/8" (67)	2" (51)	6" (152)	6-13/32" (162)	1-3/16" (30)	28.8
	COLB-5CG	1-1/2"	9-1/8" (232)	4" (102)	2-5/8" (67)	2" (51)	6" (152)	17-3/4" (451)	1-3/8" (32)	36.0
	COLB-6CG	2"	10" (254)	4-13/16" (122)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	8-5/32" (207)	1-5/8" (38)	70.0
E M T	TWOLB-7CG	2-1/2"	13-15/16" (354)	6-1/8" (156)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	11-7/16" (291)	2-1/2" (64)	142.0
	TWOLB-8CG	3"	13-15/16" (354)	6-1/2" (165)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	11-7/16" (291)	2-3/16" (54)	173.0
	TWOLB-9CG	3-1/2"	16-7/8" (429)	7-9/16" (192)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-1/2" (67)	292.0
	TWOLB-0CG	4"	16-7/8" (429)	7-13/16" (198)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-3/4" (70)	324.0

DIMENSIONS



C Type

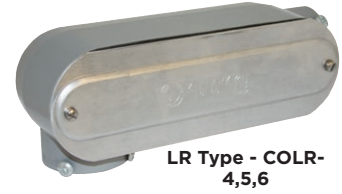


LB Type



FITTINGS CO & TW SERIES

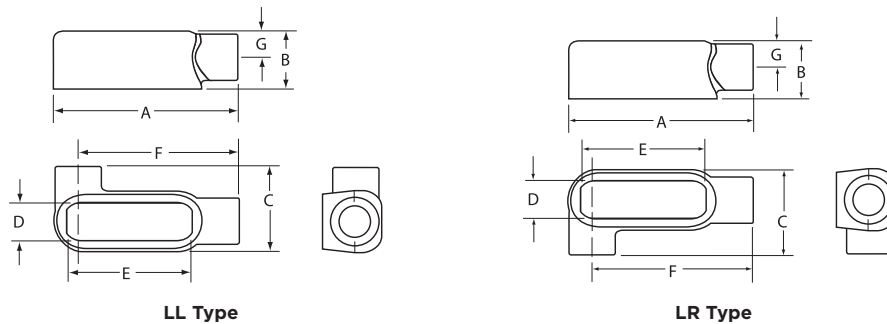
Combo and EMT Conduit Bodies



LL TYPE CONDUIT BODY										
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.	
		A	B	C	D	E	F	G		
COMBO	COLL-1CG	1/2"	4-5/8" (117)	1-3/8" (35)	2" (51)	1" (25)	3-5/32" (80)	-	5/8" (16)	4.0
	COLL-2CG	3/4"	5-3/8" (137)	1-5/8" (41)	2-3/16" (56)	1-7/32" (31)	3-25/32" (96)	-	3/4" (19)	7.0
	COLL-3CG	1"	6-1/4" (159)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	-	15/16" (24)	12.0
	COLL-4CG	1-1/4"	8-1/8" (206)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	-	1-3/16" (30)	32.0
	COLL-5CG	1-1/2"	8-1/8" (206)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	-	1-3/8" (32)	31.0
	COLL-6CG	2"	10-9/16" (268)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	-	1-5/8" (38)	70.0
EMT	TWOLL-7CG	2-1/2"	13-11/16" (348)	4" (102)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	-	1-13/16" (46)	142.0
	TWOLL-8CG	3"	13-11/16" (348)	4-3/4" (121)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	-	2-3/16" (54)	173.0
	TWOLL-9CG	3-1/2"	16-1/2" (419)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	-	2-1/2" (67)	292.0
	TWOLL-0CG	4"	16-1/2" (419)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	-	2-3/4" (67)	324.0

LR TYPE CONDUIT BODY										
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.	
		A	B	C	D	E	F	G		
COMBO	COLR-1CG	1/2"	4-5/8" (117)	1-3/8" (35)	2" (35)	1" (25)	3-5/32" (80)	4-3/8" (111)	5/8" (16)	4.0
	COLR-2CG	3/4"	5-3/8" (137)	1-5/8" (41)	2-3/16" (67)	1-7/32" (31)	3-25/32" (96)	4-29/32" (125)	3/4" (19)	7.0
	COLR-3CG	1"	6-1/4" (159)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	5-23/32" (145)	15/16" (24)	12.0
	COLR-4CG	1-1/4"	8-1/8" (206)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	6-13/32" (162)	1-3/16" (30)	32.0
	COLR-5CG	1-1/2"	8-1/8" (206)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	17-3/4" (451)	1-3/8" (32)	31.0
	COLR-6CG	2"	10-9/16" (268)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	9-5/32" (233)	1-5/8" (38)	70.0
EMT	TWOLR-7CG	2-1/2"	13-11/16" (348)	4" (102)	5-3/4" (146)	3-11/16" (93)	10-5/8" (270)	11-7/16" (291)	1-13/16" (54)	142.0
	TWOLR-8CG	3"	13-11/16" (348)	4-3/4" (121)	5-3/4" (146)	3-11/16" (93)	10-5/8" (270)	11-7/16" (291)	2-3/16" (54)	173.0
	TWOLR-9CG	3-1/2"	16-1/2" (419)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-1/2" (67)	292.0
	TWOLR-0CG	4"	16-1/2" (419)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-3/4" (67)	324.0

DIMENSIONS





Combo and EMT Conduit Bodies



T Type - COT-1,2,3



T Type - COT-4,5,6



NEOPRENE GASKET



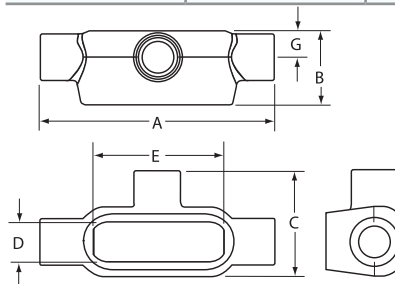
ALUMINUM STAMPED COVER

T TYPE CONDUIT BODY										
	CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME CU. IN.	
			A	B	C	D	E	F		G
COMBO	COT-1CG	1/2"	5-3/8" (137)	1-3/8" (35)	2" (35)	1" (25)	3-5/32" (80)	-	5/8" (16)	4.0
	COT-2CG	3/4"	6-1/16" (154)	1-5/8" (41)	2-3/16" (67)	1-7/32" (31)	3-25/32" (96)	-	3/4" (19)	7.0
	COT-3CG	1"	7-1/8" (181)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	-	15/16" (24)	12.0
	COT-4CG	1-1/4"	9-3/16" (233)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	-	1-3/16" (30)	32.0
	COT-5CG	1-1/2"	9-3/16" (233)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	-	1-3/8" (32)	33.0
	COT-6CG	2"	11-5/8" (295)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	-	1-5/8" (38)	70.0
EMT	TWOT-7CG	2-1/2"	15-1/8" (384)	4" (102)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	-	1-13/16" (54)	142.0
	TWOT-8CG	3"	15-1/8" (384)	4-3/4" (121)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	-	2-3/16" (54)	173.0
	TWOT-9CG	3-1/2"	18-1/8" (460)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	-	2-1/2" (67)	292.0
	TWOT-0CG	4"	18-1/8" (460)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	-	2-3/4" (67)	324.0

NEOPRENE REPLACEMENT GASKETS	
CATALOG NUMBER	HUB SIZE
OLK-1RG	1/2"
OLK-2RG	3/4"
OLK-3RG	1"
OL-45-RG	1-1/4"
OL-45-RG	1-1/2"
OL-6-RG	2"
OL-78-RG	2-1/2"
OL-78-RG	3"
OL-90-RG	3-1/2"
OL-90-RG	4"

ALUMINUM REPLACEMENT COVERS				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
OL-10	1/2"	3-15/16" (100)	1-3/8" (35)	3/8" (10)
OL-20	3/4"	4-5/8" (117)	1-5/8" (41)	3/8" (10)
OL-30	1"	5-3/8" (137)	1-7/8" (48)	5/8" (16)
OL-450	1-1/4"	7-3/16" (183)	2-5/8" (67)	5/8" (16)
OL-450	1-1/2"	7-3/16" (183)	2-5/8" (67)	5/8" (16)
OL-60	2"	9-1/2" (241)	3-1/8" (79)	5/8" (16)
OL-780	2-1/2"	12-1/4" (311)	4-3/8" (111)	5/8" (16)
OL-780	3"	12-1/4" (311)	4-3/8" (111)	5/8" (16)
OL-900	3-1/2"	14-7/8" (378)	5-1/2" (140)	5/8" (16)
OL-900	4"	14-7/8" (378)	5-1/2" (140)	5/8" (16)

DIMENSIONS



T Type



UL E22698

FEATURES-SPECIFICATIONS

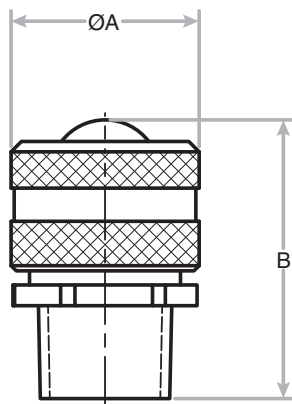
Features

- Killark's KD series ordinary location drains are used to help alleviate condensation built up in conduit systems. Its stainless steel screen allows for some degree of ventilation to prevent moisture from accumulating.

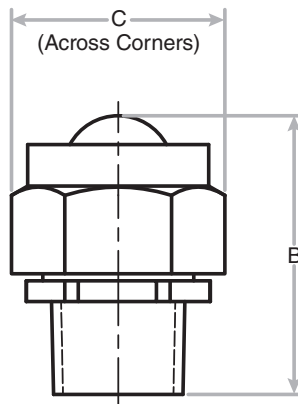
Materials

- **BODY - NUT:** Steel or copper free aluminum
- **SCREEN:** Stainless steel

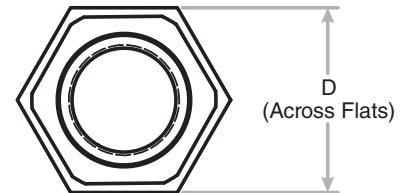
ENTRY SIZE	CATALOG NUMBER	
	ZINC PLATED STEEL	ALUMINUM
1/2"	KD1	KD1SA
3/4"	KD2	KD2SA



Aluminum



Steel

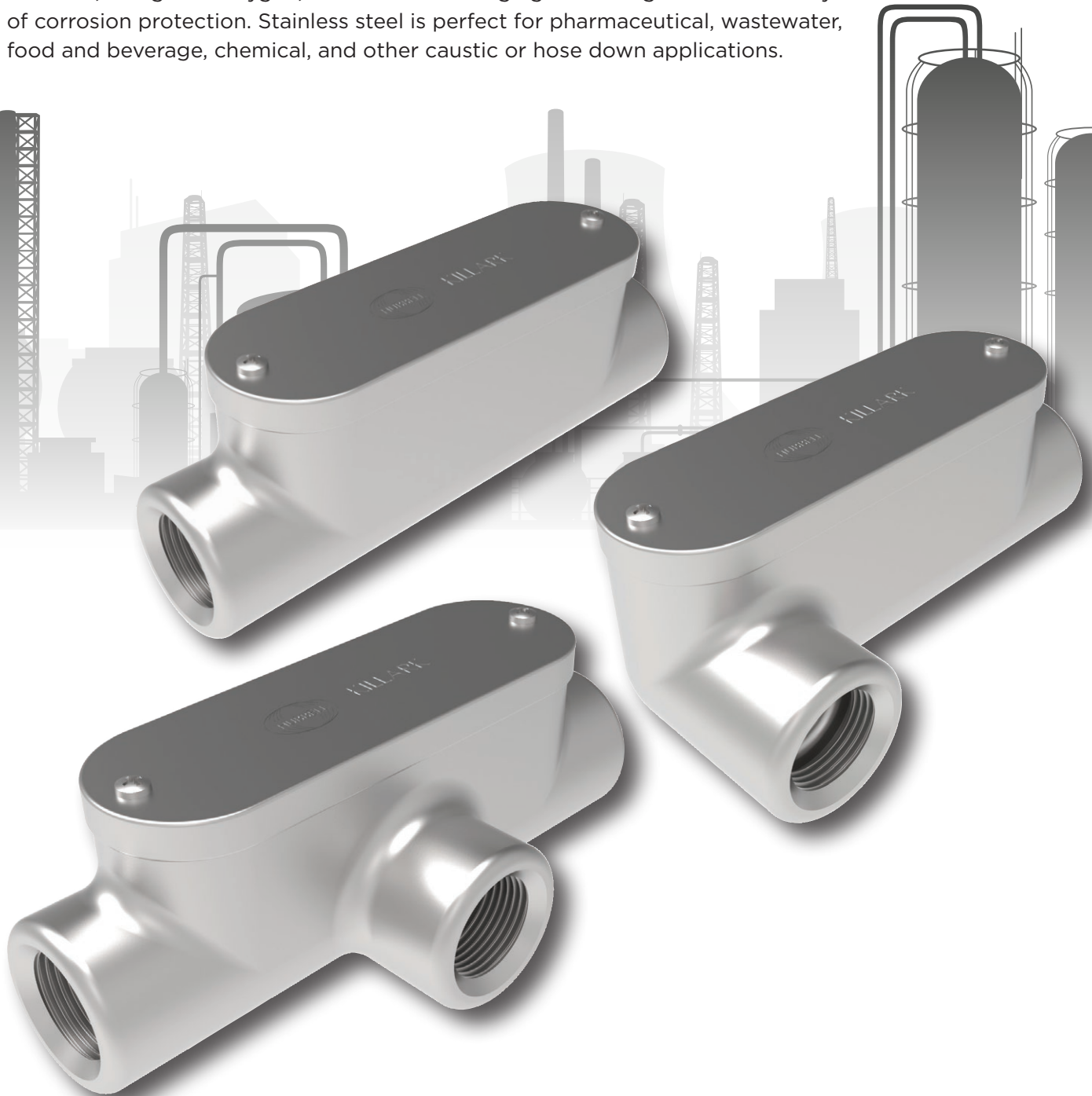


	A	B	C	D	NPT
KD1SA	1.13	1.7	N/A	N/A	1/2"
KD2SA	1.13	1.7	N/A	N/A	3/4"
KD1	N/A	1.7	1.29	1.11	1/2"
KD2	N/A	1.7	1.29	1.11	3/4"



WHY STAINLESS?

Stainless steel has become the metal of choice for superior corrosion resistant conduit systems. Its high strength, heat resistance, and long-lasting life makes it ideal for even the harshest applications. One of the most unique aspect of stainless is its ability to self-heal; When scratched, chromium inside the steel, along with oxygen, will act as a healing agent adding an additional layer of corrosion protection. Stainless steel is perfect for pharmaceutical, wastewater, food and beverage, chemical, and other caustic or hose down applications.





LB



LR



LL



T



TB



C

UL514B & UL514A compliant

Suitable for use in Class 1 Div. 2 applications when installed in accordance to NEC Article 501.10 Type 4X rated with cover and gasket



E3397



E22699

FEATURES-SPECIFICATIONS

Features

- Flat back design provides greater cubic capacity for easier wire pulling and more room for splicing
- Cover and gasket comes standard for Type 4X ratings
- Allows bends in conduit systems
- Cost will recoup overtime due to little to no replacement over the life of the system

Materials

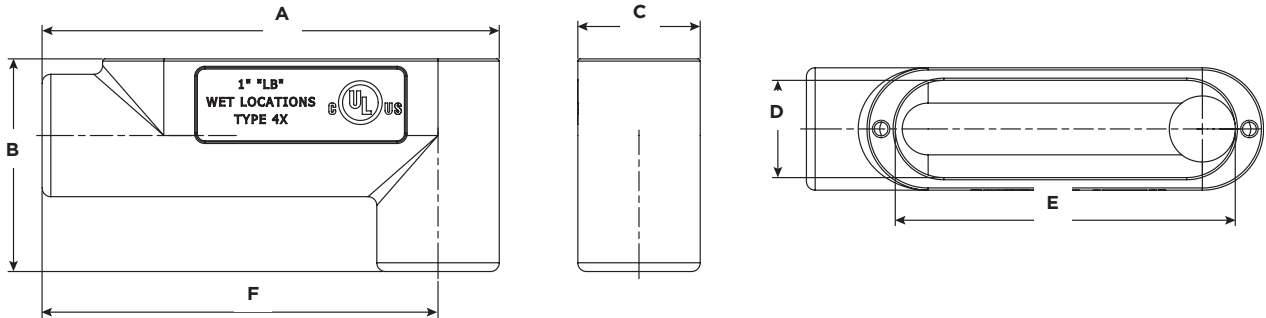
- Body/Cover/Screws - 316 stainless steel
- Gasket - Neoprene
- Natural Finish

STAINLESS STEEL CONDUIT BODIES



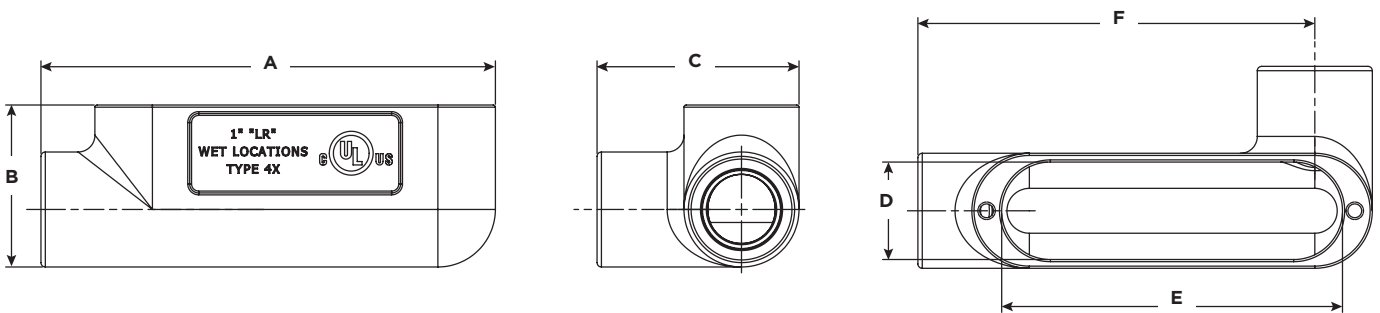
LB CONDUIT TYPE

CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME	MAX CONDUCTOR FILL
		A	B	C	D	E	F		
LB28SS	3/4"	5.5	2.9	1.5	1.14	3.88	4.75	6.7 IN ³	6 AWG MAX 4
LB38SS	1"	6.48	3.04	1.75	1.39	4.86	5.66	11.0 IN ³	6 AWG MAX 4
LB58SS	1-1/2"	7.34	3.32	2.44	1.94	3.82	6.28	24.3 IN ³	6 AWG MAX 4
LB68SS	2"	8.42	3.86	2.99	2.49	6.8	6.98	44.8 IN ³	6 AWG MAX 4



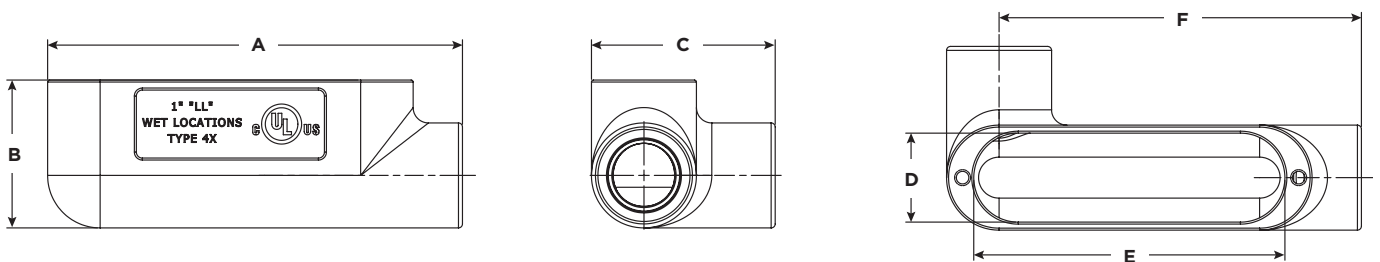
LR CONDUIT TYPE

CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME	MAX CONDUCTOR FILL
		A	B	C	D	E	F		
LR28SS	3/4"	5.5	2.17	2.49	1.14	3.88	4.75	6.7 IN ³	6 AWG MAX 4
LR38SS	1"	6.48	2.31	2.88	1.39	4.86	5.66	11.0 IN ³	4 AWG MAX 3
LR58SS	1-1/2"	7.44	2.59	3.56	1.94	5.82	6.28	24.3 IN ³	2 AWG MAX 3
LR68SS	2"	8.42	3.13	4.08	2.49	6.8	6.98	44.8 IN ³	1 AWG MAX 3



LL CONDUIT TYPE

CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME	MAX CONDUCTOR FILL
		A	B	C	D	E	F		
LL28SS	3/4"	5.5	2.17	2.48	1.14	3.38	4.75	6.7 IN ³	6 AWG MAX 4
LL38SS	1"	6.48	2.31	2.87	1.39	4.86	5.66	11.0 IN ³	4 AWG MAX 3
LL58SS	1-1/2"	7.44	2.59	3.55	1.94	5.82	6.28	24.3 IN ³	2 AWG MAX 3
LL68SS	2"	8.42	3.13	4.07	2.49	6.8	6.98	44.8 IN ³	1 AWG MAX 3

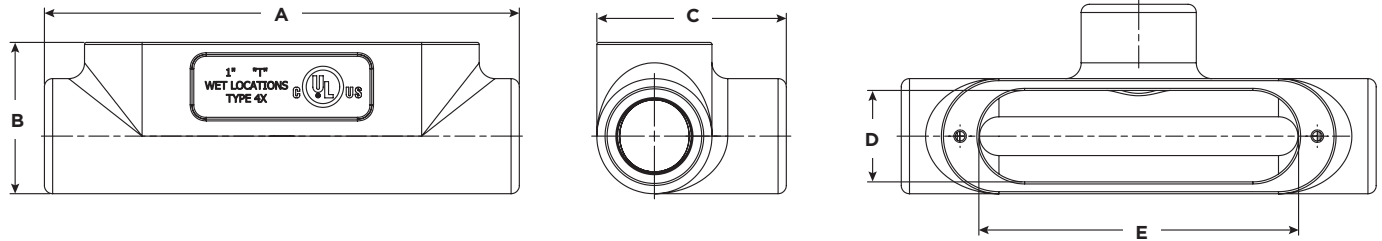




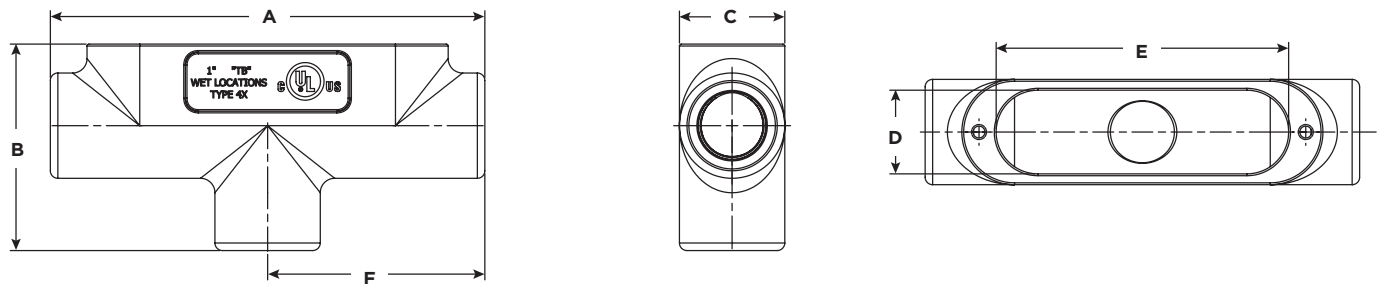
FITTINGS

STAINLESS STEEL CONDUIT BODIES

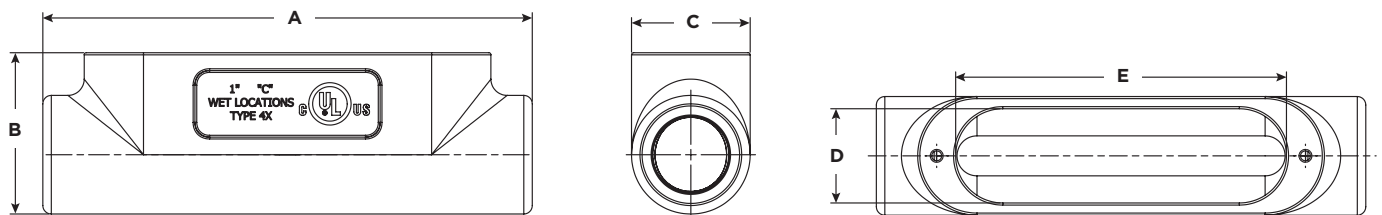
T CONDUIT TYPE									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME	MAX CONDUCTOR FILL
		A	B	C	D	E	F		
T28SS	3/4"	6.23	2.03	2.49	1.14	3.88	—	6.7 IN ³	6 AWG MAX 4
T38SS	1"	7.22	2.3	2.88	1.39	4.86	—	11.0 IN ³	6 AWG MAX 4
T58SS	1-1/2"	8.18	2.58	3.56	1.94	5.82	—	24.3 IN ³	6 AWG MAX 4
T68SS	2"	9.16	3.12	4.08	2.49	6.8	—	44.8 IN ³	6 AWG MAX 4



TB CONDUIT TYPE									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME	MAX CONDUCTOR FILL
		A	B	C	D	E	F		
TB28SS	3/4"	6.23	2.9	1.5	1.14	3.88	3.12	6.7 IN ³	6 AWG MAX 4
TB38SS	1"	7.22	3.43	1.75	1.39	4.86	3.61	11.0 IN ³	6 AWG MAX 3
TB58SS	1-1/2"	8.18	3.72	2.44	1.94	5.82	4.09	24.3 IN ³	6 AWG MAX 3
TB68SS	2"	9.16	4.21	2.99	2.49	6.8	4.58	44.8 IN ³	6 AWG MAX 3



C CONDUIT TYPE									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						VOLUME	MAX CONDUCTOR FILL
		A	B	C	D	E	F		
C28SS	3/4"	6.23	2.17	1.5	1.14	3.89	—	6.7 IN ³	6 AWG MAX 4
C38SS	1"	7.22	2.38	1.75	1.39	4.88	—	11.0 IN ³	4 AWG MAX 3
C58SS	1-1/2"	8.18	2.59	2.44	1.94	5.82	—	24.3 IN ³	2 AWG MAX 3
C68SS	2"	9.16	3.13	2.99	2.49	6.8	—	44.8 IN ³	1 AWG MAX 3



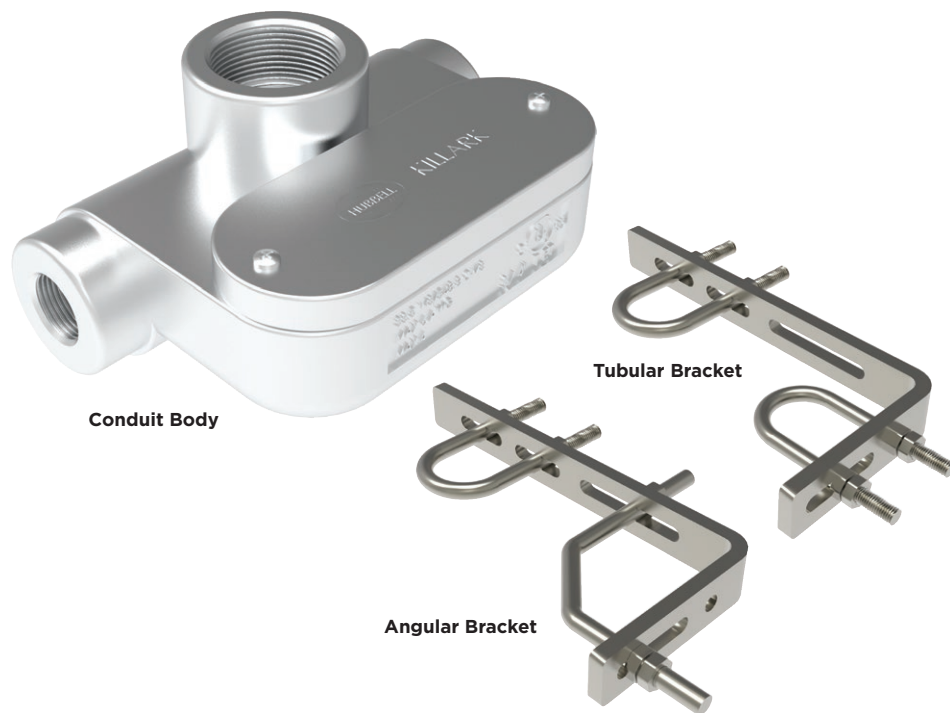


Killark's unique Top Entry T or "TET" fitting offers a safe way to install an electrical conduit body with unimpeded access for future maintenance or expansion projects for gantry and elevated industrial walkways. This patented design allows the access point to remain unblocked for the life of the electrical run and even allows for conductor pull for unrelated product, like light fixtures. The TET fitting is future proof and is the safest means for your electrical system.





FITTINGS TET SERIES



UL514B & UL514A compliant
Suitable for use in Class 1 Div. 2 applications when installed in accordance to NEC Article 501.10 Type 4X rated with cover and gasket

 E3397

 E22699

FEATURES-SPECIFICATIONS

TET CONDUIT BODY

Features/Benefits

- Safer to Install for future access during maintenance
- Unimpeded access to the wiring chamber for splicing and pulling conductors
- Pull through for non-related products
- Future Proof - unable to block during expansion projects
- Type 4X rated
- Includes stainless steel cover and neoprene gasket
- Available with 3/4" side hubs - no need for a reducer

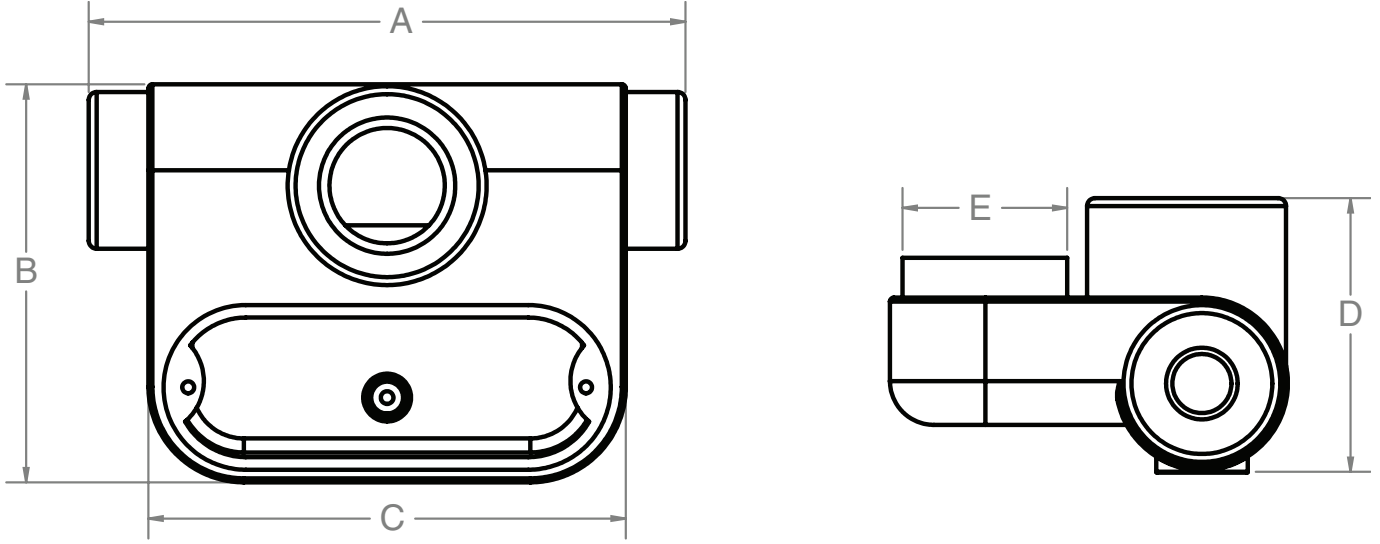
Materials/Finish

- Body - Aluminum or stainless steel
- Cover/Screws - 316 stainless steel
- Gasket - Neoprene
- Natural - Finish

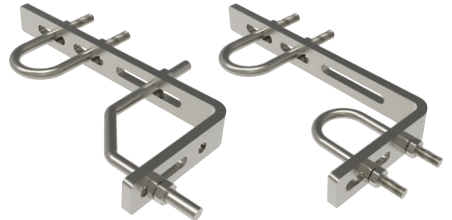
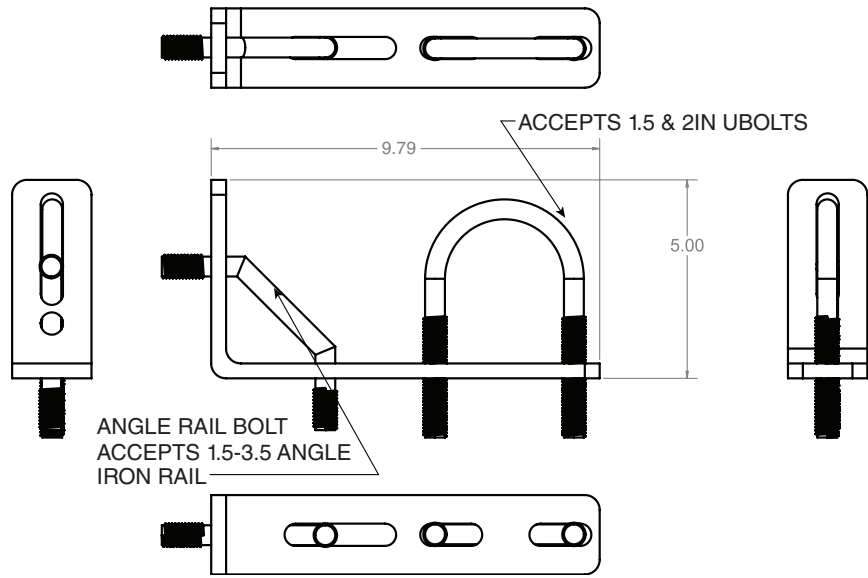
MOUNTING BRACKETS

Features

- For Tubular and Angle Stanchion Mounting of Light Poles and Instruments for Stair and Walkway Rails
- High Vibration Installation
- Includes bolts, nuts, and washers



TET CONDUIT BODY										
CATALOG NUMBER	HUB SIZE		FINISH	ACCESSORIES	A	B	C	D	E	VOLUME
	TOP	SIDES								
TET15075A	1-1/2"	3/4"	Aluminum	N/A	7.5	5	6	3.44	2.07	33.5 in ³ (548.8 cm ³)
TET15075AD	1-1/2"	3/4"	Aluminum	Drain	7.5	5	6	3.44	2.07	33.5 in ³ (548.8 cm ³)
TET15075ABD	1-1/2"	3/4"	Aluminum	Drain/Breather	7.5	5	6	3.44	2.07	33.5 in ³ (548.8 cm ³)
TET15075SS	1-1/2"	3/4"	Stainless Steel	N/A	7.5	5	6	3.44	2.07	33.5 in ³ (548.8 cm ³)
TET150150SS	1-1/2"	1-1/2"	Stainless Steel	N/A	7.5	5	6	3.44	2.07	33.5 in ³ (548.8 cm ³)
TET100100SS	1"	1"	Stainless Steel	N/A	7.5	5	6	3.44	2.07	33.5 in ³ (548.8 cm ³)
TET07575SS	3/4"	3/4"	Stainless Steel	N/A	7.5	5	6	3.44	2.07	33.5 in ³ (548.8 cm ³)



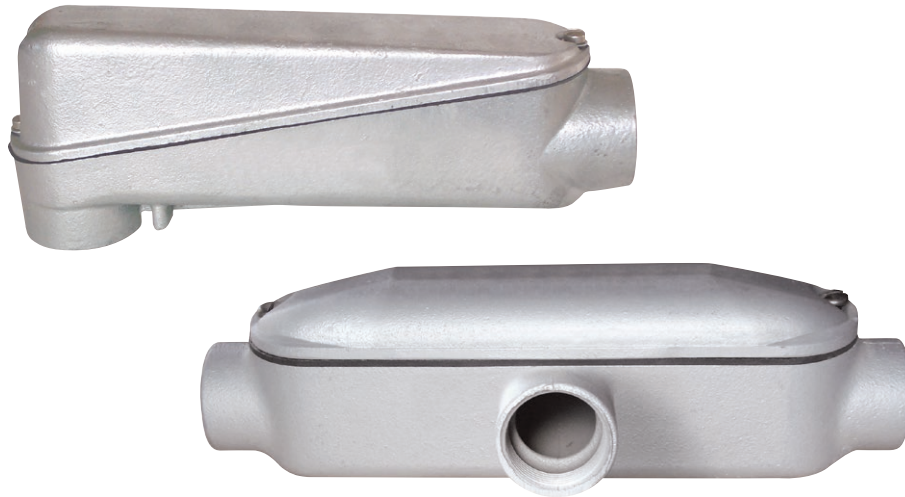
Angular Bracket Tubular Bracket

MOUNTING BRACKETS		
CATALOG NUMBER	FINISH	TYPE OF BRACKET
MHK-RTG	Steel	Tubular (rounded)
MHK-RAG	Steel	Angular
MHK-RTS	Stainless Steel	Tubular (rounded)
MHK-RAS	Stainless Steel	Angular



FITTINGS MO SERIES

Iron and Aluminum Mogul Conduit Bodies



Suitable for wet locations when used with gasketed covers.
Federal Specification W-C-586D / A-A 50563.
Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10, and 503.10.



FEATURES-SPECIFICATIONS

Features

- A raised dome cover permits additional wiring room
- Furnished with captive stainless steel screws and gasket
- LBD, C, and UB Series available with built-in cable-pulling rollers on sizes 1-1/2" and larger. Add -WR to catalog number. Example MOLBD-5-WR.

Materials

- Cast iron moguls are hot dipped galvanized
- Aluminum moguls are of copper-free aluminum (less than 4/10 of 1%) with electrostatically applied powder coating



Iron and Aluminum Mogul Conduit Bodies



LB TYPE



C TYPE

LB TYPE MOGUL CONDUIT BODY

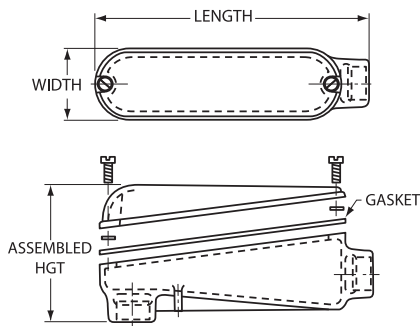
CATALOG NUMBER		HUB SIZE	LENGTH	ASSEMBLED HEIGHT	WIDTH	6X LENGTH
KILLARK ALUM.	KILLARK IRON					
MOLBD-1	MOLBD-1M	1/2"	5" (127)	2-5/16" (59)	1-5/16" (33)	3" (76)
MOLBD-2	MOLBD-2M	3/4"	6-1/4" (159)	2-5/8" (67)	1-9/16" (40)	4-1/2" (114)
MOLBD-3	MOLBD-3M	1"	9-5/8" (244)	3-5/8" (92)	2-1/2" (64)	7-1/2" (191)
MOLBD-4	MOLBD-4M	1-1/4"	9-5/8" (244)	3-5/8" (92)	2-1/2" (64)	7-1/2" (191)
MOLBD-5	MOLBD-5M	1-1/2"	14-7/16" (367)	5-5/8" (143)	3" (76)	12" (305)
MOLBD-6	MOLBD-6M	2"	14-7/16" (367)	5-5/8" (143)	3" (76)	12" (305)
MOLBD-7	MOLBD-7M	2-1/2"	22" (559)	7-1/2" (191)	4-1/2" (114)	18" (457)
MOLBD-8	MOLBD-8M	3"	22" (559)	7-1/2" (191)	4-1/2" (114)	18" (457)
MOLBD-9	MOLBD-9M	3-1/2"	28-1/2" (724)	9-1/4" (235)	5-1/2" (140)	24" (610)
MOLBD-0	MOLBD-0M	4"	28-1/2" (724)	9-1/4" (235)	5-1/2" (140)	24" (610)

NOTE - For built-in cable rollers (on sizes 1-1/2" and larger), add -WR to catalog number. Example: MOLBD-5WR.

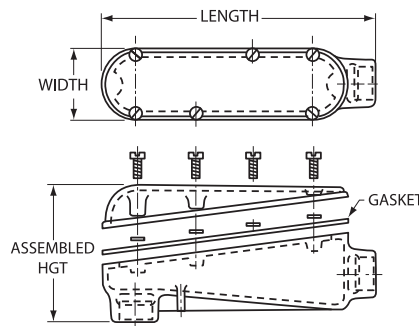
C TYPE MOGUL CONDUIT BODY

CATALOG NUMBER		HUB SIZE	LENGTH	ASSEMBLED HEIGHT	WIDTH	8X LENGTH
KILLARK ALUM.	KILLARK IRON					
MOC-3	MOC-3M	1"	12" (305)	3" (76)	2-5/8" (67)	10" (254)
MOC-4	MOC-4M	1-1/4"	12-1/16" (306)	3-5/16" (84)	2-5/8" (67)	10" (254)
MOC-5	MOC-5M	1-1/2"	18-1/8" (460)	3-7/8" (98)	3-3/16" (81)	16" (406)
MOC-6	MOC-6M	2"	18-1/16" (459)	4-7/16" (113)	3-3/16" (81)	16" (406)
MOC-7	MOC-7M	2-1/2"	27-1/8" (689)	5-3/16" (132)	4-11/16" (119)	24" (610)
MOC-8	MOC-8M	3"	27-1/4" (692)	5-15/16" (151)	4-11/16" (119)	24" (610)
MOC-9	MOC-9M	3-1/2"	35-3/8" (899)	7-3/16" (183)	5-11/16" (144)	32" (813)
MOC-0	MOC-0M	4"	35-7/16" (900)	7-9/16" (192)	5-11/16" (144)	32" (813)

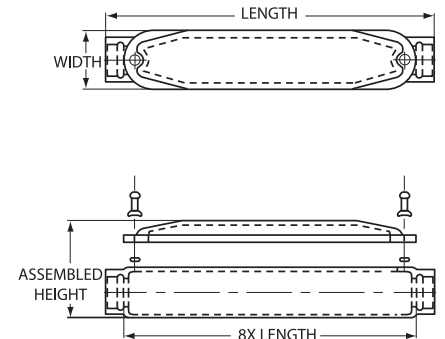
NOTE - For built-in cable rollers (on sizes 1-1/2" and larger), add -WR to catalog number. Example: MOLBD-5WR.



LB Sizes 1" thru 2"



LB Sizes 2-1/2" thru 4"



C Sizes



FITTINGS MO SERIES

Iron and Aluminum Mogul Conduit Bodies



T TYPE



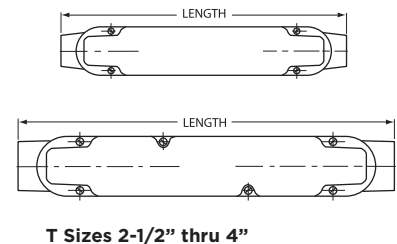
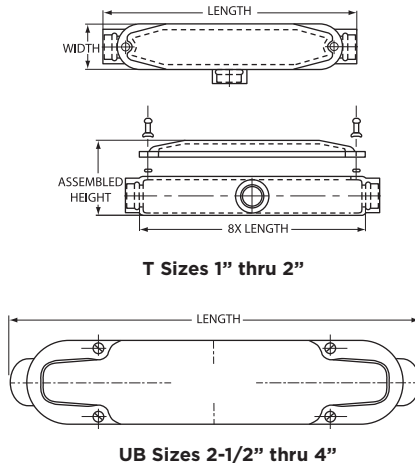
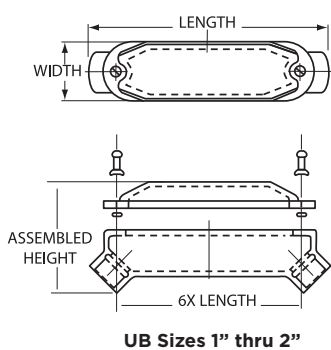
UB TYPE

T TYPE						
CATALOG NUMBER		HUB SIZE	LENGTH	ASSEMBLED HEIGHT	WIDTH	8X LENGTH
KILLARK ALUM.	KILLARK IRON					
MOT-3	MOT-3M	1"	12" (305)	3" (76)	2-5/8" (67)	10" (254)
MOT-4	MOT-4M	1-1/4"	12-1/16" (306)	3-5/16" (84)	2-5/8" (67)	10" (254)
MOT-5	MOT-5M	1-1/2"	18-1/8" (460)	3-7/8" (98)	3-3/16" (81)	16" (406)
MOT-6	MOT-6M	2"	18-1/16" (459)	4-7/16" (113)	3-3/16" (81)	16" (406)
MOT-7	MOT-7M	2-1/2"	27-1/8" (689)	5-3/16" (132)	4-11/16" (119)	24" (610)
MOT-8	MOT-8M	3"	27-1/4" (692)	5-15/16" (151)	4-11/16" (119)	24" (610)
MOT-9	MOT-9M	3-1/2"	35-3/8" (899)	7-3/16" (183)	5-11/16" (144)	32" (813)
MOT-0	MOT-0M	4"	35-7/16" (900)	7-9/16" (192)	5-11/16" (144)	32" (813)

UB TYPE						
CATALOG NUMBER		HUB SIZE	LENGTH	ASSEMBLED HEIGHT	WIDTH	6X LENGTH
KILLARK ALUM.	KILLARK IRON					
MOUB-3	MOUB-3M	1"	10-7/16" (265)	3-7/8" (98)	2-5/8" (67)	7-1/2" (191)
MOUB-4	MOUB-4M	1-1/4"	10-7/16" (265)	4-3/16" (106)	2-5/8" (67)	7-1/2" (191)
MOUB-5	MOUB-5M	1-1/2"	15-9/16" (395)	5-1/8" (130)	3-3/16" (81)	12" (305)
MOUB-6	MOUB-6M	2"	15-9/16" (395)	5-3/4" (146)	3-3/16" (81)	12" (305)
MOUB-7	MOUB-7M	2-1/2"	23-1/16" (586)	8-1/2" (216)	4-11/16" (119)	18" (457)
MOUB-8	MOUB-8M	3"	23-5/16" (668)	8-1/2" (216)	4-11/16" (119)	18" (457)
MOUB-9	MOUB-9M	3-1/2"	30" (762)	10-3/8" (264)	5-11/16" (144)	24" (610)
MOUB-0	MOUB-0M	4"	30" (762)	10-3/8" (264)	5-11/16" (144)	24" (610)

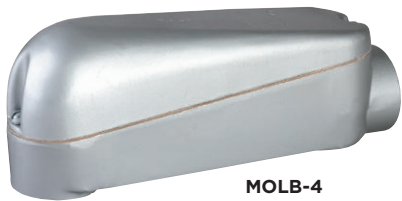
NOTE - For built-in cable rollers (on sizes 1-1/2" and larger), add -WR to catalog number. Example: MOLBD-5WR.

DIMENSIONS





Mogul Conduit Bodies



MOLB-4



MOLB-5 thru 0



MOLB-6CG



MLB-12

Suitable for wet locations when used with gasketed covers.
 Federal Specification W-C-586D / A-A 50563.
 Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10, and 503.10.



FEATURES-SPECIFICATIONS

Features

- A raised dome cover provides additional wiring room
- Furnished with cover and gasket

Materials

Copper-free Aluminum (less than 4/10 of 1%)

- Electrostatically applied powder coating



FITTINGS
MOL SERIES

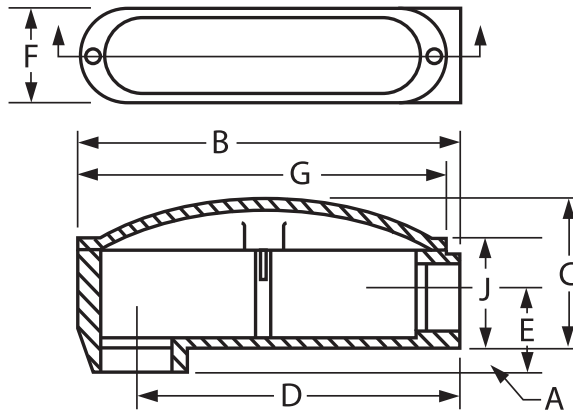
Mogul Conduit Bodies

MOL CONDUIT BODIES									
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS							
		A	B	C	D	E	F	G	J
MOLB-4*	1-1/4"	5/16" (8)	9-3/4" (248)	2-3/4" (70)	8-1/2" (445)	1" (25)	2-3/8" (60)	9-1/8" (232)	2-3/4" (70)
MOLB-5	1-1/2"	1-5/16" (33)	13-3/16" (335)	4-3/4" (121)	11-1/2" (292)	2-3/8" (60)	3-1/8" (79)	12-7/8" (327)	3-3/8" (86)
MOLB-6	2"	1-1/16" (27)	13-3/16" (335)	4-1/4" (108)	11-1/2" (292)	2-1/2" (64)	3-1/8" (79)	12-7/8" (327)	3-3/8" (86)
MOLB-6CG*	2"	1/16" (2)	14-1/2" (368)	5-3/4" (146)	13" (330)	1-3/8" (35)	3" (76)	14-1/8" (359)	3-5/16" (84)
MOLB-7	2-1/2"	1-13/16" (46)	22-5/8" (575)	6-1/4" (159)	20" (508)	3-15/16" (100)	4-7/16" (113)	21-13/16" (554)	4-7/16" (113)
MOLB-8	3"	1-13/16" (46)	22-5/8" (575)	6-1/4" (169)	20" (508)	3-15/16" (100)	4-7/16" (113)	21-13/16" (554)	4-7/16" (113)
MOLB-9	3-1/2"	1-9/16" (40)	28-11/16" (729)	7-7/8" (200)	25-9/16" (649)	4-3/16" (106)	5-1/2" (140)	28-5/16" (719)	5-1/2" (140)
MOLB-0	4"	1-9/16" (40)	28-11/16" (729)	7-7/8" (200)	25-7/16" (646)	4-3/16" (106)	5-1/2" (140)	28-5/16" (719)	5-1/2" (140)

*Split cover design

MOL BLANK REPLACEMENT COVERS AND GASKETS	
CATALOG NUMBER	BODY STYLE
MOL-560	1-1/2" & 2"
MOL-780	2-1/2" & 3"
MOL-900	3-1/2" & 4"

DIMENSIONS





NECLB-6

Suitable for wet locations when used with gasketed covers.
Federal Specification W-C-586D / A-A 50563.
Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502-.10 and 503.10.



FEATURES-SPECIFICATIONS

Features

- Large cover opening (length of opening exceeds six times the trade diameter of the hub size) for easy access to conductors. Cover and gasket included
- A pull box with easy access to conductors
- A chamber with a large opening for easy access to perform changes in the conduit system
- Includes cover and gasket

Materials

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating

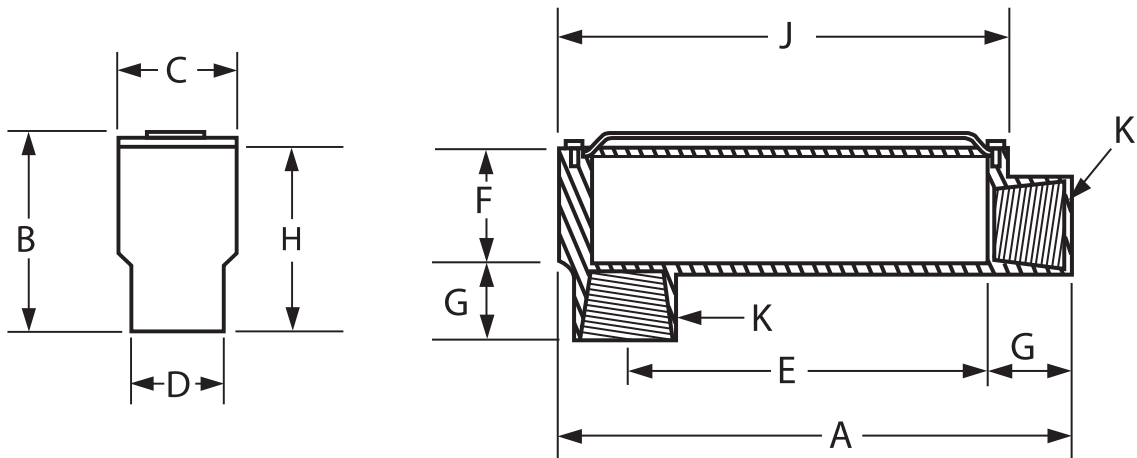


FITTINGS
NECLB SERIES

40% Fill Conduit Bodies

NECLB CONDUIT BODIES												
CATALOG NUMBER	REPLACEMENT COVER AND GASKET	HUB SIZE	A	B	C	D	E	F	G	H	J	K
NECLB-3	NECLB-30	1"	8-1/8"	3-7/16"	2"	11-9/32"	6"	2"	1-1/8"	3-1/8"	7"	1 NPT
NECLB-4	NECLB-40	1-1/4"	9-7/8"	4-1/16"	2-3/8"	11-5/16"	7-1/2"	2-1/2"	1-3/16"	3-11/16"	8-5/8"	1-1/4 NPT
NECLB-5	NECLB-50	1-1/2"	11-17/32"	5-1/16"	2-3/4"	2-3/16"	9"	3-1/2"	1-3/16"	4-11/16"	10-5/8"	1-1/2 NPT
NECLB-6	NECLB-60	2"	14-25/32"	6-3/16"	3"	2-11/16"	12"	4"	1-3/16"	5-3/16"	13-11/16"	2 NPT

DIMENSIONS







FITTINGS
E SERIES

Aluminum - Conduit Bodies

UL E195978 - Standard 514B
SP 2380786 - C22.2 #18

FEATURES-SPECIFICATIONS

Features

- Flat back design for easy mounting close to walls
- Cast of high strength, corrosion and weather resistant aluminum alloy with painted finish
- May be used on aluminum or steel conduit



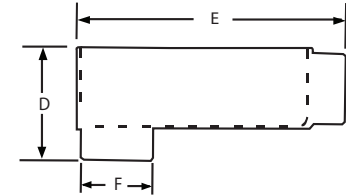
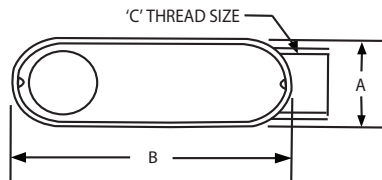
Type LB

- Lightweight, makes installation simple
- Ideal for commercial and light industrial applications

Material

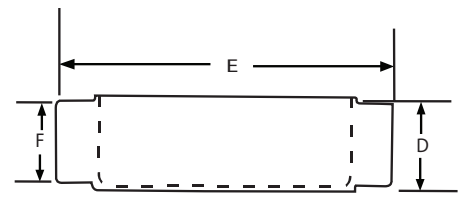
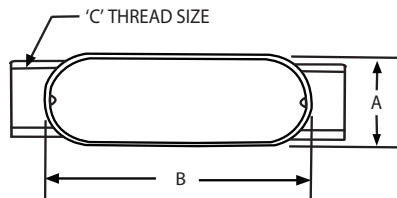
- High grade die cast aluminum

TYPE LB							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EALB-1	1/2"	1-5/16"	3-7/8"	1/2"	2-1/8"	4-3/8"	1-1/16"
EALB-2	3/4"	1-1/2"	4-5/8"	3/4"	2-7/16"	5-1/8"	1-11/32"
EALB-3	1"	1-3/4"	5-3/8"	1"	2-13/16"	5-15/16"	1-21/32"
EALB-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-3/4"	6-7/8"	2-1/4"
EALB-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	3-3/4"	6-7/8"	2-1/4"
EALB-6	2"	3-1/8"	8-1/2"	2"	4-1/8"	9-7/32"	2-15/16"
EALB-7	2-1/2"	4-9/16"	12-1/4"	2-1/2"	5-13/16"	13-1/8"	3-7/16"
EALB-8	3"	4-9/16"	12-1/4"	3"	5-13/16"	13-1/8"	4-7/64"
EALB-9	3-1/2"	5-7/16"	14-7/8"	3-1/2"	7-1/4"	15-3/8"	5-9/64"
EALB-10	4"	5-7/16"	14-7/8"	4"	7-1/4"	15-3/8"	5-9/64"



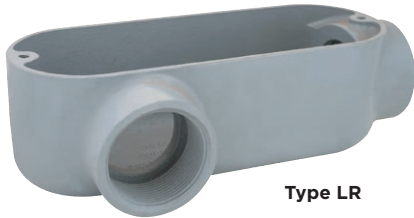
Type C

TYPE C							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EAC-1	1/2"	1-5/16"	3-7/8"	1/2"	1-7/16"	4-29/32"	1-1/16"
EAC-2	3/4"	1-1/2"	4-5/8"	3/4"	1-11/16"	5-1/2"	1-11/32"
EAC-3	1"	1-3/4"	5-3/8"	1"	1-15/16"	6-7/16"	1-21/32"
EAC-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	2-7/8"	8-7/16"	2-1/4"
EAC-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	2-7/8"	8-7/16"	2-1/4"
EAC-6	2"	3-1/8"	8-1/2"	2"	3-7/16"	10-3/4"	2-15/16"
EAC-7	2-1/2"	4-9/16"	12-1/4"	2-1/2"	4"	14"	3-7/16"
EAC-8	3"	4-9/16"	12-1/4"	3"	4-3/4"	13-1/2"	4-7/64"
EAC-9	3-1/2"	5-7/16"	14-7/8"	3-1/2"	5-1/2"	15-29/32"	5-9/64"
EAC-10	4"	5-7/16"	14-7/8"	4"	5-1/2"	15-29/32"	5-9/64"



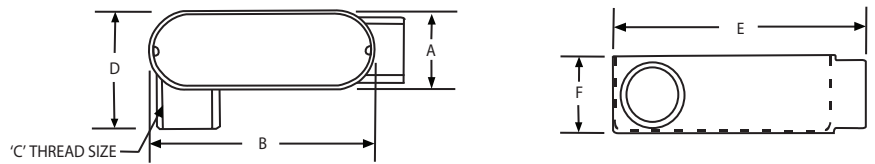


Aluminum - Conduit Bodies



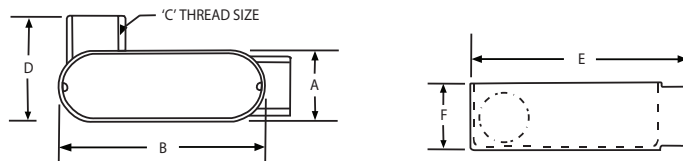
Type LR

TYPE LR							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EALR-1	1/2"	1-5/16"	3-7/8"	1/2"	2-3/64"	4-3/8"	1-7/16"
EALR-2	3/4"	1-1/2"	4-5/8"	3/4"	2-5/16"	5-1/8"	1-11/16"
EALR-3	1"	1-3/4"	5-3/8"	1"	2-21/32"	5-15/16"	1-15/16"
EALR-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-15/32"	6-7/8"	2-7/8"
EALR-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	3-15/32"	6-7/8"	2-7/8"
EALR-6	2"	3-1/8"	8-1/2"	2"	3-7/8"	9-7/32"	3-7/16"
EALR-7	2-1/2"	4-9/16"	12-1/4"	2-1/2"	6"	13-1/8"	4"
EALR-8	3"	4-9/16"	12-1/4"	3"	6"	13-1/8"	4-3/4"
EALR-9	3-1/2"	5-7/16"	14-7/8"	3-1/2"	6-1/4"	15-3/8"	5-1/2"
EALR-10	4"	5-7/16"	14-7/8"	4"	6-1/4"	15-3/8"	5-1/2"



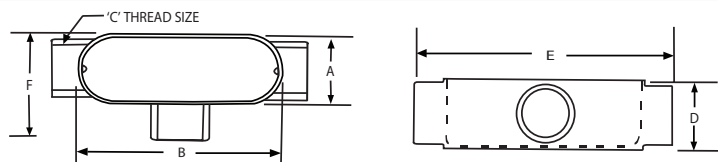
Type LL

TYPE LL							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EALL-1	1/2"	1-5/16"	3-7/8"	1/2"	2-3/64"	4-3/8"	1-7/16"
EALL-2	3/4"	1-1/2"	4-5/8"	3/4"	2-5/16"	5-1/8"	1-11/16"
EALL-3	1"	1-3/4"	5-3/8"	1"	2-21/32"	5-15/16"	1-15/16"
EALL-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-15/32"	6-7/8"	2-7/8"
EALL-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	3-15/32"	6-7/8"	2-7/8"
EALL-6	2"	3-1/8"	8-1/2"	2"	3-7/8"	9-7/32"	3-7/16"
EALL-7	2-1/2"	4-9/16"	12-1/4"	2-1/2"	6"	13-1/8"	4"
EALL-8	3"	4-9/16"	12-1/4"	3"	6"	13-1/8"	4-3/4"
EALL-9	3-1/2"	5-7/16"	14-7/8"	3-1/2"	6-1/4"	15-3/8"	5-1/2"
EALL-10	4"	5-7/16"	14-7/8"	4"	6-1/4"	15-3/8"	5-1/2"



Type T

TYPE T							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EAT-1	1/2"	1-5/16"	3-7/8"	1/2"	1-7/16"	4-29/32"	2-1/8"
EAT-2	3/4"	1-1/2"	4-5/8"	3/4"	1-11/16"	5-1/2"	2-11/32"
EAT-3	1"	1-3/4"	5-3/8"	1"	1-15/16"	6-7/16"	2-21/32"
EAT-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	2-7/8"	8-7/16"	3-19/32"
EAT-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	2-7/8"	8-7/16"	3-19/32"
EAT-6	2"	3-1/8"	8-1/2"	2"	3-7/16"	10-3/4"	4-1/32"
EAT-7	2-1/2"	4-9/16"	12-1/4"	2-1/2"	4"	14"	6-1/4"
EAT-8	3"	4-9/16"	12-1/4"	3"	4-3/4"	13-1/2"	6-1/4"
EAT-9	3-1/2"	5-7/16"	14-7/8"	3-1/2"	5-1/2"	15-29/32"	7"
EALB-10	4"	5-7/16"	14-7/8"	4"	5-1/2"	15-29/32"	7"





FITTINGS E SERIES

Aluminum - Conduit Bodies

UL E195978 - Standard 514B
 SP 2380786 - C22.2 #18

FEATURES-SPECIFICATIONS

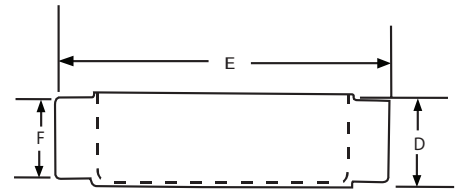
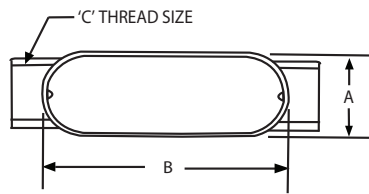
Features

- Flat back design for easy mounting close to walls
- Cast of high strength, corrosion and weather resistant aluminum alloy with painted finish
- May be used on aluminum or steel conduit
- Lightweight, makes installation simple



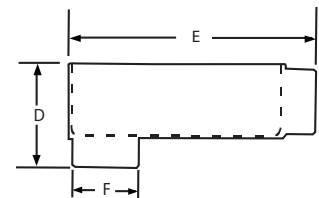
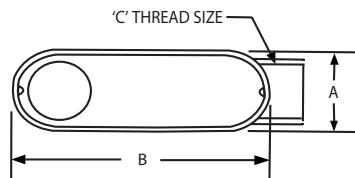
Type C

TYPE C							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EBC-1	1/2"	1-5/16"	3-7/8"	1/2"	1-7/16"	4-29/32"	1-1/16"
EBC-2	3/4"	1-1/2"	4-5/8"	3/4"	1-11/16"	5-1/2"	1-11/32"
EBC-3	1"	1-3/4"	5-3/8"	1"	1-15/16"	6-7/16"	1-21/32"
EBC-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	2-7/8"	8-7/16"	2-1/4"
EBC-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	2-7/8"	8-7/16"	2-1/4"
EBC-6	2"	3-1/8"	8-1/2"	2"	3-7/16"	10-3/4"	2-15/16"



Type LB

TYPE LB							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EBLB-1	1/2"	1-5/16"	3-7/8"	1/2"	2-1/8"	4-3/8"	1-1/16"
EBLB-2	3/4"	1-1/2"	4-5/8"	3/4"	2-7/16"	5-1/8"	1-11/32"
EBLB-3	1"	1-3/4"	5-3/8"	1"	2-13/16"	5-15/16"	1-21/32"
EBLB-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-3/4"	6-7/8"	2-1/4"
EBLB-5	1-1/2"	2-1/2"	6-5/8"	1-1/4"	3-3/4"	6-7/8"	2-1/4"
EBLB-6	2"	3-1/8"	8-1/2"	2"	4-1/8"	9-7/32"	2-15/16"
EBLB-7	2-1/2"	4-9/16"	12-1/4"	2-1/2"	5-13/16"	13-1/8"	3-7/16"
EBLB-8	3"	4-9/16"	12-1/4"	3"	5-13/16"	13-1/8"	4-7/64"
EBLB-9	3-1/2"	5-7/16"	14-7/8"	3-1/2"	7-1/4"	15-3/8"	5-9/64"
EBLB-10	4"	5-7/16"	14-7/8"	4"	7-1/4"	15-3/8"	5-9/64"



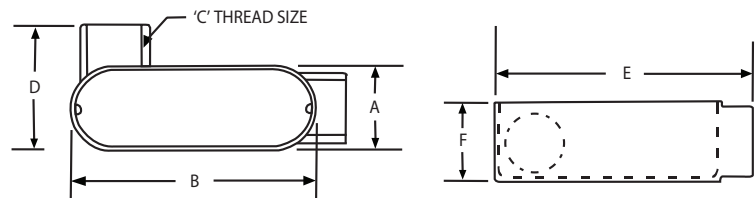


Aluminum - Conduit Bodies



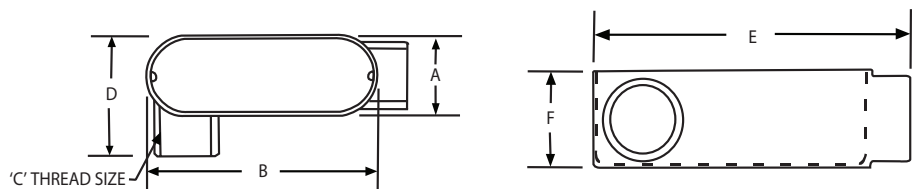
Type LL

TYPE LL							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EBLL-1	1/2"	1-5/16"	3-7/8"	1/2"	2-3/64"	4-3/8"	1-7/16"
EBLL-2	3/4"	1-1/2"	4-5/8"	3/4"	2-5/16"	5-1/8"	1-11/16"
EBLL-3	1"	1-3/4"	5-3/8"	1"	2-21/32"	5-15/16"	1-15/16"
EBLL-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-15/32"	6-7/8"	2-7/8"
EBLL-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	3-15/32"	6-7/8"	2-7/8"
EBLL-6	2"	3-1/8"	8-1/2"	2"	3-7/8"	9-7/32"	3-7/16"



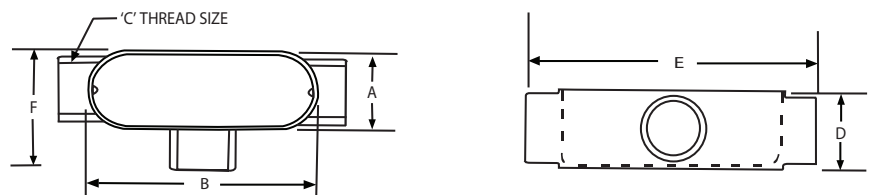
Type LR

TYPE LR							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EBLR-1	1/2"	1-5/16"	3-7/8"	1/2"	2-3/64"	4-3/8"	1-7/16"
EBLR-2	3/4"	1-1/2"	4-5/8"	3/4"	2-15/16"	5-1/8"	1-11/16"
EBLR-3	1"	1-3/4"	5-3/8"	1"	2-21/32"	5-15/16"	1-15/16"
EBLR-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-15/32"	6-7/8"	2-7/8"
EBLR-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	3-15/32"	6-7/8"	2-7/8"
EBLR-6	2"	3-1/8"	8-1/2"	2"	3-7/8"	9-7/32"	3-7/16"



Type T

TYPE T							
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS					
		A	B	C	D	E	F
EBT-1	1/2"	1-5/16"	3-7/8"	1/2"	1-7/16"	4-29/32"	2-1/8"
EBT-2	3/4"	1-1/2"	4-5/8"	3/4"	1-11/16"	5-1/2"	2-11/32"
EBT-3	1"	1-3/4"	5-3/8"	1"	1-15/16"	6-7/16"	2-21/32"
EBT-4	1-1/4"	2-1/2"	6-5/8"	1-1/4"	2-7/8"	8-7/16"	3-19/32"
EBT-5	1-1/2"	2-1/2"	6-5/8"	1-1/2"	2-7/8"	8-7/16"	3-19/32"
EBT-6	2"	3-1/8"	8-1/2"	2"	3-7/16"	10-3/4"	4-1/16"





FITTINGS
E SERIES

Aluminum - Entrance Ells

UL E195978 - Standard 514B
SP 2380786 - C22.2 #18

FEATURES-SPECIFICATIONS

Features

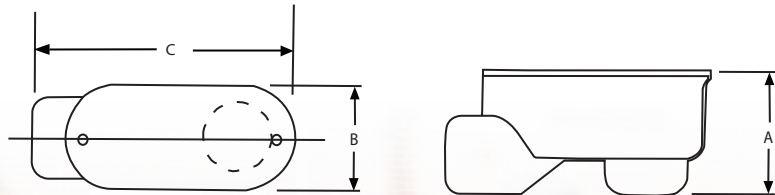
- Lightweight aluminum construction eases installation and provides a corrosion resistance
- Removable cover and gasket allows for easier wire pulling and access to the raceway



EASLB

		DIMENSIONS		
CATALOG NUMBER	TRADE SIZE	A	B	C
EASLB-1	1/2"	10	100	-
EASLB-2	3/4"	10	50	-
EASLB-3	1"	6	24	-
EASLB-4	1-1/4"	2	8	-
EASLB-5	1-1/2"	2	8	-
EASLB-6	2"	1	5	-

Service Entrance





Aluminum - Covers and Gaskets

UL E195978 - Standard 514B
SP 2380786 - C22.2 #18

FEATURES-SPECIFICATIONS

Features

Covers

- Lightweight aluminum construction provides corrosion resistance and easy installation
- Covers are furnished with zinc plated screws-no worry about removing a cover once it is installed

Gaskets

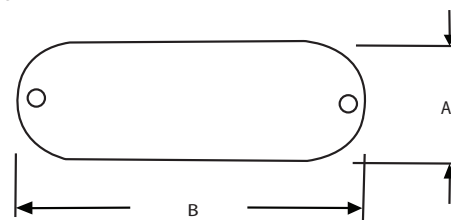
- Gasket materials available: neoprene



GASKETS - NEOPRENE TYPE			
CATALOG NUMBER	TRADE SIZE	DIMENSIONS	
		A	B
EGKN-1	1/2"	1-3/8"	3-29/32"
EGKN-2	3/4"	1-9/16"	4-11/16"
EGKN-3	1"	1-25/32"	5-3/8"
EGKN-4	1-1/4" - 1-1/2"	2-1/2"	7-1/4"
EGKN-5	2"	3-1/8"	9-1/2"
EGKN-6	2-1/2" - 3"	4-1/2"	12-1/4"
EGKN-7	3-1/2" - 4"	5-29/64"	14-13/64"

COVER			
CATALOG NUMBER	TRADE SIZE	DIMENSIONS	
		A	B
ESCV-1	1/2"	1-3/8"	3-29/32"
ESCV-2	3/4"	1-9/16"	4-11/16"
ESCV-3	1"	1-25/32"	5-3/8"
ESCV-4	1-1/4" - 1-1/2"	2-1/2"	7-1/4"
ESCV-5	2"	3-1/8"	9-1/2"
ESCV-6	2-1/2" - 3"	4-1/2"	12-1/4"
ESCV-7	3-1/2" - 4"	5-29/64"	14-13/64"

Cover





FITTINGS E SERIES

Aluminum - Cover and Gasket Included

UL E195978 - Standard 514B
 SP 2380786 - C22.2 #18

FEATURES-SPECIFICATIONS

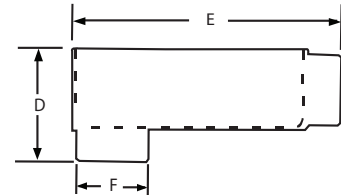
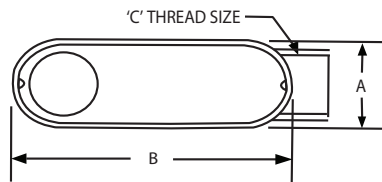
Features

- Assembled with cover and gasket to speed installation - installer has all components needed
- Flat back design for easy mounting close to walls
- Cast of high strength, corrosion, and weather resistant aluminum alloy with painted finish
- May be used on aluminum or steel conduit
- Lightweight, makes installation simple
- Unique E-PAK™ packaging serves as a shipping and display carton



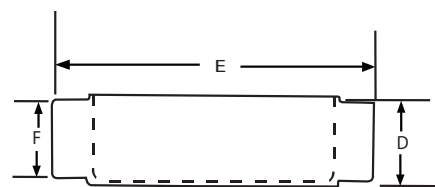
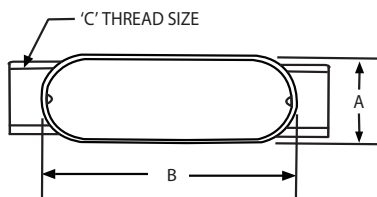
Type LB

TYPE LB								
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS						E PAK CTN
		A	B	C	D	E	F	
EALB-1CGN	1/2"	1-5/16"	3-7/8"	1/2"	2-7/8"	4-3/32"	1-1/16"	10
EALB-2CGN	3/4"	1-1/2"	4-5/8"	3/4"	2-7/16"	5-1/8"	1-11/32"	10
EALB-3CGN	1"	1-3/4"	5-3/8"	1"	2-13/16"	6-15/16"	1-21/32"	5
EALB-4CGN	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-3/4"	6-7/8"	2-1/4"	2
EALB-5CGN	1-1/2"	2-1/2"	6-5/8"	1-1/2"	3-3/4"	6-7/8"	2-1/4"	2
EALB-6CGN	2"	3-1/8"	8-1/2"	2"	4-1/8"	9-7/32"	2-15/16"	1
EALB-7CGN	2-1/2"	4-9/16"	12-1/4"	2-1/2"	5-13/16"	13-1/8"	3-7/16"	1
EALB-8CGN	3"	4-9/16"	12-1/4"	3"	5-13/16"	13-1/8"	4-7/64"	1
EALB-9CGN	3-1/2"	5-7/16"	14-7/8"	3-1/2"	7-1/4"	15-3/8"	5-9/64"	1
EALB-10CGN	4"	5-7/16"	14-7/8"	4"	7-1/4"	15-3/8"	5-9/64"	1



Type C

TYPE C								
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS						E PAK CTN
		A	B	C	D	E	F	
EAC-1CGN	1/2"	1-5/16"	3-7/8"	1/2"	1-7/16"	4-29/32"	1-1/16"	10
EAC-2CGN	3/4"	1-1/2"	4-5/8"	3/4"	1-11/16"	5-1/2"	1-11/32"	10
EAC-3CGN	1"	1-3/4"	5-3/8"	1"	1-15/16"	6-7/16"	1-21/32"	5
EAC-4CGN	1-1/4"	2-1/2"	6-5/8"	1-1/4"	2-7/8"	8-7/16"	2-1/4"	2
EAC-5CGN	1-1/2"	2-1/2"	6-5/8"	1-1/2"	2-7/8"	8-7/16"	2-1/4"	2
EAC-6CGN	2"	3-1/8"	8-1/2"	2"	3-7/16"	10-3/4"	2-15/16"	1
EAC-7CG	2-1/2"	4-9/16"	12-1/4"	2-1/2"	4"	14"	3-7/16"	1
EAC-8CG	3"	4-9/16"	12-1/4"	3"	4-3/4"	13-1/2"	4-7/64"	1
EAC-9CG	3-1/2"	5-7/16"	14-7/8"	3-1/2"	5-1/2"	15-29/32"	5-9/64"	1
EAC-10CG	4"	5-7/16"	14-7/8"	4"	5-1/2"	15-29/32"	5-9/64"	1



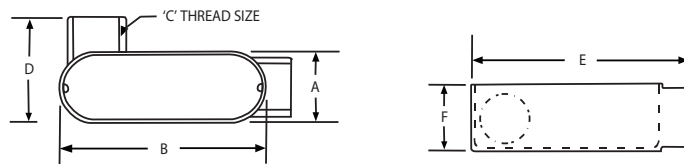


Aluminum - Cover and Gasket Included



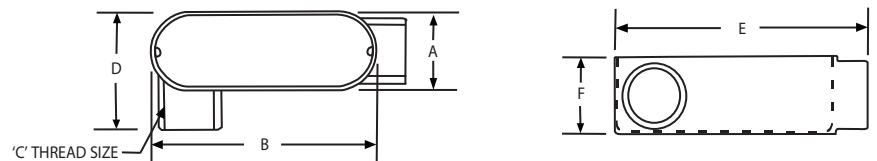
Type LL

TYPE LL								
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS						E PAK CTN
		A	B	C	D	E	F	
EALL-1CGN	1/2"	1-5/16"	3-7/8"	1/2"	2-3/64"	4-3/8"	1-7/16"	10
EALL-2CGN	3/4"	1-1/2"	4-5/8"	3/4"	2-5/16"	5-1/8"	1-11/16"	10
EALL-3CGN	1"	1-3/4"	5-3/8"	1"	2-21/32"	5-15/16"	1-15/16"	5
EALL-4CGN	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-15/32"	6-7/8"	2-7/8"	2
EALL-5CGN	1-1/2"	2-1/2"	6-5/8"	1-1/2"	3-15/32"	6-7/8"	2-7/8"	2
EALL-6CGN	2"	3-1/8"	8-1/2"	2"	3-7/8"	9-7/32"	3-7/16"	1
EALL-7CG	2-1/2"	4-9/16"	12-1/4"	2-1/2"	6"	13-1/8"	4"	1
EALL-8CG	3"	4-9/16"	12-1/4"	3"	6"	13-1/8"	4-3/4"	1
EALL-9CG	3-1/2"	5-7/16"	14-7/8"	3-1/2"	6-1/4"	15-3/8"	5-1/2"	1
EALL-10CG	4"	5-7/16"	14-7/8"	4"	6-1/4"	15-3/8"	5-1/2"	1



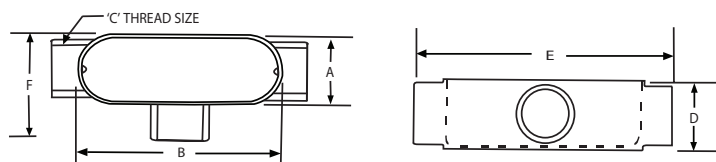
Type LR

TYPE LR								
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS						E PAK CTN
		A	B	C	D	E	F	
EALR-1CGN	1/2"	1-5/16"	3-7/8"	1/2"	2-3/64"	4-3/8"	1-7/16"	10
EALR-2CGN	3/4"	1-1/2"	4-5/8"	3/4"	2-5/16"	5-1/8"	1-11/16"	10
EALR-3CGN	1"	1-3/4"	5-3/8"	1"	2-21/32"	5-15/16"	1-15/16"	5
EALR-4CGN	1-1/4"	2-1/2"	6-5/8"	1-1/4"	3-15/32"	6-7/8"	2-7/8"	2
EALR-5CGN	1-1/2"	2-1/2"	6-5/8"	1-1/2"	3-15/32"	6-7/8"	2-7/8"	2
EALR-6CGN	2"	3-1/8"	8-1/2"	2"	3-7/8"	9-7/32"	3-7/16"	1
EALR-7CG	2-1/2"	4-9/16"	12-1/4"	2-1/2"	6"	13-1/8"	4"	1
EALR-8CG	3"	4-9/16"	12-1/4"	3"	6"	13-1/8"	4-3/4"	1
EALR-9CG	3-1/2"	5-7/16"	14-7/8"	3-1/2"	6-1/4"	15-3/8"	5-1/2"	1
EALR-10CG	4"	5-7/16"	14-7/8"	4"	6-1/4"	15-3/8"	5-1/2"	1



Type T

TYPE T								
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS						E PAK CTN
		A	B	C	D	E	F	
EAT-1CGN	1/2"	1-5/16"	3-7/8"	1/2"	1-7/16"	4-29/32"	2-1/8"	10
EAT-2CGN	3/4"	1-1/2"	4-5/8"	3/4"	1-11/16"	5-1/2"	2-11/32"	10
EAT-3CGN	1"	1-3/4"	5-3/8"	1"	1-15/16"	6-7/16"	2-21/32"	5
EAT-4CGN	1-1/4"	2-1/2"	6-5/8"	1-1/4"	2-7/8"	8-7/16"	3-19/32"	2
EAT-5CGN	1-1/2"	2-1/2"	6-5/8"	1-1/2"	2-7/8"	8-7/16"	3-19/32"	2
EAT-6CGN	2"	3-1/8"	8-1/2"	2"	3-7/16"	10-3/4"	4-1/32"	1
EAT-7CG	2-1/2"	4-9/16"	12-1/4"	2-1/2"	4"	14"	6-1/4"	1
EAT-8CG	3"	4-9/16"	12-1/4"	3"	4-3/4"	13-1/2"	6-1/4"	1
EAT-9CG	3-1/2"	5-7/16"	14-7/8"	3-1/2"	5-1/2"	15-29/32"	7"	1
EALB-10CG	4"	5-7/16"	14-7/8"	4"	5-1/2"	15-29/32"	7"	1





FITTINGS

AF/AF8 SERIES

Expansion Fittings



Casted Body with
NPT hub size

Type "A" Phenolic
Insulating Bushing

Galvanized
Washer

Tinned Copper
Braid

End Coupling

Teflon Water Tight
Packaging



Expansion Fittings

 LISTED - File E22699



AF8-75



AF-75

FEATURES-SPECIFICATIONS

Features

- Conduit body is casted from a durable and natural corrosive resistant ZA12 zinc alloy
- Relies on tinned braided copper external bonding jumper (AJ Series Jumper) per NEC 250.98
- Includes phenolic insulating bushing
- Contains PTFE synthetic fiber reinforced gasket with steel washer
- Tinned braided copper ring
- Raintight, watertight, and concrete-tight

Materials

Add suffixes to the following for ordering logic:

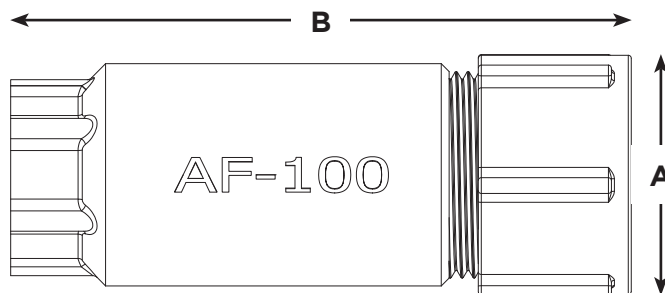
- ZA12 (zinc Alloy) standard
- Hot Dipped Galvanized AF-50EG
- Aluminum AF-50AL
- Polyolefin Coated AF-50GG



FITTINGS
AF/AF8 SERIES

Expansion Fittings

EXPANSION FITTINGS				
4" CONDUIT MOVEMENT				BONDING JUMPER
HUB SIZE	CATALOG #	MAX. DIA. (A)	LENGTH (B)	CATALOG #
1/2"	AF-50	2"	6-1/4"	AJ-5075-14
3/4"	AF-75	2-1/4"	6-3/8"	AJ-5075-14
1"	AF-100	2-5/8"	6-5/8"	AJ-100125-14
1-1/4"	AF-125	3-1/8"	6-5/8"	AJ-100125-14
1-1/2"	AF-150	3-1/2"	6-5/8"	AJ-150200-14
2"	AF-200	4"	7-1/8"	AJ-150200-14
2-1/2"	AF-250	4-1/2"	7-1/2"	AJ-250300-14
3"	AF-300	5-3/8"	8-1/8"	AJ-250300-14
3-1/2"	AF-350	6"	8-1/2"	AJ-350400-14
4"	AF-400	6-5/8"	8-5/8"	AJ-350400-14
5"	AF-500	8"	9-1/2"	AJ-500600-14
8" CONDUIT MOVEMENT				BONDING JUMPER
1/2"	AF8-50	2"	10-1/4"	AJ-5075-24
3/4"	AF8-75	2-1/4"	10-3/8"	AJ-5075-24
1"	AF8-100	5-5/8"	10-5/8"	AJ-100125-24
1-1/4"	AF8-125	3-1/8"	10-5/8"	AJ-100125-24
1-1/2"	AF8-150	3-1/2"	10-5/8"	AJ-150200-24
2"	AF8-200	4"	11-1/8"	AJ-150200-24
2-1/2"	AF8-250	4-1/2"	11-1/2"	AJ-250300-24
3"	AF8-300	5-3/8"	12-1/8"	AJ-250300-24
3-1/2"	AF8-350	6"	12-1/4"	AJ-350400-24
4"	AF8-400	6-5/8"	12-3/8"	AJ-350400-24
5"	EF-500	8"	11-1/8"	AJ-500600-24





Expansion Fittings



UL LISTED - File E22699

TAF-75

FEATURES-SPECIFICATIONS

Features

- TAF Series conduit body, cast from durable and naturally corrosive resistant ZA12 alloy, contains the following:
 - » Phenolic insulating bushing
 - » PTFE synthetic fiber reinforced gasket with steel washer
 - » Tinned braided copper ring
- Includes 8" steel conduit nipple
- Two steel EMT raintight connectors
- Relies on tinned braided copper external bonding jumper (AJ Series)

Materials

Add suffixes to the following for ordering logic:

- ZA12 (zinc Alloy) standard
- Aluminum TAF-50AL

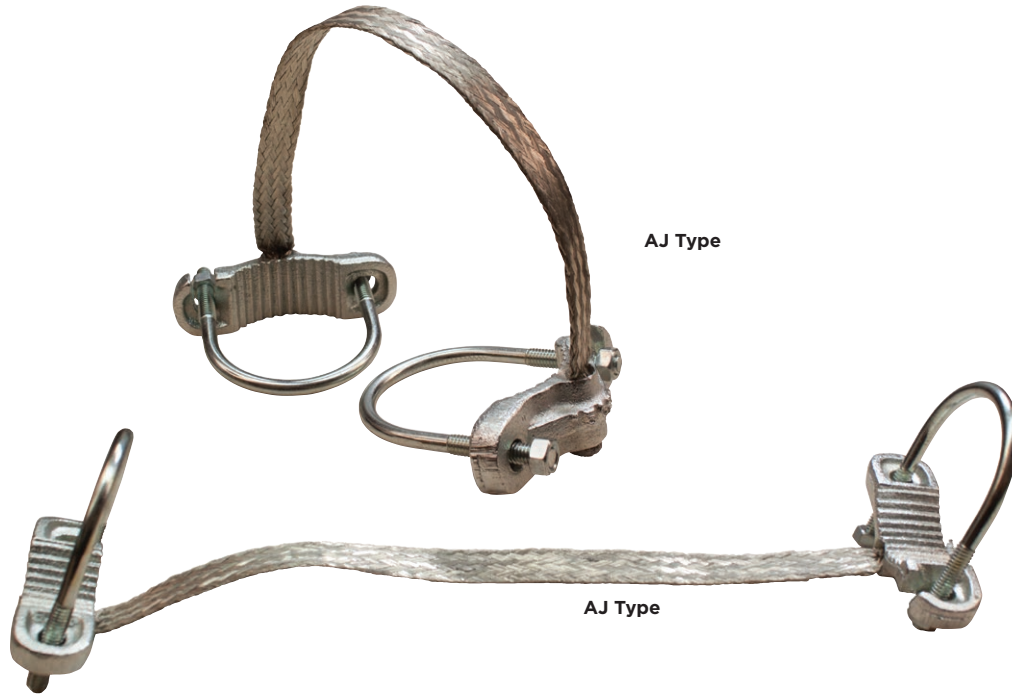
TAF SERIES EMT EXPANSION FITTINGS		
HUB SIZE	CATALOG #	BONDING JUMPER CAT. #
1/2"	TAF-50	AJ-5075-24
3/4"	TAF-75	AJ-5075-24
1"	TAF-100	AJ-100125-24
1-1/4"	TAF-125	AJ-100125-24
1-1/2"	TAF-150	AJ-150200-24
2"	TAF-200	AJ-150200-24
2-1/2"	TAF-250	AJ-250300-24
3"	TAF-300	AJ-250300-24
3-1/2"	TAF-350	AJ-350400-24
4"	TAF-400	AJ-350400-24



FITTINGS
AJ/AJE SERIES

Bonding Jumpers

 LISTED - File E22699 & E44925



AJ Type

AJ Type

FEATURES-SPECIFICATIONS

Materials

- Clamps and U-Bolts are electro-galvanized

Sizes

- Braid lengths listed are measured fully extended

AJ SERIES BONDING JUMPERS 14"	
CATALOG #	TRADE SIZE (IN)
AJ-5075-14	1/2 and 3/4
AJ-100125-14	1 and 1-1/4
AJ-150200-14	1-1/2 and 2
AJ-250300-14	2-1/2 and 3
AJ-350400-14	3-1/2 and 4
AJ-500600-14	5 and 6

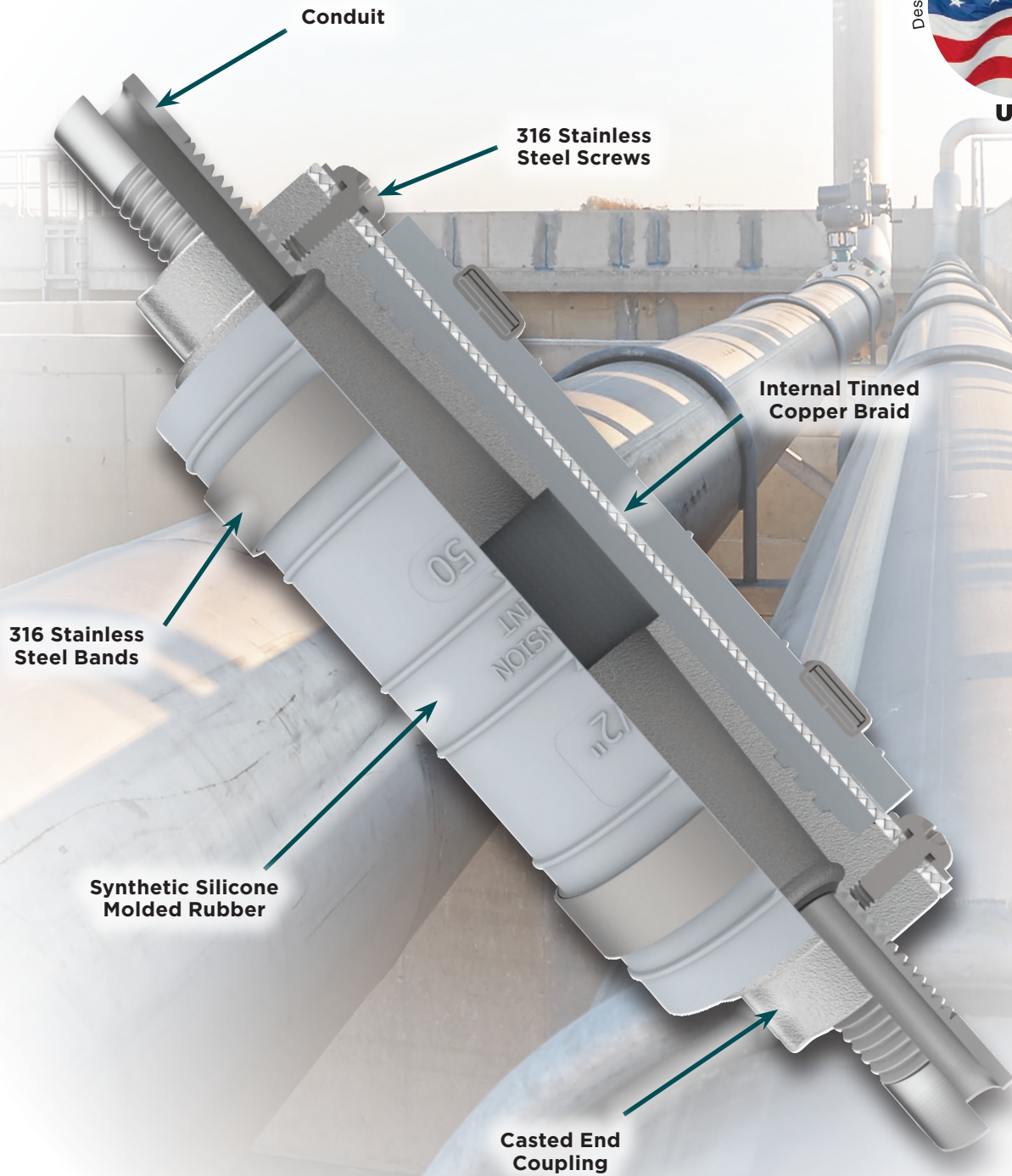
AJE SERIES BONDING JUMPERS 16"	
CATALOG #	TRADE SIZE (IN)
AJE-5075-16	1/2 and 3/4
AJE-100125-16	1 and 1-1/4
AJE-150200-16	1-1/2 and 2
AJE-250300-16	2-1/2 and 3
AJE-350400-16	3-1/2 and 4
AJE-500600-16	5 and 6

AJ SERIES BONDING JUMPERS 24"	
CATALOG #	TRADE SIZE (IN)
AJ-5075-24	1/2 and 3/4
AJ-100125-24	1 and 1-1/4
AJ-150200-24	1-1/2 and 2
AJ-250300-24	2-1/2 and 3
AJ-350400-24	3-1/2 and 4
AJ-500600-24	5 and 6

AJE SERIES BONDING JUMPERS 24"	
CATALOG #	TRADE SIZE (IN)
AJE-5075-24	1/2 and 3/4
AJE-100125-24	1 and 1-1/4
AJE-150200-24	1-1/2 and 2
AJE-250300-24	2-1/2 and 3
AJE-350400-24	3-1/2 and 4
AJE-500600-24	5 and 6



Deflection Expansion Fittings





FITTINGS DF SERIES

Deflection Expansion Fittings



DF-100

 LISTED - File E22699

FEATURES-SPECIFICATIONS

Features

- Durable cast ZA12 (zinc alloy) end couplings for use with rigid or IMC conduit
- Stainless steel lap bands for superior corrosion resistance and to ensure fastened strength
- Silicone rubber sleeve for high UV and environmental corrosion resistance
- Tinned braided copper grounding straps for electrical continuity
- Raintight, watertight, and concrete-tight

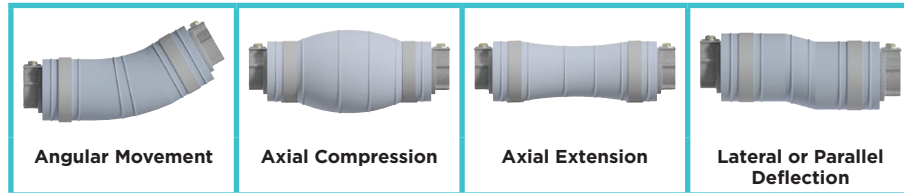
Materials

Add suffixes to the following for ordering logic:

- ZA12 (zinc Alloy) standard
- Hot Dipped Galvanized DF-50EG
- Aluminum DF-50AL
- Polyolefin Coated DF-50GG



Deflection Expansion Fittings



DEFLECTION DF			
HUB SIZE	CATALOG #	MAX. DIA. (A)	LENGTH (B)
1/2"	DF-50	2-1/4"	6-3/4"
3/4"	DF-75	2-1/2"	6-3/4"
1"	DF-100	2-3/4"	7"
1-1/4"	DF-125	3-1/8"	7-1/4"
1-1/2"	DF-150	3-1/8"	7-1/4"
2"	DF-200	3-7/8"	8-1/8"
2-1/2"	DF-250	4-3/8"	8-1/2"
3"	DF-300	5"	8-1/2"
3-1/2"	DF-350	5-3/4"	9-1/4"
4"	DF-400	6-1/4"	9-1/4"
5"	DF-500	7-1/4"	9-3/8"
6"	DF-600	8-1/4"	9-3/8"

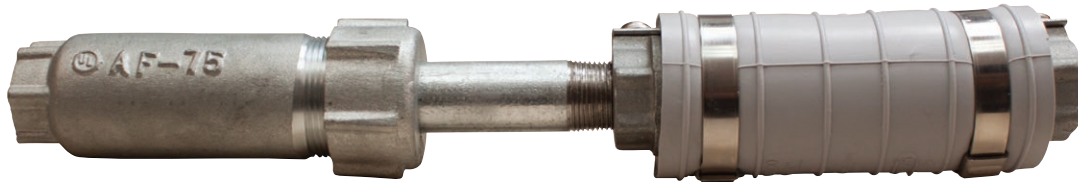




FITTINGS

AFDF COMBO SERIES

Expansion Combo Fitting



AFDF-75

 LISTED - File E22699

FEATURES-SPECIFICATIONS

Materials

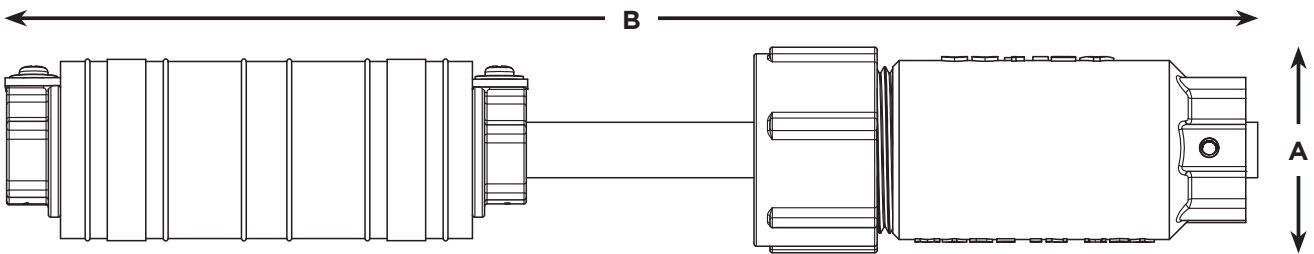
Add suffixes to the following for ordering logic:

- ZA12 (zinc alloy) standard
- Hot Dipped Galvanized AFDF-50EG
- Aluminum AFDF-50AL
- Polyolefin Coated AFDF-50GG



Expansion Combo Fitting

AFDF COMBINATION DEFLECTION/EXPANSION			
HUB SIZE	CATALOG #	MAX. DIA. (A)	EST. LENGTH (B)
1/2"	AFDF-50	2-1/4"	15"
3/4"	AFDF-75	2-1/2"	15-1/8"
1"	AFDF-100	2-3/4"	15-5/8"
1-1/4"	AFDF-125	3-1/8"	15-7/8"
1-1/2"	AFDF-150	3-1/2"	15-7/8"
2"	AFDF-200	4"	17-1/4"
2-1/2"	AFDF-250	4-1/2"	18"
3"	AFDF-300	5-1/8"	18-5/8"
3-1/2"	AFDF-350	6"	19-3/4"
4"	AFDF-400	6-5/8"	20"
5"	AFDF-500	8"	21"





FITTINGS

SLB/SLBM/SOLB/MLB SERIES



SLB-1 thru 7



SOLB-8, 9, 0



SLBM-4

Suitable for wet locations when used with gasketed covers.
Federal Specification W-C-586D / A-A 50563.
Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

 LISTED - File E22698

 Certified - File LR11852

FEATURES-SPECIFICATIONS

Features

- Designed for easier wire pulling
- Includes Cover and Gasket

Materials

Copper-free Aluminum
(less than 4/10 of 1%)

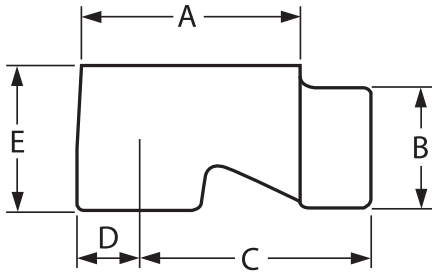
- Electrostatically applied powder coating

FITTINGS SLB/SLBM/SOLB/MLB SERIES



Service Entrance • Standard and Hostile Locations

SERVICE ENTRANCE BODIES							
CATALOG NUMBER	CONDUIT SIZE	A	B	C	D	E	F
SLB-1	1/2"	2-3/4" (70)	1-1/16" (27)	2-3/8" (60)	3/4" (19)	1-3/8" (35)	1-3/16" (30)
SLB-2	3/4"	3-1/8" (79)	1-3/8" (35)	2-11/16" (68)	7/8" (22)	1-11/16" (43)	1-3/8" (35)
SLB-3	1"	3-3/4" (95)	1-5/8" (41)	3-1/4" (83)	15/16" (24)	1-15/16" (49)	1-3/4" (44)
SLB-4	1-1/4"	5" (127)	2" (51)	4-5/16" (110)	1-1/4" (32)	2-1/2" (64)	2-3/16" (56)
SLBM-4	1-1/4"	7-1/4" (184)	1-15/16" (49)	6-3/8" (162)	15/16" (24)	2-5/8" (67)	2-1/2" (64)
SLB-5	1-1/2"	5-3/4" (147)	2-7/16" (62)	4-3/4" (121)	1-1/2" (38)	2-9/16" (65)	2-7/16" (62)
SLB-6	2"	6-1/4" (159)	2-15/16" (75)	5" (127)	1-5/8" (41)	3-1/8" (79)	2-13/16" (71)
SLBM-6	2"	9-1/2" (241)	2-11/16" (68)	8-9/16" (217)	11-3/16" (284)	3-7/16" (87)	3-1/8" (79)
SLB-7	2-1/2"	8" (203)	3-9/16" (90)	6-7/8" (175)	11-5/16" (287)	4" (102)	3-1/2" (89)
SOLB-8	3"	12-1/4" (311)	4-7/16" (113)	10-7/16" (265)	11-3/16" (284)	6-1/4" (159)	4-7/16" (113)
SOLB-9	3-1/2"	15" (381)	5" (127)	11-7/8" (302)	3-1/8" (79)	7-1/2" (191)	5-1/2" (140)
SOLB-0	4"	15" (381)	5" (127)	11-7/8" (302)	3-1/8" (79)	7-1/2" (191)	5-1/2" (140)





FITTINGS

CL/CLM/SOLB SERIES

Pulling Elbow • Standard and Hostile Locations



CLM-2①



CL-3①

SP Certified - File LR11852

FEATURES-SPECIFICATIONS

Features

- Designed for easier wire pulling
- Includes Cover and Gasket

Materials

Copper-free Aluminum

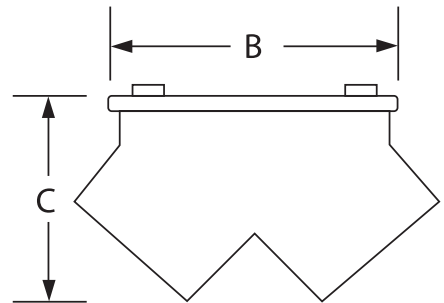
(less than 4/10 of 1%)

- Electrostatically applied powder coating

PULLING ELBOWS FOR THREADED CONDUIT		
CATALOG NUMBER	HUB SIZE	TYPE
CL-1	1/2"	CL
CL-2	3/4"	
CL-3	1"	
CLM-1	1/2"	CLM
CLM-2	3/4"	
CLM-3	1"	

① Raintight/concrete tight

DIMENSIONS			
SIZE	A	B	C
1/2"	1-1/4" (32)	2-9/16" (65)	1-3/8" (35)
3/4"	1-3/8" (35)	2-3/4" (70)	1-9/16" (40)
1"	1-3/4" (44)	3-1/8" (79)	1-3/4" (44)





Service Entrance • Standard and Hostile Locations



FB



STFB

 - File E22698

FEATURES-SPECIFICATIONS

Features

FB - Weather-proof for threaded conduit.

- For use with aluminum or steel conduit
- Insulators included
- Easy installation and assembly
- Variety of knockout arrangements
- Vertical mounting
- Sizes 1/2" thru 4" available

STFB - For rigid or thinwall conduit (EMT)

- For use with aluminum or steel conduit
- Mounting clamp provides easy installation
- Insulators included
- Three point balance for proper alignment
- Variety of knockout arrangements
- Vertical mounting
- Sizes 3/4" thru 4" available

Materials

Copper-free Aluminum (less than 4/10 of 1%)

- Natural finish



FITTINGS

FB/STFB SERIES

Service Entrance • Standard and Hostile Locations

FB SERVICE ENTRANCE					
CATALOG NUMBER	HUB SIZE	KNOCKOUTS		DIMENSIONS	
		QUANTITY	DIAMETER	WIDTH	HEIGHT
FB-714	1/2"	4	3/8"	3.00" (76)	2.60" (66)
FB-724	3/4"	5	3/8"	2.39" (61)	2.32" (58)
FB-734	1"	5	1/2"	2.62" (67)	3.03" (80)
FB-745	1-1/4"	5	1/2"	2.62" (67)	3.03" (80)
FB-755	1-1/2"	6	One 1/2"	4.43" (113)	4.45" (113)
FB-765	2"		Two 3/4"		
			Three 1"		
FB-787	3"	7	Four 1"	6.40" (163)	8.00" (203)
			Three 1-1/4"		
FB-707	4"	7	Four 1-3/4"	8.00"	9.00" (229)
			Two 1-1/8"		

STFB SERVICE ENTRANCE					
CATALOG NUMBER	HUB SIZE	KNOCKOUTS		DIMENSIONS	
		QUANTITY	DIAMETER	WIDTH	HEIGHT
STFB-2	3/4"	5	3/8"	2.39" (61)	2.32" (59)
STFB-3	1"	5	1/2"	2.62" (67)	3.03" (77)
STFB-4	1-1/4"	5	1/2"	2.62" (67)	3.03" (77)
STFB-5	1-1/2"	6	One 1/2"	3.43" (87)	3.75" (95)
			Two 5/8"		
			Three 3/4"		
STFB-6	2"	6	One 1/2"	4.43" (113)	4.45" (113)
			Two 3/4"		
			Three 1"		
STFB-7	2-1/2"	7	Four 1"	6.40" (163)	8.00" (203)
			Three 1-1/4"		
STFB-8	3"	7	Four 1"	6.40"	8.00" (203)
			Three 1-1/4"		
STFB-0	4"	7	Four 1-1/8"	8.00" (203)	9.00" (229)
			Three 1-3/4"		



Cast Device Boxes • Standard and Hostile Locations



UL Standard: 514A
CSA Standard: C22.2 No. 18
Fed Spec: W-C-586D
NEMA: FB-1

 **UL LISTED** File No. E 3397

 **SPB Certified** File No. LR11852

FEATURES-SPECIFICATIONS

Features

- Tapered threads (NPT with integral bushings)
- Internal grounding screw
- Mounting lugs provided as standard
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- Cast iron is suitable for concrete use
- To order without mounting lugs, contact factory.

Materials

- Copper-free Aluminum (less than 4/10 of 1%)
 - » Electrostatically applied powder coat paint
- Duraloy malleable gray iron
 - » Tri-coat finish of electro-zinc and chromate sealant with electrostatically applied Duraloy Plus powder coat paint



FITTINGS

FS/FD/FSC SERIES

Cast Device Boxes • Standard and Hostile Locations



FS Type



FD Type



FSC Type

FS TYPE CAST DEVICE BOX – SHALLOW – DEAD END

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FS-1	FS-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0
FS-2	FS-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0
FS-3	FS-3M	1"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0

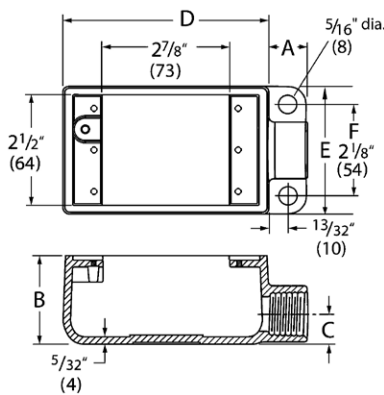
FD TYPE CAST DEVICE BOX – DEEP – DEAD END

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FD-1	FD-1M	1/2"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	28.0
FD-2	FD-2M	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	28.0
FD-3	FD-3M	1"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	28.0

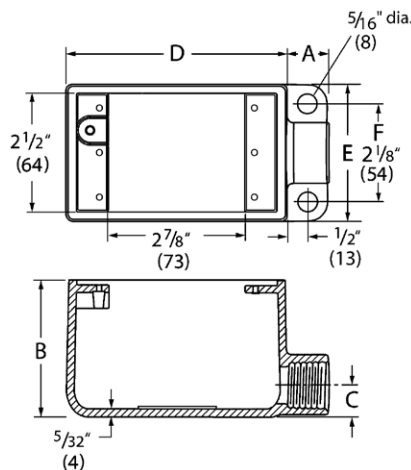
FSC TYPE CAST DEVICE BOX – SHALLOW – FEED THRU

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSC-1	FSC-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FSC-2	FSC-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FSC-3	FSC-3M	1"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0

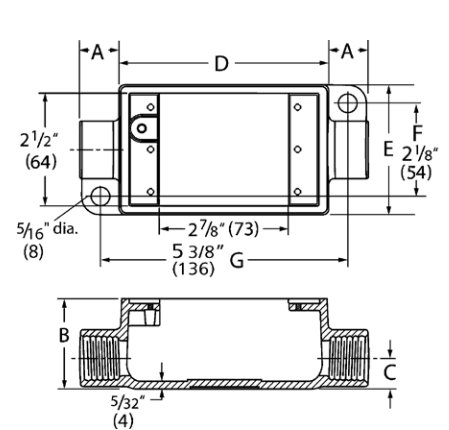
DIMENSIONS



FS - 1, 2, 3



FD - 1, 2, 3



FSC - 1, 2, 3



Cast Device Boxes • Standard and Hostile Locations



FDC 1, 2 & 3 with lugs



**FSOC Type
 (No Mounting Lugs)**



FSL Type

FDC TYPE CAST DEVICE BOX – DEEP – FEED THRU

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FDC-1	FDC-1M	1/2"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	28.5
FDC-2	FDC-2M	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	28.5
FDC-3	FDC-3M	1"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	28.5

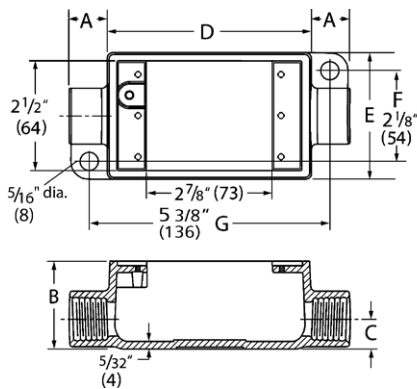
FSOC TYPE CAST DEVICE OPEN BOX – SHALLOW – FEED THRU

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUMINUM			A	B	C	D	E	F	G	
FSOC-1		1/2"	7/8" (22)	3" (76)	1-1/2" (38)	4-5/8" (117)	2-7/8" (73)	–	–	29.0

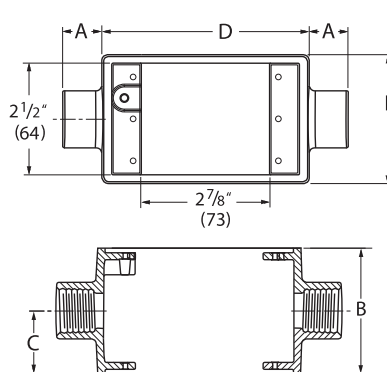
FSL TYPE CAST DEVICE BOX – SHALLOW

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSL-1	FSL-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0
FSL-2	FSL-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0

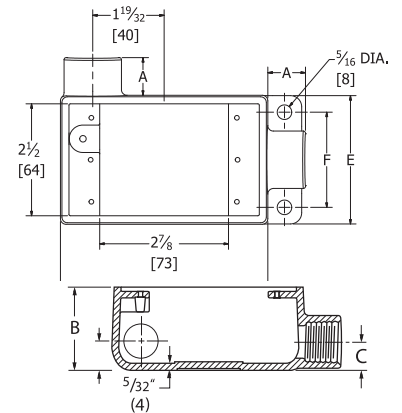
DIMENSIONS



FDC - 1, 2 & 3



FSOC - 1



FSL - 1 & 2



FITTINGS
FRS/FST SERIES

Cast Device Boxes • Standard and Hostile Locations



FSR Type

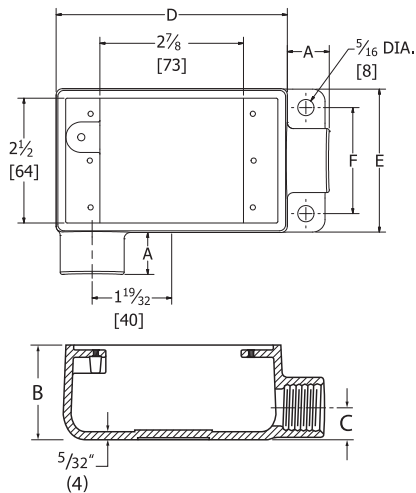


FST Type

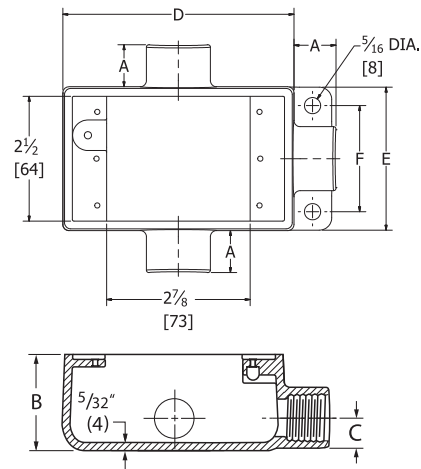
FSR TYPE CAST DEVICE BOX – SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSR-1	FSR-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0
FSR-2	FSR-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0

FST TYPE CAST DEVICE BOX – SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FST-1	FST-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0
FST-2	FST-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	–	18.0

DIMENSIONS



FSR



FST

FSX/FSA/FDA/FSLB SERIES



Cast Device Boxes • Standard and Hostile Locations



FSX Type



FSA/FDA Types



FSLB Type

FSX TYPE CAST DEVICE BOX – SHALLOW

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSX-1	FSX-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FSX-2	FSX-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0

FSA TYPE CAST DEVICE BOX – SHALLOW – DEAD END

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUMINUM		A	B	C	D	E	F	G	
FSA-1	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	5-3/8" (136)	18.0
FSA-2	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	5-3/8" (136)	18.0

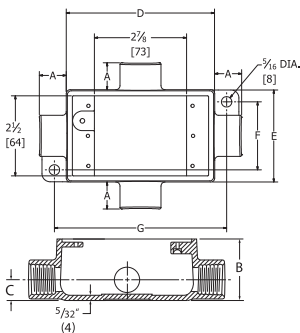
FDA TYPE CAST DEVICE BOX – DEEP – DEAD END

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUMINUM		A	B	C	D	E	F	G	
FDA-2	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	5-3/8" (136)	28.5

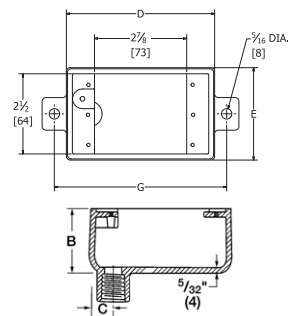
FSLB TYPE CAST DEVICE BOX – SHALLOW – FEED THRU

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUMINUM		A	B	C	D	E	F	G	
FSLB-1	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	—	18.0
FSLB-2	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	—	18.0

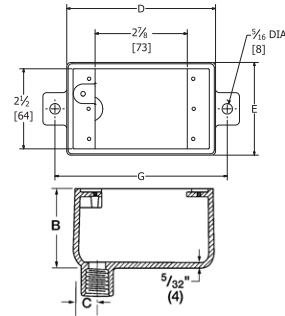
DIMENSIONS



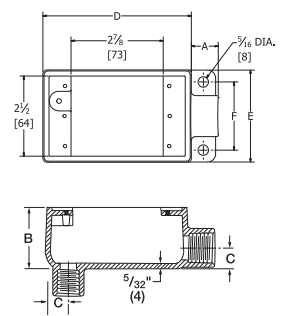
FSX



FSA



FDA



FSLB



FITTINGS

FSS/FSCC/FDCC SERIES

Cast Device Boxes • Standard and Hostile Locations



FSS Type



FDS Type



FSCC Type



FDCC Type

FSS TYPE CAST DEVICE BOX – SHALLOW

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSS-1	FSS-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	–	5-3/8" (136)	18.0
FSS-2	FSS-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	–	5-3/8" (136)	18.0

FDS TYPE CAST DEVICE BOX

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FDS-2	FDS-2M	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	–	5-3/8" (136)	28.5

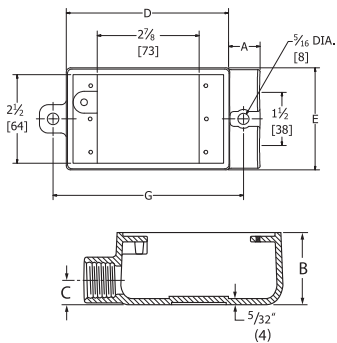
FSCC TYPE CAST DEVICE BOX – SHALLOW

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSCC-1	FSCC-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FSCC-2	FSCC-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0

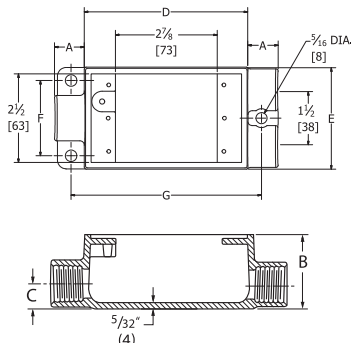
FDCC TYPE CAST DEVICE BOX – DEEP

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FDCC-2	FDCC-2M	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	28.5

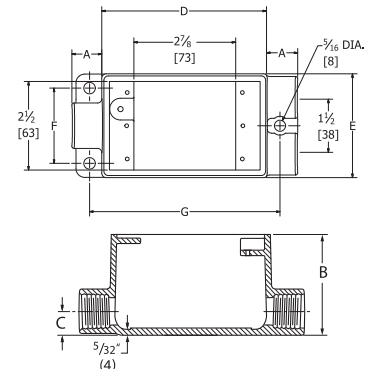
DIMENSIONS



FSS



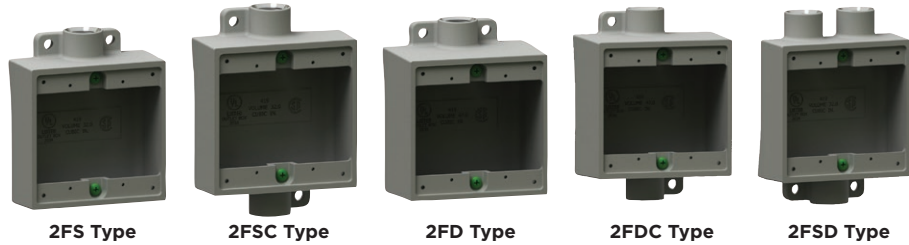
FSCC



FDCC



Cast Device Boxes • Standard and Hostile Locations



2FS TYPE CAST DEVICE BOX TWO GANG – SHALLOW WITH MOUNTING LUGS										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
2FS-1	2FS-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	32.0
2FS-2	2FS-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	32.0
2FS-3	2FS-3M	1"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	32.0

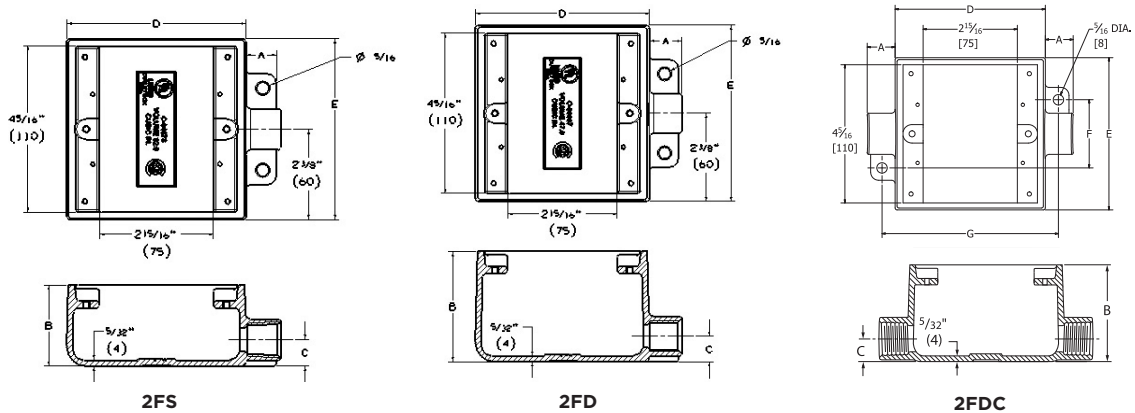
2FD TYPE CAST DEVICE BOX TWO GANG – DEEP WITH MOUNTING LUGS										
CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	G	VOLUME CU. IN.	
2FD-1	2FD-1M	1/2"	7/8" (22)	2-15/16" (75)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	47.0
2FD-2	2FD-2M	3/4"	7/8" (22)	2-15/16" (75)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	47.0

2FSC TYPE CAST DEVICE BOX TWO GANG – SHALLOW WITH MOUNTING LUGS										
CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	G	VOLUME CU. IN.	
2FSC-1	2FSC-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	32.0
2FSC-2	2FSC-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	32.0

2FDC TYPE CAST DEVICE BOX TWO GANG – DEEP WITH MOUNTING LUGS										
CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	G	VOLUME CU. IN.	
2FDC-1	2FDC-1M	1/2"	7/8" (22)	2-15/16" (75)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	50.0
2FDC-2	2FDC-2M	3/4"	7/8" (22)	2-15/16" (75)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	5-3/8" (136)	50.0

2FSD TYPE CAST DEVICE BOX TWO GANG – SHALLOW WITH MOUNTING LUGS										
CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	G	VOLUME CU. IN.	
2FSD-1	2FSD-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	-	32.0
2FSD-2	2FSD-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	2-1/8" (54)	-	32.0

DIMENSIONS





FITTINGS

FSCA/FSCT SERIES

Cast Device Boxes • Standard and Hostile Locations



FSCA Type



FSCT Type

UL Standard: 514A
 CSA Standard: C22.2 No. 18
 Fed Spec: W-C-586D
 NEMA: FB-1



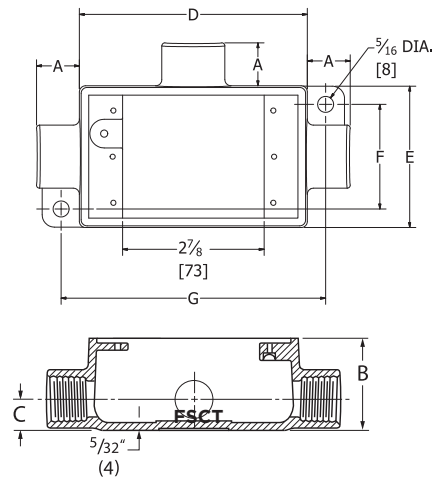
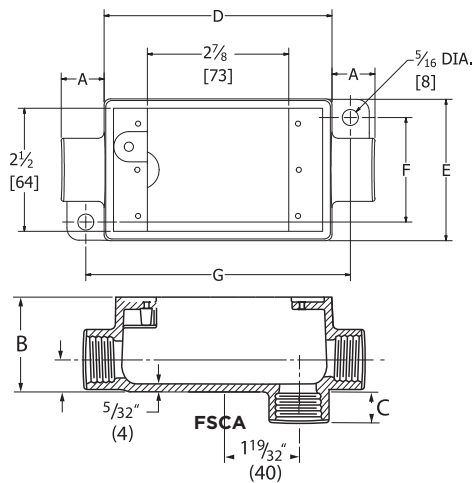
FSCA TYPE CAST DEVICE BOX – SHALLOW

CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSCA-1	FSCA-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FSCA-2	FSCA-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0

FSCT TYPE CAST DEVICE BOX – SHALLOW

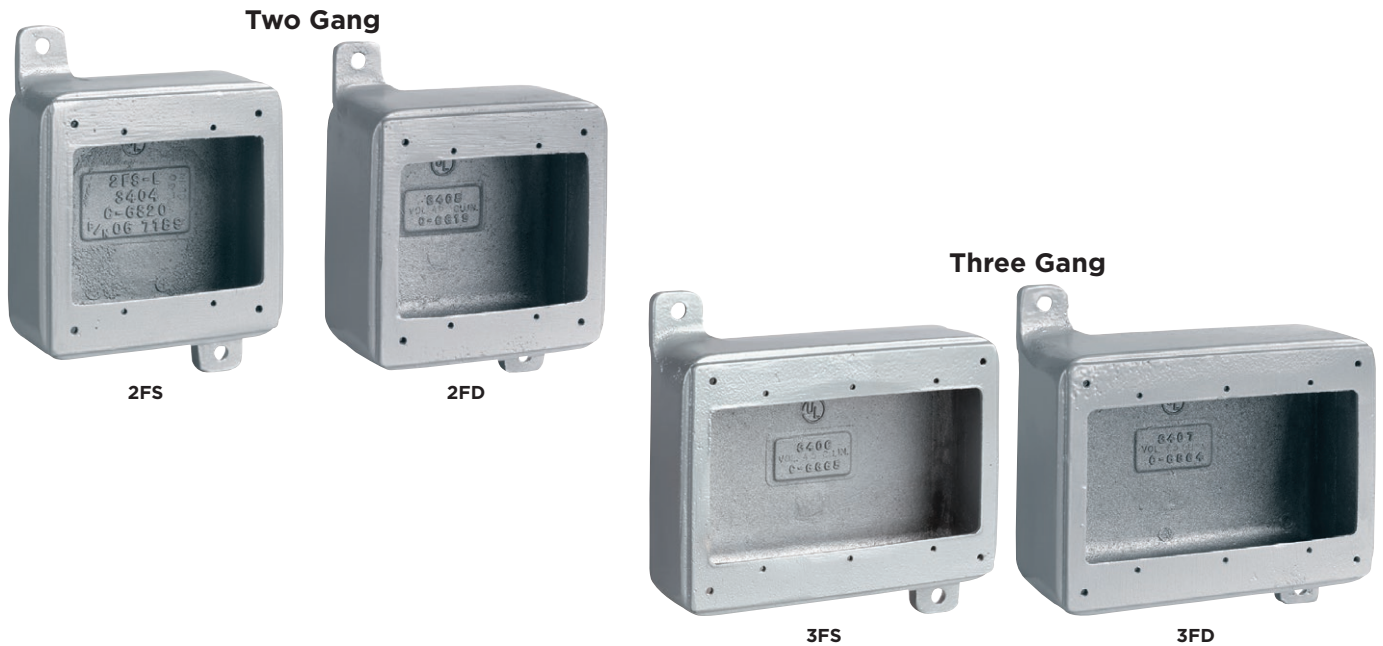
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSCT-1	FSCT-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FSCT-2	FSCT-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0

DIMENSIONS





Cast Device Boxes • Standard and Hostile Locations



FEATURES-SPECIFICATIONS

Features

- Internal grounding screw
- Suitable for use in wet locations when used with gasket covers

Materials

- Copper-free Aluminum (less than 4/10 of 1%)
 - » Electrostatically applied powder coating

Conduit Opening Data

- To specify conduit openings select the letter on these sketches which indicates the position desired. Follow this letter with the symbol indicating the type and size.
 - » Example: 2FS-A2-E2



FITTINGS

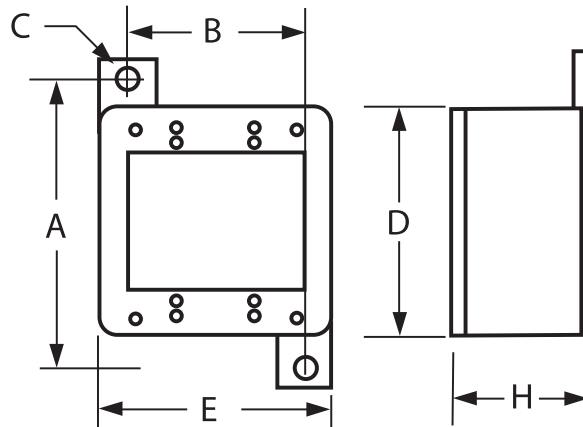
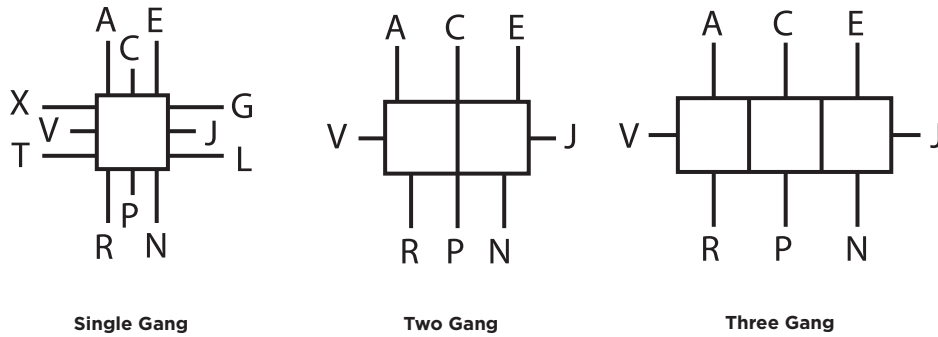
2 & 3 FS/FD SERIES

Cast Device Boxes • Standard and Hostile Locations

FS/FD MULTI GANG BOXES ^①						
SERIES	A	B	C	D	E	H
FSQ	3-3/4" (95)	3-9/16" (90)	1/4" (6)	4-9/16" (116)	2-13/16" (71)	2" (51)
2FS	6-3/16" (157)	3-3/4" (95)	9/32" (7)	4-7/8" (124)	4-15/16" (125)	2" (51)
3FS	6-3/16" (157)	5-3/4" (146)	9/32" (7)	4-7/8" (124)	6-3/4" (125)	2" (51)
FDQ	3-3/4" (95)	3-9/16" (90)	1/4" (6)	4-9/16" (116)	2-13/16" (71)	2-7/8" (73)
2FD	6-3/16" (157)	3-3/4" (95)	9/32" (7)	4-7/8" (124)	4-15/16" (125)	2-7/8" (73)
3FD	6-3/16" (157)	5-3/4" (146)	9/32" (7)	4-7/8" (124)	6-3/4" (125)	2-7/8" (73)

FS/FD/FSQ/FDQ CONDUIT OPENING AND SYMBOL IDENTIFICATION		
FOR CONDUIT SIZE	THREADED SYMBOL NUMBER	UNION ^① SYMBOL NUMBER
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15

^① Union hubs are supplied by using a drilled and tapped opening with GUM Series union on 1/2", 3/4", 1", 1-1/4" and 1-1/2" sizes.





Custom Drilled & Tapped Device Boxes • Standard and Hostile Locations

Single Gang



FDQ

Two Gang



2FDQ

Three Gang



3FDQ

Four Gang



4FDQ

FEATURES-SPECIFICATIONS

Features

- FSQ and FDQ series boxes are made with individual cover openings so any combination of devices may be assembled
- Any assembly is suitable for wet and damp locations when it consists of these boxes and a cover suitable for wet and damp locations
- To specify conduit opening combination select the letter on the sketch which indicates the position of the opening desired. Follow this letter with the symbol indicating the type of opening-threaded, threadless or union

Maximum Conduit Opening Size

- » FS-1/2" thru 1"
- » FD-1/2" thru 1-1/2"

Conduit Opening Data

- To specify conduit openings select the letter on these sketches which indicates the position desired. Follow this letter with the symbol indicating the type and size.
 - » Example: 2FS-A2-E2-J13
- All conduit openings will be evenly spaced. When they are to be more accurately located, submit a sketch with spacing dimensions.
- Dimensions should be oriented from center lines of body and outside back of body.
- FS and FSQ box will take drilled and tapped openings thru 1".
- FD and FDQ box will take drilled and tapped openings thru 1-1/2".

Materials

Copper-free Aluminum (less than 4/10 of 1%)

- Electrostatically applied powder coating



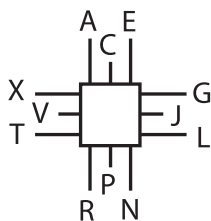
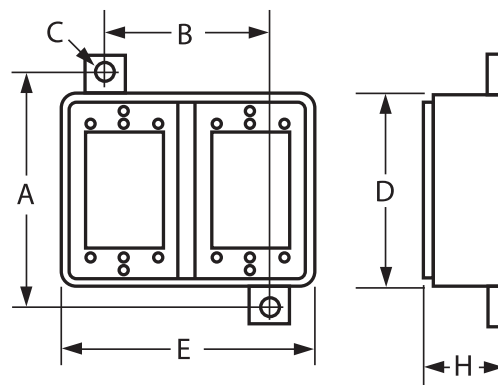
FITTINGS FSQ/FDQ SERIES

Custom Drilled & Tapped Device Boxes • Standard and Hostile Locations

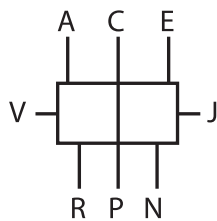
FS/FD MULTI GANG BOXES ^①						
SERIES	A	B	C	D	E	H
FSQ	FSQ 3-3/4" (95)	3-9/16" (90)	1/4" (6)	4-9/16" (116)	2-13/16" (71)	2" (51)
3FSQ	6-1/8" (156)	7-1/2" (191)	5/16" (8)	4-15/16" (125)	9-13/16" (249)	2" (51)
FDQ	3-3/4" (95)	3-9/16" (90)	1/4" (6)	4-9/16" (116)	2-13/16" (71)	2-7/8" (73)
2FDQ	6-3/16" (157)	4-7/16" (113)	5/16" (8)	4-7/8" (124)	6-7/16" (164)	2-7/8" (73)
3FDQ	5-7/8" (149)	7-9/16" (192)	5/16" (8)	4-15/16" (125)	9-13/16" (249)	2-7/8" (73)
4FDQ	5-7/8" (149)	10-13/16" (275)	5/16" (8)	4-15/16" (125)	13-1/8" (333)	2-7/8" (73)

FS/FD/FSQ/FDQ CONDUIT OPENING AND SYMBOL IDENTIFICATION		
FOR CONDUIT SIZE	THREADED SYMBOL NUMBER	UNION ^① SYMBOL NUMBER
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15

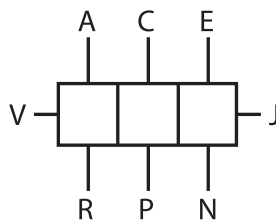
^① Union hubs are supplied by using a drilled and tapped opening with GUM Series union on 1/2", 3/4", 1", 1-1/4" and 1-1/2" sizes.



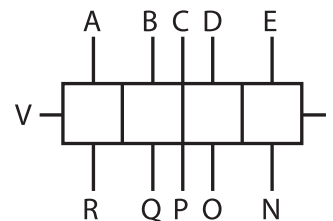
Single Gang



Two Gang



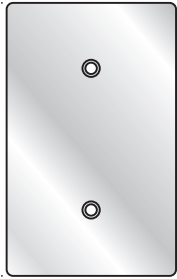
Three Gang



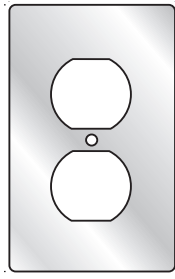
Four Gang



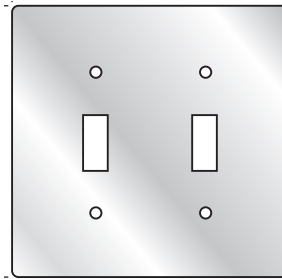
Device Box Covers • Standard and Hostile Locations



1FB Type



1FA Type



2FT Type

UL LISTED File No. E 3397

SF Certified File No. LR11852

FEATURES-SPECIFICATIONS

- Stamped metallic covers with or without electrostatically applied powder coating
- Gaskets to be ordered separately
- Hardware included

Material:

- Stamped Aluminum

SINGLE GANG		
CATALOG NUMBER		
WITH COATING	WITHOUT COATING	
Blank for Single Gang Boxes		
1FBC	1FB	
1 Toggle Switch		
1FTC	1FT	
1 Duplex Receptacle		
1FAC	1FA	
1-13/32" Opening Round Receptacle		
1FRC	1FR	
1-5/8" Opening Round Receptacle		
1FGC	1FG	

TWO GANG		
CATALOG NUMBER		
WITH COATING	WITHOUT COATING	
Blank for Two Gang Boxes		
2FBC	2FB	
2 Toggle Switches		
2FTC	2FT	
2 Duplex Receptacles		
2FAC	2FA	
Toggle Switch & Duplex Receptacle		
2FTAC	2FTA	
1-13/32" Openings 2 Round Receptacles		
2FRC	2FR	
1-5/8" Opening Round 2 Round Receptacles		
2FGC	2FG	

THREE GANG		
CATALOG NUMBER	DESCRIPTION	
3FB	Blank for 3 Gang Boxes	
3FT	3 Toggle Switches	
3FA	3 Duplex Receptacles	

REPLACEMENT GASKETS FOR COVERS (NEOPRENE RUBBER)		
CATALOG NUMBER	DESCRIPTION	
FSRG	Neoprene Gaskets for Single Gang Boxes	
2FSRG	Neoprene Gaskets for 2 Gang Boxes	
3FSRG	Neoprene Gaskets for 3 Gang Boxes	



FITTINGS

FZ/FCL-GF/FST SERIES

Device Box Covers • Standard and Hostile Locations



FZ8647



FCL-GF Type



FST Type

UL LISTED File No. E 3397
SP Certified File No. LR11852

FEATURES-SPECIFICATIONS

- Cast metallic covers with electrostatically applied powder coating

CAST DEVICE COVERS – SINGLE GANG (GASKETS INCLUDED)			CAST DEVICE COVERS – SINGLE GANG (GASKETS INCLUDED)			CAST DEVICE COVERS – TWO AND THREE GANG (GASKETS INCLUDED)		
CATALOG NUMBER	DESCRIPTION		CATALOG NUMBER	DESCRIPTION		CATALOG NUMBER	DESCRIPTION	
FSBC	Blank for Single Gang Boxes		FCLA	Duplex Receptacle		2FSBC	Blank for 2 Gang Boxes	
FSBCM	Iron Blank for Single Gang Boxes		FCLT	Toggle Switch		2FSBCM	Iron Blank for 2 Gang Boxes	
FZ8648	Square Toggle Lock in ON or OFF Position		FCLR	Round Receptacle 1.406" Dia.		2FST	2 Toggle Switches	
FZ8647	Square Toggle (Long Throw – Such as Manual Starters)		FCLG	Round Receptacle 1.625" Dia.		3FST	3 Toggle Switches	
FST	1 Toggle Switch		FCLM	Round Receptacle 1.750" Dia.		3FSBC	Blank for 3 Gang Boxes	
FSPT	For Toggle Switch		FCLN	Round Receptacle 2.156" Dia.		<p>FCLA2 Duplex Wall Plate for horizontal mounting on FS/FD Boxes. Cast aluminum, gasketed and self-closing. Listed for wet locations with cover open in continuous use.</p>		
FSTG	Toggle Switch Guarded		FCL-GF	Device Cover for Most Manufacturers' GFI Devices Includes Gaskets and Screws				
			FCL-VG	Replacement Vellumoid Gasket				



Device Box Accessories • Standard and Hostile Locations



FCL-GF



FZ-8647

FEATURES-SPECIFICATIONS

**FCL
 DEVICE COVERS
 (FOR GFI RECEPTACLES)**

Features

- May be used with several different manufacturers' GFI devices
- Mounts on all FS, FD, FSQ and FDQ Series boxes (single opening)
- Snap type lid. UL/CSA suitable for wet locations.
- Gaskets included

CATALOG NUMBER	ITEM
FCL-GF	Device cover includes gaskets and screws
FCL-VG	Replacement Vellumoid gasket

FZ

Features

- Copper-free aluminum
- Gaskets included
- Three toggle operator choices
- Lock "ON" or "OFF" provision standard
- Stainless steel screws
- Mounts on all FS, FD, FSQ and FDQ Series boxes (single opening)

CATALOG NUMBER	TYPE OF TOGGLE SWITCH HANDLE
FZ8648	Square toggle
FZ8647	Square toggle (Long throw-such as manual starters)
FZ	Round toggle

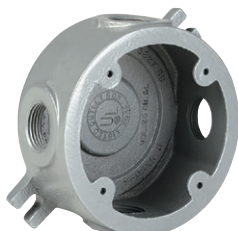


FITTINGS VJ SERIES

Outlet Boxes • Standard and Hostile Locations



VLJSX Shallow



VLJX Medium



VLJDX Deep



VJBC Blank Cover



VJH-1 or VJH-2 Hub Cover



VBNB Gasket



FEATURES-SPECIFICATIONS

Features

- Cover mounting centers are 3-1/2" and will accommodate 4" round or octagonal box covers and devices. Screw holes are 8-32 size
- VJ Series are furnished with four "X" conduit openings and three close-up plugs
- Gaskets are required for wet and damp locations
- Complies with Type 3, 4 and IPx6 (when gasketed)
- Supports up to 125 pounds
- Ground screw provided as standard

Materials

Aluminum

- **BODY/COVER** Copper-free aluminum (less than 4/10 of 1%)
- **FINISH** Electrostatically applied powder coating

Iron

- **BODY** Duraloy iron alloy
- **FINISH** Tri-Coat Finish of Electro-zinc, Chromate Sealant, and electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating



Outlet Boxes • Standard and Hostile Locations

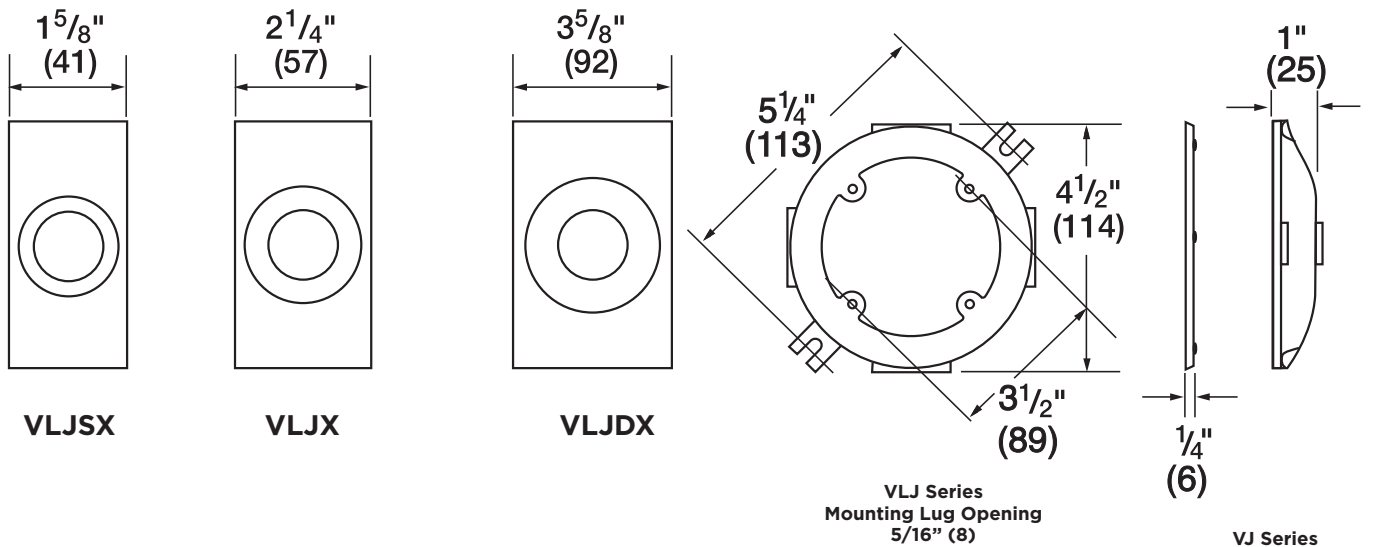
BOXES WITH LUGS						
CATALOG NUMBER					CONDUIT SIZE	HUB ARRANGEMENT
SHALLOW 1-5/8"(41)		MEDIUM 2-1/4"(57)		DEEP 3-5/8"(92)		
KILLARK ALUM.	DURALOY IRON	KILLARK ALUM.	DURALOY IRON	KILLARK ALUM.		
VLJSX-1	VLJSX-1M	VLJX-1	VLJX-1M	–	1/2"	x
VLJSX-2	VLJSX-2M	VLJX-2	VLJX-2M	VLJDX-2	3/4"	x
–	–	VLJX-3	VLJX-3M	VLJDX-3	1"	x

Note: Cover and gasket not included.

BACK CONDUIT OPENINGS		
SERIES	MAXIMUM CONDUIT SIZE	VOLUME CUBIC INCHES
Shallow	3/4"	17
Medium	1"	25
Deep	1-1/4"	45

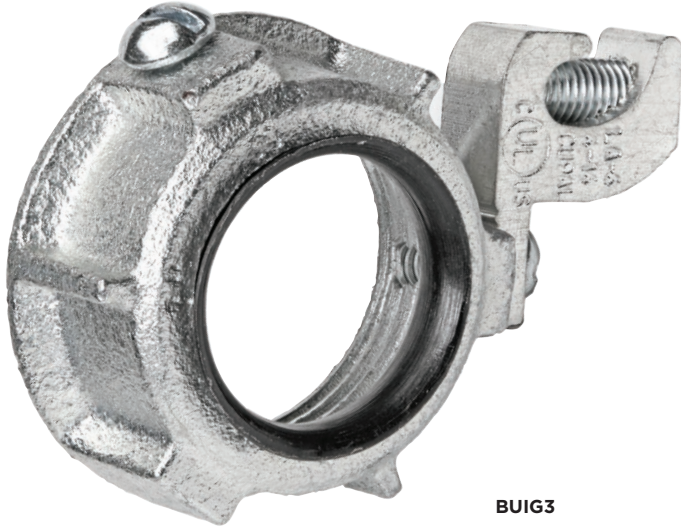
Note: Must be drilled and tapped.

COVERS AND GASKETS			
CATALOG NUMBER	HUB SIZE	DEPTH	DESCRIPTION
VJBC	–	1/4"	Blank cover furnished with mounting screws. Gasket not included
VJH-1	1/2"	1"	Hub cover furnished with mounting screws. Gasket not included
VJH-2	3/4"	1"	Hub cover furnished with mounting screws. Gasket not included
VBNB	–	–	Gasket Nitrile Butadiene





FITTINGS RIGID/IMC



BUIG3



FEATURES-SPECIFICATIONS

Features

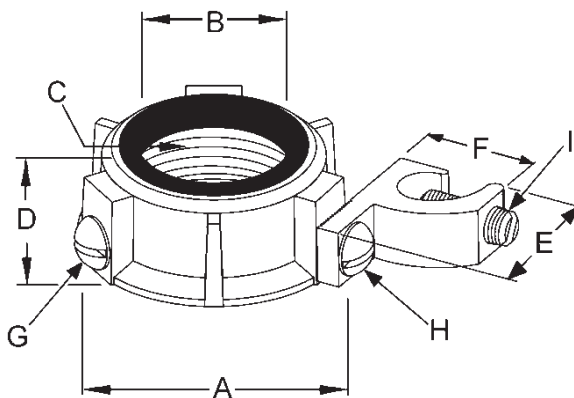
- Lay-in lug style provides an easy means of inserting a ground wire
- Dual rated aluminum grounding lugs may be used with copper or aluminum grounding conductors
- Insuliner temperature rated at 150°C
- Malleable construction insures mechanical protection for the raceway
- Zinc electro plated for corrosion protection



Malleable Iron-Insulated Grounding Bushings

INSULATED GROUNDING BUSHINGS – LAY-IN LUG – MALLEABLE IRON				
CATALOG NUMBER	TRADE SIZE	SHIP CTN QTY	GROUNDING WIRE CAPACITY	
			MIN.	MIN.
BUIG1	1/2"	50	#14 Sol.	#4 Str.
BUIG2	3/4"	50	#14 Sol.	#4 Str.
BUIG3	1"	50	#14 Sol.	#4 Str.
BUIG4	1-1/4"	25	#14 Sol.	#4 Str.
BUIG5	1-1/2"	10	#14 Sol.	#2 Str.
BUIG6	2"	10	#14 Sol.	#2 Str.
BUIG7	2-1/2"	10	#6 Str.	250 MCM
BUIG8	3"	5	#6 Str.	250 MCM
BUIG9	3-1/2"	5	#6 Str.	250 MCM
BUIG10	4"	5	#6 Str.	250 MCM
BUIG11	5"	5	#6 Str.	250 MCM
BUIG12	6"	5	#6 Str.	250 MCM

DIMENSIONS									
CATALOG NUMBER	A	B	C	D	E	F	G SET SCREW	H PAN HEAD SCREW	I SET SCREW
BUIG1	1-5/32"	7/16"	1/2"-14 NPS	3/4"	1-1/16"	3/4"	10-32 x 1/4"	10-32 x 1/4"	14-28 x 5/8"
BUIG2	1-13/32"	11/16"	3/4"-14 NPS	3/4"	1-1/16"	3/4"	10-32 x 1/4"	10-32 x 1/4"	14-28 x 5/8"
BUIG3	1-3/4"	15/16"	1"-11-1/2 NPS	3/4"	1-1/16"	3/4"	10-32 x 1/4"	10-32 x 1/4"	14-28 x 5/8"
BUIG4	2-1/8"	1-3/16"	1-1/4"-11-1/2 NPS	3/4"	1-1/16"	3/4"	10-32 x 1/4"	10-32 x 1/4"	14-28 x 5/8"
BUIG5	2-11/32"	1-7/16"	1-1/2"-11-1/2 NPS	3/4"	1-3/8"	15/16"	5/16-24 x 17/32"	5/16-24 x 17/32"	5/16-28 x 5/8"
BUIG6	2-23/32"	1-15/16"	2"-11-1/2 NPS	3/4"	1-3/8"	15/16"	5/16-24 x 17/32"	5/16-24 x 17/32"	5/16-28 x 5/8"
BUIG7	3-9/32"	2-3/16"	2-1/2"-8 NPS	1-3/8"	2-1/4"	1-3/4"	5/16-24 x 7/16"	5/16-24 X17/32"	9/16-18 x 1-1/4"
BUIG8	3-7/8"	2-15/16"	3"-8 NPS	1-3/8"	2-1/4"	1-3/4"	5/16-24 x 7/16"	5/16-24 x 17/32"	9/16-18 x 1-1/4"
BUIG9	4-13/32"	3-7/16"	3-1/2"-8 NPS	1-3/8"	2-1/4"	1-3/4"	5/16-24 x 7/16"	5/16-24 x 17/32"	9/16-18 x 1-1/4"
BUIG10	4-29/32"	3-7/8"	4"-8 NPS	1-3/8"	2-1/4"	1-3/4"	5/16-24 x 7/16"	5/16-24 x 17/32"	9/16-18 x 1-1/4"
BUIG11	6-1/8"	4-7/8"	5"-8 NPS	1-3/8"	2-1/4"	1-3/4"	5/16-24 x 7/16"	5/16-24 x 17/32"	9/16-18 x 1-1/4"
BUIG12	7-3/16"	5-7/8"	6"-8 NPS	1-3/8"	2-1/4"	1-3/4"	5/16-24 x 7/16"	5/16-24 x 17/32"	9/16-18 x 1-1/4"



- A = O.D.
- B = I.D.
- C = Thread size
- D = Thickness
- E = Height of lug
- F = Width of lug
- G = Screw spec, bonding screw
- H = Screw spec, screw that holds lug to bushing
- I = Screw spec, screw that holds ground wire



FITTINGS WH SERIES

Conduit Hubs



WH



WH with Ground

Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10, 503.10 and 505-15.

Suitable for use with Type enclosures 2, 3, 3R, 4, 4x 12 and 13.

 LISTED E22699

 Certified 702865

FEATURES-SPECIFICATIONS

Features

- Oversized locknut provides for a strong vibration-proof termination
- Captive sealing ring
- Serrations on hub body and locknut provide effective positive ground path
- Insulated throat protects conductors

Materials

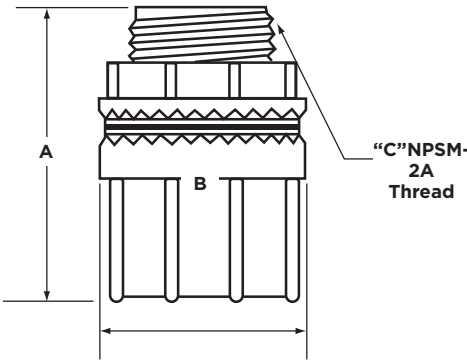
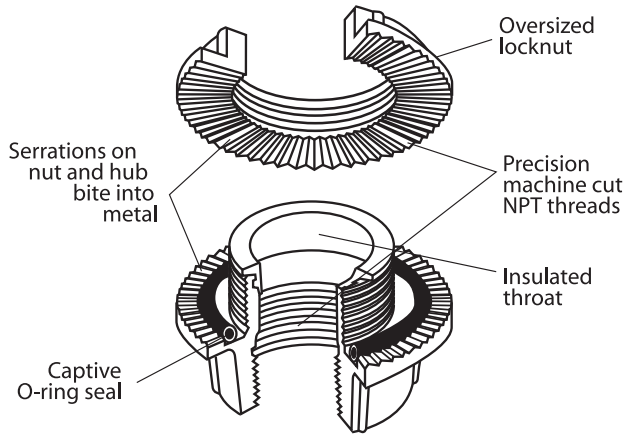
- Die cast zinc or Die cast aluminum
- Natural finish
- GASKET - Viton
- Sealing ring - Buna-N



Conduit Hubs

NPT HUB SIZE	DIE CAST ZINC WH WEATHERPROOF CONDUIT HUBS		DIE CAST ALUMINUM WH WEATHERPROOF CONDUIT HUBS	
	CATALOG NO. W/O GROUND	CATALOG NO. WITH GROUND	CATALOG NO. W/O GROUND	CATALOG NO. WITH GROUND
1/2"	WH-1	WH-1G	WH-1A	WH-1AG
3/4"	WH-2	WH-2G	WH-2A	WH-2AG
1"	WH-3	WH-3G	WH-3A	WH-3AG
1-1/4"	WH-4	WH-4G	WH-4A	WH-4AG
1-1/2"	WH-5	WH-5G	WH-5A	WH-5AG
2"	WH-6	WH-6G	WH-6A	WH-6AG
2-1/2"	WH-7	WH-7G	WH-7A	WH-7AG
3"	WH-8	WH-8G	WH-8A	WH-8AG
3-1/2"	WH-9	WH-9G	WH-9A	WH-9AG
4"	WH-0	WH-0G	WH-0A	WH-0AG

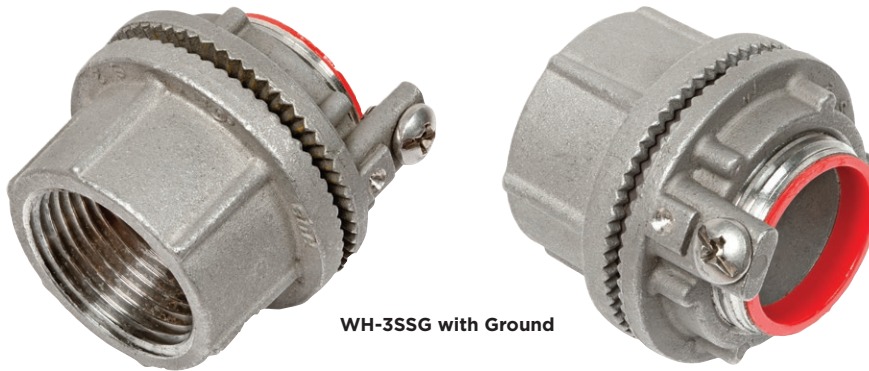
CATALOG NUMBER	DIMENSIONS		
	A	B	C
WH-1	1.500"	1.437"	1/2"-14
WH-2	1.510"	1.685"	3/4"-14
WH-3	1.812"	1.921"	1"-11-1/2
WH-4	1.877"	2.370"	1-1/4"-11-1/2
WH-5	1.920"	2.745"	1-1/2"-11-1/2
WH-6	1.895"	3.236"	2"-11-1/2
WH-7	2.605"	3.708"	2-1/2"-8
WH-8	2.615"	4.370"	3"-8
WH-9	2.570"	4.941"	3-1/2"-8
WH-0	2.590"	5.450"	4"-8





FITTINGS WH SERIES

Conduit Hubs



WH-3SSG with Ground

Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10, 503.10 and 505-15.

Suitable for use with Type enclosures 2, 3, 3R, 4, 4x 12 and 13.

 Certified 702865

FEATURES-SPECIFICATIONS

Features

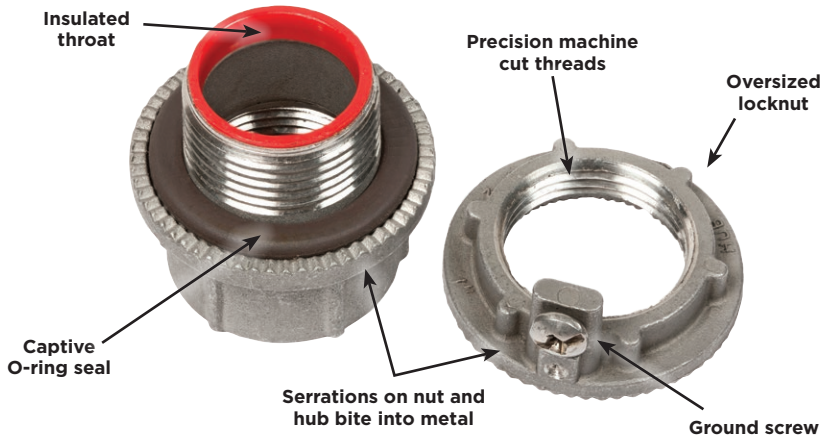
- Oversized locknut provides for a strong vibration-proof termination
- Captive sealing ring
- Serrations on hub body and locknut provide effective positive ground path
- Rugged 316 Stainless Steel
- Insulated throat protects conductors
- Suitable for use with NEMA type enclosures 2, 3, 3R, 4, 4x, 12 and 13
- Grounding provision for added safety

Materials

- Nut and body 316 Stainless Steel
- Natural finish
- Sealing ring gasket - Viton
- Insuliner - Lexan
- Ground screw - stainless steel



Conduit Hubs

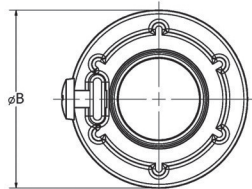


WH WEATHERPROOF CONDUIT HUBS			
CATALOG NUMBER	FEMALE NPT HUB SIZE	MAX. COPPER ^① GROUND WIRE SIZE	
WH-1SSG	1/2"	#8	#8
WH-2SSG	3/4"	#8	#8
WH-3SSG	1"	#8	#8
WH-4SSG	1-1/4"	#8	#8
WH-5SSG	1-1/2"	#8	#6
WH-6SSG	2"	#8	#4
WH-7SSG	2-1/2"	#6	#2
WH-8SSG	3"	#6	1/0
WH-9SSG	3-1/2"	#6	2/0
WH-0SSG	4"	#4	2/0

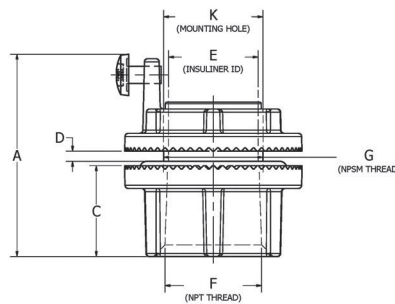
^① Use of wire terminal is recommended by UL and required by CSA for wire gauges over 10 AWG

DIMENSIONS

CAT. NUMBER	HUB SIZE	A	B	C	D	Ø E		F (NPT)	G (NPSM)	Ø K	
						MIN.	MAX.			MIN.	MAX.
WH-1SSG	1/2"	1-3/4" (44.45)	1-7/16" (36.51)	13/16" (20.64)	3/16" (4.76)	0.575	0.590	1/2"	1/2"	0.850	0.875
WH-2SSG	3/4"	2-1/16" (52.38)	1-11/16" (42.86)	5/764" (22.62)	3/16" (4.76)	0.780	0.800	3/4"	3/4"	1.060	1.090
WH-3SSG	1"	2-1/4" (57.15)	2" (50.8)	1-3/64" (26.59)	1/4" (6.35)	0.990	1.010	1"	1"	1.320	1.350
WH-4SSG	1-1/4"	2-9/32" (57.94)	2-3/8" (60.32)	1-1/32" (26.19)	1/4" (6.35)	1.270	1.290	1-1/4"	1-1/4"	1.660	1.690
WH-5SSG	1-1/2"	2-19/64" (58.30)	2-3/4" (69.85)	1-1/64" (25.79)	1/4" (6.35)	1.480	1.500	1-1/2"	1-1/2"	1.900	1.950
WH-6SSG	2"	2-25/64" (60.70)	3-1/4" (82.55)	1-3/32" (27.78)	1/4" (6.35)	1.930	1.950	2"	2"	2.380	2.410
WH-7SSG	2-1/2"	3-3/16" (80.90)	3-11/16" (93.66)	1-17/32" (38.89)	1/4" (6.35)	2.230	2.250	2-1/2"	2-1/2"	2.870	2.900
WH-8SSG	3"	3-3/16" (80.90)	4-19/64" (109.14)	1-17/32" (38.89)	1/4" (6.35)	2.870	2.890	3"	3"	3.490	3.520
WH-9SSG	3-1/2"	3-13/64" (81.36)	5" (127.00)	1-19/32" (40.48)	1/4" (6.35)	3.300	3.320	3-1/2"	3-1/2"	3.990	4.020
WH-0SSG	4"	3-5/32" (80.20)	5-15/32" (138.90)	1-17/32" (38.89)	1/4" (6.35)	3.750	3.770	4"	4"	4.500	4.530



"D" Dimension indicates maximum panel thickness hub will accommodate.





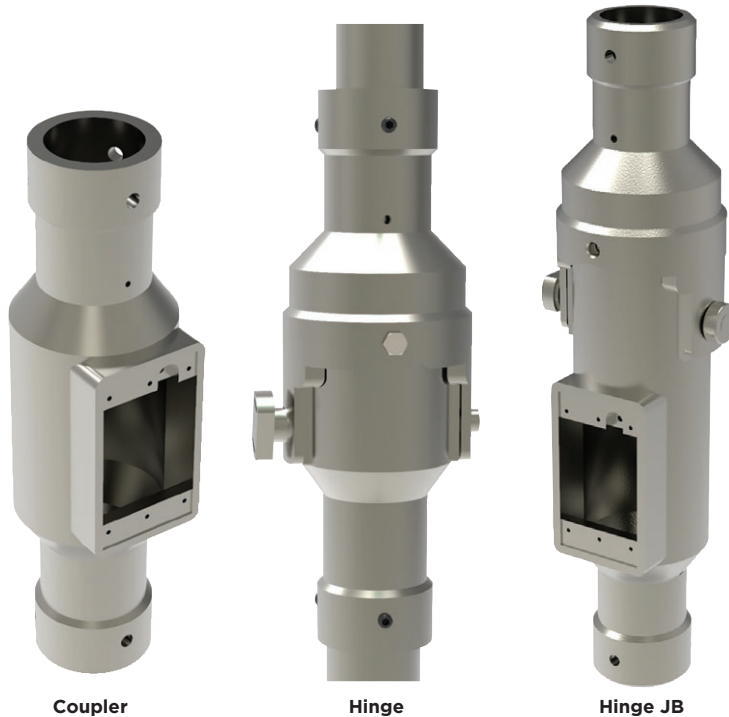
FITTINGS

SPARTAN POLE

34% of all industrial electrical incidents can be attributed to poor facility lighting. To combat this, minimum light levels in industrial settings have been established by OSHA/HSE and serve as an integral part of any facilities' safety and inspection protocols. On average, 33% of the fixtures currently in service fail to meet these standards and are in need of replacing or retrofitting with LED equipment.

In today's industrial industries, replacing or retrofitting light fixtures can be a tasking and time-consuming exercise. The Spartan Pole series is here to offer a solution. The Spartan Pole allows for a safe and easy access to pole mounted light fixtures through its ability to retract for service. Lowering the fixture to a serviceable level, rather than travelling up to the fixture, alleviates the need to rent or purchase the expensive fall arrest or lift systems required to comply with OSHA/HSE working height standards.





Coupler

Hinge

Hinge JB

Suitable for use in Class I div. 2
when installed in accordance to
NEC 501.

Type 3R
Rated 250mph



FEATURES-SPECIFICATIONS

Applications

- For luminaires and other electrical devices mounted on poles in industrial walkways, platforms, stairwells, or anywhere OSHA/HSE regulations would require fall prevention equipment
- For safe and easy service to existing or new installation of lighting poles

Features

- Three pole mounting options available for various applications
- Retrofittable to existing stanchion poles - No need to replace any conduit runs
- Spartan Hinge and Hinge Junction Box designed with mechanical cam system allowing a free hand to aid the pole down with ease
- Spartan Coupler and Hinge Junction Box allow access for splicing wire or installing electrical devices
- Cam shaft design allows minimal exertion necessary to lower pole
- Certified and tested to 250mph wind speeds
- Certified up to 50lb fixtures

Materials

- Spartan Hinge: Aluminum, HDG Iron, Stainless Steel
- Spartan Hinge JB: Aluminum, HDG Iron, Stainless Steel
- Spartan Coupler: Aluminum



FITTINGS

SPARTAN POLE

Killark VM LED series with 90- or 25-degree stanchion mounting options for various optics

Spartan Pole Series can be rotated 360° to accommodate the desired 90° bend if spacing is limited

Cam shaft design for effortless lowering positioning. The smooth beveled stock ensures no kinking of wiring

1-1/2" top and bottom conduit

Spartan drops 90°

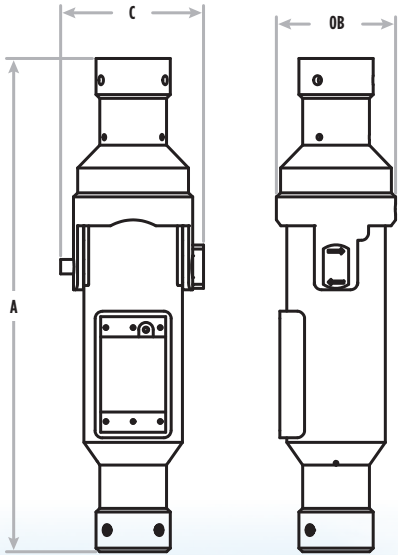
Various mounting brackets available

Customize your pole solution with the patented TET fitting allowing unimpeded access to wire splicing and pulling

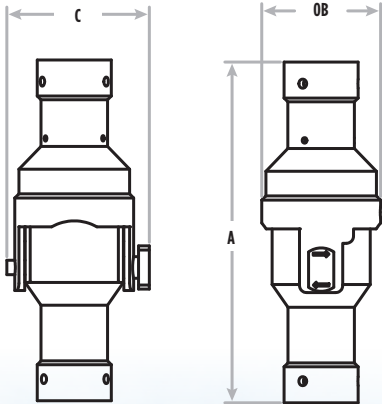
FITTINGS
SPARTAN POLE



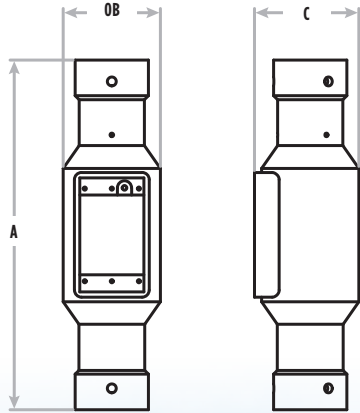
CATALOG NUMBER	ENTRY SIZE	POLE STYLE	MATERIAL	A	OB	C	2 4FT POLES	1X 4FT POLE 1X 6FT POLE
H-AL	1-1/2"	Hinge	Aluminum	11.97"	4.13"	4.95"	H-AL-08	H-AL-10
H-SS			Stainless Steel				H-SS-08	H-SS-10
H-HG			HDG Iron				H-HG-08	H-HG-10
HJB-AL	1-1/2"	Hinge Junction Box	Aluminum	17.32"	4.93"	4.02"	HJB-AL-08	HJB-AL-10
HJB-SS			Stainless Steel				HJB-SS-08	HJB-SS-10
HJB-HG			HDG Iron				HJB-HG-08	HJB-HG-10
CJB-AL	1-1/2"	Coupler	Aluminum	11.97"	3.41"	3.66"	CJB-AL-08	CJB-AL-10



Spartan Hinge Junction Box



Spartan Hinge



Spartan Coupler





FITTINGS

SPARTAN POLE

SPARTAN HINGE

CONDUIT:
Existing or New

POLE SLEEVES:
Protects Cable & Ensures
Poles are Centered

HINGE STOP: Pole
Cannot Rotate Past 90°

SLEEVE DESIGN:
Structural - up to
250MPH wind rated
waterproof enclosure

BEVELED STOCK:
Ensures smooth cable
pulling

SET SCREW:
Secure Conduit

WEEP HOLE:
Ingress Drain System

LOCKING BOLT: Secures
Hinge in Vertical Position

CAM SYSTEM: Stainless
Steel Effortless Raising
& Opening Mechanism



Customize Your Spartan Pole Solution and Save Money
 and Assembly Time Having It Shipped Completely
 Assembled

SPARTAN VC

H **A** **L** - **0** **0** **8** **A** **L** - **Y** - **0** **1** - **T** **E** **T** - **2** **5**

Spartan Pole Fitting

- H** - Hinge
- HJB** - Hinge JB
- CJB** - Coupler

Material

- AL** - Aluminum
- SS** - Stainless Steel
- HG** - Galv. Iron

Cover:

- (Only for CJB & HJB)*
- 0** - No FS Cover
 - 1** - FS Blank Cover w/ Gasket AL

Pole Height

- 00** - No Pole
- 04** - 4ft Top Only
- 06** - 6ft Top Only
- 08** - 8ft (4ft Top & Bottom)
- 10** - 10ft (6ft Top & 4ft Bottom)

Pole Material

- AL** - Aluminum
- SS** - Stainless Steel
- HG** - Steel

Lighting Stancion Mounts

- 00** - None
- 25** - VMD5B 25°
- 90** - VMS5B Straight (90°)

Bottom Pull/Termination Fitting

- 000** - None
- TET** - (Top Entry T Fitting)
- FM5** - Form 5 1-1/2" Conduit Body
- FM7** - Form 7 1-1/2" Conduit Body
- PL5** - Nonmetallic Terminal Box

Brackets

- (Brackets are Galv. Steel)*
- 00** - None
 - 01** - Universal L with Tublar U bolts
 - 02** - Universal L with Angled bolt
 - 03** - Wall Mount
 - 04** - Floor Mount
 - 05** - PL Box Bracket

**Stainless Steel contact Factory*

Cable:

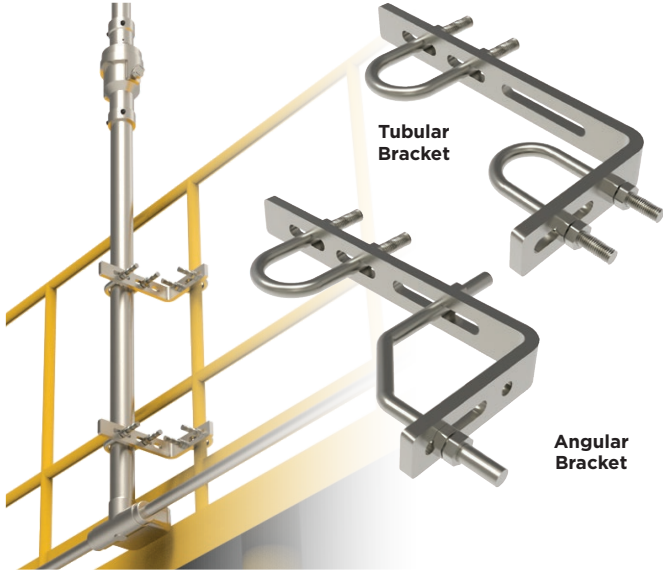
- (cable is standard 12/3 AWG)*
- N** - No Cable
 - Y** - Cable Length Determined by Pole Height Requested



FITTINGS
SPARTAN POLE

Mounting Options

All brackets come standard with bolts, nuts and washers.

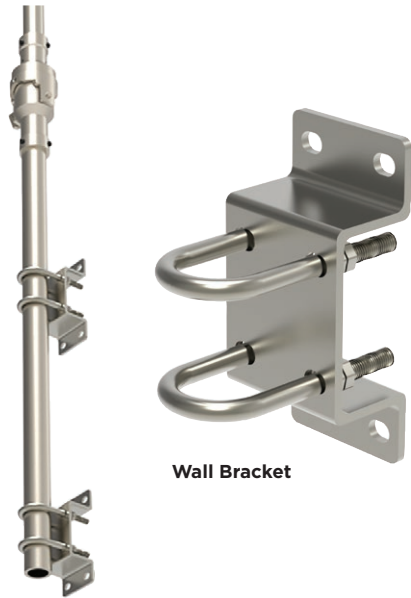


MOUNTING BRACKETS		
CATALOG NUMBER	FINISH	TYPE OF BRACKET
MHK-RTG	Steel	Tubular (rounded)
MHK-RAG	Steel	Angular
MHK-RTS	Stainless Steel	Tubular (rounded)
MHK-RAS	Stainless Steel	Angular



MOUNTING BRACKET		
CATALOG NUMBER	FINISH	TYPE OF BRACKET
MKH-FMBG	Steel	Floor mount
MKH-JFMBG	Steel	Floor mount w junction box

**For other finishes contact factory*



MOUNTING BRACKET		
CATALOG NUMBER	FINISH	TYPE OF BRACKET
MKH-WMBG	Steel	Wall

**For other finishes contact factory*



JUNCTION BOX/MOUNTING BRACKET	
CATALOG NUMBER	DESCRIPTION
MKH-PL514BCD-WDU6-421A	Bracket, PL5 Box 6 terminal - 3 501/421 M20 Glands (9mm-13.4mm) unarmored cable
MKH-PL514BCD-WDU6-423A	Bracket, PL5 Box 6 terminal - 3 501/423 M20 Glands (9mm-13.4mm) armored cable

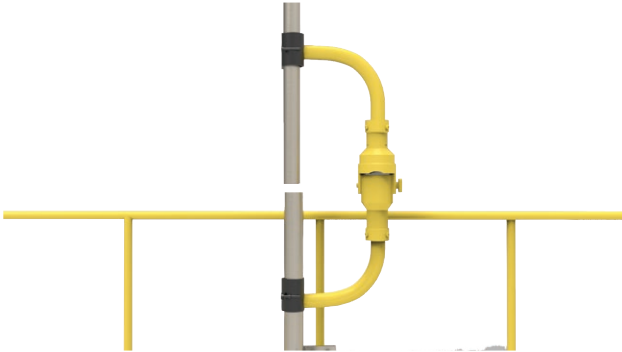


Existing Stanchion Poles Can Easily Be Converted for Retrofitting for Future Maintenance

CONVERSION-RETROFIT TOOL	
CATALOG NUMBER	SPARTAN-CRT



SPARTAN-CRT



1

Install SPARTAN-CRT Tool and cut pipe approx. 2" above railing



2

Lower cut pipe and remove



3

Add Spartan Series and use existing cable and pole



4

Raise pole with new fixture and adjust direction if needed



Click [here](#) to watch the Installation Guide video or scan the QR code above.



Sealing Fittings

Application & Installation

Class I, Divisions 1 and 2

The purpose of seals in a Class I hazardous location is to minimize the passage of gases and vapors and prevent the passage of flames from one electrical installation to another through the conduit system. Seals are required to be installed within 18 inches on any conduit run entering an enclosure which contains devices that may produce arcs, sparks, or high temperature. Where two enclosures are connected by a run of conduit not over 3 ft. long, a single seal located at the center of the run is considered satisfactory. Only explosionproof unions, couplings, elbows, and conduit bodies similar to "L", "T", and "X" type shall be permitted between the sealing fitting and the enclosure.

Seals shall be located within 18 inches of the enclosure or fitting on each conduit run of 2 inch size or larger entering an enclosure or fitting that contains terminals, splices, or taps.

Each run of conduit from a hazardous location to a nonhazardous location should be sealed to minimize the amount of gases and vapors communicated beyond the seal.

Class II, Divisions 1 and 2

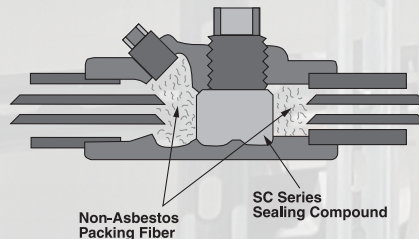
Where a raceway provides communication between an enclosure which is required to be dust-ignitionproof and one which is not, suitable means shall be provided to prevent the entrance of dust into the dust-ignitionproof enclosure through the raceway.

Consideration for selection seals:

Select the proper sealing fitting for the hazardous gas/vapor involved; i.e., Class I Groups A, B, C, or D. Zone 1, Groups IIC, IIB, IIC.

Select a sealing fitting for the proper use in respect to mounting position. This is particularly critical when the conduit runs between hazardous and nonhazardous areas. Some seals are designed to be mounted in any position; others are restricted to vertical mounting.

*** NOTE:** The amount of Killark sealing compound and packing fiber required for any seal is determined by volume hub size and mounting position of the seal. Refer to the IOM sheet of each seal off.



Schematic drawings illustrate the application of sealing compound, fiber dams, and installed seal with drain.



Drains

Where there is a probability that liquid or other condensed vapor may be trapped within enclosures for control equipment or at any point in the raceway system, approved means – such as installation of drain seals – shall be provided to prevent moisture accumulation.

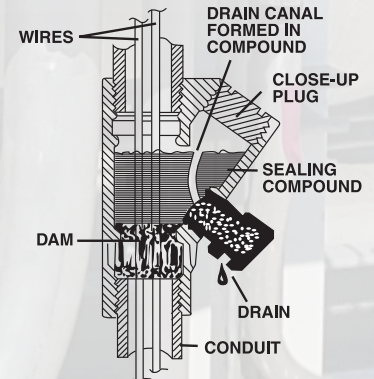
For more complete data or special applications, consult the code or your local inspector.

Sealing compounds shall be approved for the purpose and shall not be affected by the surrounding atmosphere or liquids, and shall not have a melting point of less than 93°C (200°F).

In the complete seal, the minimum thickness of the sealing compound shall not be less than the trade size of the conduit, and in no case less than 5/8 inch.*

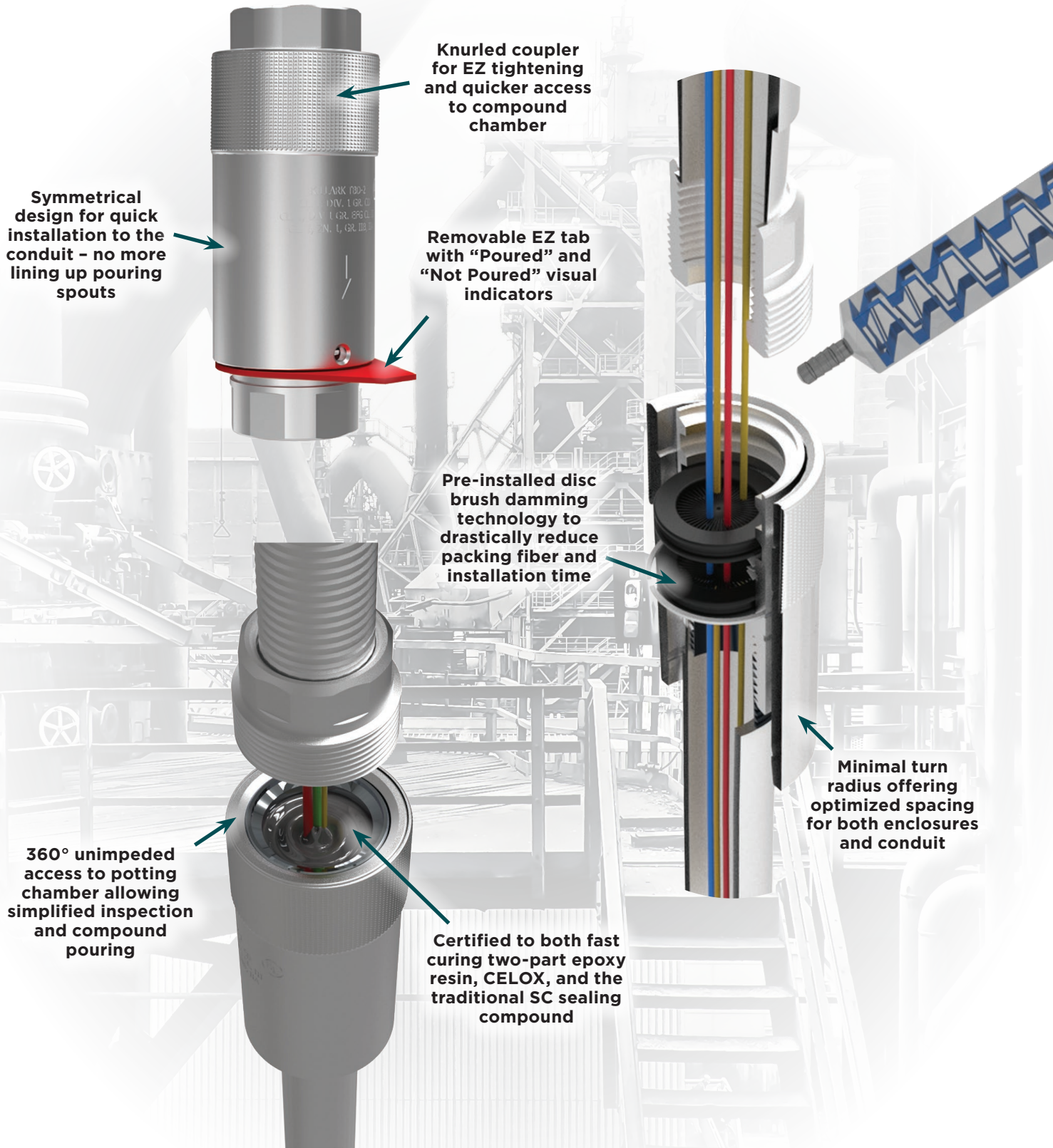
Splices and taps shall not be made in fittings intended only for sealing with compound, nor shall other fittings in which splices or taps are made be filled with compound.

Killark sealing fittings are produced with utmost care to insure a substantial margin of safety. Threads are clean, deep, and snug. When properly installed with Killark sealing compound (SC Type) and Killark non-asbestos fiber (PF Type) for the dams, you can be sure your installation will provide more than adequate safety.





The Next Generation of Vertical Seal Fittings



Knurled coupler for EZ tightening and quicker access to compound chamber

Symmetrical design for quick installation to the conduit - no more lining up pouring spouts

Removable EZ tab with "Poured" and "Not Poured" visual indicators

Pre-installed disc brush damming technology to drastically reduce packing fiber and installation time

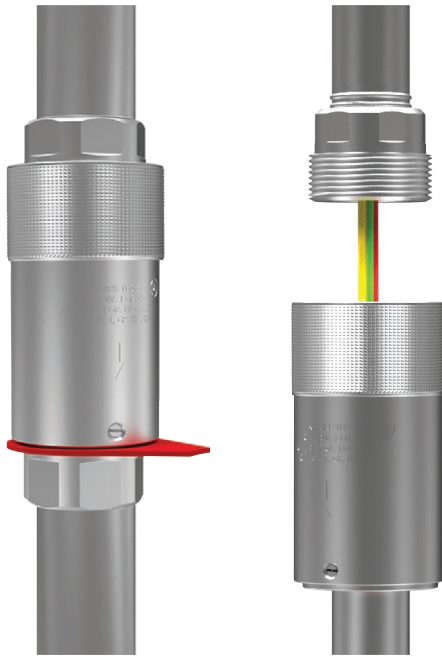
Minimal turn radius offering optimized spacing for both enclosures and conduit

360° unimpeded access to potting chamber allowing simplified inspection and compound pouring

Certified to both fast curing two-part epoxy resin, CELOX, and the traditional SC sealing compound



FITTINGS EZ SERIES



Class I, Div. 1 & 2, Groups A, B, C, D
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 3R

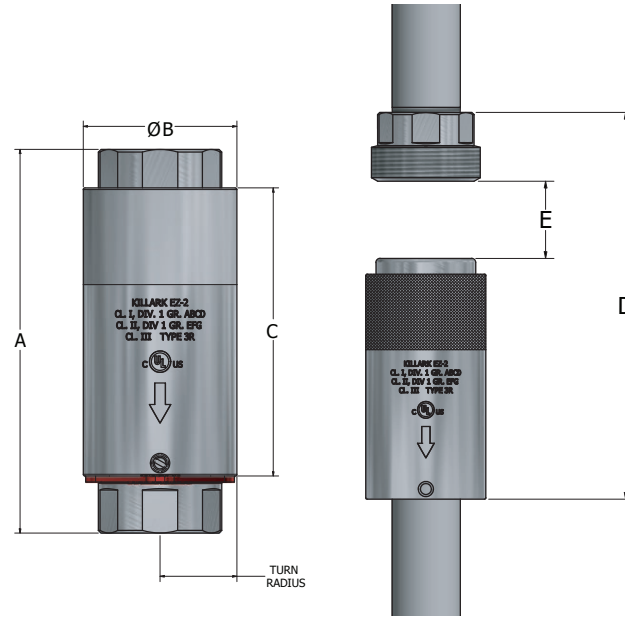
FEATURES-SPECIFICATIONS

Features

- Unique uniform design for simplified seal alignment
- Minimal turn radius for close spacing specification
- 360° unimpeded access to the conductors for visual inspection and separation
- Pre-installed patented disc brush barrier dam for nominal or no packing fiber required
- Retrofittable and easy replacement if needed

Materials

- EZ Seal Bodies
 - » Copper-free Aluminum or 12L14 zinc plated cold rolled steel
- Retaining rings
 - » Stainless steel
- Disc Brush dam
 - » Steel/nylon
- Position snap ring
 - » Plastic



EZ SEAL SERIES									
HUB SIZE	CATALOG NUMBER			DIMENSIONS					
	ALUMINUM	ZINC PLATED STEEL	316 STAINLESS	A	B	C	D	E	TURN RADIUS
1/2"	EZ 1	EZ 1S	EZ 1SS	4.45	1.60	3.15	5.45	1.06	0.80
3/4"	EZ 2	EZ 2S	EZ 2SS	4.44	1.60	3.15	5.76	1.15	0.90
1"	EZ 3	EZ 3S	EZ 3SS	5.08	1.96	3.60	6.24	1.15	0.98



SEALING COMPOUND	
CATALOG NUMBER	SIZE PACKAGE
KQS-050 ML	50 ml (1.7 oz)
KQS-250 ML	250 ml (8.45 oz)

*includes 4 static mixing nozzles

DISPENSING GUN	
CATALOG NUMBER	SIZE CARTRIDGE
KQS-050 GUN	50ml Cartridge
KQS-250 GUN	250ml Cartridge

SEALING COMPOUND	
CATALOG NUMBER	SIZE PACKAGE
SC-4 OZ	4 oz.
SC-8 OZ	8 oz.
SC-1 LB	1 lb.
SC-5 LB	5 lbs.





FITTINGS EY SERIES

Sealing Fittings



UL LISTED E10514
CS Certified LR11716

FEATURES-SPECIFICATIONS

Features

EY Series

- Large opening for easy packing of fiber dam and pouring of compound
- Integral bushings in conduit hubs to protect conductor insulation from damage
- NPT tapped hubs to ensure ground continuity
- Design provides minimum turning radius
- 25% conductor fill
- EY-T style supplied with removeable close nipples

EYD Series

- Threaded for Rigid Conduit or IMC
- Tapered threads (NPT)
- Simple to install. Internal drainage path provides a visual means to ensure that the compound chamber is properly filled. No need to use hoses and wires
- Large cover openings for easy packing of fiber dam on 1/2" through 1" sizes

- Temporary plastic sleeve protects thread for drain/breather from contamination when pouring compound
- Unique design enables installation of drain/breather right after compound is poured - no waiting
- Provides continuous water drain path while allowing conduit run to breathe, in compliance with the NEC
- Includes Drain Breather Fitting KDB-375

ENY40/EYD40 series

- A 40% wire fill capacity
- Large openings with threaded closures to provide easy access to conduit hubs for making dams
- Integral bushing in conduit hubs to protect conductor insulation from damage
- NPT threaded hubs to ensure ground continuity
- Minimum turning radius

Materials

Copper-free Aluminum

(less than 4/10 of 1%)

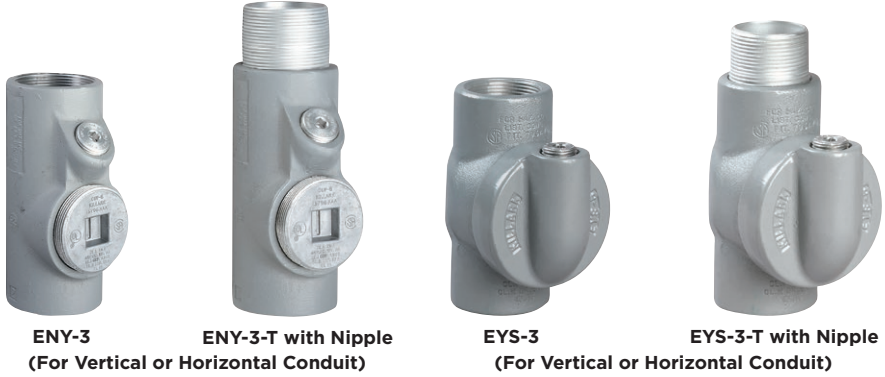
- Electrostatically applied powder coating

Duraloy Iron

- Tri-Coat Finish of electrozinc, chromate sealant, and electrostatically applied powder coating



Sealing Fittings



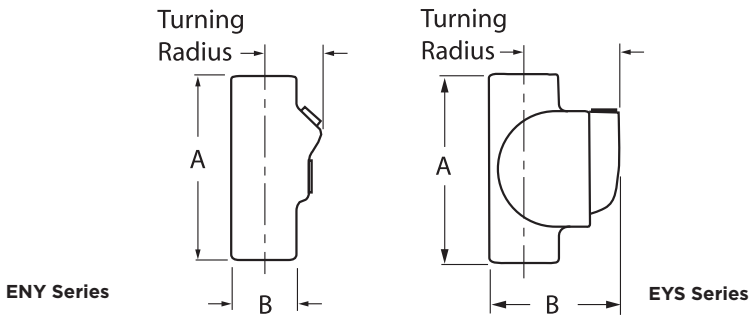
ENY-1, 2, 3, 4, 5 (KQS - SC) ENY-6 (SC ONLY)
Class I, Div. 1 & 2, Groups A, B, C, D
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
 EYS-1, 2 (KQS-SC) EYS-3, 4, 5, 6, 7, 8 (SC)
Class I, Div. 1 & 2, Groups C, D
Class I, Zone 1, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
 EYS-9, 0 (SC)
Class I, Div. 1 & 2, Groups C, D
Class I, Zone 1, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III

ENY SEALING FITTINGS						ENY WITH NIPPLE	
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS	CATALOG NUMBER	
	KILLARK ALUMINUM	DURALOY IRON	A	B		KILLARK ALUMINUM	DURALOY IRON
1/2"	ENY-1	ENY-1M	4-1/16" (103)	1-9/32" (33)	1-3/32" (30)	ENY-1-T	ENY-1TM
3/4"	ENY-2	ENY-2M	4-3/16" (106)	1-1/2" (38)	1-9/32" (33)	ENY-2-T	ENY-2TM
1"	ENY-3	ENY-3M	5" (127)	1-3/4" (45)	1-13/32" (36)	ENY-3-T	ENY-3TM
1-1/4"	ENY-4	ENY-4M	5-3/8" (137)	2-3/16" (56)	1-25/32" (45)	ENY-4-T	ENY-4TM
1-1/2"	ENY-5	ENY-5M	5-11/16" (144)	2-3/8" (60)	1-29/32" (48)	ENY-5-T	ENY-5TM
2"	ENY-6	ENY-6M	6-3/8" (162)	2-3/8" (60)	2-5/16" (59)	ENY-6-T	ENY-6TM

LARGE SIZES COMING SOON

EYS SEALING FITTINGS						EYS WITH NIPPLE	
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS	CATALOG NUMBER	
	KILLARK ALUMINUM	DURALOY IRON	A	B		KILLARK ALUMINUM	DURALOY IRON
1/2"	EYS-1	—	2-15/16" (75)	1-13/16" (46)	1-3/16" (30)	EYS-1-T	—
3/4"	EYS-2	—	4-1/16" (103)	2-1/16" (52)	1-9/32" (33)	EYS-2-T	—
1"	EYS-3	—	4-25/32" (121)	2-11/32" (60)	1-13/32" (36)	EYS-3-T	—
1-1/4"	EYS-4	—	5-3/8" (137)	3" (76)	1-25/32" (45)	EYS-4-T	—
1-1/2"	EYS-5	—	5-11/16" (144)	3-1/4" (83)	1-29/32" (48)	EYS-5-T	—
2"	EYS-6	—	6-3/8" (162)	3-15/16" (100)	2-5/16" (59)	EYS-6-T	—
2-1/2"	EYS-7	EYS-7M	7-5/8" (194)	4-1/2" (114)	4-1/8" (105)	EYS-7-T	EYS-7TM
3"	EYS-8	EYS-8M	7-5/8" (194)	4-1/2" (114)	4-3/8" (111)	EYS-8-T	EYS-8TM
3-1/2"	EYS-9	EYS-9M	7-1/8" (181)	5-3/16" (132)	4-3/4" (121)	EYS-9-T	EYS-9TM
4"	EYS-0	EYS-0M	7-1/8" (181)	5-3/16" (132)	4-3/4" (121)	EYS-0-T	EYS-0TM

DIMENSIONS





FITTINGS EY/EYD SERIES

Sealing Fitting



EY-3



**EY-3-T with Nipple
(For Vertical Conduit)**



EYD-3

**EYD-3-T with Nipple
(Drain/Seal for vertical conduit)**



EY-50, 75, 100 EYD-50, 75, 100 (KQS-SC)

Class I, Div. 1 & 2, Groups A, B, C, D

Class I, Zone 1, Groups IIC, IIB, IIA

Class II, Div. 1 & 2, Groups E, F, G

Class III

EY-4, 5, 6, 7 EYD-4, 5, 6, 7 (SC)

Class I, Div. 1 & 2, Groups C, D

Class I, Zone 1, Groups IIB, IIA

Class II, Div. 1 & 2, Groups E, F, G

Class III

EY-9,0 EYD-9,0 (SC)

Class I, Div. 1 & 2, Group D

Class I, Zone 1, Groups IIB, IIA

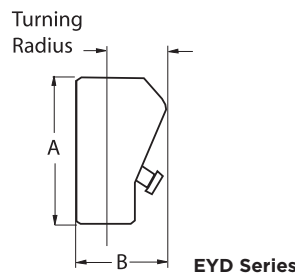
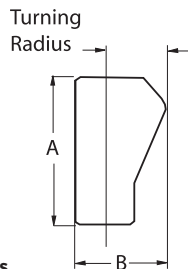
Class II, Div. 1 & 2, Groups E, F, G

Class III

EY SEALING FITTINGS						EY WITH NIPPLE	
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS	CATALOG NUMBER	
	KILLARK ALUMINUM	DURALOY IRON	A	B		KILLARK ALUMINUM	DURALOY IRON
1/2"	EY-50	EY-50M	3-5/16"(84)	1-1/8"(29)	1-11/16"(37)	EY-50-T	EY-50TM
3/4"	EY-75	EY-75M	3-11/16"(94)	1-5/16"(33)	2"(51)	EY-75-T	EY-75TM
1"	EY-100	EY-100M	4-3/8"(111)	1-5/8"(41)	2-7/16"(62)	EY-100-T	EY-100TM
1-1/4"	EY-4	EY-4M	5-1/8"(130)	3-7/8"(98)	2-7/8"(73)	EY-4-T	EY-4TM
1-1/2"	EY-5	EY-5M	5-1/8"(130)	4-5/8"(117)	3-7/16"(87)	EY-5-T	EY-5TM
2"	EY-6	EY-6M	5-1/8"(230)	5-11/16"(144)	4-1/4"(108)	EY-6-T	EY-6TM
2-1/2"	EY-7	EY-7M	7"(178)	6-5/16"(160)	4-5/8"(117)	EY-7-T	EY-7TM
3"	EY-8	EY-8M	7"(178)	6-5/16"(160)	4-5/8"(117)	EY-8-T	EY-8TM
3-1/2"	EY-9	EY-9M	8-3/4"(222)	7-1/8"(181)	5-3/8"(138)	EY-9-T	EY-9TM
4"	EY-0	EY-0M	8-3/4"(222)	7-1/8"(181)	5-3/8"(138)	EY-0-T	EY-0TM

EYD SEALING FITTINGS						EYD WITH NIPPLE	
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS	CATALOG NUMBER	
	KILLARK ALUMINUM	DURALOY IRON	A	B		KILLARK ALUMINUM	DURALOY IRON
1/2"	EYD-50	EYD-50M	3-1/2"(89)	1-1/8"(29)	1-5/8"(41)	EYD-50T	EYD-50TM
3/4"	EYD-75	EYD-75M	3-3/4"(95)	1-3/8"(35)	1-3/4"(45)	EYD-75T	EYD-75TM
1"	EYD-100	EYD-100M	4-3/8"(111)	1-3/4"(45)	2-1/8"(54)	EYD-100T	EYD-100TM
1-1/4"	EYD-4	EYD-4M	5-1/8"(130)	3-7/8"(98)	2-7/8"(73)	EYD-4-T	EYD-4TM
1-1/2"	EYD-5	EYD-5M	5-1/8"(130)	4-5/8"(117)	3-7/16"(87)	EYD-5-T	EYD-5TM
2"	EYD-6	EYD-6M	5-1/8"(130)	5-11/16"(144)	4-1/4"(108)	EYD-6-T	EYD-6TM
2-1/2"	EYD-7	EYD-7M	7"(178)	6-5/16"(160)	4-5/8"(117)	EYD-7-T	EYD-7TM
3"	EYD-8	EYD-8M	7"(178)	6-5/16"(160)	4-5/8"(117)	EYD-8-T	EYD-8TM
3-1/2"	EYD-9	EYD-9M	8-3/4"(122)	7-1/8"(181)	5-3/8"(137)	EYD-9-T	EYD-9TM
4"	EYD-0	EYD-0M	8-3/4"(122)	7-1/8"(181)	5-3/8"(137)	EYD-0-T	EYD-0TM

DIMENSIONS





40% Fill Sealing Fittings



ENY



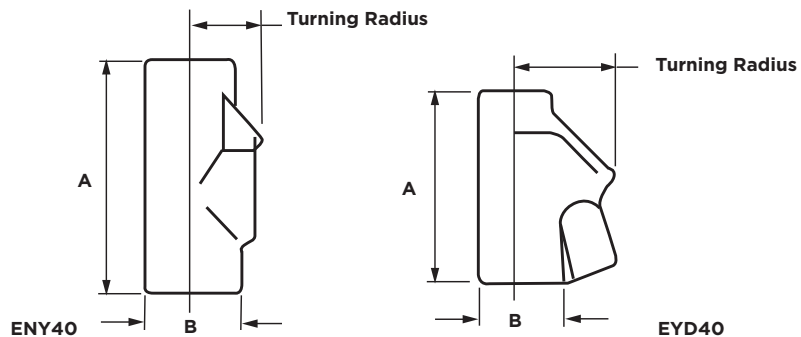
EYD

EYD, ENY40-1, 2, 3, 4, 5
Class I, Div. 1 & 2, Groups B, C, D
Class I, Zone 1, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III

ENY40 40% VERTICAL AND/OR HORIZONTAL CONDUIT SEALING FITTINGS							
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS*	REQUIRED SEALING COMPOUND & PACKING FIBER OZ.	PER HUB (PF)
	KILLARK ALUMINUM	DURALOY IRON	A	B			
1/2"	ENY40-1	ENY40-1M	4-1/16"(103)	2-1/16"(52)	1-9/32"(33)	2	0.06
3/4"	ENY40-2	ENY40-2M	4-25/32"(121)	2-11/32"(60)	1-13/32"(36)	4	0.12
1"	ENY40-3	ENY40-3M	5-3/8"(137)	3"(76)	1-25/32"(45)	7	0.26
1-1/4"	ENY40-4	ENY40-4M	5-11/16"(144)	3-1/4"(83)	1-29/32"(48)	13	1.00
1-1/2"	ENY40-5	ENY40-5M	6-3/8"(162)	3-15/16"(100)	2-5/16"(59)	22	2.00
2"	ENY40-6	ENY40-6M	7-5/8"(194)	4-1/2"(114)	4-1/8"(105)	36	3.00
2-1/2"	ENY40-7	ENY40-7M	7-5/8"(194)	4-1/2"(114)	4-3/8"(111)	61	3.56
3"	ENY40-8	ENY40-8M	7-1/8"(181)	5-3/16"(132)	4-3/4"(121)	89	6.00
3-1/2"	ENY40-9	ENY40-9M	7-1/8"(181)	5-3/16"(132)	4-3/4"(121)	114	7.00
4"	ENY40-0	ENY40-0M	11-1/16"(281)	6-1/2"(165)	4-1/4"(108)	202	9.60

EYD40 40% VERTICAL CONDUIT DRAIN SEALING FITTINGS							
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS*	REQUIRED SEALING COMPOUND & PACKING FIBER OZ.	PER HUB (PF)
	KILLARK ALUMINUM	DURALOY IRON	A	B			
1/2"	EYD40-1	EYD40-1M	3-3/4"(95)	1-3/8"(35)	1-3/4"(45)	2	0.03
3/4"	EYD40-2	EYD40-2M	4-3/8"(111)	1-3/4"(45)	2-1/8"(54)	4	0.06
1"	EYD40-3	EYD40-3M	5-1/8"(130)	3-7/8"(98)	2-7/8"(73)	7	0.13
1-1/4"	EYD40-4	EYD40-4M	5-1/8"(130)	4-5/8"(117)	3-7/16"(87)	13	0.50
1-1/2"	EYD40-5	EYD40-5M	5-1/8"(130)	5-11/16"(144)	4-1/4"(108)	22	1.00
2"	EYD40-6	EYD40-6M	7"(178)	6-5/16"(160)	4-5/8"(117)	36	1.50
2-1/2"	EYD40-7	EYD40-7M	7"(178)	6-5/16"(160)	4-5/8"(117)	61	1.75
3"	EYD40-8	EYD40-8M	8-3/4"(122)	7-1/8"(181)	5-3/8"(137)	89	3.00
3-1/2"	EYD40-9	EYD40-9M	8-3/4"(122)	7-1/8"(181)	5-3/8"(137)	114	3.50
4"	EYD40-0	EYD40-0M	11-1/16"(281)	6-1/2"(165)	4-1/4"(108)	202	4.50

*Turning radius with cover plug removed.





FITTINGS SC/PF SERIES

Sealing Materials



Sealing Compound



Packing Fiber



SC11W

FEATURES-SPECIFICATIONS

Sealing Materials

SC Series Sealing compound is a cement used extensively for sealing conduit to prevent the spread of explosive gases. It is non-shrinking and a secure seal is formed. SC Series resists acids, water, oil, etc. It is UL Listed for use with Killark ENY, EY, and EYS Series. Also CSA certified for use with any CSA certified sealing fitting.

Packing Fiber

Killark's Packing Fiber is made from an environmentally safe, non-asbestos material. It is easy to use and forms a positive dam to hold compound (Killark SC Type) in ENY, EY, and EYS Series fittings.

Features of SC with Water

- Exact amount of compound and water are packaged together into a two-compartment plastic pouch.
- The precise amount of compound and water are available for mixing. No mixing or measure implements are required.
- Squeezing the inner water container forces the water into the compartment containing the sealing compound. Complete mixing takes place inside the plastic pouch.
- The mixed sealing compound can be poured directly into the sealing fitting. A tubular straw is provided for those difficult seals to reach.
- The package label indicates the size and quantity of sealing fittings each pouch will properly fill.



Sealing Materials

OUNCES REQUIRED PER FITTING				
HUB SIZE	SEALING COMPOUND			PACKING FIBER
	ENY ^①	EYS ^①	EY/EYD	
1/2"	1.5 oz.	3.0 oz.	1.0 oz.	1/16 oz.
3/4"	2.0 oz.	3.0 oz.	2.0 oz.	1/8 oz.
1"	3.0 oz.	8.0 oz.	4.5 oz.	1/4 oz.
1-1/4"	6.5 oz.	8.5 oz.	7.5 oz.	1/2 oz.
1 1/2"	8.5 oz.	17.5 oz.	12.0 oz.	1 oz.
2"	15.0 oz.	27.0 oz.	24.0 oz.	2 oz.
2-1/2"	—	42.0 oz.	44.0 oz.	3 oz.
3"	—	47.0 oz.	44.0 oz.	4 oz.
3-1/2"	—	56.0 oz.	75.0 oz.	6 oz.
4"	—	56.0 oz.	75.0 oz.	9 oz.

① ENY/EYS suitable for both horizontal or vertical applications.

SEALING COMPOUND	
CATALOG NUMBER	SIZE PACKAGE
SC-4 OZ	4 oz.
SC-8 OZ	8 oz.
SC-1 LB	1 lb.
SC-5 LB	5 lbs.

PACKING FIBER	
CATALOG NUMBER	SIZE PACKAGE
PF-2	2 oz.
PF-4	4 oz.
PF-16	1 lb.

SEALING COMPOUND						
CATALOG NUMBER	HUB SIZE	WILL FILL THE FOLLOWING SEALS:			CU. IN. FILL PER POUCH	NO. OF POUCHES PER CARTON
		ENY	EYS	EY/EYD		
SC5W ^②	1/2"	3	1	5	5	5
	3/4"	2	1	2		
	1"	1	—	1		
SC11W ^②	1/2"	7	3	11	11	5
	3/4"	5	3	5		
	1"	3	1	2		

② Appropriate amount of Packing Fiber is included in carton. Additional Packing Fiber may be purchased separately.



FITTINGS

CELOX[®] KQS SERIES

CELOX[®], a new
solution to **pouring**
seal fittings





CELOX®

Sealing Compound

KQS-250 ML



Class I, Div. 1 & 2, Groups A, B, C, D
 Class II, Div. 1 & 2, Groups E, F, G
 Class III



KQS-050



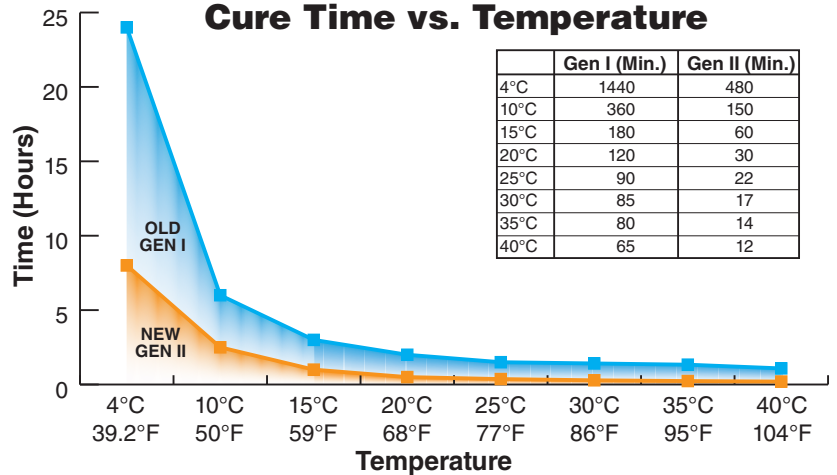
FEATURES-SPECIFICATIONS

Features

CELOX® KQS Series is used exclusively for sealing conduit to prevent the spread of explosive gases and vapors

- Two-part epoxy resin self mixes through a static, replaceable nozzle.
- New Enhanced Formula now up to 75% faster
- Available in two sizes 50ml and 250ml
- Cures faster in colder temperatures
- 250ml fills over sixteen 1/2" seals (may vary depending on pour and conductor fill)
- Each cartridge comes with 4 static nozzles

Cure Time vs. Temperature





FITTINGS

CELOX® KQS SERIES

SEALING COMPOUND	
CATALOG NUMBER	SIZE PACKAGE
KQS-050 ML	50 ml (1.7 oz.)
KQS-250 ML	250 ml (8.45 oz.)

**includes 4 static mixing nozzles*

DISPENSING GUN	
CATALOG NUMBER	SIZE CARTRIDGE
KQS-050 GUN	50 ml Cartridge
KQS-250 GUN	250 ml Cartridge

REPLACEMENT NOZZLES	
CATALOG NUMBER	SIZE NOZZLE
KQS-050 NOZ	50 ml Cartridge Nozzle (5 per)
KQS-250 NOZ	250 ml Cartridge Nozzle (5 per)

Saves Time



There is no mixing, measuring, or stirring required. Simple to set up with time, labor, and money savings.

Saves Money



Eliminates waste as each tube is REUSABLE for up to one year - saving money and the environment!

Easy Install



After the seal fitting is prepped, CELOX® takes seconds to install. Unlike traditional methods, no messy cement or water needed.



Thread Lubricants



LUBG-6

LUBT-2

FEATURES-SPECIFICATIONS

Features

- LUBG is a general-purpose lubricant to be used in temperatures ranging from 0° to 125°F and comes in a can with brush lid.
- LUBT-2 is a high-quality lubricant to be used in temperatures ranging from -40° to +500°F. It is recommended to be used on hazardous location lighting fixtures.
- Never hardens, contain evaporating solvents and never corrodes

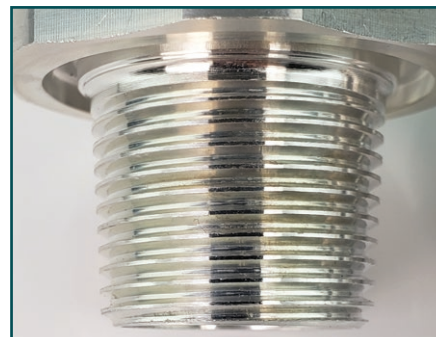
THREAD LUBRICANTS		
CATALOG NUMBER	CONTAINER PACKAGE	RATING
LUBG-6	6 oz.	General Purpose
LUBT-2	2 oz	High Temperature

GALLING



vs.

NO GALLING





OUTLET BODY DIFFERENCES

A Quick Glance at the Difference Between Outlet Bodies



GEB SERIES

- External cover head on body
- Larger internal volume than the GEM & GEC series for more wiring capacity
- Available in aluminum only
- Comes with bosses for terminals
- Supplied with mounting tabs
- Cover opening 3-1/2"



GEC SERIES

- External cover head on body
- Larger internal volume than the GEM series for more wiring capacity
- Available in aluminum and Iron
- Rated for C1 D1 groups B,C,D and Type 4
- Covers and gasket supplied as standard
- Cover opening 2-11/16"



GES SERIES

- External cover head on body
- Available in aluminum and Iron
- Only available in 1" - 1-1/4"
- Cover opening 3-9/16"



GEJ SERIES

- Internal cover head on body
- Available in aluminum and Iron
- Only available in 1-1/2" - 2"
- Cover opening 4-7/8"



Aluminum Outlet Bodies



Class I, Div. 1 & 2, Groups B, C, D*
Class I, Zone I, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 4X



UL Standards: 886 and 1203
CSA Standards: C22.2 No. 30

** 1-1/2" hub sizes require seal within 24" for Group B applications.*

FEATURES-SPECIFICATIONS

Features

- Integral mounting lugs
- Green ground screw standard
- External cover thread on body plus smooth integral hub bushing protects conductor insulation when pulling
- 4 different hub arrangements
- Taper threaded hubs provide ground continuity
- External threaded body for additional wiring room
- Covers and gaskets furnished with boxes as standard
- 4 cored holes supplied inside casting for #8.32 self tapping screws for mounting devices as standard

Factory Modification

- Back and wall (mounting pad area) suitable for drilling 1/2" or 3/4" NPT or NPSM w/opening, consult factory

Materials

Aluminum

- **BODY & COVER** Copper-free aluminum (less than 4/10 of 1%)
- **FINISH** Electrostatically applied powder coating

Size Ranges

- Hub - 3/4" to 1-1/2"
- Cover opening - 3-1/2"



FITTINGS
GEB SERIES

Aluminum Outlet Bodies



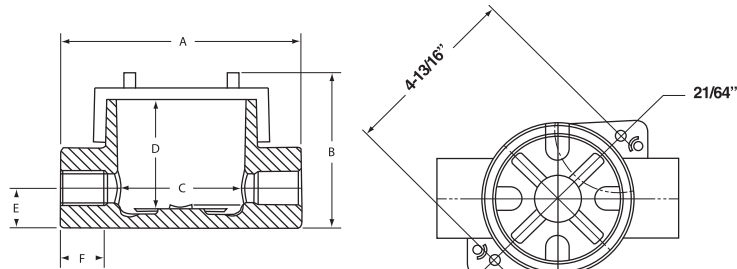
C Type



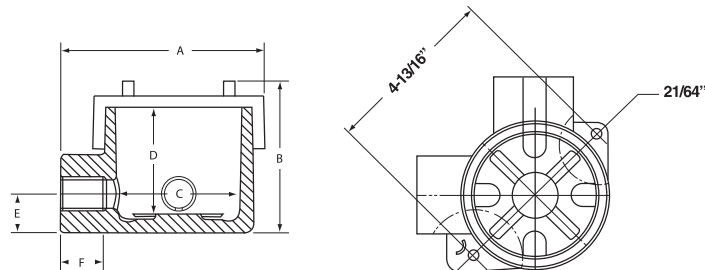
L Type

C TYPE OUTLET BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						COVER OPENING	VOLUME CU. IN.
		A	B	C	D	E	F		
GEBC-2	3/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBC-3	1"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBC-4	1-1/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBC-5	1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29

L TYPE OUTLET BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						COVER OPENING	VOLUME CU. IN.
		A	B	C	D	E	F		
GEBL-2	3/4"	5-1/2" (140)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBL-3	1"	5-1/2" (140)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBL-4	1-1/4"	5-1/2" (140)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBL-5	1-1/2"	5-1/2" (140)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29



C Type



L Type



Aluminum Outlet Bodies



T Type



X Type

T TYPE OUTLET BODY

CATALOG NUMBER	HUB SIZE	DIMENSIONS						COVER OPENING	VOLUME CU. IN.
		A	B	C	D	E	F		
GEBT-2	3/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-3	1"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-4	1-1/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-5	1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-24	(2) 3/4" (1) 1-1/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-25	(2) 3/4" (1) 1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29

*1-1/2" hub size requires seal within 24" for group B applications.

X TYPE OUTLET BODY

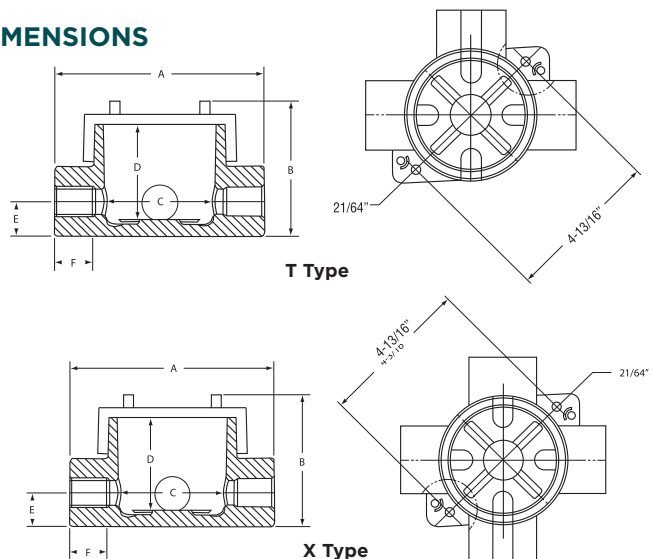
CATALOG NUMBER	HUB SIZE	DIMENSIONS						COVER OPENING	VOLUME CU. IN.
		A	B	C	D	E	F		
GEBX-2	3/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBX-3	1"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBX-4	1-1/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBX-5	1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBX-25	(3) 3/4" (1) 1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29

Outlet Box for in-line (multiple) stanchion mount fixtures



GEBT-25 with two 3/4"
feed-thru hubs
and one 1-1/2" vertical
hub

DIMENSIONS





FITTINGS GEB SERIES

Instrument / Device - UL / CSA / ATEX / IECEx



GR with Cover



Application Example



Class I, Div. 1 & 2, Groups B, C, D
Class I, Zone 1 & 2, Groups IIC, IIB,
IIA

Class II, Div. 1 & 2, Groups E, F, G
Class III

Enclosure Type 3, 4 & 4X IP66

0518

II 2 G D

Ex d IIC Gb

Ex e IIC Gb

Ex t IIIC Db

Ta = -40°C to +163°C* IP66

CLASSIFIED

UL

- File E83969

CSA

Certified - LR11716

Sira 12ATEX1243U

IECEx SIR 12.0106U

FEATURES-SPECIFICATIONS

Features

- Body opening 3-1/2" Dia. x 3" deep.
- Cover o-ring supplied as standard for **TYPE 4X AND IP66** applications.
- Available in 4 configurations, C, L, T, & X with **1/2" THROUGH 1-1/2" NPT TAPER THREADED HUBS** providing ground continuity.
- Smooth integral hub busing to protect conductor insulation when pulling.
- External cover threads on the body protecting conductors from damages during pulling.
- No pinching of conductors during cover installation.
- One internal & two external grounding (earthing) connections
- Boxes have integral mounting lugs.
- Lugs on cover permit easy removal and tightening.

Materials

- Box & cover: Copper free aluminum (less than 4/10 of 1%)
- Finish: Electrostatically applied powder coating - Grey
- O-Ring Gasket Material: Nitrile compound
- Hub Sizes: 1/2 NPT to 1-1/2 NPT
- Stainless steel tamper-proof locking set screw in cover.
- "X" configured cast-in mounting pad. Supplied with 4 corded holes for #8-32 self-tapping screws for mounting devices as standard. Units can also be provided with internal customer specified drilling and tapping for OEM device mounting.



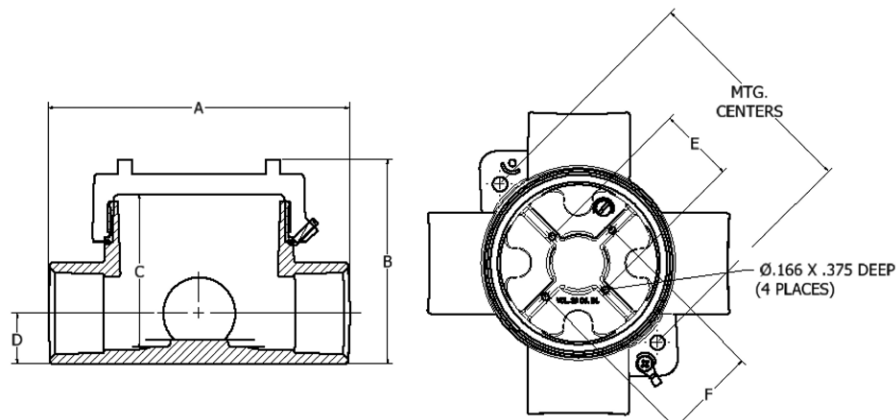
Instrument / Device - UL / CSA / ATEX / IECEx

HUB TYPE	CATALOG NUMBER	HUB SIZE	HUB TYPE	CATALOG NUMBER	HUB SIZE
C	GEB C-1-EX	1/2"	L	GEB L-1-EX	1/2"
	GEB C-2-EX	3/4"		GEB L-2-EX	3/4"
	GEB C-3-EX	1"		GEB L-3-EX	1"
	GEB C-4-EX	1-1/4"		GEB L-4-EX	1-1/4"
	GEB C-5-EX	1-1/2"		GEB L-5-EX	1-1/2"
T	GEB T-1-EX	1/2"	X	GEB X-1-EX	1/2"
	GEB T-2-EX	3/4"		GEB X-2-EX	3/4"
	GEB T-3-EX	1"		GEB X-3-EX	1"
	GEB T-4-EX	1-1/4"		GEB X-4-EX	1-1/4"
	GEB T-5-EX	1-1/2"		GEB X-5-EX	1-1/2"
	GEB T-24-EX	3/4 - 1-1/4"		GEB X-25-EX	1-1/2"
	GEB T-25-EX	3/4 - 1-1/2"			3/4" - 1-1/2"

NOTE - 1/2" Hub Size supplied with 3/4"-1/2" NPT reducer

DIMENSIONS					
A	B	E	COVER OPENING	VOLUME IN ³ / ML	MOUNTING CENTERS
5.5" (140mm)	4.31" (110mm)	1.09" (28mm)	3.5" (89mm)	29 (48ml)	4.81" (122mm)

DIMENSIONS





FITTINGS GE SERIES



1/2", 3/4" and 1" Bodies
 Class I, Div. 1 & 2, Groups B, C & D
 Class I, Zone 1, Groups IIB, IIA
1-1/4", 1-1/2", and 2" Bodies
 Class I, Div. 1 & 2, Group D
 Class I, Zone 1, Group IIA
 Class II, Div. 1 & 2, Groups E, F, G
 Class III
 For GEJ Series CSA applications for
 Class I Group C, seal conduit within
 18 inches
Type 4 & 4X



Applicable Third Party Standards
UL Standards: 886 and 1203
CSA Standard: C22.2 No. 30
Fed Spec: W-C-586D
Mil Spec: F-28675

FEATURES-SPECIFICATIONS

Features

GE conduit outlet boxes have:

- GEM, GEC and GES have water shedding cover - suitable for wet locations when mounted in upright position
- External cover threads on body protecting conductors from damage during pulling
- No pinching of conductors during cover installation
- Ten different hub arrangements
- Taper threaded hubs to provide ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Internally threaded cover openings for additional wiring room
- Covers furnished with boxes
- Weather-resistant finish
- Green ground screw standard in all boxes

Materials

Aluminum

- **BODY** Copper-free aluminum (less than 4/10 of 1%)
- **FINISH** Electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

Iron

- **BODY** Duraloy iron alloy
- **FINISH** Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

Size Ranges

- Hub - 1/2" to 2"
- Cover opening - 2-1/16" to 4-7/8" diameter



Aluminum and Iron Outlet Bodies



GEC
E Type

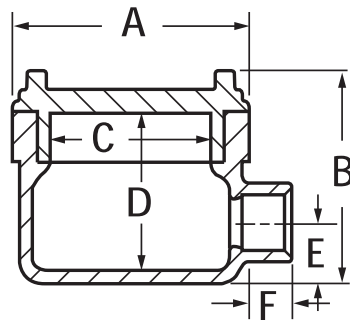


GEJ
E Type

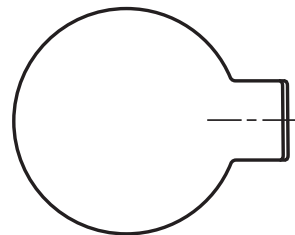
E TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GECET-1	GECET-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECET-2	GECET-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECET-3	GECET-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	1-1/8" (21)	2-11/16" (68)	19
—	—	1-1/4"	—	—	—	—	—	—	—	—
GEJET-5	GEJET-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-3/16" (46)	1-3/16" (46)	4-7/8" (124)	75

*For **GROUP B** applications, contact factory.

DIMENSIONS



GEC Type



E Type



FITTINGS
GE SERIES

Aluminum and Iron Outlet Bodies



GES
C Type



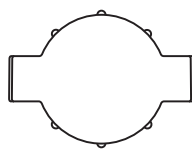
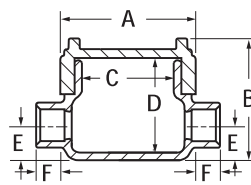
GEM
L Type

C TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GEMC-1	—	1/2"	2-13/16" (71)	3" (76)	2-1/16" (52)	2-5/16" (79)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMC-2	—	3/4"	2-13/16" (71)	3" (76)	2-1/16" (52)	2-5/16" (79)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECCT-1	GECCT-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECCT-2	GECCT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECCT-3	GECCT-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	1-1/8" (28)	2-11/16" (68)	19
GESCT-3	GESCT-3M	1"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (28)	3-9/16" (90)	42
GESCT-4	GESCT-4M	1-1/4"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-3/16" (30)	3-9/16" (90)	42
GEJCT-5	GEJCT-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-3/16" (30)	1-3/16" (30)	4-7/8" (124)	75
GEJCT-6	GEJCT-6M	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

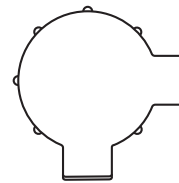
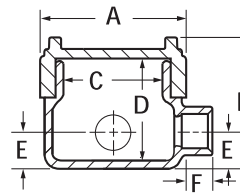
L TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GEML-1	—	1/2"	2-13/16" (71)	3" (76)	2-1/16" (52)	2-5/16" (79)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEML-2	—	3/4"	2-13/16" (71)	3" (76)	2-1/16" (52)	2-5/16" (79)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECLT-1	GECLT-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECLT-2	GECLT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECLT-3	GECLT-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (28)	2-11/16" (68)	18
GESLT-3	GESLT-3M	1"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (28)	3-9/16" (90)	42
GESLT-4	GESLT-4M	1-1/4"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-3/16" (30)	3-9/16" (90)	42
GEJLT-5	GEJLT-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (87)	1-3/16" (30)	1-3/16" (30)	4-7/8" (124)	75
GEJLT-6	GEJLT-6M	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (87)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

* For GROUP B applications, contact factory.

DIMENSIONS



C Type



L Type



Aluminum and Iron Outlet Bodies



**GEC
T Type**



**GES
X Type**



**GEJ
LB Type**

T TYPE OUTLET BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GEMT-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16 (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMT-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16 (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECTT-1	GECTT-1M	1/2"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECTT-2	GECTT-2M	3/4"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECTT-3	GECTT-3M	1"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESTT-3	GESTT-3M	1"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GESTT-4	GESTT-4M	1-1/4"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GEJTT-5	GEJTT-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-3/16" (30)	1-3/16" (30)	4-7/8" (124)	75
GEJTT-6	GEJTT-6M	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

X TYPE OUTLET BODY*

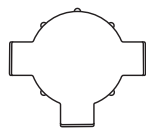
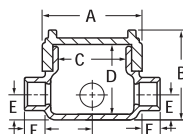
GEMX-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16 (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMX-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16 (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECXT-1	GECXT-1M	1/2"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXT-2	GECXT-2M	3/4"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXT-3	GECXT-3M	1"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESXT-3	GESXT-3M	1"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GESXT-4	GESXT-4M	1-1/4"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GEJXT-5	GEJXT-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75
GEJXT-6	GEJXT-6M	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

LB TYPE OUTLET BODY*

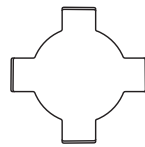
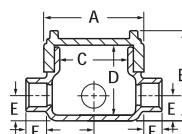
GEMLB-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16 (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMLB-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16 (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECLBT-1	GECLBT-1M	1/2"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECLBT-2	GECLBT-2M	3/4"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECLBT-3	GECLBT-3M	1"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESLBT-3	GESLBT-3M	1"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GESLBT-4	GESLBT-4M	1-1/4"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GEJLBT-5	GEJLBT-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75
GEJLBT-6	GEJLBT-6M	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

*For GROUP B applications, contact factory.

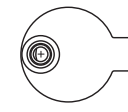
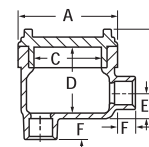
DIMENSIONS



T Type



X Type



LB Type



FITTINGS GE SERIES

Aluminum and Iron Outlet Bodies



**GEM
TA Type**



**GEM
LA Type**



**GEM
CA Type**



**GESXAT
XA Type**



**GEC
EAT Type**

LA TYPE OUTLET BODY*

CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GEMLA-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMLA-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8

TAT TYPE OUTLET BODY*

GEMTA-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMTA-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECTAT-2	GECTAT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19

XAT TYPE OUTLET BODY*

GECXAT-1	GECXAT-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXAT-2	GECXAT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXAT-3	GECXAT-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESXAT-4	GESXAT-4M	1-1/4"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-3/16" (30)	3-9/16" (90)	42

CAT TYPE OUTLET BODY*

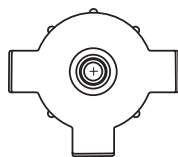
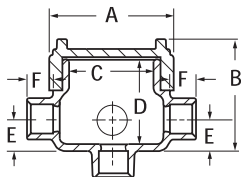
GEMCA-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMCA-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	1-3/16" (30)	2-1/16" (52)	8
GECCAT-1	GECCAT-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESCAT-4	GESCAT-4M	1-1/4"	5-11/16" (144)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-3/16" (30)	3-9/16" (90)	42

EAT TYPE OUTLET BODY*

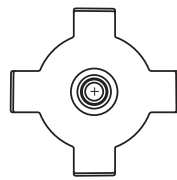
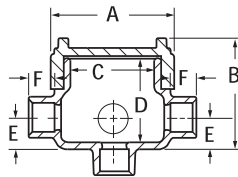
GECEAT-2	GECEAT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
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*For GROUP B applications, contact factory.

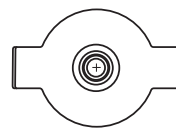
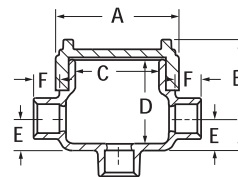
DIMENSIONS



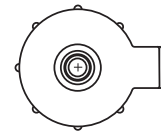
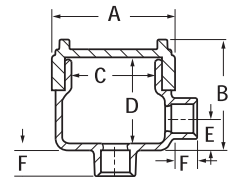
TAT Type



XAT Type



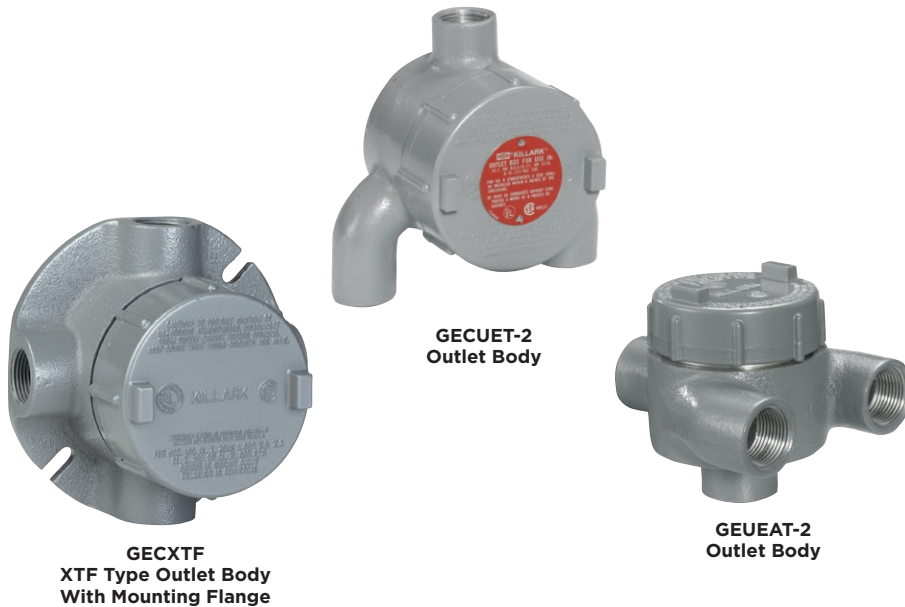
CAT Type



EAT Type



Outlet Bodies with Mounting Flange



1/2", 3/4" and 1" Bodies
 Class I, Div. 1 & 2, Groups B, C,
 D Class I, Zone 1, Groups IIB,
 IIA Class II, Div. 1 & 2, Groups
 E, F, G Class III
TYPE 4, 4X

UL LISTED E 10514

SP LR11716

Applicable Third Party Standards

UL Standards: 886 and 1203
CSA Standard: C22.2 No. 30
Fed Spec: W-C-586D
Mil Spec: F-28675

FEATURES-SPECIFICATIONS

Materials

Aluminum

- **BODY** Copper-free aluminum (less than 4/10 of 1%)
- **FINISH** Electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

Iron

- **BODY** Duraloy iron alloy
- **FINISH** Tri-Coat Finish of Electro zinc, Chromate Sealant, and electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

Size Ranges:

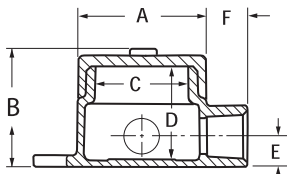
- Hub - 3/4" standard
 » optional 1/2" to 1" contact factory
- Cover opening - 2-11/16" or 2-1/16"



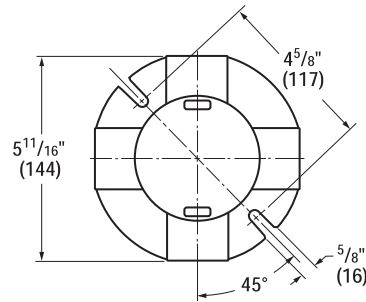
FITTINGS
GEC SERIES

Outlet Bodies with Mounting Flange

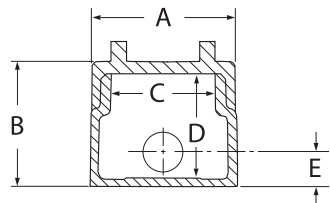
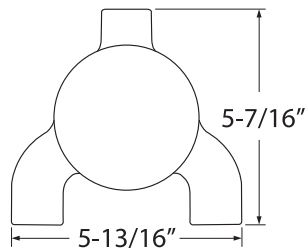
XTF TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GECXTF-1	GECXTF-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXTF-2	GECXTF-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXTF-3	GECXTF-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19



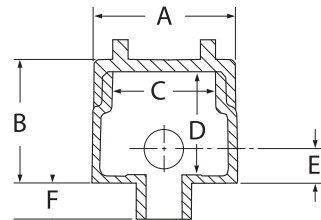
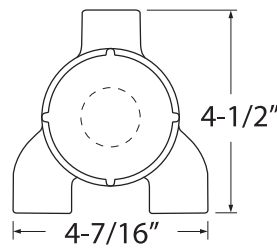
**XTF Type
With Mounting Flange**



GE TYPE OUTLET BODY*										
GECUET-2	GECUET-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GEUEAT-2	GEUEAT-2M	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-1/8" (54)	1" (25)	13/16" (21)	2-1/16" (52)	11



**GECUET-2
Outlet Body**



**GEUEAT-2
Outlet Body**



Outlet Bodies Accessories



GECBC
Blank Cover



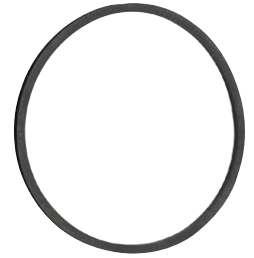
4GOU
Dome Cover



GL-375
Lens Cover



GECEY
Sealing Cover



GEC-RG
Gasket

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating
- Blank covers are supplied standard on all GE Series bodies
- Dome covers provide additional wiring room for splicing or accommodating components
- Clear cover lens for viewing
- Sealing cover used to convert body into sealing fitting
- Rubber gasket fits between cover and body to make assembly watertight

BLANK COVER	
CATALOG NUMBER	SERIES
GEMBC	GEM
GECBC	GEC marked Groups B, C, D, Type 4X
GECBCB	GEC marked Groups B, C, D, Type 4X
GESBC	GES
GRM-BC	GEJ
GECBCM	GEC marked Groups B, C, D

DOME COVER		
CATALOG NUMBER	SERIES	VOLUME CUBIC INCH
2GOU	GEC	13.3
4GOU	GEC	47.0
3GRMD	GEJ	55.0
5GRMD	GEJ	80.0

LENS COVER	
CATALOG NUMBER	SERIES
GL-375	GEJ

SEALING COVER ^①	
CATALOG NUMBER	SERIES
GEMEY ^①	GEM
GECEY ^①	GEC
GESEY ^①	GES
GEJEY ^①	GEJ

^① Sealing Covers CSA only.

Since all Series GE boxes are listed with a blank cover, deduct the price of blank cover and add the price of the desired cover. Outlet bodies listed on preceding page.

GASKET	
CATALOG NUMBER	SERIES
GEM-RG	GEM
GEC-RG	GEC Flat
GEC-ORG	GEC O-Ring
GES-RG	GES
GRM-RG	GEJ



Aluminum and Iron Outlet Bodies



GRUE-75A



Class I, Div. 1 & 2, Groups B, C, D
Class I, Zone I, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 4X



FEATURES-SPECIFICATIONS

Features

- Smooth, rounded integral bushing in each hub protects conductor insulation
- Cast in mounting lugs
- Green ground screw
- Cover and gasket furnished with box as standard
- 5 threaded hub locations includes 3 close-up plugs
- External threaded body provides additional wiring room
- Optional drilled and tapped metric threads - contact factory

Size Ranges

- Hub - 1/2", 3/4", 1"
- Cover opening - 3-1/2"

Materials

Aluminum

- **BODY** Copper-free aluminum (less than 4/10 of 1%)
- **FINISH** Electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

Iron

- **BODY** Duraloy iron alloy
- **FINISH** Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating



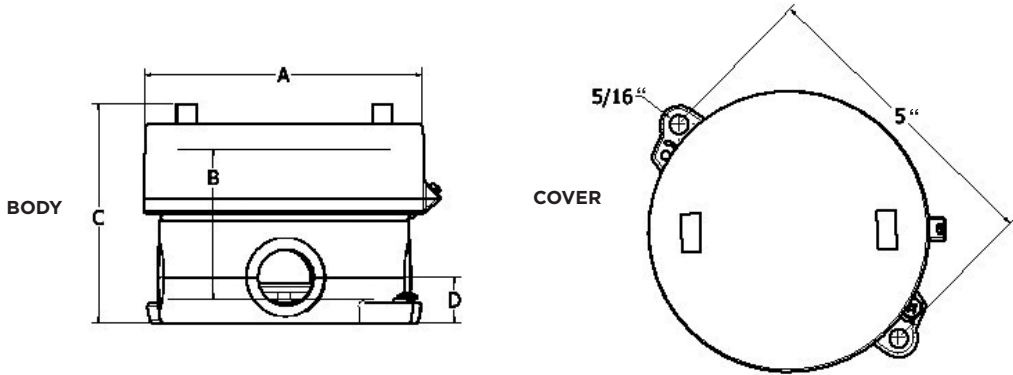
Aluminum and Iron Outlet Bodies

GRUE TYPE OUTLET BODY – ALUMINUM							
CATALOG NUMBER	HUB SIZE	DIMENSIONS				COVER OPENING	VOLUME CU. IN.
		A	B	C	D		
GRUE-50A	1/2"	4-1/2" (114)	2-3/8" (60)	3-1/2" (89)	11/16" (17)	3-1/2" (89)	25
GRUE-75A	3/4"	4-1/2" (114)	2-3/8" (60)	3-1/2" (89)	11/16" (17)	3-1/2" (89)	25
GRUE-100A	1"	4-1/2" (114)	2-3/8" (60)	3-1/2" (89)	15/16" (24)	3-1/2" (89)	25
GRUC-SCA	N/A	SEALING COVER				N/A	N/A

*For outlet body packaged with sealing cover add SC to catalog number, GRUE-50A-SC

GRUE TYPE OUTLET BODY – DURALOY IRON							
CATALOG NUMBER	HUB SIZE	DIMENSIONS				COVER OPENING	VOLUME CU. IN.
		A	B	C	D		
GRUE-50	1/2"	4-1/2" (114)	2-3/8" (60)	3-1/2" (89)	11/16" (17)	3-1/2" (89)	25
GRUE-75	3/4"	4-1/2" (114)	2-3/8" (60)	3-1/2" (89)	11/16" (17)	3-1/2" (89)	25
GRUE-100	1"	4-1/2" (114)	2-3/8" (60)	3-1/2" (89)	15/16" (24)	3-1/2" (89)	25
GRUC-SC	N/A	SEALING COVER				N/A	N/A

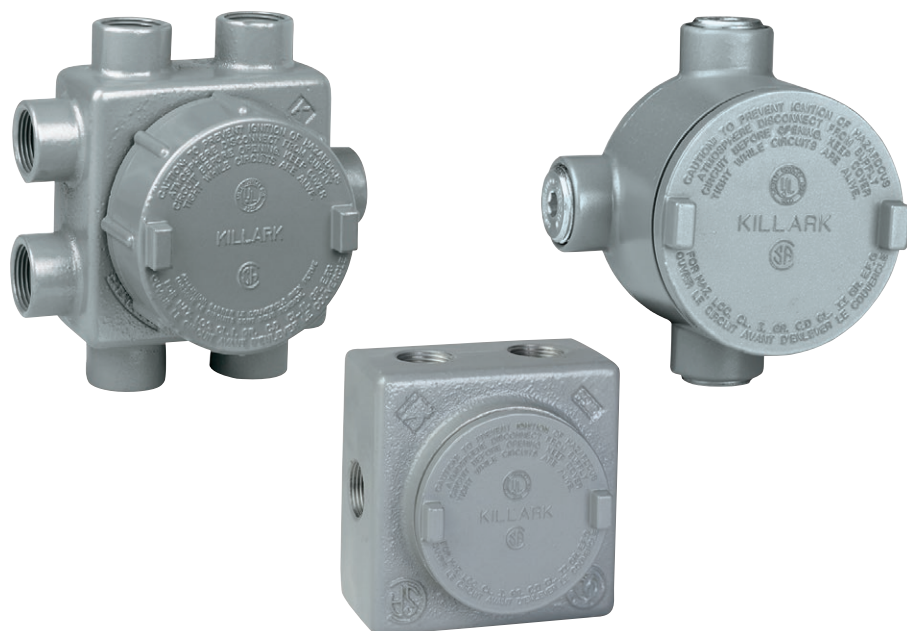
*For outlet body packaged with sealing cover add SC to catalog number, GRUE-50SC





FITTINGS GR SERIES

Outlet Bodies



Class I, Div. 1 & 2, Groups C, D
Class II, Div. 1 & 2, Groups E, F, G
Class III

LISTED - File E10514

Certified - File LR11716

FEATURES-SPECIFICATIONS

Features

GRSA

- Cast conduit hubs with integral bushings
- Cover included
- Replacement cover catalog number **GECBC**
- Five close-up plugs included
- Sealing, hub, dome covers and gaskets available

GRR

- Cast conduit hubs with integral bushings
- Blank cover included
- Replacement cover catalog number **GRRBC**
- Compact size
- Supplied with five hubs and three close-up plugs

GRSS/GRSSA

- Internal hubs
- Blank cover included (**CAT. NO. GRRBC**)
- Compact design and multiple hub configurations

- Furnished with internal ground screw
- Cast-in brackets on cover for use with breaker-bar tools

Materials

GRSA/GRR

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

GRSS Type

Furnished with seven internal hubs, two hubs are on the top and bottom, one each on the two sides and one hub in the back. Four close-up plugs supplied. Series GUM unions can be used.

Note: for mounting lugs on GRSS series, contact factory.

- Mounting lug slot 7/16"

GRSSA Type

Furnished with 13 hubs, two on each side and five in back. Five close-up plugs are supplied.

Aluminum Body/GR Series Cover

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

Duraloy Iron Body

- Duraloy iron alloy
- Tri-Coat finish of Electro Zinc, Chromate Sealant and electrostatically applied powder coating



Outlet Bodies



GRSA



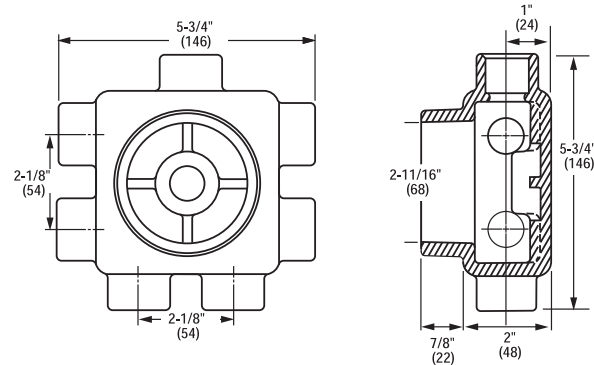
GRR



GRCEX-0
(For GRR & GRSS only)

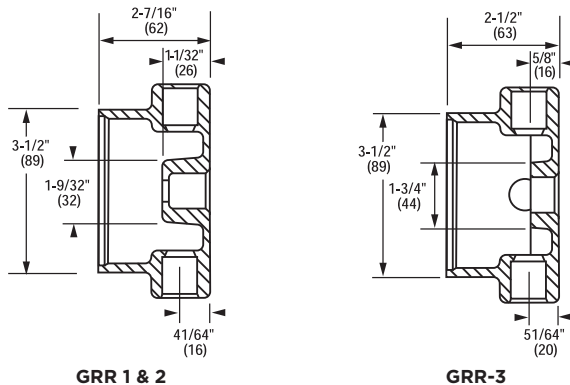
GRSA W/BLANK COVER		
CATALOG NUMBER	HUBS	VOLUME CU. IN.
GRSA	Furnished with eight 3/4" hubs including one 3/4" flush hub in back center	26.5

DIMENSIONS



GRR W/ BLANK COVER		
CATALOG NUMBER	HUB SIZE	VOLUME CU. IN.
GRR-1	1/2"	13.0
GRR-2	3/4"	13.0
GRR-3	1"	14.0

Blank Cover-only-GRRBC



GRR 1 & 2

GRR-3

GASKET (RUBBER)
CATALOG NUMBER
GEC-RG

EXTENSION*
CATALOG NUMBER
GRCEX-0

* Adds 2-7/8" to body depth and 16.48 cu. in.



FITTINGS GR SERIES

Outlet Bodies

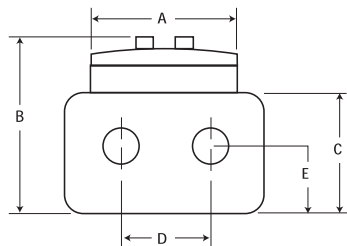
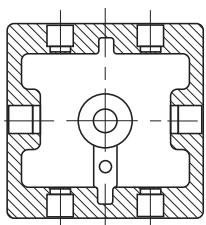


GRSS				
CATALOG NUMBER		HUB SIZE	NUMBER OF OPENINGS	NUMBER OF CLOSE-UP PLUGS FURNISHED
KILLARK ALUM.	DURALOY IRON			
GRSS-1	GRSS-1M	1/2"	7	4
GRSS-2	GRSS-2M	3/4"	7	4
GRSS-3	GRSS-3M	1"	7	4
GRSS WITH LUGS				
GRSS-1L	—	1/2"	7	4
GRSS-2L	—	3/4"	7	4
GRSS-3L	—	1"	7	4
GRSSA				
GRSSA-1	—	1/2"	13	5
GRSSA-2	—	3/4"	13	5

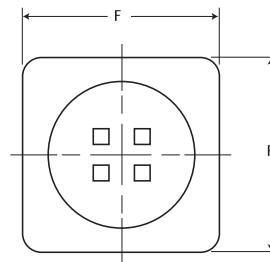
GASKET (RUBBER)
CATALOG NUMBER
GEC-RG
EXTENSION*
CATALOG NUMBER
GRCEX-0

* Adds 2-7/8" to bod depth and 16.48 cu. in.

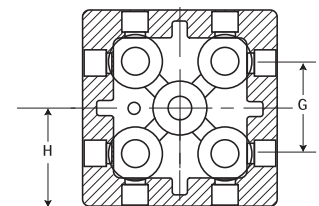
GRSS/GRSSA DIMENSIONS													
CATALOG NUMBER	HUB SIZE	NO. OF OPENINGS	CLOSE-UP PLUGS FURNISHED	DIMENSIONS IN INCHES								COVER OPENINGS	VOLUME CU. IN.
				A	B	C	D	E	F	G	H		
GRSS-1	1/2"	7	4	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	N/A	1-1/4"	3-1/8"	29
GRSS-2	3/4"	7	4	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	N/A	1-1/4"	3-1/8"	29
GRSS-3	1"	7	4	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	N/A	1-1/4"	3-1/8"	29
GRSSA-1	1/2"	13	5	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	2-1/8"	1-1/4"	3-1/8"	20
GRSSA-2	3/4"	13	5	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	2-1/8"	1-1/4"	3-1/8"	20



GRSS Dimensions

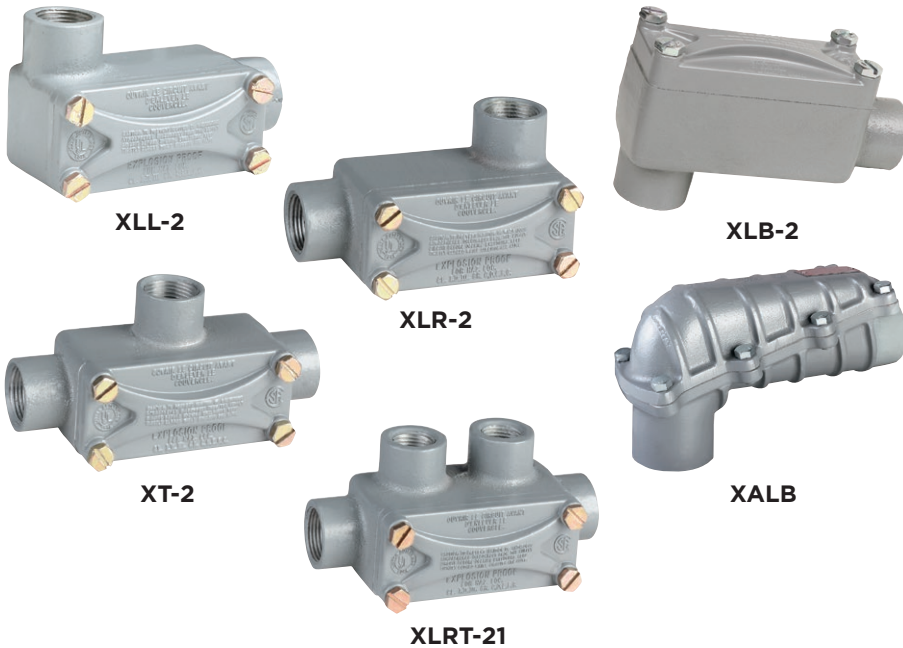


GRSSA Dimensions





Conduit Bodies



X Series
 Class I, Div. 1 & 2, Groups C, D^①
 Class II, Div. 1 & 2, Groups E, F, G
 Class III
 Type 3 & 3R with use of Duct Seal
 DS-1*

XALB Series
 Class I, Div. 1 & 2, Group D
 Class II, Div. 1 & 2, Groups E, F, G
 Class III

LISTED - File E10514

Certified - File LR11716

^① X Series 1" hub size suitable for Class I, Group D

FEATURES-SPECIFICATIONS

Features

- X**
- Integral bushings
 - Easy access covers
 - Six hub styles
 - Sizes 1/2", 3/4", 1"

XALB

- Integral bushings
- Easy access covers
- Sizes 1-1/4" thru 3"

Materials

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating



FITTINGS X/XALB SERIES

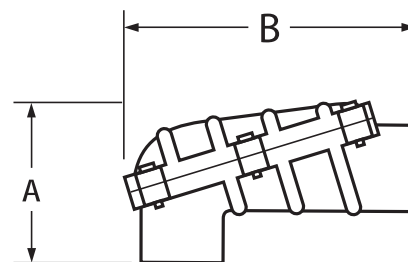
Conduit Bodies

X DIMENSIONS								
	CATALOG NUMBER	HUB SIZE	A LENGTH	B WIDTH	C HEIGHT	D	E	VOLUME CU. IN.
	XC-1	1/2"	5-9/16"	1-17/32"	2-1/8"	5/8"	—	4.3
	XC-2	3/4"	5-13/16"	1-3/4"	2-1/4"	11/16"	—	6.5
	XC-3	1"⊖	6-1/16"	2-3/8"	2-1/2"	7/8"	—	11.5
	XLL-1	1/2"	4-5/8"	2-7/16"	2-1/8"	5/8"	3/4"	4.3
	XLL-2	3/4"	4-29/32"	2-5/8"	2-1/4"	11/16"	7/8"	6.5
	XLL-3	1"⊖	5-9/16"	3-1/2"	2-1/2"	7/8"	7/8"	11.5
	XLB-1	1/2"	4-5/8"	1-17/32"	2-15/16"	5/8"	3/4"	4.3
	XLB-2	3/4"	4-29/32"	1-3/4"	3-1/8"	11/16"	11/16"	6.5
	XLB-3	1"⊖	5-17/32"	2-3/8"	3-5/8"	7/8"	7/8"	11.5
	XLR-1	1/2"	4-5/8"	2-7/16"	2-1/8"	5/8"	3/4"	4.3
	XLR-2	3/4"	4-29/32"	2-5/8"	2-1/4"	11/16"	7/8"	6.5
	XLR-3	1"⊖	5-9/16"	3-1/2"	2-1/2"	7/8"	7/8"	11.5
	XT-1	1/2"	5-9/16"	2-7/16"	2-1/8"	5/8"	—	4.3
	XT-2	3/4"	5-13/16"	2-5/8"	2-1/4"	11/16"	—	6.5
	XT-3	1"⊖	6-11/16"	3-1/2"	2-1/2"	7/8"	—	11.5
	XLRT-21	3/4" Ends 1/2" Side	5-3/4"	2-21/32"	2-1/2"	11/16"	—	7
	XLRT-22	3/4" End 3/4" Side	5-3/4"	2-21/32"	2-1/2"	11/16"	—	7

XALB CONDUIT BODIES		
CATALOG NUMBER	HUB SIZE	VOLUME CU. IN.
XALB-4	1-1/4"	27
XALB-5	1-1/2"	27
XALB-6	2"	70
XALB-7	2-1/2"	>100
XALB-8	3"	>100

XALB DIMENSIONS			
CONDUIT SIZE	A OVERALL DEPTH	B LENGTH OF BODY	WIDTH OF BODY
1-1/4"	4-1/16"(103)	7-3/4"(197)	3-15/16"(100)
1-1/2"	4-1/16"(103)	7-3/4"(197)	3-15/16"(100)
2"	5-7/8"(149)	11-1/8"(282)	4-3/4"(121)
2-1/2"	8-1/4"(209)	17-1/2"(444)	6-7/16"(163)
3"	8-1/4"(209)	17-1/2"(444)	6-7/16"(163)

XALB Series suitable for Class 1, Group D only.





Outlet Bodies



JLC-20



JLX-21

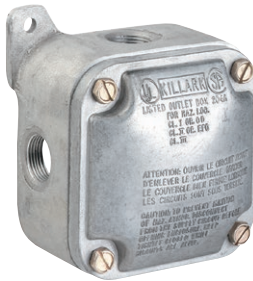


JCB

Class I, Div. 1 & 2, Groups C, D
Class II, Div. 1 & 2, Groups E, F, G
Class III

LISTED - File E10514

Certified - File LR11716



JALX-20



JALX-22



JAH-2

FEATURES-SPECIFICATIONS

Features

- Option of blank or hub covers
- Cast mounting lugs
- Large wiring area
- Furnished with internal ground screw
- Hub covers include set screws for locking to lighting fixture stems
- JL - Cast external hubs with integral bushings
- JAL - Four drilled and tapped conduit openings in an "x" configuration (three, close-up plugs included to allow five variations from one body)
- Option of blank or hub covers

Materials

- Copper-free aluminum (less than 4/10 of 1%)
- Natural Finish

Electrical Rating

- Push button stations, selector switches 600 VAC max. heavy duty.
- Pilot Light Electrical Ratings: 250 VAC max.



FITTINGS JL/JAL SERIES

Outlet Bodies

JL OUTLET BODIES WITH COVER					
CATALOG NUMBER		BOX TYPE	CONDUIT SIZE		BOX ONLY VOL. CU. IN.
WITH BLANK COVER	WITH HUB COVER		BOX ①	COVER	
JLC-10	JLC-11	C	1/2"	1/2"	12.5
—	JLC-12	C	1/2"	3/4"	12.5
JLC-20	JLC-21	C	3/4"	1/2"	12.5
—	JLC-22	C	3/4"	3/4"	12.5
JLX-10	JLX-11	X	1/2"	1/2"	12.5
—	JLX-12	X	1/2"	3/4"	12.5
JLX-20	JLX-21	X	3/4"	1/2"	12.5
—	JLX-22	X	3/4"	3/4"	12.5

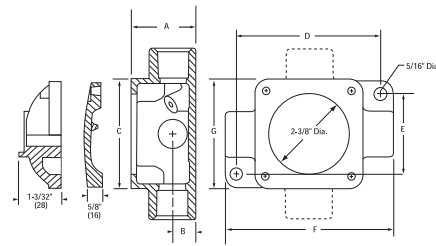
① To order box only omit last digit of catalog number.

JAL OUTLET BODIES WITH COVER					
CATALOG NUMBER		TYPE	CONDUIT SIZE		BOX ONLY VOL. CU. IN.
WITH BLANK COVER	WITH HUB COVER		BOX ①	COVER	
JALX-10	JALX-11	X	1/2"	1/2"	26.5
—	JALX-12	X	1/2"	3/4"	26.5
JALX-20	JALX-21	X	3/4"	1/2"	26.5
—	JALX-22	X	3/4"	3/4"	26.5
JALX-30	JALX-31	X	1"	1/2"	26.5
—	JALX-32	X	1"	3/4"	26.5
JALX-40	—	X	1-1/4" ②	1/2"	39

① To order box only omit last digit of catalog number.

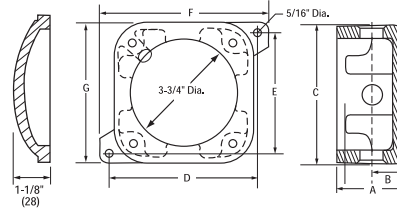
② 1-1/4" for Class I, Group D.

REPLACEMENT HUB COVER				
CATALOG NUMBER	SERIES	HUB SIZE	DEPTH	VOLUME CU. IN.
JH-1	JL	1/2"	1-3/32"	1.5
JH-2	JL	3/4"	1-3/32"	1.5
JAH-1	JAL	1/2"	1-1/8"	6.5
JAH-2	JAL	3/4"	1-1/8"	6.5



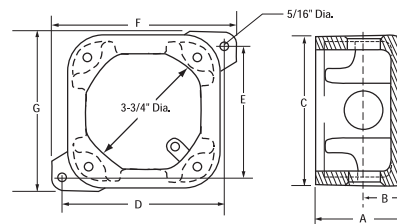
JL 1-2

REPLACEMENT BLANK COVER			
CATALOG NUMBER	SERIES	DEPTH	VOLUME CU. IN.
JCB	JL	5/8"	1.0
JABC	JAL	1-1/8"	7.5



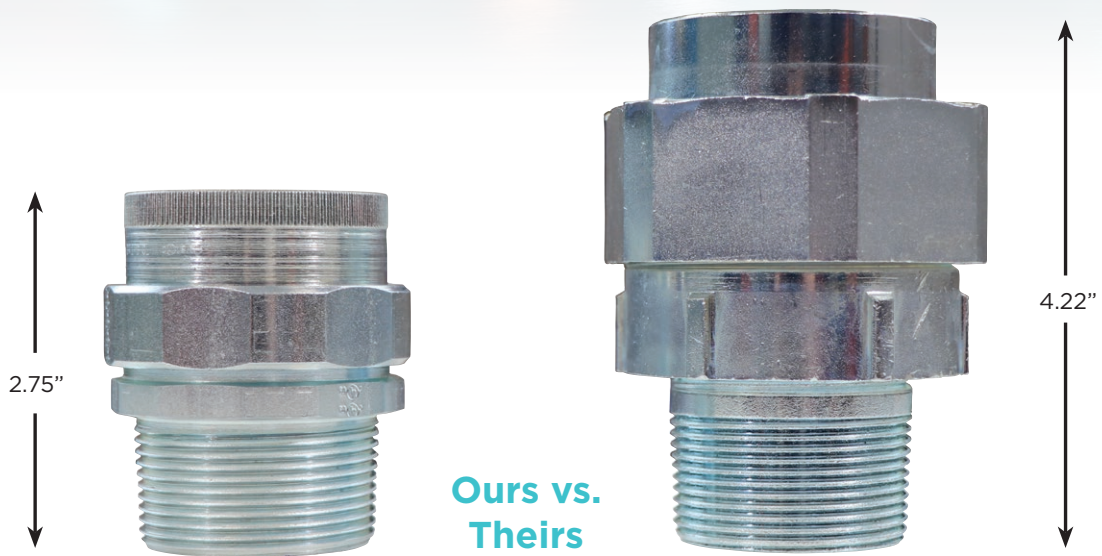
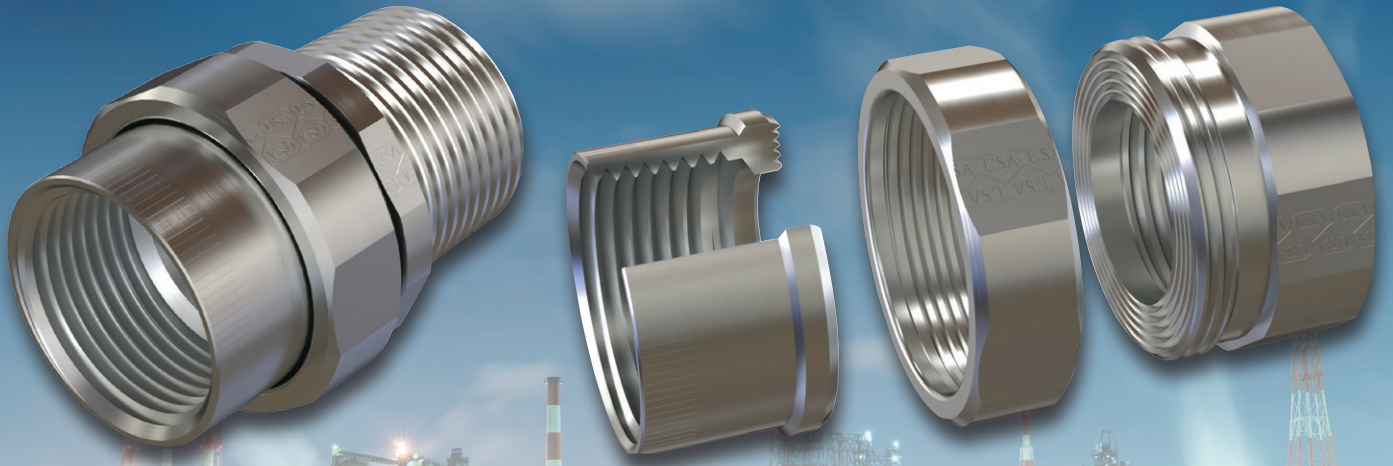
JAL 1-3

DIMENSIONS							
SERIES	A	B	C	D	E	F	G
JL 1/2", 3/4"	1-15/16"	11/16"	3-1/4"	4-7/32"	2-3/8"	5-1/8"	3-1/4"
JAL 1/2", 3/4", 1"	2-3/8"	1-5/32"	4-3/4"	5-1/4"	4-1/8"	5-7/8"	4-3/4"
JAL 1-1/4"	3-3/16"	1-17/32"	4-5/8"	5-1/4"	4-1/8"	5-7/8"	4-13/16"



JAL 4

FITTINGS
UNF/UNY UNIONS



Side by Side comparison of UNY 1-1/2" vs Competition UNY 1-1/2"



FITTINGS

UNF/UNY UNIONS



STEEL:

1/2" - 1-1/4"

Class I, Div. 1 & 2, Groups A, B, C, D
1-1/2", 3", 3-1/2", 4"

Class I, Div. 1 & 2, Groups B, C, D
2", 2-1/2"

Class I, Div. 1 & 2, Groups C, D

Class II, Div. 1 & 2, Groups E, F, G
Class III

ALUMINUM:

1/2" - 1"

Class I, Div. 1 & 2, Groups A, B, C, D
3" - 4"

Class I, Div. 1 & 2, Groups B, C, D
1-1/4" - 2-1/2"

Class I, Div. 1 & 2, Groups C, D

Class II, Div. 1 & 2 Groups E, F, G
Class III



E10514

Type 3, 4

Tamb US -25°C to +60°C

Tamb Can. -50°C to +60°C

FEATURES-SPECIFICATIONS

Applications

- UNF/UNY unions are used to connect two pieces of conduit or attach conduit to junction boxes, fittings, or devices
- Permits removal of equipment without turning or removal of conduit

Features

- Unique design offers a compact size for lighter weight and smaller profile for critical clearances with equipment
- Extruded bar stock construction provides superior threads over sand cast and provides twice the tensile strength
- Uniform design across all sizes for aesthetic and robust appeal
- Made in the USA
- Male to Female union has nonremovable nipple to ensure tight seal with union and pipe/equipment
- Lighter weight puts less stress on the conduit support system

Materials

- Copper-free Aluminum
 - » (less than 4/10 of 1%)
- Steel
 - » Zinc electro plated



FEMALE TO FEMALE

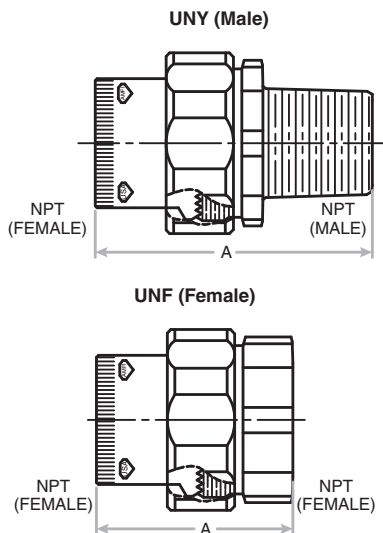
CATALOG NUMBER	HUB SIZE	DIMENSIONS			CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		A LENGTH	B (HEX)	C DIAMETER			STEEL	A LENGTH	B (HEX)	C DIAMETER
UNF50AL	1/2"	1-9/16" (39.7)	1-5/16" (33.3)	1-3/8" (34.9)	UNF50	1/2"	1-9/16" (39.7)	1-5/16" (33.3)	1-3/8" (34.9)
UNF75AL	3/4"	1-9/16" (39.7)	1-7/16" (36.5)	1-1/2" (38.1)	UNF75	3/4"	1-9/16" (39.7)	1-7/16" (36.5)	1-1/2" (38.1)
UNF100AL	1"	1-13/16" (45.9)	1-11/16" (42.9)	1-3/4" (44.5)	UNF100	1"	1-13/16" (45.9)	1-11/16" (42.9)	1-3/4" (44.5)
UNF125AL	1-1/4"	1-15/16" (49.3)	2-1/16" (52.4)	2-3/16" (55.6)	UNF125	1-1/4"	1-15/16" (49.3)	2-1/16" (52.4)	2-3/16" (55.6)
UNF150AL	1-1/2"	1-15/16" (49.3)	2-5/16" (58.7)	2-3/8" (60.3)	UNF150	1-1/2"	1-15/16" (49.3)	2-5/16" (58.7)	2-3/8" (60.3)
UNF200AL	2"	1-15/16" (49.3)	2-13/16" (71.4)	2-7/8" (73)	UNF200	2"	1-15/16" (49.3)	2-13/16" (71.4)	2-7/8" (73)
UNF250AL	2-1/2"	2-13/16" (71.4)	3-15/16" (100)	4" (101.6)	UNF250	2-1/2"	2-13/16" (71.4)	3-1/4" (82.55)	3-3/8" (85.7)
UNF300AL	3"	2-13/16" (71.4)	4-7/16" (112.7)	4-9/16" (115.9)	UNF300	3"	2-13/16" (71.4)	3-15/16" (100)	4" (101.6)
UNF350AL	3-1/2"	3" (76.2)	4-15/16" (125.4)	5-1/16" (128.6)	UNF350	3-1/2"	3" (76.2)	4-7/16" (112.7)	4-9/16" (115.9)
UNF400AL	4"	3" (76.2)	4-15/16" (125.4)	5-1/8" (130.2)	UNF400	4"	3" (76.2)	4-15/16" (125.4)	5-1/16" (128.6)

MALE TO FEMALE

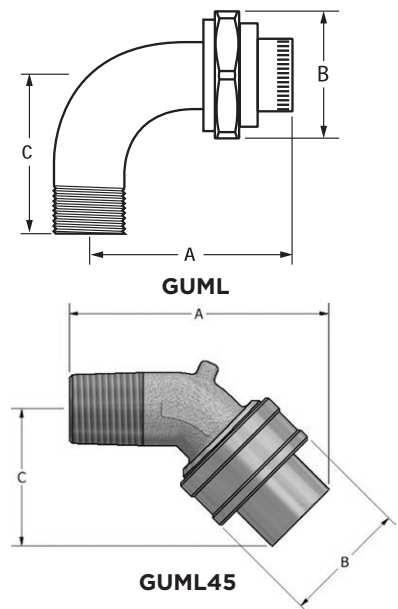
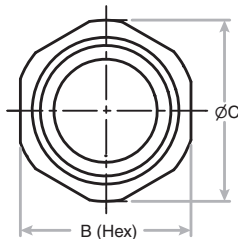
UNY50AL	1/2"	2-1/16" (52.4)	1-5/16" (33.3)	1-3/8" (34.9)	UNY50	1/2"	2-1/16" (52.4)	1-5/16" (33.3)	1-3/8" (34.9)
UNY75AL	3/4"	2-1/8" (54)	1-7/16" (36.5)	1-1/2" (38.1)	UNY75	3/4"	2-1/8" (54)	1-7/16" (36.5)	1-1/2" (38.1)
UNY100AL	1"	2-7/16" (61.9)	1-11/16" (42.9)	1-3/4" (44.5)	UNY100	1"	2-7/16" (61.9)	1-11/16" (42.9)	1-3/4" (44.5)
UNY125AL	1-1/4"	2-9/16" (65.1)	2-1/16" (52.4)	2-3/16" (55.6)	UNY125	1-1/4"	2-9/16" (65.1)	2-1/16" (52.4)	2-3/16" (55.6)
UNY150AL	1-1/2"	2-3/4" (69.9)	2-5/16" (58.7)	2-3/8" (60.3)	UNY150	1-1/2"	2-3/4" (69.9)	2-5/16" (58.7)	2-3/8" (60.3)
UNY200AL	2"	2-7/8" (73)	2-13/16" (71.4)	2-7/8" (73)	UNY200	2"	2-7/8" (73)	2-13/16" (71.4)	2-7/8" (73)
UNY250AL	2-1/2"	4-1/16" (103.2)	3-15/16" (100)	4" (101.6)	UNY250	2-1/2"	4-1/16" (103.2)	3-1/4" (82.55)	3-3/8" (85.7)
UNY300AL	3"	4-1/16" (103.2)	4-7/16" (112.7)	4-9/16" (115.9)	UNY300	3"	4-1/16" (103.2)	3-15/16" (100)	4" (108)
UNY350AL	3-1/2"	4-1/4" (108)	4-15/16" (125.4)	5-1/16" (128.6)	UNY350	3-1/2"	4-1/4" (108)	4-7/16" (112.7)	4-9/16" (115.9)
UNY400AL	4"	4-1/4" (108)	4-15/16" (125.4)	5-1/8" (130.2)	UNY400	4"	4-1/4" (108)	4-15/16" (125.4)	5-1/16" (128.6)

90° AND 45° ANGLE UNIONS

CAT. NO.	HUB SIZE	DIMENSIONS			CAT. NO.	HUB SIZE	DIMENSIONS		
		A DIA.	B LENGTH	C			STEEL/IRON	A DIA.	B LENGTH	C
KILLARK ALUM. GUML-1	1/2"	2-1/2" (64)	1-7/16" (37)	1-3/4" (44)	GUML-1M	1/2"	2-1/4" (32)	1-1/2" (38)	1-5/8" (42)
GUML-2	3/4"	2" (51)	1-5/8" (42)	1-5/8" (42)	GUML-2M	3/4"	2-1/4" (32)	1-3/4" (44)	2" (51)
GUML451	1/2"	3" (76)	1-7/16" (37)	1-9/16" (40)					
GUML452	3/4"	3-3/16" (81)	1-5/8" (41)	1-3/4" (45)					



DIMENSIONS





FITTINGS GU/UN SERIES

Unions - ATEX/IEC Ex Certified



ATEX / IEC Ex Certified
 File nos. CML 16ATEX 1325X
 IECEx QPS16.0012X
 Ex db IIC Gb
 Ex tb IIIC Db IP65

UL LISTED E 10514
 Certified LR11716



Female to Female

Male to Female

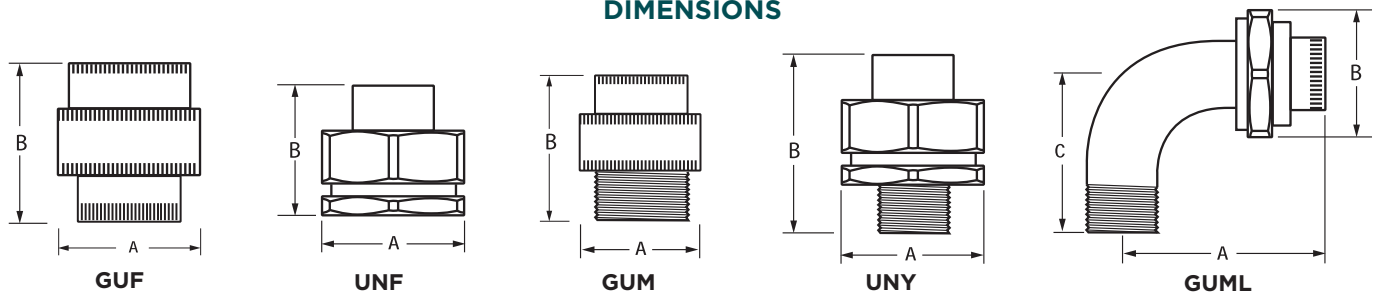
90° Elbow Union

FEMALE TO FEMALE - QUAD LISTED							
CAT. NO. KILLARK ALUM.	HUB SIZE	DIMENSIONS		CAT. NO. STEEL/IRON	HUB SIZE	DIMENSIONS	
		A DIAMETER	B LENGTH			A DIAMETER	B LENGTH
GUF-1-EX	1/2"	1-7/16"(37)	1-7/8"(48)	UNF1-EX	1/2"	1-1/2"(37)	1-55/64"(47)
GUF-2-EX	3/4"	1-5/8"(41)	1-15/16"(49)	UNF2-EX	3/4"	1-3/4"(45)	1-59/64"(49)
GUF-3-EX	1"	2"(51)	2-29/64"(62)	UNF3-EX	1"	2"(51)	2-7/16"(62)
GUF-4-EX	1-1/4"	2-3/8"(60)	2-1/2"(63)	UNF4-EX	1-1/4"	2-27/32"(72)	2-1/4"(57)
GUF-5-EX	1-1/2"	2-5/8"(67)	2-1/2"(63)	UNF5-EX	1-1/2"	3-3/32"(79)	2-7/16"(62)
GUF-6-EX	2"	3-1/4"(82)	2-5/8"(67)	UNF6-EX	2"	3-3/4"(95)	2-5/8"(67)
GUF-7-EX	2-1/2"	4-1/2"(114)	3"(76)	UNF7-EX	2-1/2"	4-1/2"(114)	3"(76)
GUF-8-EX	3"	5-3/8"(136)	3-1/16"(78)	UNF8-EX	3"	5-3/8"(136)	3-1/16"(78)
GUF-9-EX	3-1/2"	6-1/4"(159)	3-9/16"(90)	UNF9-EX	3-1/2"	6-1/4"(159)	3-9/16"(90)
GUF-0-EX	4"	6-1/4"(159)	3-9/16"(90)	UNF0-EX	4"	6-1/4"(159)	3-9/16"(90)

MALE TO FEMALE - QUAD LISTED							
CAT. NO. KILLARK ALUM.	HUB SIZE	DIMENSIONS		CAT. NO. STEEL/IRON	HUB SIZE	DIMENSIONS	
		A DIAMETER	B LENGTH			A DIAMETER	B LENGTH
GUM-1-EX	1/2"	1-7/16"(37)	2-1/2"(64)	UNY1-EX	1/2"	1-1/2"(37)	2-9/16"(65)
GUM-2-EX	3/4"	1-5/8"(41)	2-9/16"(65)	UNY2-EX	3/4"	1-3/4"(45)	2-5/8"(67)
GUM-3-EX	1"	2"(51)	3-3/64"(77)	UNY3-EX	1"	2-1/32"(52)	3-5/64"(78)
GUM-4-EX	1-1/4"	2-3/8"(60)	3-1/4"(83)	UNY4-EX	1-1/4"	2-15/16"(75)	3-1/4"(83)
GUM-5-EX	1-1/2"	2-5/8"(67)	3-1/4"(83)	UNY5-EX	1-1/2"	3-3/16"(81)	3-1/2"(89)
GUM-6-EX	2"	3-1/4"(82)	3-5/8"(92)	UNY6-EX	2"	3-3/4"(95)	4"(102)
GUM-7-EX	2-1/2"	4-1/2"(114)	4-15/16"(125)	UNY7-EX	2-1/2"	4-1/2"(114)	4-15/16"(125)
GUM-8-EX	3"	5-3/8"(136)	5-7/32"(133)	UNY8-EX	3"	5-3/8"(133)	5-7/32"(133)
GUM-9-EX	3-1/2"	6-1/4"(159)	5-13/16"(148)	UNY9-EX	3-1/2"	6-1/4"(159)	5-13/16"(148)
GUM-0-EX	4"	6-1/4"(159)	5-13/16"(148)	UNY0-EX	4"	6-1/4"(159)	5-13/16"(148)

90° ANGLE UNION - QUAD LISTED									
CAT. NO. KILLARK ALUM.	HUB SIZE	DIMENSIONS			CAT. NO. STEEL/IRON	HUB SIZE	DIMENSIONS		
		A DIA.	B LENGTH	C			A DIA.	B LENGTH	C
GUML-1-EX	1/2"	2-1/2"(64)	1-7/16"(37)	1-3/4"(44)	GUML-1M-EX	1/2"	2-1/4"(32)	1-1/2"(38)	1-5/8"(42)
GUML-2-EX	3/4"	2"(51)	1-5/8"(42)	1-5/8"(42)	GUML-2M-EX	3/4"	2-1/4"(32)	1-3/4"(44)	2"(51)

DIMENSIONS





Expansion Conduit Unions



UNFS Type Female/Female



UNFL Type Female/Female



UNYS Type Male/Female



UNYL Type Male/Female

Class I, Div. 1 & 2, Groups C,D
Class I, Zone 1, Groups IIB, IIA
Class II, Div. 1 & 2, Groups
E,F,G
Class III

UL Standards 886 and 1203
CSA Standard C22.2 No. 30
Mil Spec: MIL-F28675

UL LISTED E 10514

SF LR11716

FEATURES-SPECIFICATIONS

UNFS & UNYS - Standard Length

UNFL & UNYL - Long Length

Features

- Tapered threaded hubs (NPT) for rigid conduit and IMC
- Telescoping components allows conduit to be inserted between fixed threaded hubs
- Internal zinc plated carbon steel spring with dichromate dip assures positive grounding
- Close tolerance of mating parts eliminates passage of flame
- Compact diameter allows use where conduit is closely spaced
- Available in standard and long style, male and female version

Materials

- **BODY/SLEEVE** - Steel/Zinc Electroplate
- **GROUNDING SPRING** - Zinc plated carbon steel spring/Natural Finish



FITTINGS UNF/UNY SERIES

Expansion Conduit Unions

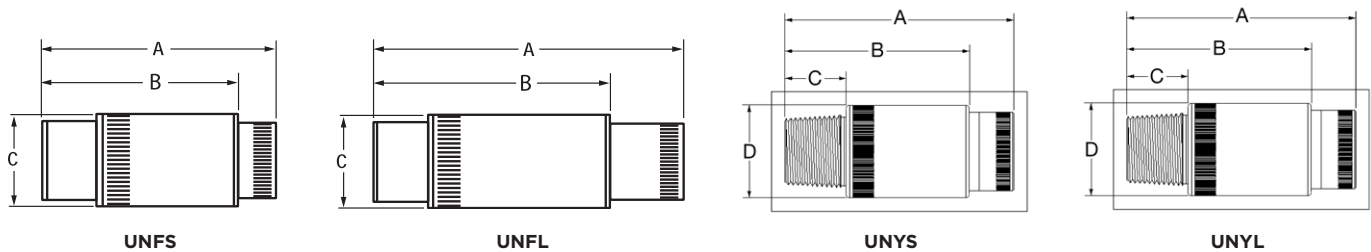
FEMALE – SHORT					
CATALOG NUMBER	HUB SIZE	DIMENSIONS			
		MAXIMUM LENGTH "A"	MAXIMUM LENGTH "B"	DIAMETER "C"	MALE THREAD LENGTH "D"
UNFS1	1/2"	3.34" (85)	2.84" (72)	1.19" (30)	–
UNFS2	3/4"	3.53" (90)	2.97" (75)	1.44" (37)	–
UNFS3	1"	3.69" (94)	3.08" (78)	1.69" (43)	–

FEMALE – LONG					
CATALOG NUMBER	HUB SIZE	DIMENSIONS			
		MAXIMUM LENGTH "A"	MAXIMUM LENGTH "B"	DIAMETER "C"	MALE THREAD LENGTH "D"
UNFL1	1/2"	4.34" (110)	3.34" (85)	1.19" (30)	–
UNFL2	3/4"	4.53" (115)	3.47" (88)	1.44" (37)	–
UNFL3	1"	4.69" (119)	3.58" (91)	1.69" (43)	–

MALE – SHORT					
CATALOG NUMBER	HUB SIZE	DIMENSIONS			
		MAXIMUM LENGTH "A"	MAXIMUM LENGTH "B"	DIAMETER "C"	MALE THREAD LENGTH "D"
UNYS1	1/2"	3.48" (88)	2.97" (75)	1.19" (30)	.875" (22)
UNYS2	3/4"	3.60" (91)	3.03" (77)	1.44" (37)	.875" (22)
UNYS3	1"	3.93" (100)	3.15" (80)	1.69" (43)	1.100" (28)

MALE – LONG					
CATALOG NUMBER	HUB SIZE	DIMENSIONS			
		MAXIMUM LENGTH "A"	MAXIMUM LENGTH "B"	DIAMETER "C"	MALE THREAD LENGTH "D"
UNYL1	1/2"	4.48" (114)	3.48" (88)	1.19" (30)	.875" (22)
UNYL2	3/4"	4.60" (117)	3.53" (90)	1.44" (37)	.875" (22)
UNYL3	1"	4.75" (121)	3.65" (93)	1.69" (43)	1.100" (28)

DIMENSIONS





Threaded Insert Plugs



NON-ATEX and IEC Ex certified
 Class I, Groups A, B, C, D
 Class I, Zone 1, Groups IIC, IIB, IA
 Class II, Groups E, F, G
 Class III
 UL Standards 886 and 1203
 CSA Standard: C22.2 No. 30



ATEX / IEC Ex Certified

File nos. SIRA 13ATEX1196U Issue: 1

II 2 G D

Ex d IIC Gb

Ex e IIC Gb

Ex tb IIIC Db

Ta = -50°C to +60°C

File nos. IECEx SIR 13.0073U Issue: 1

Ex d IIC Gb

EX e IIC Gb

EX tb IIIC Db

Ta = -50°C to +60°C

UL LISTED E 10514

SR Certified LR11716

FEATURES-SPECIFICATIONS

Features

- Threaded hubs (NPT)
- Square head and recessed head available (square head only in AL)

Materials

RECESSED STYLE

COPPER-FREE ALUMINUM - 3/8" - 4"
 (less than 4/10 of 1%)

- Natural Finish

STEEL - 1/2" - 1"

- Zinc Plated

IRON - 1-1/4" - 4"

- Zinc Plated

SQUARE HEAD STYLE

COPPER-FREE ALUMINUM - 1/4" - 4"
 (less than 4/10 of 1%)

- Natural Finish



FITTINGS

CUP/PLUG SERIES

Threaded Insert Plugs Recessed Style



**Recessed Plug
Cup - 375 to 8
Plug 375 to 3**



**Recessed Plug
Cup - 7 to 8
Plug 7 to 10**



**Recessed Plug
Plug 4 to 6**

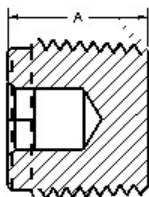


**Recessed Plug
Plug - 9 to 0**

RECESSED PLUG - KILLARK ALUMINUM				
CATALOG NUMBER	HUB SIZE	THREAD SPECIFICATION	PLUG LENGTH A	RECESS DRIVE SIZE
CUP-375	3/8"	3/8"- 18 NPT	37/64" (14.7)	1/4" Allen key
CUP-1	1/2"	1/2"- 14 NPT	19/32" (15.1)	3/8" Allen key
CUP-2	3/4"	3/4"- 14 NPT	19/32" (15.1)	3/8" Allen key
CUP-3	1"	1"- 11-1/2 NPT	5/8" (15.9)	3/8" Allen key
CUP-4	1-1/4"	1-1/4"- 11-1/2 NPT	1" (25.4)	1/2" Allen key
CUP-5	1-1/2"	1-1/2"- 11-1/2 NPT	1" (25.4)	1/2" Allen key
CUP-6	2"	2"- 11-1/2 NPT	1" (25.4)	1/2" Allen key
CUP-7	2-1/2"	2-1/2"- 8 NPT	1-5/32" (29.4)	1/4" Slot
CUP-8	3"	3"- 8 NPT	1-5/32" (29.4)	1/4" Slot
CUP-9	3-1/2"	3-1/2"- 8 NPT	1-5/16" (33.3)	Pry Tabs
CUP-0	4"	4"- 8 NPT	1-5/16" (33.3)	Pry Tabs

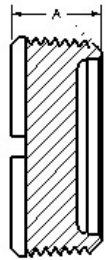
RECESSED PLUG - STEEL/IRON				
CATALOG NUMBER	HUB SIZE	THREAD SPECIFICATION	PLUG LENGTH A	RECESS DRIVE SIZE
PLUG375	3/8"	3/8"- 18 NPT	37/64" (14.7)	1/4" Allen key
PLUG1	1/2"	1/2"- 14 NPT	19/32" (15.1)	1/4" Allen key
PLUG2	3/4"	3/4"- 14 NPT	19/32" (15.1)	5/16" Allen key
PLUG3	1"	1"- 11-1/2 NPT	5/8" (15.9)	3/8" Allen key
PLUG4	1-1/4"	1-1/4"- 11-1/2 NPT	1" (25.4)	3/4" Square
PLUG5	1-1/2"	1-1/2"- 11-1/2 NPT	1" (25.4)	3/4" Square
PLUG6	2"	2"- 11-1/2 NPT	1" (25.4)	3/4" Square
PLUG7	2-1/2"	2-1/2"- 8 NPT	1-5/32" (29.4)	1/4" Slot
PLUG8	3"	3"- 8 NPT	1-5/32" (29.4)	1/4" Slot
PLUG9	3-1/2"	3-1/2"- 8 NPT	1-5/16" (33.3)	1/4" Slot
PLUG10	4"	4"- 8 NPT	1-5/16" (33.3)	1/4" Slot

Recessed Plug



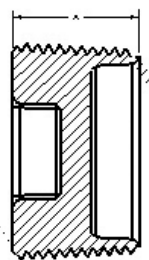
**CUP-375 to 6
PLUG 375 to 3**

Recessed Plug



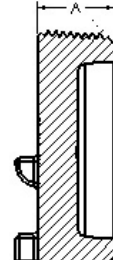
**CUP-7 to 8
PLUG 7 to 10**

Recessed Plug



PLUG 4 to 6

Recessed Plug



CUP-9 to 0



Threaded Insert Plugs Recessed Style - ATEX/IEC Ex Certified



Recessed Plug
Cup - 375 to 6
Plug 375 to 3



Recessed Plug
Cup - 7 to 8
Plug 7 to 10



Recessed Plug
Plug 4 to 6

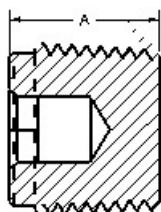
RECESSED PLUG - KILLARK ALUMINUM

CATALOG NUMBER	HUB SIZE	THREAD SPECIFICATION	PLUG LENGTH A	RECESS DRIVE SIZE
CUP-1-EX	1/2"	1/2" - 14 NPT	19/32" (15.1)	3/8" Allen key
CUP-2-EX	3/4"	3/4" - 14 NPT	19/32" (15.1)	3/8" Allen key
CUP-3-EX	1"	1" - 11-1/2 NPT	5/8" (15.9)	3/8" Allen key
CUP-4-EX	1-1/4"	1-1/4" - 11-1/2 NPT	1" (25.4)	1/2" Allen key
CUP-5-EX	1-1/2"	1-1/2" - 11-1/2 NPT	1" (25.4)	1/2" Allen key
CUP-6-EX	2"	2" - 11-1/2 NPT	1" (25.4)	1/2" Allen key
CUP-7-EX	2-1/2"	2-1/2" - 8 NPT	1-5/32" (29.4)	1/4" Slot
CUP-8-EX	3"	3" - 8 NPT	1-5/32" (29.4)	1/4" Slot

RECESSED PLUG - STEEL/IRON

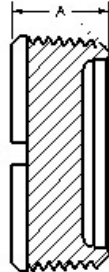
CATALOG NUMBER	HUB SIZE	THREAD SPECIFICATION	PLUG LENGTH A	RECESS DRIVE SIZE
PLUG1-EX	1/2"	1/2" - 14 NPT	19/32" (15.1)	1/4" Allen key
PLUG2-EX	3/4"	3/4" - 14 NPT	19/32" (15.1)	5/16" Allen key
PLUG3-EX	1"	1" - 11-1/2 NPT	5/8" (15.9)	3/8" Allen key
PLUG4-EX	1-1/4"	1-1/4" - 11-1/2 NPT	1" (25.4)	3/4" Square
PLUG5-EX	1-1/2"	1-1/2" - 11-1/2 NPT	1" (25.4)	3/4" Square
PLUG6-EX	2"	2" - 11-1/2 NPT	1" (25.4)	3/4" Square
PLUG7-EX	2-1/2"	2-1/2" - 8 NPT	1-5/32" (29.4)	1/4" Slot
PLUG8-EX	3"	3" - 8 NPT	1-5/32" (29.4)	1/4" Slot
PLUG9-EX	3-1/2"	3-1/2" - 8 NPT	1-5/16" (33.3)	1/4" Slot
PLUG10-EX	4"	4" - 8 NPT	1-5/16" (33.3)	1/4" Slot

Recessed Plug



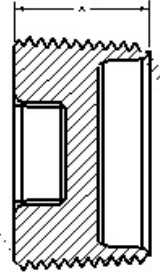
CUP-375 to 6
PLUG 375 to 3

Recessed Plug



CUP-7 to 8
PLUG 7 to 10

Recessed Plug



PLUG 4 to 6



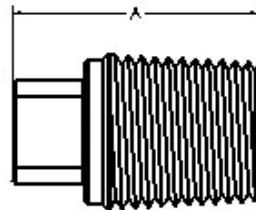
FITTINGS
CUP/PLUG SERIES

Threaded Insert Plugs Square Head Style



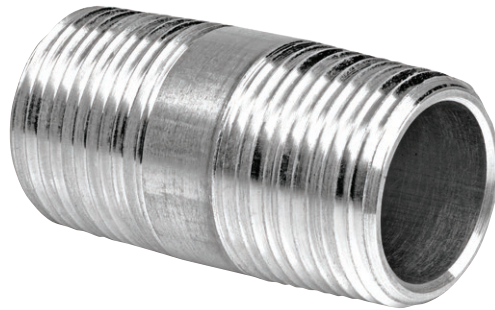
Square Head Plug
Cup-250 to 0

SQUARE HEAD PLUG (EXTERNAL HEAD) - KILLARK ALUMINUM				
CATALOG NUMBER	HUB SIZE	THREAD SPECIFICATION	PLUG LENGTH A	HEAD SIZE
CUPX-250	1/4"	1/4" - 18 NPT	51/64" (20.2)	3/8" (9.5)
CUPX-1	1/2"	1/2" - 14 NPT	1/64" (25.8)	1/2" (12.7)
CUPX-2	3/4"	3/4" - 14 NPT	1-5/32" (29.4)	5/8" (15.9)
CUPX-3	1"	1" - 11-1/2 NPT	21/64" (33.7)	13/16" (20.6)
CUPX-4	1-1/4"	1-1/4" - 11-1/2 NPT	1-3/8" (34.9)	15/16" (23.8)
CUPX-5	1-1/2"	1-1/2" - 11-1/2 NPT	1-13/16" (46.0)	1-1/8" (28.6)
CUPX-6	2"	2" - 11-1/2 NPT	1-49/64" (44.8)	1-5/16" (33.3)
CUPX-7	2-1/2"	2-1/2" - 8 NPT	1-27/32" (46.8)	1-5/8" (41.3)
CUPX-8	3"	3" - 8 NPT	1-27/32" (46.8)	2" (50.8)
CUPX-9	3-1/2"	3-1/2" - 8 NPT	2" (50.8)	2-1/2" (63.5)
CUPX-0	4"	4" - 8 NPT	2" (50.8)	2-1/2" (63.5)





Rigid Conduit Nipples



AN - 2B



AN-1 to 0

NON-ATEX and IEC Ex certified

Suitable for use in hazardous location applications when installed according to NEC Articles 501.10 (Class I, Div. I & 2 Groups A,B,C,D), NEC 502.10 (Class II, Div. I & 2, Groups EFG) and NEC 503.10 (Class III).

UL Standards 886 and 1203

 File No. E 311892



ATEX / IEC Ex Certified

SIRA 13ATEX1196U

Ex d IIC Gb

Ex e IIC Gb

Ex tb IIIC Db

Ta = -50°C to +60°C

IECEX SIR 13.0073U

Ex d IIC Gb

EX e IIC Gb

EX tb IIIC Db

Ta = -50°C to +60°C

Suitable for use in hazardous location applications when installed according to NEC Articles 501.10 (Class I, Div. I & 2 Groups A,B,C,D), NEC 502.10 (Class II, Div. I & 2, Groups EFG) and NEC 503.10 (Class III).

UL Standard 1203

 File No. E 348606 (steel)

 File No. E 311892 (aluminum)

FEATURES-SPECIFICATIONS

Features

- Tapered threads (NPT) meet latest UL 1203 requirements

Materials

Copper-free Aluminum
(less than 4/10 of 1%)

Steel - 1/2" - 6"

- Zinc Plated



FITTINGS AN SERIES

Rigid Conduit Nipples

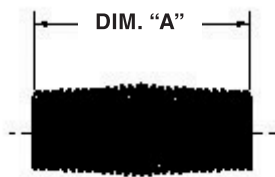
RIGID CONDUIT NIPPLES - ALUMINUM				
CATALOG NUMBER	CONDUIT SIZE	THREAD SPECIFICATION	BODY LENGTH DIMENSION A	FIG.#
AN-1	1/2"	1/2"-14 NPT	1-9/16" (39.7)	1
AN-2	3/4"	3/4"-14 NPT	1-37/64" (40.1)	1
AN-3	1"	1"-11-1/2 NPT	1-31/32" (50.0)	1
AN-4	1-1/4"	1"-11-1/2 NPT	2-1/64" (51.2)	1
AN-5	1-1/2"	1"-11-1/2 NPT	2-1/16" (52.4)	1
AN-6	2"	1"-11-1/2 NPT	2-1/8" (54.0)	1
AN-7	2-1/2"	2-1/2"-8 NPT	3-9/64" (79.8)	1
AN-8	3"	3"-8 NPT	3-1/4" (82.6)	1
AN-9	3-1/2"	3-1/2"-8 NPT	3-23/64" (85.3)	1
AN-10	4"	4"-8 NPT	3-15/32" (88.1)	1
AN-11	5"	5"-8 NPT	3-1/2" (88.9)	1
AN-12	6"	6"-8 NPT	3-1/2" (88.9)	1
AN-1B	1/2"	1/2"-14 NPT	2" (50.8)	2
AN-2B	3/4"	3/4"-14 NPT	2" (50.8)	2

RIGID CONDUIT NIPPLES - ALUMINUM - QUAD LISTED				
CATALOG NUMBER	CONDUIT SIZE	THREAD SPECIFICATION	BODY LENGTH DIMENSION A	FIG.#
AN-1-EX	1/2"	1/2"-14 NPT	1-9/16" (39.7)	1
AN-2-EX	3/4"	3/4"-14 NPT	1-37/64" (40.1)	1
AN-3-EX	1"	1"-11-1/2 NPT	1-31/32" (50.0)	1
AN-4-EX	1-1/4"	1"-11-1/2 NPT	2-1/64" (51.2)	1
AN-5-EX	1-1/2"	1"-11-1/2 NPT	2-1/16" (52.4)	1
AN-6-EX	2"	1"-11-1/2 NPT	2-1/8" (54.0)	1
AN-7-EX	2-1/2"	2-1/2"-8 NPT	3-9/64" (79.8)	1
AN-8-EX	3"	3"-8 NPT	3-1/4" (82.6)	1
AN-9-EX	3-1/2"	3-1/2"-8 NPT	3-23/64" (85.3)	1
AN-10-EX	4"	4"-8 NPT	3-15/32" (88.1)	1
AN-1B-EX	1/2"	1/2"-14 NPT	2" (50.8)	2
AN-2B-EX	3/4"	3/4"-14 NPT	2" (50.8)	2

RIGID CONDUIT NIPPLES - STEEL				
CATALOG NUMBER	CONDUIT SIZE	THREAD SPECIFICATION	BODY LENGTH DIMENSION A	FIG.#
AN-1S	1/2"	1/2"-14 NPT	1-9/16" (39.7)	1
AN-2S	3/4"	3/4"-14 NPT	1-37/64" (40.1)	1
AN-3S	1"	1"-11-1/2 NPT	1-31/32" (50.0)	1
AN-4S	1-1/4"	1"-11-1/2 NPT	2-1/64" (51.2)	1
AN-5S	1-1/2"	1"-11-1/2 NPT	2-1/16" (52.4)	1
AN-6S	2"	1"-11-1/2 NPT	2-1/8" (54.0)	1
AN-7S	2-1/2"	2-1/2"-8 NPT	3-9/64" (79.8)	1
AN-8S	3"	3"-8 NPT	3-1/4" (82.6)	1
AN-9S	3-1/2"	3-1/2"-8 NPT	3-23/64" (85.3)	1
AN-10S	4"	4"-8 NPT	3-15/32" (88.1)	1
AN-11S	5"	5"-8 NPT	3-1/2" (88.9)	1
AN-12S	6"	6"-8 NPT	3-1/2" (88.9)	1
AN-1BS	1/2"	1/2"-14 NPT	2" (50.8)	2
AN-2BS	3/4"	3/4"-14 NPT	2" (50.8)	2

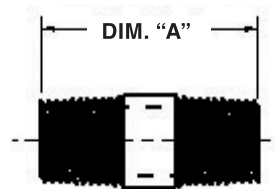
RIGID CONDUIT NIPPLES - STEEL - QUAD LISTED				
CATALOG NUMBER	CONDUIT SIZE	THREAD SPECIFICATION	BODY LENGTH DIMENSION A	FIG.#
AN-1S-EX	1/2"	1/2"-14 NPT	1-9/16" (39.7)	1
AN-2S-EX	3/4"	3/4"-14 NPT	1-37/64" (40.1)	1
AN-3S-EX	1"	1"-11-1/2 NPT	1-31/32" (50.0)	1
AN-4S-EX	1-1/4"	1"-11-1/2 NPT	2-1/64" (51.2)	1
AN-5S-EX	1-1/2"	1"-11-1/2 NPT	2-1/16" (52.4)	1
AN-6S-EX	2"	1"-11-1/2 NPT	2-1/8" (54.0)	1
AN-7S-EX	2-1/2"	2-1/2"-8 NPT	3-9/64" (79.8)	1
AN-8S-EX	3"	3"-8 NPT	3-1/4" (82.6)	1
AN-9S-EX	3-1/2"	3-1/2"-8 NPT	3-23/64" (85.3)	1
AN-10S-EX	4"	4"-8 NPT	3-15/32" (88.1)	1
AN-1BS-EX	1/2"	1/2"-14 NPT	2" (50.8)	2
AN-2BS-EX	3/4"	3/4"-14 NPT	2" (50.8)	2

FIGURE 1

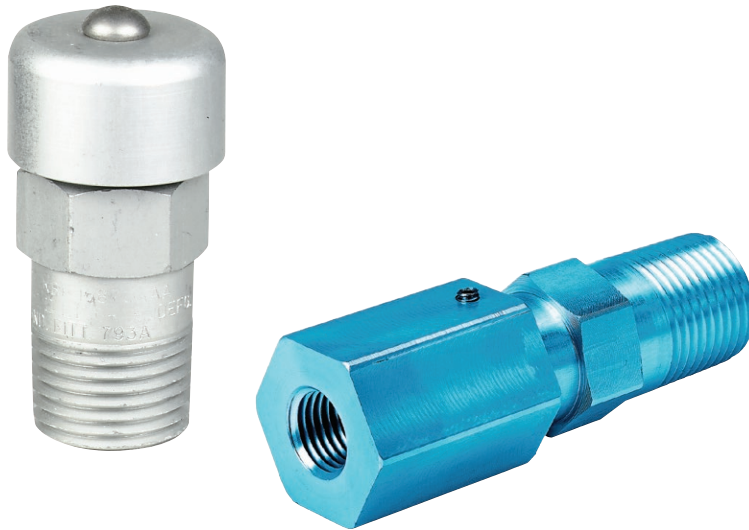


AN-1 to 0

FIGURE 2



AN-2B



KB/KD SERIES DRAIN & BREATHERS

NON-ATEX and IEC Ex certified
Class I, Div. 1 & 2, Groups B¹, C, D
Class I, Zones 1 & 2, Groups IIB + H2¹
Class II, Div. 1 & 2, Groups E, F, G
Class III, Type 3
II 2G Ex db IIB+H2¹ T226C Gb
IP44
Ta = -50°C to +60°C



File E10514



Certified - File LR11716



Certified File 25215

IEC Ex CSA 10.0007U

SIRA 10ATEX1351U

KB SERIES FLAME ARRESTOR

ATEX/IEC Ex Certified

Class I, Div. 1 & 2, Groups B¹, C, D
Class I, Zones 1 & 2, Groups IIB + H2¹
Class II, Div. 1 & 2, Groups E, F, G
Class III, Type 3, 4¹
II 2G Ex db IIB+H2 T4A Gb tb IIIC
Db IP66
Ta = -50°C to +60°C



Certified - File LR11716

IEC Ex CSA 10.0007U

SIRA 10ATEX1351U

¹ See chart on next page for suitability

FEATURES-SPECIFICATIONS

The KB flame arrestor provides a means to connect gas analysis equipment and electro pneumatic devices' piping or tubing through the wall of an explosion proof or flame proof enclosure with volume up to 160 liters

KB/KD SERIES DRAIN & BREATHERS

Body Material

- Aluminum with optional stainless steel or brass available for special orders.

Volume

- For use in enclosures with a maximum internal volume to 9526 cubic inches or 160 liters.

KB SERIES FLAME ARRESTOR

BODY MATERIAL

- 6061-T6 series aluminum provided as standard. Optional stainless steel or brass for special orders.

Specifications

- Air flow = 83 + 15 / -25 SCFH at 5PSI
- Pressure drop = 1.3 PSI at 100 PSI
- Maximum flow pressure = 800 PSI
- Volume = For use in enclosures with a maximum internal volume of 9526 cubic inches or 160 liters.



FITTINGS KDB/KB SERIES

Drains / Breathers / Flame Arrestors



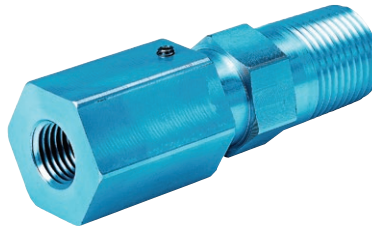
KDB-1

KB1B

KB1D

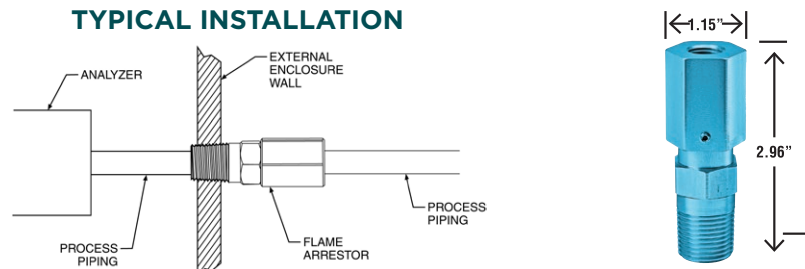
KB/KD SERIES DRAIN & BREATHERS								
CATALOG NUMBER	THREAD SIZE	BODY MATERIAL	THIRD PARTY	SUITABILITY USA	THIRD PARTY	SUITABILITY CANADA	THIRD PARTY	SUITABILITY ATEX/ IEC Ex
KB1B BREATHER	1/2 NPT	ALUMINUM	UL, FM & CSAus	CLASS I GROUPS B, C & D	c CSA	CLASS I GROUPS C & D		II 2 G Ex d IIC T226C Gb IP44 ^②
KB1D DRAIN	1/2 NPT	ALUMINUM	UL, FM & CSAus	CLASS I, ZONES 1 & 2 GR IIB+H2	c CSA	CLASS I, ZONES 1 & 2 GR IIB		
KB1BCEN BREATHER	1/2 NPT	ALUMINUM	CSAus	CLASS II GROUPS E, F, & G	c CSA	CLASS II GROUPS E, F & G	SIRA/CSA	
KB1DCEN DRAIN	1/2 NPT	ALUMINUM	CSAus	CLASS III ENCL TYPE 3	c CSA	CLASS III ENCL TYPE 3	SIRA/CSA	
KBM20BCEN BREATHER	M20	ALUMINUM	CSAus		c CSA		SIRA/CSA	
KBM20DCEN DRAIN	M20	ALUMINUM	CSAus		c CSA		SIRA/CSA	
KDB-1 DRAIN / BREATHER	1/2 NPT	STAINLESS STEEL	UL, FM & CSAus	CLASS I GROUPS C & D	c CSA	CLASS I GROUPS C & D		II 2 G Ex d IIB T3 Gb IP44
KDB-250 DRAIN / BREATHER	1/4 NPT	ALUMINUM	CSAus	CLASS I, ZONES 1 & 2 GR IIB	c CSA	CLASS I, ZONES 1 & 2 GR IIB		
KDB-375 DRAIN / BREATHER	3/8 NPT	ALUMINUM	CSAus	CLASS II GROUPS E, F, & G	c CSA	CLASS II GROUPS E, F & G		
KDB-250CEN DRAIN / BREATHER	1/4 NPT	ALUMINUM	CSAus	CLASS III ENCL TYPE 3	c CSA	CLASS III ENCL TYPE 3	SIRA/CSA	
KDB-375CEN DRAIN / BREATHER	3/8 NPT	ALUMINUM	CSAus		c CSA		SIRA/CSA	
KDB-M16CEN DRAIN / BREATHER	M16	ALUMINUM	CSAus		c CSA		SIRA/CSA	

② Warning – not for use in acetylene atmosphere



KB SERIES FLAME ARRESTOR								
CATALOG NUMBER	EXTERNAL HUB THREAD SIZE	INTERNAL & EXTERNAL PROCESS PIPING THREAD SIZE	THIRD PARTY	SUITABILITY USA	THIRD PARTY	SUITABILITY CANADA	THIRD PARTY	SUITABILITY ATEX/ IEC Ex
KB1FA25	1/2 NPT	1/4 NPT	CSAus	CLASS I GROUPS B, C & D	c CSA	CLASS I GROUPS C & D	SIRA/CSA	II 2 G Ex d IIC ^② T3 Gb IP66
KB1FA25SS6	1/2 NPT	1/4 NPT	CSAus	CLASS I, ZONES 1 & 2 GR IIB+H ₂ CLASS II GROUPS E, F, & G CLASS III TYPE 3 & 4	c CSA	CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III TYPE 3 & 4		
KB1FAM16	1/2 NPT	M16	CSAus	CLASS I GROUPS B, C & D	c CSA	CLASS I GROUPS C & D	SIRA/CSA	II 2 G Ex d IIC T3 Gb IP65
KBM20FA25	M20	1/4" NPT	CSAus	CLASS I, ZONES 1 & 2 GR IIB+H ₂	c CSA	CLASS I, ZONES 1 & 2 GR IIB	SIRA/CSA	
KBM20FA25SS6	M20	1/4" NPT	CSAus	CLASS II GROUPS E, F, & G	c CSA	CLASS II GROUPS E, F & G	SIRA/CSA	
KBM20FAM16	M20	M16		CLASS III TYPE 3		CLASS III TYPE 3		
KBM20FAM16SS6	M20	M16						

② Warning – not for use in acetylene atmosphere





KB Drains / Breathers



DRAINS / BREATHERS

When installed in the top or side wall of the enclosure it acts as a breather. When installed in the bottom of the enclosure the fitting allows moisture to drain out of the enclosure.

Features

Made of 6061 Aluminium or 316 stainless steel with internal nickel plated brass sinter flame arrestor.

Volume

For use in enclosures with a maximum internal volume to 9526 cubic inches (160 liters). See note for additional restriction.



KB1-4X



KB1B



KB1D



KBQA

CAT. NO.	TYPE	BODY MATERIAL	THREAD SIZE	USA	USA SUITABILITY	ENVIRO- MENTAL	CANADA	CANADA SUITABILITY	ENVIRO- MENTAL	IEC Ex / ATEX	IEC Ex ATEX SUITABILITY	ENVIRO- MENTAL													
KB1B	Drain	Aluminum	1/2" NPT	UL, FM, CSAus	Class I Groups BCD Class I Zone 1 & 2 IIB+H2 Class II Groups EFG Class III Service Temperature -25°C to +40°C (KBQA see note for Group B Applications)	Type 3	CSA	Class I Groups CD Class I Zone 1 & 2 IIB Class II Groups EFG Class III Service Temperature -50°C to +40°C (KBQA = -50°C to +60°C. See note for Group B Applications)	Type 3	N/A	N/A	N/A													
KB1D	Drain																								
KB1BCEN	Breather																								
KB1DCEN	Drain	316 SS	M20	CSAus						Type 3, 4 & 4X	Type 3, 4 & 4X	Type 3, 4 & 4X	Type 3, 4 & 4X	CSA / SIRA	Ex db IIB+H2 Gb Ex db IIB Gb Ex tb IIIC Db Ambient Temperature -50°C to +60°C (KBQA = -60°C to +200°C. See note for IIB+H2 limitation)	IP44									
KB1DSS6CEN	Drain																								
KBM20BCEN	Breather																								
KBM20DCEN	Drain	Aluminum	1/2" NPT	CSAus													Type 3, 4 & 4X	Type 3, 4 & 4X	Type 3, 4 & 4X	Type 3, 4 & 4X	N/A	N/A	N/A		
KBM20BSS6CEN	Breather																								
KBM20DSS6CEN	Drain																								
KBQAAL0050*	Drain / Breather	Aluminum	1/2" NPT	CSAus																				Type 3, 4 & 4X	Type 3, 4 & 4X
KBQAS60050*	Drain / Breather	316 SS																							
KB1-4X	Drain / Breather	Aluminum	1/2" NPT	UL, CSAus																					
KB1-4XS6	Drain / Breather	316 SS																							

*The KBQA is for use in Class I Group B and Ex db IIB+H2 areas for enclosures with maximum volumes of 1709 in³ (28 liters). In larger enclosures the KBQA is suitable for Class I Group C and Ex db IIB areas.

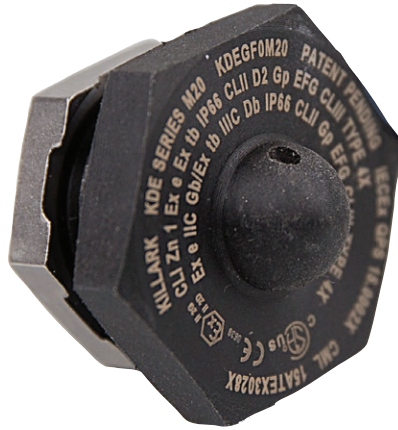


FITTINGS
KDE SERIES

KDE Series Drain Breather



KDES60M20



KDEGF0M20



Class I, Div. 2, Groups A, B, C, D
Class I, Zone 1 & 2, Ex e / AEx e IIC, A/Ex tb
Class II, Div. 1^① & 2, Groups E, F, G
Class III, Ambient Temperature Range -55°C to +80°C
Enclosure Type 3, 4 & 4X IP66

2714851

Ex e IIC Gb

Ex tb IIIC Db IP66

Ta = -55°C to +80°C

IEEx 15.0154X

CML 15ATEX3028X

IECEX QPS 15.0002X

^① Class II Div. 1 Canada only, Div. 2 in the U.S.

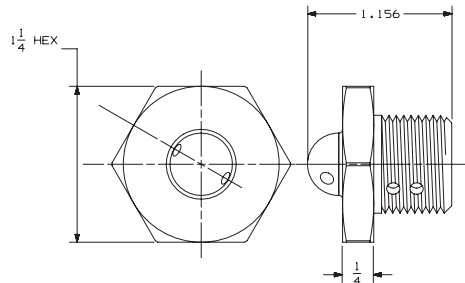
FEATURES-SPECIFICATIONS

Features

- Silicone o-ring supplied as standard and suitable for use in a -55°C to +80°C temperature range.
- Variety of thread sizes 1/2 & 3/4 NPT, 1/2 & 3/4 NPSM, M20 & M25.
- Available in 316 stainless steel, aluminum and 30% glass filled nylon.
- Internal 316 stainless steel locknut supplied as standard. When tightened to the proper torque the joint makes a hose down tight seal for type 4, 4X & IP66 application.

Materials

- 316 stainless steel, brass, aluminum or 30% glass filled nylon.
- Internal locknut 316 stainless steel.
- High temp silicone o-ring



KDE pairs well with USF/SJIC Enclosures

ENTRY THREAD SIZE & TYPE	MATERIAL / CATALOG NUMBER				
	GLASS FILLED PA6 NYLON	ALUMINUM	316 STAINLESS STEEL	BRASS	NICKEL PLATED BRASS
M20	KDEGF0M20	KDEALOM20	KDES60M20	KDEBR0M20	KDEBR1M20
M25	KDEGF0M25	KDEALOM25	KDES60M25	KDEBR0M25	KDEBR1M25
1/2" NPT	KDEGF0050	KDEAL0050	KDES60050	KDEBR0050	KDEBR1050
3/4" NPT	KDEGF0075	KDEAL0075	KDES60075	KDEBR0075	KDEBR1075

Note: Other thread forms and materials available upon request.



KBQA Series Drain Breather



Class I, Div. 1 and 2, Groups B, C, D

Class I, Div. 1 and 2, Groups B*, C, D

Class I, Zone 1, AEx d IIB+H2 Gb

Class II, Div. 1 and 2, Groups E, F, G
Zone 22, AEx tb IIIC Db, IP66

Class III

Ambient Temperature Range -50°C to +60°C

Enclosure Type 3,4 4X and IP66

File LR11716



II 2 G D

Ex db IIB+H2 Gb

Ex tb IIIC Db IP66

Service Temperature Range -50°C to +60°C

SIRA 10ATEX1351U

IECEX CSA 10.0007U

** Enclosures having a maximum volume of 28L*

FEATURES-SPECIFICATIONS

A drain fitting provides the valuable means to prevent the water produced from condensation from building up inside of an enclosure. When installed in the bottom of an enclosure the KBQA allows water to drain continuously out of the enclosure. The KBQA when installed in the top or sides of the enclosure acts as a breather allowing air to flow in. The air flow prevents a vacuum from forming inside the enclosure which can impede the flow of the built up water through the drain.

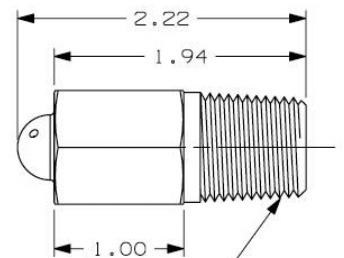
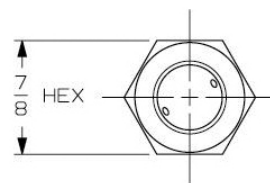
Features

- Supplied standard with a 1/2" NPT thread.

Materials

- The external body is offered in two materials, 6061-T6 aluminum and 316 stainless steel for the Type 4X rating.
- The internal sintered arrester is nickel plated brass.

CATALOG NUMBER	MATERIAL
KBQAAL0050	6061-T6 Aluminum
KBQAS60050	316 Stainless Steel



1/2-14 NPT
 THREAD SPEC.
 PER ANSI B1.20.1



FITTINGS

R/RE/ADUP SERIES

Reducing Bushings and Adapters



RE/R Series



ADUP

NON-ATEX and IEC Ex certified
Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G

UL Standard: 1203
CSA Standard: C22.2 No. 30



ATEX/IEC Ex Certified

File nos. SIRA 13ATEX1196U Issue: 1

Ex II 2 G D

Ex d IIC Gb

Ex e IIC Gb

Ex tb IIIC Db

Ta = -50°C to +60°C

File nos. IECEx SIR 13.0073U Issue: 1

Ex d IIC Gb

EX e IIC Gb

EX tb IIIC Db

Ta = -50°C to +60°C



FEATURES-SPECIFICATIONS

Features

Reducer Features

- Tapered threads (NPT)
- Smooth internal bushing protects conductors
- Threaded for Rigid Conduit or IMC

ADUP Features

- Tapered threads (NPT)
- Enlarged drilled and tapped hole openings by an NPT size

Materials

Copper-free Aluminum

(less than 4/10 of 1%)
(R-10 through R-109)

- Natural Finish

Steel/Zinc Plated

(RE20S through RE109S)

ADUP

Copper-free Aluminum

(less than 4/10 of 1%)

- Natural Finish



Reducing Bushings and Adapters



R- 31



R- 65

REDUCING BUSHINGS			
CATALOG NUMBER		HUB SIZE	DIMENSIONS
KILLARK ALUM.	STEEL		BODY LENGTH
R-10	—	1/2" – 3/8"	3/4"(19)
R-20	RE20S	3/4" – 3/8"	11/16"(18)
R-21	RE21S	3/4" – 1/2"	13/16"(21)
R-30	RE30S	1" – 3/8"	11/16"(18)
R-31	RE31S	1" – 1/2"	13/16"(21)
R-32	RE32S	1" – 3/4"	13/16"(21)
R-41	RE41S	1-1/4" – 1/2"	13/16"(21)
R-42	RE42S	1-1/4" – 3/4"	13/16"(21)
R-43	RE43S	1-1/4" – 1"	1"(25)
R-51	RE51S	1-1/2" – 1/2"	13/16"(21)
R-52	RE52S	1-1/2" – 3/4"	13/16"(21)
R-53	RE53S	1-1/2" – 1"	1"(25)
R-54	RE54S	1-1/2" – 1-1/4"	1-1/64"(28)
R-61	RE61S	2" – 1/2"	13/16"(21)
R-62	RE62S	2" – 3/4"	13/16"(21)
R-63	RE63S	2" – 1"	1"(25)
R-64	RE64S	2" – 1-1/4"	1/64"(28)
R-65	RE65S	2" – 1-1/2"	1/32"(31)
R-73	RE73S	2-1/2" – 1"	1"(25)
R-74	RE74S	2-1/2" – 1-1/4"	1"(25)
R-75	RE75S	2-1/2" – 1-1/2"	1"(25)
R-76	RE76S	2-1/2" – 2"	1"(25)
R-84	RE84S	3" – 1-1/4"	1"(25)
R-85	RE85S	3" – 1-1/2"	1-1/4"(32)
R-86	RE86S	3" – 2"	1-1/4"(32)
R-87	RE87S	3" – 2-1/2"	1-1/4"(32)
R-96	RE96S	3-1/2" – 2"	1-3/8"(35)
R-97	RE97S	3-1/2" – 2-1/2"	1-3/8"(35)
R-98	RE98S	3-1/2" – 3"	1-3/8"(35)
R-106	RE106S	4" – 2"	1-1/2"(38)
R-107	RE107S	4" – 2-1/2"	1-1/2"(38)
R-108	RE108S	4" – 3"	1-1/2"(38)
R-109	RE109S	4" – 3-1/2"	1-1/2"(38)

REDUCING BUSHINGS - QUAD LISTED			
CATALOG NUMBER		HUB SIZE	DIMENSIONS
KILLARK ALUM.	STEEL		BODY LENGTH
R-10-EX	—	1/2" – 3/8"	3/4"(19)
R-20-EX	—	3/4" – 3/8"	11/16"(18)
R-21-EX	RE21S-EX	3/4" – 1/2"	13/16"(21)
R-30-EX	—	1" – 3/8"	11/16"(18)
R-31-EX	RE31S-EX	1" – 1/2"	13/16"(21)
R-32-EX	RE32S-EX	1" – 3/4"	13/16"(21)
R-41-EX	RE41S-EX	1-1/4" – 1/2"	13/16"(21)
R-42-EX	RE42S-EX	1-1/4" – 3/4"	13/16"(21)
R-43-EX	RE43S-EX	1-1/4" – 1"	1"(25)
R-51-EX	RE51S-EX	1-1/2" – 1/2"	13/16"(21)
R-52-EX	RE52S-EX	1-1/2" – 3/4"	13/16"(21)
R-53-EX	RE53S-EX	1-1/2" – 1"	1"(25)
R-54-EX	RE54S-EX	1-1/2" – 1-1/4"	1-1/64"(28)
R-61-EX	RE61S-EX	2" – 1/2"	13/16"(21)
R-62-EX	RE62S-EX	2" – 3/4"	13/16"(21)
R-63-EX	RE63S-EX	2" – 1"	1"(25)
R-64-EX	RE64S-EX	2" – 1-1/4"	1/64"(28)
R-65-EX	RE65S-EX	2" – 1-1/2"	1/32"(31)
R-73-EX	—	2-1/2" – 1"	1"(25)
R-74-EX	—	—	—
R-75-EX	—	2-1/2" – 1-1/2"	1"(25)
R-76-EX	—	2-1/2" – 2"	1"(25)
R-84-EX	—	—	—
R-85-EX	—	3" – 1-1/2"	1-1/4"(32)
R-86-EX	—	3" – 2"	1-1/4"(32)
R-87-EX	—	3" – 2-1/2"	1-1/4"(32)
R-96-EX	—	3-1/2" – 2-1/2"	1-3/8"(35)
R-97-EX	—	3-1/2" – 2-1/2"	1-3/8"(35)
R-98-EX	—	3-1/2" – 3"	1-3/8"(35)
R-106-EX	—	4" – 2"	1-1/2"(38)
R-107-EX	—	4" – 2-1/2"	1-1/2"(38)
R-108-EX	—	4" – 3"	1-1/2"(38)
R-109-EX	—	4" – 3-1/2"	1-1/2"(38)

ADUP ADAPTERS		
CATALOG NUMBER	DESCRIPTION	
ADUP-01	Male 3/8"	Female 1/2"
ADUP-12	Male 1/2"	Female 3/4"
ADUP-23	Male 3/4"	Female 1"



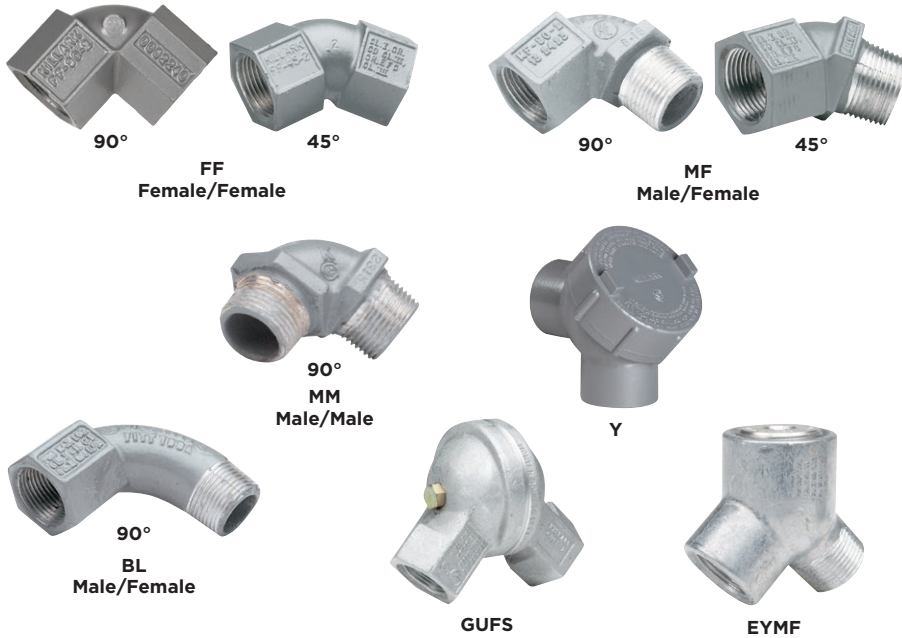
ADUP-12



FITTINGS

FF/MF/MM/BL/GUFS/Y/EYMF SERIES

Elbows



Class I, Div. 1 & 2, Groups C, D
Class II, Div. 1 & 2, Groups E, F, G
Class III



ATEX / IEC Ex Certified

File nos. CML 16ATEX 1325X

IECEX QPS16.0012X

Ex II 2GD

Ex db IIC Gb or Ex db IIB Gb

Ex tb IIIC Db IP65/IP66

UL LISTED - File E10514

SP Certified - File LR11716

FEATURES-SPECIFICATIONS

Features

- Threaded for rigid conduit or IMC
- Smooth integral bushings to prevent damage to wires

Materials

Copper-free Aluminum

(less than 4/10 of 1%)

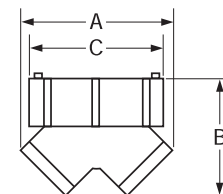
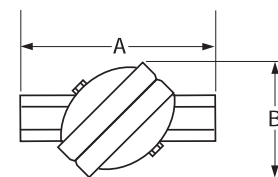
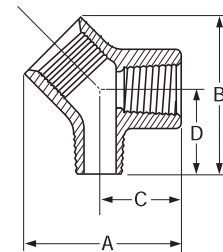
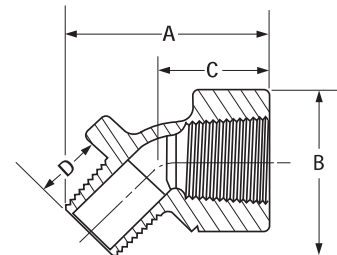
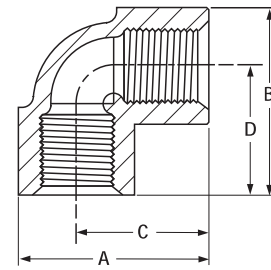
- Electrostatically applied powder coating

Iron Zinc electro-plate



Elbows

CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
FF-90-1 ^①	FF-90-1M ^③	1/2"	FF 90°	2"	2"	1-3/8"	1-3/8"
FF-90-2 ^①	FF-90-2M ^③	3/4"	FF 90°	2-1/4"	2-1/4"	1-1/2"	1-1/2"
FF-90-3 ^①	FF-90-3M ^③	1"	FF 90°	2-15/16"	2-15/16"	2"	2"
FF-45-1 ^①	FF-45-1M ^③	1/2"	FF 45°	2-3/8"	2"	1-1/8"	—
FF-45-2 ^①	FF-45-2M ^③	3/4"	FF 45°	2-11/16"	2-3/16"	1-1/4"	—
FF-45-3 ^①	FF-45-3M ^③	1"	FF 45°	3-3/8"	2-11/16"	1-5/8"	—
FF-45-6 ^①	FF-45-6M ^③	2"	FF 45°	4-3/4"	3-7/8"	2-1/4"	—
FF-45-8 ^①	FF-45-8M ^③	3"	FF 45°	5-1/4"	5-17/64"	2-17/64"	—
MF-90-1 ^①	MF-90-1M ^③	1/2"	MF 90°	2-7/32"	2"	1-3/8"	1-1/16"
MF-90-2 ^①	MF-90-2M ^③	3/4"	MF 90°	2-1/2"	2-1/4"	1-1/2"	1-1/16"
MF-45-1 ^①	MF-45-1M ^③	1/2"	MF 45°	2-35/64"	1-55/64"	1-1/8"	1-1/16"
MF-45-2 ^①	MF-45-2M ^③	3/4"	MF 45°	2-3/4"	2"	1-9/32"	1-1/16"
MM-90-1 ^①	MM-90-1M ^③	1/2"	MM 90°	2-15/32"	2-15/32"	1-49/64"	1-1/16"
MM-90-2 ^①	MM-90-2M ^③	3/4"	MM 90°	2-5/8"	2-5/8"	1-57/64"	1-1/16"
BL-90-1 ^①	BL-90-1M ^③	1/2"	BL 90°	2-1/4"	2-3/8"	1-7/8"	1-3/4"
BL-90-2 ^①	BL-90-2M ^③	3/4"	BL 90°	2-5/8"	3"	2-1/8"	2-1/4"
BL-90-3 ^①	BL-90-3M ^③	1"	BL 90°	2-1/4"	3-7/16"	2-5/8"	2-1/2"



CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
Y-1 ^①	Y-1M ^④	1/2"	90°	2-7/8"	2-3/4"	1-7/8"	—
Y-2 ^①	Y-2M ^④	3/4"	90°	3-1/16"	3-3/4"	2-1/8"	—
Y-3 ^①	Y-3M ^④	1"	90°	4"	3-1/4"	2-5/8"	—
Y-4 ^①	Y-4M ^④	1-1/4"	90°	5-1/16"	4-1/8"	3-7/8"	—
Y-5 ^①	Y-5M ^④	1-1/2"	90°	5-1/16"	4-1/4"	3-7/8"	—

CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
GUFS-1 ^②	GUFS-1M ^③	1/2"	180°	4-1/2"	2-1/4"	—	—
GUFS-2 ^②	GUFS-2M ^③	3/4"	180°	4-1/2"	2-1/4"	—	—
GUMFS-1 ^②	GUMFS-1M ^③	1/2"	180°	5-1/8"	2-1/4"	—	—
GUMFS-2 ^②	GUMFS-2M ^③	3/4"	180°	5-1/4"	2-1/4"	—	—

CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
EYMF-1 ^②	—	1/2"	90°	2-5/8"	2-5/8"	1-3/8"	1-3/8"
EYMF-2 ^②	—	3/4"	90°	2-3/4"	2-3/4"	1-1/2"	1-1/2"

- ① Copper-free aluminum - Electrostatically applied powder coating
- ② Aluminum - Natural finish
- ③ Iron - Zinc electroplate
- ④ Iron - Duraloy finish
- ⑤ Furnished with 1" close-up plug in top.

For ATEX and IEC Ex certified Elbows, see following page.

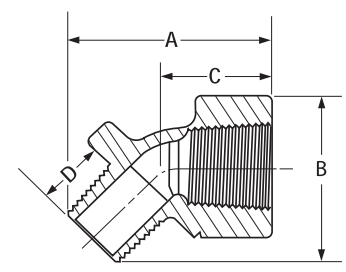
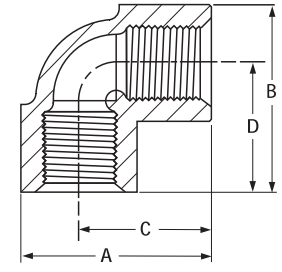


FITTINGS

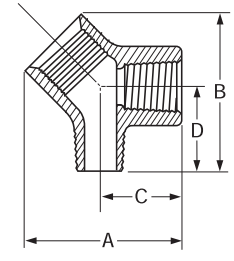
FF/MF/MM/BL/GUFS/Y/EYMF SERIES

Elbows - ATEX/IEC Ex Certified

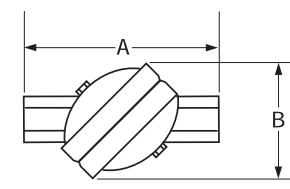
ELBOWS - QUAD LISTED							
CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
FF-90-1-EX ^①	FF-90-1M-EX ^③	1/2"	FF 90°	2"	2"	1-3/8"	1-3/8"
FF-90-2-EX ^①	FF-90-2M-EX ^③	3/4"	FF 90°	2-1/4"	2-1/4"	1-1/2"	1-1/2"
FF-90-3-EX ^①	FF-90-3M-EX ^③	1"	FF 90°	2-15/16"	2-15/16"	2"	2"
FF-45-1-EX ^①	FF-45-1M-EX ^③	1/2"	FF 45°	2-3/8"	2"	1-1/8"	—
FF-45-2-EX ^①	FF-45-2M-EX ^③	3/4"	FF 45°	2-11/16"	2-3/16"	1-1/4"	—
FF-45-3-EX ^①	FF-45-3M-EX ^③	1"	FF 45°	3-3/8"	2-11/16"	1-5/8"	—
FF-45-6-EX ^①	FF-45-6M-EX ^③	2"	FF 45°	4-3/4"	3-7/8"	2-1/4"	—
FF-45-8-EX ^①	FF-45-8M-EX ^③	3"	FF 45°	5-1/4"	5-17/64"	2-17/64"	—
MF-90-1-EX ^①	MF-90-1M-EX ^③	1/2"	MF 90°	2-7/32"	2"	1-3/8"	1-1/16"
MF-90-2-EX ^①	MF-90-2M-EX ^③	3/4"	MF 90°	2-1/2"	2-1/4"	1-1/2"	1-1/16"
MF-45-1-EX ^①	MF-45-1M-EX ^③	1/2"	MF 45°	2-35/64"	1-55/64"	1-1/8"	1-1/16"
MF-45-2-EX ^①	MF-45-2M-EX ^③	3/4"	MF 45°	2-3/4"	2"	1-9/32"	1-1/16"
MM-90-1-EX ^①	MM-90-1M-EX ^③	1/2"	MM 90°	2-15/32"	2-15/32"	1-49/64"	1-1/16"
MM-90-2-EX ^①	MM-90-2M-EX ^③	3/4"	MM 90°	2-5/8"	2-5/8"	1-57/64"	1-1/16"
BL-90-1-EX ^①	BL-90-1M-EX ^③	1/2"	BL 90°	2-1/4"	2-3/8"	1-7/8"	1-3/4"
BL-90-2-EX ^①	BL-90-2M-EX ^③	3/4"	BL 90°	2-5/8"	3"	2-1/8"	2-1/4"
BL-90-3-EX ^①	BL-90-3M-EX ^③	1"	BL 90°	2-1/4"	3-7/16"	2-5/8"	2-1/2"



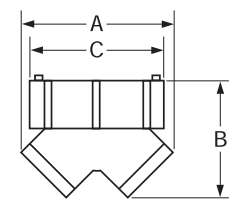
CAPPED ELBOWS							
CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
Y-1-EX ^①	Y-1M-EX ^④	1/2"	90°	2-7/8"	2-3/4"	1-7/8"	—
Y-2-EX ^①	Y-2M-EX ^④	3/4"	90°	3-1/16"	3-3/4"	2-1/8"	—
Y-3-EX ^①	Y-3M-EX ^④	1"	90°	4"	3-1/4"	2-5/8"	—
Y-4-EX ^①	Y-4M-EX ^④	1-1/4"	90°	5-1/16"	4-1/8"	3-7/8"	—
Y-5-EX ^①	Y-5M-EX ^④	1-1/2"	90°	5-1/16"	4-1/4"	3-7/8"	—



SWIVEL ELBOWS							
CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
GUFS-1-EX ^①	GUFS-1M-EX ^④	1/2"	180°	4-1/2"	2-1/4"	—	—
GUFS-2-EX ^①	GUFS-2M-EX ^④	3/4"	180°	4-1/2"	2-1/4"	—	—
GUMFS-1-EX ^①	GUMFS-1M-EX ^④	1/2"	180°	5-1/8"	2-1/4"	—	—
GUMFS-2-EX ^①	GUMFS-2M-EX ^④	3/4"	180°	5-1/4"	2-1/4"	—	—



90° PLUGGED ELBOWS							
CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
EYMF-1-EX ^②	—	1/2"	90°	2-5/8"	2-5/8"	1-3/8"	1-3/8"
EYMF-2-EX ^②	—	3/4"	90°	2-3/4"	2-3/4"	1-1/2"	1-1/2"





Bronze Flexible Couplings



Class I, Div. 1 & 2, Groups A,B,C,D^①
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Raintight

 Certified - File LR11716

^① ECF & EKJ 1/2" and 3/4" couplings suitable for Class I, Groups A, B, C, D Class I, Zone 1, Groups IIC, IIB, IIA EKJ 1" thru 2" and ECF 1" couplings suitable for Class I, Groups C, D, Class I, Zone 1, Groups IIB, IIA All ECF and EKJ are suitable for Class II and III.

FEATURES-SPECIFICATIONS

Features

- Bronze flexible metal construction
- An inner insulating silicone tubing to protect conductors
- Female ends with removable zinc plated steel nipples standard on all couplings
- Union type couplings may be assembled by adding a GUF and UNF Series union to the nipple
- Special lengths available-consult factory
- All 1/2", 3/4" & 1" EKJ couplings are furnished with a setscrew (for use as a fixture hanging coupling)



FITTINGS

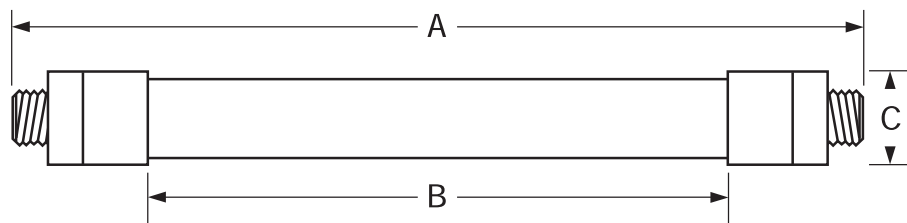
ECF/EKJ SERIES

Bronze Flexible Couplings

ECF/EKJ FLEXIBLE COUPLINGS					
CATALOG NUMBER		DESCRIPTION			
ECF SERIES	EKJ SERIES	CONDUIT SIZE	A OVERALL LENGTH	B FLEX. LENGTH	C DIA.
ECF-14	EKJ-14	1/2"	8-13/16"	4"	1-5/16"
ECF-16	EKJ-16	1/2"	10-13/16"	6"	1-5/16"
ECF-18	EKJ-18	1/2"	12-13/16"	8"	1-5/16"
ECF-110	EKJ-110	1/2"	14-13/16"	10"	1-5/16"
ECF-112	EKJ-112	1/2"	16-13/16"	12"	1-5/16"
ECF-115	EKJ-115	1/2"	19-13/16"	15"	1-5/16"
ECF-118	EKJ-118	1/2"	22-13/16"	18"	1-5/16"
ECF-121	—	1/2"	25-13/16"	21"	1-5/16"
ECF-124	—	1/2"	28-13/16"	24"	1-5/16"
ECF-130	—	1/2"	34-13/16"	30"	1-5/16"
ECF-136	—	1/2"	40-13/16"	36"	1-5/16"
ECF-24	EKJ-24	3/4"	8-3/4"	4"	1-5/8"
ECF-26	EKJ-26	3/4"	10-3/4"	6"	1-5/8"
ECF-28	EKJ-28	3/4"	12-3/4"	8"	1-5/8"
ECF-210	EKJ-210	3/4"	14-3/4"	10"	1-5/8"
ECF-212	EKJ-212	3/4"	16-3/4"	12"	1-5/8"
ECF-215	EKJ-215	3/4"	19-3/4"	15"	1-5/8"
ECF-218	EKJ-218	3/4"	22-3/4"	18"	1-5/8"
ECF-221	—	3/4"	25-3/4"	21"	1-5/8"
ECF-224	—	3/4"	28-3/4"	24"	1-5/8"
ECF-230	—	3/4"	34-3/4"	30"	1-5/8"
ECF-236	—	3/4"	40-3/4"	36"	1-5/8"
ECF-36	EKJ-36	1"	11-3/4"	6"	1-15/16"
ECF-38	EKJ-38	1"	13-3/4"	8"	1-15/16"
ECF-310	EKJ-310	1"	15-3/4"	10"	1-15/16"
ECF-312	EKJ-312	1"	17-3/4"	12"	1-15/16"
ECF-315	EKJ-315	1"	20-3/4"	15"	1-15/16"
ECF-318	EKJ-318	1"	23-3/4"	18"	1-15/16"
ECF-321	EKJ-321	1"	26-3/4"	21"	1-15/16"
ECF-324	EKJ-324	1"	29-3/4"	24"	1-15/16"
ECF-330	EKJ-330	1"	35-3/4"	30"	1-15/16"
ECF-336	EKJ-336	1"	41-3/4"	36"	1-15/16"

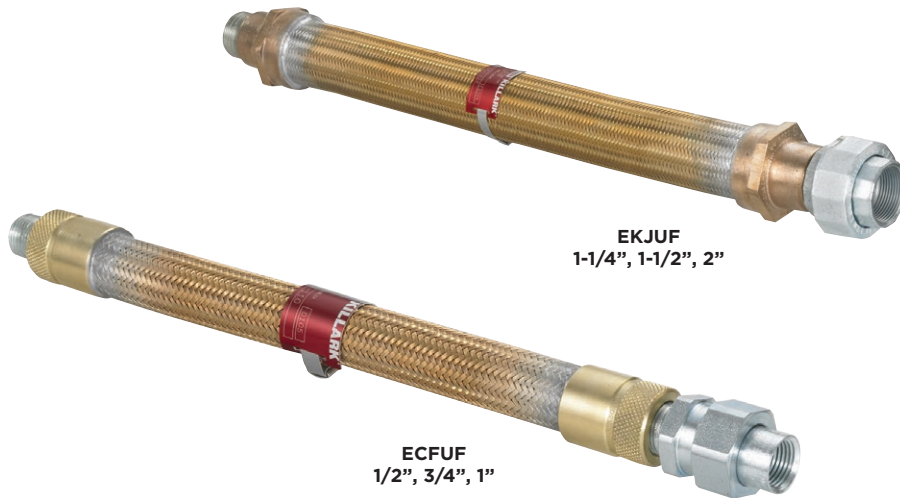
ECF/EKJ FLEXIBLE COUPLINGS				
CAT. NO.	DESCRIPTION			
EKJ SERIES	CONDUIT SIZE	A OVERALL LENGTH	B FLEX. LENGTH	C DIA.
EKJ-412	1-1/4"	18-5/8"	12"	2-15/16"
EKJ-415	1-1/4"	21-5/8"	15"	2-15/16"
EKJ-418	1-1/4"	24-5/8"	18"	2-15/16"
EKJ-421	1-1/4"	27-5/8"	21"	2-15/16"
EKJ-424	1-1/4"	30-5/8"	24"	2-15/16"
EKJ-430	1-1/4"	36-5/8"	30"	2-15/16"
EKJ-436	1-1/4"	42-5/8"	36"	2-15/16"
EKJ-512	1-1/2"	18-15/16"	12"	3-21/32"
EKJ-515	1-1/2"	21-15/16"	15"	3-21/32"
EKJ-518	1-1/2"	24-15/16"	18"	3-21/32"
EKJ-521	1-1/2"	27-15/16"	21"	3-21/32"
EKJ-524	1-1/2"	30-15/16"	24"	3-21/32"
EKJ-530	1-1/2"	36-15/16"	30"	3-21/32"
EKJ-536	1-1/2"	42-15/16"	36"	3-21/32"
EKJ-612	2"	19-5/16"	12"	4-9/64"
EKJ-615	2"	22-5/16"	15"	4-9/64"
EKJ-618	2"	25-5/16"	18"	4-9/64"
EKJ-624	2"	31-5/16"	24"	4-9/64"
EKJ-630	2"	37-5/16"	30"	4-9/64"
EKJ-636	2"	43-5/16"	36"	4-9/64"

MINIMUM BEND RADIUS						
SERIES	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
ECF	10"	12"	14"	-	-	-
EKJ	10"	12"	14"	14"	16"	18"





Bronze Flexible Couplings with Female Steel Union



EKJUF
 1-1/4", 1-1/2", 2"

ECFUF
 1/2", 3/4", 1"

Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Raintight

 Certified - File LR11716

1/2" and 3/4" couplings suitable for:
Class I, Groups A,B,C,D Class I, Zone 1,
Groups IIC, IIB, IIA.
 1" couplings suitable for:
Class I, Groups C,D. Class I, Zone 1,
Groups IIB, IIA

FEATURES-SPECIFICATIONS

Features

- Bronze flexible metal construction
- An inner insulating silicone tubing to protect conductors
- Provided with one zinc plated steel nipple and one zinc plated steel female union
- Special lengths available - consult factory



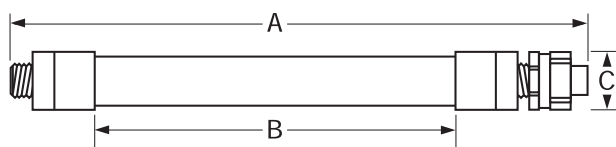
FITTINGS
ECF/EKJ SERIES

Bronze Flexible Couplings with Female Steel Union

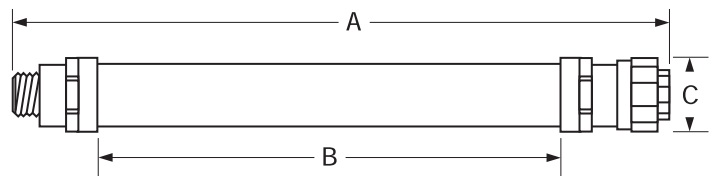
ECF/EKJ FLEXIBLE COUPLINGS				
CAT. NO.	DESCRIPTION			
	CONDUIT SIZE	A OVERALL LENGTH	B FLEX. LENGTH	C DIA.
ECFUF-14	1/2"	10-1/8" (257)	4" (102)	1-1/2" (38)
ECFUF-16	1/2"	12-1/8" (310)	6" (152)	1-1/2" (38)
ECFUF-18	1/2"	14-1/8" (359)	8" (203)	1-1/2" (38)
ECFUF-110	1/2"	16-1/8" (410)	10" (254)	1-1/2" (38)
ECFUF-112	1/2"	18-1/8" (460)	12" (305)	1-1/2" (38)
ECFUF-115	1/2"	21-1/8" (537)	15" (381)	1-1/2" (38)
ECFUF-118	1/2"	24-1/8" (613)	18" (457)	1-1/2" (38)
ECFUF-121	1/2"	27-1/8" (689)	21" (533)	1-1/2" (38)
ECFUF-124	1/2"	30-1/8" (765)	24" (610)	1-1/2" (38)
ECFUF-130	1/2"	36-1/8" (918)	30" (762)	1-1/2" (38)
ECFUF-136	1/2"	42-1/8" (1070)	36" (914)	1-1/2" (38)
ECFUF-24	3/4"	10-1/4" (260)	4" (102)	1-3/4" (44)
ECFUF-26	3/4"	12-1/4" (311)	6" (152)	1-3/4" (44)
ECFUF-28	3/4"	14-1/4" (362)	8" (203)	1-3/4" (44)
ECFUF-210	3/4"	16-1/4" (413)	10" (254)	1-3/4" (44)
ECFUF-212	3/4"	18-1/4" (464)	12" (305)	1-3/4" (44)
ECFUF-215	3/4"	21-1/4" (540)	15" (381)	1-3/4" (44)
ECFUF-218	3/4"	24-1/4" (616)	18" (457)	1-3/4" (44)
ECFUF-221	3/4"	27-1/4" (692)	21" (533)	1-3/4" (44)
ECFUF-224	3/4"	30-1/4" (768)	24" (610)	1-3/4" (44)
ECFUF-230	3/4"	36-1/4" (921)	30" (762)	1-3/4" (44)
ECFUF-236	3/4"	42-1/4" (1073)	36" (914)	1-3/4" (44)
ECFUF-36	1"	13-3/16" (335)	6" (102)	2" (51)
ECFUF-38	1"	15-3/16" (386)	8" (152)	2" (51)
ECFUF-310	1"	17-3/16" (437)	10" (254)	2" (51)
ECFUF-312	1"	19-3/16" (487)	12" (305)	2" (51)
ECFUF-315	1"	22-3/16" (564)	15" (381)	2" (51)
ECFUF-318	1"	25-3/16" (640)	18" (457)	2" (51)
ECFUF-321	1"	28-3/16" (716)	21" (533)	2" (51)
ECFUF-324	1"	31-3/16" (792)	24" (610)	2" (51)

ECF/EKJ FLEXIBLE COUPLINGS				
CAT. NO.	DESCRIPTION			
	CONDUIT SIZE	A OVERALL LENGTH	B FLEX. LENGTH	C DIA.
ECFUF-330	1"	37-3/16" (945)	30" (762)	2" (51)
ECFUF-336	1"	43-3/16" (1097)	36" (914)	2" (51)
EKJUF-412	1-1/4"	20-1/4" (514)	12" (305)	2-7/8" (73)
EKJUF-415	1-1/4"	21-1/4" (591)	15" (381)	2-7/8" (73)
EKJUF-418	1-1/4"	24-1/4" (667)	18" (457)	2-7/8" (73)
EKJUF-421	1-1/4"	27-1/4" (743)	21" (533)	2-7/8" (73)
EKJUF-424	1-1/4"	30-1/4" (819)	24" (610)	2-7/8" (73)
EKJUF-430	1-1/4"	36-1/4" (972)	30" (762)	2-7/8" (73)
EKJUF-436	1-1/4"	42-1/4" (1124)	36" (914)	2-7/8" (73)
EKJUF-512	1-1/2"	21-15/16" (557)	12" (305)	3-21/32" (93)
EKJUF-515	1-1/2"	24-15/16" (633)	15" (381)	3-21/32" (93)
EKJUF-518	1-1/2"	27-15/16" (710)	18" (457)	3-21/32" (93)
EKJUF-521	1-1/2"	30-15/16" (786)	21" (533)	3-21/32" (93)
EKJUF-524	1-1/2"	33-15/16" (862)	24" (610)	3-21/32" (93)
EKJUF-530	1-1/2"	39-15/16" (1014)	30" (762)	3-21/32" (93)
EKJUF-536	1-1/2"	45-15/16" (1167)	36" (914)	3-21/32" (93)
EKJUF-612	2"	21-9/16" (548)	12" (305)	4-9/64" (105)
EKJUF-615	2"	24-9/16" (624)	15" (381)	4-9/64" (105)
EKJUF-618	2"	27-9/16" (700)	18" (457)	4-9/64" (105)
EKJUF-624	2"	33-9/16" (852)	24" (610)	4-9/64" (105)
EKJUF-630	2"	39-9/16" (1005)	30" (762)	4-9/64" (105)
EKJUF-636	2"	45-9/16" (1157)	36" (914)	4-9/64" (105)

MINIMUM BEND RADIUS						
SERIES	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
ECF	10"	12"	14"	-	-	-
EKJ	10"	12"	14"	14"	16"	18"



ECFUF 1/2", 3/4", 1"



EKJUF 1-1/4", 1-1/2", 2"



Stainless Steel Flexible Couplings



EKJ
 2-1/2"-4"

Class I, Div. 1 & 2, Groups D
Class I, Zone 1, Group IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III



size 7 Groups A, B, C, D
 sizes 8 & 10 Groups C, D



sizes 7, 8 & 10 Group D

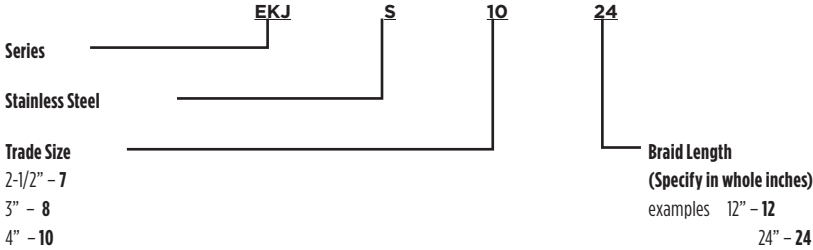
FEATURES-SPECIFICATIONS

Features

- Available in custom lengths. See catalog logic to order
- Stainless steel wirebraid construction
- Annular corrugated seamless hose
- Cast in ribs for easy installation
- 2-1/2" - 4" sizes furnished with two aluminum nipples

CATALOG NUMBER LOGIC

Sizes 2-1/2" Thru 4"



ORDERING EXAMPLE - EKJS-1024
 (4" trade size, 24" length)



FITTINGS
EKJ SERIES

Stainless Steel Flexible Couplings - ATEX/IEC Ex Certified



EKJ-211SS-EX



ATEX / IEC Ex Certified

IECEX SIR 10.0057U

SIRA 10ATEX11068U 0539

Ex II 2GD

Ex db IIC Gb, Ex tb IIIC Db IP66

Class I, Div. 1 & 2, Groups A,B,C, D

Class I, Zone 1, Groups IIB, IIA

Class II, Div. 1 & 2, Groups E, F, G

Class III



FEATURES-SPECIFICATIONS

Features

- Stainless Steel flexible metal construction
- NPT male fitting (316SS) welded to each end
- Outer Braid (304SS) with inner flex hose of 321SS
- Inner liner of silicone coated fabric

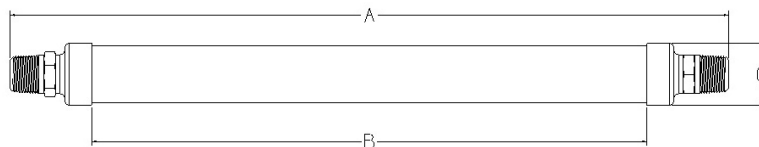
No Max Length Restrictions, Contact Factory for Custom Lengths

SERIES	MINIMUM BEND RADIUS					
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
EKJ	10"	12"	14"	14"	16"	18"



Stainless Steel Flexible Couplings - ATEX/IEC Ex Certified

EKF FLEXIBLE COUPLINGS - QUAD LISTED				
CATALOG NUMBER	CONDUIT SIZE	A OVERALL LENGTH	B FLEXIBLE LENGTH	C DIAMETER
EKJ-14SS-EX	1/2"	8-9/64" (207)	4" (102)	1-1/8" (34)
EKJ-18SS-EX	1/2"	12-9/64" (308)	8" (203)	1-1/8" (34)
EKJ-112SS-EX	1/2"	16-9/64" (410)	12" (305)	1-1/8" (34)
EKJ-116SS-EX	1/2"	20-9/64" (512)	16" (406)	1-1/8" (34)
EKJ-120SS-EX	1/2"	24-9/64" (613)	20" (508)	1-1/8" (34)
EKJ-124SS-EX	1/2"	28-9/64" (715)	24" (610)	1-1/8" (34)
EKJ-128SS-EX	1/2"	32-9/64" (816)	28" (711)	1-1/8" (34)
EKJ-132SS-EX	1/2"	36-9/64" (918)	32" (813)	1-1/8" (34)
EKJ-136SS-EX	1/2"	40-9/64" (1020)	36" (914)	1-1/8" (34)
EKJ-27SS-EX	3/4"	11-1/2" (292)	7" (178)	1-11/16" (43)
EKJ-211SS-EX	3/4"	15-1/2" (394)	11" (279)	1-11/16" (43)
EKJ-215SS-EX	3/4"	19-1/2" (495)	15" (381)	1-11/16" (43)
EKJ-219SS-EX	3/4"	23-1/2" (597)	19" (483)	1-11/16" (43)
EKJ-223SS-EX	3/4"	27-1/2" (699)	23" (584)	1-11/16" (43)
EKJ-227SS-EX	3/4"	31-1/2" (800)	27" (686)	1-11/16" (43)
EKJ-231SS-EX	3/4"	35-1/2" (902)	31" (788)	1-11/16" (43)
EKJ-235SS-EX	3/4"	39-1/2" (1003)	35" (889)	1-11/16" (43)
EKJ-37SS-EX	1"	12" (305)	7" (178)	2" (50)
EKJ-311SS-EX	1"	16" (406)	11" (279)	2" (50)
EKJ-315SS-EX	1"	20" (508)	15" (381)	2" (50)
EKJ-319SS-EX	1"	24" (610)	19" (483)	2" (50)
EKJ-323SS-EX	1"	28" (711)	23" (584)	2" (50)
EKJ-327SS-EX	1"	32" (813)	27" (686)	2" (50)
EKJ-331SS-EX	1"	36" (914)	31" (788)	2" (50)
EKJ-335SS-EX	1"	40" (1016)	35" (889)	2" (50)
EKJ-513SS-EX	1-1/2"	18-1/8" (460)	13" (330)	2-25/32" (71)
EKJ-517SS-EX	1-1/2"	23-1/8" (587)	17" (432)	2-25/32" (71)
EKJ-521SS-EX	1-1/2"	27-1/8" (689)	21" (533)	2-25/32" (71)
EKJ-525SS-EX	1-1/2"	31-1/8" (791)	25" (635)	2-25/32" (71)
EKJ-529SS-EX	1-1/2"	35-1/8" (892)	29" (737)	2-25/32" (71)
EKJ-533SS-EX	1-1/2"	39-1/8" (994)	33" (838)	2-25/32" (71)
EKJ-614SS-EX	2"	21-17/64" (540)	14" (356)	3-19/32" (91)
EKJ-618SS-EX	2"	25-17/64" (642)	18" (457)	3-19/32" (91)
EKJ-622SS-EX	2"	29-17/64" (743)	22" (559)	3-19/32" (91)
EKJ-626SS-EX	2"	33-17/64" (845)	26" (660)	3-19/32" (91)
EKJ-630SS-EX	2"	37-17/64" (947)	30" (762)	3-19/32" (91)
EKJ-634SS-EX	2"	41-17/64" (1048)	34" (864)	3-19/32" (91)





FITTINGS K SERIES

Liquidtight Connectors

LIQUIDTIGHT®



Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I, Zone 2 applications) 502.10 and 503.10.

 LISTED - File E22699

 Certified - File LR70873

FEATURES-SPECIFICATIONS

Features

- Split nylon gland ring - split for easy installation and greater compression
- Digging locknut
- Sealing 'O'-rings included
- Reusable

Materials

- Steel/malleable iron
- Zinc electro-plated

Mesh Grips

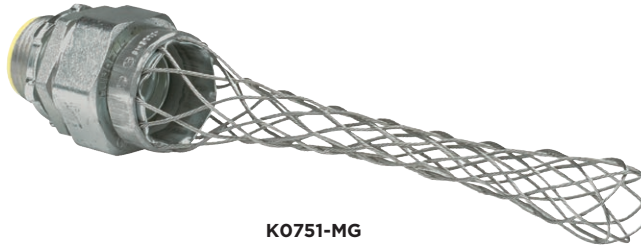
- Stainless steel mesh grips are corrosion resistant and prevent conduit pull-out in high stress installations



Liquidtight Connectors



K2001



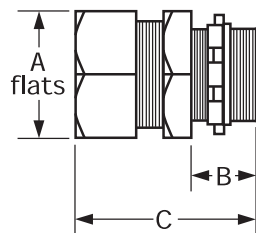
K0751-MG

K LIQUIDTIGHT CONNECTORS – STRAIGHT

CATALOG NUMBER	NPT SIZE	CONNECTOR STYLE	DIMENSIONS		
			A	B	C
K038	3/8"	Straight non-insulated	1-7/16"	19/32"	1-1/16"
K050	1/2"	Straight non-insulated	1-7/16"	19/32"	1-13/16"
K075	3/4"	Straight non-insulated	1-9/16"	19/32"	1-3/8"
K100	1"	Straight non-insulated	1-11/16"	21/32"	1-11/16"
K125	1-1/4"	Straight non-insulated	2-1/32"	11/16"	2-1/16"
K150	1-1/2"	Straight non-insulated	2-7/32"	11/16"	2-3/8"
K200	2"	Straight non-insulated	2-9/32"	23/32"	2-7/8"
K250	2-1/2"	Straight non-insulated	3-1/2"	1"	3-5/8"
K300	3"	Straight non-insulated	3-3/4"	1"	4-5/16"
K350	3-1/2"	Straight non-insulated	3-3/4"	1"	4-3/4"
K400	4"	Straight non-insulated	3-3/4"	1"	5-5/16"
K0381*	3/8"	Straight insulated	1-7/16"	21/32"	1-1/16"
K0501*	1/2"	Straight insulated	1-7/16"	21/32"	1-3/16"
K0751*	3/4"	Straight insulated	1-5/8"	21/32"	1-3/8"
K1001*	1"	Straight insulated	1-3/4"	23/32"	1-11/16"
K1251*	1-1/4"	Straight insulated	2-3/32"	3/4"	2-1/16"
K1501*	1-1/2"	Straight insulated	2-9/32"	3/4"	2-3/8"
K2001*	2"	Straight insulated	2-11/32"	25/32"	2-7/8"
K2501*	2-1/2"	Straight insulated	3-1/2"	1"	3-5/8"
K3001*	3"	Straight insulated	3-3/4"	1"	4-5/16"
K3501	3-1/2"	Straight insulated	3-3/4"	1"	4-3/4"
K4001*	4"	Straight insulated	3-3/4"	1"	5-5/16"

*For mesh grip, add - MG to Catalog Number. Example K0381-MG.

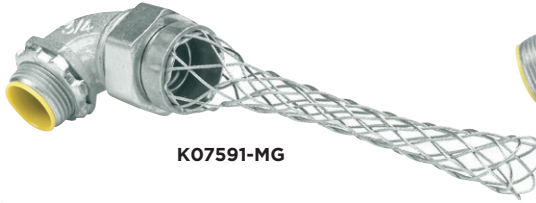
DIMENSIONS





FITTINGS K SERIES

Liquidtight Connectors



K07591-MG



K20041-MG



K0759
90° Non-Insulated



K07591
90° Insulated



K2004
45° Non-Insulated



K20041
45° Insulated

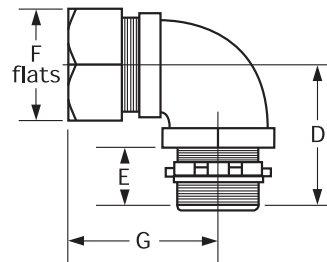
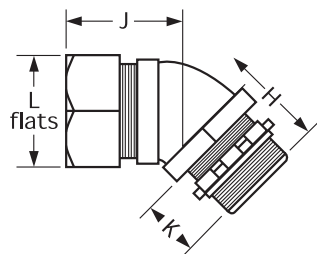
K LIQUIDTIGHT CONNECTORS – 90° BEND						
CATALOG NUMBER	NPT SIZE	CONNECTOR STYLE	DIMENSIONS			
			D	E	F	G
K0389	3/8"	90° non-insulated	1-1/2"	5/8"	1"	1-3/4"
K0509	1/2"	90° non-insulated	1-1/2"	5/8"	1-1/8"	1-3/4"
K0759	3/4"	90° non-insulated	1-19/32"	5/8"	1-3/8"	1-15/16"
K1009	1"	90° non-insulated	1-3/16"	5/8"	1-5/8"	2-3/16"
K1259	1-1/4"	90° non-insulated	2"	11/16"	2-1/16"	2-9/16"
K1509	1-1/2"	90° non-insulated	2-3/16"	11/16"	2-3/8"	3"
K2009	2"	90° non-insulated	2-17/32"	23/32"	2-7/8"	3-5/8"
K2509**	2-1/2"	90° non-insulated	3-3/8"	1"	3-5/8"	4-1/4"
K3009	3"	90° non-insulated	3-11/16"	1"	4-5/16"	4-7/8"
K4009	4"	90° non-insulated	4-3/16"	1"	5-5/16"	5-5/8"
K03891*	3/8"	90° Insulated	1-9/16"	11/16"	1"	1-3/4"
K05091*	1/2"	90° Insulated	1-9/16"	11/16"	1-1/8"	1-3/4"
K07591*	3/4"	90° Insulated	1-21/32"	11/16"	1-3/8"	1-15/16"
K10091*	1"	90° Insulated	1-7/8"	11/16"	1-5/8"	2-3/16"
K12591*	1-1/4"	90° Insulated	2-1/16"	3/4"	2-1/16"	2-9/16"
K15091*	1-1/2"	90° Insulated	2-1/4"	3/4"	2-3/8"	3"
K20091*	2"	90° Insulated	2-19/32"	25/32"	2-7/8"	3-5/8"
K25091*	2-1/2"	90° Insulated	3-3/8"	1"	3-5/8"	4-1/4"
K30091*	3"	90° Insulated	3-11/16"	1"	4-5/16"	4-7/8"
K40091*	4"	90° Insulated	4-3/16"	1"	5-5/16"	5-5/8"

K LIQUIDTIGHT CONNECTORS – 45° BEND						
CATALOG NUMBER	NPT SIZE	CONNECTOR STYLE	DIMENSIONS			
			H	J	K	L
K0384	3/8"	45° non-insulated	1-5/32"	1-9/32"	19/32"	1"
K0504	1/2"	45° non-insulated	1-5/32"	1-9/32"	19/32"	1-1/8"
K0754	3/4"	45° non-insulated	1-11/64"	1-7/16"	19/32"	1-3/8"
K1004	1"	45° non-insulated	1-13/32"	1-23/32"	21/32"	1-5/8"
K1254	1-1/4"	45° non-insulated	1-27/64"	2-1/32"	5/8"	2-1/16"
K1504	1-1/2"	45° non-insulated	1-21/32"	1-15/16"	21/32"	2-3/8"
K2004	2"	45° non-insulated	1-11/16"	2-7/16"	21/32"	2-7/8"
K03841*	3/8"	45° Insulated	1-7/32"	1-9/32"	21/32"	1"
K05041*	1/2"	45° Insulated	1-7/32"	1-9/32"	21/32"	1-1/8"
K07541*	3/4"	45° Insulated	1-15/64"	1-7/16"	21/32"	1-3/8"
K10041*	1"	45° Insulated	1-15/32"	1-23/32"	23/32"	1-5/8"
K12541*	1-1/4"	45° Insulated	1-31/64"	2-1/32"	11/16"	2-1/16"
K15041*	1-1/2"	45° Insulated	1-23/32"	1-15/16"	23/32"	2-3/8"
K20041*	2"	45° Insulated	1-3/4"	2-7/16"	23/32"	2-7/8"

*For mesh grip, add **-MG** to Catalog Number. Example **K03891-MG**.

**Use K25091 insulated.

DIMENSIONS





Grounded Liquidtight Connectors

LIQUIDTIGHT®




90°



Straight



45°

 LISTED - File E152165, E22699
 Certified - File LR70873

FEATURES-SPECIFICATIONS

K GROUNDING STYLE

Features

- Lay-in grounding lug
- Fittings are plated steel for excellent durability
- Insulated throat fittings protect conductors from insulation damage

Materials

- Steel/malleable iron
- Zinc electro-plated



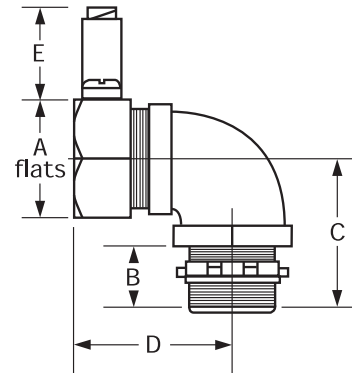
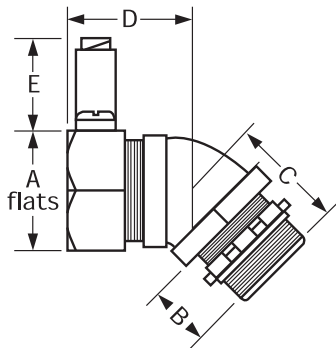
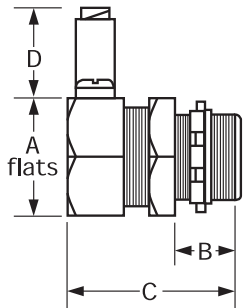
FITTINGS K SERIES

Grounded Liquidtight Connectors

K LIQUIDTIGHT GROUNDING STYLE & MESH GRIPS								
CATALOG NUMBER	NPT SIZE	DESC.	DIMENSIONS					
CONNECTOR ONLY			A	B	C	D	E	
K0381-G	3/8"	Straight Insulated	1-1/16"	19/32"	1-7/16"	25/32"	-	
K0501-G	1/2"		1-3/16"	19/32"	1-7/16"	25/32"	-	
K0751-G	3/4"		1-3/8"	19/32"	1-9/16"	25/32"	-	
K1001-G	1"		1-11/16"	21/32"	1-11/16"	25/32"	-	
K1251-G	1-1/4"		2-1/16"	5/8"	2-1/32"	25/32"	-	
K1501-G	1-1/2"		2-3/8"	5/8"	2-7/32"	25/32"	-	
K2001-G	2"		2-7/8"	21/32"	2-9/32"	25/32"	-	
K2501-G	2-1/2"		3-5/8"	1"	3-1/2"	1-11/64"	-	
K3001-G	3"		4-15/16"	1"	3-3/4"	1-11/64"	-	
K3501-G	3-1/2"		4-3/4"	1"	3-3/4"	1-57/64"	-	
K4001-G	4"		5-5/16"	1"	3-3/4"	1-57/64"	-	
K03891-G	3/8"		90° Insulated	1-1/16"	19/32"	1-5/16"	1-7/16"	25/32"
K05091-G	1/2"	1-3/16"		19/32"	1-5/16"	1-7/16"	25/32"	
K07591-G	3/4"	1-3/8"		19/32"	1-7/16"	1-5/8"	25/32"	
K10091-G	1"	1-11/16"		21/32"	1-25/32"	2-3/16"	25/32"	
K12591-G	1-1/4"	2-1/16"		5/8"	1-31/32"	2-1/2"	25/32"	
K15091-G	1-1/2"	2-3/8"		5/8"	2-3/16"	2-11/16"	25/32"	
K20091-G	2"	2-7/8"		21/32"	2-17/32"	3-1/4"	25/32"	
K25091-G	2-1/2"	3-5/8"		1"	3-3/8"	4-1/4"	1-11/64"	
K30091-G	3"	4-15/16"		1"	3-11/16"	4-7/8"	1-11/64"	
K40091-G	4"	5-5/16"		1"	4-3/16"	5-5/8"	1-57/64"	
K03841-G	3/8"	45° Insulated		1-1/16"	19/32"	1-3/16"	1-9/32"	25/32"
K05041-G	1/2"			1-3/16"	19/32"	1-3/16"	1-9/32"	25/32"
K07541-G	3/4"		1-3/8"	19/32"	1-3/16"	1-7/16"	25/32"	
K10041-G	1"		1-11/16"	21/32"	1-3/8"	1-17/32"	25/32"	
K12541-G	1-1/4"		2-1/16"	5/8"	1-27/64"	1-11/16"	25/32"	
K15041-G	1-1/2"		2-3/8"	5/8"	1-21/32"	2"	25/32"	
K20041-G	2"		2-7/8"	21/32"	1-11/16"	2-1/4"	25/32"	

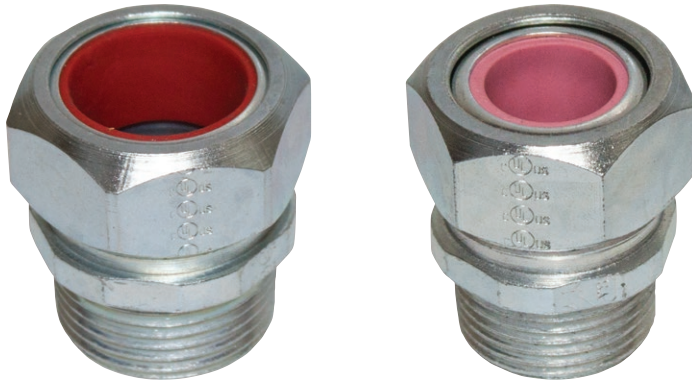
GROUNDING STYLE Wire Capacity

3/8" to 2" #14 solid to #4 Stranded
 2-1/2" to 3" #14 solid to #1/0 Stranded
 3-1/2" to 4" #6 stranded to #250 MCM





Straight Steel Cord Grips



Suitable for use in Hazardous Locations
Class I, Division 2, Class II, Divisions
1 & 2, Class III, Divisions 1 & 2 per the
NEC 501-4(b), 505-4(a), 503-3(a)
UL514B
NEMA FB-1
Type Ratings: 4, 4X, 5, 6, 6P, 12, 12K, 13

 - File E22698



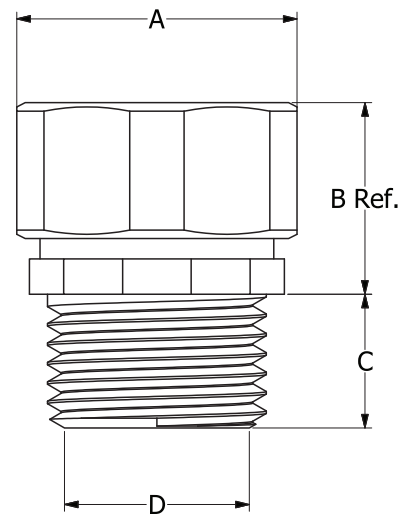
FEATURES-SPECIFICATIONS

Features

- Neoprene grommet seals out oil and moisture
- Unique color-coded grommets for easy cord range identification
- Provides a liquid tight and strain relief termination for flexible type, neoprene, vinyl, or PVC control cord and cable
- Wider and more compression cable ranges to encompass and accommodate specification projects
- Smaller overall profile for the most compact installation
- Cord and Cable Type
 - » S, SO, ST & STO
- Made in the USA

Materials

- Steel/malleable iron
- Zinc electro-plated
- Natural Finish





FITTINGS
CG SERIES

Straight Steel Cord Grips

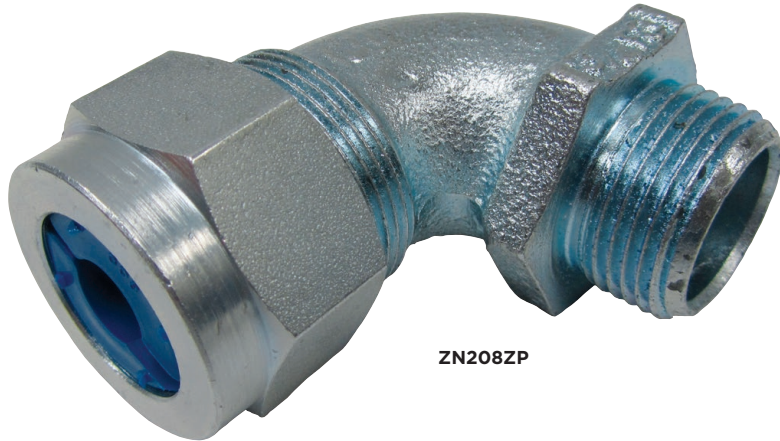
CG CORD CONNECTORS - STRAIGHT								
CATALOG NUMBER	NPT SIZE	CORD RANGES INCHES (MM)	COLOR CODE	DIMENSIONS INCHES (MM)				
				A		B	C	D
				A/C	A/F			
CG1238S	3/8"	.125"-.187" (3.175-4.75)	Red	.94" (23.8)	.875" (22.2)	.88" (22.4)	.44" (11.2)	.44" (11.2)
CG1838S	3/8"	.187"-.312" (4.75-7.92)	Brown	.94" (23.8)	.875" (22.2)	.88" (22.4)	.44" (11.2)	.44" (11.2)
CG3138S	3/8"	.312"-.437" (7.92-12.01)	Yellow	.94" (23.8)	.875" (22.2)	.88" (22.4)	.44" (11.2)	.44" (11.2)
CG31501S	1/2"	.312"-.473" (7.92-12.01)	Yellow	.94" (23.8)	.875" (22.2)	.88" (22.4)	.50" (12.7)	.44" (11.2)
CG1250S	1/2"	.125"-.187" (3.175-4.75)	Red	1.09" (27.8)	1.03" (26.2)	.81" (20.6)	.50" (12.7)	.44" (11.2)
CG1850S	1/2"	.187"-.312" (4.75-7.92)	Brown	1.09" (27.8)	1.03" (26.2)	.81" (20.6)	.50" (12.7)	.63" (15.9)
CG3150S	1/2"	.312"-.437" (7.92-12.01)	Yellow	1.09" (27.8)	1.03" (26.2)	.81" (20.6)	.50" (12.7)	.63" (15.9)
CG3750S	1/2"	.375"-.500" (9.525-12.7)	Purple	1.09" (27.8)	1.03" (26.2)	.81" (20.6)	.50" (12.7)	.63" (15.9)
CG5050S	1/2"	.500"-.625" (12.7-15.88)	Pink	1.09" (27.8)	1.03" (26.2)	.81" (20.6)	.50" (12.7)	.63" (15.9)
CG6250S	1/2"	.625"-.750" (15.88-19.05)	Orange	1.09" (27.8)	1.03" (26.2)	.81" (20.6)	.50" (12.7)	.56" (14.3)
CG1275S	3/4"	.125"-.250" (3.175-6.35)	Blue	1.31" (33.3)	1.28" (32.5)	1.09" (27.7)	.53" (13.5)	.75" (19.1)
CG2575S	3/4"	.250"-.375" (6.35-9.525)	Green	1.31" (33.3)	1.28" (32.5)	1.09" (27.7)	.53" (13.5)	.75" (19.1)
CG3775S	3/4"	.375"-.500" (9.525-12.7)	Purple	1.31" (33.3)	1.28" (32.5)	1.09" (27.7)	.53" (13.5)	.75" (19.1)
CG5075S	3/4"	.500"-.625" (12.7-15.88)	Pink	1.31" (33.3)	1.28" (32.5)	1.09" (27.7)	.53" (13.5)	.75" (19.1)
CG6275S	3/4"	.625"-.750" (15.88-19.05)	Orange	1.31" (33.3)	1.28" (32.5)	1.09" (27.7)	.53" (13.5)	.75" (19.1)
CG7575S	3/4"	.750"-.875" (19.05-22.23)	Gray	1.31" (33.3)	1.28" (32.5)	1.09" (27.7)	.53" (13.5)	.75" (19.1)
CG37100S	1"	.375"-.500" (9.525-12.7)	Purple	1.31" (33.3)	1.28" (32.5)	1.06" (26.9)	.69" (17.5)	.88" (22.4)
CG50100S	1"	.500"-.625" (12.7-15.88)	Pink	1.31" (33.3)	1.28" (32.5)	1.06" (26.9)	.69" (17.5)	.88" (22.4)
CG62100S	1"	.625"-.750" (15.88-19.05)	Orange	1.31" (33.3)	1.28" (32.5)	1.06" (26.9)	.69" (17.5)	.88" (22.4)
CG75100S	1"	.750"-.875" (19.05-22.23)	Gray	1.31" (33.3)	1.28" (32.5)	1.06" (26.9)	.69" (17.5)	1.00" (25.4)
CG87100S	1"	.875"1.000" (22.23-25.4)	Red	1.63" (41.3)	1.56" (39.6)	1.19" (30.2)	.69" (17.5)	1.00" (25.4)
CG100100S	1"	1.000"1.125" (25.4-28.58)	Blue	1.63" (41.3)	1.56" (39.6)	1.19" (30.2)	.69" (17.5)	1.00" (25.4)
CG75125S	1-1/4"	.750"-.875" (19.05-22.23)	Gray	1.63" (41.3)	1.56" (39.6)	1.19" (30.2)	.69" (17.5)	1.06" (26.9)
CG87125S	1-1/4"	.875"1.000" (22.23-25.4)	Red	1.63" (41.3)	1.56" (39.6)	1.19" (30.2)	.69" (17.5)	1.06" (26.9)
CG100125S	1-1/4"	1.000"1.125" (25.4-28.58)	Blue	1.63" (41.3)	1.56" (39.6)	1.19" (30.2)	.69" (17.5)	1.31" (33.3)
CG112125S	1-1/4"	1.125"1.250" (28.58-31.75)	Brown	2.03" (51.6)	1.94" (49.3)	1.19" (30.2)	.69" (17.5)	1.31" (33.3)
CG125125S	1-1/4"	1.250"1.375" (31.75-34.93)	Green	2.03" (51.6)	1.94" (49.3)	1.25" (31.8)	.69" (17.5)	1.31" (33.3)
CG137125S	1-1/4"	1.375"1.500" (34.93-38.10)	Yellow	2.03" (51.6)	1.94" (49.3)	1.25" (31.8)	.69" (17.5)	1.31" (33.3)
CG115150S	1-1/2"	1.156"1.312" (29.36-33.32)	Purple	2.38" (60.3)	2.28" (57.9)	1.53" (38.9)	.72" (18.3)	1.62" (41.3)
CG128150S	1-1/2"	1.281"1.531" (32.54-38.89)	Pink	2.38" (60.3)	2.28" (57.9)	1.53" (38.9)	.72" (18.3)	1.62" (41.3)
CG153200S	2"	1.531"1.780" (38.89-45.21)	Orange	2.38" (60.3)	2.28" (57.9)	1.78" (45.2)	.72" (18.3)	1.94" (49.3)
CG2060200S	2"	1.940"2.060" (49.28-52.32)	Orange	2.38" (60.3)	2.28" (57.9)	1.78" (45.2)	.72" (18.3)	1.94" (49.3)
CG1965250S	2-1/2"	1.750"1.965" (44.45-49.91)	White	3.375 (85.73)	3.25 (82.55)	1.875 (47.63)	1.125 (28.58)	2.438 (61.93)
CG2187250S	2-1/2"	1.937-2.187 (49.92-55.55)	Orange	3.375 (85.73)	3.25 (82.55)	1.875 (47.63)	1.125 (28.58)	2.438 (61.93)
CG2360250S	2-1/2"	2.156-2.360 (54.76-59.94)	Brown	3.375 (85.73)	3.25 (82.55)	1.875 (47.63)	1.125 (28.58)	2.438 (61.93)
CG2565250S	2-1/2"	2.350-2.565 (59.69-65.15)	Green	3.375 (85.73)	3.25 (82.55)	1.875 (47.63)	1.125 (28.58)	2.438 (61.93)
CG2365300S	3"	2.150-2.365 (54.61-60.07)	Brown	4" (101.6)	3.938" (101.17)	2.188 (55.56)	1.125 (28.58)	2.938" (74.63)
CG2755300S	3"	2.350-2.565 (59.69-65.15)	Blue	4" (101.6)	3.938" (101.17)	2.188 (55.56)	1.125 (28.58)	2.938" (74.63)
CG2985300S	3"	2.540-2.985 (64.51-75.82)	Gray	4" (101.6)	3.938" (101.17)	2.188 (55.56)	1.125 (28.58)	2.938" (74.63)
CG3220300S	3"	2.995-3.220 (76.07-81.79)	Yellow	4" (101.6)	3.938" (101.17)	2.188 (55.56)	1.125 (28.58)	2.938" (74.63)

- Locknuts sold separately





90° Steel Cord Connectors



ZN208ZP

Type 4, 4X, 12 & 13
 Ta - -30°F to +225°F (-34°C to +107°C)
 Used in hazardous locations per Class I
 Div. 2, Class II Div. 1 & 2, Class III Div. 1
 & 2 in accordance with the NEC 501.

 LISTED - File E22698

 Certified - File LR73478

FEATURES-SPECIFICATIONS

Features

- Neoprene grommet seals out oil and moisture
- Nylon retention ring incorporates a split hinge design to prevent friction and provide strain relief, also color-coded for sizing identification
- These heavy-duty connectors hold up to most manufacturing chemicals including acid solutions, solvents, and other corrosive materials
- Machined steel nut and malleable iron body allows for tightening the compression nut and NPT hub without worrying about stripping the threads
- Wide range of sizes and configurations

Materials

- Steel/malleable iron
- Zinc electro-plated
- Natural Finish



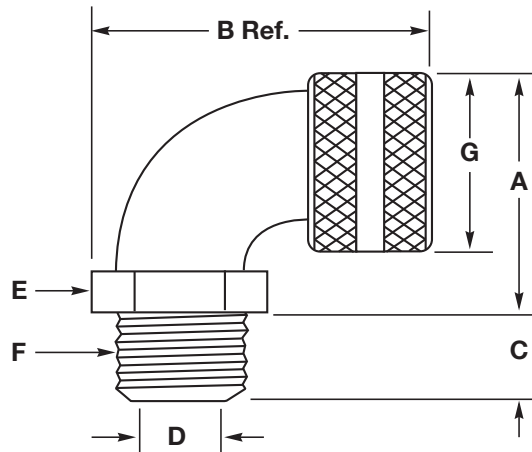
FITTINGS
Z SERIES STD

90° Steel Cord Connectors

Z CORD CONNECTORS - 90° ^Δ												
CATLOG NUMBER ^Δ	NPT SIZE	CORD RANGES INCHES (MM)	COLOR CODE	DIMENSIONS INCHES (MM)								
				A	B	C	D	E		G		
								A/C	A/F	A/C	A/F	
ZN103ZP	1/2"	.187"-.250" (4.75-6.35)	Red	1.65" (41.9)	2.38" (60.5)	.55" (14.0)	.55" (13.8)	1.29" (32.8)	1.13" (28.7)	1.27" (32.3)	1.13" (28.6)	
ZN105ZP	1/2"	.250"-.375" (6.35-9.525)	White	1.65" (41.9)	2.38" (60.5)	.55" (14.0)	.55" (13.8)	1.29" (32.8)	1.13" (28.7)	1.27" (32.3)	1.13" (28.6)	
ZN108ZP	1/2"	.375"-.500" (9.525-12.7)	Blue	1.65" (41.9)	2.38" (60.5)	.55" (14.0)	.55" (13.8)	1.29" (32.8)	1.13" (28.7)	1.27" (32.3)	1.13" (28.6)	
ZN109ZP*	1/2"	.500"-.625" (12.7-15.88)	Brown	1.65" (41.9)	2.38" (60.5)	.55" (14.0)	.55" (13.8)	1.29" (32.8)	1.13" (28.7)	1.27" (32.3)	1.13" (28.6)	
ZN208ZP	3/4"	.375"-.500" (9.525-12.7)	Blue	1.88" (47.8)	2.90" (73.7)	.56" (14.2)	.77" (19.4)	1.52" (38.6)	1.33" (33.8)	1.55" (39.2)	1.38" (34.9)	
ZN209ZP	3/4"	.500"-.625" (12.7-15.88)	Brown	1.88" (47.8)	2.90" (73.7)	.56" (14.2)	.77" (19.4)	1.52" (38.6)	1.33" (33.8)	1.55" (39.2)	1.38" (34.9)	
ZN210ZP	3/4"	.625"-.750" (15.88-19.05)	Yellow	1.88" (47.8)	2.90" (73.7)	.56" (14.2)	.77" (19.4)	1.52" (38.6)	1.33" (33.8)	1.55" (39.2)	1.38" (34.9)	
ZN211ZP	3/4"	.750"-.875" (19.05-22.23)	Purple	1.88" (47.8)	2.90" (73.7)	.56" (14.2)	.77" (19.4)	1.52" (38.6)	1.33" (33.8)	1.55" (39.2)	1.38" (34.9)	
ZN310ZP	1"	.625"-.750" (15.88-19.05)	Yellow	2.16" (54.9)	3.20" (81.3)	.70" (17.8)	1.00" (25.4)	1.72" (43.7)	1.50" (38.1)	1.92" (48.8)	1.69" (42.8)	

^Δ Compression nuts are machined zinc-plated steel and bodies are zinc-plated malleable iron

* Cable jacket may have to be stripped to pass through connector body





Aluminum Cord Connectors



ZS108



Locknut

Type 4, 4X, 12 & 13
 Ta -30°F to +225°F (-34°C to +107°C)
 Used in hazardous locations per Class I
 Div. 2, Class II Div. 1 & 2, Class III Div. 1
 & 2 in accordance with the NEC 501

 LISTED - File E22698

 Certified - File LR73478

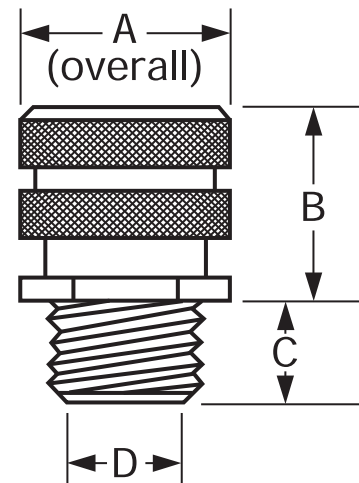
FEATURES-SPECIFICATIONS

Features

- Aluminum construction resists corrosion
- Neoprene grommet seals out oil and moisture
- Nylon retention ring ensures superior holding power
- Wide range of sizes and configurations

Materials

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish





FITTINGS
Z SERIES

Aluminum Cord Connectors

Z CORD CONNECTORS – STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZS001	3/8"	.062-.125	Green	.99	.425	.90	.453
ZS002	3/8"	.125-.187	Orange	.99	.425	.90	.453
ZS003	3/8"	.187-.250	Red	.99	.425	.90	.453
ZS004	3/8"	.250-.312	Black	.99	.425	.90	.453
ZS006	3/8"	.312-.375	White	.99	.425	.90	.453
ZS007	3/8"	.375-.437	Blue	.99	.425	.90	.453
ZS101	1/2"	.062-.125	Green	1.13	1.10	.55	.635
ZS102	1/2"	.125-.187	Orange	1.13	1.10	.55	.635
ZS103	1/2"	.187-.250	Red	1.13	1.10	.55	.635
ZS105	1/2"	.250-.375	White	1.13	1.10	.55	.635
ZS108	1/2"	.375-.500	Blue	1.13	1.10	.55	.635
ZS109	1/2"	.500-.625	Brown	1.13	1.10	.55	.635
ZS110*	1/2"	.625-.750	Yellow	1.40	1.50	.55	.635
ZS111*	1/2"	.750-.875	Purple	1.40	1.50	.55	.635
ZS201	3/4"	.062-.125	Green	1.29	1.10	.55	.635
ZS202	3/4"	.125-.187	Orange	1.29	1.10	.55	.635
ZS203	3/4"	.187-.250	Red	1.29	1.10	.55	.635
ZS205	3/4"	.250-.375	White	1.29	1.10	.55	.635
ZS208	3/4"	.375-.500	Blue	1.29	1.10	.55	.635
ZS209	3/4"	.500-.625	Brown	1.29	1.10	.55	.635
ZS210	3/4"	.625-.750	Yellow	1.40	1.50	.55	.815
ZS211*	3/4"	.750-.875	Purple	1.40	1.50	.55	.815
ZS308	1"	.375-.500	Blue	1.81	1.60	.71	1.015
ZS309	1"	.500-.625	Brown	1.81	1.60	.71	1.015
ZS310	1"	.625-.750	Yellow	1.81	1.60	.71	1.015
ZS311	1"	.750-.875	Purple	1.81	1.60	.71	1.015
ZS312	1"	.875-1.000	Gray	1.81	1.60	.71	1.015
ZS313*	1"	1.000-1.125	Pink	2.31	1.70	.66	1.015
ZS314*	1"	1.125-1.250	—	2.31	1.70	.66	1.015
ZS315*	1"	1.250-1.375	—	2.31	1.70	.66	1.015
ZS411	1-1/4"	.750-.875	—	2.31	1.70	.74	1.255
ZS412	1-1/4"	.875-1.000	—	2.31	1.70	.74	1.255
ZS413	1-1/4"	1.000-1.125	—	2.31	1.70	.74	1.255
ZS414	1-1/4"	1.125-1.250	—	2.31	1.70	.74	1.255
ZS415*	1-1/4"	1.250-1.375	—	2.31	1.70	.74	1.255

* Cable jacket may have to be stripped to pass through connector body on all sizes.

Z CORD CONNECTORS – STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	DIMENSIONS				
			A	B	C	D	
ZS511	1-1/2"	.750-.875	2.31	1.70	.75	1.38	
ZS512	1-1/2"	.875-1.000	2.31	1.70	.75	1.38	
ZS513	1-1/2"	1.000-1.125	2.31	1.70	.75	1.38	
ZS514	1-1/2"	1.125-1.250	2.31	1.70	.75	1.38	
ZS515	1-1/2"	1.250-1.375	2.31	1.70	.75	1.38	
ZS516	1-1/2"	1.375-1.500	3.00	2.20	.75	1.50	
ZS517*	1-1/2"	1.500-1.625	3.00	2.20	.75	1.50	
ZS518	1-1/2"	1.625-1.750	3.00	2.20	.75	1.50	
ZS520*	1-1/2"	1.750-1.875	3.00	2.20	.75	1.50	
ZS615	2"	1.250-1.375	3.25	2.20	.80	1.92	
ZS616	2"	1.375-1.500	3.25	2.20	.80	1.92	
ZS617	2"	1.500-1.625	3.25	2.20	.80	1.92	
ZS618	2"	1.625-1.750	3.25	2.20	.80	1.92	
ZS620	2"	1.750-1.875	3.25	2.20	.80	1.92	
ZS619	2"	1.688-1.812	4.06	2.70	1.27	1.94	
ZS621	2"	1.812-1.937	4.06	2.70	1.27	1.94	
ZS622*	2"	1.937-2.062	4.06	2.70	1.27	1.94	
ZS623*	2"	2.062-2.188	4.06	2.70	1.27	1.94	
ZS624*	2"	2.188-2.312	4.06	2.70	1.27	1.94	
ZS719	2-1/2"	1.688-1.812	4.33	2.70	1.27	2.34	
ZS721	2-1/2"	1.812-1.937	4.33	2.70	1.27	2.34	
ZS722	2-1/2"	1.937-2.062	4.33	2.70	1.27	2.34	
ZS723	2-1/2"	2.062-2.188	4.33	2.70	1.27	2.34	
ZS724	2-1/2"	2.188-2.312	4.33	2.70	1.27	2.34	
ZS725*	2-1/2"	2.312-2.437	4.33	2.70	1.27	2.34	
ZS819	3"	1.688-1.812	4.33	2.70	1.30	2.54	
ZS822	3"	1.937-2.062	4.33	2.70	1.30	2.54	
ZS823	3"	2.062-2.188	4.33	2.70	1.30	2.54	
ZS824	3"	2.188-2.312	4.33	2.70	1.30	2.54	
ZS825	3"	2.312-2.437	4.33	2.70	1.30	2.54	
ZS826	3"	2.437-2.625	4.87	2.70	1.38	3.00	
ZS827	3"	2.625-2.812	4.87	2.70	1.38	3.00	
ZS828	3"	2.812-3.000	4.87	2.70	1.38	3.00	
ZS829*	3"	3.000-3.250	4.87	2.70	1.38	3.00	



Aluminum Cord Connectors



ZN310



Locknut

Type 4, 4X, 12 & 13
 Ta --30°F to +225°F (-34°C to +107°C)
 Used in hazardous locations per Class I
 Div. 2, Class II Div. 1 & 2, Class III Div. 1
 & 2 in accordance with the NEC 501.

 LISTED - File E22698

 Certified - File LR73478

FEATURES-SPECIFICATIONS

Features

- Aluminum construction resists corrosion
- Neoprene grommet seals out oil and moisture
- Nylon retention ring ensures superior holding power
- Wide range of sizes and configurations

Materials

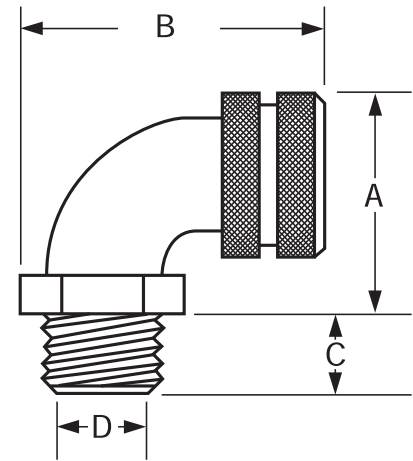
- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish



FITTINGS Z SERIES

Aluminum Cord Connectors

Z CORD CONNECTORS – 90°							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZN102	1/2"	.125-.187	Orange	1.56	2.30	.50	.546
ZN103	1/2"	.187-.250	Red	1.56	2.30	.50	.546
ZN105	1/2"	.250-.375	White	1.56	2.30	.50	.546
ZN108	1/2"	.375-.500	Blue	1.56	2.30	.50	.546
ZN109*	1/2"	.500-.625	Brown	1.56	2.30	.50	.546
ZN208	3/4"	.375-.500	Blue	1.79	2.80	.562	.765
ZN209	3/4"	.500-.625	Brown	1.79	2.80	.562	.765
ZN210*	3/4"	.625-.750	Yellow	1.79	2.80	.562	.765
ZN211*	3/4"	.750-.875	Purple	1.79	2.80	.562	.765
ZN309	1"	.500-.625	Brown	2.08	3.20	.703	1.00
ZN310	1"	.625-.750	Yellow	2.08	3.20	.703	1.00
ZN311	1"	.750-.875	Purple	2.08	3.20	.703	1.00
ZN312*	1"	.875-1.000	Gray	2.08	3.20	.703	1.00
ZN313*	1"	1.000-1.125	Pink	2.08	3.20	.703	1.00
ZN412	1-1/4"	.875-1.000	—	3.18	4.30	.73	1.26
ZN413	1-1/4"	1.000-1.125	—	3.18	4.30	.73	1.26
ZN414*	1-1/4"	1.125-1.250	—	3.18	4.30	.73	1.26
ZN415*	1-1/4"	1.250-1.375	—	3.18	4.30	.73	1.26
ZN515	1-1/2"	1.000-1.125	—	3.18	4.30	.75	1.50
ZN515	1-1/2"	1.250-1.375	—	3.18	4.30	.75	1.50
ZN616	2"	1.375-1.500	—	3.50	5.50	.80	1.92



* Cable jacket may have to be stripped to pass through connector body.

OPTIONAL LOCKNUTS AND SEALING WASHERS		
CATALOG NUMBER		NPT SIZES
STEEL LOCKNUTS ^①	SEALING WASHERS ^②	
KILLN375	—	3/8"
KILLN1	KOR-1	1/2"
KILLN2	KOR-2	3/4"
KILLN3	KOR-3	1"
KILLN4	KOR-4	1-1/4"
KILLN5	KOR-5	1-1/2"
KILLN6	KOR-6	2"
KILLN7	—	2-1/2"
KILLN8	—	3"

① 2-1/2" through 3" are malleable, with hexhead flats.

② Neoprene washers are mounted on steel reinforcing bands.



Aluminum Cord Connectors with Mesh Grip



ZS310-MG

ZN210-MG

Locknut

 LISTED - File E22698

 Certified - File LR73478

FEATURES-SPECIFICATIONS

Features

- Aluminum fittings are strong, durable, and corrosion resistant
- Internal grommet provides liquidtight seal
- Stainless steel mesh grips resist corrosion, prevent cord pull-out, and control arc-of-bend

Materials

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish
- Stainless steel mesh grip



FITTINGS Z SERIES

Aluminum Cord Connectors with Mesh Grip

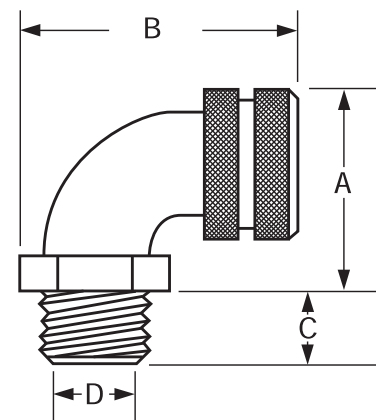
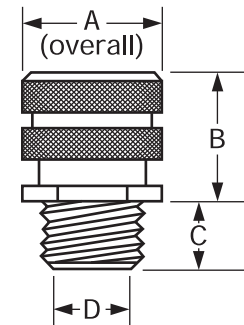
Z CORD CONNECTORS — STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZS004-MG	3/8"	.250-.312	Black	.99	.90	.425	.453
ZS006-MG	3/8"	.312-.375	White	.99	.90	.425	.453
ZS007-MG	3/8"	.375-.437	Blue	.99	.90	.425	.453
ZS103-MG	1/2"	.187-.250	Red	1.13	1.10	.55	.635
ZS105-MG	1/2"	.250-.375	White	1.13	1.10	.55	.635
ZS108-MG	1/2"	.375-.500	Blue	1.13	1.10	.55	.635
ZS109-MG	1/2"	.500-.625	Brown	1.13	1.10	.55	.635
ZS110-MG	1/2"	.625-.750	Yellow	1.40	1.50	.55	.635
ZS111-MG	1/2"	.750-.875	Purple	1.40	1.50	.55	.635
ZS203-MG	3/4"	.187-.250	Red	1.29	1.10	.55	.635
ZS205-MG	3/4"	.250-.375	White	1.29	1.10	.55	.635
ZS208-MG	3/4"	.375-.500	Blue	1.29	1.10	.55	.635
ZS209-MG	3/4"	.500-.625	Brown	1.29	1.10	.55	.635
ZS210-MG	3/4"	.625-.750	Yellow	1.40	1.50	.55	.815
ZS211-MG	3/4"	.750-.875	Purple	1.40	1.50	.55	.815
ZS308-MG	1"	.375-.500	Blue	1.81	1.60	.71	1.015
ZS309-MG	1"	.500-.625	Brown	1.81	1.60	.71	1.015
ZS310-MG	1"	.625-.750	Yellow	1.81	1.60	.71	1.015
ZS311-MG	1"	.750-.875	Purple	1.81	1.60	.71	1.015
ZS312-MG	1"	.875-1.00	Gray	1.81	1.60	.71	1.015
ZS313-MG	1"	1.00-1.125	Pink	2.31	1.70	.66	1.015

Z CORD CONNECTORS — 90°							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZN103-MG	1/2"	.187-.250	Red	1.56	2.30	.50	.546
ZN105-MG	1/2"	.250-.375	White	1.56	2.30	.50	.546
ZN108-MG	1/2"	.375-.500	Blue	1.56	2.30	.50	.546
ZN109-MG	1/2"	.500-.625	Brown	1.56	2.30	.50	.546
ZN208-MG	3/4"	.375-.500	Blue	1.79	2.80	.562	.765
ZN209-MG	3/4"	.500-.625	Brown	1.79	2.80	.562	.765
ZN210-MG	3/4"	.625-.750	Yellow	1.79	2.80	.562	.765
ZN211-MG	3/4"	.750-.875	Purple	1.79	2.80	.562	.765

OPTIONAL LOCKNUTS AND SEALING WASHERS		
CATALOG NUMBER		NPT SIZES
STEEL LOCKNUTS ^①	SEALING WASHERS ^②	
KILLN375	—	3/8"
KILLN1	KOR-1	1/2"
KILLN2	KOR-2	3/4"
KILLN3	KOR-3	1"
KILLN4	KOR-4	1-1/4"
KILLN5	KOR-5	1-1/2"
KILLN6	KOR-6	2"
KILLN7	—	2-1/2"
KILLN8	—	3"

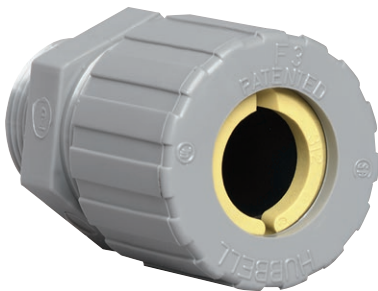
① 2-1/2" through 3" are malleable, with hexhead flats.

② Neoprene washers are mounted on steel reinforcing bands.





Corrosion Resistant Nylon Cord Connectors



ZS210CR



ZN210CR

Type 4, 4X, 12, 13
 Ta - -30°F to +225°F (-34°C to +107°C)
 Used in hazardous locations per Class I
 Div. 2, Class II Div. 1 & 2, Class III Div. 1
 & 2 in accordance with the NEC 501.

 LISTED - File E22698

 Certified - File LR73478

FEATURES-SPECIFICATIONS

Features

- Nylon retention ring for increased holding power
- Neoprene bushing seals against moisture
- Nylon connectors obtain approximately the same cord retention values with hand tightening that can be produced only by wrench tightening of metal cord connectors

Materials

- Nylon



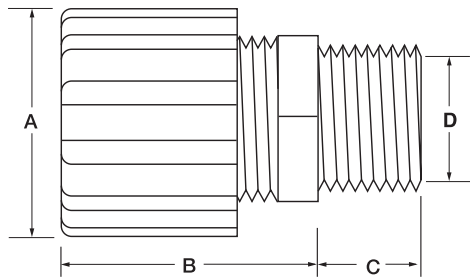
FITTINGS Z SERIES

Corrosion Resistant Nylon Cord Connectors

Z NYLON CORD CONNECTORS – STRAIGHT			
CATALOG NUMBER*	NPT SIZE	CORD RANGES	COLOR CODE
ZS002CR	3/8"	.125-.187	Orange
ZS003CR	3/8"	.187-.250	Red
ZS004CR	3/8"	.250-.312	Black
ZS006CR	3/8"	.312-.375	White
ZS007CR	3/8"	.375-.437	Blue
ZS101CR	1/2"	.062-.125	Green
ZS102CR	1/2"	.125-.187	Orange
ZS103CR	1/2"	.187-.250	Red
ZS105CR	1/2"	.250-.375	White
ZS108CR	1/2"	.375-.500	Blue
ZS109CR	1/2"	.500-.625	Brown
ZS208CR	3/4"	.375-.500	Blue
ZS209CR	3/4"	.500-.625	Brown
ZS210CR	3/4"	.625-.750	Yellow
ZS211CR*	3/4"	.750-.875	Purple
ZS308CR	1"	.375-.500	Blue
ZS309CR	1"	.500-.625	Brown
ZS310CR	1"	.625-.750	Yellow
ZS311CR	1"	.750-.875	Purple
ZS312CR	1"	.875-1.000	Gray
ZS313CR*	1"	1.000-1.125	Pink

* Cable Jacket may have to be stripped to pass through connector body.

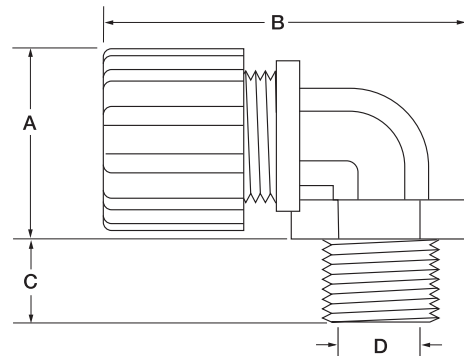
Z STRAIGHT DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
3/8"	63/64"	1-3/32"	7/16"	7/16"
1/2"	1-1/4"	1-1/2"	17/32"	37/64"
3/4"	1-31/64"	1-5/8"	35/64"	49/64"
1"	1-27/32"	1-3/4"	11/16"	1-1/16"



Z NYLON CORD CONNECTORS – 90°			
CATALOG NUMBER*	NPT SIZE	CORD RANGES	COLOR CODE
ZN102CR	1/2"	.125-.187	Orange
ZN103CR	1/2"	.187-.250	Red
ZN105CR	1/2"	.250-.375	White
ZN108CR	1/2"	.375-.500	Blue
ZN109CR	1/2"	.500-.625	Brown
ZN208CR	3/4"	.375-.500	Blue
ZN209CR	3/4"	.500-.625	Brown
ZN210CR*	3/4"	.625-.750	Yellow
ZN211CR*	3/4"	.750-.875	Purple
ZN310CR	1"	.625-.750	Yellow
ZN311CR	1"	.750-.875	Purple
ZN312CR*	1"	.875-1.000	Gray

OPTIONAL LOCKNUTS	
CATALOG NUMBER	NPT SIZE
LN-375CR	3/8"
LN-1CR	1/2"
LN-2CR	3/4"
LN-3CR	1"

Z 90° DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
1/2"	1-13/32"	2-1/2"	17/32"	1-1/2"
3/4"	1-21/32"	2-51/64"	35/64"	49/64"
1"	1-63/64"	3-19/64"	11/16"	1-1/64"





Increased Safety Aluminum Cord Connectors



ZS108-EX



Locknut



**AEx (Class I, Zone 1) Ex e II⁺
Type 4****



LISTED - File E22698



Certified - File LR73478

[†] Listed by CSA for Class I, Zone 1 in Canada. Listed by CSA as a Nationally recognized test lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

^{**} Type 4 when installed with a proper gasket.

FEATURES-SPECIFICATIONS

Features

- Aluminum construction resists corrosion
- Neoprene grommet seals out oil and moisture
- Nylon retention ring ensures superior holding power
- Wide range of sizes and configurations

Materials

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish

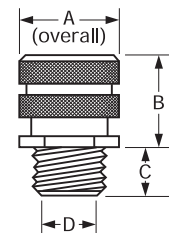


FITTINGS Z SERIES

Increased Safety Aluminum Cord Connectors

Z CORD CONNECTORS – STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZS001-EX	3/8"	.062-.125	Green	.99	.425	.90	.453
ZS002-EX	3/8"	.125-.187	Orange	.99	.425	.90	.453
ZS003-EX	3/8"	.187-.250	Red	.99	.425	.90	.453
ZS004-EX	3/8"	.250-.312	Black	.99	.425	.90	.453
ZS006-EX	3/8"	.312-.375	White	.99	.425	.90	.453
ZS007-EX	3/8"	.375-.437	Blue	.99	.425	.90	.453
ZS101-EX	1/2"	.062-.125	Green	1.13	1.10	.55	.635
ZS102-EX	1/2"	.125-.187	Orange	1.13	1.10	.55	.635
ZS103-EX	1/2"	.187-.250	Red	1.13	1.10	.55	.635
ZS105-EX	1/2"	.250-.375	White	1.13	1.10	.55	.635
ZS108-EX	1/2"	.375-.500	Blue	1.13	1.10	.55	.635
ZS109-EX	1/2"	.500-.625	Brown	1.13	1.10	.55	.635
ZS110-EX*	1/2"	.625-.750	Yellow	1.40	1.50	.55	.635
ZS111-EX*	1/2"	.750-.875	Purple	1.40	1.50	.55	.635
ZS201-EX	3/4"	.062-.125	Green	1.29	1.10	.55	.635
ZS202-EX	3/4"	.125-.187	Orange	1.29	1.10	.55	.635
ZS203-EX	3/4"	.187-.250	Red	1.29	1.10	.55	.635
ZS205-EX	3/4"	.250-.375	White	1.29	1.10	.55	.635
ZS208-EX	3/4"	.375-.500	Blue	1.29	1.10	.55	.635
ZS209-EX	3/4"	.500-.625	Brown	1.29	1.10	.55	.635
ZS210-EX	3/4"	.625-.750	Yellow	1.40	1.50	.55	.815
ZS211-EX*	3/4"	.750-.875	Purple	1.40	1.50	.55	.815
ZS308-EX	1"	.375-.500	Blue	1.81	1.60	.71	1.015
ZS309-EX	1"	.500-.625	Brown	1.81	1.60	.71	1.015
ZS310-EX	1"	.625-.750	Yellow	1.81	1.60	.71	1.015
ZS311-EX	1"	.750-.875	Purple	1.81	1.60	.71	1.015
ZS312-EX	1"	.875-1.000	Gray	1.81	1.60	.71	1.015
ZS313-EX*	1"	1.000-1.125	Pink	2.31	1.70	.66	1.015
ZS314-EX*	1"	1.125-1.250	-	2.31	1.70	.66	1.015
ZS315-EX*	1"	1.250-1.375	-	2.31	1.70	.66	1.015
ZS411-EX	1-1/4"	.750-.875	-	2.31	1.70	.74	1.255
ZS412-EX	1-1/4"	.875-1.000	-	2.31	1.70	.74	1.255
ZS413-EX	1-1/4"	1.000-1.125	-	2.31	1.70	.74	1.255
ZS414-EX	1-1/4"	1.125-1.250	-	2.31	1.70	.74	1.255
ZS415-EX*	1-1/4"	1.250-1.375	-	2.31	1.70	.74	1.255

Z CORD CONNECTORS – STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	DIMENSIONS				
			A	B	C	D	
ZS511-EX	1-1/2"	.750-.875	2.31	1.70	.75	1.38	
ZS512-EX	1-1/2"	.875-1.000	2.31	1.70	.75	1.38	
ZS513-EX	1-1/2"	1.000-1.125	2.31	1.70	.75	1.38	
ZS514-EX	1-1/2"	1.125-1.250	2.31	1.70	.75	1.38	
ZS515-EX	1-1/2"	1.250-1.375	2.31	1.70	.75	1.38	
ZS516-EX	1-1/2"	1.375-1.500	3.00	2.20	.75	1.50	
ZS517-EX*	1-1/2"	1.500-1.625	3.00	2.20	.75	1.50	
ZS518-EX*	1-1/2"	1.625-1.750	3.00	2.20	.75	1.50	
ZS615-EX	2"	1.250-1.375	3.25	2.20	.80	1.92	
ZS616-EX	2"	1.375-1.500	3.25	2.20	.80	1.92	
ZS617-EX	2"	1.500-1.625	3.25	2.20	.80	1.92	
ZS618-EX	2"	1.625-1.750	3.25	2.20	.80	1.92	
ZS620-EX	2"	1.750-1.875	3.25	2.20	.80	1.92	
ZS619-EX	2"	1.688-1.812	4.06	2.70	1.27	1.94	
ZS621-EX	2"	1.812-1.937	4.06	2.70	1.27	1.94	
ZS622-EX*	2"	1.937-2.062	4.06	2.70	1.27	1.94	
ZS623-EX*	2"	2.062-2.188	4.06	2.70	1.27	1.94	
ZS624-EX*	2"	2.188-2.312	4.06	2.70	1.27	1.94	
ZS719-EX	2-1/2"	1.688-1.812	4.33	2.70	1.27	2.34	
ZS721-EX	2-1/2"	1.812-1.937	4.33	2.70	1.27	2.34	
ZS722-EX	2-1/2"	1.937-2.062	4.33	2.70	1.27	2.34	
ZS723-EX	2-1/2"	2.062-2.188	4.33	2.70	1.27	2.34	
ZS724-EX	2-1/2"	2.188-2.312	4.33	2.70	1.27	2.34	
ZS725-EX*	2-1/2"	2.312-2.437	4.33	2.70	1.27	2.34	
ZS819-EX	3"	1.688-1.812	4.33	2.70	1.30	2.54	
ZS822-EX	3"	1.937-2.062	4.33	2.70	1.30	2.54	
ZS823-EX	3"	2.062-2.188	4.33	2.70	1.30	2.54	
ZS824-EX	3"	2.188-2.312	4.33	2.70	1.30	2.54	
ZS825-EX	3"	2.312-2.437	4.33	2.70	1.30	2.54	
ZS826-EX	3"	2.437-2.625	4.87	2.70	1.38	3.00	
ZS827-EX	3"	2.625-2.812	4.87	2.70	1.38	3.00	
ZS828-EX	3"	2.812-3.000	4.87	2.70	1.38	3.00	
ZS829-EX*	3"	3.000-3.250	4.87	2.70	1.38	3.00	



* Cable jacket may have to be stripped to pass through connector body on all sizes.



Increased Safety Aluminum Cord Connectors



ZN310-EX



Locknut

 **AEx (Class I, Zone 1) Ex e II⁺
Type 4****

 **LISTED** - File E22698

 **Certified** - File LR73478

[†] Listed by CSA for Class I, Zone 1 in Canada. Listed by CSA as a Nationally recognized test lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

^{**} Type 4 when installed with a proper gasket.

FEATURES-SPECIFICATIONS

Features

- Aluminum construction resists corrosion
- Neoprene grommet seals out oil and moisture
- Nylon retention ring ensures superior holding power
- Wide range of sizes and configurations

Materials

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish

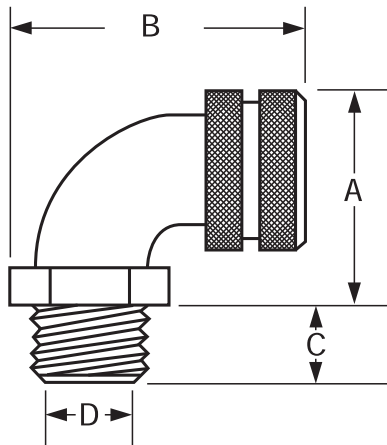


FITTINGS Z SERIES

Increased Safety Aluminum Cord Connectors

Z CORD CONNECTORS – 90°							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZN102-EX	1/2"	.125-.187	Orange	1.56	2.30	.50	.546
ZN103-EX	1/2"	.187-.250	Red	1.56	2.30	.50	.546
ZN105-EX	1/2"	.250-.375	White	1.56	2.30	.50	.546
ZN108-EX	1/2"	.375-.500	Blue	1.56	2.30	.50	.546
ZN109-EX*	1/2"	.500-.625	Brown	1.56	2.30	.50	.546
ZN208-EX	3/4"	.375-.500	Blue	1.79	2.80	.562	.765
ZN209-EX	3/4"	.500-.625	Brown	1.79	2.80	.562	.765
ZN210-EX*	3/4"	.625-.750	Yellow	1.79	2.80	.562	.765
ZN211-EX*	3/4"	.750-.875	Purple	1.79	2.80	.562	.765
ZN309-EX	1"	.500-.625	Brown	2.08	3.20	.703	1.00
ZN310-EX	1"	.625-.750	Yellow	2.08	3.20	.703	1.00
ZN311-EX	1"	.750-.875	Purple	2.08	3.20	.703	1.00
ZN312-EX*	1"	.875-1.000	Gray	2.08	3.20	.703	1.00
ZN313-EX*	1"	1.000-1.125	Pink	2.08	3.20	.703	1.00
ZN412-EX	1-1/4"	.875-1.000	—	3.18	4.30	.73	1.26
ZN413-EX	1-1/4"	1.000-1.125	—	3.18	4.30	.73	1.26
ZN414-EX*	1-1/4"	1.125-1.250	—	3.18	4.30	.73	1.26
ZN415-EX*	1-1/4"	1.250-1.375	—	3.18	4.30	.73	1.26
ZN513-EX	1-1/2"	1.000-1.125	—	3.18	4.30	.75	1.50
ZN515-EX	1-1/2"	1.250-1.375	—	3.18	4.30	.75	1.50
ZN616-EX	2"	1.375-1.500	—	3.50	5.50	.80	1.92

* Cable jacket may have to be stripped to pass through connector body.



OPTIONAL LOCKNUTS AND SEALING WASHERS		
CATALOG NUMBER		NPT SIZES
STEEL LOCKNUTS ^①	SEALING WASHERS ^②	
KILLN375	—	3/8"
KILLN1	KOR-1	1/2"
KILLN2	KOR-2	3/4"
KILLN3	KOR-3	1"
KILLN4	KOR-4	1-1/4"
KILLN5	KOR-5	1-1/2"
KILLN6	KOR-6	2"
KILLN7	—	2-1/2"
KILLN8	—	3"

① 2-1/2" through 3" are malleable, with hexhead flats.

② Neoprene washers are mounted on steel reinforcing bands.



Increased Safety Aluminum Cord Connector with Mesh Grip



 **AEx (Class I, Zone 1) Ex e II⁺
Type 4^{**}**

 **LISTED** - File E22698

 **Certified** - File LR73478
See files for details or call Killark.

[†] Listed by CSA for Class I, Zone 1 in Canada. Listed by CSA as a Nationally recognized test lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

^{**} Type 4 when installed with a proper gasket.

FEATURES-SPECIFICATIONS

Features

- Aluminum fittings are strong, durable and corrosion resistant
- Internal grommet provides liquid-tight seal
- Stainless steel mesh grips resist corrosion, prevent cord pull-out and control arc-of-bend

Materials

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish
- Stainless steel mesh grip



FITTINGS Z SERIES

Increased Safety Aluminum Cord Connector with Mesh Grip

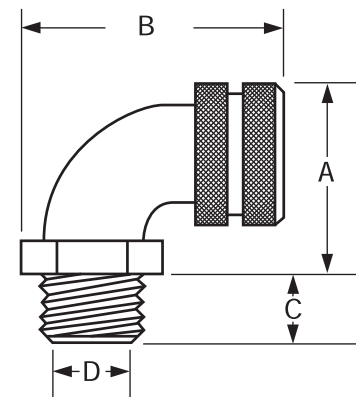
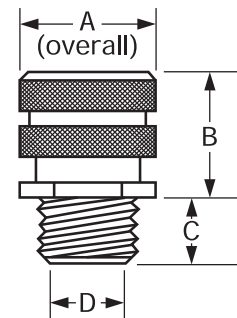
Z CORD CONNECTORS – STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZS004-EX-MG	3/8"	.250-.312	Black	.99	.90	.425	.453
ZS006-EX-MG	3/8"	.312-.375	White	.99	.90	.425	.453
ZS007-EX-MG	3/8"	.375-.437	Blue	.99	.90	.425	.453
ZS103-EX-MG	1/2"	.187-.250	Red	1.13	1.10	.55	.635
ZS105-EX-MG	1/2"	.250-.375	White	1.13	1.10	.55	.635
ZS108-EX-MG	1/2"	.375-.500	Blue	1.13	1.10	.55	.635
ZS109-EX-MG	1/2"	.500-.625	Brown	1.13	1.10	.55	.635
ZS110-EX-MG*	1/2"	.625-.750	Yellow	1.40	1.50	.55	.635
ZS111-EX-MG*	1/2"	.750-.875	Purple	1.40	1.50	.55	.635
ZS203-EX-MG	3/4"	.187-.250	Red	1.29	1.10	.55	.635
ZS205-EX-MG	3/4"	.250-.375	White	1.29	1.10	.55	.635
ZS208-EX-MG	3/4"	.375-.500	Blue	1.29	1.10	.55	.635
ZS209-EX-MG	3/4"	.500-.625	Brown	1.29	1.10	.55	.635
ZS210-EX-MG	3/4"	.625-.750	Yellow	1.40	1.50	.55	.815
ZS211-EX-MG*	3/4"	.750-.875	Purple	1.40	1.50	.55	.815
ZS308-EX-MG	1"	.375-.500	Blue	1.81	1.60	.71	1.015
ZS309-EX-MG	1"	.500-.625	Brown	1.81	1.60	.71	1.015
ZS310-EX-MG	1"	.625-.750	Yellow	1.81	1.60	.71	1.015
ZS311-EX-MG	1"	.750-.875	Purple	1.81	1.60	.71	1.015
ZS312-EX-MG*	1"	.875-1.00	Gray	1.81	1.60	.71	1.015
ZS313-EX-MG*	1"	1.00-1.125	Pink	2.31	1.70	.66	1.015

Z CORD CONNECTORS – 90°							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZN103-EX-MG	1/2"	.187-.250	Red	1.56	2.30	.50	.546
ZN105-EX-MG	1/2"	.250-.375	White	1.56	2.30	.50	.546
ZN108-EX-MG	1/2"	.375-.500	Blue	1.56	2.30	.50	.546
ZN109-EX-MG*	1/2"	.500-.625	Brown	1.56	2.30	.50	.546
ZN208-EX-MG	3/4"	.375-.500	Blue	1.79	2.80	.562	.765
ZN209-EX-MG	3/4"	.500-.625	Brown	1.79	2.80	.562	.765
ZN210-EX-MG*	3/4"	.625-.750	Yellow	1.79	2.80	.562	.765
ZN211-EX-MG*	3/4"	.750-.875	Purple	1.79	2.80	.562	.765

OPTIONAL LOCKNUTS AND SEALING WASHERS		
CATALOG NUMBER		NPT SIZES
STEEL LOCKNUTS ^①	SEALING WASHERS ^②	
KILLN375	—	3/8"
KILLN1	KOR-1	1/2"
KILLN2	KOR-2	3/4"
KILLN3	KOR-3	1"
KILLN4	KOR-4	1-1/4"
KILLN5	KOR-5	1-1/2"
KILLN6	KOR-6	2"
KILLN7	—	2-1/2"
KILLN8	—	3"

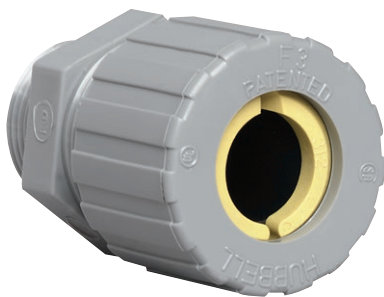
① 2-1/2" through 3" are malleable, with hexhead flats.

② Neoprene washers are mounted on steel reinforcing bands.





Increased Safety Corrosion Resistant Nylon Cord Connectors



ZS210CR-EX



ZN210CR-EX

SP^{US} **AEx (Class I, Zone 1) Ex e II+
Type 4****

UL LISTED - File E22698

SP[®] Certified - File LR73478

[†] Listed by CSA for Class I, Zone 1 in Canada. Listed by CSA as a Nationally recognized test lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

^{**} Type 4 when installed with a proper gasket.

FEATURES-SPECIFICATIONS

Features

- Nylon retention ring for increased holding power
- Neoprene bushing seals against moisture
- Nylon connectors obtain approximately the same cord retention values with hand tightening that can be produced only by wrench tightening of metal cord connectors

Materials

- Nylon



FITTINGS Z SERIES

Increased Safety Corrosion Resistant Nylon Cord Connectors

Z NYLON CORD CONNECTORS – STRAIGHT			
CATALOG NUMBER*	NPT SIZE	CORD RANGES	COLOR CODE
ZS002CR-EX	3/8"	.125-.187	Orange
ZS003CR-EX	3/8"	.187-.250	Red
ZS004CR-EX	3/8"	.250-.312	Black
ZS006CR-EX	3/8"	.312-.375	White
ZS007CR-EX	3/8"	.375-.437	Blue
ZS101CR-EX	1/2"	.062-.125	Green
ZS102CR-EX	1/2"	.125-.187	Orange
ZS103CR-EX	1/2"	.187-.250	Red
ZS105CR-EX	1/2"	.250-.375	White
ZS108CR-EX	1/2"	.375-.500	Blue
ZS109CR-EX	1/2"	.500-.625	Brown
ZS208CR-EX	3/4"	.375-.500	Blue
ZS209CR-EX	3/4"	.500-.625	Brown
ZS210CR-EX	3/4"	.625-.750	Yellow
ZS211CR-EX*	3/4"	.750-.875	Purple
ZS308CR-EX	1"	.375-.500	Blue
ZS309CR-EX	1"	.500-.625	Brown
ZS310CR-EX	1"	.625-.750	Yellow
ZS311CR-EX	1"	.750-.875	Purple
ZS312CR-EX	1"	.875-1.000	Gray
ZS313CR-EX*	1"	1.000-1.125	Pink

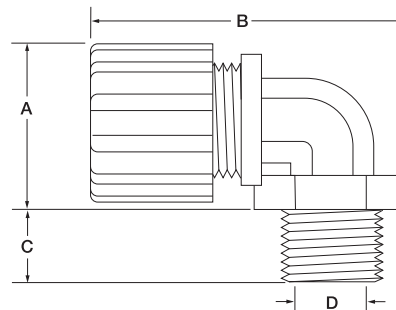
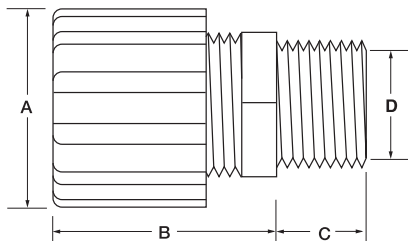
* Cable Jacket may have to be stripped to pass through connector body.

Z NYLON CORD CONNECTORS – 90°			
CATALOG NUMBER*	NPT SIZE	CORD RANGES	COLOR CODE
ZN102CR-EX	1/2"	.125-.187	Orange
ZN103CR-EX	1/2"	.187-.250	Red
ZN105CR-EX	1/2"	.250-.375	White
ZN108CR-EX	1/2"	.375-.500	Blue
ZN109CR-EX	1/2"	.500-.625	Brown
ZN208CR-EX	3/4"	.375-.500	Blue
ZN209CR-EX	3/4"	.500-.625	Brown
ZN210CR-EX*	3/4"	.625-.750	Yellow
ZN211CR-EX*	3/4"	.750-.875	Purple
ZN310CR-EX	1"	.625-.750	Yellow
ZN311CR-EX	1"	.750-.875	Purple
ZN312CR-EX*	1"	.875-1.000	Gray

OPTIONAL LOCKNUTS	
CATALOG NUMBER	NPT SIZE
LN-375CR	3/8"
LN-1CR	1/2"
LN-2CR	3/4"
LN-3CR	1"

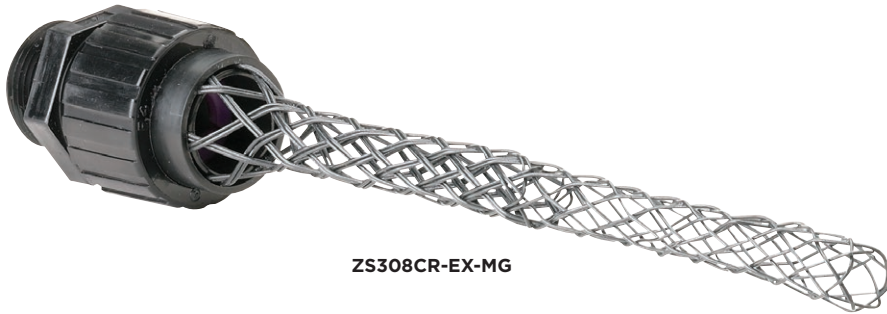
Z STRAIGHT DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
3/8"	63/64"	1-3/32"	7/16"	7/16"
1/2"	1-1/4"	1-1/2"	17/32"	37/64"
3/4"	1-31/64"	1-5/8"	35/64"	49/64"
1"	1-27/32"	1-3/4"	11/16"	1-1/16"

Z 90° DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
1/2"	1-13/32"	2-1/2"	17/32"	1-1/2"
3/4"	1-21/32"	2-51/64"	35/64"	49/64"
1"	1-63/64"	3-19/64"	11/16"	1-1/64"





Increased Safety Corrosion Resistant Nylon Cord Connectors



ZS308CR-EX-MG

 **AEx (Class I, Zone 1) Ex e II⁺
Type 4****

 **LISTED** - File E22698

 **Certified** - File LR73478

[†] Listed by CSA for Class I, Zone 1 in Canada. Listed by CSA as a Nationally recognized test lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

** Type 4 when installed with a proper gasket.

FEATURES-SPECIFICATIONS

Features

- Nylon retention ring for increased holding power
- Neoprene bushing seals against moisture
- Nylon connectors obtain approximately the same cord retention values with hand tightening that can be produced only by wrench tightening of metal cord connectors

Materials

- Nylon
- Kevlar mesh grip



FITTINGS Z SERIES

Increased Safety Corrosion Resistant Nylon Cord Connectors

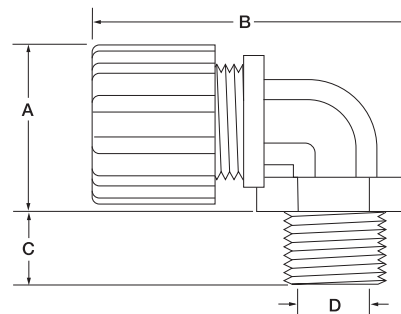
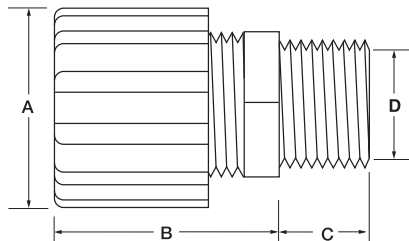
Z NYLON CORD CONNECTORS – STRAIGHT			
CATALOG NUMBER*	NPT SIZE	CORD RANGES	COLOR CODE
ZS003CR-EX-MG	3/8"	.187-.250	Red
ZS004CR-EX-MG	3/8"	.250-.312	Black
ZS006CR-EX-MG	3/8"	.312-.375	White
ZS103CR-EX-MG	1/2"	.187-.250	Red
ZS105CR-EX-MG	1/2"	.250-.375	White
ZS108CR-EX-MG	1/2"	.375-.500	Blue
ZS208CR-EX-MG	3/4"	.375-.500	Blue
ZS209CR-EX-MG	3/4"	.500-.625	Brown
ZS210CR-EX-MG	3/4"	.625-.750	Yellow
ZS309CR-EX-MG	1"	.500-.625	Brown
ZS310CR-EX-MG	1"	.625-.750	Yellow
ZS311CR-EX-MG	1"	.750-.875	Purple
ZS312CR-EX-MG	1"	.875-1.000	Gray

Z NYLON CORD CONNECTORS – 90°			
CATALOG NUMBER*	NPT SIZE	CORD RANGES	COLOR CODE
ZN105CR-EX-MG	1/2"	.250-.375	White
ZN108CR-EX-MG	1/2"	.375-.500	Blue
ZN208CR-EX-MG	3/4"	.375-.500	Blue
ZN209CR-EX-MG	3/4"	.500-.625	Brown
ZN210CR-EX-MG	3/4"	.625-.750	Yellow
ZN310CR-EX-MG	1"	.625-.750	Yellow
ZN311CR-EX-MG	1"	.750-.875	Purple

OPTIONAL LOCKNUTS	
CATALOG NUMBER	NPT SIZE
LN-375CR	3/8"
LN-1CR	1/2"
LN-2CR	3/4"
LN-3CR	1"

Z STRAIGHT DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
3/8"	63/64"	1-3/32"	7/16"	7/16"
1/2"	1-1/4"	1-1/2"	17/32"	37/64"
3/4"	1-31/64"	1-5/8"	35/64"	49/64"
1"	1-27/32"	1-3/4"	11/16"	1-1/16"

Z 90° DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
1/2"	1-13/32"	2-1/2"	17/32"	1-1/2"
3/4"	1-21/32"	2-51/64"	35/64"	49/64"
1"	1-63/64"	3-19/64"	11/16"	1-1/64"





Sealing Washers and Locknuts



SWZ60-050NPT



LNZ10-050NPT



ZHLN-170

FEATURES-SPECIFICATIONS

SEALING (IP) WASHERS

Sealing washers are commonly used with cable glands or similar fittings entering an enclosure. While these products are not threaded, they are available with clearance holes to accommodate NPT threads. Sealing washers are available in nylon.

SWZ NYLON WASHERS	
NPT	
SIZE	CATALOG NUMBER
1/2"	SWZ60-050NPT
3/4"	SWZ60-075NPT
1"	SWZ60-100NPT
1-1/4"	SWZ60-125NPT
1-1/2"	SWZ60-150NPT
2"	SWZ60-200NPT
2-1/2"	SWZ60-250NPT
3"	SWZ60-300NPT
3-1/2"	SWZ60-350NPT

LOCKNUTS

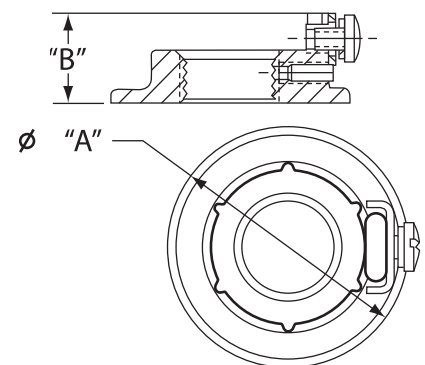
These fittings are commonly used to secure cable glands or similar products entering an enclosure. These products are available in NPT threads. These products are available in nickel plated brass.

LNZ BRASS LOCKNUTS	
NPT	
SIZE	CATALOG NUMBER
1/2"	LNZ10-050NPT
3/4"	LNZ10-075NPT
1"	LNZ10-100NPT
1-1/4"	LNZ10-125NPT
1-1/2"	LNZ10-150NPT
2"	LNZ10-200NPT
2-1/2"	LNZ10-250NPT
3"	LNZ10-300NPT

INCREASED SAFETY LOCKNUTS

Used to secure conduit hubs or similar products entering an enclosure, these zinc locknuts have an increased safety terminal for grounding purposes.

ZHLN ZINC LOCKNUTS			
NPT		DIMENSIONS	
SIZE	CATALOG NUMBER	DIAMETER A	HEIGHT B
1/2"	ZHLN-170	1.5"	11/16"
3/4"	ZHLN-270	1.7"	3/4"
1"	ZHLN-370	2.0"	3/4"
1-1/4"	ZHLN-470	2.4"	53/64"
1-1/2"	ZHLN-570	2.8"	31/32"
2"	ZHLN-670	3.3"	31/32"
2-1/2"	ZHLN-770	3.7"	1-1/4"
3"	ZHLN-870	4.4"	1-1/4"
3-1/2"	ZHLN-970	5.0"	1-5/16"

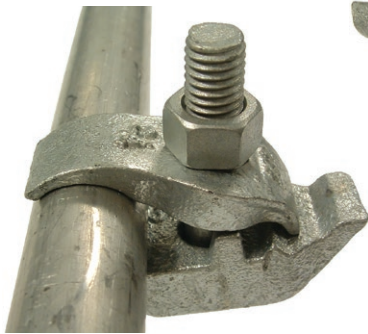




FITTINGS

PCC/ECC/RACC SERIES

Conduit Clamps



PARALLEL TYPE



EDGE TYPE



RIGHT ANGLE TYPE



Listed - File E213669

FEATURES-SPECIFICATIONS

Features

- Three styles meet every installation need
- Heavy duty U-bolts, hex bolts and hex nuts
- Capable of supporting heavy loads

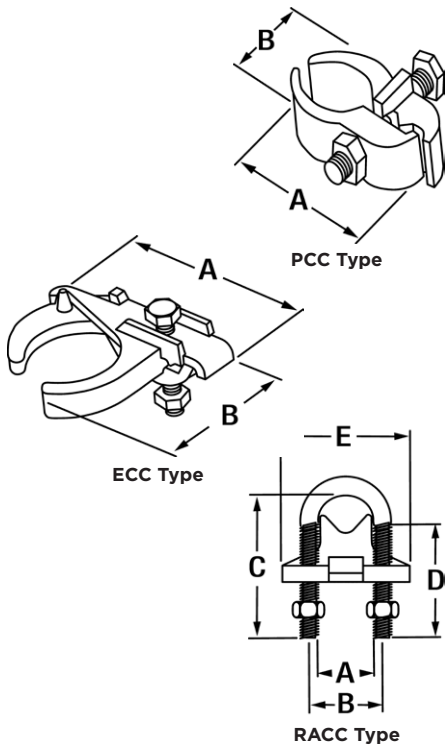
Materials

- Malleable iron (hot dipped galvanized) with steel U-bolts and nuts (mechanically galvanized).



Conduit Clamps

DIMENSIONS



PCC PARALLEL TYPE CLAMPS			
CATALOG NUMBER	CONDUIT SIZE	A	B
PCC050	1/2"	2-7/8" (73)	1-7/16" (36)
PCC075	3/4"	3-1/16" (78)	1-11/16" (45)
PCC100	1"	3-1/4" (83)	2" (51)
PCC125	1-1/4"	3-5/8" (92)	2-1/8" (53)
PCC150	1-1/2"	3-7/8" (98)	2-3/16" (56)
PCC200	2"	4-5/8" (117)	2-7/8" (73)
PCC250	2-1/2"	5-1/4" (133)	3-1/4" (83)
PCC300	3"	5-1/8" (149)	3-1/8" (98)
PCC350	3-1/2"	6-5/16" (160)	4-5/16" (110)
PCC400	4"	6-13/16" (173)	4-13/16" (122)

ECC EDGE TYPE CLAMPS			
CATALOG NUMBER	CONDUIT SIZE	A	B
ECC050	1/2"	2-13/16" (71)	2-1/8" (54)
ECC075	3/4"	2-15/16" (75)	2-3/8" (60)
ECC100	1"	3-1/16" (78)	2-5/8" (67)
ECC125	1-1/4"	3-1/16" (78)	3-1/16" (78)
ECC150	1-1/2"	3-15/16" (100)	3-1/4" (83)
ECC200	2"	4-1/2" (114)	4-1/16" (103)
ECC250	2-1/2"	5-1/8" (130)	4-5/8" (117)
ECC300	3"	5-3/4" (146)	5-1/4" (133)

RACC RIGHT ANGLE TYPE CLAMPS						
CATALOG NUMBER	CONDUIT SIZE	A	B	C	D	E
RACC050	1/2"	1" (25)	1-1/4" (32)	2-1/2" (64)	1-13/16" (46)	2-1/16" (52)
RACC075	3/4"	1-1/8" (29)	1-3/8" (35)	2-13/16" (72)	1-13/16" (46)	2-1/4" (57)
RACC100	1"	1-3/8" (35)	1-5/8" (41)	3-1/16" (78)	1-13/16" (46)	2-9/16" (65)
RACC125	1-1/4"	1-3/4" (44)	2" (51)	3-3/16" (81)	1-13/16" (46)	2-7/8" (73)
RACC150	1-1/2"	2" (51)	2-3/8" (60)	3-1/2" (89)	1-13/16" (46)	3-1/4" (83)
RACC200	2"	2-1/2" (64)	2-1/2" (64)	4-1/2" (114)	2-5/8" (67)	4-1/16" (103)
RACC250	2-1/2"	2-1/2" (64)	3" (76)	3-1/4" (83)	4-7/8" (124)	2-5/8" (67)
RACC300	3"	3-5/8" (92)	3-7/8" (98)	5-3/8" (137)	2-5/8" (67)	5-1/8" (130)
RACC350	3-1/2"	4-1/16" (103)	4-9/16" (116)	5-7/8" (149)	2-5/8" (67)	5-5/8" (143)
RACC400	4"	4-11/16" (119)	5-1/16" (129)	6-11/16" (170)	2-5/8" (67)	6-1/8" (156)



FITTINGS CGB SERIES

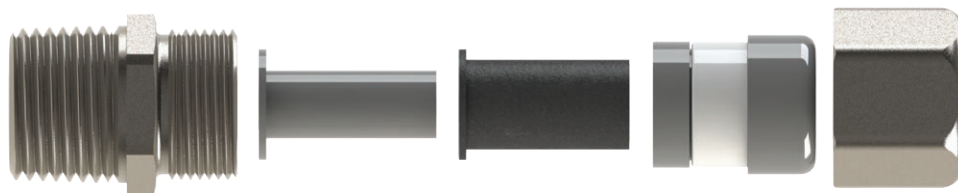


Suitable for use in Class 1 Div. 2 locations when installed in accordance with NEC 501.10b

TYPE 1, 3, 3R, 4, 4X, 12

IP66

Ta -40°C +100°C



On-site removable grommets

FEATURES-SPECIFICATIONS

Features

- Revolutionary design accepts a broader range of cable diameters
- Sealing grommets are field removable to adjust to multiple cable ranges and cable diameter variances
- Eliminates carrying numerous amounts of different CGB type connectors for job sites
- Robust design for superior seal and strain relief
- Available in sizes ranging from 1/2" to 4" NPT
- No slip rings needed

Materials/Finishes

- Nut/Body - Steel, Aluminum, Nickel plated Brass, 316 stainless steel
- Seals - Chloroprene
- Sealing Ring - Nylon
- Ordering Logic - add suffix - SA (aluminum) NB (nickel plated brass) SS (316L stainless steel) to ending of logic

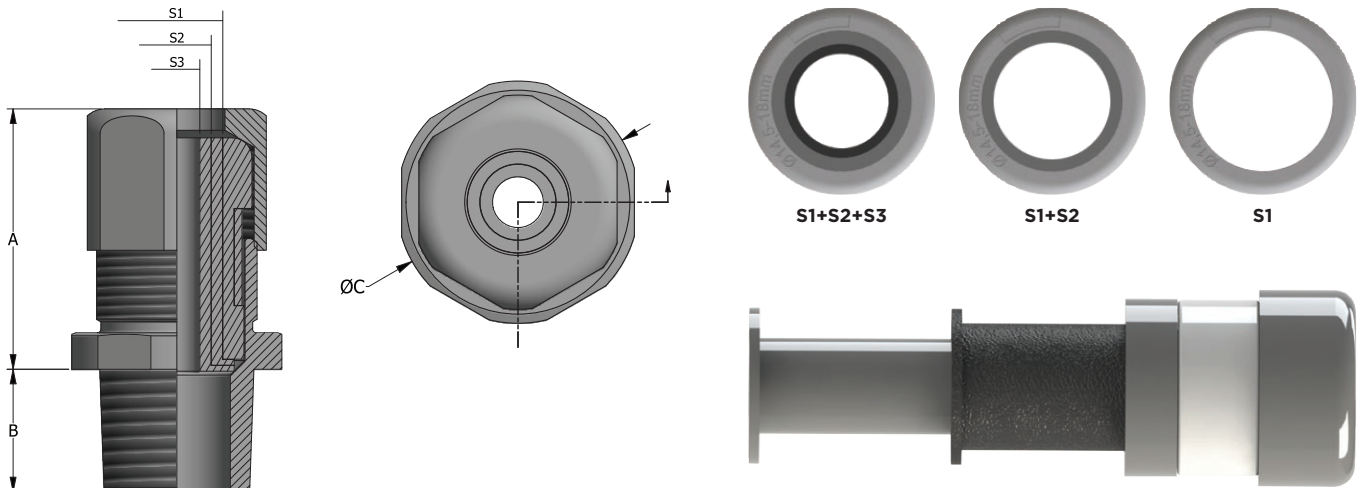
Cable Types

- Flexible cord Types: S, SO, STO, SJ, SJT, SJTO, and SVO
- Tray Cables Types: TC, TC-ER, TC-ER-HL, ITC, ITC-ER, ITC-HL, PLTC-PLTC-ER



PART NUMBER	HUB SIZE	CABLE TYPE	DIMENSIONS			(D) CLAMPING RANGE Ø MIN-MAX	S1+S2+S3	S1+S2	S1
			(A) MAX.	(B) MIN.	ACROSS THE CORNERS				
CGB115	1/2"	Flexible & Tray	1.34" (34)	.63" (16)	.964" (24.5)	.157"- .472" (4-12)	.157"- .236" (4-6)	.236"- .354" (6-9)	.354"- .472" (9-12)
CGB139	1/2"	Flexible & Tray	1.67" (42.5)	.63" (16)	1.28" (32.6)	.394"- .630" (10-16)	.394"- .472" (10-12)	.472"- .571" (12-14.5)	.571"- .630" (14.5-16)
CGB215	3/4"	Flexible & Tray	1.34" (34)	.63" (16)	1.28" (32.6)	1.57"- .472" (4-12)	.157"- .236" (4-6)	.236"- .354" (6-9)	.354"- .472" (9-12)
CGB239	3/4"	Flexible & Tray	1.67" (42.5)	.63" (16)	1.28" (32.6)	.394"- .709" (10-18)	.394"- .472" (10-12)	.472"- .571" (12-14.5)	.571"- .709" (14.5-18)
CGB255	3/4"	Flexible & Tray	1.77" (45)	.79" (20)	1.57" (40)	.551"- .945" (14-20)	.551"- .669" (14-17)	.669"- .945" (17-20)	—
CGB339	1"	Flexible & Tray	1.69" (43)	.79" (20)	1.57" (40)	.394"- .709" (10-18)	.394"- .472" (10-12)	.472"- .571" (12-14.5)	.571"- .709" (14.5-18)
CGB355	1"	Flexible & Tray	1.77" (45)	.79" (20)	1.57" (40)	.551"- .945" (14-24)	.551"- .669" (14-17)	.669"- .945" (17-20)	.787"- .945" (20-24)
CGB386	1"	Flexible & Tray	1.97" (50)	.79" (20)	2" (51)	.866"-1.02" (22-26)	.866"- .945" (22-24)	.945"-1.02" (24-26)	—
CGB455	1-1/4"	Flexible & Tray	1.77" (45)	.79" (20)	2" (51)	.551"- .945" (14-24)	.551"- .669" (14-17)	.669"- .945" (17-20)	.787"- .945" (20-24)
CGB486	1-1/4"	Flexible & Tray	1.89" (48.5)	.79" (20)	2" (51)	.866"-1.26" (22-32)	.866"- .945" (22-24)	.945"-1.06" (24-27)	1.06"-1.26" (27-32)
CGB4102	1-1/4"	Flexible & Tray	1.89" 48.5	.79" (20)	2.20" (56)	1.02"-1.34" (26-34)	1.02"-1.10" (26-28)	1.10"-1.22" (28-31)	1.22"-1.34" (31-34)
CGB586	1-1/2"	Flexible & Tray	1.89" (48.5)	.79" (20)	2.40" (61)	.866"-1.26" (22-32)	.866"- .945" (22-24)	.945"-1.06" (24-27)	1.06"-1.26" (27-32)
CGB5102	1-1/2"	Flexible & Tray	1.95" (49.5)	.79" (20)	2.40" (61)	1.02"-1.378" (26-35)	1.02"-1.10" (26-28)	1.10"-1.22" (28-31)	1.22"-1.378" (31-35)
CGB5138	1-1/2"	Flexible & Tray	1.89" (48.5)	.79" (20)	2.75" (70)	1.378"-1.614" (35-41)	1.378"-1.50" (35-38)	1.50"-1.61" (38-41)	—
CGB6102	2"	Flexible & Tray	1.95" (49.5)	.79" (20)	2.95" (75)	1.02"-1.378" (26-35)	1.02"-1.10" (26-28)	1.10"-1.22" (28-31)	1.22"-1.378" (31-35)
CGB6138	2"	Flexible & Tray	1.89" (48.5)	.79" (20)	2.95" (75)	1.378"-1.772" (35-45)	1.378"-1.50" (35-38)	1.50"-1.61" (38-41)	1.61"-1.772" (41-45)
CGB6181	2"	Flexible & Tray	2.24" (57)	.79" (20)	3.27" (83)	1.811"-2.047" (46-52)	1.811"-1.89" (46-48)	1.89"-2.047" (48-52)	—
CGB7138	2-1/2"	Flexible & Tray	1.89" (48.5)	.83" (21)	3.50" (89)	1.378"-1.772" (35-45)	1.378"-1.50" (35-38)	1.50"-1.61" (38-41)	1.61"-1.772" (41-45)
CGB7181	2-1/2"	Tray	2.11" (53.5)	.83" (21)	3.50" (89)	1.811"-2.441" (46-62)	1.811"-2.01" (46-51)	2.01"-2.20" (51-56)	2.20"-2.441" (56-62)
CGB7236	2-1/2"	Tray	2.24" (57)	.83" (21)	4.13" (105)	2.362"-2.52" (60-64)	2.362"-2.52" (60-64)	—	—
CGB8181	3"	Tray	2.11" (53.5)	.83" (21)	4.13" (105)	1.811"-2.441" (46-62)	1.811"-2.01" (46-51)	2.01"-2.20" (51-56)	2.20"-2.441" (56-62)
CGB8236	3"	Tray	2.24" (57)	.83" (21)	4.13" (105)	2.362"-2.953" (60-75)	2.362"-2.56" (60-65)	2.56"-2.756" (65-70)	2.756"-2.953" (70-75)
CGB8295	3"	Tray	2.20" (56)	.83" (21)	4.61" (117)	2.953"-3.13" (75-79)	2.953"-3.07" (75-78)	3.07"-3.13" (78-79)	—
CGB0236	4"	Tray	2.24" (57)	.83" (21)	5.04" (128)	2.362"-2.953" (60-75)	2.362"-2.56" (60-65)	2.56"-2.756" (65-70)	2.756"-2.953" (70-75)
CGB0295	4"	Tray	2.20" (56)	.83" (21)	5.04" (128)	2.953"-3.346" (75-85)	2.953"-3.07" (75-78)	3.13"-3.19" (78-81)	3.19"-3.346" (81-85)
CGB0334	4"	Tray	2.28" (58)	.83" (21)	5.04" (128)	3.346"-3.74" (85-95)	3.346"-3.464" (85-88)	3.464"-3.58" (88-91)	3.58"-3.74" (91-95)

Add to the end of the catalog logic SA for aluminum SS for stainless steel NB for nickel plated brass*





FITTINGS MC SERIES

Aluminum Cable Connectors



MC

Class II, Div. 1 & 2, Groups E, F, G
Class III
Class I, Zone 2+, Group IIC, Zone 20
Suitable for wet locations
Types 3, 4X IP66
IPX8 6ft 1hr
Suitable for use in Class I, Div. 2
locations when installed
according to NEC Articles 501.10
Ta -50°C to 60°C



FEATURES-SPECIFICATIONS

Features

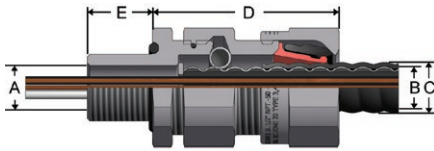
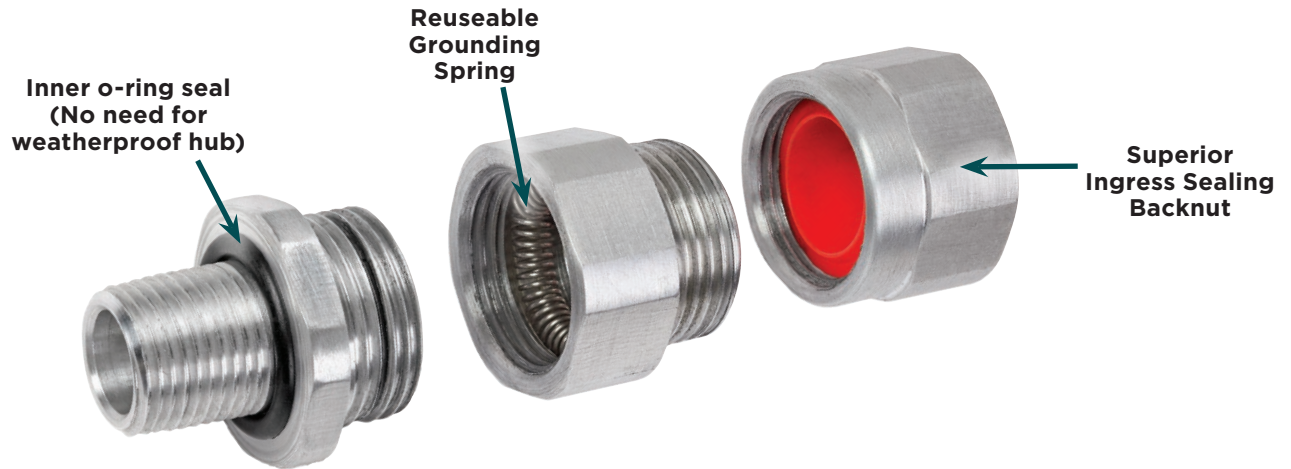
- Used exclusively for armored and unarmored cable types
- Entry component grommet prevents the need for weatherproof hubs in sheet metal enclosures
- Superior and robust design for ingress protection
- Robust threads and world class seal enables easy installation

Materials

- Body - Copper free aluminum (less than 4/10 of 1%)
- Ground Spring - Stainless Steel
- Backnut Seal - Thermoplastic elastomer (silicone)
- Backnut Clamp - Nylon
- Inner and Outer O-rings - Nitrile



Construction Details



SUITABLE ARMORED & UNARMORED CABLE TYPES

AC-	AC90, ACWU90, AC90-HL, ACWU90-HL, ACG90, ACGWU90
MC-	MCC, MCI, MCI-A, MC-HL
RA-	RA90, RA90-HL
TECK-	TECK90, TECK90-HL
TRAY-	TC, TC-ER, TC-ER-HL, PLTC-ER, ITC, ITC-ER, MV, TYPE P

CATALOG NUMBER	ENTRY THREAD SIZE (NPT)	CABLE ACCEPTANCE DETAILS						MAX LENGTH 'D'	NPT LENGTH 'E'	HEXAGON DIMENSIONS	
		MAX NUMBER OF CORES	THROUGH DIAMETER 'A'	ARMOR DIAMETER 'B'		DIAMETER 'C'				ACROSS FLATS	ACROSS CORNERS
				MIN.	MAX.	MIN.	MAX.				
MC1B	1/2"	6	.47" (11.9)	0.43" (10.9)	0.55" (14.0)	0.51" (13.0)	0.63" (16.0)	1.7" (43)	0.83" (21.1)	1.06" (26.9)	1.12" (28.4)
MC1C	1/2"	10	0.56" (14.2)	0.52" (13.2)	0.74" (18.8)	0.60" (15.2)	0.82" (20.8)	2.3" (58)	0.83" (21.1)	1.42" (36)	1.50" (38.1)
MC2	3/4"	21	0.80" (20.3)	0.65" (16.5)	0.95" (24.1)	0.73" (18.5)	1.03" (26.2)	2.5" (64)	0.84" (21.3)	1.61" (41)	1.69" (42.9)
MC3	1"	42	1.04" (26.4)	0.89" (22.6)	1.23" (31.2)	0.97" (24.6)	1.31" (33.3)	2.6" (66)	1.03" (26.2)	1.97" (50)	2.13" (54.1)
MC4	1 1/4"	73	1.28" (32.5)	1.15" (29.2)	1.48" (37.6)	1.23" (31.2)	1.56" (39.6)	3.1" (79)	1.05" (26.7)	2.36" (60)	2.50" (63.5)
MC5	1 1/2"	80	1.66" (42.2)	1.39" (35.3)	1.62" (41.1)	1.47" (37.3)	1.78" (45.2)	4.5" (114.3)	1.07" (27.2)	2.95" (74.9)	3.06" (77.7)
MC6	2"	80	1.98" (50.3)	1.39" (35.3)	1.89" (48)	1.47" (37.3)	2.04" (51.8)	4.5" (114.3)	1.10" (27.9)	2.95" (74.9)	3.06" (77.7)
MC7	2 1/2"	100	2.46" (62.5)	1.85" (47)	2.36" (60)	1.93" (49)	2.51" (63.8)	4.7" (119.4)	1.62" (41.1)	3.54" (89.1)	3.65" (92.7)
MC8	3"	120	2.93" (74.4)	2.19" (55.6)	2.81" (71.4)	2.27" (57.7)	3.01" (76.5)	4.8" (121.9)	1.68" (42.7)	4.06" (103.1)	4.22" (107.2)
MC9	3 1/2"	120	3.40" (86.4)	2.69" (68.3)	3.28" (83.3)	2.77" (70.4)	3.46" (87.9)	4.8" (121.9)	1.73" (43.9)	4.53" (115.1)	4.69" (119.1)
MC0	4"	120	3.92" (99.6)	3.28" (83.3)	3.82" (97)	3.46" (87.9)	4.07" (103.4)	5.1" (129.5)	1.78" (45.2)	5.12" (130)	5.33" (135.4)

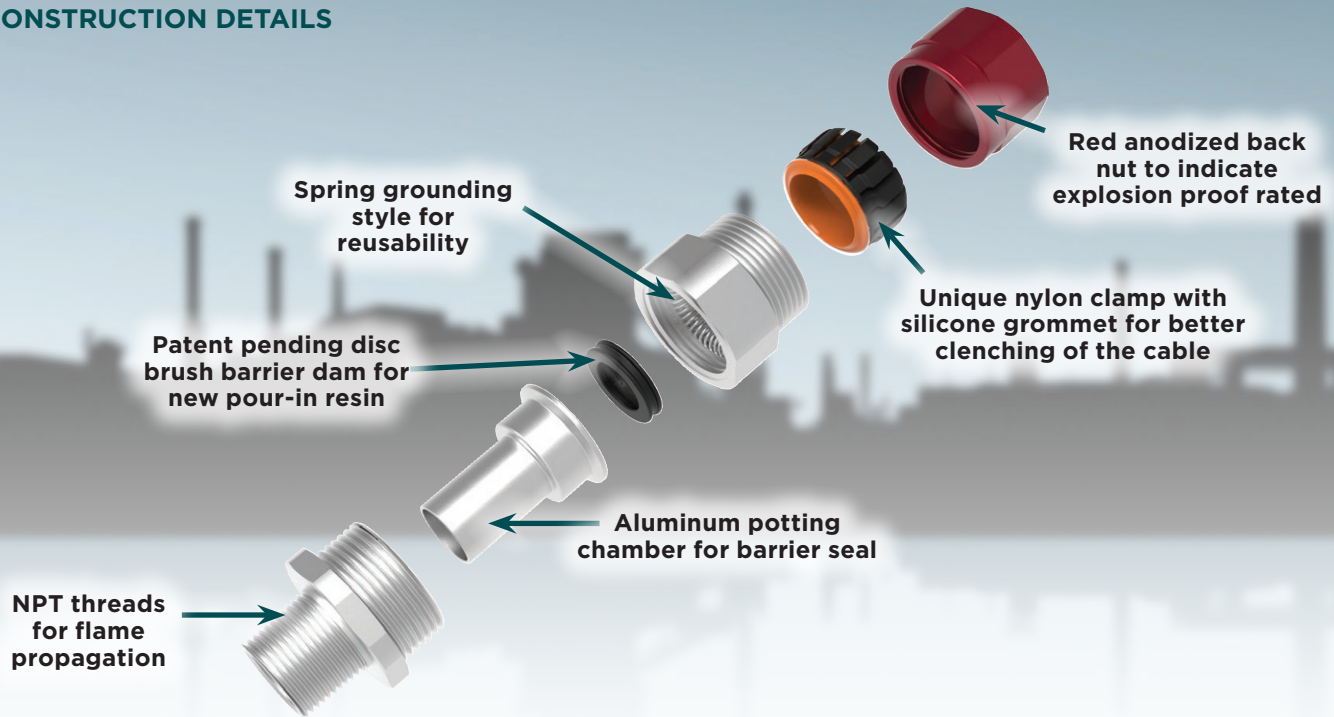
Cable armor diameter and cable jacket diameter refer to the dimensions across the crest.

* Where explosion proof/flameproof enclosures are being used the MC must be installed in conjunction with an approved sealing fitting. In Division 2 areas the MC can be fitted directly to an enclosure which has no source of ignition.



FITTINGS
MC2X SERIES

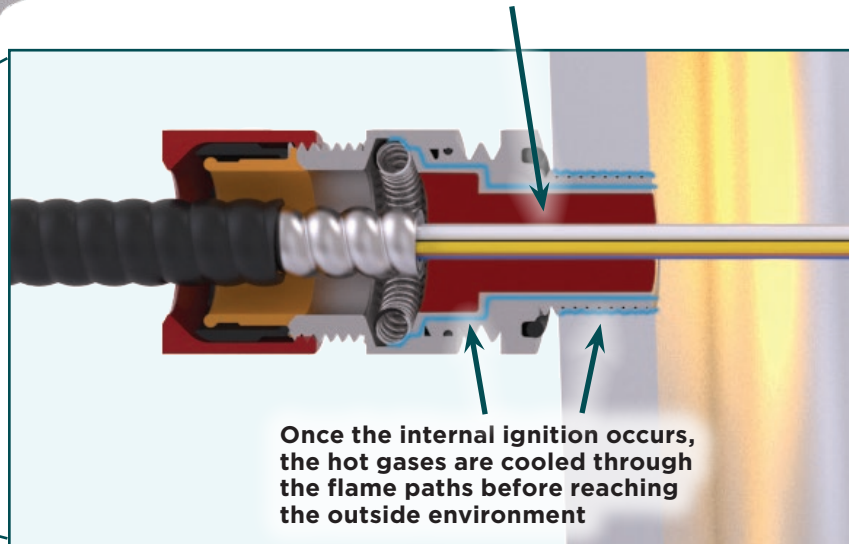
CONSTRUCTION DETAILS

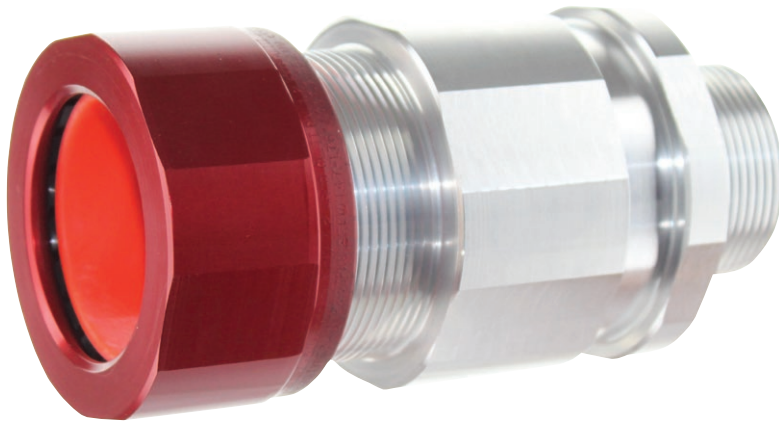


WHEN AN INTERNAL EXPLOSION OCCURS...



The barrier created by using the compound or pour-in resin prevents the explosion from entering through the cable





Class I, Div. 1 & 2, Groups A, B, C, D
Class II, Div. 1 & 2, Groups E, F, G
Class III
Class I, Zone 1, Groups IIC, Zone 20
Type 3, 4, 4X, 6, IP66, IPX8 6ft/1hr
-50°C to 60°C



FEATURES-SPECIFICATIONS

Features

- Used exclusively as a barrier gland for armored and unarmored cable
- New patented disc brush dam allows for Hawke EXpress and CELOX resin as a barrier solution
- Uses a stainless steel grounding spring for reusability
- Red anodized backnut to indicate it is for hazardous explosive areas
- Enhanced middle nut design to allow for better ingress protection and non-exposed threads
- Hand putty comes standard for barrier solution
- Liquid resin barrier solution is sold separately. For more information, see feature page about the resin.

Materials

- Body - Copper-free aluminum
- O-ring - silicone
- Sealing Clamp - nylon
- Sealing Grommet - silicone
- Disc brush - steel channel/nylon fibers
- Disc Grommet - neoprene
- Spring - stainless steel



FITTINGS MC2X SERIES

HQS

KQS

Features - Resin Compound

- Two-part epoxy resin that is self-mixed through a static nozzle
- Easy to use syringe and caulk style dispensers that eliminates any hand mixing and prepping
- Eliminates excess waste as each tube is reusable and comes with additional nozzles
- Fast curing formula that allows for same day installation and energization of equipment
- Various resin sizes available for multiple gland installs



SEALING METHOD	
CATALOG NUMBER	SIZE PACKAGE
HQS-014 ML	14ml (.47oz)
HQS-024 ML	24ml (.81oz)
HQS-050 ML	50ml (1.70oz)
KQS-250 ML	250ml (8.45oz)

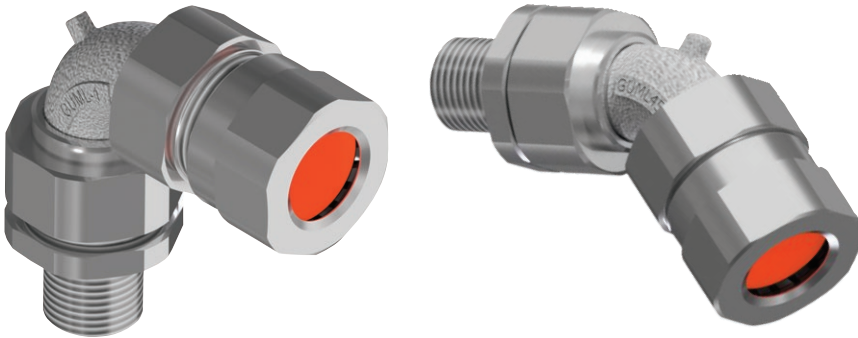
SUITABLE ARMORED & UNARMORED CABLE TYPES	
AC-	AC90, ACWU90, AC90-HL, ACWU90-HL, ACG90, ACGWU90
MC-	MCC, MCI, MCI-A, MC-HL
RA-	RA90, RA90-HL
TECK-	TECK90, TECK90-HL
TRAY-	TC, TC-ER, TC-ER-HL, PLTC, PLTC-ER, ITC, ITC-ER, MV, TYPE P

CATALOG NUMBER	ENTRY THREAD SIZE (NPT)	CABLE ACCEPTANCE DETAILS						MAX LENGTH 'D'	NPT LENGTH 'E'	HEXAGON DIMENSIONS	
		MAX NUMBER OF CORES	THROUGH DIAMETER 'A'	ARMOR DIAMETER 'B'		DIAMETER 'C'				ACROSS FLATS	ACROSS CORNERS
				MIN.	MAX.	MIN.	MAX.				
MC2X1B	1/2"	6	0.39" (9.9)	0.43" (10.9)	0.55" (14.0)	0.51" (13.0)	0.63" (16.0)	2.6" (66)	0.83" (21.1)	1.06" (26.9)	1.12" (28.4)
MC2X1C	1/2"	10	0.48" (12.2)	0.52" (13.2)	0.74" (18.8)	0.60" (15.2)	0.79" (20)	2.9" (73.6)	0.83" (21.1)	1.42" (36)	1.50" (38.1)
MC2X2	3/4"	21	0.71" (18.1)	0.65" (16.5)	0.95" (24.1)	0.73" (18.5)	1.00" (25.4)	3.1" (78.7)	0.84" (21.3)	1.61" (41)	1.69" (42.9)
MC2X3	1"	42	0.96" (26.4)	0.89" (22.6)	1.23" (31.2)	0.97" (24.6)	1.31" (33.3)	3.2" (81.3)	1.03" (26.2)	1.97" (50)	2.13" (54.1)
MC2X4	1-1/4"	73	1.16" (29.5)	1.15" (29.5)	1.48" (37.6)	1.23" (31.2)	1.56" (39.6)	3.6" (91.4)	1.05" (26.7)	2.36" (60)	2.50" (63.5)
MC2X5	1-1/2"	80	1.35" (34.3)	1.39" (35.3)	1.62" (41.1)	1.47" (37.3)	1.78" (45.2)	4.5" (114.3)	1.07" (27.2)	2.95" (75)	3.06" (77.8)
MC2X6	2"	80	1.62" (41.1)	1.39" (35.3)	1.89" (48.0)	1.47" (37.3)	2.04" (51.8)	4.5" (114.3)	1.10" (27.9)	2.95" (75)	3.06" (77.8)
MC2X7	2-1/2"	100	2.09" (53.1)	1.85" (47.0)	2.36" (59.9)	1.93" (49.0)	2.51" (63.8)	4.7" (119.4)	1.62" (41.1)	3.54" (90)	3.65" (92.8)
MC2X8	3"	120	2.52" (64.0)	2.19" (55.6)	2.81" (71.4)	2.27" (57.7)	3.01" (76.5)	4.8" (121.9)	1.68" (42.7)	4.06" (103)	4.22" (107.2)
MC2X9	3-1/2"	120	3.01" (76.5)	2.69" (68.3)	3.28" (83.3)	2.77" (70.4)	3.46" (87.9)	4.8" (121.9)	1.73" (43.9)	4.53" (115)	4.69" (119.2)
MC2X0	4"	120	3.50" (88.9)	3.28" (83.3)	3.82" (97.0)	3.46" (87.9)	4.07" (103.4)	5.1" (129.5)	1.78" (45.2)	5.12" (130)	5.33" (135.3)

Cable armor diameter and cable jacket diameter refer to the dimensions across the crest.



Aluminum Cable Connectors



Class II, Div. 1, Groups E, F, G
Class III,
Zone 20, IP66,
Types 3, 4X
Suitable for use in Class I, Div. 2
locations when installed according to
NEC Articles 501.10
Ta -50°C to +60°C



FEATURES-SPECIFICATIONS

Features

- 360° armor grounding spring is reusable
- Provides sealing backnut plus inner O-ring seal to prevent moisture ingress to the cable armor and enclosure
- Copper-free aluminum construction for harsh, corrosive and hazardous duty
- Patented combination union elbow that allows proper 360° alignment where space is limited
- Compact 45° and 90° bends for optimized wiring configurations
- Armor is terminated prior to bend allowing for minimal bending radius

Materials

- Body: Copper-free aluminum (less than 4/10 of 1%)
- Backnut Seal: Thermoplastic elastomer (silicone)
- Backnut Clamp: Nylon
- Inner and Outer O-rings: Nitrile

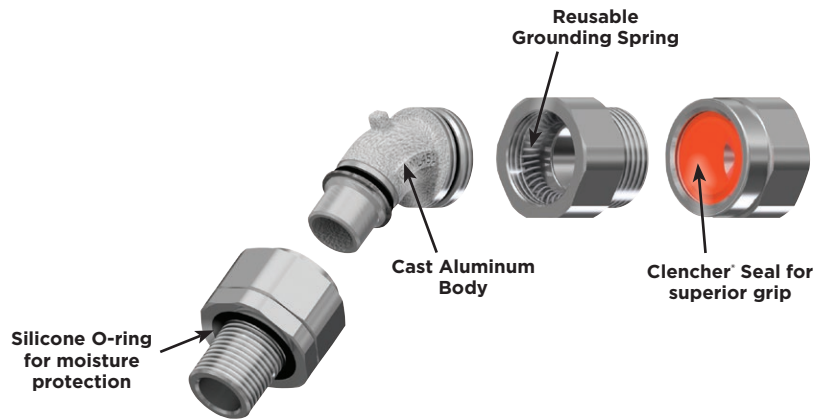
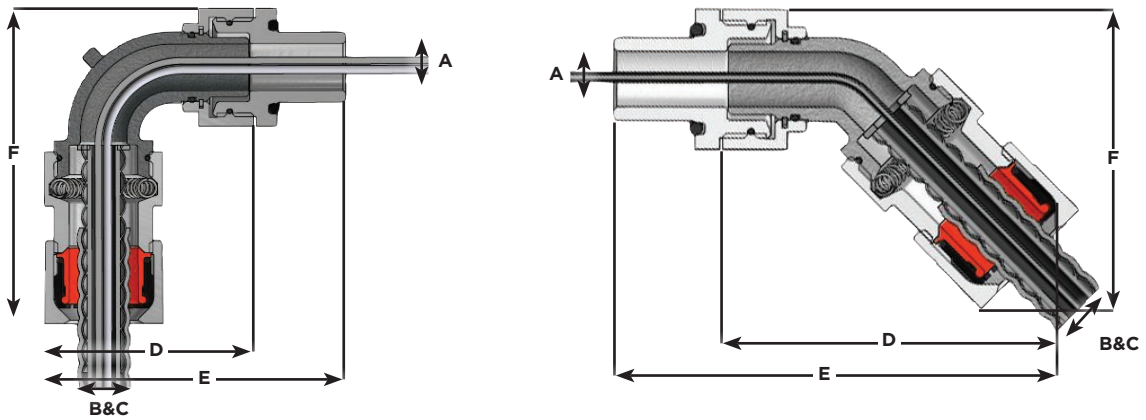


FITTINGS

MC 45°/90° SERIES

Aluminum Cable Connectors

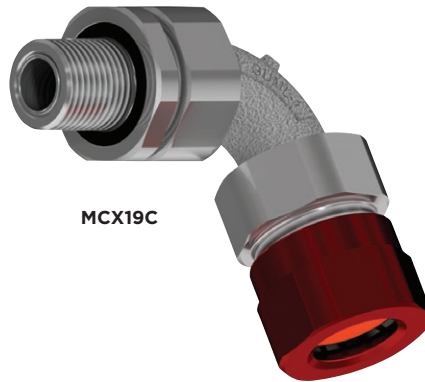
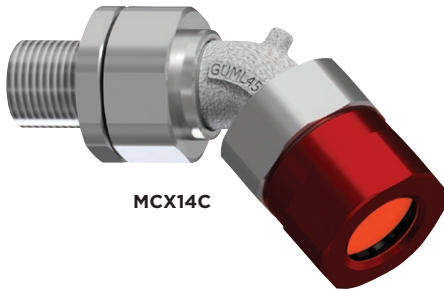
CATALOG NUMBER	ENTRY THREAD SIZE (NPT)	BEND	CABLE ACCEPTANCE DETAILS						MAX LENGTH 'D'	MAX LENGTH 'E'	MAX LENGTH 'F'
			MAX NUMBER OF CORES	THROUGH DIAMETER 'A'	ARMOR DIAMETER 'B'		DIAMETER 'C'				
					MIN.	MAX.	MIN.	MAX.			
MC14C	1/2"	45°	10	.48" (12.2)	.52" (13.2)	.74" (18.8)	.60" (15.2)	.82" (20.8)	3.25" (82.6)	4.35" (110.5)	2.05" (52)
MC24C	3/4"	45°	21	.71" (18)	.65" (16.5)	.95" (24.1)	.73" (18.5)	1.03" (26.2)	3.43" (87.1)	4.55" (115.6)	2.19" (55.6)
MC19C	1/2"	90°	10	.48" (12.2)	.52" (13.2)	.74" (18.8)	.60" (15.2)	.82" (20.8)	2.51" (63.8)	3.62" (91.9)	3.51" (89.2)
MC29	3/4"	90°	21	.71" (18)	.65" (16.5)	.95" (24.1)	.73" (18.5)	1.03" (26.2)	2.61" (66.3)	3.73" (94.7)	3.60" (91.4)



SUITABLE ARMORED & UNARMORED CABLE TYPES	
AC-	AC90, ACWU90, AC90-HL, ACWU90-HL, ACG90, ACGWU90
MC-	MCC, MCI, MCI-A, MC-HL
RA-	RA90, RA90-HL
TECK-	TECK90, TECK90-HL
TRAY-	TC, TC-ER, TC-ER-HL, PLTC, PLTC-ER, ITC, ITC-ER, MV, TYPE P



Aluminum Cable Connectors



Class I, Div. 1, Groups A, B, C, D
 Class II, Div. 1, Groups E, F, G
 Class III,
 CL. I Zone 1 GR. IIC. Zone 20
 Types 3, 4X
 Ta -50°C to +60°C



FEATURES-SPECIFICATIONS

Features

- 360° armor grounding spring is reusable
- Provides a barrier seal between the individual insulated cores within the cable
- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- Provides a cable retention and low smoke fume, zero halogen seal onto the cables outer sheath
- Copper-free aluminum construction for harsh, corrosive and hazardous areas
- Patented combination union elbow that allows proper 360° alignment where space is limited
- Compact 45° and 90° bends for optimized wiring configurations
- Armor is terminated prior to bend allowing for minimal bending radius
- Backnut is anodized RED to indicate HAZARDOUS area product

Materials

- Body: Copper-free aluminum (less than 4/10 of 1%)
- Backnut Seal: Thermoplastic elastomer (silicone)
- Backnut Clamp: Nylon
- Inner and Outer O-rings: Nitrile

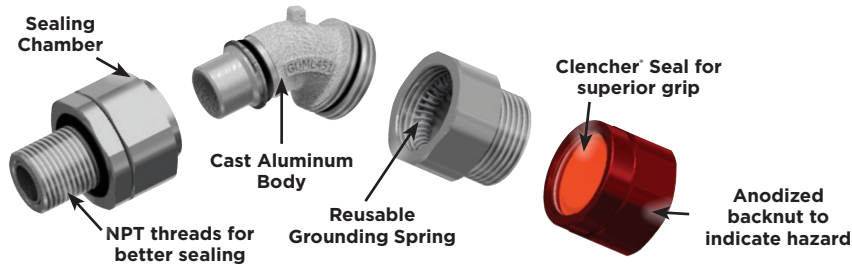
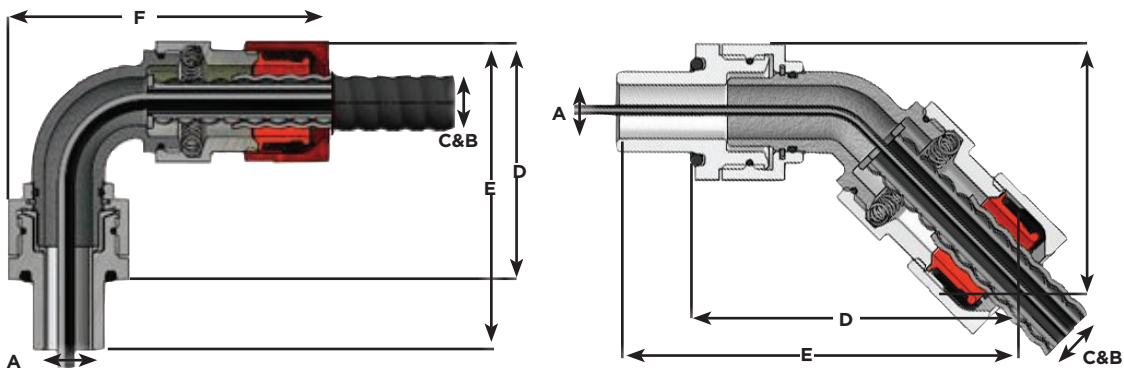


FITTINGS

MCX 45°/90° SERIES

Aluminum Cable Connectors

CATALOG #	ENTRY THREAD SIZE (NPT)	BEND	CABLE ACCEPTANCE DETAILS						MAX LENGTH 'D'	MAX LENGTH 'E'	MAX LENGTH 'F'
			MAX NUMBER OF CORES	THROUGH DIAMETER 'A'	ARMOR DIAMETER 'B'		DIAMETER 'C'				
					MIN.	MAX.	MIN.	MAX.			
MCX14C	1/2"	45°	10	.48" (12.2)	.52" (13.2)	.74" (18.8)	.60" (15.2)	.82" (20.8)	3.25" (82.6)	4.35" (110.5)	2.05" (52)
MCX24	3/4"	45°	21	.71" (18)	.65" (16.5)	.95" (24.1)	.73" (18.5)	1.03" (26.2)	3.43" (87.1)	4.55" (115.6)	2.19" (55.6)
MCX19C	1/2"	90°	10	.48" (12.2)	.52" (13.2)	.74" (18.8)	.60" (15.2)	.82" (20.8)	2.51" (63.8)	3.62" (91.9)	3.51" (89.2)
MCX29	3/4"	90°	21	.71" (18)	.65" (16.5)	.95" (24.1)	.73" (18.5)	1.03" (26.2)	2.61" (66.3)	3.73" (94.7)	3.60" (91.4)



SUITABLE ARMORED & UNARMORED CABLE TYPES	
AC-	AC90, ACWU90, AC90-HL, ACWU90-HL, ACG90, ACGWU90
MC-	MCC, MCI, MCI-A, MC-HL
RA-	RA90, RA90-HL
TECK-	TECK90, TECK90-HL
TRAY-	TC, TC-ER, TC-ER-HL, PLTC, PLTC-ER, ITC, ITC-ER, MV, TYPE P



What is a cable gland?

A Cable Gland provides strain relief and can include a provision for making a connection to the armor, braid, lead or aluminum sheath of the cable.

For unarmored and braided cables, this strain relief is provided by the seal only. For armored cables the armor and clamp can also provide pull out resistance. In hazardous areas, cable glands are also used to maintain the protection concept of the equipment or enclosure into which they are being terminated.

Hawke and Killark have been in the connector business for over 70 years. With the trust and reputation of Hawke's quality and engineering, Killark and Hawke have combined design and innovation input to develop the best-in-class glands in today's market. From markets ranging from the harshest environment to light industrial, Killark and Hawke have the gland to meet any application needs.





The First Globally Certified, Fully Inspectable, Elastomeric **Compound Pot**

Why a silicone compound pot?

At Hawke, we prioritize complete inspectability of all seals and explosion protection features within our products. The search for inspectability pushed us toward the unique transparent silicone compound pot in which the compound is visible both as it is being installed and once installation is complete.

How does it work?

A traditional metallic compound pot uses a flamepath to dissipate the energy of an ignition. The flamepath is a tightly controlled clearance between the pot and the gland housing. If this clearance is too large there is a risk of ignition.

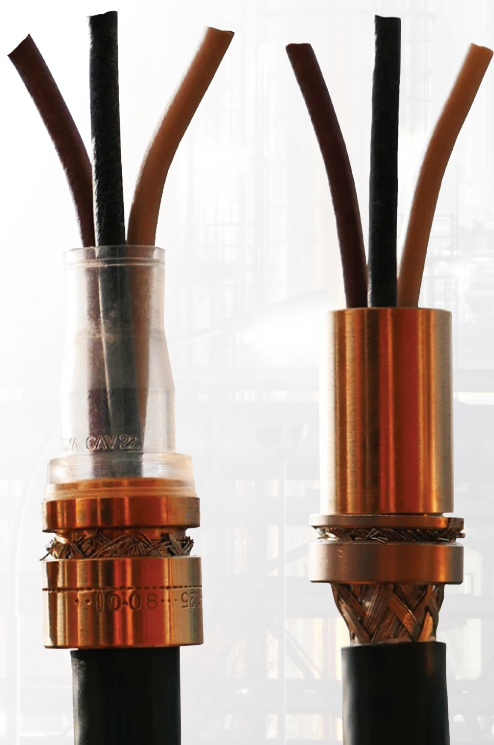
If this clearance is too small the pot won't fit into the gland. Any scratches or damage renders the gland useless. Our silicone pot works by being compressed when installed so the flamepath gap is always zero.

How was the silicone compound pot tested and certified?

The compound pot and resin have been certified in accordance with ATEX/IECEX 60079 and UL2225. They have been through rigorous testing processes including and not limited to; chemical exposure, hydrostatic pressure, thermal aging and explosion testing.

What are the benefits of the silicone compound pot over a brass compound pot?

- When terminating the barrier gland the resin is visible to the installer, so the process is much more controlled and visible. Any issues such as voids or underfilling can be immediately addressed before the compound cures.
- The resin is visible through the compound pot and as such can be inspected without the product being destroyed. Traditional metallic compound pots must be cut off to inspect, discarded and then remade with a new gland.
- If the flamepath surface of a metallic pot is damaged, the whole assembly must be cut off the cable and replaced. If damage occurs to the silicone compound pot, it can be replaced.



The Difference is Clear

100% visibility.
Inspect installed glands with zero destruction.

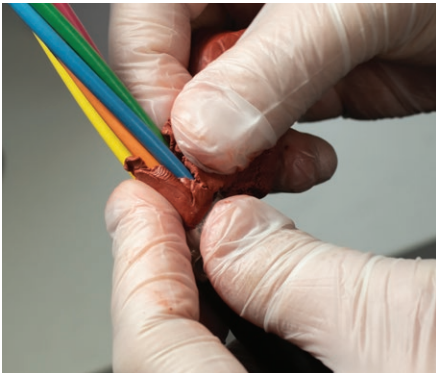




Sealing Methods

Our Glands now offer a quick liquid resin as a solution to create a barrier dam but still allow the traditional putty to be used

TRADITIONAL



NEW



VS



Cable Gland Tightening Guide

Whilst Hawke International goes to great lengths to ensure products are designed to be as simple to install, inspect and maintain as is possible, differing levels of competency, training and understanding can lead to glands being incorrectly installed. With hazardous area products, any poor installation issues can not only lead to expensive equipment failure, but also potential explosion risks and associated risk to life.

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented **INBUILT TIGHTENING GUIDE**.

Without the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance.

How it works

The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. Following the relevant cable gland Installation Instructions, the back seal should be tightened until a seal is formed on the cable outer sheath and then tightened one further turn.



Step 1
Follow cable gland installation instructions until final stage - tightening of rear seal



Step 2
Tighten backnut until a seal is formed onto the cable, then tighten one further turn



Step 3
The backnut should be level with the marking guide corresponding to its diameter - this can be visually inspected and adjusted as necessary

ALTERNATIVE REVERSIBLE ARMOUR CLAMPING RING SIZE SELECTION

SIZE REF	ORIENTATION 1	ORIENTATION 2
B	0.0354" - 0.0492"	0.0197" - 0.0354"
C	0.0472" - 0.063"	0.0236" - 0.0472"
C2	0.0472" - 0.063"	0.0236" - 0.0472"
D	0.0571" - 0.0709"	0.0394" - 0.0571"
E	0.0571" - 0.0709"	0.0394" - 0.0571"
F	0.0571" - 0.0709"	0.0394" - 0.0571"

ORDERING INFORMATION

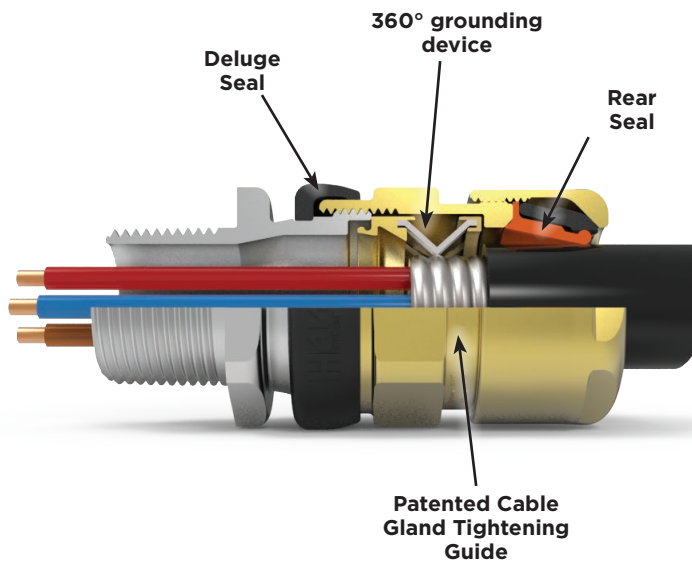
Format for ordering is as follows:
Alternative Clamping Ring (AR), add suffix AR to ordering information

CABLE GLAND TYPE	SIZE	THREAD	MATERIAL
753	C	M23	Brass
753	C	1" NPT	Stainless Steel

Example Code: 753 C M32 EP Stainless Steel



Increased Safety Exe for Zones North American Cable Gland



Technical Data

Ingress Protection: IP66, IP67, IP68* (30 metres for 7 days; special conditions may apply), IP69 to IEC/EN 60529 and TYPE 4X

**Deluge Protection: to DTS01
 Ta -50°C to +80°C**

NEC / CEC Certifications

Class Class I, Zone I, AEx e IIC Gb;

Zone 21, AEx tb IIIC Db

Ex eb IIC Gb; Ex tb IIIC Db

Cable Types: MC, MC-HL

UL E84940

Construction & Test Standards: UL2225, UL514B, CSA C22.2 NO. 18.3-12, CSA C22.2 60079-0, CSA C22.2 60079-1, CSA 22.2 60079-7 and CSA 22.2 60079-31



International Approvals

FEATURES-SPECIFICATIONS

The NEC* Compliant 701 gland certified Exe for zones is suitable for use with continuous corrugated Aluminum Metal Clad (MC-HL; MC) cable. Features a fully inspectable 360° grounding device which remains in contact with the cable when disassembled for inspection.

Features

- **INSPECTABLE DELUGE SEAL** - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- Fully inspectable **360° GROUNDING DEVICE** which remains in contact with the cable when disassembled for inspection.
- **PATENTED CABLE GLAND TIGHTENING GUIDE** - Helps prevent damage caused by over tightening
- **UNIQUE REAR SEAL** - Offering ultimate sealing over an extremely wide cable acceptance range.



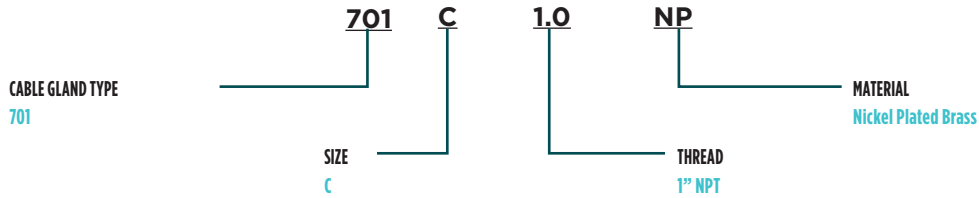
FITTINGS

701 - CABLE GLAND

Catalog Logic / Ordering Information

CATALOG LOGIC

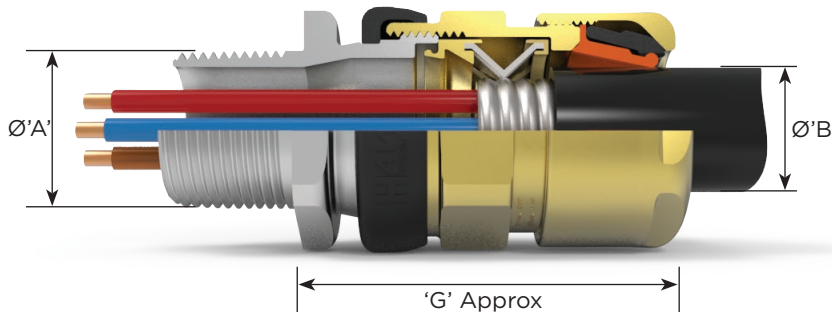
Format for ordering is as follows:



Order Example: 701 C 1.0 NP

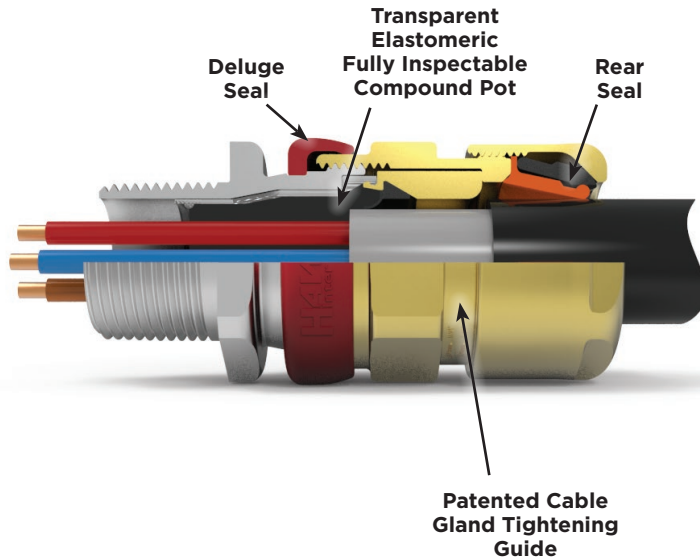
CABLE GLAND SELECTION TABLE									
SIZE REF.	ENTRY THREAD SIZE 'A'		CABLE ACCEPTANCE DETAILS				'G'	HEXAGON DIMENSIONS	
	METRIC	NPT* STANDARD	ARMOUR JACKET 'E'		OUTER JACKET 'B'			ACROSS FLATS	ACROSS CORNERS
			MIN	MAX	MIN	MAX			
A	M20	½" or ¾"	0.41"	0.64"	0.49"	0.81"	2.5"	1.18"	1.28"
B	M25	¾" or 1"	0.55"	0.93"	0.67"	1.02"	2.59"	1.42"	1.56"
C	M32	1" or 1¼"	0.85"	1.23"	0.87"	1.30"	2.93"	1.81"	1.99"
C2	M40	1¼" or 1½"	1.17"	1.59"	1.10"	1.61"	3.03"	2.17"	2.39"
D	M50	2" or 1½"	1.37"	1.96"	1.42"	2.07"	3.90"	2.56"	2.79"
E	M63	2½" or 2"	1.81"	2.55"	1.81"	2.57"	3.66"	3.15"	3.46"
F	M75	3" or 2½"	2.37"	2.98"	2.24"	3.07"	3.93"	3.74"	4.09"

*Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.
Oversize glands are available for Wet Locations. Please contact Hawke for more details.*





Increased Safety Exe for Zones North American Cable Gland



Technical Data

Ingress Protection: IP66, IP67, IP68* (30 metres for 7 days; special conditions may apply), IP69 to IEC/EN 60529 and NEMA 4X

Deluge Protection: to DTS01
Ta -50°C to +80°C

NEC / CEC Certifications

Class I Div 1 ABCD; Class II Div 1 EFG; Class III
Class I Div 2 ABCD, Class II Div 2 FG and Class III Div 2 Class I, Zone 1, AEx d IIC; AEx e IIC; Zone 21, AEx tb IIIC
Class I Div 1 ABCD; Class II Div 1 EFG; Class III
Class I Div 2 ABCD, Class II Div 2 FG and Class III Div 2 Ex db IIC Gb; Ex eb IIC Gb; Ex tb IIIC Dc
Cable Types: TC-ER-HL, ITC-HL, TC, TC-ER, PLTC, PLTC-ER, ITC, ITC-ER
UL US E84940

Construction & Test Standards: UL2225, UL514B, CSA C22.2 NO. 18.3-12, CSA 22.2 60079-0, CSA 22.2 60079-1, CSA 22.2 60079-7 and CSA 22.2 60079-31

ATEX/IECEX Certifications

ATEX/IECEX Protection Class: Ex II 2GD
Ex db IIC Gb; Ex eb IIC Gb; Ex tb IIIC Db

ATEX Certificate No: CML 18ATEX1268X

IECEX Certificate No: CML 18.0131X

Construction & Test Standards:

IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31

Additional Certifications:

EAC: TC RU C-GB HA91 B 0046 19

Inmetro: IEx 14.0272X

PESO: P450038



International Approvals

FEATURES-SPECIFICATIONS

The NEC* Compliant 710 dual certified Exe/Exd cable gland is suitable for use with the following cable types: TC-ER-HL, TC-ER, PLTC, PLTC-ER, ITC, ITC-HL & ITC-ER (see technical data for more information). The gland provides a barrier seal around the individual cores within the cable and prevents entry of the products of an explosion into the cable. The gland features the worlds only NEC* compliant transparent elastomeric fully inspectable compound chamber.

Features

- **INSPECTABLE DELUGE SEAL** - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- **TRANSPARENT ELASTOMERIC FULLY INSPECTABLE COMPOUND POT** - compatible with both injectable resin and 2 part compound
- **PATENTED CABLE GLAND TIGHTENING GUIDE** - Helps prevent damage caused by over tightening
- **UNIQUE REAR SEAL** - Offering ultimate sealing over an extremely wide cable acceptance range.



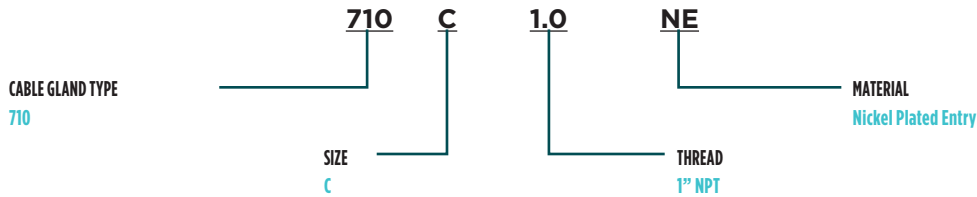
FITTINGS

710 - CABLE GLAND

Catalog Logic / Ordering Information

CATALOG LOGIC

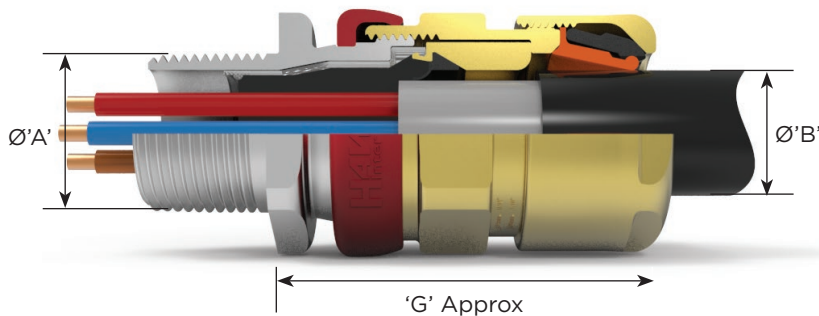
Format for ordering is as follows:



Order Example: 710 C 1.0 NE

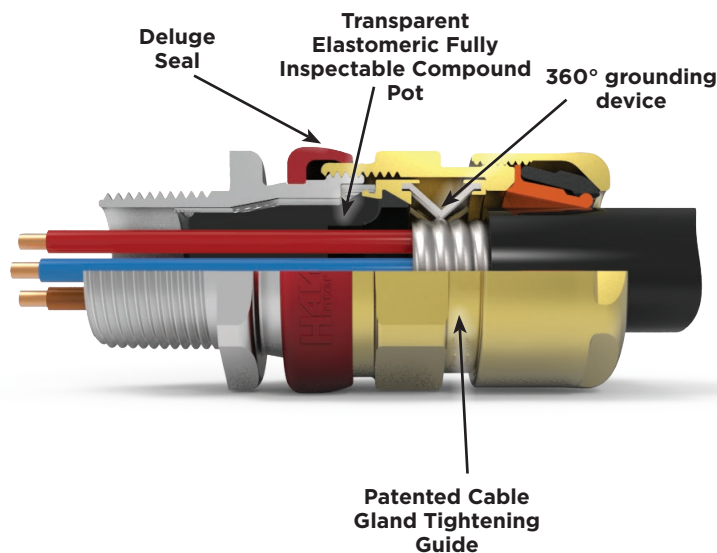
CABLE GLAND SELECTION TABLE											
SIZE REF.	ENTRY THREAD SIZE 'A'		CABLE ACCEPTANCE DETAILS						'G'	HEXAGON DIMENSIONS	
	METRIC	NPT1 STANDARD	INNER JACKET CORES 'ØA'				OUTER JACKET 'ØB'			ACROSS FLATS	CORNERS ACROSS
			MAX OVER CORES 'D'	MIN INNER JACKET 'E'	MAX INNER JACKET 'E'	MAX NO OF CORES	MIN	MAX			
0s	M20	½"	0.31"	0.14"	0.32"	12	0.22"	0.47"	2.30"	0.94"	1.04"
O	M20	½"	0.35"	0.26"	0.46"	12	0.37"	0.63"	2.30"	0.94"	1.04"
A	M20	¾" or ½"	0.43"	0.33"	0.55"	15	0.49"	0.81"	2.39"	1.18"	1.28"
B	M25	1" or ¾"	0.63"	0.44"	0.78"	30	0.66"	1.02"	2.65"	1.42"	1.56"
C	M32	1½" or 1"	0.86"	0.69"	1.03"	42	0.87"	1.30"	2.88"	1.81"	1.99"
C2	M40	1½" or 1¼"	1.05"	0.91"	1.27"	60	1.10"	1.61"	3.08"	2.17"	2.39"
D	M50	2"	1.48"	1.14"	1.74"	80	1.42"	2.07"	3.84"	2.56"	2.79"
E	M63	2½"	1.93"	1.57"	2.20"	100	1.81"	2.57"	3.68"	3.15"	3.46"
F	M75	3"	2.35"	1.99"	2.68"	120	2.24"	3.07"	4.11"	3.74"	4.09"

0s-F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread.





Explosion Proof, IECEx and ATEX Approved Flameproof Exd, Increased Safety Exe (Dual Marked UL & ATEX as Standard)



FEATURES-SPECIFICATIONS

The NEC* Compliant 711 dual certified Exe/Exd gland is suitable for use with continuous corrugated Aluminum Metal Clad (MC-HL) cable and provides a barrier seal around the individual cores within the cable and prevents entry of the products of an explosion into the cable.

The gland features the worlds only NEC* compliant transparent elastomeric fully inspectable compound chamber

Features

- **INSPECTABLE DELUGE SEAL** - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- **TRANSPARENT ELASTOMERIC FULLY INSPECTABLE COMPOUND POT** - compatible with both injectable resin and 2 part compound
- Fully inspectable **360° GROUNDING DEVICE** which remains in contact with the cable when disassembled for inspection.
- **PATENTED CABLE GLAND TIGHTENING GUIDE** - Helps prevent damage caused by over tightening
- **UNIQUE REAR SEAL** - Offering ultimate sealing over an extremely wide cable acceptance range.

Technical Data

Ingress Protection: IP66, IP67, IP68* (30 metres for 7 days; special conditions may apply), IP69 to IEC/EN 60529 and TYPE 4X

Deluge Protection: to DTS01
Ta -50°C to +80°C

NEC / CEC Certifications

Class I Div 1 ABCD;
Class II Div 1 EFG; Class III
Class I Div 2 ABCD, Class II Div 2 FG
and Class III Div 2
Class I, Zone 1, AEx d IIC; AEx e IIC;
Zone 21, AEx tb IIIC
Ex db IIC Gb; Ex eb IIC Gb; Ex tb IIIC Db
Cable Types: ITC-HL, MC, MC-HL
UL E84940
Construction & Test Standards: UL2225,
UL514B, CSA C22.2 NO. 18.3-12 , CSA
22.2 60079-0, CSA 22.2 60079-1, CSA
22.2 60079-7 and CSA 22.2 60079-31

ATEX/IECEx Certifications

ATEX/IECEx Protection Class: Ex II 2GD
Ex db IIC Gb; Ex eb IIC Gb; Ex tb IIIC
Db
ATEX Certificate No: CML 18ATEX1268X
IECEx Certificate No: CML 18.0131X
Construction & Test Standards:
IEC/EN 60079-0, IEC/EN 60079-1,
IEC/EN 60079-7 and IEC/EN 60079-
31
Additional Certifications:
EAC: TC RU C-GB HA91 B 0046 19
Inmetro: IEx 14.0272X
PESO: P450038





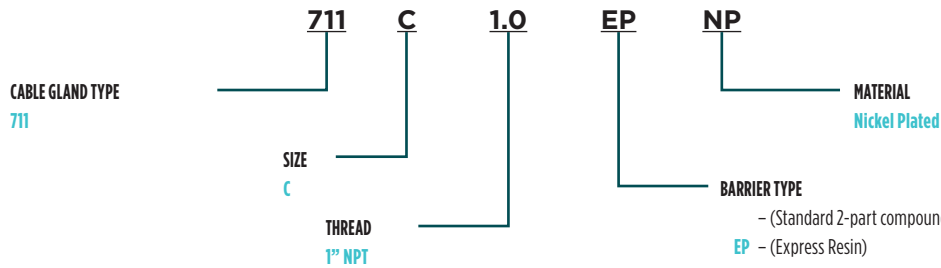
FITTINGS

711 - CABLE GLAND

Catalog Logic / Ordering Information

CATALOG LOGIC

Format for ordering is as follows:

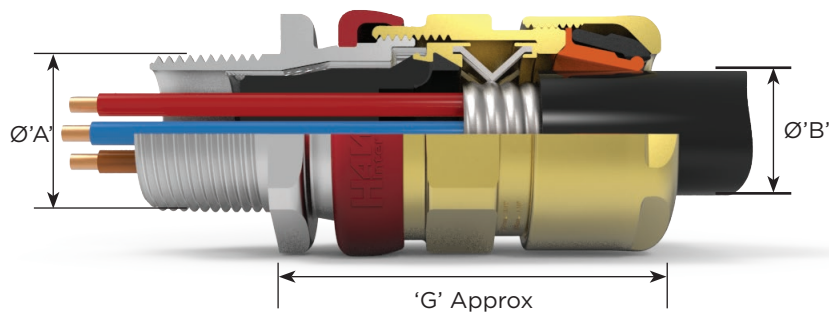


Two part sealing compound and assembly instructions are supplied with the cable gland

Order Example: 711 C 1.0 EP NP

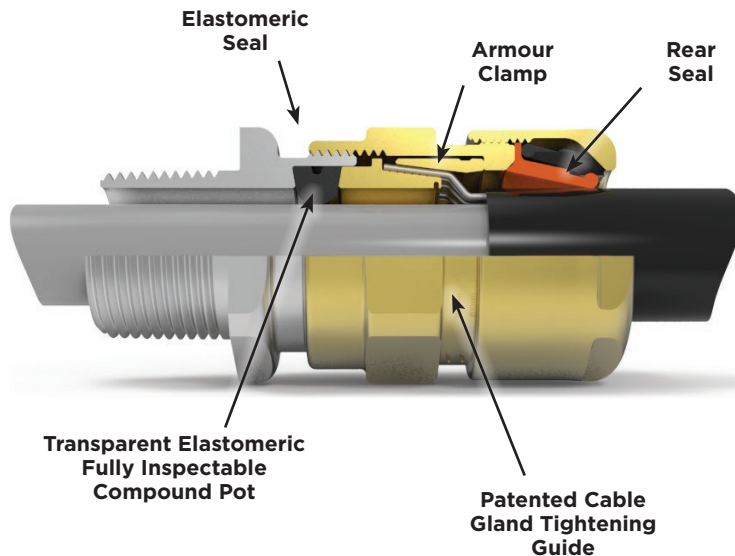
CABLE GLAND SELECTION TABLE											
SIZE REF.	ENTRY THREAD SIZE 'A'		CABLE ACCEPTANCE DETAILS						'G'	HEXAGON DIMENSIONS	
	METRIC	NPT* STANDARD	MAX OVER CORES	ARMOUR JACKET		MAX NO OF CORES	OUTER JACKET 'ØB'			ACROSS FLATS	ACROSS CORNERS
				MIN	MAX		MIN	MAX			
A	M20	¾" or ½"	0.43"	0.41"	0.64"	15	0.49"	0.81"	2.5"	1.18"	1.28"
B	M25	1" or ¾"	0.63"	0.55"	0.93"	30	0.67"	1.02"	2.59"	1.42"	1.56"
C	M32	1½" or 1"	0.86"	0.85"	1.23"	42	0.87"	1.30"	2.93"	1.81"	1.99"
C2	M40	1½" or 1¼"	1.05"	1.17"	1.59"	60	1.10"	1.61"	3.03"	2.17"	2.39"
D	M50	2"	1.48"	1.37"	1.96"	80	1.42"	2.07"	3.9"	2.56"	2.79"
E	M63	2½"	1.93"	1.81"	2.55"	100	1.81"	2.57"	3.66"	3.15"	3.46"
F	M75	3"	2.35"	2.37"	2.98"	120	2.24"	3.07"	3.93"	3.74"	4.09"

A - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread.





North American General Purpose

**Technical Data**

Area Classification: **UL listed for use
Wet Locations**

Ⓛ E218332

Construction & Test Standards: **UL 514B**
Ingress Protection: **IP66, IP67, IP68 (30
metres for 7 days) to IEC/EN 60529
and TYPE 4X**

Deluge Protection: **DTS01**
Ta **-50°C to +60°C**



International
Approvals

FEATURES-SPECIFICATIONS

The 153/X Cable Gland is general purpose cable gland for use with wire braid, steel wire armour, elastomer and plastic insulated cables. The gland provides an elastomeric seal on the cable inner sheath, and a low smoke, zero halogen IP and retention seal onto the cable outer sheath.

Features

- **ELASTOMERIC SEAL** on cable inner sheath
- **FULLY INSPECTABLE ARMOUR CLAMP**
- **PATENTED CABLE GLAND TIGHTENING GUIDE** - Helps prevent damage caused by over tightening
- **UNIQUE REAR SEAL** - Offering ultimate sealing over an extremely wide cable acceptance range.



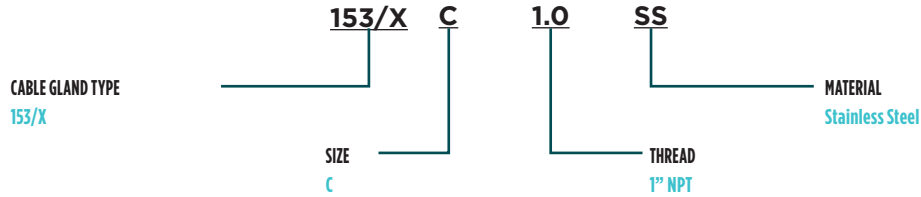
FITTINGS

153 X - CABLE GLAND

Catalog Logic / Ordering Information

CATALOG LOGIC

Format for ordering is as follows:



Order Example: 153/X C 1.0 SS

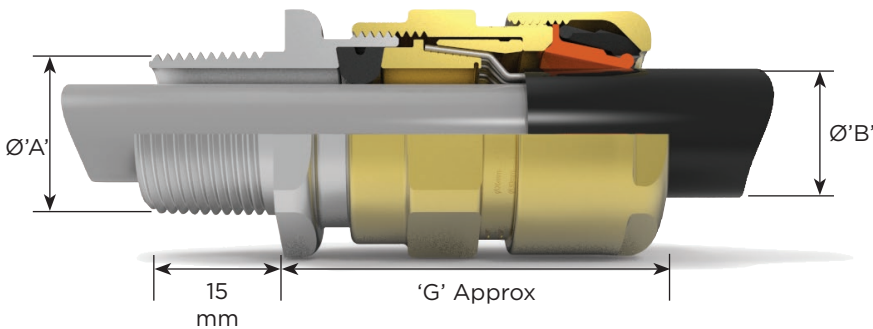
CABLE GLAND SELECTION TABLE													
SIZE REF.	ENTRY THREAD SIZE 'A'		CABLE ACCEPTANCE DETAILS								'G'	HEXAGON DIMS	
	METRIC	NPT* STANDARD OR OPTION	STANDARD SEAL		ALTERNATIVE SEAL (S)		OUTER JACKET 'B'		ARMOUR / BRAID 'C'			ACROSS FLATS	ACROSS CORNERS
			MIN	MAX	MIN	MAX	MIN	MAX	ORIENTATION 1	ORIENTATION 2			
0s	M202	½"	0.13"	0.31"	—	—	0.22"	0.47"	0.0315"/0.0492"	0"/0.0315"	2.05"	0.94"	1.04"
0	M202	½"	0.26"	0.47"	—	—	0.41"	0.63"	0.0315"/0.0492"	0"/0.0315"	2.05"	0.94"	1.04"
A	M20	¾" or ½"	0.39"	0.58"	0.35"	0.53"	0.50"	0.81"	0.0315"/0.0492"	0"/0.0315"	2.09"	1.18"	1.28"
B	M25	1" or ¾"	0.51"	0.79"	0.37"	0.61"	0.67"	1.02"	0.0492"/0.063"	0"/0.0276"	2.34"	1.42"	1.56"
C	M32	1¼" or 1"	0.77"	1.04"	0.61"	0.83"	0.98"	1.30"	0.063"/0.0787"	0"/0.0276"	2.52"	1.81"	1.99"
C2	M40	1½" or 1¼"	0.98"	1.28"	0.87"	1.10"	1.30"	1.61"	0.063"/0.0787"	0"/0.0276"	2.69"	2.17"	2.39"
D	M50	2" or 1½"	1.24"	1.75"/1.66" ¹	1.08"	1.37"	1.56"	2.07"	0.0709"/0.0984"	0"/0.0394"	3.11"	2.56"	2.79"
E	M63	2½" or 2"	1.67"	2.22"/2.14" ¹	1.54"	1.83"	2.05"	2.57"	0.0709"/0.0984"	0"/0.0394"	3.09"	3.15"	3.46"
F	M75	3" or 2½"	2.15"	2.69"/2.57" ¹	1.95"	2.3"	2.52"	3.07"	0.0709"/0.0984"	0"/0.0394"	3.30"	3.74"	4.09"
H	M90	3" or 3½"	2.64"	3.06"	—	—	2.96"	3.52"	0.0787"/0.1378"	0"/0.0394"	3.76"	4.53"	5.12"

0s-F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering

1 Smaller value is applicable when selecting reduced NPT entry option.

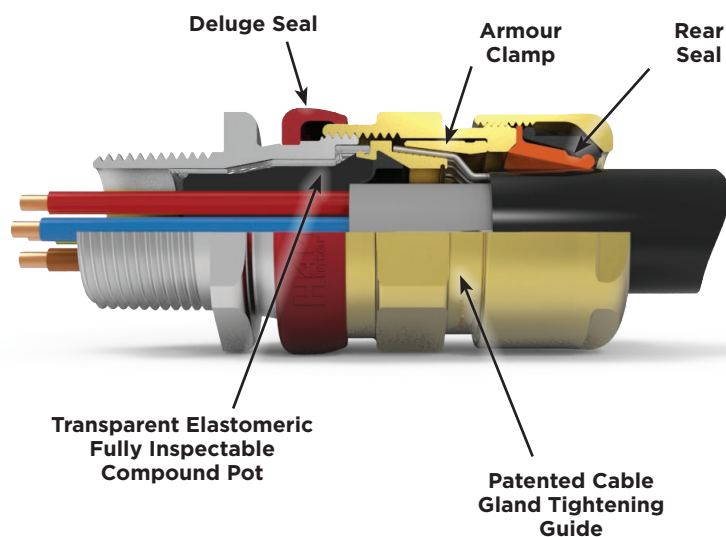
2 Sizes 0s and 0 are available with an M16 thread size. For 0 size with M16 thread, the maximum cable inner jacket diameter is 0.43"



ALTERNATIVE REVERSIBLE ARMOUR CLAMPING RING SIZE SELECTION		
SIZE REF	ORIENTATION 1	ORIENTATION 2
B	0.0354" - 0.0492"	0.0197" - 0.0354"
C	0.0472" - 0.063"	0.0236" - 0.0472"
C2	0.0472" - 0.063"	0.0236" - 0.0472"
D	0.0571" - 0.0709"	0.0394" - 0.0571"
E	0.0571" - 0.0709"	0.0394" - 0.0571"
F	0.0571" - 0.0709"	0.0394" - 0.0571"



North American
Explosion Proof, IECEx and ATEX Approved Flameproof Exd,
Increased Safety Exe (Dual Marked UL & ATEX as Standard)



FEATURES-SPECIFICATIONS

The NEC* Compliant 753 dual certified Exe/Exd gland is now suitable for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z' and provides a barrier seal to the individual cores within the cable and prevents entry of the products of an explosion into the cable. The gland features the worlds only NEC* compliant transparent elastomeric fully inspectable compound chamber. The 753 is available with either ExPress liquid barrier resin or QSP 2-part hand mix compound, both with a cure time of 30 minutes.

Features

- **INSPECTABLE DELUGE SEAL** – Offering IP66, IP67, IP68 & IP69 Ingress Protection
- **TRANSPARENT ELASTOMERIC FULLY INSPECTABLE COMPOUND POT** – compatible with both injectable resin and 2 part compound
- **REVERSIBLE ARMOUR CLAMP** – For all types of armour and braid.
- **PATENTED CABLE GLAND TIGHTENING GUIDE** – Helps prevent damage caused by over tightening
- **UNIQUE REAR SEAL** – Offering ultimate sealing over an extremely wide cable acceptance range.

Technical Data

Ingress Protection: IP66, IP67, IP68* (30 metres for 7 days; special conditions may apply), IP69 to IEC/EN 60529 and TYPE 4X
Deluge Protection: to DTS01
Operating Temperature: -50°C to +80°C

NEC / CEC Certifications

Class I Div 1 ABCD, Class II Div 1 EFG and Class III
Class I Div 2 ABCD, Class II Div 2 FG and Class III Div 2
Class I, Zone I, AEx d IIC; AEx e IIC; Zone 21, AEx tb IIIC
Ex db IIC Gb; Ex eb IIC Gb; Ex tb IIIC Db
Cable Types: ITC, PLT
UL^{US} E84940

Construction & Test Standards: UL2225, UL514B, CSA C22.2 NO. 18.3-12, CSA 22.2 60079-0, CSA 22.2 60079-1, CSA 22.2 60079-7 and CSA 22.2 60079-31

ATEX/IECEx Certifications

ATEX/IECEx Protection Class: Ex II 2GD
Ex db IIC Gb; Ex eb IIC Gb; Ex tb IIIC Db

ATEX Certificate No: CML 18ATEX1268X

IECEx Certificate No: CML 18.0131X

Construction & Test Standards:

IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31

Additional Certifications:

EAC: TC RU C-GB HA91 B 0046 19

Inmetro: IEx 14.0272X

PESO: P450038



International
Approvals



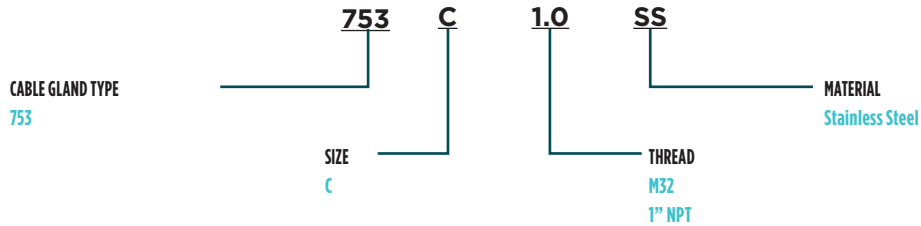
FITTINGS

753 - CABLE GLAND

Catalog Logic / Ordering Information

CATALOG LOGIC

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information

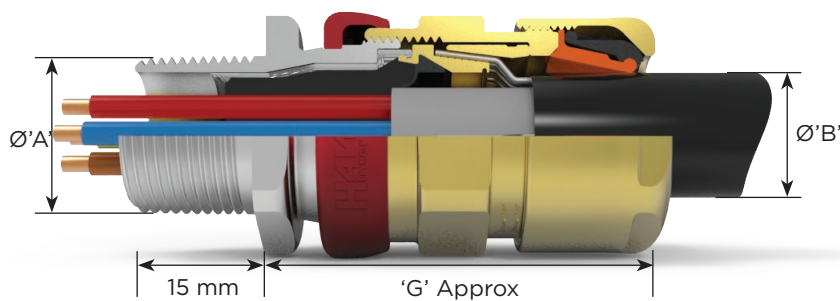


Example Code: 753 C 1.0 SS

CABLE GLAND SELECTION TABLE												
SIZE REF.	ENTRY THREAD SIZE		CABLE ACCEPTANCE DETAILS							'G'	HEXAGON DIMENSIONS	
	METRIC	NPT* STANDARD	INNER JACKET CORES 'ØA'			OUTER JACKET 'ØB'		ARMOUR / BRAID 'ØC'			ACROSS FLATS	ACROSS CORNERS
			MAX OVER CORES	MAX INNER JACKET	MAX NO CORES	MIN	MAX	ORIENTATION 1	ORIENTATION 2			
0s	M20	½"	0.31"	0.32***	12	0.22"	0.47"	0.0315"/0.0492"	0"/0.0315"	2.3"	0.94"	1.04"
0	M20	½"	0.35"	0.46"	12	0.37"	0.63"	0.0315"/0.0492"	0"/0.0315"	2.3"	0.94"	1.04"
A	M20	¾" or ½"	0.43"	0.55"	15	0.49"	0.81"	0.0315"/0.0492"	0"/0.0315"	2.39"	1.18"	1.28"
B	M25	1" or ¾"	0.63"	0.78"	30	0.67"	1.02"	0.0492"/0.063"	0"/0.0276"	2.65"	1.42"	1.56"
C	M32	1¼" or 1"	0.86"	1.03"	42	0.87"	1.30"	0.063"/0.0787"	0"/0.0276"	2.88"	1.81"	1.99"
C2	M40	1½" or 1¼"	1.05"	1.27"	60	1.10"	1.61"	0.063"/0.0787"	0"/0.0276"	3.08"	2.17"	2.39"
D	M50	2"	1.48"	1.74"	80	1.42"	2.07"	0.0709"/0.0984"	0"/0.0394"	3.84"	2.56"	2.79"
E	M63	2½"	1.93"	2.20"	100	1.81"	2.57"	0.0709"/0.0984"	0"/0.0394"	3.68"	3.15"	3.46"
F	M75	3"	2.35"	2.68"	120	2.24"	3.07"	0.0709"/0.0984"	0"/0.0394"	4.11"	3.74"	4.09"

0s-F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. Oversize glands are available. Please contact Hawke for more details

***Recommended value to suit integrated Express resin stop. May be increased to 0.39" if OSP compound or alternative Express resin stop method are used.



ALTERNATIVE REVERSIBLE ARMOUR CLAMPING RING SIZE SELECTION

SIZE REF	ORIENTATION 1	ORIENTATION 2
B	0.0354" - 0.0492"	0.0197" - 0.0354"
C	0.0472" - 0.063"	0.0236" - 0.0472"
C2	0.0472" - 0.063"	0.0236" - 0.0472"
D	0.0571" - 0.0709"	0.0394" - 0.0571"
E	0.0571" - 0.0709"	0.0394" - 0.0571"
F	0.0571" - 0.0709"	0.0394" - 0.0571"



Lighting Table of Contents

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LALFP Series 8-12



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MBL Series 19-22



VMLX Series23-30



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EZL Series34-36



EAC/EACH Series..... 37



KFL-X Series.....39-42



KFLH Series43-44



KFL2H Series.....45-46



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KWPL Series.....49-50



EBS Series52-57



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VSL SERIES..... 63-67













DVL Series.....68-69



LIGHTING
SECTION L

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LIGHTING
LINEAR LIGHTING



Linear Lighting



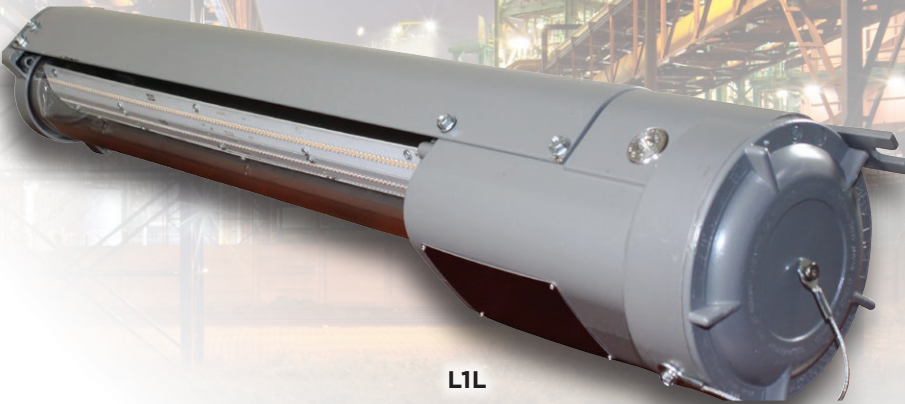
LAL



LALxE



LALFP



L1L



LIGHTING

LAL/LALXE/LALC SERIES

Low Profile Linear Aluminum LED • Exclusive Design Features

High temperature rated silicone gasketing provides Type 4X & IP66 sealing.



Diffused



Clear

2 Lens Choices:

- Clear for maximum lumens
- Diffused for glare control

Looping Terminal Blocks under Wiring Access Plate(s).



Optional Through Wiring

2 Access Plates for feed through wiring

Battery

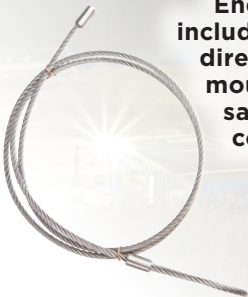
E5, E13 and E26 models include internal Emergency battery systems to 50°C suitability

Endcaps standard with 1 x 3/4" hub. 1/2" NPT and M20 available.



Shown with LAL-SB Height adjustable Swivel Brackets

End Caps include feet for direct ceiling mounting and safety cable connection



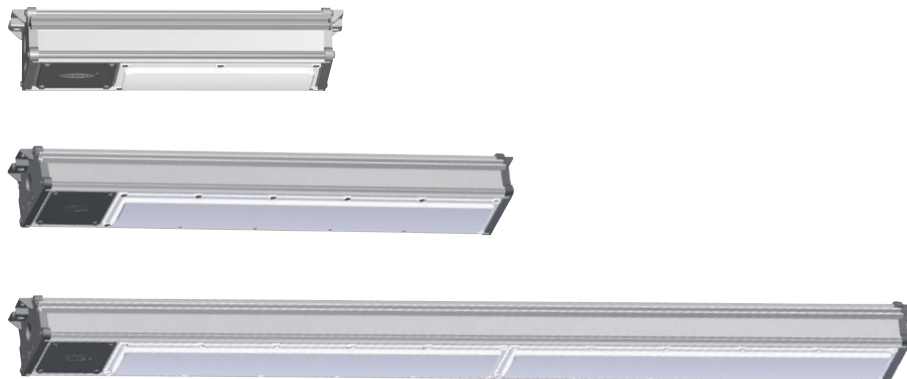
Mounting Slots on back and at 45°

Earth

External Earth Ground for IECEx requirement

LIGHTING

LAL/LALXE/LALC SERIES



Class I, Div. 2, Groups A, B, C, D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
AEx nAll, Ex nAll
Wet Locations
Type 4X
IP66
Marine Rated (US only)



Certified - File LR11713

IECEX Rated
Zone 2 and Zone 21 areas
Ex nA IIC T6 to T3, Gc
Ex tb IIC T95°C Db
Tamb -50°C < Tz < +65°C, IP66

IECEX Certificate
QPS 15.0010

ATEX Certificate
CML 15ATEX3082X Iss 2
CML 15ATEX4081X Iss 2



FEATURES-SPECIFICATIONS

Features

LAL & LALxE Product Features

- LALxE models have “built-in” battery backup for 90 or 180 minute emergency exit
- Shallow design minimizes profile in work areas with low ceiling heights
- Diffuse Lens Standard to minimize glare; Clear Lens available
- Polycarbonate Single Lens 18W to 60W; Double Lens model 80W & 120W
- Slot Back Design allows multiple mounting access points across length – slots can also be used with 5/16” or 8mm bolts & nuts, 3 housing slots, 1 center back and 2 at 45°.
- Variety of mounting options including swivel brackets, wall, ceiling brackets, or beam clamps
- End Caps each have 2 mounting feet built-in plus a safety strap attachment point
- Standard unit End Caps each have single a 3/4” NPT hub, and fixture is furnished with one 3/4” close-up plug and two 3/4” to 1/2” reducers – provides out of the box 1/2” dead-

end to 3/4” feed-through flexibility. Metric openings are available.

- Standard LALs have one wiring Access Plate for easy access to driver leads.

LED Features

- Many Midpower LEDs blend light to simulate fluorescent tubes
- Chromaticity outputs:
 standard – 5000K 70 CRI
 3590 option – 3500K 90 CRI
 3070 option – 3000K 70 CRI
- 3590 option is not available on the LALC
- 3070 option is only available on the LALC 15-45 watt.
- Energy Savings – High lumens per watt
- LED Array Life – 100,000+ hours with 70% initial lumens
- Long Fixture Life – 50,000 - 55,000 maintenance free hours

Materials

- Housing – one piece natural finish < .1% copper-free aluminum extrusion
- Endcaps & wiring – Access covers

are copper-free (< .4%) aluminum with gray baked powder epoxy-polyester finish, electrostatically applied for complete uniform corrosion resistance.

- External screws are 316 stainless steel
- Lens – Impact resistant polycarbonate lens available in diffuse or clear

Electrical Ratings

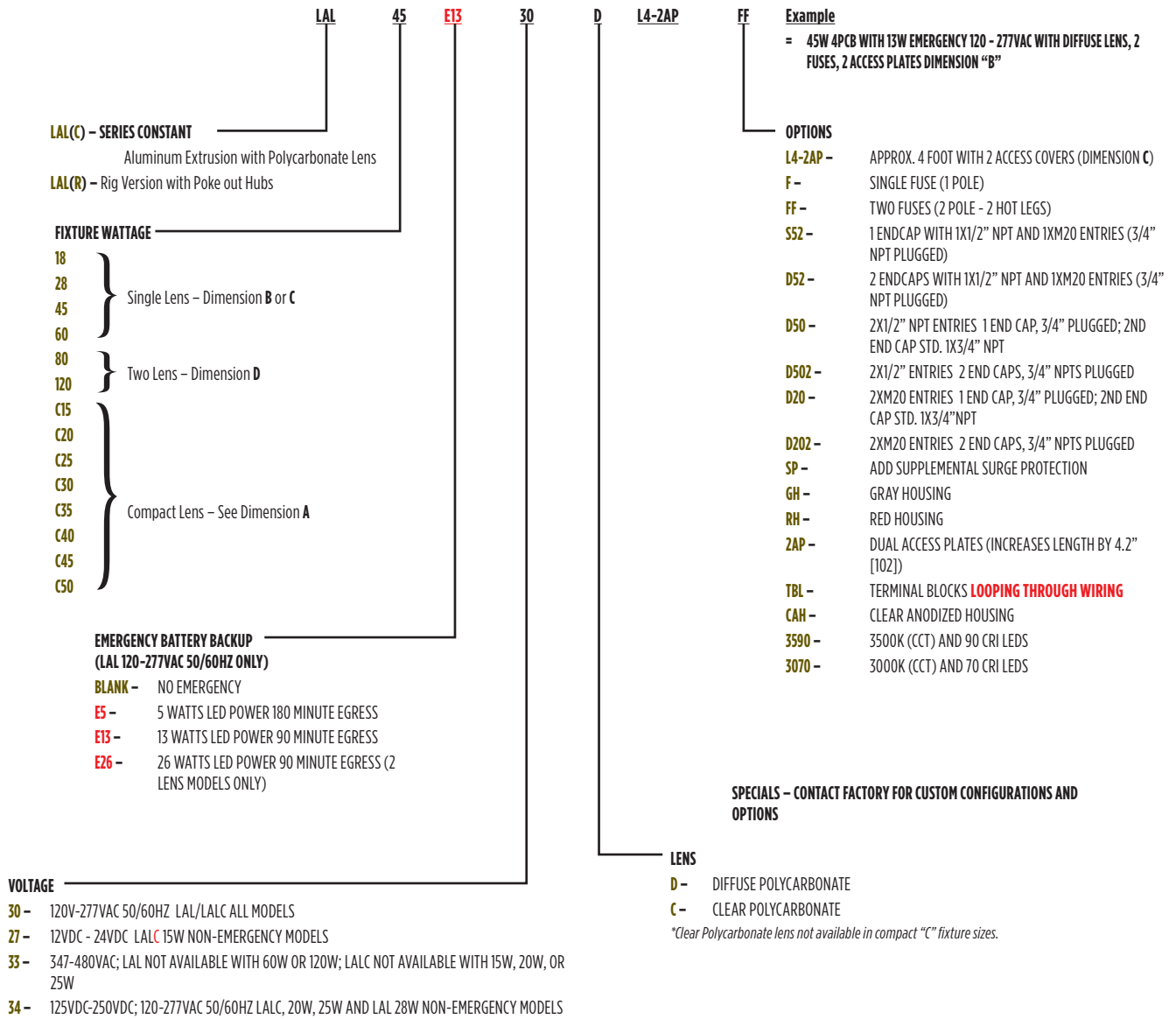
- Ambient suitability -40°C to 65°C (see tables). -20°C to 50°C Ambient suitability for Emergency models.
- Instant On – Including after power interruption
- World Voltage 120 - 277VAC 50/60Hz
- Solder-LESS LED Board Connections – Vibration Resistant
- Surge Protection: 6KV surge protection as standard.
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave



LIGHTING

LAL/LALXE/LALC SERIES

Catalog Logic



Energy Savings

LED VS FLUORESCENT WATTAGE & DELIVERED LUMENS						
CATALOG NUMBER	LUMENS	L/W	FLUORESCENT		LUMENS	L/W
LAL1830C	2479	138	40W	1x40W BX	2471	63
LAL2830C	3624	129	55W	1x55W BX	3766	65
LAL4530C	5515	122	56W	2x28T5	4676	71
			64W	2x32T8	4772	80
LAL6030C	7709	128	108W	2x54T5HO	8088	67
			120W	2x60T12HO	6965	56
LAL8030C	11032	138	162W	3x54T5HO	11619	65

LIGHTING LAL/LALXE/LALC SERIES



Ordering Information

ORDERING INFORMATION AND AMBIENT SUITABILITY							CID2 ABCD/ZONE 2 IIC, IIB, IIA			CID2 GRPS. EFG SIMULTANEOUS			C2D1 GRPS. EFG			IEC ZONE 2			IEC ZONE 21			
CATALOG NUMBER W/ DIFFUSE LENS	WEIGHT LBS./KG	WATTS STD. POWER	LENGTH STYLE - INCHES (MM)	VOLTAGE	AMPS	DELIVERED LUMENS DIFFUSE/CLEAR	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	
LAL1830D	17.9 / 8.1	18	B-32.6 (828)	120-277VAC	0.15 - 0.06	2272 / 2479	T6	T6	T5	T4A	T4A	T4A	T4A	T4A	T4A	T6	T6	T5	T4	T4	T4	
LAL2830D	17.9 / 8.1	28	B-32.6 (828)		0.23 - 0.10	3321 / 3624	T6	T6	T5	T4A	T4A	T4A	T4A	T4A	T4A	T4A	T6	T6	T5	T4	T4	T4
LAL4530D	17.9 / 8.1	45	B-32.6 (828)		0.38 - 0.16	5054 / 5515	T6	T5	-	T4A	T4A	T4A	T4A	T4A	T4A	T4A	T6	T5	T5	T4	T4	T4
LAL6030D	18.9 / 8.6	60	B-32.6 (828)		0.50 - 0.22	7064 / 7709	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	T4	-	
LAL8030D	34.5 / 15.6	80	D-57.9 (1471)	120-277VAC	0.67 - 0.29	10110 / 11032	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	T4	-	
LAL12030D	36.5 / 16.6	120	D-57.9 (1471)		1.00 - 0.43	15090 / 16467	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	T4	-	
LALC1527D	12.03 / 4.49	15	A-18.73 (476)	12-24VDC	1.3-0.6	1503 (Diffuse)	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	T4	-	
LALC1530D				120-277VAC	0.15-0.06		T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	T4	-	
LALC1534D				120-250VDC	0.2-0.1		T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	T4	-	
LALC2027D		20	A-18.73 (476)	12-24VDC	1.7-0.8	2337 (Diffuse)	T5	T5	-	T4A	T4A	-	T4A	T4A	-	T5	T5	-	T4	T4	-	
LALC2030D				120-277VAC	0.17-0.08		T5	T5	-	T4A	T4A	-	T4A	T4A	-	T5	T5	-	T4	T4	-	
LALC2034D				120-250VDC	0.2-0.1		T5	T5	-	T4A	T4A	-	T4A	T4A	-	T5	T5	-	T4	T4	-	
LALC2527D		25	A-18.73 (476)	12-24VDC	2.1-1.0	3019 (Diffuse)	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	T4	-	
LALC2530D				120-277VAC	0.18-0.08		T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	T4	-	
LALC2534D				120-250VDC	0.2-0.1		T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	T4	-	
LALC3030D		12.03 / 4.49	30	A-18.73 (476)	120-277VAC	0.26-0.11	2726 (Diffuse)	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	T4	-
LALC3530D	35		A-18.73 (476)	0.30-0.13		3261 (Diffuse)	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	T4	-	
LALC4030D	40		A-18.73 (476)	0.34-0.15		4152 (Diffuse)	T5	T5	-	T4A	T4A	-	T4A	T4A	-	T5	T5	-	T4	T4	-	
LALC4530D	45		A-18.73 (476)	0.38-0.17		5136 (Diffuse)	T5	T5	-	T4A	T4A	-	T4A	T4A	-	T5	T5	-	T4	T4	-	
LALC5030D	50		A-18.73 (476)	0.42-0.18		6039 (Diffuse)	T5	-	-	T4A	-	-	T4A	-	-	T5	-	-	T4	-	-	

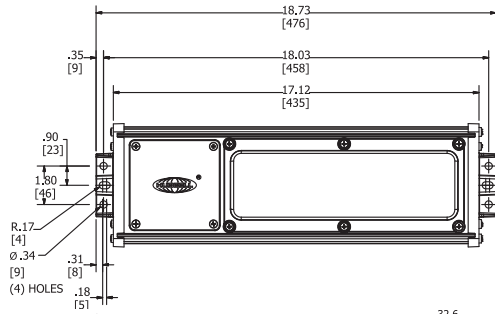
CATALOG NUMBER	WEIGHT	WATTS	LENGTH IN / MM	VOLTAGE	AMPS	LUMENS DIFFUSE/CLEAR	CID2 ABCD/ ZONE 2 IIC, IIB, IIA		CID2 GRPS. EFG SIMULTANEOUS		C2D1 GRPS. EFG		IEC ZONE 2		IEC ZONE 21	
							40°C	50°C	40°C	50°C	40°C	50°C	40°C	50°C	40°C	50°C
LAL18E1330D	21.9 / 9.9	18	B-32.6 (828)	120-277VAC	0.15 - 0.06	2272 / 2479	T6	T6	T4A	T4A	T4A	T4A	T6	T6	T4	T4
LAL28E1330D	21.9 / 9.10	28	B-32.6 (828)		0.23 - 0.10	3321 / 3624	T6	T6	T4A	T4A	T4A	T4A	T6	T6	T4	T4
LAL45E1330D	21.9 / 9.11	45	B-32.6 (828)		0.38 - 0.16	5054 / 5515	T6	T5	T4A	T4A	T4A	T4A	T6	T5	T4	T4
LAL60E1330D	21.9 / 9.12	60	B-32.6 (828)		0.50 - 0.22	7064 / 7709	T6	T5	T4A	T4A	T4A	T4A	T6	T5	T4	T4
LAL80E1330D	34.5 / 15.6	80	D-57.9 (1471)	120-277VAC	0.67 - 0.29	10110 / 11032	T6	T5	T4A	T4A	T4A	T4A	T6	T5	T4	T4
LAL80E2630D	44.5 / 20.2						T6	T5	T4A	T4A	T4A	T4A	T6	T5	T4	T4
LAL120E1330D	34.5 / 15.7	120	D-57.9 (1471)	120-277VAC	1.00 - 0.43	15090 / 16467	T6	T5	T4A	T4A	T4A	T4A	T6	T5	T4	T4
LAL120E2630D	44.5 / 20.3						T6	T5	T4A	T4A	T4A	T4A	T6	T5	T4	T4
LALC15E1330D	12.03 / 4.49	15	A-18.73 (476)	120-277VAC	0.15-0.06	1503 (Diffuse)	T5	T4A	T4A	T4A	T4A	T4A	T5	T4	T4	T4
LALC20E1330D		20	A-18.73 (476)		0.17-0.08	2337 (Diffuse)	T5	T5	T4A	T4A	T4A	T4A	T5	T4	T4	T4
LALC30E1330D		30	A-18.73 (476)		0.26-0.11	2726 (Diffuse)	T5	T4A	T4A	T4A	T4A	T4A	T5	T5	T4	T4
LALC40E1330D		40	A-18.73 (476)		0.34-0.15	4152 (Diffuse)	T5	T5	T4A	T4A	T4A	T4A	T5	T5	T4	T4



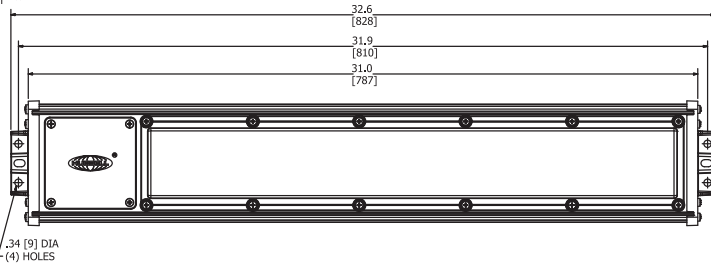
LIGHTING

LAL/LALXE/LALC SERIES

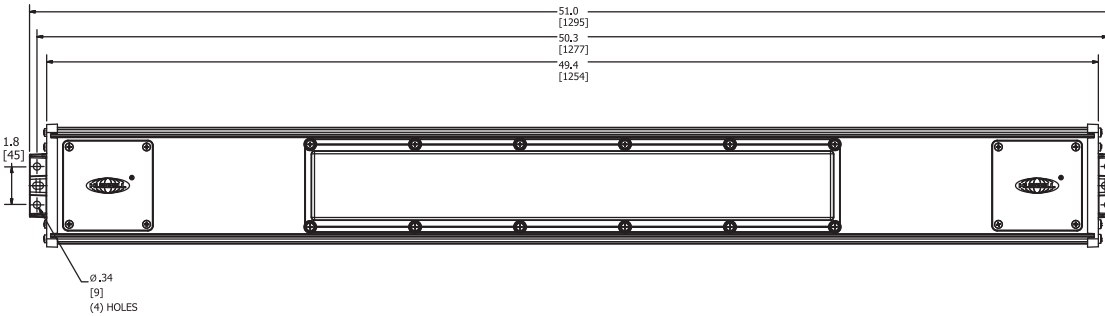
Dimensions and Accessories



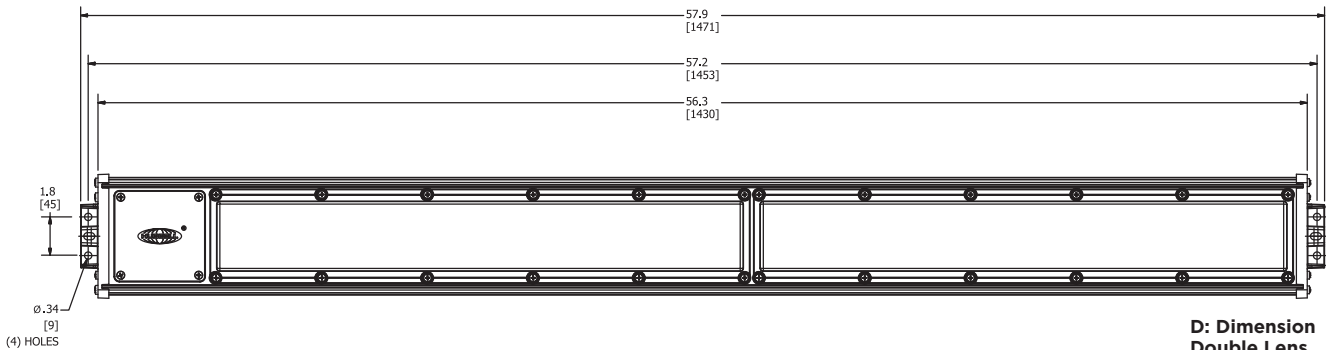
A: Dimensions for LALC



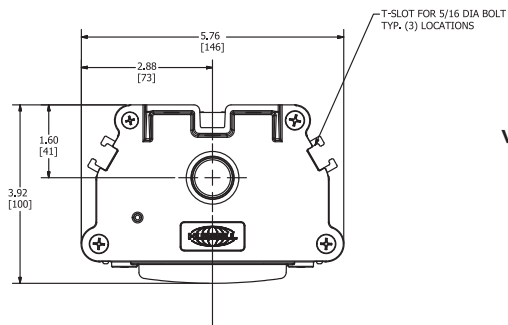
B: Dimension for Single Lens



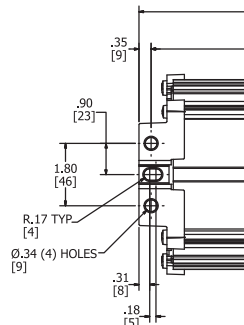
C: Dimension Single Lens with approx. 4 foot length and 2 access covers



D: Dimension Double Lens



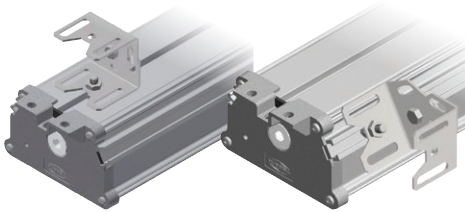
End Views



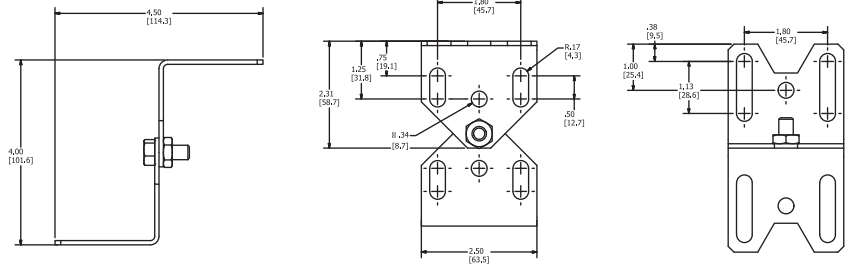


Accessories and Replacement Parts

ACCESSORIES AND REPLACEMENT PARTS	
LAL-SB	Swivel Bracket Set w/ Adjustable Height; includes 5/16" bolts/nuts/lock-washers for attachment to LAL(C) "slots"; can also be attached to end cap mounting feet with F80 bolts.
LZCB	Ceiling Bracket Set with Stainless Steel Bolts to attach to LAL(C) "slots"
LZWB	Wall Bracket Set with Stainless Steel Bolts to attach to LAL(C) "slots"
LAL-BC	Steel/malleable Iron with Zinc electroplate for corrosion resistance; includes Stainless Steel Bolts to attach to LAL(C) "slots"
LAL-EB	Eyebolt Set with Stainless Steel Bolts to attach to LAL(C) "slots"
VMSC10	10' Stainless Steel Safety Cable with loop grip
LALG	Stainless Guard for 1 LAL Lens, order two for 2 lens models
LALCG	LALC Stainless Guard
LAL-LENSCLR	Single Clear Lens with Gasket for LAL Series
LAL-LENSDIF	Single Diffuse Lens with Gasket for LAL Series
LALC-LENSDIF	Single Diffuse Lens with Gasket for LALC Series

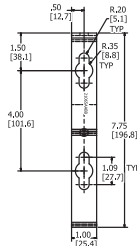
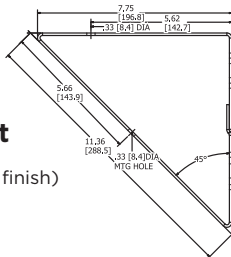


LAL-SB on Center Slot LAL-SB on 45° Slot

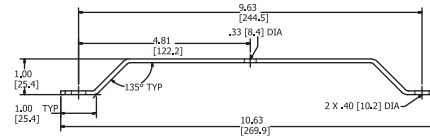


LAL-SB Dimensions - extended shown

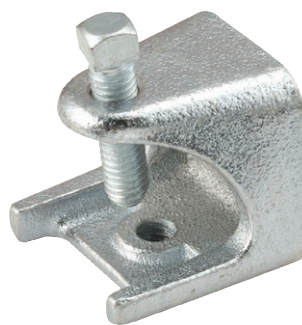
Wall Bracket Set
Part Number LZWB
Stainless Steel (natural finish)



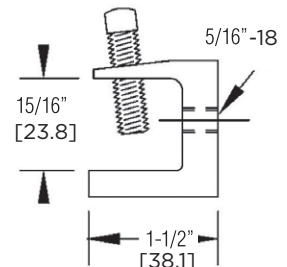
Ceiling Bracket Set
Part Number LZCB
Stainless Steel (natural finish)



VMSC10 Safety Cable



LAL-BC Beam
Clamp





LIGHTING
LALFP SERIES

LALFP

Linear LED Food Processing Fixture

Maintenance free
long-lasting LEDs

NSF Certified with
Impact Resistant
polycarbonate
lens

All exterior
stainless steel
hardware

Large wiring
access for ease
of installation

Extremely durable copper-
free aluminum mounting
feet and access plate with
anodized aluminum housing

90 or 180 minute emergency
with Self-diagnostics in
accordance with
NFPA 101® Life Safety Code



Linear LED Technology



Class I, Div. 2, Groups A, B, C, D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
AEx nAll, Ex nAll

Wet Locations

Type 4X

IP66/IP67

Marine Rated (US only)

ABS Type Approval

NSF Food Handling (2022)



Certified - File LR11713

IECEx Rated

Zone 2 and Zone 21 areas

Ex nA IIC T6 to T3, Gc

Ex tb IIC T95°C Db

Tamb -50°C < Tz < +65°C, IP66

IECEx Certificate

QPS 15.0010

ATEX Certificate

CML 15ATEX3082X Iss 2

CML 15ATEX4081X Iss 2

FEATURES-SPECIFICATIONS

Features

LALFP & LALFPxiE

- LALFPxiE models have “built-in” battery backup for 90 or 180 minute battery backup
- Shallow design minimizes profile in work areas with low ceiling heights
- Diffuse Lens Standard to minimize glare; Clear Lens available
- Polycarbonate Single Lens L1 & L3; Double Lens model L5
- Variety of mounting options including swivel brackets, wall, ceiling brackets, or beam clamps
- End Caps each have 2 mounting feet built-in plus a safety strap attachment point
- Standard unit End Caps each have single a ¾” NPT hub, and fixture is furnished with one ¾” close-up plug and two ¾” to ½” reducers - provides out of the box ½” dead-end to ¾” feed-through flexibility. Metric openings are available.
- Standard LALFPs have one wiring Access Plate for easy access to terminal block.

LED Features

- Many Midpower LEDs blend light to simulate fluorescent tubes
- Chromaticity outputs: standard - 5000K 70 CRI
3590 option - 3500K 90 CRI
3070 option - 3000K 70 CRI
- 3590 option is not available with the L1 length
- 3070 option is only available on L1 length and the 2 & 4 lumen outputs
- LED Array Life - 100,000+ hours with 70% initial lumens
- Long Fixture Life - 50,000 - 55,000 maintenance free hours

Materials

- Housing - one piece clear anodized < .1% copper-free aluminum extrusion
- Endcaps & wiring - Access covers are copper-free (< .4%) aluminum with natural finish.
- External screws are 316 stainless steel

- Lens - Impact resistant polycarbonate lens available in diffuse or clear

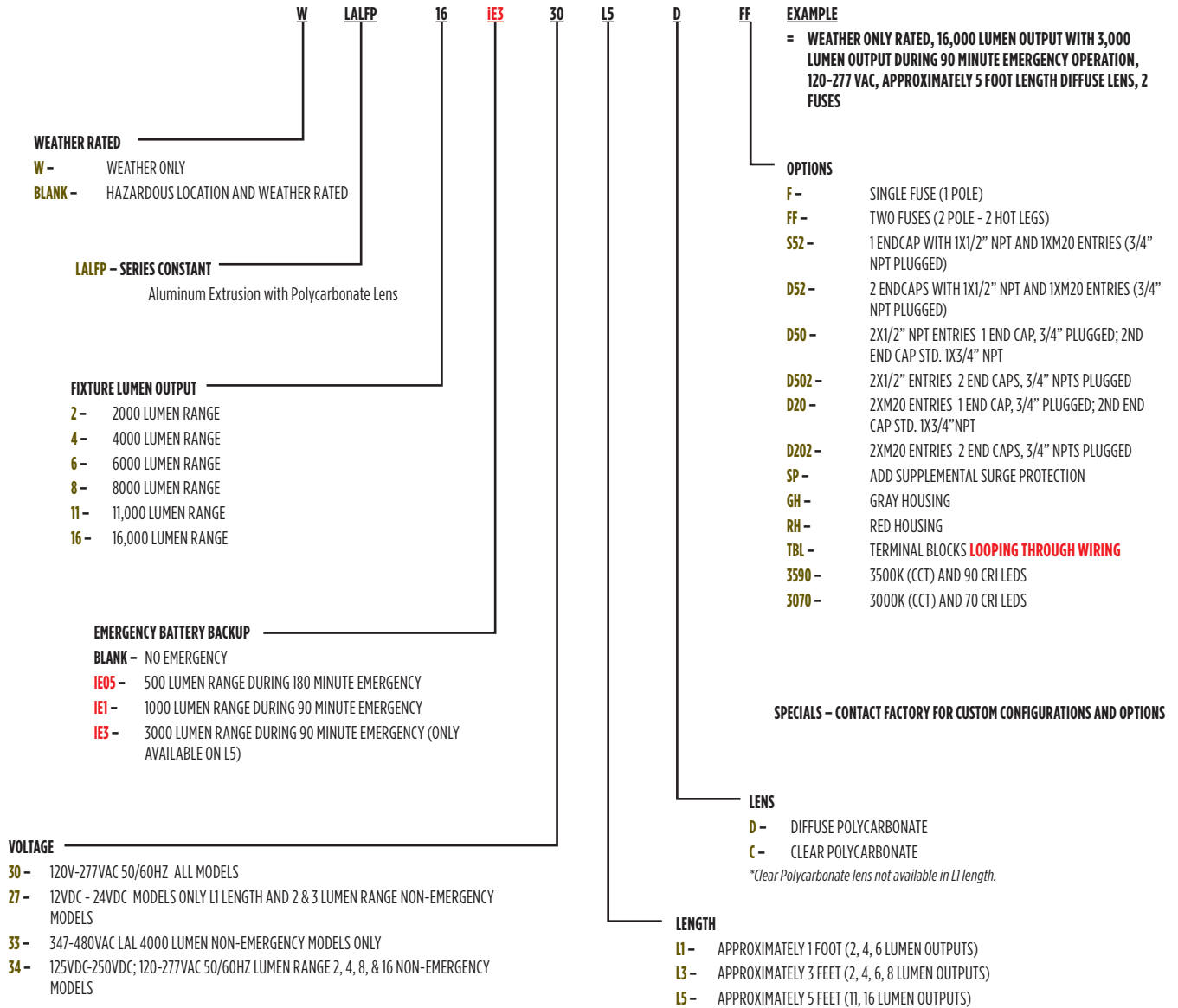
Electrical Ratings

- Ambient suitability -40°C to 65°C (see tables). -20°C to 50°C Ambient suitability for Emergency models.
- Instant On - Including after power interruption
- World Voltage 120 - 277VAC 50/60Hz
- Solder-LESS LED Board Connections - Vibration Resistant
- Surge Protection: 6KV surge protection as standard.
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave



LIGHTING LALFP SERIES

Catalog Logic



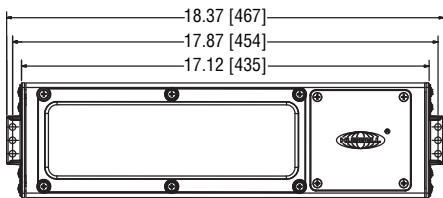
ENERGY SAVINGS

LED VS FLUORESCENT WATTAGE & DELIVERED LUMENS						
CATALOG NUMBER	LUMENS	L/W	FLUORESCENT		LUMENS	L/W
LALFP230L3C	2479	138	40W	1x40W BX	2471	63
LALFP430L3C	3624	129	55W	1x55W BX	3766	65
LALFP830L3C	7709	128	120W	2x60T12HO	6965	56
LALFP1130L5C	11032	138	162W	3x54T5HO	11619	65

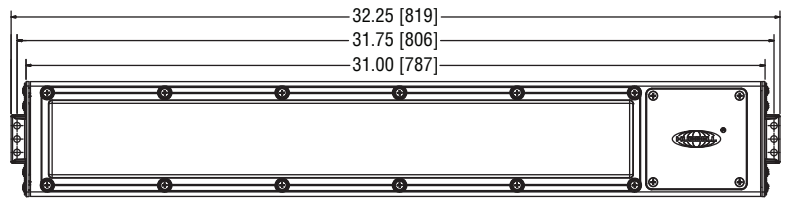


Ordering Information / Dimensions

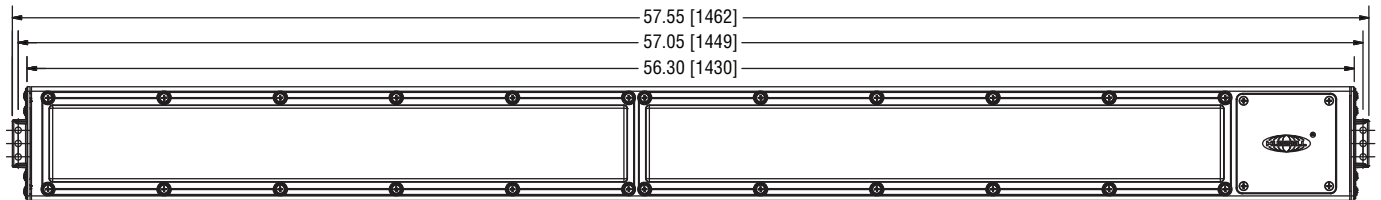
ORDERING INFORMATION AND AMBIENT SUITABILITY							C1D2 A, B, C, D / ZONE 2 IIC, IIB, IIA			C1D2 E, F, G SIMULTANEOUS			C2D1 E, F, G			IEC ZONE 2			IEC ZONE 21	
CATALOG NUMBER	WEIGHT LBS./KG	WATTS	LENGTH IN / MM	VOLTAGE	AMPS	LUMENS DIFFUSE/CLEAR	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	40°C	65°C
LALFP230L1D	12.03 / 4.49	15	18.73 / 476	120/277 VAC 50/60 Hz	0.15-0.06	1503 (Diffuse)	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	-
LALFP230L3D	17.90 / 8.1	18	32.6 / 828		0.15 - 0.06	2272 / 2479	T6	T6	T6	T4A	T4A	T4A	T4A	T4A	T4A	T6	T6	T5	T4	T4
LALFP230L4D	12.90 / 9.9		51 / 1295																	
LALFP430L1D	12.03 / 4.49	35	18.73 / 476		0.30-0.13	3261 (Diffuse)	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T4	-	T4	-
LALFP430L3D	17.90 / 8.1	28	32.6 / 828		0.23 - 0.10	3321 / 3624	T6	T6	T5	T4A	T4A	T4A	T4A	T4A	T4A	T6	T6	T5	T4	T4
LALFP430L4D	12.90 / 9.9		51 / 1295																	
LALFP630L1D	12.03 / 4.49	45	18.73 / 476		0.38-0.17	5136 (Diffuse)	T5	T4A	-	T4A	T4A	-	T4A	T4A	-	T5	T5	-	T4	-
LALFP630L3D	17.90 / 8.1	45	32.6 / 828		0.38 - 0.16	5054 / 5515	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	T5	T4	T4
LALFP630L4D	12.90 / 9.9		51 / 1295																	
LALFP830L3D	17.90 / 8.1	60	32.6 / 828		0.50 - 0.22	7064 / 7709	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	-
LALFP830L4D	12.90 / 9.9		51 / 1295																	
LALFP1130L5D	36.50 / 16.6	80	57.9 / 1471		0.67 - 0.29	10110 / 11032	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	-
LALFP1630L5D	36.50 / 16.6	120	57.9 / 1471		1.00 - 0.43	15090 / 16467	T6	T5	-	T4A	T4A	-	T4A	T4A	-	T6	T5	-	T4	-



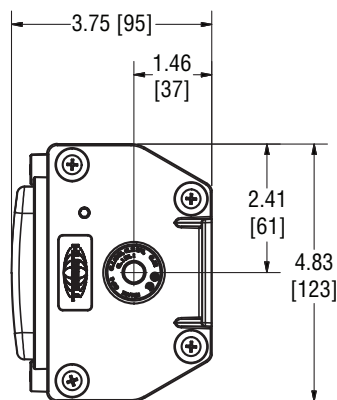
LALFP-L1 Single Access Panel



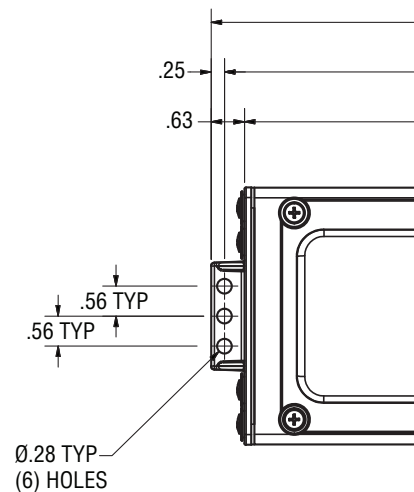
LALFP-L3 Single Access Panel



LALFP-L5 Single Access Panel



End View

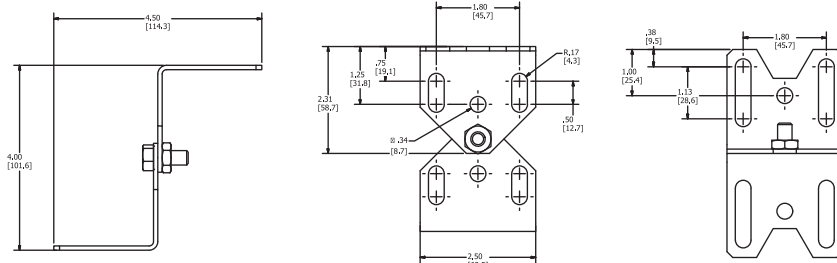




LIGHTING
LALFP SERIES

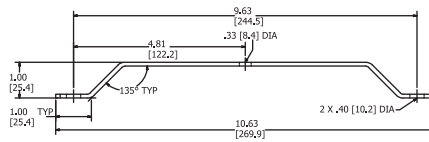
Accessories and Replacement Parts

ACCESSORIES AND REPLACEMENT PARTS	
LAL-SB	Swivel Bracket Set w/ Adjustable Height; includes 5/16" bolts/nuts/lock-washers for attachment to LAL(C) "slots"; can also be attached to end cap mounting feet with F80 bolts.
LZCB	Ceiling Bracket Set with Stainless Steel Bolts
LZWB	Wall Bracket Set with Stainless Steel Bol
LAL-BC	Steel/malleable Iron with Zinc electroplate for corrosion resistance; includes Stainless Steel Bolts to attach to LAL(C) "slots"
LAL-EB	Eyebolt Set with Stainless Steel Bolts
VMSC10	10' Stainless Steel Safety Cable with loop grip
LALG	Stainless Guard for 1 LAL Lens, order two for 2 lens models
LALCG	LALC Stainless Guard
LAL-LENSCLR	Single Clear Lens with Gasket for L3 & L5 Lengths
LAL-LENSDIF	Single Diffuse Lens with Gasket for L3 & L5 Lengths
LALC-LENSDIF	Single Diffuse Lens with Gasket for L1 Length



LAL-SB Dimensions - extended shown

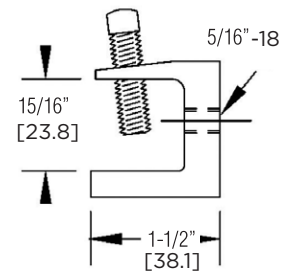
Ceiling Bracket Set
Part Number LZCB
Stainless Steel (natural finish)

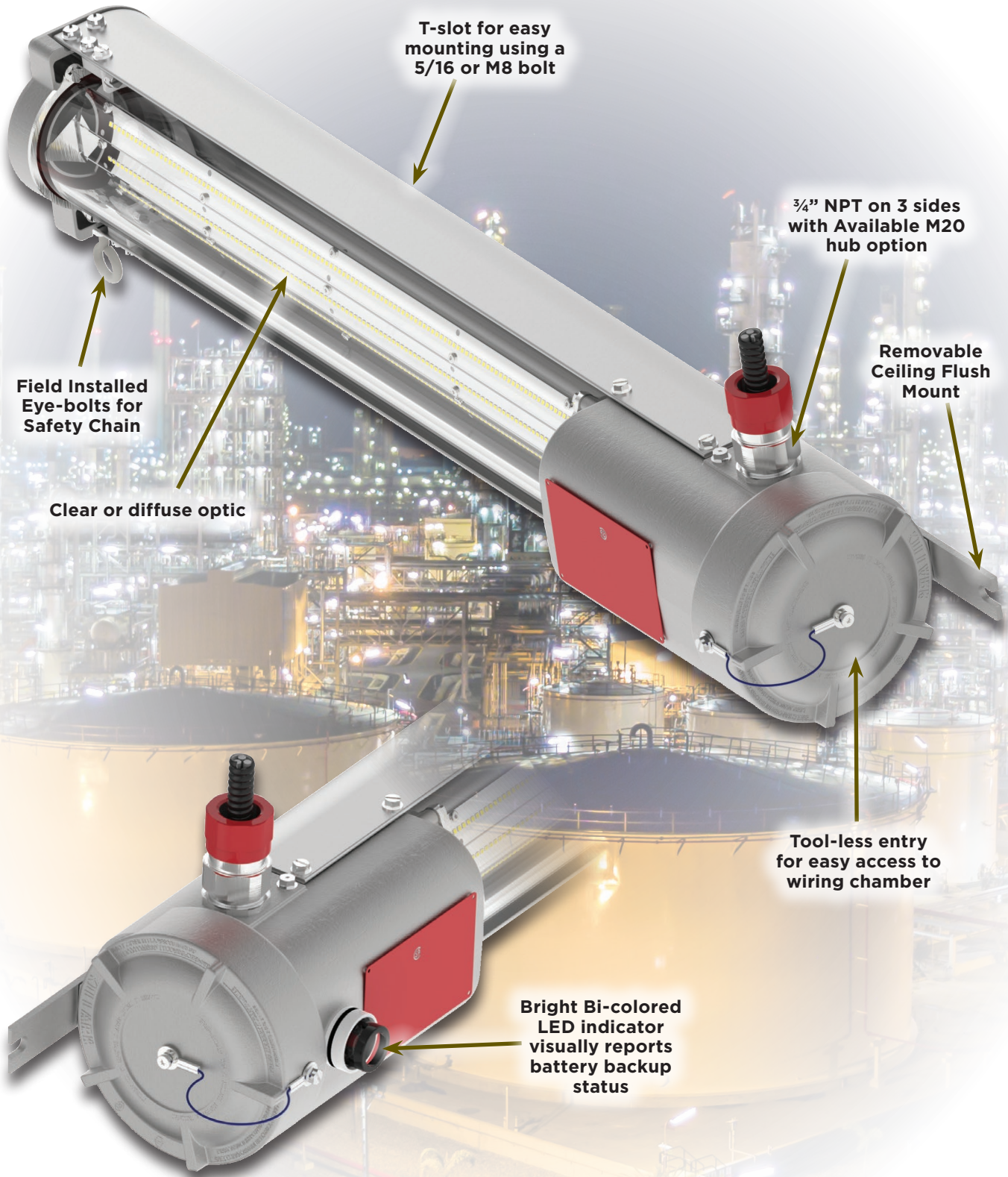


VMSC10 Safety Cable



LAL-BC Beam Clamp





T-slot for easy mounting using a 5/16 or M8 bolt

3/4" NPT on 3 sides with Available M20 hub option

Field Installed Eye-bolts for Safety Chain

Removable Ceiling Flush Mount

Clear or diffuse optic

Tool-less entry for easy access to wiring chamber

Bright Bi-colored LED indicator visually reports battery backup status



LIGHTING
L1L SERIES

LED Fixtures



Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB, IIA

Class II, Div. 1 & 2, Groups E, F, G
Class III, Div. 1 & 2

IP66

Suitable for wet locations

Suitable for paint spray booths



File - LR11713



Zone 1, Zone 21

Ex db op is IIB+H2 T6 Gb

Ex tb op is IIIC T85°C Db, IP66

Tamb:

-20°C to +55°C (7-12K Standard)

-20°C to +50°C (7-12K Battery Backup)

-20°C to +40°C (14K Battery Backup and Standard)



IECEx Certificate

QPS 19.0005X

ATEX Certificate

CML 19ATEX1289X

FEATURES-SPECIFICATIONS

Features

- Industry-Leading efficacy: up to 153 LPW
- Standard 5000K CCT @ 70 CRI minimum
- Option 3500K CCT @ 90 CRI minimum
- T-slot mounting for the ultimate in easy mounting
- Self-testing and self-diagnostics on battery backup fixtures
- Angled LED boards for wider mounting distances
- Terminal blocks standard
- Low Profile
- Tool-less access to wiring chamber
- Diffuser option available
- 5 year fixture warranty
- Surge Protection: 6KV surge protection as standard.
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave

Material:

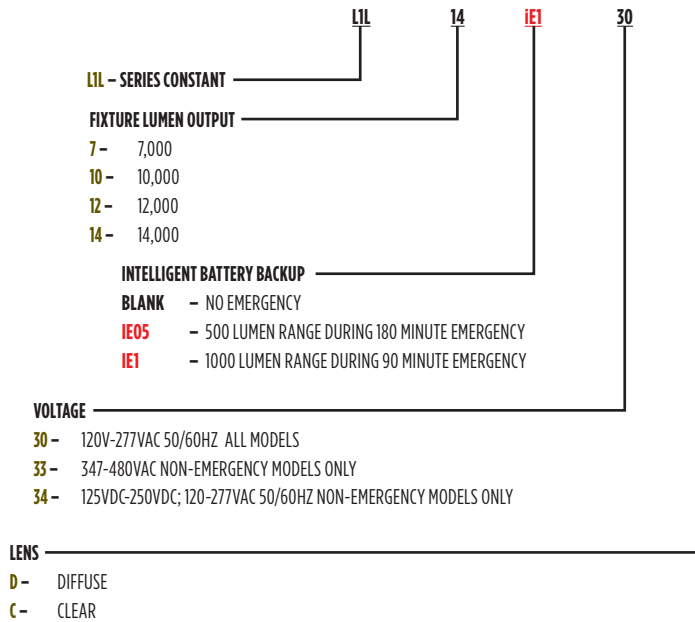
- Construction is strong lightweight corrosion-resistant copper-free aluminum alloy, less than 4/10 of 1%
- All external hardware is corrosion resistant 316 stainless steel

Electrical Ratings:

- 125 thru 250 VDC
- 120 thru 277 VAC, 50/60Hz
- 347 thru 480 VAC, 50/60Hz
- Battery Duration: 90mins 10W, 180 mins 5W
- Terminal Size: 10AWG



Catalog Logic / Ordering information



EXAMPLE

= L1L 14,000 LUMEN OUTPUT WITH 1,000 LUMEN OUTPUT DURING 90 MINUTE EMERGENCY OPERATION, 120-277VAC, DIFFUSE LENS, 2 FUSES

OPTIONS

- F** - SINGLE FUSE (1 POLE)
- FF** - TWO FUSES (2 POLE - 2 HOT LEGS)
- SP** - ADD SUPPLEMENTAL SURGE PROTECTION
- GH** - GRAY HOUSING
- RH** - RED HOUSING
- WH** - WHITE HOUSING
- TBL** - TERMINAL BLOCKS **LOOPING THROUGH WIRING**
- YH** - YELLOW HOUSING
- 3590** - 3500K LED @ 90 CRI
- D20** - (3) M20 ENTRIES
- D25** - (3) M25 ENTRIES

SPECIALS - CONTACT FACTORY FOR CUSTOM CONFIGURATIONS AND OPTIONS

QUAD - IECEX, ATEX, NEC, & CEC CERTIFIED

ORDERING INFORMATION AND AMBIENT SUITABILITY						CID1		C2D1	
CATALOG NUMBER	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	DELIVERED LUMENS CLEAR/DIFFUSE	40°C	55°C	40°C	55°C
L1L730D	26/11.8	46	120-277	0.4-0.2	7,147 / 5,598	T6	T6	T6	T5
L1L7IE0530D	28/12.7								
L1L7IE130D			26/11.8						
L1L733D	347-480			0.13-0.10					
L1L734D	105-250	0.4-0.2							
L1L1030D	26/11.8	75	120-277	0.6-0.3	10,109 / 7,926	T6	T6	T6	T5
L1L10IE0530D	28/12.7								
L1L10IE130D			26/11.8						
L1L1033D	347-480			0.22-0.16					
L1L1034D	105-250	0.7-0.3							
L1L1230D	26/11.8	88	120-277	0.7-0.3	11,500 / 8,919	T6	T6	T6	T5
L1L12IE0530D	28/12.7								
L1L12IE130D			26/11.8						
L1L1233D	347-480			0.3-0.2					
L1L1234D	105-250	0.8-0.4							
L1L1430D	26/11.8	93	120-277	0.8-0.3	13,800 / 10,649	T6	-	T6	-
L1L14IE0530D	28/12.7								
L1L14IE130D			26/11.8						
L1L1433D	347-480			0.3-0.2					
L1L1434D	105-250	0.9-0.4							



LIGHTING
L1L SERIES

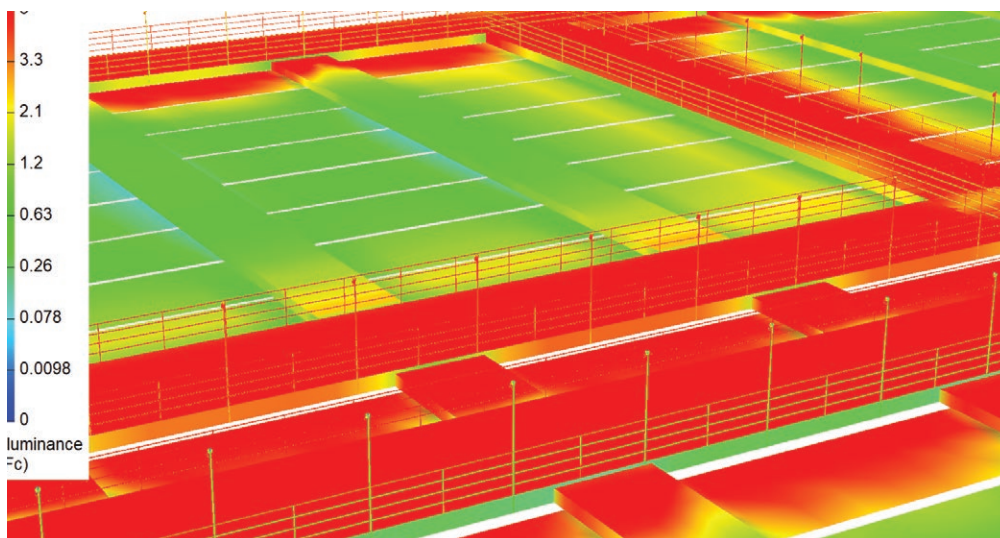
High Wattage Self-Testing Battery Backup

Electronics Includes:

- Self-diagnostics monitors LED status, LED driver circuit, battery capacity and charger function and displays any fault detection by means of a flashing code
- Self-Test feature automatically runs a 1 minute test once a month and an alternating 30-60 minute test once every 6 months. LED indicator provides visible fault detection and charging status
- 15 minute re-transfer delay
- Automatic unit transfer in brown-out conditions (below 80% of nominal AC input voltage)

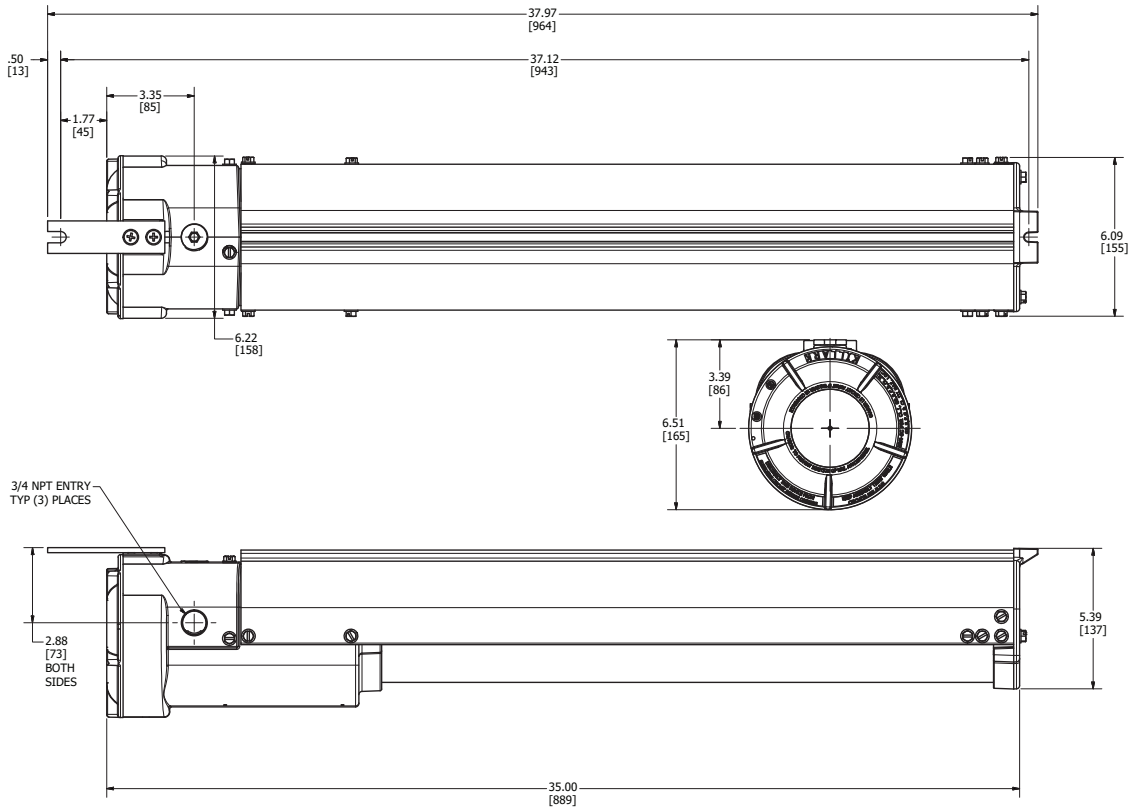
TEST SWITCH INDICATOR STATUS	
LED INDICATORS STATUS	EM DRIVER STATUS/MODE
Solid Green	System OK/AC OK (Self-diagnostic Enabled or Disabled).
Slow Flashing Red, 4s on/1s off	Battery not detected, check battery switch or connection.
Flashing Red, 1s on/1s off	Battery Failure, replace battery.
Flashing Green, 1s on/1s off	Self Diagnostic test underway.
Fast Flashing Red, 0.1s on/0.1s off	Abnormal driver performance, replace driver.
Very Slow Flashing Red, 4s on/4s off	Over temperature.
None. Both LEDs OFF	Normal working in EM mode.
Green/Red alternative flashing, 1s green/1s red	No load or output over voltage protection triggered.

LED Battery Backup Lighting Design

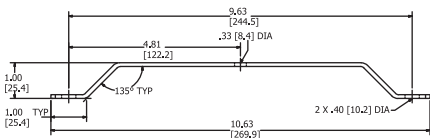




Dimensions



Ceiling Bracket Set Part Number LZCB Stainless Steel (natural finish)

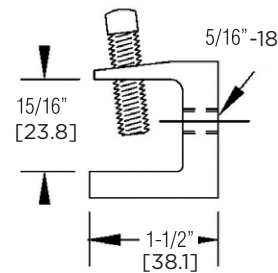


LIL-GUARD



VMSC10 Safety Cable

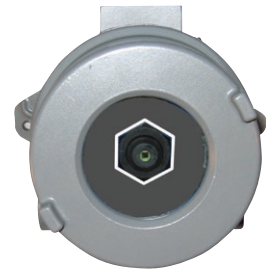
Accessories



LAL-BC Beam
Clamp

Class I, Div. 1 & 2, Groups B, C, D
Class II, Div. 1 & 2, Groups E, F, G
Class III
Type 3, 4X
IP66

FACTORY SEALED



HKB - GL PHOTO CELLS	
CATALOG NUMBER ①	VOLTS
VMHKXPC1	120VAC
VMHKXPC2	208-277VAC
VMHKXPC3	347VAC

① 40°C ambient, T3 Rated



LIGHTING

LOWBAY & HIGHBAY LIGHTING





Compact Size - Introduction



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
Marine Rated (US only)
Type 3, 4X

 Certified - File LR11713

FEATURES-SPECIFICATIONS

Features

- Compact in Size with Traditional Industrial Appearance and Suitability
- Wide variety of optics including globes, globes with reflectors, all-glass refractors, and spin-top refractors
- Optional Mounting arrangements including Pendant, Wall, Ceiling, and Stanchion
- MBL LED Housings can be retrofitted to existing MB splice boxes; upgrade from Fluorescent or HID
- Warm LED color option available with 3070 option
- Energy Savings - Less than 50 Watts of Power
- LED Array Life - 100,000+ hours with 70% initial lumens

Materials

- Housing, splice box and guards (MBAG, VMAG) corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - stainless steel
- Reflectors - Polyester reinforced fiberglass

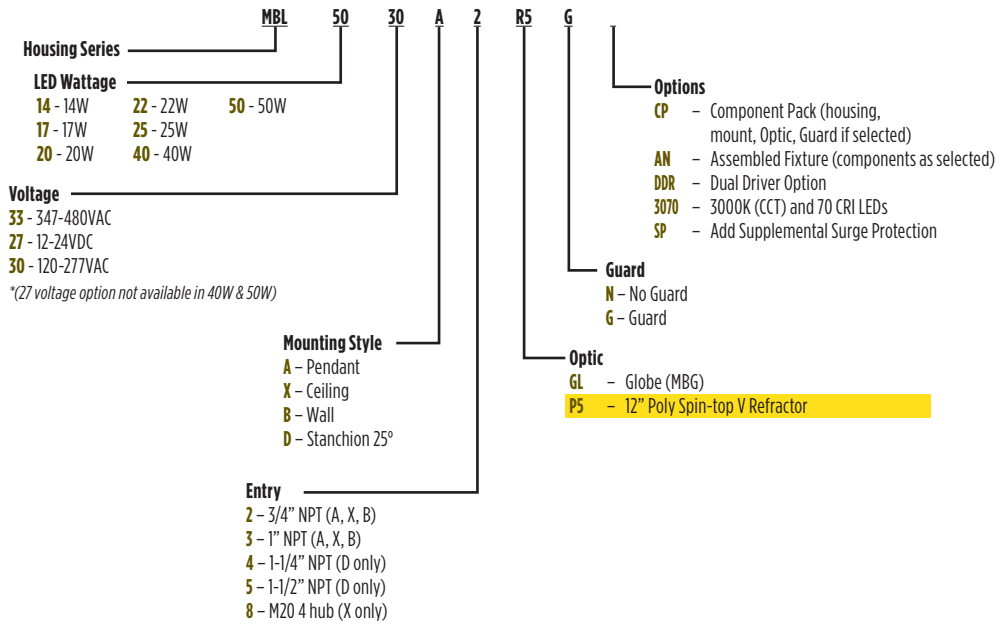
Electrical Ratings

- Long Fixture Life - 50,000 - 55,000 maintenance free hours
- Crisp White Light for Excellent Color Rendering - Chromaticity 5000°K (CCT); 70 CRI
- Ambient suitability -40°C to 40°C (to 55°C for 14W to 22W)
- Instant on - Including after power interruption
- "World Voltage" 120-277VAC 50/60Hz
- Solder-LESS LED Board Connections - Vibration Resistant
- Surge Protection: 6KV surge protection as standard.
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave



LIGHTING
MBL SERIES

Catalog Logic



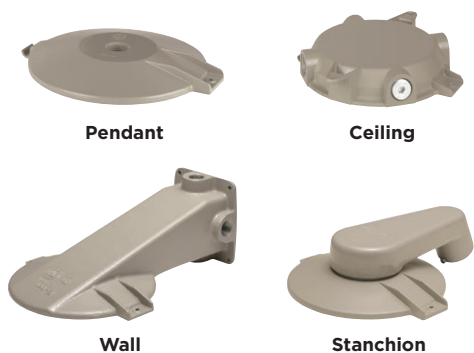
Compact size - Ratings, special aiming angles

ORDERING INFORMATION AND AMBIENT SUITABILITY					CID2 OPTIC ONLY		ABCD W/ REFLECTOR		C2D1 OPTIC ONLY		EFG W/ REFLECTOR	
CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	40°C	55°C	40°C	55°C	40°C	55°C	40°C	55°C
MBL1427	10.00 / 4.54	14	12-24VDC	1.17-0.58	T5	T4A	T4	T3B	T4A	T4A	T4A	T4A
MBL1430			120-277VAC	0.12-0.05								
MBL1434			120-250VDC	0.12-0.04								
MBL1727		17	12-24VDC	1.42-0.71	T5	T5	T5	T5	T4	T4	T4	T4
MBL1730			120-277VAC	0.14-0.06								
MBL1734			120-250VDC	0.14-0.06								
MBL2027		20	12-24VDC	1.67-0.83	T5	T5	T5	T5	T4	T4	T4	T4
MBL2030			120-277VAC	0.17-0.07								
MBL2034			120-250VDC	0.17-0.06								
MBL2227		22	12-24VDC	1.83-0.92	T4A	T4	T4A	T4	T4	T4	T4	T4
MBL2230			120-277VAC	0.18-0.08								
MBL2234			120-250VDC	0.18-0.07								
MBL2527	25	12-24VDC	2.08-1.04	T5	T5	T5	T5	T4	T4	T4	T4	
MBL2530		120-277VAC	0.21-0.09									
MBL2534		120-250VDC	0.21-0.08									
MBL4030	15.5 / 7.03	40	120-277VAC	0.33-0.14	T5	-	T5	-	T4	-	T4	-
MBL5030		50	120-277VAC	0.42-0.18	T5	-	T5	-	T4	-	T4	-



Compact Size - Components

MB MOUNTING BRACKETS				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	WALL	STANCHION	
MBA-2	MBX-2	MBB-2	—	3/4"
MBA-3	MBX-3	MBB-3	—	1"
—	MBX-8	—	—	M20
—	—	—	MBD-4	1-1/4"
—	—	—	MBD-5	1-1/2"



**Non-Glass
Polycarbonate
8" Flat Lens or Spin-top**



MBL LED OPTICS AND ACCESSORIES		
DESCRIPTION	OPTIC LOGIC	GUARD
Globe (glass)	MBG (GL)	MBAG
Refractor polycarbonate (spin -top) 12" Type V	VZRP175 (P5)	VMRWGS
Reflector for MBG Globe - DOME	VMPSD-17	NA
Reflector for MBG Globe - ANGLE	VMPA-17	NA
120VAC Photocell with FS Style Cover	VMFSPC1	NA
208-277VAC Photocell with FS Style Cover	VMFSPC2	NA
3-sided EXIT Accessory (use without guard)	VEXA100B	NA



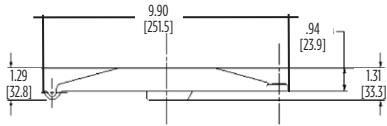
TYPICAL WEIGHTS (LBS.) W/STANDARD GLOBE AND GUARD - MBL SERIES				
14-25W	Pendant 14.96	Ceiling 15.96	Wall 19.30	Stanchion 16.83
40-50W	Pendant 20.96	Ceiling 21.69	Wall 25.30	Stanchion 22.83

DELIVERED LUMENS	
WATTS	MBL + MBG
14	910
20	1785
22	1365
25	2485
40	3625
50	5824

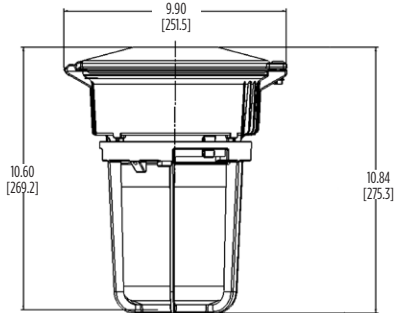


LIGHTING
MBL SERIES

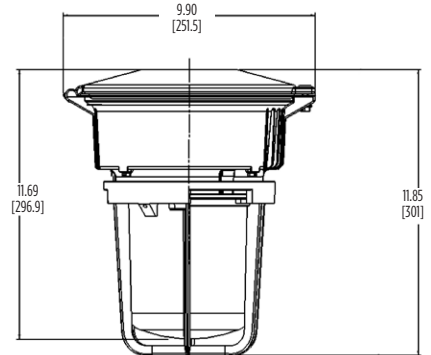
Compact Size - Dimensions & Weights



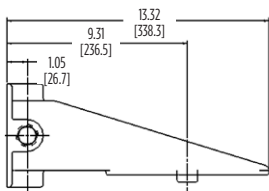
MBA Pendant



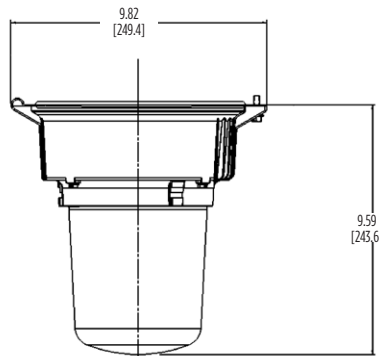
MBL Pendant, Globe, Guard



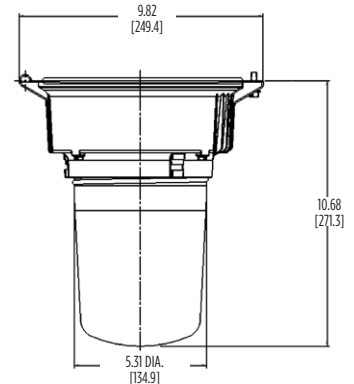
MBL Pendant, Refractor, Guard



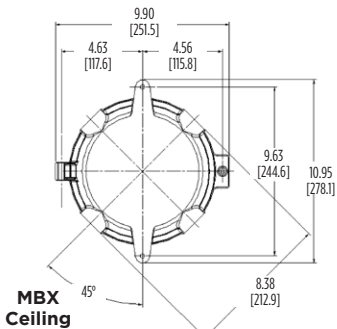
MBB Wall Mount



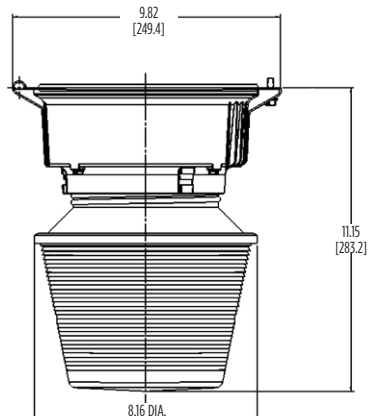
MBL & MBG Globe Only



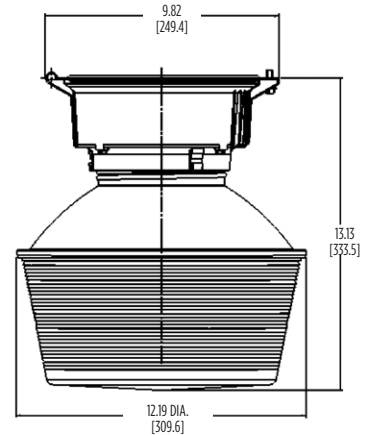
MBL & VMR Refractor



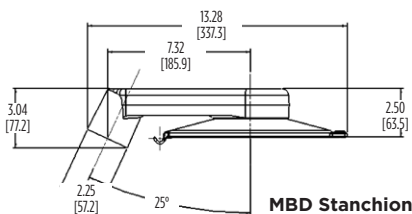
MBX Ceiling



MBL & 8" Type V Spin-top



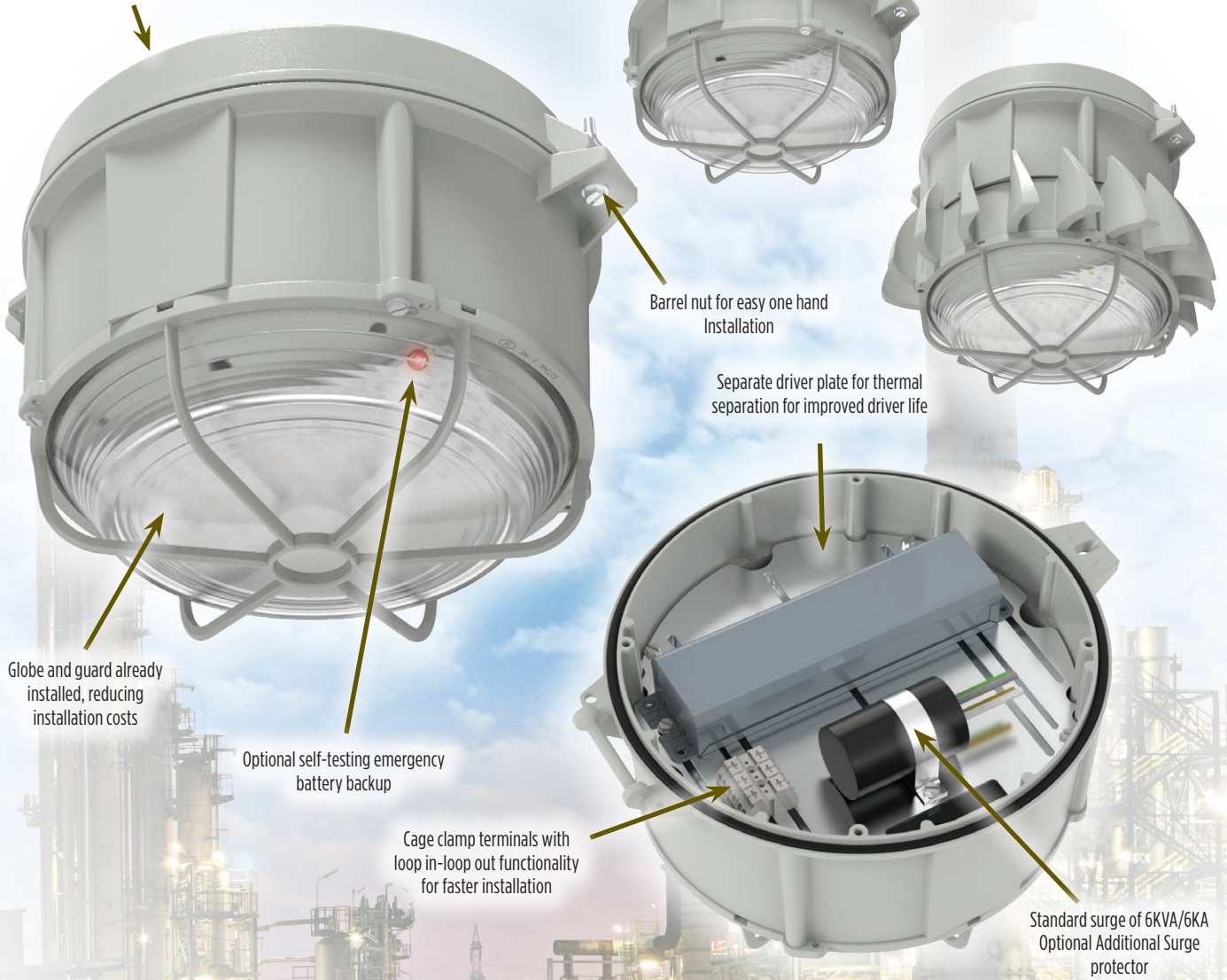
MBL & 12" Type V Spin-top



MBD Stanchion



Same mounts as the legacy Killark VM Series for ease of retrofitting



Barrel nut for easy one hand installation

Separate driver plate for thermal separation for improved driver life

Globe and guard already installed, reducing installation costs

Optional self-testing emergency battery backup

Cage clamp terminals with loop in-loop out functionality for faster installation

Standard surge of 6KVA/6KA
Optional Additional Surge protector

OPTIC PATTERN ▼

Type I Optic Pattern



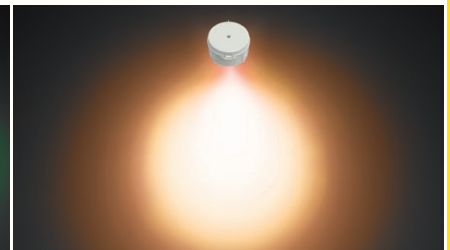
5000K – Noon Day Sun Light

Type III Optic pattern



Green – for Migratory Birds

Type V Optic Pattern



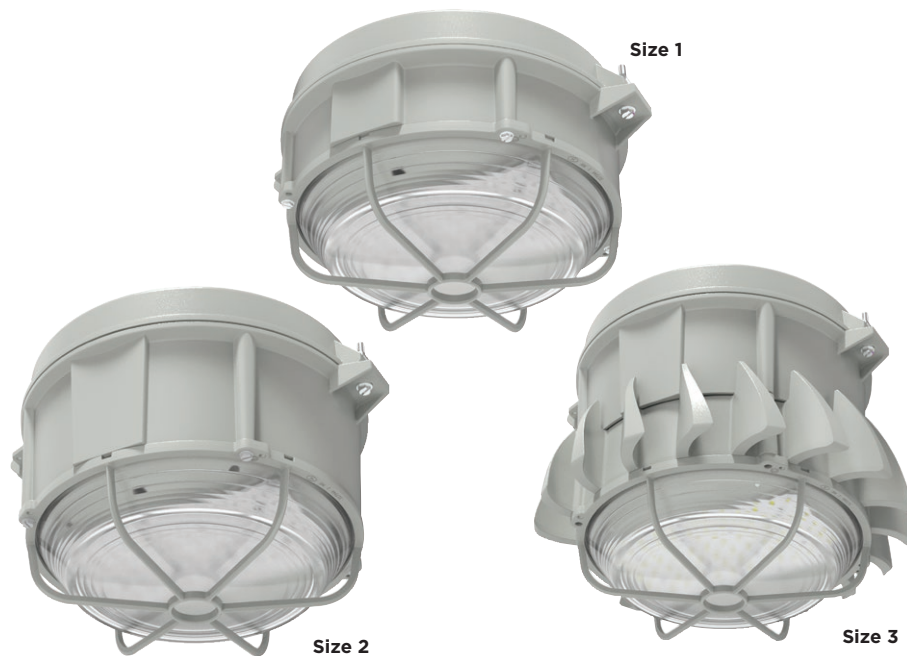
Amber – for Marine Life

▲ LED COLOR OPTIONS



LIGHTING
VMLX SERIES

Introduction



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
Type 3, 4X
IP66
Marine Rated (US only)

IECEX Rated (Zone 2)
Ex ec IIC T4/T3 Gc
Ex tb IIIC T4/T3 Db

Ambient Suitability -40°C to 65°C
(see tables). -20°C to 50°C for
Emergency models



IECEX Certificate
GPS 15.0006



ATEX Certificate
GPS22ATEX7000

FEATURES-SPECIFICATIONS

Features

- Traditional Photometric Performance
- Refractor options for Type I, III, and V
- VML-X Housing can be retrofitted to existing VM splice boxes for easy installation
- Retro fit adapters for various manufacturers mounts
- LED Array Life - 100,000+ hours with 70% initial lumens
- Chromaticity outputs:
 - » 5000K 70CRI Cool CCT
 - » 3000K 95CRI Warm CCT
- Wildlife Friendly color options
 - » Amber - Helps protect marine wildlife
 - » PC Amber - Phosphate coated Amber
 - » Green - Helps protect migratory birds
- Surge Protection
- Globe and guard are supplied assembled to the tank

- Self-testing and Self-diagnostics on battery back up fixtures
- Terminal blocks fitted as standard
- Reduced Storage Footprint

Materials

- Housing, Splice box and Guards corrosion resistant copper-free aluminum alloy
- Baked Powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - stainless steel
- Reflectors - White Polycarbonate
- Standard Glass Globe
- Optional Polycarbonate Globe

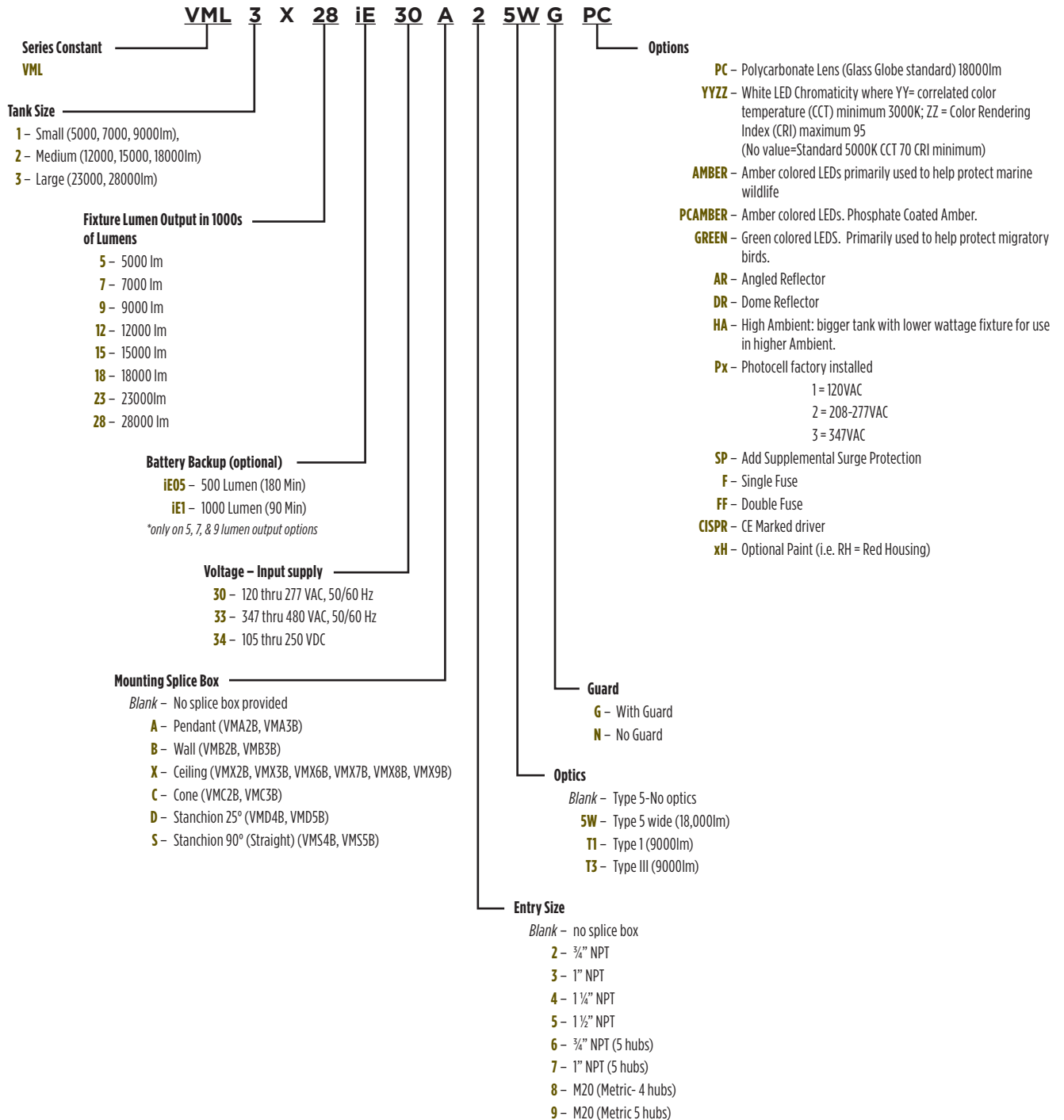
Electrical Ratings

- 110 thru 250 VDC
- 120 thru 277 VAC, 50/60Hz
- 347 thru 480 VAC, 50/60Hz
- Surge Protection: 6KV/6KA surge protection as standard.
- Optional supplementary 20KA/10KV (120-277 VAC), 10KA/10KV (347-480 VAC) Surge Protection
- Battery Duration: 90mins 10W, 180 mins 5W
- Terminal Size: 12AWG /4mm (Loop In-Loop Out)



Catalog Logic

The complete luminaire catalog number is as follows:





LIGHTING

VMLX SERIES

VML-X TEMPERATURES										
CATALOG NUMBER	WEIGHT	WATTAGE	VOLTAGE	AMPS	CLASS I, DIV. 2 GROUPS A, B, C & D; (ZONE 2, GROUPS IIC, IIB, IIA)2			CLASS II, DIV. 1		
					40°C (75°C WIRE)	55°C (90°C WIRE)	65°C (90°C WIRE)	40°C (75°C WIRE)	55°C (90°C WIRE)	65°C (90°C WIRE)
VML1X530	10.8	40	120-277 VAC	0.33-0.14	T4A	T4A	-	EFG	EFG	-
VML1X533			347-480 VAC	0.12-0.08						
VML1X534			120-250 VDC	0.33-0.16						
VML1X730	10.8	55	120-277 VAC	0.46-0.20	T4A	T4A	-	EFG	EFG	-
VML1X733			347-480 VAC	0.16-0.11						
VML1X734			120-250 VDC	0.46-0.22						
VML1X930	10.8	75	120-277 VAC	0.63-0.27	T4A	T4A	-	EFG	EFG	-
VML1X933			347-480 VAC	0.22-0.16						
VML1X934			120-250 VDC	0.36-0.30						
VML2X1230	13.4	100	120-277 VAC	0.83-0.36	T4	T4	-	EFG	EFG	-
VML2X1233			347-480 VAC	0.29-0.21						
VML2X1234			120-250 VDC	0.83-0.40						
VML2X1530	13.4	120	120-277 VAC	1.00-0.43	T4	T4	-	EFG	EFG	-
VML2X1533			347-480 VAC	0.35-0.25						
VML2X1534			120-250 VDC	1.00-0.48						
VML2X1830	13.4	140	120-277 VAC	1.17-0.51	T4	T4	-	EFG	EFG	-
VML2X1833			347-480 VAC	0.40-0.29						
VML2X1834			120-250 VDC	1.17-0.56						
VML3X2330	25.3	200	120-277 VAC	1.67-0.72	T3C	T4A	-	EFG	EFG	-
VML3X2333			347-480 VAC	0.58-0.42						
VML3X2334			120-250 VDC	1.67-0.80						
VML3X2830	25.3	250	120-277 VAC	2.08-0.90	T3C	T4A	-	EFG	EFG	-
VML3X2833			347-480 VAC	0.72-0.52						
VML3X2834			120-250 VDC	2.08-1.00						
VML2X530 HA	13.4	40	120-277 VAC	0.33-0.14	T4A	T4A	T4A	EFG	EFG	EFG
VML2X533 HA			347-480 VAC	0.12-0.08						
VML2X534 HA			120-250 VDC	0.33-0.16						
VML2X730 HA	13.4	55	120-277 VAC	0.46-0.20	T4A	T4A	T4A	EFG	EFG	EFG
VML2X733 HA			347-480 VAC	0.16-0.11						
VML2X734 HA			120-250 VDC	0.46-0.22						
VML2X930 HA	13.4	75	120-277 VAC	0.63-0.27	T4A	T4A	T4A	EFG	EFG	EFG
VML2X933 HA			347-480 VAC	0.22-0.16						
VML2X934 HA			120-250 VDC	0.63-0.30						
VML3X1230 HA	25.3	100	120-277 VAC	0.83-0.36	T4A	T4A	T4A	EFG	EFG	EFG
VML3X1233 HA			347-480 VAC	0.29-0.21						
VML3X1234 HA			120-250 VDC	0.83-0.40						
VML3X1530 HA	25.3	120	120-277 VAC	1.00-0.43	T4A	T4A	T4A	EFG	EFG	EFG
VML3X1533 HA			347-480 VAC	0.35-0.25						
VML3X1534 HA			120-250 VDC	1.00-0.48						
VML3X1830 HA	25.3	140	120-277 VAC	1.17-0.51	T4A	T4A	T4A	EFG	EFG	EFG
VML3X1833 HA			347-480 VAC	0.40-0.29						
VML3X1834 HA			120-250 VDC	1.17-0.56						

DELIVERED LUMENS										
CATALOG NUMBER	GLASS GLOBE									POLYCARBONATE
	5000K 70CRI LEDS	TYPE 5 WIDE OPTIC	TYPE 3 OPTIC	TYPE 1 OPTIC	ANGLED REFLECTOR	DOME REFLECTOR	GREEN LED	AMBER LED	3000K 80CRI LEDS	CLEAR GLOBE
VML1X5(XX)(YY)	5295	5002	4803	4868	4560	4802	3694	-	4871	5353
VML1X7(XX)(YY)	7101	6708	6441	6528	6116	6440	4030	1890	6532	7179
VML1X9(XX)(YY)	9884	9338	8966	9087	8513	8964	4368	-	9093	9992
VML2X12(XX)(YY)	14046	13305	-	-	12049	12645	7005	2859	12922	14200
VML2X15(XX)(YY)	16359	15496	-	-	14033	14727	7642	-	15050	16538
VML2X18(XX)(YY)	18733	17745	-	-	16070	16865	-	-	17234	18939
VML3X23(XX)(YY)	23090	-	-	-	19807	20787	-	-	21242	-
VML3X28(XX)(YY)	28275	-	-	-	24424	25446	-	-	26013	-





Accessories



CERTILITE™ VM MOUNTING SPLICE BOXES

HUB SIZE	CATALOG NUMBER							
	PENDANT	FLEXIBLE PENDANT	CEILING 4 HUB	CEILING 5 HUB	WALL	CONE TOP	25 DEGREE STANCHION	90 DEGREE STANCHION
3/4"	VMA2B	VMF2B	VMX2B	VMX6B	VMB2B	VMC2B	—	—
1"	VMA3B	VMF3B	VMX3B	VMX7B	VMB3B	VMC3B	—	—
1-1/4"	—	—	—	—	—	—	VMD4B	VMS4B
1-1/2"	—	—	—	—	—	—	VMD5B	VMS5B
M-20	—	—	VMX8B**	VMX9B	—	—	—	—

*VMEZA is used between a ballast tank and an EZ mount-ordered separately.

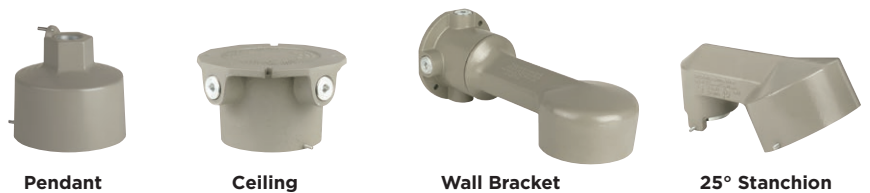
**VMX8B furnished with 3 non-metallic plugs.



“EZ” Mount Adapter

For easy fixture relocation or to repair fixture on ‘bench top’.

VMEZA adapter is used between a driver tank and EZ mount ordered separately.



MOUNTING BOXES

CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	BRACKET	STANCHION	
EZA2	EZX2	EZB3	—	3/4"
EZA3	EZX3	EZB3	—	1"
—	—	—	EZD4A	1-1/4" / 1/2"

*1-1/2" furnished with 1-1/2"-1-1/4" reducer and extension.

Competitive Adapters

Designed to ease upgrading of other manufacturer’s fixtures to KILLARK LEDs where removal of existing mounting screws and conduit would be difficult and time consuming.

ACCESSORIES

CATALOG NUMBER	DESCRIPTION
VMLXGL	Globe (glass)
VMLXPC	Globe (polycarbonate)
VMLXGRD	Guard
VMLXDR	Dome Reflector
VMLXAR	Angle Reflector
VMFSPC1	120VAC Photocell with FS Style Cover
VMFSPC2	208-277VAC Photocell with FS Style Cover
VMSC10	10ft Stainless Steel Safety Cable with loop grip
HUB2PC120	Field Installed 120VAC Photocell
HUB2PC227	Field Installed 208-277VAC Photocell
HUB2PC347	Field Installed 347VAC Photocell





LIGHTING
VMLX SERIES

High Wattage Self-Testing Battery Backup



Optional self-testing emergency battery backup

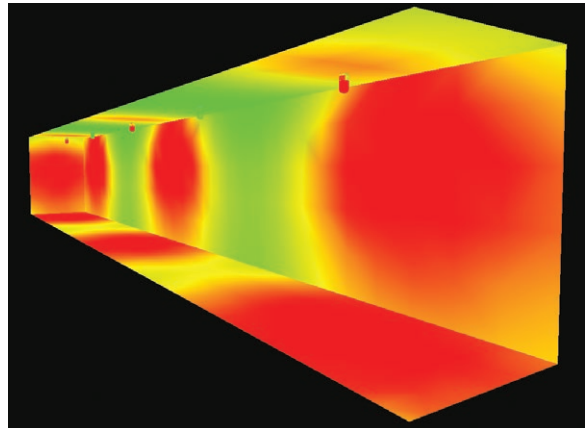
Electronics Includes:

- Self-diagnostics monitors LED status, LED driver circuit, battery capacity and charger function and displays any fault detection by means of a flashing code
- Self-Test feature automatically runs a 1 minute test once a month and an alternating 30-60 minute test once every 6 months. LED indicator provides visible fault detection and charging status
- User initiated 1, or 90-minute system test feature
- 15 minute re-transfer delay
- Automatic unit transfer in brown-out conditions (below 80% of nominal AC input voltage)
- 90 or 180 minute run time options.

TEST SWITCH INDICATOR STATUS	
LED INDICATORS STATUS	EM DRIVER STATUS/MODE
Solid Green	System OK/AC OK (Self-diagnostic Enabled or Disabled).
Slow Flashing Red, 4s on/1s off	Battery not detected, check battery switch or connection.
Flashing Red, 1s on/1s off	Battery Failure, replace battery.
Flashing Green, 1s on/1s off	Self Diagnostic test underway.
Fast Flashing Red, 0.1s on/0.1s off	Abnormal driver performance, replace driver.
Very Slow Flashing Red, 4s on/4s off	Over temperature.
None. Both LEDs OFF	Normal working in EM mode.
Green/Red alternative flashing, 1s green/1s red	No load or output over voltage protection triggered.

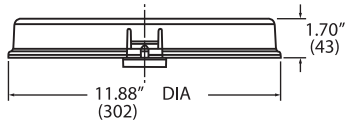


LED Battery Backup Lighting Design

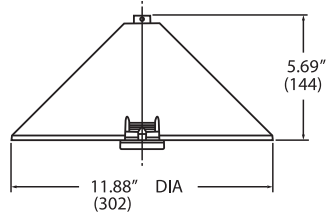




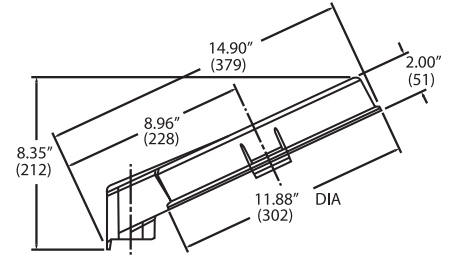
Dimensions



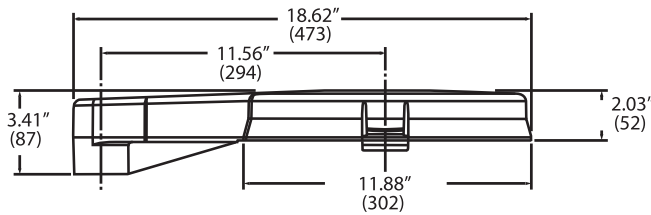
Pendant Mount



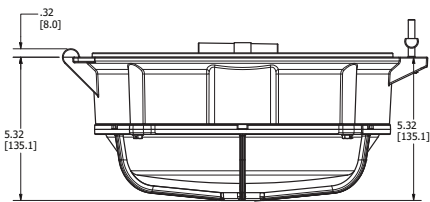
Cone Mount



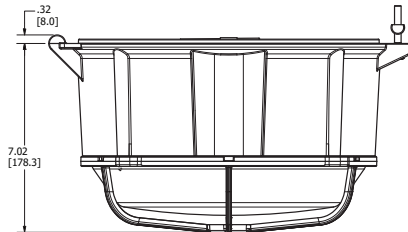
Stanchion(25°) Mount



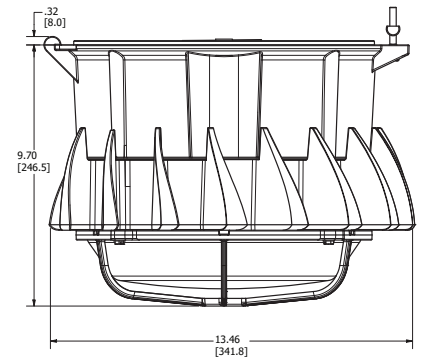
Stanchion(0°) Mount



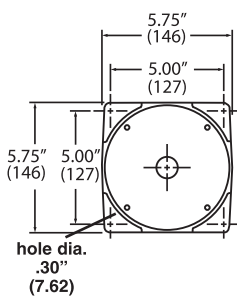
Size 1



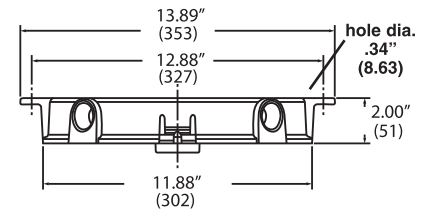
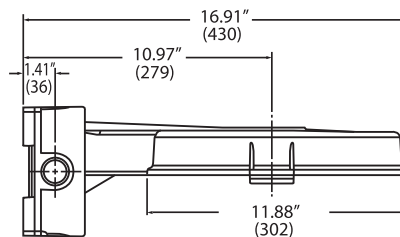
Size 2



Size 3



Wall Bracket Mount



Ceiling Mount



LIGHTING
VMLX SERIES

Fixture Adapters



Class I, Div. 2, Groups A, B, C, D
Class II, Div. 1, Groups E, F, G
Class III
Type 4X



FEATURES-SPECIFICATIONS

Applications

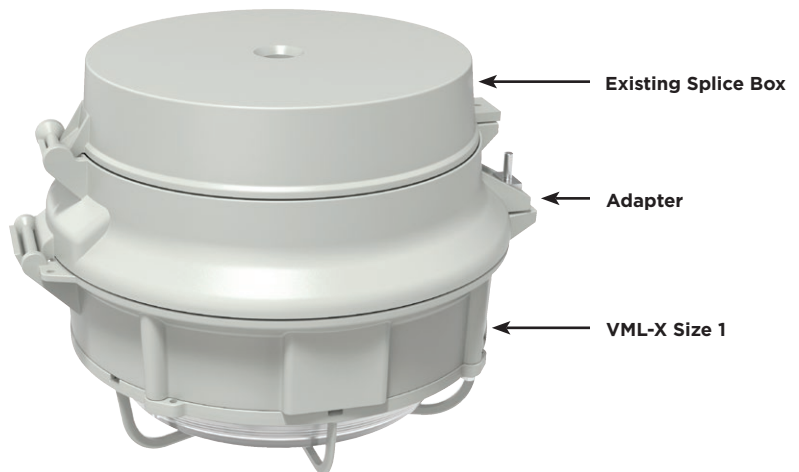
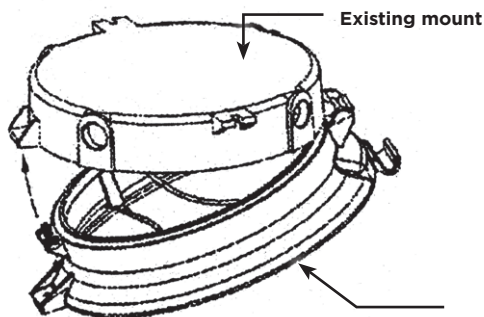
The Killark VM adapters are designed to ease upgrading of other manufacturer's fixtures to KILLARK LEDs where removal of existing mounting screws and conduit would be difficult and time consuming.

Adapters are used with the Killark VML-X fixture and the competitive splice box. The Killark fixtures, when used with the Killark adapters and appropriate competitive splice box, will maintain all hazardous and environmental ratings.

Features

- Fixture and competitive mount are certified together
- Baked powder epoxy/polyester finish, electrostatically applied to match the Killark VM tank
- All external hardware - Stainless

VM SERIES COMPETATIVE ADAPTERS		
CATALOG NUMBER	DESCRIPTION	EXAMPLE OF MODEL UTILIZED OR REPLACED
VMCHVM	Tank adapter to Crouse-Hinds' VM Series mounts	VMV S2 C 050 R5
VMCHVM-DEEP	Tank adapter to CH (70's era wall mount with deep box)	VMV S2 TW 050 R5
VMM2LP	Tank adapter to Appleton' MERCMASTER II mounts	LPCL 50 75 J
VMM3KP	Tank adapter to Appleton' MERCMASTER III mounts	KPCL 50 75 J5 MT
VMHLDS	Tank adapter to Hazlux' 3 mounts	DS015 H040-TGL-P2 E1 F
VMHPP2	Tank adapter mount to Holophane' Petrolux™	PETL 250HP 27 S25 CD
VMGEH2	Tank adapter H2 mount to GE' H2-Filtr-gard™	H2 4 05L 3C GG





Explosion-Proof - Introduction & Logic



Class I, Div. 1 & 2, Groups C,D
 Class I, Zones 1 & 2, Groups IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III, Div. 1 & 2
 Suitable for wet locations
 Suitable for Paint Spray Booth
 Marine Rated (US only)
 Type 3, 4, 4X
 Factory Sealed

 Certified - File LR11713

FEATURES-SPECIFICATIONS

Features

- Compact Explosion-proof with Traditional Industrial Appearance and Suitability
- Fluted; Dome or Angle Reflectors
- Optional Mounting arrangements including Pendant, Wall, Ceiling, and Stanchion
- EML LED Housings can be retrofitted to existing EZ splice boxes; upgrade from Incandescent, Fluorescent or HID
- Energy Savings - Less than 55 Watts of Power
- LED Array Life - 100,000+ hours with 70% initial lumens
- Long Fixture Life - 50,000 - 55,000 maintenance free hours
- Crisp White Light for Excellent Color Rendering - Chromaticity 5000K (CCT range; approx. 70 CRI)
- Instant on - Including after power interruption

- Solder-LESS LED Board Connections - Vibration Resistant
- Factory Sealed Construction - No external seal required, simply wire mouting cap and thread-in fixture to install
- **Warm LED color option available with 3070**

Materials

- Housing, splice box and guards corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electorstatically applied for complete, uniform corrosion protection
- All external hardware - Stainless Steel
- Reflectors are aluminum with white finish

Electrical Ratings

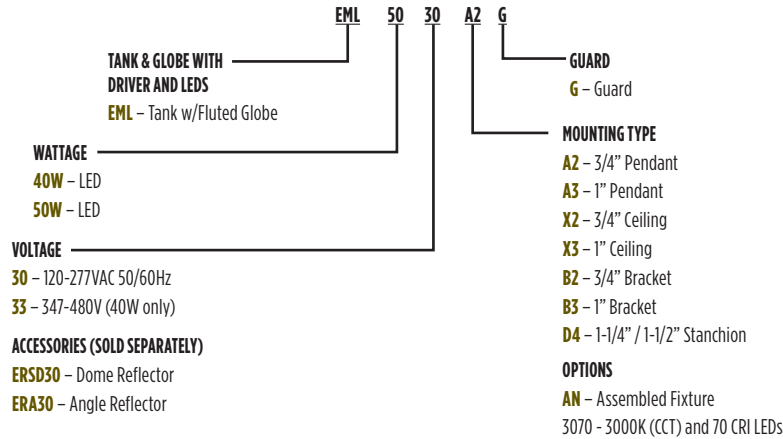
- Ambient suitability -40°C to 55°C
- "World Voltage" 120-277VAC 50/60Hz

Suitable for Paint Spray Booth Applications



LIGHTING EML SERIES

Explosion-Proof - Logic, Components, and Ratings



ORDERING INFORMATION AND AMBIENT SUITABILITY

CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	EML FLUTED LUMENS	EMLC CLEAR LUMENS	C1D1/C1Z1		C2D1	
							40°C	55°C	40°C	55°C
EML4030	26.00 / 11.79	40	120-277VAC	0.46-0.16	3479	3750	T6	T6	T4A (EFG)	T4 (EFG)
EML4033			347-480VAC	0.14-0.10			T6	T6	T4A (EFG)	T4 (EFG)
EML5030		50	120-277VAC	0.43-0.18	5740	5741	T6	T6	T4A (EFG)	T4 (EFG)

TYPICAL WEIGHTS (LBS.) W/STANDARD GLOBE AND GUARD - EML (C) SERIES

Pendant 29.33	Ceiling 31.79	Wall 33.25	Stanchion 30.94
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EZ MOUNTING BRACKETS				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	WALL	STANCHION	
EZA2	EXZ2	EZB2	—	3/4"
EZA3	EXZ3	EZB3	—	1"
—	—	—	EZD4*	1-1/4" / 1-1/2"

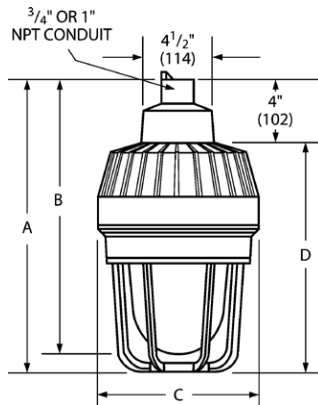
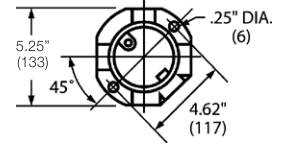
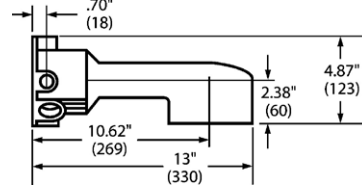
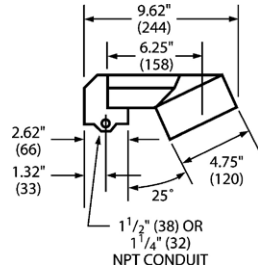
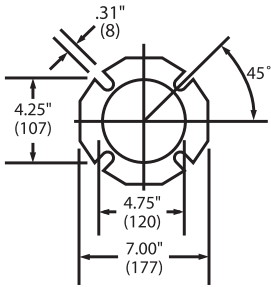
*1-1/2" furnished with 1-1/2" - 1-1/4" reducer

EML - EMLC LED ACCESSORIES	
DESCRIPTION	CATALOG NUMBER
Guard	EMG2
Dome Reflector	ERSD30
Angle Reflector	ERA30
C1D1 C2D1 N4X Photocell 120VAC	VMHKPC1
C1D1 C2D1 N4X Photocell 208-277VAC	VMHKPC2
Replacement Fluted Globe & Support	EMGS3
Replacement Clear Globe & Support	EMGS2
Adapter to old Killark "H" Series or Crouse Hinds	EAC/EACH

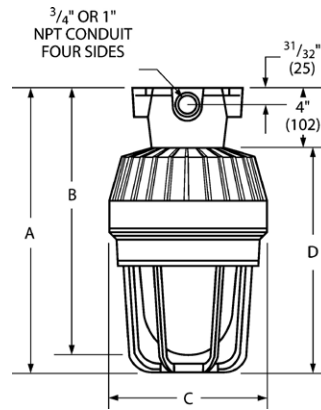




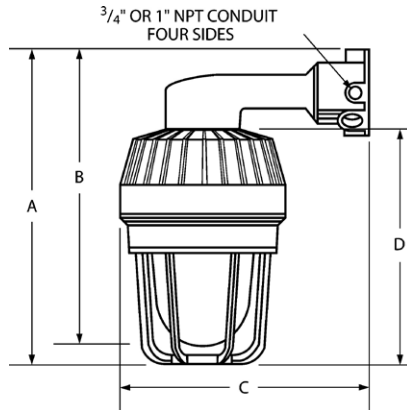
Explosion-Proof - Dimensions & Weights



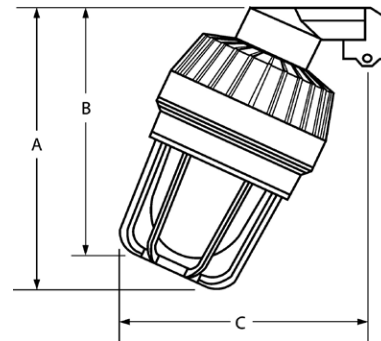
Pendant



Ceiling



Wall



25° Stanchion

EML(C) DIMENSIONS				
TYPE	A	B	C	D
PENDANT	15-15/16" (404)	15-1/16" (382)	8-13/16" (224)	11-15/16" (303)
CEILING	15-15/16" (404)	15-1/16" (382)	8-13/16" (224)	11-15/16" (303)
WALL	16-13/16" (426)	15-15/16" (404)	15" (379)	11-15/16" (303)
STANCHION	15-1/8" (384)	14" (356)	13-1/2" (343)	



LIGHTING
EZL SERIES

Explosion-Proof - Introduction & Logic



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
Suitable for Paint Spray Booth
Marine Rated (US only)
Type 3, 4, 4X
Factory Sealed

Certified - File LR11713

FEATURES-SPECIFICATIONS

Features

- Explosion-proof with Traditional Industrial Appearance and Suitability
- Mounting choice - Pendant, ceiling, 25° stanchion or 90° wall mount, all with “wireless” design that allows fast, easy fixture installation or removal for maintenance.
- Accessories - Available with or without guard, standard dome or angle reflector
- EZL LED Housings can be retrofitted to existing EZ splice boxes; upgrade from Incandescent, Fluorescent or HID
- Energy Savings - Less than 130 Watts of Power
- LED Array Life - 100,000+ hours with 70% initial lumens
- Long Fixture Life - 50,000 - 55,000 maintenance free hours
- Crisp White Light for Excellent Color Rendering - Chromaticity 5000K (CCT range; approx. 70 CRI)
- Instant on - Including after power interruption
- Solder-LESS LED Board Connections - Vibration Resistant
- Factory Sealed Construction - No external seal required, simply wire routing cap and thread-in fixture to install
- **Warm LED color option available with 3070**

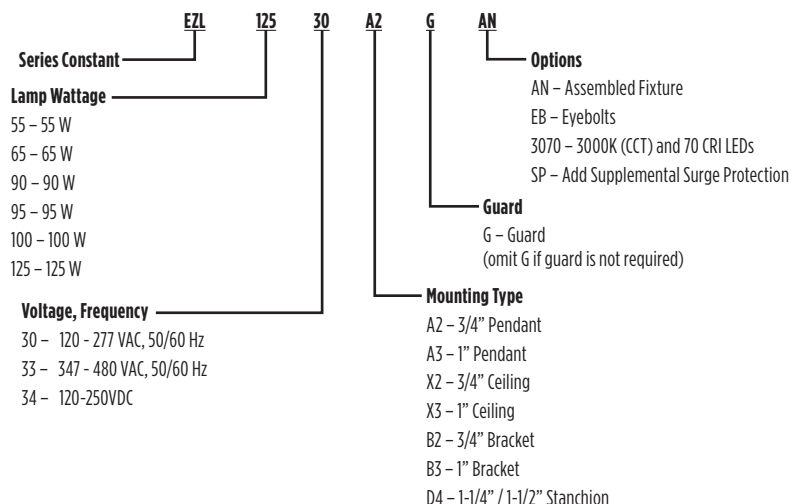
Materials

- Housing, splice box, and guards corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - Stainless Steel
- Reflectors are aluminum with white finish

Electrical Ratings

- Ambient suitability -40°C to 55°C
- “World Voltage” 120-277VAC 50/60Hz
- Surge Protection: 6KV surge protection as standard.
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave

CATALOG NUMBER LOGIC





Explosion Proof – Ordering Information, Components & Ratings



ORDERING INFORMATION AND AMBIENT SUITABILITY

CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	DELIVERED LUMENS	C1D1/C1Z1		C2D1	
						40°C	55°C	40°C	55°C
EZL5530	36 / 16.33	55	120-277VAC	0.46/0.20	5596	T6	T6	EFG	EFG
EZL6530		65	120-277VAC	0.54/0.23	6515	T6	T6	EFG	EFG
EZL9030		90	120-277VAC	0.75/0.32	7818	T6	T6	EFG	EFG
EZL9530		95	120-277VAC	0.79/0.34	9121	T6	T6	EFG	EFG
EZL10030		100	120-277VAC	0.83/0.36	10903	T6	XXX	EFG	XXX
EZL12530		125	120-277VAC	1.04/0.45	12720	T6	XXX	EFG	XXX

MOUNTING BOXES

HUB SIZE	CATALOG NUMBER			
	PENDANT	CEILING	BRACKET	STANCHION
3/4"	EZA2	EZX2	EZB2	—
1"	EZA3	EZX3	EZB3	—
1-1/4"/1-1/2"	—	—	—	EZD4



Pendant

Ceiling

EAC

25°
Stanchion



Wall
Bracket

HIC-BEIGE
replacement
wiring plug for
EZBx
Wall Bracket

REFLECTORS

CATALOG NUMBER	DESCRIPTION
VMPSD40	Standard dome. fiberglass reinforced polyester
VMPA40	30° Angle fiberglass reinforced polyester
HRD400	Deep dome. Aluminum with white finish
HRD400ALZ	Deep dome with specular anodized finish



VMPSD40



VMPA40



HRD400
HRD400ALZ
(pictured)



Replacement
Globe & Support
Assemblies
EZGS1

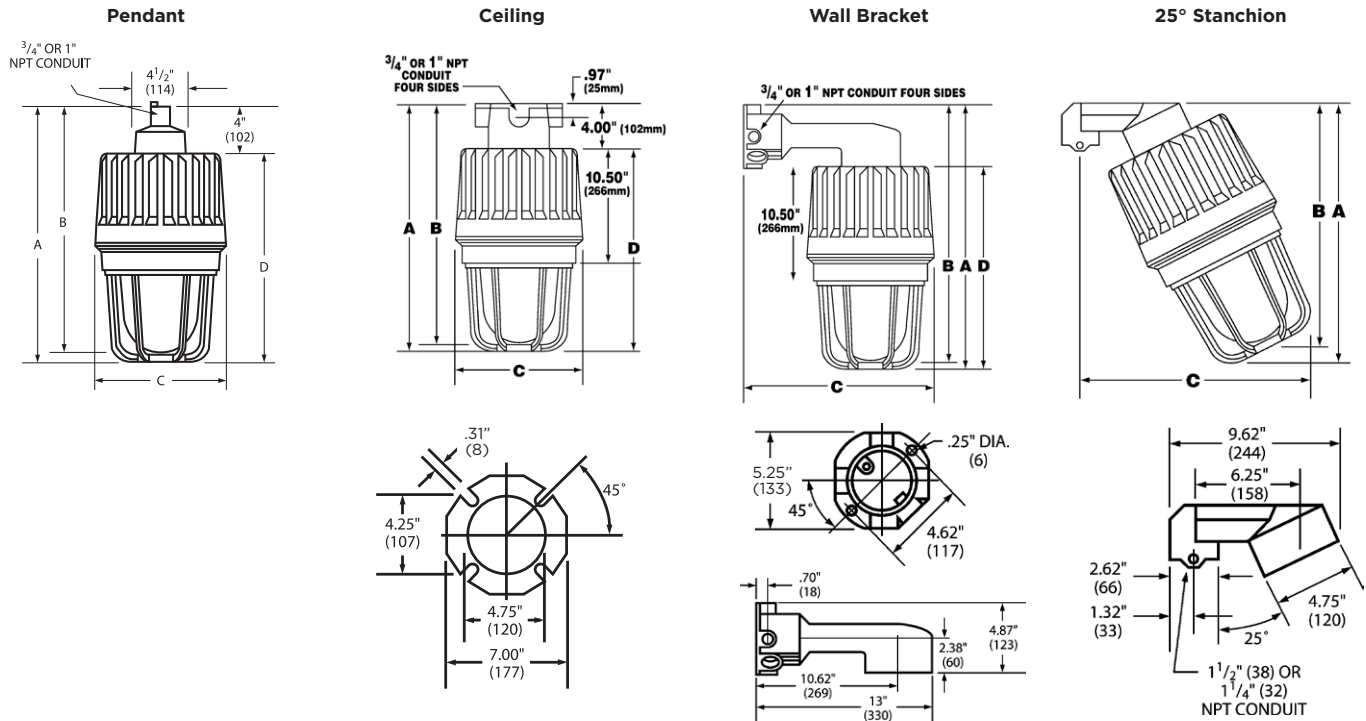


Replacement Guard
EZG1



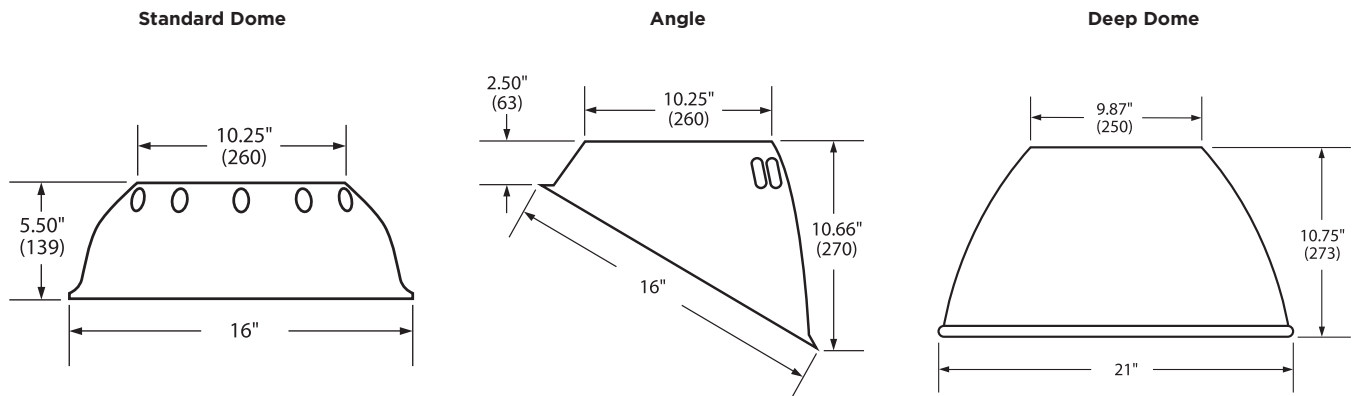
LIGHTING EZ SERIES

Dimensions



MOUNTING DIMENSIONS														
PENDANT				CEILING				BRACKET				STANCHION		
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
22"	21-1/4"	11-1/4"	18"	22"	21-1/4"	11-1/4"	18"	22-7/8"	22-1/8"	16-3/4"	18"	24-7/8"	24"	19-13/16"
(558)	(539)	(285)	(457)	(558)	(539)	(285)	(457)	(580)	(561)	(425)	(457)	(631)	(609)	(503)

Reflector Dimensions





Fixture Adapters



Class I, Div. 1 & 2, Group D
Class I, Zones 1 & 2, Groups IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

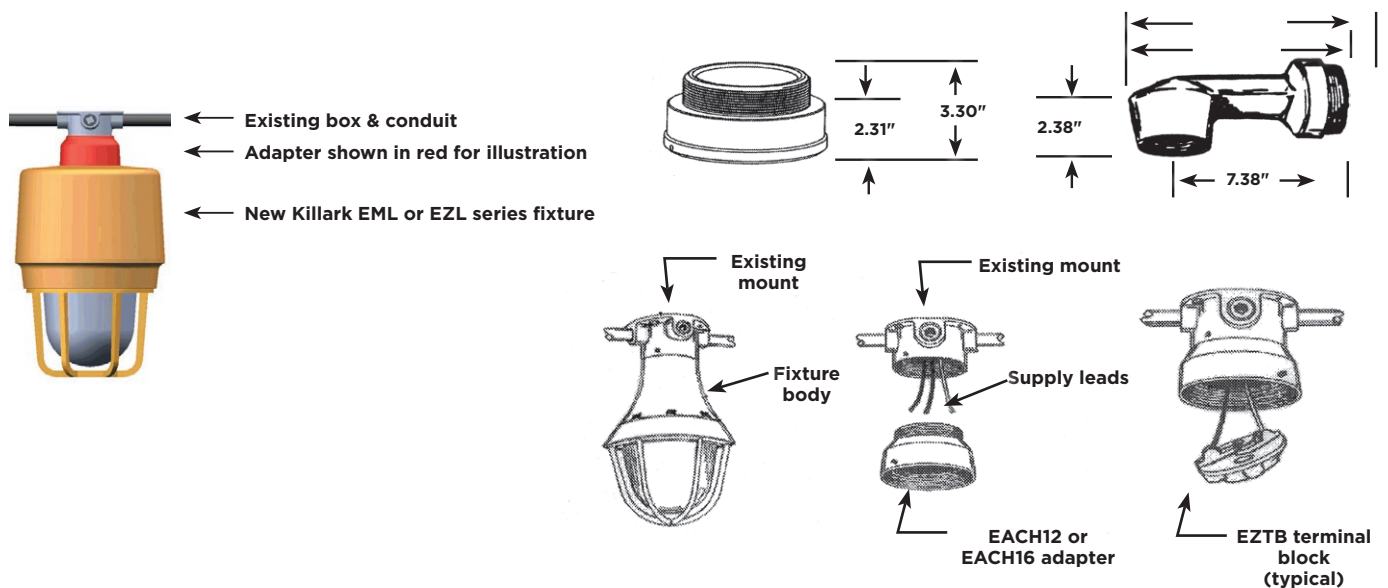
Certified E10514

FEATURES-SPECIFICATIONS

Features

- Setscrews permit secure adapter attachment into old mounting box and to new fixture
- Converted fixtures may be easily removed for service using the Killark EZ mounting system. Wire terminals are included in the adapter (EZTB Terminal Block)

EAC / EZBA FIXTURE ADAPTERS		
CATALOG NUMBER	DESCRIPTION	EXAMPLE OF MODEL UTILIZED OR REPLACED
EAC	Killark H series Ceiling or Wall	HXG-2-125 Fixture
EACH12	Crouse old style Ceiling Mount with lamp socket in adapter ring between fixture body and a GUF 12 pitch box	GUF box w/Set Screw
EZBA12	Crouse old style Wall Mount, old style Arm with integral lamp socket (socket in fixture in newer models) attached to GUF 12 pitch mounting box. EZBA12 includes arm	GUF box w/Set Screw
EACH16	Crouse newer style ceiling or wall fixtures w/lamp socket in fixture body; mounted to EV series 16 pitch threaded box; adapter fits in ceiling box or existing arm attached to wall fixture	EVA26/EV22 Box; EVBX240
EAAP-C2	Appleton Code-Master 2	CLC5075





LIGHTING
FLOOD LIGHTING



L38 **KILLARK®**

www.hubbell.com/killark





Class I, Div. 2, Groups A,B,C,D
Class II, Div. 1&2, Groups EFG
Class III

Suitable for wet locations
Marine Rated (US Only)



Type 3, 4X



IP66

Tamb -50°C to +65°C



Zone 2 and Zone 21 areas

Ex ec IIC T5/T4 Gc

Ex tb IIIC T95°C Db, IP66



STANDARD VERSION

-40°C<Tamb<+65°C<120W

-40°C<Tamb<+40°C/+55°C>120W

BATTERY BACKUP VERSION

-20°C<Tamb<+50°C



Certified File No: 80004509

ATEX Certificate No: QPS 21 ATEX 7002X and QPS 21ATEX 5004X

IECEX Certificate No: IECEX QPS 19.0031X

FEATURES-SPECIFICATIONS

Features

- Global Certifications with Quad Approvals for NEC / CEC / IECEx / ATEX
- Easy Install with clamshell splice box for unimpeded wiring access
- Vast range of optics including spot, wide, and perimeter options available
- Intelligent battery backup with built in self-monitoring and testing
- 5000K color temperature is standard with options for 3000K, Amber, and Green
- Light weight at 25lbs / 11.2kgs

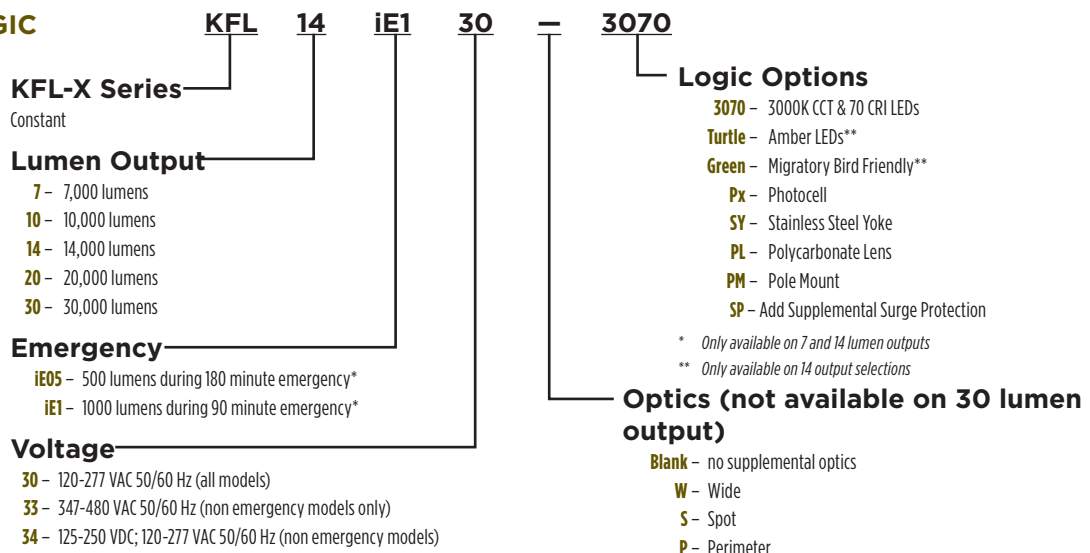
Materials

- Housing: Copper-Free Aluminum
- Lens: Standard glass with polycarbonate available as option
- External Hardware: 316 Stainless Steel
- Trunnion: Standard Copper-Free Aluminum with Stainless steel available as an option
- Gasket: High temperature rated solid silicon
- Paint: Powder epoxy / polyester

Electrical Ratings:

- 125 thru 250 VDC
- 120 thru 277 VAC, 50/60Hz
- 347 thru 480 VAC, 50/60Hz
- Surge Protection: 6KV surge protection as standard.
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave

CATALOG LOGIC





LIGHTING
KFL-X SERIES

Options
LED COLOR OPTIONS



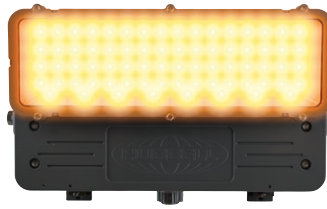
5000K

Crisp white light maximizes the output of the LEDs with a color that is equivalent to noontime sun.



3000K

Warm white light that is similar in color to a soft white incandescent.



AMBER

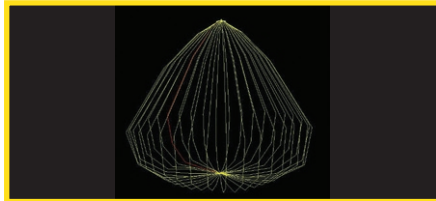
Pure Amber LEDs have zero energy in the blue light spectrum that is designed as a marine life friendly option for coastal regions.



GREEN

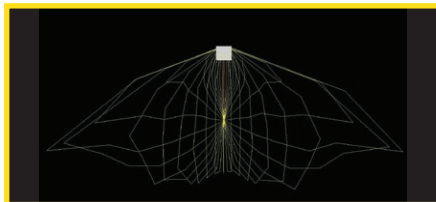
Pure Green LEDs are designed to avoid using wavelengths that disorientate and sometimes attract nocturnal migrating birds.

OPTIC OPTIONS



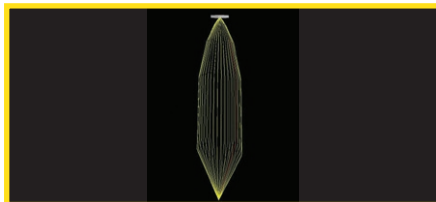
Normal

Delivers evenly distributed light, perfect for a general area lighting with normal mounting heights.



Perimeter

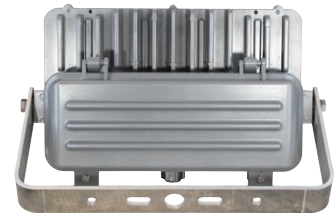
This optic was designed specifically for the needs of perimeter lighting. This asymmetric beam pattern offers a low and wide distribution that is perfect for illuminating fence lines



Spot

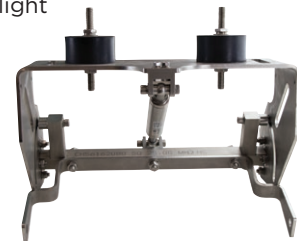
Offers high lumen density at taller mounting heights, perfect for focused lighting areas.

MOUNTING OPTIONS



Yoke

Standard mounting for KFL-X floodlight



Jib Crane

Auto-leveling with shock-absorber, and vibration isolators designed for the demands of luminaires mounted to jib cranes

INTELLIGENT BATTERY BACKUP

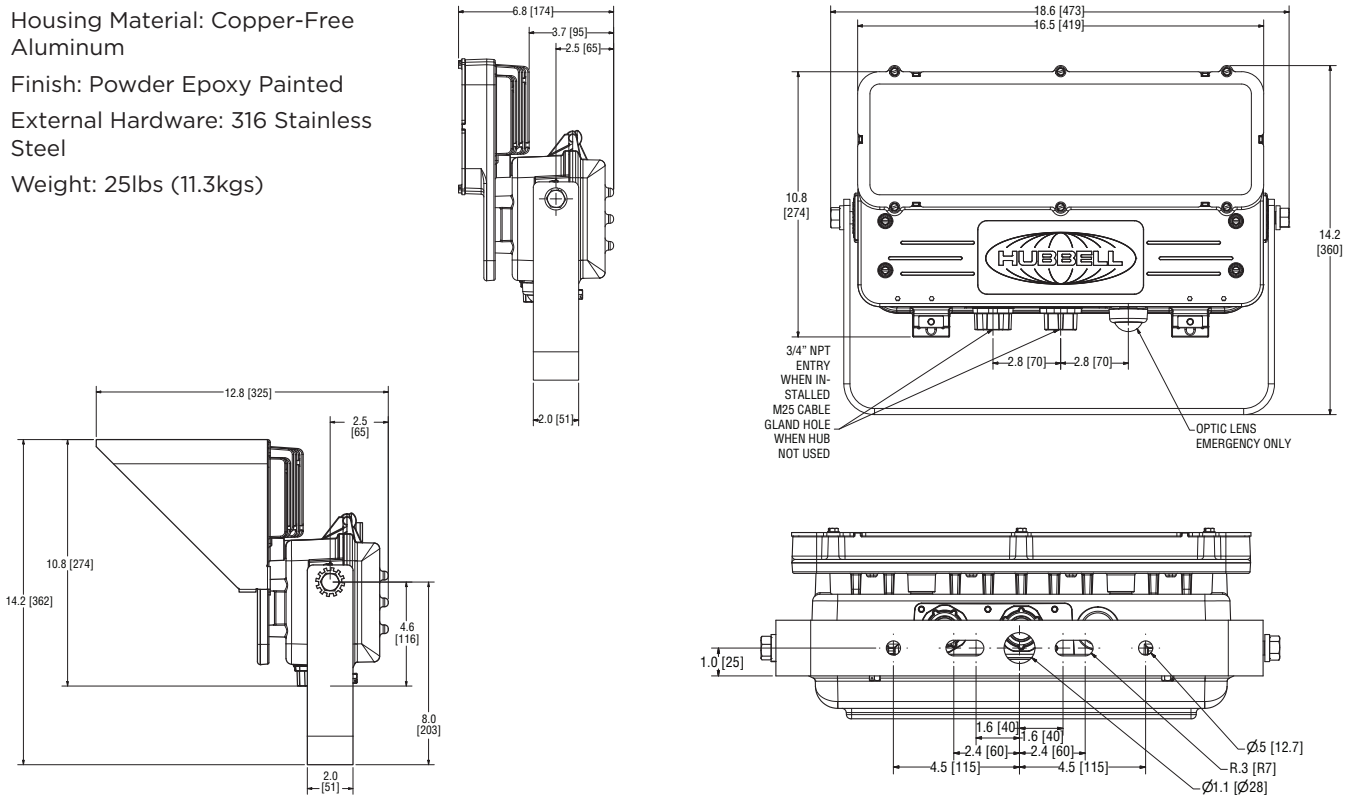
- Self-diagnostics monitors LED luminaire status
- Self-Test feature automatically runs a 1 month and bi-yearly functional test
- LED indicator provides visible fault detection and charging status
- User initiated 1, or 90-minute system test feature
- 15 minute re-transfer delay
- Automatic unit transfer in brown-out conditions (below 80% of nominal AC input voltage)





Dimensions

- Housing Material: Copper-Free Aluminum
- Finish: Powder Epoxy Painted
- External Hardware: 316 Stainless Steel
- Weight: 25lbs (11.3kgs)



ORDERING INFORMATION AND AMBIENT SUITABILITY						C1D2			C1D2 SIMULTANEOUS			C2D1			IEC ZONE 2			IEC ZONE 21		
CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	DELIVERED LUMENS	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C	40°C	55°C	65°C
KFL730	25 lbs / 11.3 kg	60	120-277	0.50-0.21	7948	T5	T4A	T4	T3C	T3C	T4	T3C	T3C	T3C	T5	T4	T3	160°C	160°C	160°C
KFL1030		90	120-277	0.8-0.3	10210	T5	T4A	T4	T3C	T3C	T4	T3C	T3C	T3C	T5	T4	T3	160°C	160°C	160°C
KFL1430-TURTLE		104	120-277	0.9-0.4	4401	T4A	T4A	—	T4A	T4A	—	T4A	T4A	—	T4	T4	—	160°C	160°C	—
KFL1430-GREEN		137		1.1-0.5	9702	T4A	T4A	—	T4A	T4A	—	T4A	T4A	—	T4	T4	—	160°C	160°C	—
KFL1430		120	120-277	1.0-0.4	15140	T5	T4A	T4	T3C	T3C	T4	T3C	T3C	T3C	T5	T4	T3	160°C	160°C	160°C
KFL2030		180	120-277	1.5-0.7	21370	T4	T3C	—	T3C	T3C	—	T3C	T3C	—	T4	T3	—	160°C	160°C	—
KFL3030		280	120-277	2.3-1.0	28940	T4	T3C	—	T3B	—	—	T3B	—	—	T4	T3	—	165°C	—	—

ORDERING INFORMATION AND AMBIENT SUITABILITY					DELIVERED LUMENS		C1D2		C1D2 SIMULTANEOUS		C2D1		IEC ZONE 2		IEC ZONE 21	
CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	NORMAL OPERATION	DURING BATTERY BACKUP	40°C	50°C	40°C	50°C	40°C	50°C	40°C	50°C	40°C	50°C
KFL7IE130	25 lbs / 11.3 kg	60	120-277	0.50-0.21	7948	1000	T5	T4A	T3C	T3C	T3C	T3C	T5	T4	160°C	160°C
KFL7IE0530		60	120-278	0.50-0.22	7948	500	T6	T4A	T3C	T3C	T3C	T3C	T5	T4	160°C	160°C
KFL14IE130		120	120-277	0.8-0.3	15140	1000	T5	T4A	T3C	T3C	T3C	T3C	T5	T4	160°C	160°C
KFL14IE0530		120	120-278	0.8-0.4	15140	500	T6	T4A	T3C	T3C	T3C	T3C	T5	T4	160°C	160°C



FEATURES

- Steel construction
- Available for 2, 3, or 4 luminaires
- Works with 2" pole tenon (2.38"/60.5mm O.D.)
- Painted with textured dark bronze



KFS-6
Slipfitter



KFCB
Cross Arm Mount



4041
Tenon Fitting



KFWB
Wall/Pipe Bracket



VMSC10
Safety Cable

KFL MOUNTS AND ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
KFS-6	Steel Slipfitter for 2" Pipe (2-3/8" o.d.) Tenon. Slips 3.75" Over Pipe
KFCB	Heavy Duty Cast-Iron Crossarm Fitting for Horizontal Trunnion
KFWB	Heavy Duty Wall Mount and/or Pipe Clamp Fitting Clamps 2" Pipe (2-3/8" o.d.) Through 2-1/2"
K4040	Heavy Duty Steel Wall Bracket. (Must be with KFCB Crossarm Fitting)
4041	Heavy Duty Steel Wall Bracket 2" Pipe (2-3/8" o.d.) Tenon Fitting. Uses with KFS-6
VMSC10	10' Stainless Steel Safety Cable with loop grip
KFLX-DARK	Visor that blocks vertical light when mounting at an angle is at or below 45°
KFLX-GUARD	Wire Guard, 316 Stainless Steel
SSC01-000009	Swinging Jib Crane Assembly



C1D2 Flood - Introduction & Logic



Class I, Div. 2, Groups A, B, C, D
Class I, Zone 2, IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G

Class III

Suitable for wet locations

Marine Rated (US only)

Type 3, 4X

IP66

Segurança



IEC Ex Rated Model

Zone 2 and Zone 21 areas

Ex nA IIC T6...T3, Gc

Ex tb IIC T105°C, Db

Tamb -50°C < Ta < +55°C, IP66



IECEx Certificate

QPS 15.0011

ATEX Certificate

CML 15ATEX4079X (nA) &

CML 15ATEX3080X (tb)



File No: LR11713

FEATURES-SPECIFICATIONS

Features

- Crisp White Light for Excellent Color Rendering - Chromaticity 5000K (CCT); approx. 70 CRI
- Energy Savings - High lumens per watt
- LED Array Life - 100,000+ hours with 70% initial lumens
- Long Fixture Life - 50,000 - 55,000 maintenance free hours
- Instant On - Including after power interruption
- Solder-LESS LED Board Connections - Vibration Resistant
- Standard fixture is supplied with dual M20 slip holes with 3/4" NPT hub adapters with one plugged
- **Warm LED color option available with 3070**

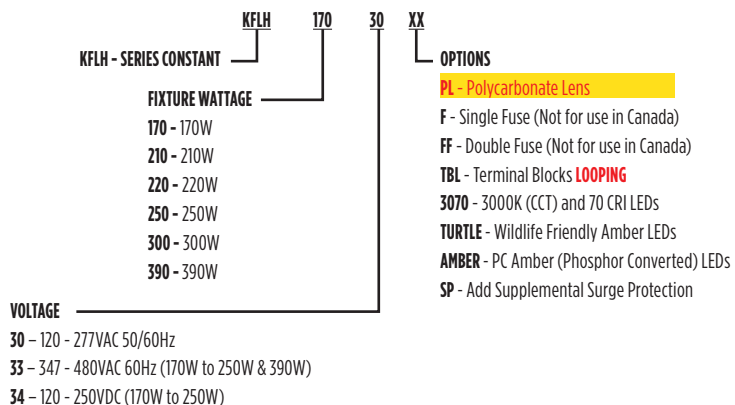
Materials

- Body and lens frame corrosion resistant copper-free aluminum alloy with baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - stainless steel
- Thermal shock and impact resistant glass lens (Polycarbonate available)
- High temperature silicone gasketing
- Trunnion heavy gauge 316 stainless steel

Electrical Ratings

- Ambient suitability -40°C to 55°C up to 250W to -50°C for non-hazardous applications
- World Voltage 120 - 277VAC 50/60Hz
- Surge Protection: 6KV surge protection as standard
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave

CATALOG NUMBER LOGIC



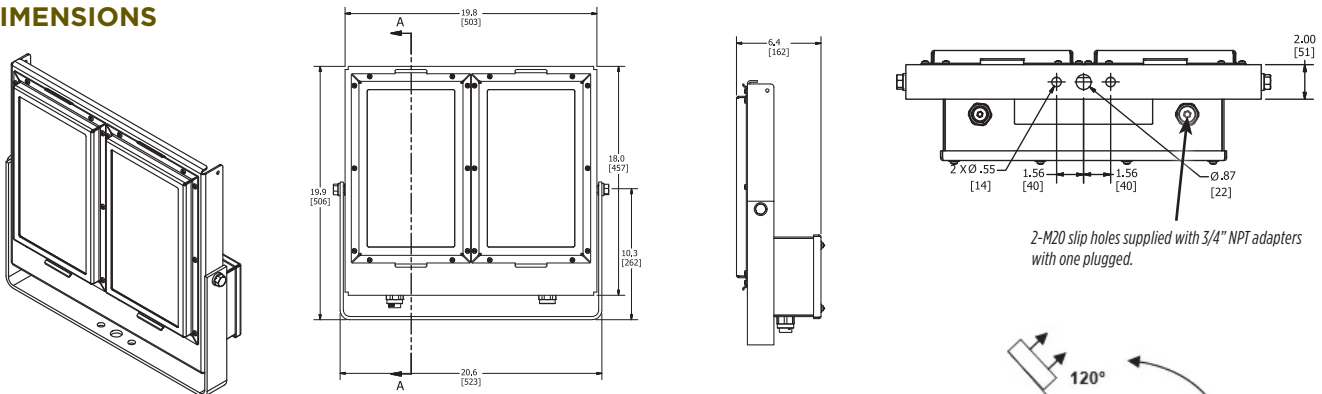


LIGHTING KFLH SERIES

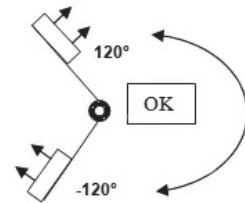
C1D2 Flood - Ordering Information & Technical Data

ORDERING INFORMATION AND AMBIENT SUITABILITY						C1D2		C1D2 SIMULTANEOUS		C2D1		IEC ZONE 2		IEC ZONE 21	
CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	LUMENS	40°C	55°C	40°C	55°C	40°C	55°C	40°C	55°C	40°C	55°C
KFLH17030	25.00 / 11.3	170	120-277VAC	1.46-0.63	21620	T4A	T4	T4	T3C	T4	T3C	T4	T4	T100°C	T100°C
KFLH17033			347-480VAC	0.51-0.36											
KFLH17034			120-250VDC	1.46-0.56											
KFLH21030		210	120-277VAC	1.75-0.75	21220	T4A	T4	T4	T3C	T4	T3C	T4	T4	T100°C	T100°C
KFLH21033			347-480VAC	0.61-0.43											
KFLH21034			120-250VDC	1.75-0.68											
KFLH22030		220	120-277VAC	1.88-0.81	26970	T4A	T4	T4	T3C	T4	T3C	T4	T4	T100°C	T100°C
KFLH22033			347-480VAC	0.65-0.47											
KFLH22034			120-250VDC	1.88-0.73											
KFLH25030		250	120-277VAC	2.17-0.94	30950	T4A	T4	T4	T3C	T4	T3C	T4	T4	T100°C	T100°C
KFLH25033			347-480VAC	0.75-0.54											
KFLH25034			120-250VDC	2.17-0.85											
KFLH30030		300	120-277VAC	2.48-1.07	37030	T4A	-	-	-	-	-	T4	-	T110°C	-
KFLH39030		390	120-277VAC	3.30-1.43	40410	T3C	-	-	-	-	-	T3	-	T110°C	-

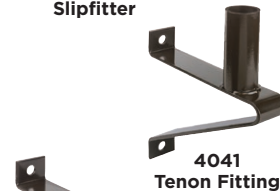
DIMENSIONS



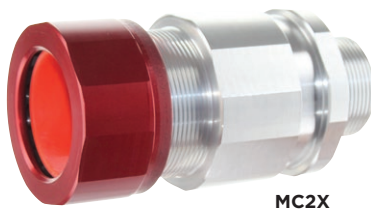
2-M20 slip holes supplied with 3/4" NPT adapters with one plugged.



KFLH MOUNTS AND ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
KFS-6	Steel Slipfitter for 2" Pipe (2-3/8" o.d.) Tenon. Slips 3.75" Over Pipe.
KFCB	Heavy Duty Cast-Iron Crossarm Fitting for Horizontal Trunnion
KFWB	Heavy Duty Wall Mount and/or Pipe Clamp Fitting Clamps 2" Pipe (2-3/8" o.d.) Through 2-1/2" Pipe (2-7/8" o.d.)
K4040	Heavy Duty Steel Wall Bracket. (Must be with KFCB Crossarm Fitting)
4041	Heavy Duty Steel Wall Bracket 2" Pipe (2-3/8" o.d.) Tenon Fitting. Use with KFS-6
KFLG	Wire Guard, 316 Stainless Steel (order 2 per fixture)
VMSC10	10' Stainless Steel Safety Cable with loop grip
KFLH-DARK	Dark Sky Visor, White Painted Aluminum
KFLH-DOOR	Replacement Internal Reflector and Lens Assembly (order 2 per fixture as required)



Cable Gland Ordering Options



CATALOG NUMBER	ENTRY THREAD SIZE (NPT)	CABLE ACCEPTANCE DETAILS	
		DIAMETER 'C'	
		MIN.	MAX.
MC2X1B	1/2"	0.51" (13.0)	0.63" (16.0)
MC2X1C	1/2"	0.60" (15.2)	0.79" (20)
MC2X2	3/4"	0.73" (18.5)	1.00" (25.4)

For entire series, please see Section F.



C1D2 Flood - Introduction & Logic



Class I, Div. 2, Groups A, B, C, D
Class I, Zone 2, IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
Suitable for wet locations
Marine Rated (US only)
Type 3, 4X
IP66



cCSAus File No: LR11713



IEC Ex Rated Model (w/ IEX suffix)
Zone 2 and Zone 21 areas
Ex nA IIC T6...T3, Gc
Ex tb IIC T105°C Db
Tamb -50°C < Ta < +55°C, IP66



IECEX Certificate
QPS 15.0011

ATEX Certificate
CML 15ATEX4079X (nA) &
CML 15ATEX3080X (tb)

FEATURES-SPECIFICATIONS

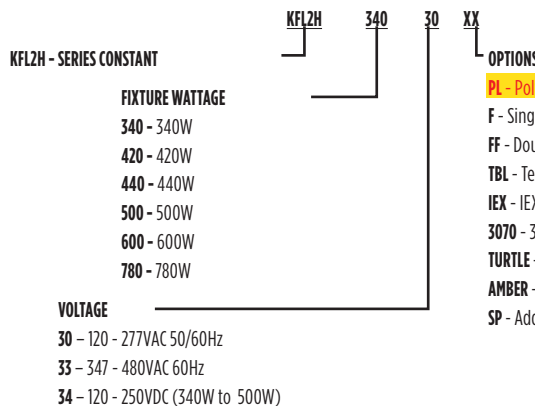
Features

- Crisp White Light for Excellent Color Rendering - Chromaticity 5000K (CCT); approx. 70 CRI
- Energy Savings - High lumens per watt
- LED Array Life - 100,000+ hours with 70% initial lumens
- Long Fixture Life - 50,000 - 55,000 maintenance free hours
- Instant On - Including after power interruption
- **Warm LED color option available with 3070**
- Solder-LESS LED Board Connections - Vibration Resistant
- Standard fixture is supplied with dual M20 slip holes with 3/4" NPT hub adapters with one plugged

Materials

- Body and lens frame corrosion resistant copper-free aluminum alloy with baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - stainless steel
- Thermal shock and impact resistant glass lens (Polycarbonate available)
- High temperature silicone gasketing
- Trunnion heavy gauge 316 stainless steel

CATALOG NUMBER LOGIC



Electrical Ratings

- Ambient suitability -40°C to 55°C up to 500W to -50°C for non-hazardous applications
- World Voltage 120 - 277VAC 50/60Hz
- Surge Protection: 6KV surge protection as standard.
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave

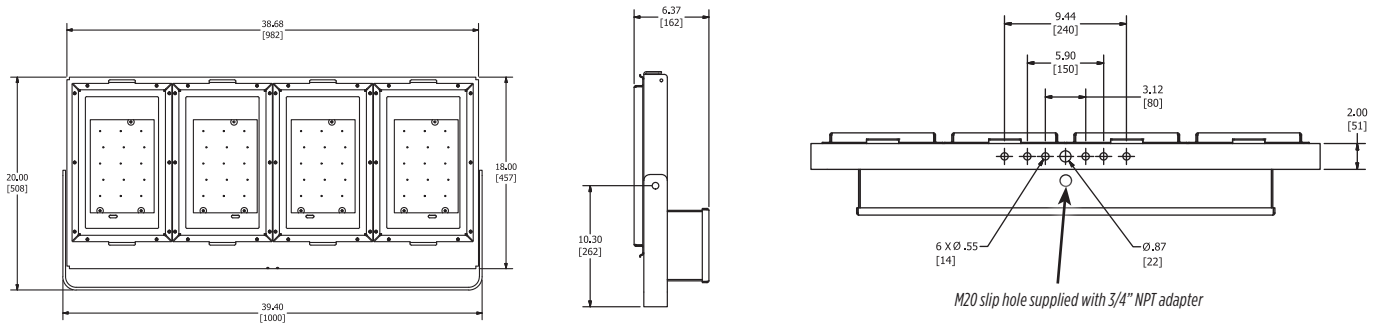


LIGHTING KFL2H SERIES

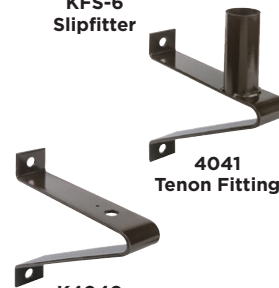
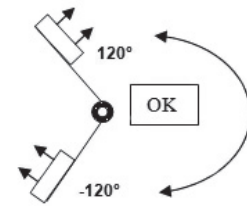
C1D2 Flood - Ordering Information & Technical Data

ORDERING INFORMATION AND AMBIENT SUITABILITY					C1D2		C1D2 SIMULTANEOUS		C2D1		IEC ZONE 2		IEC ZONE 21		
CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	LUMENS	40°C	55°C	40°C	55°C	40°C	55°C	40°C	55°C	40°C	55°C
KFL2H34030	50.00 / 22.6	340	120-277VAC	2.92-1.26	43240	T4A	T4	T4	T3C	T4	T3C	T4	T4	T85°C	T100°C
KFL2H34033			347-480VAC	1.02-0.72											
KFL2H34034			120-250VDC	2.92-1.12											
KFL2H42030		420	120-277VAC	3.50-1.50	42440	T4A	T4	T4	T3C	T4	T3C	T4	T4	T85°C	T100°C
KFL2H42033			347-480VAC	1.22-0.86											
KFL2H42034			120-250VDC	3.50-1.36											
KFL2H44030		440	120-277VAC	3.76-1.62	53940	T4A	T4	T4	T3C	T4	T3C	T4	T4	T85°C	T100°C
KFL2H44033			347-480VAC	1.30-0.94											
KFL2H44034			120-250VDC	3.76-1.46											
KFL2H50030		500	120-277VAC	4.34-1.88	61900	T4A	T4	T4	T3C	T4	T3C	T4	T4	T85°C	T100°C
KFL2H50033			347-480VAC	1.50-1.08											
KFL2H50034			120-250VDC	4.34-1.70											
KFL2H60030	600	120-277VAC	4.96-2.14	74060	T4A	T4	-	-	-	-	T4	T4	T85°C	T100°C	
KFL2H78030	780	120-277VAC	6.60-2.86	80820	T4	-	-	-	-	-	-	T4	-	T100°C	-

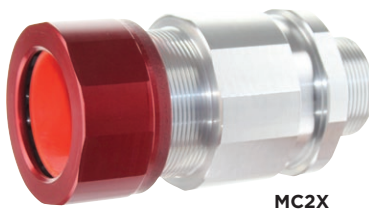
DIMENSIONS



KFL2H MOUNTS AND ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
KFS-6	Steel Slipfitter for 2" Pipe (2-3/8" o.d.) Tenon. Slips 3.75" Over Pipe
KFCB	Heavy Duty Cast-Iron Crossarm Fitting for Horizontal Trunion
KFWB	Heavy Duty Wall Mount and/or Pipe Clamp Fitting Clamps 2" Pipe (2-3/8" o.d.) Through 2-1/2" Pipe (2-7/8" o.d.)
K4040	Heavy Duty Steel Wall Bracket. (Must be with KFCB Crossarm Fitting)
4041	Heavy Duty Steel Wall Bracket 2" Pipe (2-3/8" o.d.) Tenon Fitting. Use with KFS-6
KFLG	Wire Guard, 316 Stainless Steel (order 4 per fixture)
VMSC10	10' Stainless Steel Safety Cable with loop grip
KFLH-DARK	Dark Sky Visor, White Painted Aluminum
KFLH-DOOR	Replacement Internal Reflector and Lens Assembly (order 4 per fixture as required)



Cable Gland Ordering Options



CATALOG NUMBER	ENTRY THREAD SIZE (NPT)	CABLE ACCEPTANCE DETAILS	
		DIAMETER "C"	
		MIN.	MAX.
MC2X1B	1/2"	0.51" (13.0)	0.63" (16.0)
MC2X1C	1/2"	0.60" (15.2)	0.79" (20)
MC2X2	3/4"	0.73" (18.5)	1.00" (25.4)

For entire series, please see Section F.



C1D1 Flood - Introduction & Logic



Class I, Div. 1&2, Groups B,C,D
Class I, Zone 1&2, Groups IIB+H2, IIA
Class II, Div. 1&2, Groups EFG, Class III
Enclosure Type 4X, IP66 (-50°C to +55°C)



File LR11713



IEC Ex Ratings

Zone 1, Zone 21

Ex db eb IIB (+H₂ Option) T* Gb
Ex tb III C T°C Db IP66**

(STD Version) Ta=-20°C to xx°C

(LT Version) Ta=-50°C to xx°C

See tables in full Description in Annex for T class and Ta



IECEX Certificate

CML 14.0034X

ATEX Certificate

CML 14ATEX1086X

FEATURES-SPECIFICATIONS

Features

- **Factory Sealed Construction**
- One 3/4" NPT & one M20 entry standard (see logic for other choices)
- Crisp White Light for Excellent Color Rendering - Chromaticity 5000 K (CCT); approx. 70 CRI
- Energy Savings - High lumens per watt
- LED Array Life - 100,000+ hours with 70% initial lumens
- Long Fixture Life - 50,000 - 55,000 maintenance free hours
- Instant On - Including after power interruption
- Solder-LESS LED Board Connections - Vibration Resistant

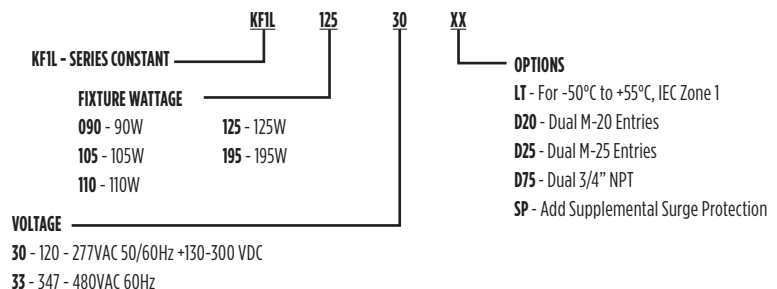
Materials

- Body, end caps and lens frame corrosion resistant copper-free aluminum alloy with baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - stainless steel
- Thermal shock and impact resistant extra heavy-duty glass lens
- High temperature silicone gasketing
- Trunnion heavy gauge 316 SS

Electrical Ratings

- World Voltage 120 - 277VAC 50/60Hz
- LT option for models needing IECEX, Zone 1, -50°C to +55°C suitability for hydrogen
- Surge Protection: 6KV surge protection as standard
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave

CATALOG NUMBER LOGIC





LIGHTING KF1L SERIES

C1D1 Flood - Ordering & Technical Data

ORDERING INFORMATION AND AMBIENT SUITABILITY					C1D1		C2D1		IEC ZONE 1		IEC ZONE 21		
CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	DELIVERED LUMENS	40°C	55°C	40°C	55°C	40°C	55°C	40°C	55°C
KF1L09030	46.00 / 20.87	90	120-277VAC	0.72-0.31	7182	T6	T6	(EFG)	Limited Aiming B	T6	T5	160-75	175-90
KF1L09033			347-480VAC	0.25-0.18									
KF1L09034			120-250VDC	0.72-0.28									
KF1L10530		105	120-277VAC	0.85-0.37	8362	T6	T6	(EFG)	Limited Aiming B	T6	T5	160-76	175-91
KF1L10533			347-480VAC	0.29-0.21									
KF1L10534			120-250VDC	0.85-0.33									
KF1L11030		110	120-277VAC	0.95-0.41	10590	T6	T6	(EFG)	Limited Aiming B	T6	T5	160-77	175-92
KF1L11033			347-480VAC	0.33-0.24									
KF1L11034			120-250VDC	0.95-0.37									
KF1L12530		125	120-277VAC	1.10-0.48	11590	T6	T6	(EFG)	Limited Aiming B	T6	T5	160-78	175-93
KF1L12533			347-480VAC	0.38-0.28									
KF1L12534			120-250VDC	1.10-0.43									
KF1L19530	195	120-277VAC	1.63-0.70	15707	T5	-	-	-	T5	-	-	-	

DIMENSIONS

Trunnion Mounting Detail

Aiming Notes

- A: 0° aiming angle
- B: 135° aiming angle

KFL MOUNTS AND ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
KFS-6	Steel Slipfitter for 2" Pipe (2-3/8" o.d.) Tenon. Slips 3.75" Over Pipe
KFCB	Heavy Duty Cast-Iron Crossarm Fitting for Horizontal Trunnion
KFWB	Heavy Duty Wall Mount and/or Pipe Clamp Fitting Clamps 2" Pipe (2-3/8" o.d.) Through 2-1/2" Pipe (2-7/8" o.d.)
K4040	Heavy Duty Steel Wall Bracket. (Must be with KFCB Crossarm Fitting)
4041	Heavy Duty Steel Wall Bracket 2" Pipe (2-3/8" o.d.) Tenon Fitting
KFLG	Wire Guard, 316 Stainless Steel
VMSC10	10' Stainless Steel Safety Cable with loop grip
KF1L-DARK	Dark Sky Visor, White Painted Aluminum
KF1L-DOOR	Replacement Door and Lens Assembly

Cable Gland Ordering Options

CATALOG NUMBER	ENTRY THREAD SIZE (NPT)	CABLE ACCEPTANCE DETAILS	
		DIAMETER 'C'	
		MIN.	MAX.
MC2X1B	1/2"	0.51" (13.0)	0.63" (16.0)
MC2X1C	1/2"	0.60" (15.2)	0.79" (20)
MC2X2	3/4"	0.73" (18.5)	1.00" (25.4)

For entire series, please see Section F.





Wallpack



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Type 4X

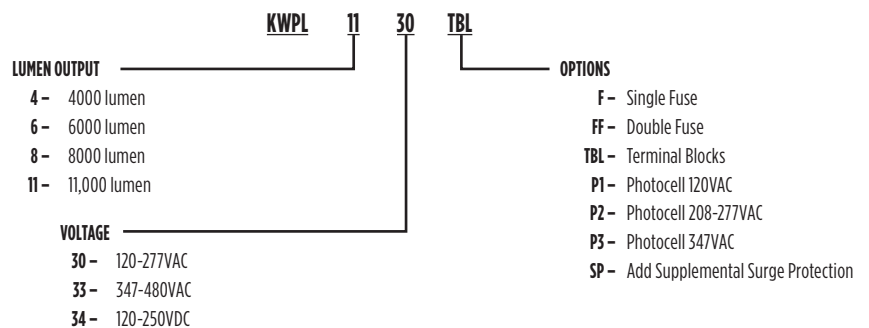


FEATURES-SPECIFICATIONS

Features

- Aluminum with Bronze finish 1/2" hub on either side for conduit entry
- Suitability for 55°C ambient, 90°C supply wire required (see table)
- Lens thermal shock and impact resistant prismatic borosilicate glass
- Two Hubbell Guard® Corrosion resistant hex head fasteners provide water-tight seal for door gasket
- Options include: factory installed photo cells, fusing
- Surge Protection: 6KV surge protection as standard.
- Optional supplementary surge protection. Protects against surges and transients per new ANSI C82.77-5 2015 category C high (20KV, 1.2/50µS & 10KA, 8/20µS) standard Combo waves and (6KV, 100KHz) Ring wave

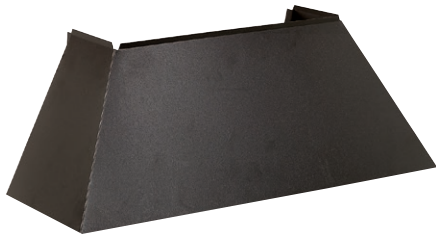
CATALOG LOGIC





LIGHTING KWPL SERIES

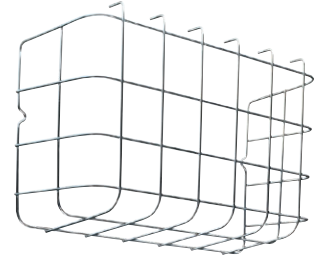
Wallpack



Glare Shield



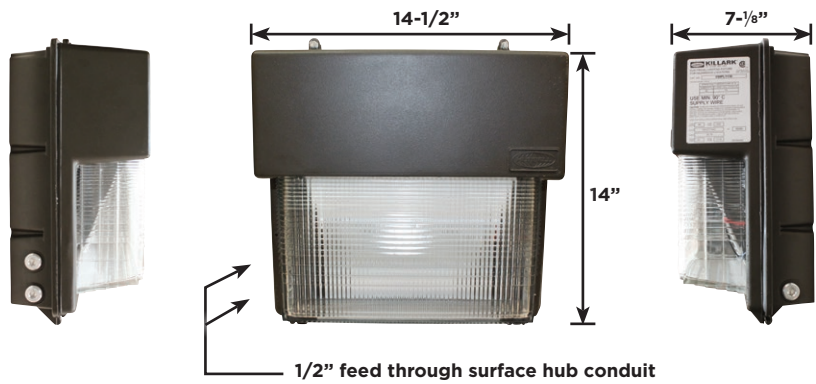
Clear Shield



Wire Guard

ORDERING INFORMATION

ORDERING INFORMATION AND AMBIENT SUITABILITY						CID2	
CATALOG NO.	WEIGHT LBS./KG	WATTS	VOLTAGE	AMPS	LUMENS	40°C	55°C
KWPL430	14.00 / 6.35	34	120-277VAC	0.12 - 0.28	4436	T5	T4A
KWPL433			347-480VAC	0.07 - 0.10		T5	T4A
KWPL434			120-250VDC	0.14 - 0.28		T5	T4A
KWPL630		46	120-277VAC	0.17 - 0.38	5636	T4A	T4
KWPL633			347-480VAC	0.10 - 0.13			
KWPL634			120-250VDC	0.18 - 0.38			
KWPL830		68	120-277VAC	0.25 - 0.57	8404	T4A	T4
KWPL833			347-480VAC	0.14 - 0.20			
KWPL834			120-250VDC	0.27 - 0.57			
KWPL1130		90	120-277VAC	0.32 - 0.75	10914	T4	-
KWPL1133			347-480VAC	0.19 - 0.26			
KWPL1134			120-250VDC	0.36 - 0.75			



CS_{US}
FACTORY
SEALED

Photo Cell Field Kits for Harsh Type 4X and Class I, Div. 2 Locations

PHOTO CELL FIELD KITS	
CATALOG NUMBER	VOLTS
VMFSPC1	120VAC
VMFSPC2	208-277VAC
VMFSPC3	347VAC

KWP ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
PGPS	Clear Shield (Polycarbonate) for Protecting Lenses
PGWG	Wire Guard, Cadmium Plated Steel
PVLV	Glare Shield Full Cutoff Visor – Formed Bronze Aluminum Forces light to Walkway
KWPLENS	Replacement Door and Lens

LIGHTING
EMERGENCY & UTILITY LIGHTING





LIGHTING
EBS SERIES

Emergency Battery System - Introduction



**EBS Unit with HK
Type Heads and
Integral Push-To-
Test**

Class I, Div. 1&2, Groups B,C,D
Class I, Zone 1&2, Groups IIB+H2, IIA
Class II, Div. 1&2, Groups EFG
Class III
**Enclosure Type 4 (Type 4, 7B CD,
9EFG)**



FEATURES-SPECIFICATIONS

Exclusive Features

- LED Heads provide clear crisp illumination at 5000° Kelvin
- LED Head L70 value 100,000 hours for minimal maintenance
- Two head models up to 500% brighter than competitive non-LED units
- Enclosure Type 4 (Type 4) for wet and harsh locations
- Group B is standard when using EBSHK type heads
- Automatic Safety Disconnect - Removing main cover disconnects battery power
- Ambient Suitability 0°C to 45°C Battery Unit; Heads to 55°
- Compact unit requires only two mounting points
- World Voltage 120-277 VAC 50/60Hz input

Other Features

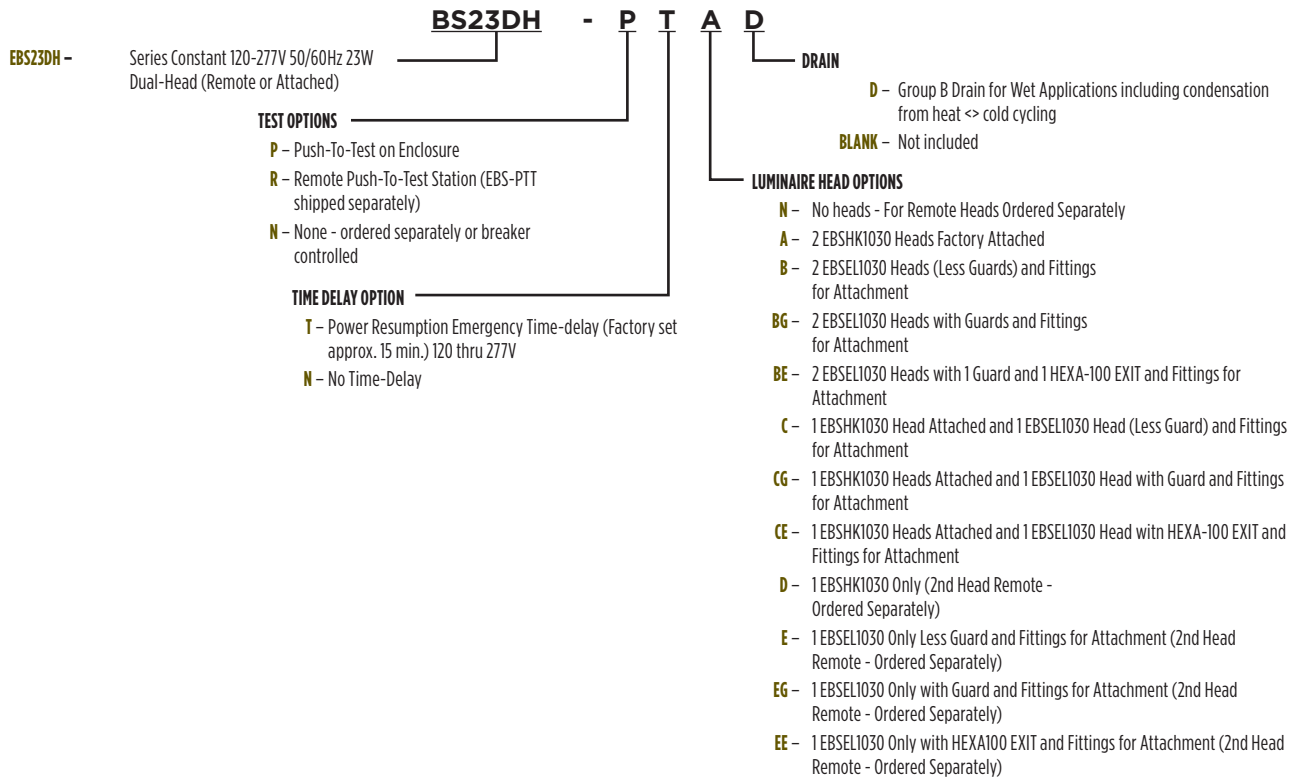
- High % of lumens maintained during 90 minute egress cycle
- EBSHK type heads are fully adjustable on unit or remote when ordered with RFSL Factory Sealed mounting kits
- EBSEL type heads are factory sealed on their EZ type mounting boxes
- Heads can be remote mounted over 300' from battery unit
- Ni-Cad sealed batteries provide 90 minutes of illumination
- Integral base unit LED pilot light indicates AC power is present
- Choice of Integral or Remote Push-To-Test station to verify system operation
- Vapor Capsule to inhibit corrosion is standard with main enclosure unit
- Terminal Blocks identified for incoming and outgoing connections

Materials

- Main Enclosure and Heads Copper Free Aluminum alloy with Baked Powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- Attachment fittings copper-free aluminum
- External hardware 316 Stainless Steel
- EBSEL reflectors EXIT accessory aluminum with white paint



Emergency Battery System - Logic & Components



Factory Sealed Remote LED Spot Light - Bottom Feed



Factory Sealed Remote LED Spot Light - Side Feed



Remote Push-To-Test Station



EBS UNIT - BOTTOM DETAIL



- A** Optional Push-To-Test
- B** Optional Group B Drain
- C** Standard Pilot Light
- D** Entry for Remote P-T-T Station
- E** Power Entry (also on top)

The EBS23 System is designed to power 2 Heads for operation (total attached or remote); each Head is approximately 10 Watts.



LIGHTING
EBS SERIES

Emergency Battery System - Pre-Configured Units

ORDERING INFORMATION



INTEGRAL PUSH-TO-TEST		REMOTE PUSH-TO-TEST	
EBS SYSTEM WITH TWO EBSHK HEADS			
CID18CD			
Integral PTT, Two EBSHK	Integral PTT, TDR , Two EBSHK	Remote PTT, Two EBSHK	Remote PTT, TDR , Two EBSHK
EBS23DH-PNA	EBS23DH-PTA	EBS23DH-RNA	EBS23DH-RTA
EBS SYSTEM WITH TWO EBSEL HEADS WITH GUARDS			
CID1CD			
Integral PTT, Two EBSEL Heads w/ Guards	Integral PTT, TDR , Two EBSEL Heads w/ Guards	Remote PTT, Two EBSEL Heads w/ Guards	Remote PTT, TDR , Two EBSEL Heads w/ Guards
EBS23DH-PNBG	EBS23DH-PTBG	EBS23DH-RNBG	EBS23DH-RTBG
EBS SYSTEM WITH ONE EBSHK HEAD & 1 EBSEL HEAD WITH GUARD			
CID1CD			
Integral PTT, One EBSHK & One EBSEL Head w/ Guard	Integral PTT, TDR , One EBSHK & One EBSEL Head w/ Guard	Remote PTT, One EBSHK & One EBSEL Head w/ Guard	Remote PTT, TDR , One EBSHK & One EBSEL Head w/ Guard
EBS23DH-PNCG	EBS23DH-PTCG	EBS23DH-RNCG	EBS23DH-RTCG
EBS SYSTEM WITH TWO EBSEL HEADS ONE WITH EXIT			
CID1CD			
Integral PTT, Two EBSEL Heads, One w/ EXIT, One w/ Guard	Integral PTT, TDR , Two EBSEL Heads, One w/ EXIT, One w/ Guard	Remote PTT, Two EBSEL Heads, One w/ EXIT, One w/ Guard	Remote PTT, TDR , Two EBSEL Heads, One w/ EXIT, One w/ Guard
EBS23DH-PNBE	EBS23DH-PTBE	EBS23DH-RNBE	EBS23DH-RTBE
EBS SYSTEM WITH ONE EBSHK HEAD & ONE EBSEL HEAD WITH EXIT			
CID1CD			
Integral PTT, One EBSHK Head, One EBSEL w/ EXIT	Integral PTT, TDR , One EBSHK Head, One EBSEL w/ EXIT	Remote PTT, One EBSHK Head, One EBSEL w/ EXIT	Remote PTT, TDR , One EBSHK Head, One EBSEL w/ EXIT
EBS23DH-PNCE	EBS23DH-PTCE	EBS23DH-RNCE	EBS23DH-RTCE
EBS SYSTEM ONLY FOR REMOTE HEADS (ORDER TWO SEPARATELY)			
CID18CD			
Integral PTT, No Heads	Integral PTT, TDR , No Heads	Remote PTT, No Heads	Remote PTT, TDR , No Heads
EBS23DH-PNN	EBS23DH-PTN	EBS23DH-RNN	EBS23DH-RTN



Emergency Battery System – Remote Heads & Accessories



EBS1030
Shown with
Exit Accessory

EBS1030 COMPONENTS & ACCESSORIES – DESCRIPTION	CATALOG NUMBER
EBS1030 Head Only with LED's, Less Mount and Guard ①	EBS1030
Guard	EMG1
Red Guard – used to signify remote fixture is for Emergency	EMG1-R
EXIT Accessory – 3-sided white painted aluminum	HEXA-100
Dome Reflector	ERSD15
Angle Reflector	ERA15
Sealed Fittings Set for attachment of Pendant EBS1030 to EBS23DH-xxx	EBS-AHFS
Replacement Globe and Support Assembly	EMGS1

① Cannot be used as a stand alone product and is not certified unless used with EBS23DH unit.



EBS1030



EMG1



EMG1-R



ERSD15



ERSD15



ERA15



MOUNTING BOXES				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	BRACKET	STANCHION	
EZA2	EZX2	EZB2	–	3/4"
EZA3	EZX3	EZB3	–	1"
–	–	–	EZD4	1-1/4" / 1-1/2"



EBSHK1030



EBSHK1030-RFSL



EBSHK1030-RFSC



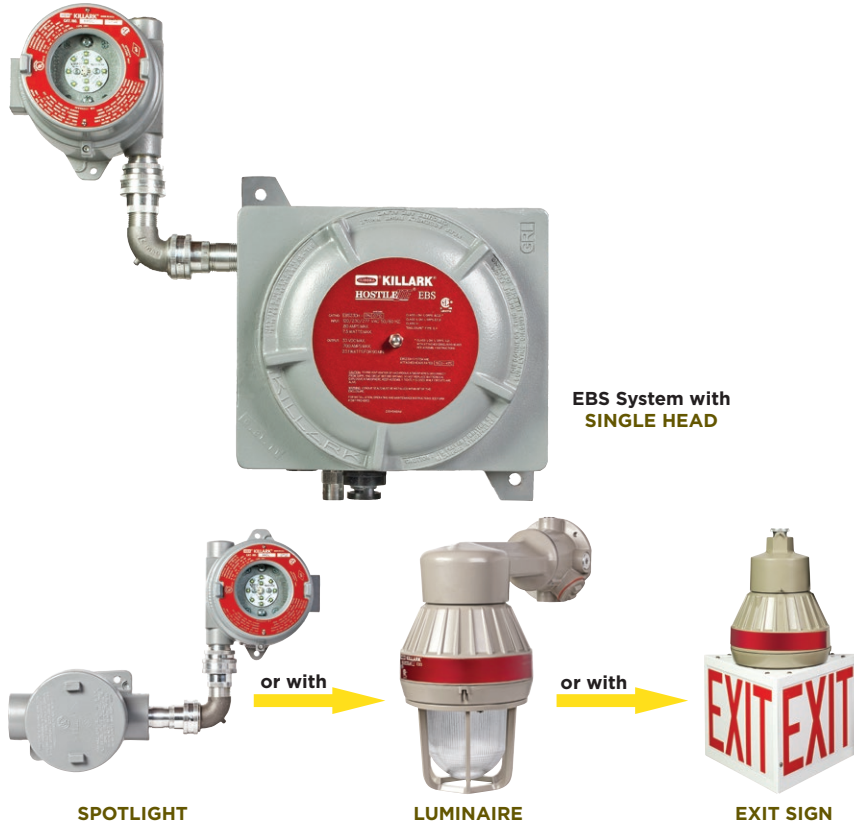
EBS-PTT

EBS23DH SERIES ACCESSORIES – DESCRIPTION	CATALOG NUMBER
Remote Push-To-Test Station Group B 3/4" Feed-Thru w/Close Up Plug	EBS-PTT
Remote Push-To-Test Station with Lock Off, Group B 3/4" Feed-Thru	EBS-PTT-LO
Lock-Off for Integral Push-To-Test	GO10502
Sealed Fittings Set for attachment of EBSHK to GEBC-2 or GEBL-2	EBS-AHFS
Replacement Battery Pack and Electronics	KLBP01
Replacement Vapor Capsule for corrosion protection	EBS-VC

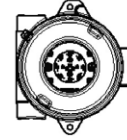


LIGHTING EBS SERIES

Emergency Battery System - Electrical & Temperature Data



LED 10W EBSHK1030

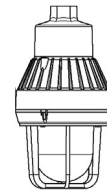


ZONAL LUMEN SUMMARY		
ZONE	LUMENS	FIXT%
0-30	254	27.9%
0-40	423	46.3%
0-60	781	85.5%
0-90	913	100.0%
90-120	0	0.0%
90-130	0	0.0%
90-150	0	0.0%
90-180	0	0.0%
0-180	913	100.0%

Absolute Photometry
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 2.1

EMERGENCY MODE LUMENS		
5 Min.	99.1%	905 Lumens
45 Min.	99.4%	871 Lumens
90 Min.	95.3%	871 Lumens

LED 10W EBSEL1030



ZONAL LUMEN SUMMARY		
ZONE	LUMENS	FIXT%
0-30	180	16.7%
0-40	344	31.8%
0-60	758	70.1%
0-90	1067	98.7%
90-120	11	1.0%
90-130	13	1.2%
90-150	14	1.3%
90-180	14	1.3%
0-180	1081	100%

Absolute Photometry
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 2.1

EMERGENCY MODE LUMENS		
5 Min.	94.4%	102 Lumens
45 Min.	91.3%	987 Lumens
90 Min.	89.3%	966 Lumens

EBS23DH ELECTRICAL DATA						
CATALOG NUMBER	INPUT**			OUTPUT**		
	VOLTAGE	WATTS	CURRENT	VOLTAGE	WATTS	CURRENT
EBS23DH	120-277VAC	7.5	.1A	33VDC	23	700mA

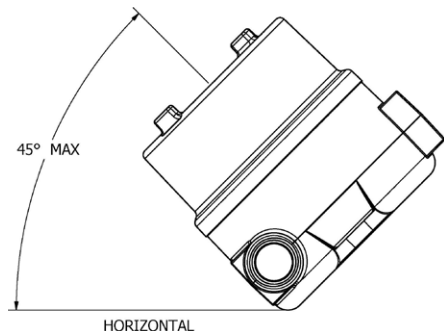
** Figures nominal. Current is 350mA to each of 2 heads (2 heads are required for proper operation, remote or attached).

THERMAL PERFORMANCE DATA					
CATALOG NUMBER	AMBIENT	CID1	CID1	SUITABILITY	SUPPLY WIRE
EBS23DH	45°C	T6	EFG	0-45°C	75°C
EBSEL1030	55°C	T6	EFG	-40 to 40°C	75°C
EBSHK1030	55°C	T6	EFG	-40 to 40°C	75°C

* Heads are NOT certified for use without EBS Battery Unit

4 Head EBS option:

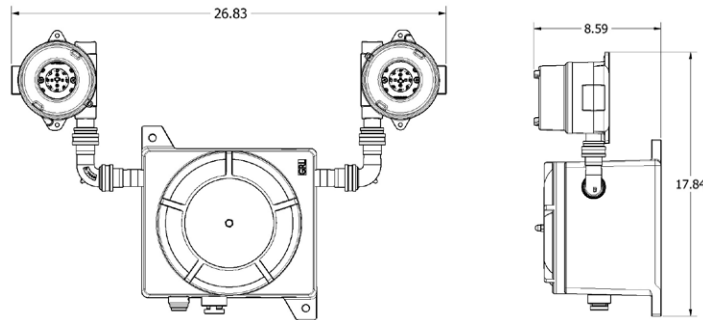
EBS units are designed for 2 head operation and will provide the lumens noted at right. However, 4 heads can be connected and will operate for 90 minutes at half the published lumen values. The EBSHK1030 would provide 456 lumens; the EBSEL1030 540 lumens. Instructions for wiring are included with the main EBS unit.



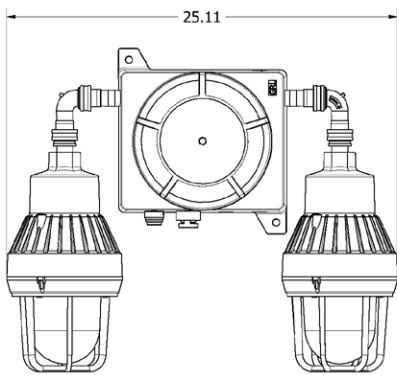
EBSHK Heads can be aimed up to 45 above horizontal - if flush on wall will require spacing out.



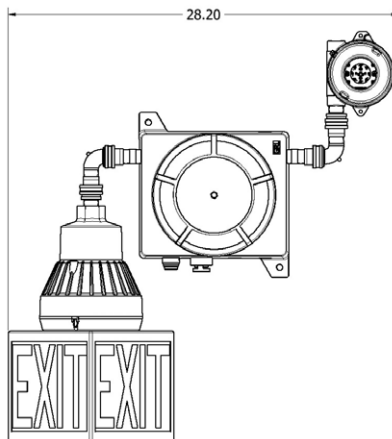
Emergency Battery System - Dimensions & Weights



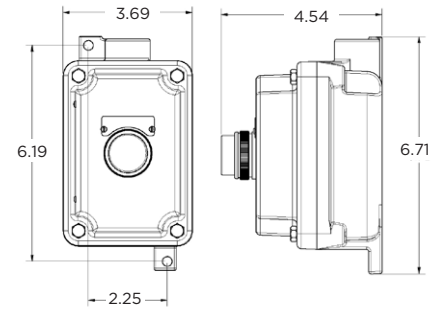
Dimensions - EBS with HK Heads



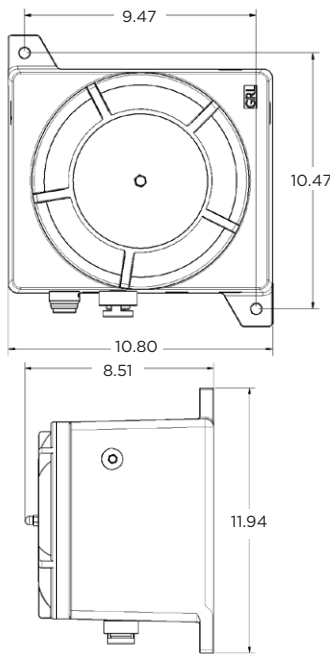
Dimensions - EBS with EL Heads



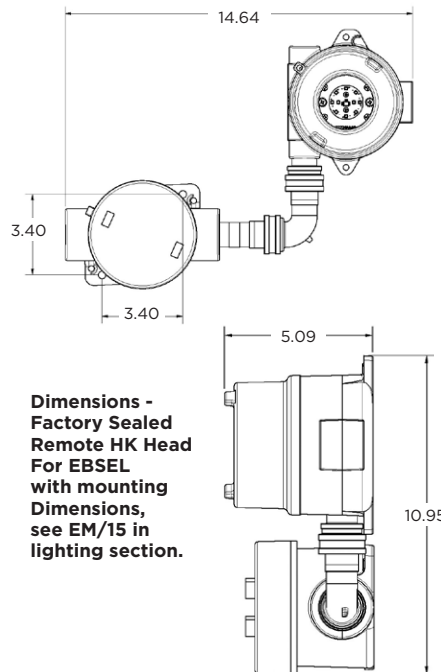
Dimensions - EBS with EL-EXIT & HK Heads



Dimensions - Remote Test Station



Dimensions - EBS Main Unit



**Dimensions -
Factory Sealed
Remote HK Head
For EBSEL
with mounting
Dimensions,
see EM/15 in
lighting section.**

WEIGHTS (SHIPPING) INDIVIDUAL AND COMBINATIONS	LBS.
EGS23DH Main Unit Only	36.6
EBSEL1030 Pendant Head Only w/ Fittings Set	12.3
EBSHK1030 Head Only w/ Fittings Set	5.0
EBSHK1030-RFSC (or RFSL)	11.0
EBS-PTT	3.0
EBS-AHFS Factory Sealed Fittings Set	0.6
EBS23DH & 1 EBSHK w/ Fittings	41.6
EBS23DH & 2 EBSHK w/ Fittings	46.6
EBS23DH & 1 EBSEL w/ Fittings	48.9
EBS23DH & 2 EBSEL w/ Fittings	61.2
EBS23DH & 1 EBSEL & 1 EBSHK w/ Fittings	53.9



LIGHTING
NVL SERIES


Non-Metallic Corrosion Resistant Hazardous Fixtures



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC,IIB,IIA
Class II, Div. 2, Groups F,G
Class III
UL Marine Rated (US only)
Type 3, 4, 4X, IP66

 Certified - File LR11713

ABS Type Approval

 to the following standards:
UL 1598 Standard for luminaires
UL 1598A Marine type luminaires
UL 844 Standard for lighting fixtures for hazardous locations
CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations
Enclosed and gasketed

FEATURES-SPECIFICATIONS

Features

- Corrosive resistant body molded from 30% glass-filled thermoset polyester
- Energy and labor-saving LED
- High Efficacy (lumens per watt)
- Compact Size
- Diffuse polycarbonate globe that softens the light while providing impact protection
- Accessories include polycarbonate dome reflectors and wall extension
- Type 3, 4, & 4X Rated
- IP66
- Marine Rated
- ABS Approved

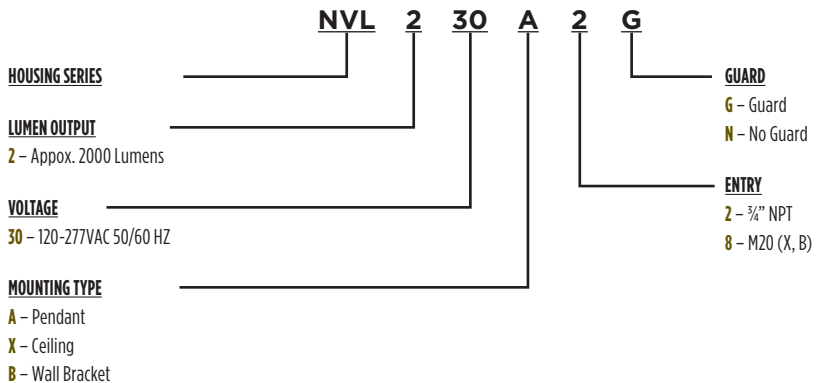
Materials

- Molded from 30% glass-filled thermoset polyester for high strength

Electrical Ratings

- Rated 120-277VAC 50/60 HZ
- -25°C to 40°C ambient rated

CATALOG NUMBER LOGIC

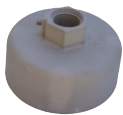




Non-Metallic Corrosion Resistant Hazardous Fixtures

NVL COMPONENTS AND ACCESSORIES			
CATALOG NUMBER	DESCRIPTION		
NV2AG	Pendant	3/4" NPT	Pendant splice box with 316 stainless steel set screw at the conduit connection
NV2XG	Ceiling Box	3/4" NPT	Ceiling box vol. 24 cu. inches
NV2MG		M20	
NV2BG	Wall Bracket		Use with NV2XG or NV2MG for wall mount
NVPSD12	Reflector		White Polycarbonate Reflector (secured by guard)
NVEXTG	Extension		Extension for wall mount fixture with reflector
NV2GG-S	Compact Guard		Low Profile Non-Metallic Guard that is also used to secure reflector

COMPONENT PARTS



Pendant



Ceiling/Wall
(Interior Detail)



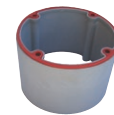
Ceiling/Wall



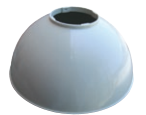
Wall Elbow



NV2GG-S
Compact Guard

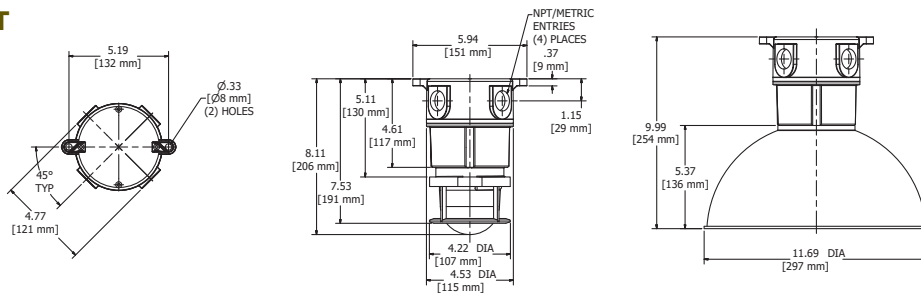


Extension

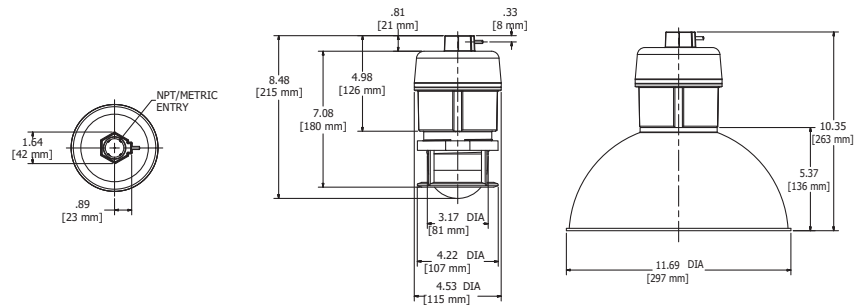


Reflector

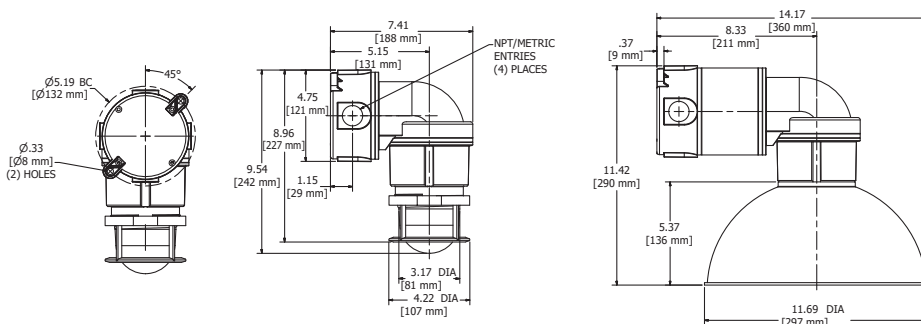
CEILING MOUNT



PENDANT MOUNT



WALL MOUNT





LIGHTING
VTR & WTR SERIES

Easy as...

POWERSAVE



1 remove



2 connect



3 enjoy





VTR

Vapor Tight LED Retrofit



VTR-1



VTR-2

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Division 2, Groups F, G
Class III
Suitable for wet locations
Type 4

Certificate No: E509951

FEATURES-SPECIFICATIONS

Features

- High efficacy upto 120 lumens/watt
- UL 1598C and CSA C22.2 No 250.1-16 compliant
- 5000k crisp white LEDs

Materials

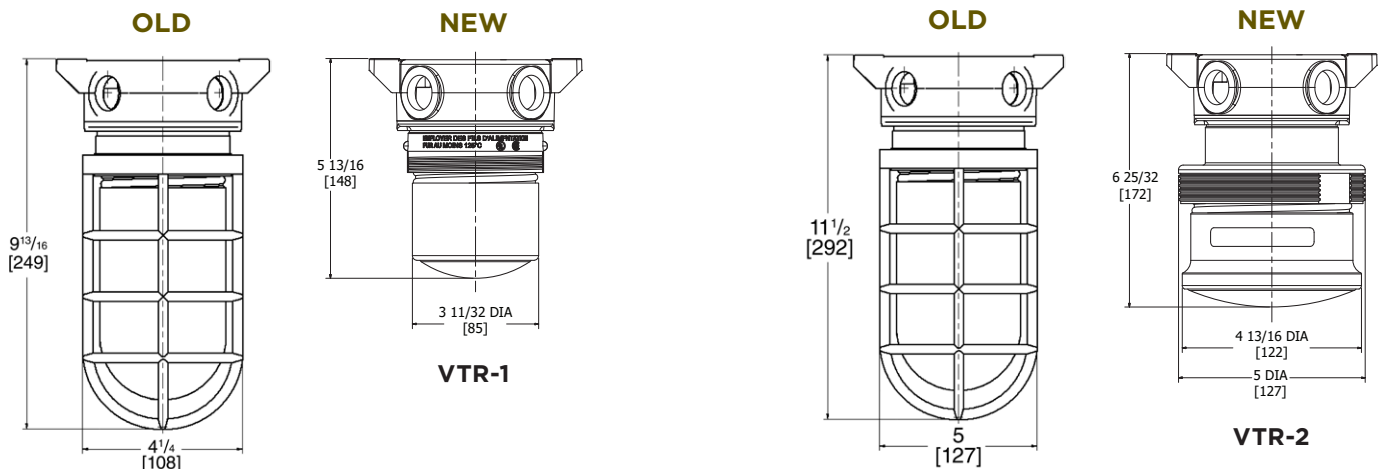
- Housing: Aluminum
- Lens: Polycarbonate

Adaptability

- Appleton V-51 Series
- Killark V Series

ORDERING INFORMATION AND SUITABILITY						CID2		C2D2	
	WEIGHT LBS / KG	WATTS	VOLTAGE	AMPS	LUMENS	40°C	55°C	40°C	55°C
VTR-1	0.80 / 0.36	9	120V 60Hz	0.05	1085	T6	T6	T3B	T3B
VTR-2	1.25 / 0.57	18	120V 60Hz	0.1	2100	T6	T5	T3B	T3B

Dimensions





LIGHTING
WTR SERIES

WTR

Water Tight LED Retrofit



WTR-1



WTR-2

Suitable for wet locations
Type 3, 3R, 4

Certificate No: E505038

FEATURES-SPECIFICATIONS

Features

- High efficacy upto 120 lumens/watt
- UL 1598C and CSA C22.2 No 250.1-16 compliant
- 5000k crisp white LEDs

Materials

- Housing: Aluminum
- Lens: Polycarbonate

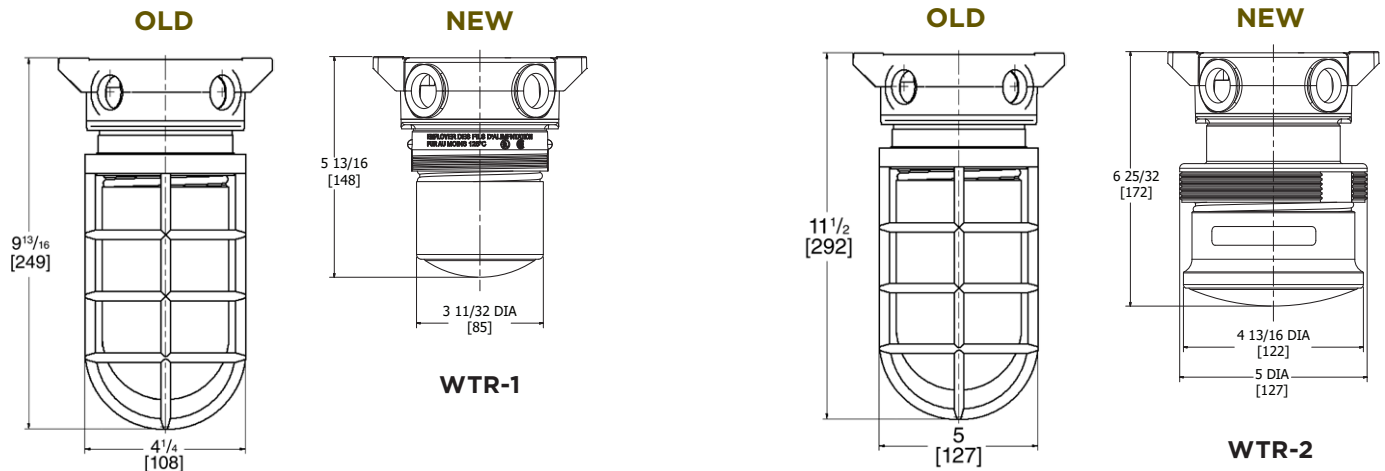
Adaptability

- Appleton V-51 Series
- Killark V Series
- Cooper Crouse-Hinds V-Series
- Thomas & Betts Red-dot V

ORDERING INFORMATION AND SUITABILITY

	WEIGHT LBS / KG	WATTS	VOLTAGE	AMPS	LUMENS
WTR-1	0.80 / 0.36	9	120V 60Hz	0.05	1085
WTR-2	1.25 / 0.57	18	120V 60Hz	0.1	2100

Dimensions





Utility Light - Introduction

V SERIES LED



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups
IIC,IIB,IIA
Class II, Div. 2, Groups F,G
Class III
Suitable for wet locations
Enclosure Type 4

 Certified - File LR11713

FEATURES-SPECIFICATIONS

Features

- Compact in Size with Traditional Industrial Appearance and Suitability
- Wide variety of optics including glass globes (tempered and color) plus polycarbonate globes in clear and colors (Polycarbonate globes are suitable to 40°C.)
- Optional Mounting arrangements including Pendant, Wall, Ceiling, Stanchion and Adapters
- Fixtures available unit packed, order option CP
- VSL LED Housings can be retrofitted to existing V Series splice boxes; upgrade from CFL or incandescent
- Energy Savings - less than 13 Watts of Power; less than 16 Watts for VSL1630. Replaces 75W or higher incandescent
- Long Fixture Life - 50,000 - 55,000 maintenance free hours
- Crisp White Light for Excellent Color Rendering - Chromaticity 5000°K (CCT); 70 CRI
- Integral driver - maintains fixture's compact profile to fit in existing spaces

- Instant on - including after power interruption
- Solder-LESS LED Board Connections - Vibration Resistant

Materials

- Body, splice box and guards are corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- Reflectors - Polypropylene for pendant or ceiling applications
- Heavy-duty silicone gasketing for Type 4 requirements

Electrical Ratings

- Ambient suitability -40°C to 55°C
- "World Voltage" 120-277VAC 50/60Hz



LIGHTING VSL SERIES

Utility Light - Catalog Logic



Clear Glass
w/Guard



White Glass
w/Guard



Blue Glass

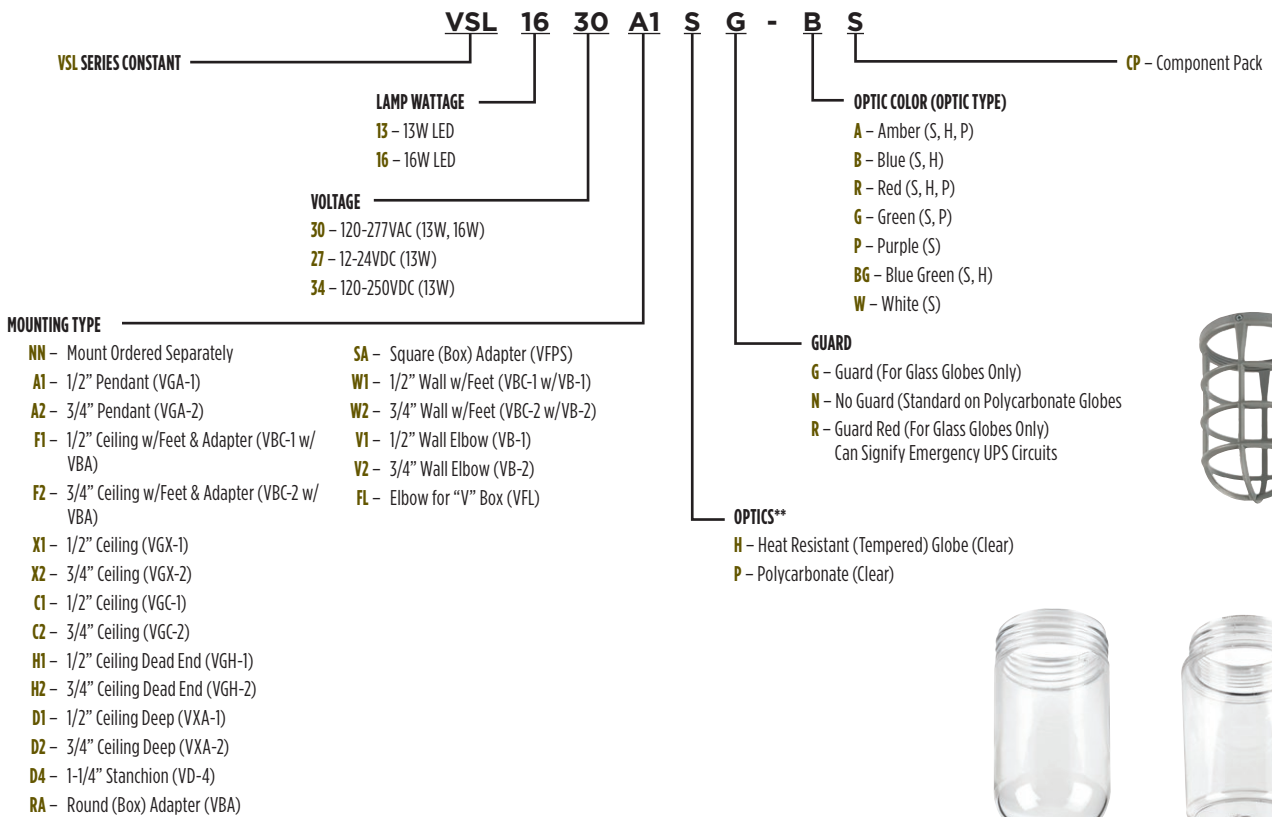


Clear
Polycarbonate



Red
Polycarbonate

V SERIES LED Catalog Number Logic



COLORED GLOBE OPTIONS** EXAMPLE VSL1330A1SG-A

SUFFIX AND AVAILABLE COMBINATIONS

COLOR NUMBER	TEMPERED GLOBE	POLYCARBONATE
AMBER	A	A
BLUE	B	-
RUBY	R	R
GREEN	-	G
PURPLE	-	-
BLUE-GREEN	BG	-
WHITE	W	W

** Use tempered glass or poly globe for wet location applications.



Utility Light - Components



VSL Body

**RETROFIT
FOR ENERGY
SAVINGS**

VSL FIXTURE BODIES ONLY

Fixture bodies contain the LED driver and array, heat sink plus gaskets, and are threaded to accept globes, guards and reflectors. Users with KILLARK "V" Series vapor tight fixtures from the 1960's onward can up-grade to the latest technology and, in many cases, reuse existing mounts, globes and guards. VSL bodies are designed for metallic boxes and mount directly to V Series splice boxes or adapters as indicated.

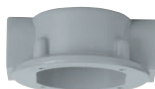
VSL FIXTURE BODIES	
CATALOG NUMBER	DESCRIPTION
VSL1330	13W 120-277VAC 50/60Hz Body with LEDs and Driver
VSL1630	16W 120-277VAC 50/60Hz Body with LEDs and Driver



VGA



VGH



VGC



VGX



VXA



VBC



VBA



VFPS

VSL SPLICE BOXES

For use with VSL Series fixture bodies.

VSL SPLICE BOXES				
CATALOG NUMBER	HUB SIZE	QTY.	LOGIC CODE	DESCRIPTION
VGA-1	1/2"	1	A1	Pendant mount
VGA-2	3/4"	1	A2	
VGH-1	1/2"	1	H1	Ceiling mount
VGH-2	3/4"	1	H2	
VGC-1	1/2"	2	C1	Ceiling mount
VGC-2	3/4"	2	C2	
VGX-1	1/2"	4	X1	Ceiling mount
VGX-2	3/4"	4	X2	
VXA-1	1/2"	5	D1	Ceiling mount, deep box
VXA-2	3/4"	5	D2	
VBC-1	1/2"	4	F1	Ceiling mount, with 3 close-up plugs (requires VBA Adapter) or wall mount with VB elbow
VBC-2	3/4"	4	F2	
VXAB	-	-	-	Blank close-up plate (less gasket)

VSL ADAPTERS

VSL ADAPTER MOUNTING PLATES	
CATALOG NUMBER	DESCRIPTION
VBA	Adapts fixture body to VB, VJ or steel 3-1/2" & 4" splice boxes. Supplied with gasket.
VFPS	Adapts fixture body to steel 4" square outlet boxes or 3-1/2" or 4" octagon boxes

VSL WALL/STANCHION MOUNTS



VB



VFL



VD

VSL MOUNTING BRACKETS			
CATALOG NUMBER	HUB SIZE	QTY.	DESCRIPTION
VB-1	1/2"	1	Wall mount to VJ or VB boxes
VB-2	3/4"	1	Wall mount to VJ or VB boxes
VFL	-	-	Wall mount to V boxes directly or to VJ, VB boxes with VBA adapter
VD-4	1-1/4"	1	Stanchion mount



LIGHTING VSL SERIES

Utility Light - Components, Ratings & Weights



VSL GLOBES

VSL GLOBES – ORDERING INFORMATION AND SUFFIX GRID*				
COLOR	TEMPERED GLASS	OPTIC LOGIC	POLYCARBONATE	OPTIC LOGIC
Clear	VCGP-100	H*	VPLCG-100	P*
Amber	VAMGP-100	A	VPLCG-100A	A
Blue	VBGP-100	B	–	–
Ruby (Red)	VRGP-100	R	VPLCG-100R	R
Green	–	–	VPLCG-100G	G
Blue-Green	VGGP-100	BG	–	–
White	VWGP-100	W	VPLCG-100W	W

* Use tempered glass or polycarbonate globes for wet location applications.



VSL COMPONENTS

VSL COMPONENT PARTS AND ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
VAG-100	Aluminum Guard for use with Glass Globe
VAG-100R	Red Aluminum Guard for use with Glass Globe
VTG-S	Body to Splice Box Gasket – Silicone
VTGG1-S	Globe Gasket – Silicone

Typical Weights (lbs.) w/Standard Globe and Guard – VSL Series

Pendant 7.03	Ceiling 7.51	Wall 8.09	Stanchion 7.61
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VSL THERMAL RATINGS

VSL THERMAL PERFORMANCE DATA INCLUDING VPRSD-100 REFLECTOR						
CATALOG NUMBER	AMBIENT	C1D2		C2D2		SUPPLY
		GLASS GLOBE	POLY GLOBE	GLASS GLOBE	POLY GLOBE	WIRE
VSL1330	40°C	T6	T5	T5 (F,G)	T5 (F,G)	90°
VSL1330	55°C	T5	–	–	–	90°
VSL1630	40°C	T5	–	T5 (F,G)	–	90°

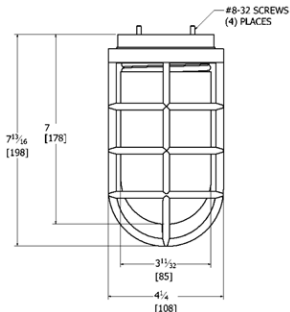
VSL ELECTRICAL RATINGS

VSL LED BODY WITH DRIVERS AND LEDS – ELECTRICAL RATINGS					
CATALOG NUMBER	VOLTAGE 50/60HZ	WATTS	AMPS 120/277	LUMENS	WEIGHT LBS.
VSL1330	120-277VAC	12.42	.108/.047	1300	5.0
VSL1630	120-277VAC	15.64	.156/.067	1625	5.0

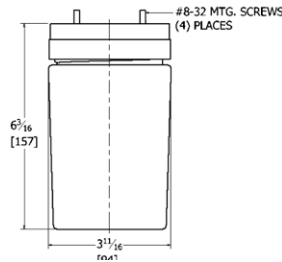
DELIVERED LUMENS			
WATTS	W/ GLOBE VCGP-100	W/ GLOBE VPLCG-100	W/ GLOBE VWGP-100
13W	1211	1104	905
16W	1328	1308	1072



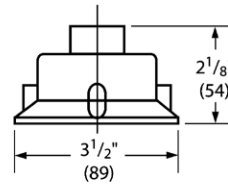
Utility Light - Dimensions



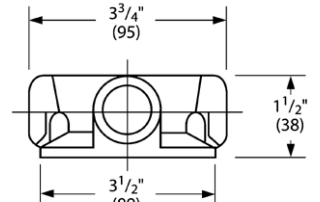
VSL Body w/Globe & Guard, No Splice Box



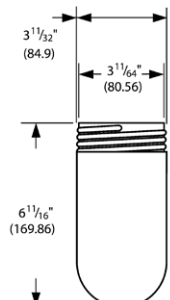
VSL Body w/Polycarbonate Globe, No Splice Box



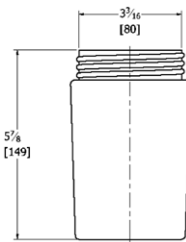
VGA



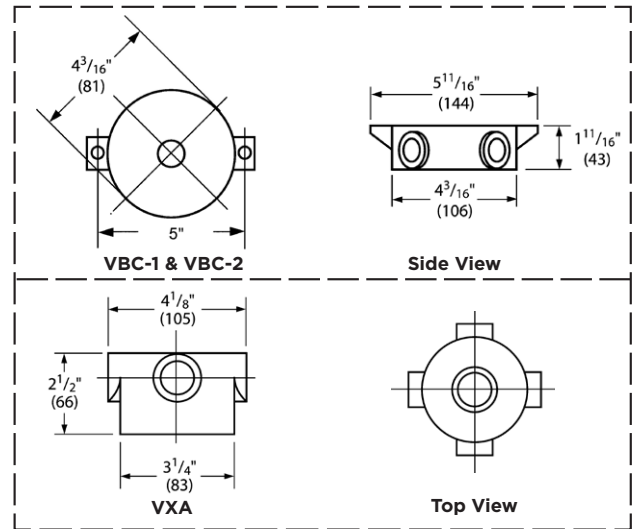
VGC or VGX
*VGH is 3-5/8" (92)



Glass Globe



Polycarbonate Globe

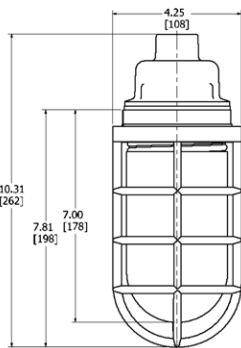


VBC-1 & VBC-2

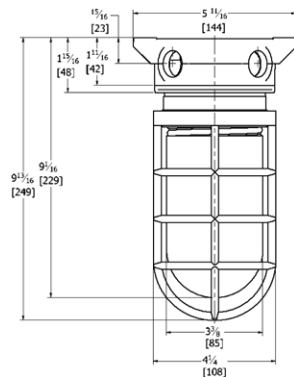
Side View

VXA

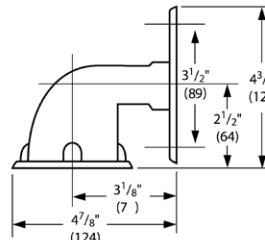
Top View



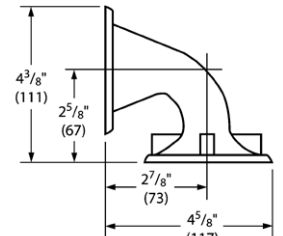
VSL Pendant Fixture w/Globe & Guard



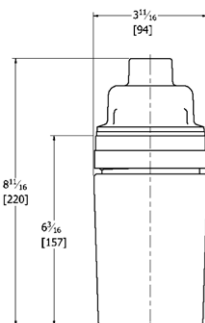
VSL Ceiling Fixture w/Globe & Guard



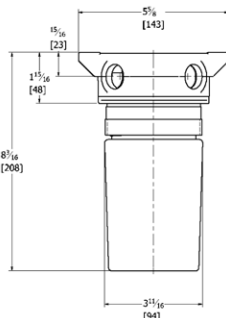
VB



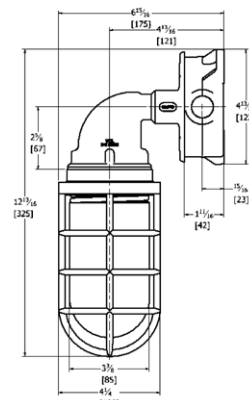
VFL



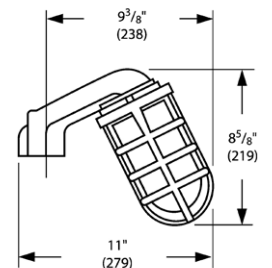
VSL Pendant Fixture w/ Polycarbonate Globe



VSL Ceiling Fixture w/Polycarbonate Globe



VSL Wall Mounted Fixture w/Globe & Guard



VSL Stanchion Fixture w/Globe & Guard



LIGHTING DVL SERIES

Class II Utility Light - Introduction



Class II, Div. 1 & 2, Groups E, F, G
Class III
Class I, Div. 2, Groups A, B, C, D

 Certified - File LR11713

FEATURES-SPECIFICATIONS

Features

- Compact in Size with Traditional Industrial Appearance and Suitability
- DVL LED Housings can be retrofitted to existing DV Series splice boxes; upgrade from incandescent housing 100 Series components
- Long Fixture Life - 50,000 - 55,000 maintenance free hours
- Crisp White Light for Excellent Color Rendering - Chromaticity 5000°K (CCT); 70 CRI
- Integral driver - maintains fixture's compact profile to fit in existing spaces
- Instant on - including after power interruption
- Solder-LESS LED Board Connections - Vibration Resistant

Materials

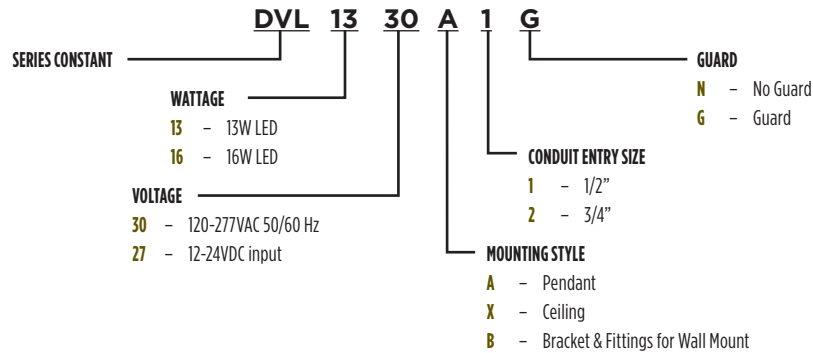
- Body and splice box are corrosion resistant copper-free aluminum alloy. Steel guard.
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection

Electrical Ratings

- "World Voltage" 120-277VAC 50/60Hz



Class II Utility Light - Ordering Information

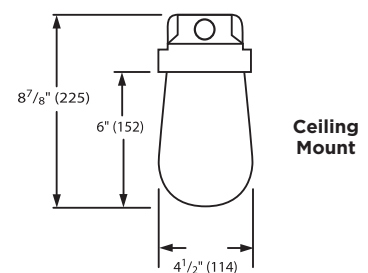
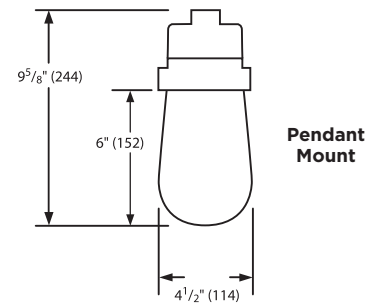


ACCESSORIES/COMPONENTS			
BODIES		MOUNTS	
DVL 1330	LED 13W	DVA1	1/2" Pendant Mount
DVL 1327	LED 13W	DVA2	3/4" Pendant Mount
DVL 1630	LED 16W	DVX1	1/2" Ceiling Mount
DVL 1627	LED 16W	DVX2	3/4" Ceiling Mount
		DVB1	1/2" Wall Mount
		DVB2	3/4" Wall Mount
GLOBE		GUARD	
DCGE-10		DAG-100	

DVL 100 SERIES						
MODEL	LAMP	HUB	PENDANT	CEILING	WALL	DELIVERED LUMENS
Type 100 13Watt	Included	1/2"	DVL1330A1G	DVL1330X1G	DVL1330B1G	1144
		3/4"	DVL1330A2G	DVL1330X2G	DVL1330B2G	
Type 100 16Watt	Included	1/2"	DVL1630A1G	DVL1630X1G	DVL1630B1G	1355
		3/4"	DVL1630A2G	DVL1630X2G	DVL1630B2G	

DVL THERMAL RATINGS					
CAT. NO.	AMBIENT	WATTS	C2D1 EFG	C1D2 ABCD	SUPPLY WIRE
DVL1330	40°C	13	T3B	T6	90°C
DVL1630	40°C	16	T3B	T6	90°C
DVL1330	55°C	13	—	T5	90°C
DVL1630	55°C	16	—	T5	90°C

DIMENSIONS



Wall Mount overall dimensions
 Height = 13.125" (333mm)
 Outward from wall = 7.4" (188mm)



LIGHTING
NV2 SERIES

Non-Metallic Corrosion Resistant Hazardous Fixtures



**Pendant
Incandescent**



**Pendant
Fluorescent**



**Ceiling
Incandescent**



**Ceiling
Fluorescent**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups
IIC,IIB,IIA
Class II, Div. 2, Groups F,G
Class III
UL Marine Rated (US only)
Type 3, 4, 4X, IP66

 Certified - File LR11713

ABS Type Approval

 to the following standards:
UL 1598 Standard for luminaires
UL 1598A Marine type luminaires
UL 844 Standard for lighting
fixtures for hazardous
locations
CSA C22.2 no. 137-M1981
electric luminaires for use in
hazardous locations
Enclosed and gasketed
NEMA 3, 4X, IP66

FEATURES-SPECIFICATIONS

Features

- NV2 Series non-metallic light fixtures combine an outstanding balance of strength, stiffness, toughness and electrical properties
- Energy and labor saving fluorescent or incandescent models
- Accessories include polycarbonate dome reflectors and wall extension
- Molded from 30% glass-filled thermoset polyester for high strength
- Resists corrosive effects of most chemicals, hydrocarbons and solvents
- Designed for indoor and outdoor, globe down applications.

Materials:

- Molded from 30% glass-filled thermoset polyester for high strength



Non-Metallic Corrosion Resistant Hazardous Fixtures

PENDANT 3/4" FIXTURE W/ GLOBE & GUARD	
TYPE	TEMPERED GLOBE
15 W Incan.	NV2IG15AHG
13 W Fluor.	NV2FG13AHG
18 W Fluor.	NV2FG18AHG
26 W Fluor.	NV2FG26AHG
32 W Fluor.	NV2FG32AHG
42 W Fluor.	NV2FG42AHG

CEILING 3/4" FIXTURE W/ GLOBE & GUARD*	
TYPE	TEMPERED GLOBE
150 W Incan.	NV2IG15XHG
13 W Fluor.	NV2FG13XHG
18 W Fluor.	NV2FG18XHG
26 W Fluor.	NV2FG26XHG
32 W Fluor.	NV2FG32XHG
42 W Fluor.	NV2FG42XHG

WALL 3/4" FIXTURE W/ GLOBE & GUARD*	
TYPE	TEMPERED GLOBE
150 W Incan.	NV2IG15BHG
13 W Fluor.	NV2FG13BHG
18 W Fluor.	NV2FG18BHG
26 W Fluor.	NV2FG26BHG
32 W Fluor.	NV2FG32BHG
42 W Fluor.	NV2FG42BHG

***Notes:**

Tempered Globes are required for Wet Location applications

All assemblies are unit packed with required components (not assembled)

Fluorescent unit pack models (only) include the lamp

Reflector is sold separately. For wall mounting with reflector, the NVEXTG extension is required and sold separately

Fluorescent models use "world voltage" ballasts for 120VAC through 277VAC 50/60Hz applications

Incandescent models 277VAC max.

For M20 ceiling units change "X" in part # to "M". For wall units change "B" to "W".

M20 Pendant not available.

* Incandescent lamp bulb size A

Colored Globe Options**

Example: NV2IG15AHG-R for Ruby Tempered Globe

SUFFIX AND AVAILABLE COMBINATIONS	
COLOR	TEMPERED GLOBE
Amber	A
Blue	BG
Ruby	R
Green	NA
Purple	NA
Blue-Green	BG

**Tempered globes are required for wet locations.

T-CODES @ 40°C MAX; WITH OR WITHOUT REFLECTOR						
GLOBE TYPE	CLASS II DIV.2		CLASS II DIV.2		MINIMUM START	
	CLEAR	COLOR	CLEAR	COLOR	°C	°F
75 W	T2C	T2B	T3C	-	-	-
100 W	T2A	T2	T3C	-	-	-
150 W	T2B	T2	-	-	-	-
13 Fluor	T3C	T3C	T4A	T4A	-20	-4
18 Fluor	T3C	T3C	T4A	T4A	-20	-4
26 Fluor	T3B	T3A	T4A	T4A	-20	-4
32 Fluor	T3B	T3A	T4A	T4A	-20	-4
42 Fluor	T2D	T2C	T4A	T4A	-20	-4

Min. supply wire Fluor. 60°C, Incan. 90°C

FLUORESCENT OPERATING MAX. AMPS		
TYPE	120 VAC	277 VAC
13W Fluor	0.144	0.067
18W Fluor	0.158	0.073
26W Fluor	0.22	0.097
32W Fluor	0.285	0.128
42W Fluor	0.38	0.166



LIGHTING
NV2 SERIES

Non-Metallic Corrosion Resistant Hazardous Fixtures



Wall Mount
Incandescent



Wall Mount
Fluorescent



Wall Mount with
Extension and Dome
Reflector accessories

COMPONENT PARTS



Pendent



Ceiling/Wall



Wall Elbow



Ceiling/Wall
(Interior Detail)



Incandescent



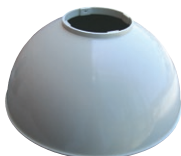
Fluorescent



Globe



Guard



Reflector



Extension

NV2 SPLICE BOXES - INCLUDES SILICONE GASKETS & BRASS SCREWS

CATALOG NUMBER	DESCRIPTION		
NV2AG	Pendant	3/4" NPT	Pendant splice box includes a 316 stainless steel set screw at the conduit connection
NV2XG ^①	Ceiling Box	3/4" NPT	Ceiling box vol. 24 cu. inches
NV2MG ^①		M20	
NV2BG	Wall Bracket		Use with NV2XG or NV2MG for wall mount

NV2 BODIES

CATALOG NUMBER	DESCRIPTION
NV2IG15	Incandescent Body with E-26 medium base socket; fixture rated voltage 277VAC max.
NV2FG13	13 W Fluorescent Body World Voltage 120V - 277V 50/60Hz
NV2FG18	18 W Fluorescent Body World Voltage 120V - 277V 50/60Hz
NV2FG26	26 W Fluorescent Body World Voltage 120V - 277V 50/60Hz
NV2FG32	32 W Fluorescent Body World Voltage 120V - 277V 50/60Hz
NV2FG42	42 W Fluorescent Body World Voltage 120V - 277V 50/60Hz

NV2 GLASS GLOBES & GUARDS^②

CATALOG NUMBER	DESCRIPTION	
VCGP-100	Clear, Tempered	150 watt Lamp size A-21 max.
NV2GG		Guard

NV2 REFLECTORS AND EXTENSION

CATALOG NUMBER	DESCRIPTION
NVPSD12	White Polycarbonate Reflector (secured by guard)
NVEXTG	Extension (for wall mount fixture with reflector)

NV2 F FLUORESCENT REPLACEMENT LAMPS AND BALLASTS

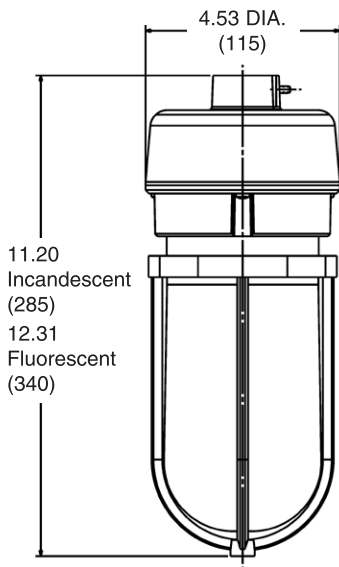
MQL13	13 W Quad-Pin Lamp 900 Lumens	BKF131830 13/18 WATT REP. BALLAST
MQL18	18 W Quad-Pin Lamp 1200 Lumens	
MQL26	26 W Quad-Pin Lamp 1800 Lumens	
MQL32	32 W Quad-Pin Lamp 2400 Lumens	BKF26324230 26/32/42 WATT REP. BALLAST
MQL42	42 W Quad-Pin Lamp 3200 Lumens	

^① NV2 ceiling (wall) boxes have 4 10-32 brass inserts with 2 ground screws. May be used for wet locations, as terminal/junction, boxes, or instruments using "clear" blank cover.

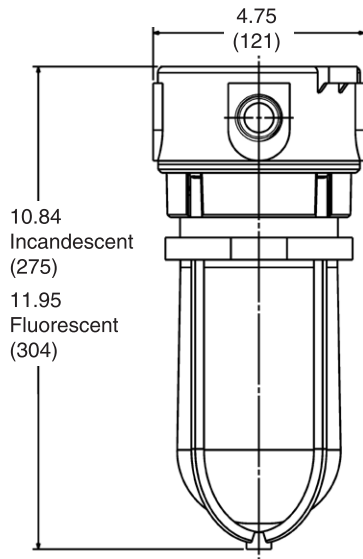
^② Use tempered globes for wet locations.



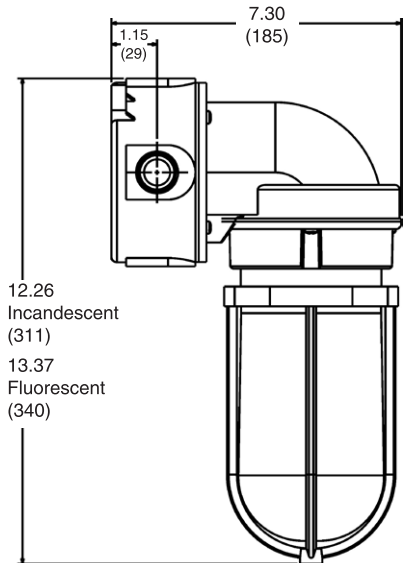
Dimensions



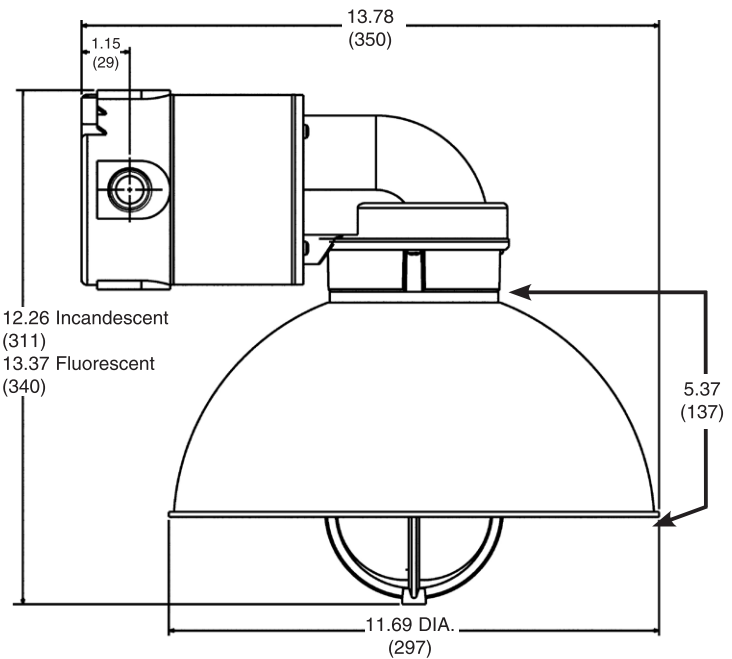
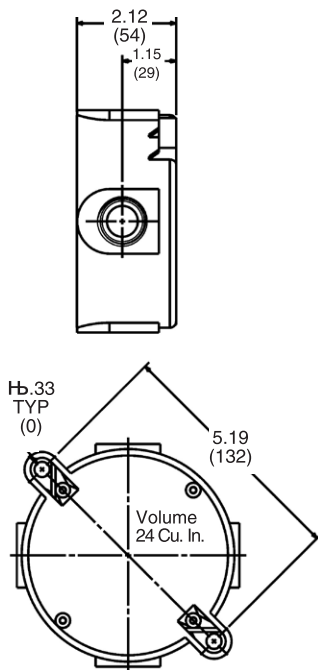
Pendant



Ceiling



Wall



**Wall mount with optional reflector and with extension.
 Extension required only for wall mount units using reflector.**

**NOTE: Dimensional diagrams show incandescent models, but include height also for fluorescent.*



LIGHTING
NVPI/NVPF SERIES

Non-Metallic/Non-Glass Fixtures



**Pendant
Fluorescent**



**Ceiling
Incandescent**



**Wall Mount
Fluorescent**

**Class II, Div. 2, Groups F,G
Type 3, 4, 4X**

Certified* - File LR11713

to the following standards:

**UL 1598 Standard for luminaires
UL 844 Standard for lighting
fixtures for hazardous locations
CSA C22.2 no. 137-M1981
electric luminaires for use in
hazardous locations
Enclosed and gasketed
Type 3, 4X**

FEATURES-SPECIFICATIONS

Features

- NVP Series non-metallic light fixtures combine an outstanding balance of strength, stiffness, toughness and electrical properties
- Polycarbonate lens
- Energy and labor saving fluorescent or incandescent models
- Molded from 30% glass-filled thermoset polyester for high strength
- Resists corrosive effects of most chemicals, hydrocarbons and solvents
- Designed for indoor and outdoor globe down applications
- All assemblies are unit packed with required components (not assembled)
- Fluorescent unit pack models (only) include the lamp
- Fluorescent models use "world voltage" ballasts for 120VAC through 277VAC 50/60Hz applications
- For M20 ceiling units change "X" in part # to "M". For wall units change "B" to "W". M20 Pendant not available

Materials:

- Molded from 30% glass-filled thermoset polyester for high strength



Non-Metallic/Non-Glass Fixtures

PENDANT 3/4" CLEAR POLYCARBONATE GLOBE & GUARD*

40W Incan. ①	NVPIG40AG
13 W Fluor.	NVPFG13AG
18 W Fluor.	NVPFG18AG
26 W Fluor.	NVPFG26AG

CEILING 3/4" CLEAR POLYCARBONATE GLOBE & GUARD*

40W Incan. ①	NVPIG40XG
13 W Fluor.	NVPFG13XG
18 W Fluor.	NVPFG18XG
26 W Fluor.	NVPFG26XG

WALL 3/4" CLEAR POLYCARBONATE GLOBE & GUARD*

40W Incan. ①	NVPIG40BG
13 W Fluor.	NVPFG13BG
18 W Fluor.	NVPFG18BG
26 W Fluor.	NVPFG26BG

Self-ballasted CFL's for 26W ①

APPLICATION DATA ①

WATTAGE & TYPE	CLASS II DIV.2 CLEAR OR COLOR	MIN. START		CURRENT FLUOR. VAC	
		C°	F°	120V	277V
40W ①	F, G	—	—	—	—
13 Fluor	F, G	-20°C	-4°F	0.144	0.067
18 Fluor	F, G	-20°C	-4°F	0.158	0.073
26 Fluor	F, G	-20°C	-4°F	0.22	0.097

① Incandescent models w/medium base socket marked for 40W 277V Max or self-ballasted CFL's to 26W max, lamps F.O.B

POLYCARBONATE GLOBE OPTIONS FOR ASSEMBLIES: RED OR GREEN

For RED polycarbonate add -R e.g. NVPIG75AG-R

For GREEN polycarbonate add -G e.g. NVPIG75AG-G

COMPONENTS **

CATALOG NUMBER	DESCRIPTION
NVPIG40 ①	Incandescent Body with E26 socket; 40W Max ①
NVPFG13	13W Fluor Body & 120 - 277VAC 50/60Hz Ballast (less lamp)
NVPFG18	18W Fluor Body & 120 - 277VAC 50/60Hz Ballast (less lamp)
NVPFG26	26W Fluor Body & 120 - 277VAC 50/60Hz Ballast (less lamp)
NV2AG	3/4" Pendant splice box
NV2XG	3/4" Ceiling splice box
NV2BG	Elbow (used between NV2XG and Fixture Body)
NV2GG	Guard
VPLCG100	Clear Poly Globe 40W "A" MAX
VPLCG100R	Red Poly Globe 40W "A" MAX
VPLCG100G	Green Poly Globe 40W "A" MAX

* Reflectors are not recommended - globe taper prevents guard from holding reflector securely.



LIGHTING

V SERIES • WEATHERPROOF

Incandescent Copper-Free Aluminum Fixtures - Introduction



Enclosed & Gasketed

 LISTED - File E27731

 Certified - File LR11851

FEATURES-SPECIFICATIONS

V Series

Enclosed & Gasketed

Features

- Electrostatically applied epoxy/polyester finish
- Modular design
- Hubs are threaded for attachment to conduit
- Set screws in pendant fixture
- Copper-free aluminum (less than .004%)

Materials

- Body, splice box and guards are corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection



Incandescent Copper-Free Aluminum Fixtures



PENDANT MOUNT WITH VGA SPLICE BOX/DANT								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VUAG-1-100 ^②	VUAGG-1-100 ^①	VGA-1	VFC-100	VCGP-100	VAG-100
		3/4"	VUAG-2-100 ^②	VUAGG-2-100 ^①	VGA-2	VFC-100	VCGP-100	VAG-100
200	300	1/2"	VUAG-1-200 ^②	VUAGG-1-200 ^②	VGA-1	VFC-200	VCGP-200	VAG-200
		3/4"	VUAG-2-200 ^②	VUAGG-2-200 ^②	VGA-2	VFC-200	VCGP-200	VAG-200

CEILING MOUNT WITH FEET USING VBC SPLICE BOX AND VBA ADAPTER								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ADAPTER	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VUXG-1-100 ^①	VUXGG-1-100 ^①	VBC-1 + VBA	VFC-100	VCGP-100	VAG-100
		3/4"	VUXG-2-100 ^①	VUXGG-2-100 ^①	VBC-2 + VBA	VFC-100	VCGP-100	VAG-100
200	300	1/2"	VUXG-1-200 ^②	VUXGG-1-200 ^②	VBC-1 + VBA	VFC-200	VCGP-200	VAG-200
		3/4"	VUXG-2-200 ^②	VUXGG-2-200 ^②	VBC-2 + VBA	VFC-200	VCGP-200	VAG-200

CEILING MOUNT WITH VGX SPLICE BOX								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VUXG-1-100 ^②	VUXGG-1-100 ^②	VGX-1	VFC-100	VCGP-100	VAG-100
		3/4"	VUXG-2-100 ^②	VUXGG-2-100 ^②	VGX-2	VFC-100	VCGP-100	VAG-100
200	300	1/2"	VUXG-1-200 ^②	VUXGG-1-200 ^②	VGX-1	VFC-200	VCGP-200	VAG-200
		3/4"	VUXG-2-200 ^②	VUXGG-2-200 ^②	VGX-2	VFC-200	VCGP-200	VAG-200

CEILING MOUNT WITH VGC SPLICE BOX - FEED THROUGH								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VUXG-1-100 ^②	VUXGG-1-100 ^②	VGC-1	VFC-100	VCGP-100	VAG-100
		3/4"	VUXG-2-100 ^②	VUXGG-2-100 ^②	VGC-2	VFC-100	VCGP-100	VAG-100
200	300	1/2"	VUXG-1-200 ^②	VUXGG-1-200 ^②	VGC-1	VFC-200	VCGP-200	VAG-200
		3/4"	VUXG-2-200 ^②	VUXGG-2-200 ^②	VGC-2	VFC-200	VCGP-200	VAG-200

*For other colors, order globes and fixture components separately.

① Fixture supplied as component unit pack when ordered by this catalog number.

② Catalog number for ordering convenience; fixture is shipped as components as listed in catalog number table.



LIGHTING

V SERIES • WEATHERPROOF

Incandescent Copper-Free Aluminum Fixtures



CEILING MOUNT WITH VGH SPLICE BOX - DEAD END								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VUHG-1-100 ^②	VUHGG-1-100 ^②	VGH-1	VFC-100	VCGP-100	VAG-100
		3/4"	VUHG-2-100 ^②	VUHGG-2-100 ^②	VGH-2	VFC-100	VCGP-100	VAG-100
200	300	1/2"	VUHG-1-200 ^②	VUHGG-1-200 ^②	VGH-1	VFC-200	VCGP-200	VAG-200
		3/4"	VUHG-2-200 ^②	VUHGG-2-200 ^②	VGH-2	VFC-200	VCGP-200	VAG-200

CEILING MOUNT WITH VXA DEEP 5 - HUB SPLICE BOX								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VXAG-110 ^②	VXAGG-110 ^①	VXA-1	VFC-100	VCGP-100	VAG-100
		3/4"	VXAG-210 ^②	VXAGG-210 ^②	VXA-2	VFC-100	VCGP-100	VAG-100
200	300	1/2"	VXAG-120 ^②	VXAGG-120 ^②	VXA-1	VFC-200	VCGP-200	VAG-200
		3/4"	VXAG-220 ^②	VXAGG-220 ^②	VXA-2	VFC-200	VCGP-200	VAG-200

CEILING MOUNT WITH VBA ADAPTER FOR ROUND OUTLET BOX								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	BOX ADAPTER	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VOB-100 ^①	VOBG-100 ^①	VBA	VFC-100	VCGP-100	VAG-100
200	300	3/4"	VOB-200 ^②	VOBG-200 ^①	VBA	VFC-200	VCGP-200	VAG-200

CEILING MOUNT WITH VFPS ADAPTER FOR SQUARE OR OCTAGON OUTLET BOX								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	BOX ADAPTER	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VFCA-100 ^①	VFCAG-100 ^②	VFPS	VFC-100	VCGP-100	VAG-100
200	300	3/4"	VFCA-200 ^②	VFCAG-200 ^②	VFPS	VFC-200	VCGP-200	VAG-200

NOTES: Mounts directly to steel 4" square and 3-1/2" or 4" octagon outlet box. Supplied with gasket.

* For other colors, order globe and fixture components separately.

① Fixture supplied as component unit pack when ordered by this catalog number.

② Catalog number for ordering convenience; fixture is shipped as components as listed in catalog number table.



Incandescent Copper-Free Aluminum Fixtures



WALL MOUNT WITH FEET USING VBC SPlice BOX AND VB ELBOW

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ELBOW	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VFBG-1-100 ^①	VFBGG-1-100 ^①	VBC-1+VB-1	VFC-100	VCGP-100	VAG-100
		3/4"	VFBG-2-100 ^①	VFBGG-2-100 ^①	VBC-2+VB-2	VFC-100	VCGP-100	VAG-100
200	300	1/2"	VFBG-1-200 ^②	VFBGG-1-200 ^②	VBC-1+VB-1	VFC-200	VCGP-200	VAG-200
		3/4"	VFBG-2-200 ^②	VFBGG-2-200 ^②	VBC-2+VB-2	VFC-200	VCGP-200	VAG-200

WALL MOUNT WITH VB ELBOW TO MOUNT TO 4" OUTLET BOX

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING ELBOW	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1/2"	VFBG-110 ^②	VFBGG-110 ^①	VB-1	VFC-100	VCGP-100	VAG-100
		3/4"	VFBG-210 ^②	VFBGG-210 ^①	VB-2	VFC-100	VCGP-100	VAG-100
200	300	1/2"	VFBG-120 ^②	VFBGG-120 ^②	VB-1	VFC-200	VCGP-200	VAG-200
		3/4"	VFBG-220 ^②	VFBGG-220 ^②	VB-2	VFC-200	VCGP-200	VAG-200

Mounts directly to VJ or VB Series or 4" steel outlet boxes. One hub in back, supplied with gasket.

WALL MOUNT-WITH VFL ELBOW FOR DIRECT MOUNT TO V SERIES SPlice BOXES

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING ELBOW	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	-	VOBL-100 ^②	VOBLG-100 ^①	VFL	VFC-100	VCGP-100	VAG-100
200	300	-	VOBL-200 ^②	VOBLG-200 ^②	VFL	VFC-200	VCGP-200	VAG-200

STANCHION MOUNT FOR 1 - 1/4" THREADED PIPE

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING ELBOW	FIXTURE BODY	TEMPERED GLOBE*	GUARD (if selected)
100	150	1-1/4"	VD-410G ^①	VD-410GG ^①	VD-4	VFC-100	VCGP-100	VAG-100
200	300	1-1/4"	VD-420G ^②	VD-420GG ^②	VD-4	VFC-200	VCGP-200	VAG-200

*For other colors, order globe and fixture components separately.

① Fixture supplied as component unit pack when ordered by this catalog number.

② Catalog number for ordering convenience; fixture is shipped as components as listed in catalog number table.



LIGHTING
V SERIES

Incandescent NEMA 4 - Class I, Div. 2 Aluminum Fixtures



Pendant



Ceiling

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC,IIB,IIA
Type 3, 4*

UL LISTED - File E10514

UL-1571 Standard for incandescent fixtures

UL-844 Standard for hazardous location fixtures

SF Certified - File LR11713

FEATURES-SPECIFICATIONS

Features

Killark Vaportight assemblies using VXFC bodies and tempered glass have all the features and advantages of "V" Enclosed and Gasketed" models plus:

- Heavy-duty silicone gasketing for NEMA 4 requirements
- Third party tested and labeled for use in CID2 areas
- Modular design permits selection of splice box, fixture body, globe, guard and reflector for specific or custom applications
- Existing V Series mounting boxes may be retrofitted to upgrade to NEMA 4; CID2 suitability
- Copper-free aluminum construction with electrostatically applied epoxy/polyester finish resists corrosion

Materials:

- Body, splice box and guards are corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- Heavy-duty silicone gasketing for Type 4 requirements

APPLICATION DATA ①			
FIXTURE TYPE	LAMP SIZE	GLOBE TYPE	TEMPERATURE CODE @ 40°C
100	A-19 60W	colored and clear	T2C (230°C)
100	A-19 70W	colored and clear	T2D (215°C)
100	A-19 100W	colored and clear	T2A (280°C)
100	A-21 100W	colored and clear	T2B (260°C)
100	A-21 150W	colored and clear	T2 (300°C)
200	A-23 150W	colored and clear	T2A (280°C)
200	PS-25 150W	colored and clear	T2B (260°C)
200	A-23 200W	colored and clear	T2 (300°C)
200	PS-25 200W	colored and clear	T2A (280°C)
200	PS-25 300W	colored and clear	(350°C)

① Suitability based on base up installation



Incandescent NEMA 4 - Class I, Div. 2 Aluminum Fixtures



PENDANT MOUNT WITH VGA SPLICE BOX

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	TEMPERED GLOBE*	GUARD
100	150	1/2"	VUAGG-1-100PX ①	VGA-1	VXFC-100 N34	VCGP-100	VAG-100
		3/4"	VUAGG-2-100PX ①	VGA-2	VXFC-100 N34	VCGP-100	VAG-100
200	300	1/2"	VUAGG-1-200PX ①	VGA-1	VXFC-200 N34	VCGP-200	VAG-200
		3/4"	VUAGG-2-200PX ①	VGA-2	VXFC-200 N34	VCGP-200	VAG-200

CEILING FIXTURE WITH VGX SPLICE BOX

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	TEMPERED GLOBE*	GUARD
100	150	1/2"	VUXGG-1-100PX ①	VGX-1	VXFC-100 N34	VCGP-100	VAG-100
		3/4"	VUXGG-2-100PX ①	VGX-2	VXFC-100 N34	VCGP-100	VAG-100
200	300	1/2"	VUXGG-1-200PX ②	VGX-1	VXFC-200 N34	VCGP-200	VAG-200
		3/4"	VUXGG-2-200PX ②	VGX-2	VXFC-200 N34	VCGP-200	VAG-200

CEILING FIXTURE WITH MOUNTING FEET USING VBC SPLICE BOX & VBA ADAPTER

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ADAPTER	FIXTURE BODY	TEMPERED GLOBE*	GUARD
100	150	1/2"	VUXBGG-1-100PX ①	VBC-1+VBA	VXFC-100 N34	VCGP-100	VAG-100
		3/4"	VUXBGG-2-100PX ①	VBC-2+VBA	VXFC-100 N34	VCGP-100	VAG-100
200	300	1/2"	VUXBGG-1-200PX ①	VBC-1+VBA	VXFC-200 N34	VCGP-200	VAG-200
		3/4"	VUXBGG-2-200PX ①	VBC-2+VBA	VXFC-200 N34	VCGP-200	VAG-200

STANCHION MOUNT FOR 1 - 1/4" THREADED PIPE

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ADAPTER	FIXTURE BODY	TEMPERED GLOBE*	GUARD
100	150	1-1/4"	VD-410GGPX ①	VD-4	VXFC-100 N34	VCGP-100	VAG-100
200	300	1-1/4"	VD-420GGPX ①	VD-4	VXFC-200 N34	VCGP-200	VAG-200

WALL FIXTURE WITH MOUNTING FEET USING VBC SPLICE BOX & VB ELBOW

FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ELBOW	FIXTURE BODY	TEMPERED GLOBE*	GUARD
100	150	1/2"	VFBGG-1-100PX ①	VBC-1 + VB-1	VXFC-100 N34	VCGP-100	VAG-100
		3/4"	VFBGG-2-100PX ①	VBC-2 + VB-2	VXFC-100 N34	VCGP-100	VAG-100
200	300	1/2"	VFBGG-1-200PX ①	VBC-1 + VB-1	VXFC-200 N34	VCGP-200	VAG-200
		3/4"	VFBGG-2-200PX ①	VBC-2 + VB-2	VXFC-200 N34	VCGP-200	VAG-200

*For other colors, order globes and mounting components separately.

① Fixture supplied as component unit pack when ordered by this catalog number.

② NEMA 3, 4 when used with tempered glass.



LIGHTING
V SERIES

Component Parts/Accessories • Incandescent Fixtures

VFC Fixture Bodies

Fixture bodies contain lamp receptacle and are threaded to accept globes, guards and reflectors. These fixture bodies are designed for metallic boxes and mount directly to V Series splice boxes. They may also be mounted to VJ Series, VB Series or other 4" outlet boxes with the use of the appropriate adapter plate. Each fixture body is supplied with gaskets.



VFC-100
VXFC-100 N34 ①



VFC-200
VXFC-200 N34 ①

V FIXTURE BODIES	
CATALOG NUMBER	DESCRIPTION
VFC-100	150W max. Enclosed and Gasketed Fixture Body
VFC-200	300W max. Enclosed and Gasketed Fixture Body
VXFC-100 N34	150W max. NEMA 3,4 - Class 1, Div. 2 Fixture Body ①
VXFC-200 N34	300W max. NEMA 3,4 - Class 1, Div. 2 Fixture Body ①

① Use VXFC body with tempered globe for NEMA 3, 4 - Class 1, Div. 2 applications. VXFC body is Class 1, Div. 2 only (not N3, N4) when used with standard globes. Consult temperature table for suitability.

V Splice Boxes

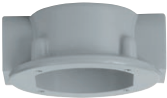
For use with types 100 and 200 fixture bodies



VGA



VGH



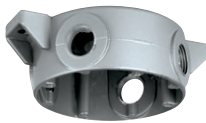
VGC



VGX



VXA



VBC



VBA



VFPS



VB



VFL



VD

V SPLICE BOXES			DESCRIPTION
CATALOG NUMBER	HUB SIZE & QTY.		DESCRIPTION
VGA-1	1/2"	1	Pendant mount
VGA-2	3/4"	1	
VGH-1	1/2"	1	Ceiling mount
VGH-2	3/4"	1	
VGC-1	1/2"	2	Ceiling mount
VGC-2	3/4"	2	
VGX-1	1/2"	4	Ceiling mount
VGX-2	3/4"	4	
VXA-1	1/2"	5	Ceiling mount , deep box
VXA-2	3/4"	5	
VBC-1*	1/2"	4	Ceiling mount, with 3 close-up plugs (requires VBA Adapter)
VBC-2*	3/4"	4	
VXAB	-	-	Blank close-up plate (less gasket)

* Volume cu. in. is 18.

V ADAPTER MOUNTING PLATES	
CATALOG NUMBER	DESCRIPTION
VBA	Adapts fixture body to VB, VJ or steel 3-1/2" & 4" splice boxes. Supplied with gasket.
VFPS	Adapts fixture body to steel 4" square outlet boxes or 3-1/2" or 4" octagon boxes

V MOUNTING BRACKETS			
CATALOG NUMBER	HUB SIZE	QTY.	DESCRIPTION
VB-1	1/2"	1	Wall mount to VJ or VB boxes
VB-2	3/4"	1	Wall mount to VJ or VB boxes
VFL	-	-	Wall mount to V boxes directly or to VJ, VB boxes with VBA adapter
VD-4	1-1/4"	1	Stanchion mount



Component Parts/Accessories • Incandescent Fixtures



150 W Max.
Lamp Size A-21



300 W Max.
Lamp Size PS-25



Polycarbonate



Poly Color Globe

V GLASS GLOBES		
CATALOG NUMBER		DESCRIPTION
150 W A-21 LAMP	300 W PS-25 LAMP	
VCGP-100	VCGP-200	Clear Tempered. Thermal and shock resistant ①
VCGPT-100	—	Clear Tempered with silicone coating ②
VAMGP-100	—	Amber Tempered ①
VGGP-100	VGGP-200	Blue Green Tempered ①
VBGP-100	—	Blue Tempered ①
VRGP-100	VRGP-200	Ruby Tempered ①
VWGP-100	—	White Tempered Glass
75 W A-19 LAMP	150 W A-21 LAMP	Polycarbonate. Cannot be used with guard or in high ambient temperature locations (40°C/104°F max.) Not UL Listed.
VPLCG-100	VPLCG-200	

① Recommended for use with VXFC fixture base.

② TM Thomas Manufacturing.



Body To Splice Box
Gasket
100 or 200 Series
VTG Standard
VTG-S Silicone
(pictured)



Globe Gasket
100 Series Standard - 15871AABB
200 Series Standard - VTGG (pictured)
100 Series Silicone - VTGG1-S
200 Series Silicone - VTGG2-S

V GUARDS	
CATALOG NUMBER	DESCRIPTION
VAG-100	100 Series Vaportite guard
VAG-200	200 Series Vaportite guard

V REFLECTORS		
CATALOG NUMBER	DESCRIPTION	
VPRSD-100	100 Series Vaportite Reflector	16 3/8" Dia. 5 5/8" High. White polypropylene for pendant & ceiling applications. Not for use with wall or stanchion models.
VPRSD-200	200 Series Vaportite Reflector	

V SERIES GASKET			
CATALOG NUMBER		TYPE	DESCRIPTION
100 SERIES	200 SERIES		
VTG		VFC	Fixture body to splice box
VTG-S		VXFC	Silicone, Fixture body to splice box
VBNB		—	Replacement Gaskets for VB-1/VB-2 and VBA
15871AABB	VTGG	VFC	Globe gasket
VTGG1-S	VTGG2-S	VFXC	Silicone, globe gasket

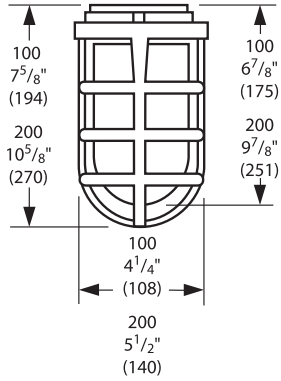


V LAMP SOCKET	
CATALOG NUMBER	DESCRIPTION
VRME	For fixture types 100 and 200

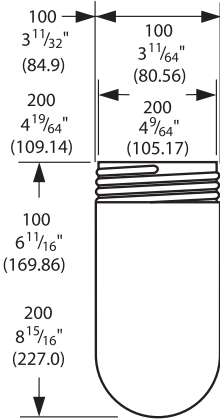


LIGHTING
V SERIES

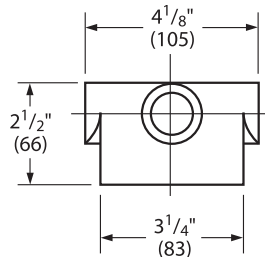
Dimensions



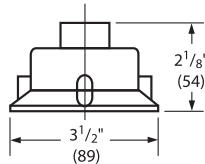
**V Fixture
w/o Splice Box**



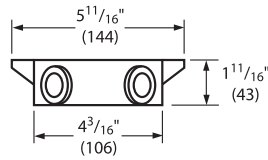
**V Fixture
Globes**



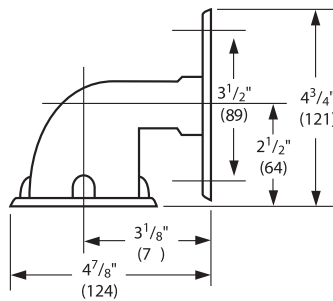
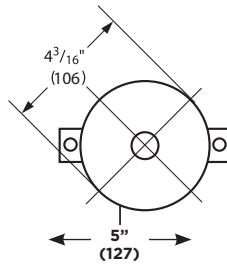
VXA



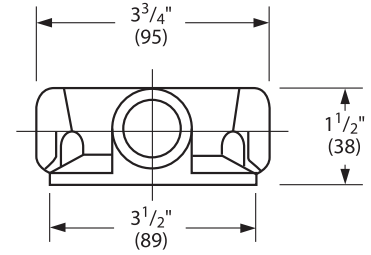
VGA



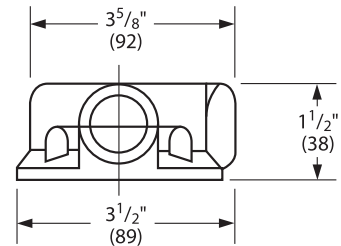
**VBC-1 &
VBC-2**



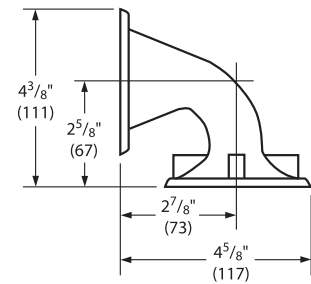
VB



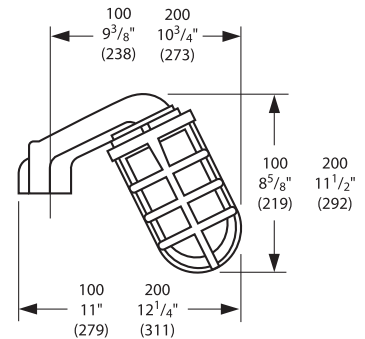
VGC VGX



VGH



VFL



V Stanchion



Special Application Incandescent Fixtures and Hand Lamps



DAG Guard

Class II, Div. 1 & 2 Groups E,F,G^①
Class III

LISTED - File E12976

Certified - File LR11713

FEATURES-SPECIFICATIONS

DV DUST-IGNITION PROOF

Features

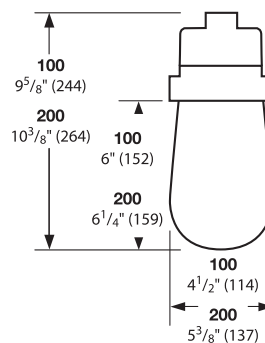
- Cast of corrosion resistant aluminum alloy with electrostatically applied epoxy/polyester finish
- Ceiling mounted units supplied with 4 hubs.

DV 100/200				
MODEL SIZE	LAMP SIZE	HUB	CATALOG NUMBER	
			PENDANT	CEILING
TYPE 100	100 Watt A-21	1/2"	DVA-110	DVX-110
	150 Watt A-23	3/4"	DVA-210	DVX-210
TYPE 200	150 Watt PS-25	1/2"	DVA-120	DVX-120
	200 Watt PS-25	3/4"	DVA-220	DVX-220

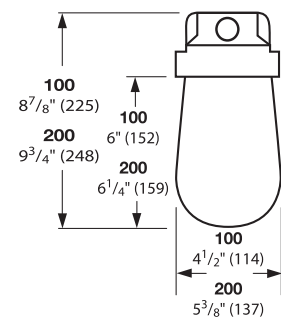
ACCESSORIES/REPLACEMENT PARTS			
FITTURE TYPE	CATALOG NUMBER		
	GLASS GLOBE	WIRE GUARD	REPLACEMENT SOCKET
100	DCGE-10	DAG-100	VRME
200	DCGE-20	DAG-200	VRME

^① Temperature code T3B, use supply wire suitable for 150° C.

Dimensions



Pendant 100-200



Ceiling 100-200



LIGHTING
XHL/XHLF SERIES

Special Application Incandescent Fixtures and Hand Lamps



XHL



XHLF

XHL Incandescent
Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB,IIA

File No. E97760

Certified File No. LR10019

XHLF Fluorescent
Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups F,G

Listed File No. E97760

FEATURES-SPECIFICATIONS

XHL SERIES HAND LAMPS

Features XHL Incandescent

- Phenolic handle for long service in rugged conditions
- Aluminum guard
- Heat and impact resistant globe
- Supplied with an A-21 100 Watt (100A/RS) Rough Service lamp
- Supplied with 2 grommets for use with either 14/3 or 16/3 user furnished SO cable

CATALOG NUMBER	DESCRIPTION
XHL-100	Handlamp
XHL-GL	Replacement Globe
XHLG	Replacement Guard
XHLS	Replacement Socket

Features XHLF Fluorescent (120 VAC)

- No exposed metal parts
- Furnished with 26 watt 1800 Lumen fluorescent lamp and light shield
- Supplied with grommet for use with 16/3 user furnished SO cable

CATALOG NUMBER	DESCRIPTION
XHLF26	Fluorescent hand lamp
XHLF26-50KP	Fluorescent hand lamp with 50' of 16/3 SOW cord and 15A Acceptor plug



Incandescent / Compact Fluorescent



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
UL Marine Rated (US Only)
Type 3, 4, 4X
Factory Sealed

LISTED - Files E10514 and E91793 (Marine)
 Certified - File LR11713

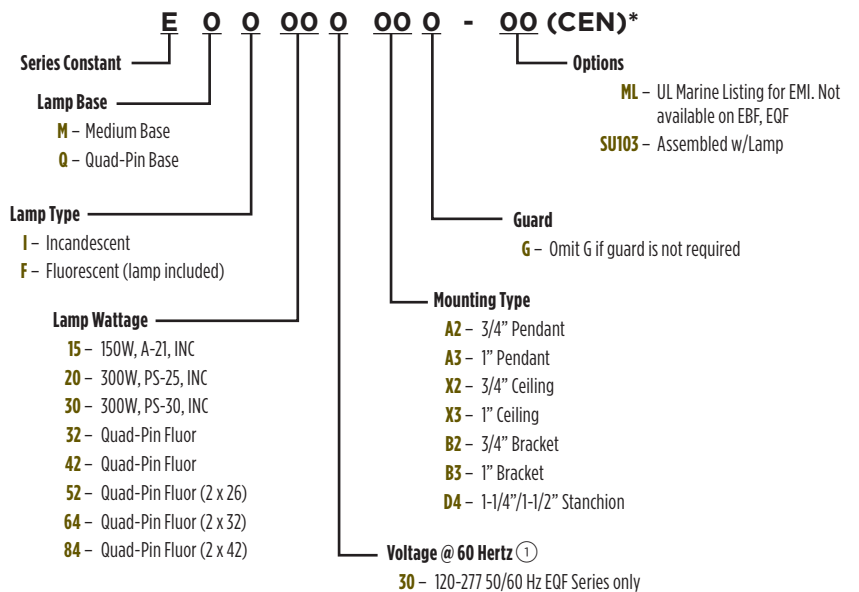
FEATURES-SPECIFICATIONS

Features

- Two light sources - Incandescent, compact fluorescent
- Mounting choice - Pendant, ceiling, 25° stanchion or 90° wall mount, all with “wireless” design that allows fast, easy fixture installation
- Factory sealed - No external seal needed. Simply wire mounting cap and thread on fixture to install
- Compact size - Medium base incandescent, plus PL fluorescent lamps allow smaller fixture design
- Corrosion resistant - Copper-free aluminum die-cast construction. Baked powder epoxy finish, electrostatically applied. Exposed hardware is 316 grade stainless steel

Accessories

- Available with or without guard, standard dome or 25° angle reflector, exit sign and inner colored globes



* CEN (CENELEC) approval option available on certain models.
① Consult factory for available lamp and voltage combinations.



LIGHTING EM/EQ SERIES

Component Parts/Accessories



EMI15/20/EBF



EMI30

HOUSING, GLOBE AND GLOBE SUPPORT ASSEMBLIES ①



Pendant



Ceiling



Wall Bracket



25° Stanchion

MOUNTING BOXES				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	BRACKET	STANCHION	
EZA2	EZX2	EZB2	—	3/4"
EZA3	EZX3	EZB3	—	1"
—	—	—	EZD4*	1-1/4"/1-1/2"

*1-1/2" furnished with 1-1/2"-1-1/4" reducer

INCANDESCENT			
CATALOG NUMBER	LAMP TYPE	WATTS	VOLTS ③
EMI15	A-19	60, 75	250 MAX. VAC
	A-19, A-21	100	
	A-21	150	
EMI20	A-23, PS-25	150	250 MAX. VAC
	A-23, PS-25	200	
	PS-25	300	
EMI30	PS-25	200	250 MAX. VAC
	PS-30	300	



HIC-BEIGE
replacement
wiring plug
for EZBx
Wall Bracket



Close up plug
for EZ mounting
boxes. Used for
maintenance
when fixture
is removed for
service.

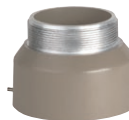
FLUORESCENT WITH LAMP(S)*			
CATALOG NUMBER	ANSI LAMP TYPE	WATTS	VOLTS
EQF2630	Quad Pin Fluorescent	26	120-277 VAC 50-60Hz
EQF3230		32	
EQF4230		42	
EQF5230		52 (2X26)	
EQF6430		64 (2X32)	
EQF8430		84 (2X42)	



EMG1



EMG2



EAC2



Standard Dome



Angle Dome

GUARDS		
CATALOG NUMBER	SERIES	LAMP TYPE
EMG1	EMI15	INC
	EMI20	INC
	EQF (26, 32, 42)	Quad-Pin
EMG2	EMI30	INC
	EQF (52, 64, 84)	Quad-Pin

Guards are cast of copper-free aluminum with electrostatically applied epoxy/polyester finish.

* Consult factory for 52, 64 and 84 Watt availability.

- ① Assemblies may be ordered with the CEN (CENELEC) suffix.
- ② Adapters for discontinued Killark "H" Series and Crouse Hinds® available.
- ③ UL fixture rating; socket rated 600V.

REFLECTORS		
CATALOG NUMBER		SERIES
STANDARD DOME	ANGLE	
ERSD15	ERA15	EMI15/EMI20
		EQF
ERSD30	ERA30	EMI30
		EQF (52, 64, 84)

Reflectors are aluminum with white finish.



FACTORY SEALED
Class I, DIV. 1 BCD
Class II, DIV. 1&2 EFG
CLASS III
NEMA 3, 4X IP66
*40° C ambient T3 Rated

PHOTO CELL FIELD KITS WITH HKB - GL BOX AND COVER	
CATALOG NUMBER	VOLTS
VMHKPC1	120VAC
VMHKPC2	208-277VAC
VMHKPC3	347VAC



Application Data

EM/EB/EQ HAZARDOUS LOCATION DATA – CLASS I, DIV. 1 & 2 ①②							
FIXTURE SERIES	LAMP TYPE/SIZE MAX.	LAMP WATTS	RATED AMBIENT °C	SUPPLY WIRE SUITABLE FOR °C MIN.	CLASS I, DIVISIONS 1 & 2 MAXIMUM SURFACE TEMPERATURE °C		
					UL/CSA		
					WITH OR WITHOUT REFLECTOR		
					TEMP. I.D.	ACTUAL TEMP.	UL/CSA GROUPS
EMI15	INC A-19	60	40	75	T6	79	C,D
			55	75	T6		C,D
			65	75	T4A		C,D
EMI15	INC A-19	75	40	75	T4A	103	C,D
			55	90	T4A		C,D
			65	90	T4		C,D
EMI15	INC A-19	100	40	75	T4A	103	C,D
			55	90	T4A		C,D
			65	90	T4		C,D
EMI15	INC A-21	100	40	75	T4A	101	C,D
			55	90	T4A		C,D
			65	90	T4		C,D
EMI15	INC A-21	150	40	75	T4	123	C,D
			55	90	T3C		C,D
			65	90	T3C		C,D
EMI20	INC A-23	100	40	90	T4A	107	C,D
			55	90	T4		C,D
			65	90	T4		C,D
EMI20	INC A-23	150	40	90	T4	132	C,D
			55	90	T3C		C,D
			65	125	T3C		C,D
EMI20	INC PS-25	150	40	90	T4	126	C,D
			55	125	T3C		C,D
			65	125	T3C		C,D
EMI20	INC A-23	200	40	90	T3C	146	C,D
			55	90	T3B		C,D
			65	125	T3A		C,D
EMI20	INC PS-25	200	40	90	T3C	154	C,D
			55	90	T3A		C,D
			65	125	T3A		C,D
EMI20	INC PS-25	300	40	90	T3	190	C,D
			55	125	T2D		C,D
			65				C,D
EMI30	INC PS-25	200	40	125	T3C	146	C,D
			55	125	T3B		C,D
			65	125	T3A		C,D
EMI30	INC PS-25	300	40	125	T3C	143	C,D
			55	125	T3B		C,D
			65	125	T3A		C,D
EMI30	INC PS-30	200	40	125	T3C	146	C,D
			55	125	T3B		C,D
			65	125	T3A		C,D
EMI30	INC PS-30	300	40	125	T3C	146	C,D
			55	125	T3B		C,D
			65	125	T3A		C,D
EQF26	126W Quad-Pin	26	40	75	T6	75	C,D
EQF32	132W Quad-Pin	32	40	75	T6	75	C,D
EQF42	142W Quad-Pin	42	40	75	T6	75	C,D
EQF52	226W Quad-Pin	52	40	75	T6	85	C,D
EQF64	232W Quad-Pin	64	40	75	T6	85	C,D
EQF84	242W Quad-Pin	84	40	75	T6	85	C,D

CEN Option

Applications

Killark EM/EB/ESX series fixtures are available with a European “Certificate of Conformity” from PTB (Physikalisch-Technische Bundesanstalt), the approval agency based in Germany. Fixtures with this rating will be useful for Original Equipment Manufacturers and others who build and ship apparatus into European markets.

This approval is granted by PTB with the use of a special ground lug and label. Fixtures carrying an EEx d IIB approval are automatically granted an IP54 (ingress protection) rating. See Temperature Code chart below for PTB certified ratings. Killark EM/EB/ESX fixtures with the PTB rating and labels still carry all UL & CSA ratings.

Fixture housing/globe/globe support assemblies (e.g. EM120 CEN) may be ordered with the CEN suffix. Complete fixture numbers, with the CEN suffix, will be shipped with the mounting boxes, guards and accessories as component parts. Reflectors and other accessory parts may be used. Killark fixtures are NPT tapped and plugged with at least one conduit hole open.

Compliances

EN 50014:1992
EN 50018:1994
EEx d IIB T6 (or T5-T2)
PTB No. Ex-98.E.1076



MAXIMUM AMBIENT TEMPERATURE RANGE -20°C TO 40°C				
TYPE OF LUMINAIRE	TYPE OF ENCLOSURE	FORM OF THE LAMP	MAXIMUM WATTAGE	TEMP. CLASS
EMI15	EMX20	A-19/A-21	150W	T4
EMI20	EMX20	A-23/PS-25	300W	T3
EMI30	EMX30	PS-25/PS-30	300W	T2

① Do not install where marked operating temperature exceeds ignition temperature of hazardous atmosphere.

② See Class II table for simultaneous presence ratings.



LIGHTING
EM/EQ SERIES

Application Data

EM/EB/EQ HAZARDOUS LOCATION DATA – CLASS II, III, DIVISIONS 1 & 2 ^{①②}														
FIXTURE SERIES	LAMP TYPE/SIZE MAX.	LAMP WATTS	RATED AMBIENT °C	SUPPLY WIRE SUITABLE FOR °C HOSEMIN.	CLASS II, DIV. 1 & 2 MAXIMUM SURFACE TEMPERATURE °C				UL/CSA GROUPS	CLASS III DIV. 1 & 2 UL/CSA SUITABILITY	UL MARINE LISTED	U.L. PAINT SPRAY SUITABILITY	UL/CSA TYPE (RAIN-TIGHT)	UL/CSA TYPE 4 (HOSE-DOWN) ^③
					UL/CSA WITHOUT REFLECTOR		UL/CSA WITH REFLECTOR							
					TEMP. I.D.	ACTUAL TEMP. °C	TEMP. I.D.	ACTUAL TEMP. °C						
EMI15	INC A-19	60	40	75	T3C	132	T3C	132	E,F,G	YES	YES	NO	YES	YES
			55	75	T3A				E,F	NO	YES	NO	YES	YES
			65	75	T3A				E,F					
EMI15	INC A-19	75	40	75	T3A	163	T3A	162	E,F	NO	YES	NO	YES	YES
			55	90	T3A		T3A		E,F	NO	YES	NO	YES	YES
			65	90	T3A		T3A		E,F	NO	YES	NO	YES	YES
EMI15	INC A-19	100	40	75	T3A	163	T3A	162	E,F	NO	YES	NO	YES	YES
			55	90	T3A		T3A		E,F	NO	YES	NO	YES	YES
			65	90	T3A		T3		E,F	NO	YES	NO	YES	YES
EMI15	INC A-21	100	40	75	T3A	172	T3A	172	E,F	NO	YES	NO	YES	YES
			55	90	T3				E,F	NO	YES	NO	YES	YES
			65	90	T3				E,F	NO	YES	NO	YES	YES
EMI15	INC A-21	150	40	75	N/A	192	T3	192	E,F	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EMI20	INC A-23	100	40	90	T3A	166	T3A	166	E,F	NO	YES	NO	YES	YES
			55	90	T3				E,F	NO	YES	NO	YES	YES
			65		N/A									
EMI20	INC A-23	150	40	90	T3	196	T3A	178	E,F	NO	YES	NO	YES	YES
			55	90	T3				E,F	NO	YES	NO	YES	YES
			65		N/A									
EMI20	INC PS-25	150	40	90	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EMI20	INC A-23	200	40	90	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EMI20	INC PS-25	200	40	90	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EMI20	INC PS-25	300	40	90	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EMI30	INC PS-25	200	40	110	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EMI30	INC PS-25	300	40	110	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EMI30	INC PS-50	200	40	110	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EMI30	INC PS-50	300	40	110	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
			55		N/A									
			65		N/A									
EQF26	1.26W Quad-Pin	26	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES
EQF32	1.32W Quad-Pin	32	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES
EQF42	1.42W Quad-Pin	42	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES
EQF52	2.26W Quad-Pin	52	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES
EQF64	2.32W Quad-Pin	64	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES
EQF84	2.42W Quad-Pin	84	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES

① Do not install where marked operating temperature exceeds ignition temperature of hazardous atmosphere.
 ② Fixtures rated for simultaneous presence as shown in Class II table (unless marked with N/A).
 ③ For UL-Marine and UL/CSA Type 4 listing add suffix "ML" to "EMI" Series fixture catalog number. Not available on "EQF" series.



Compact Fluorescent Emergency Lighting



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Type 3



Compliances: UL 844; UL 1570, UL924 (File E162407)
 UL Wet Location Listed (Indoor & Outdoor) Rated for 40C° ambient. Minimum start 0° C

Temperature codes:

Class I C,D T6;

Class II E,F,G T4;

Suitable for Class III

Certified File LR11713



FEATURES-SPECIFICATIONS

Applications

HOSTILELITE® EEQ Emergency Lighting fixtures provide continuous illumination under normal power and switch to emergency battery backup during power outages. Emergency Units ONLY are available that operate only when normal power fails.

Units contain battery unit that provides the OSHA required 90 minutes of illumination (same lamp) for egress.

Units are designed for general and task lighting indoors or outdoors where flammable gases or vapors or combustible dusts exist and create a hazardous location, as defined by the NEC.

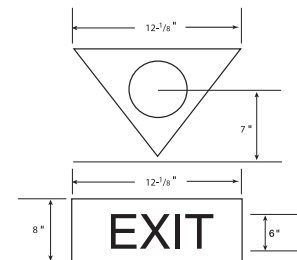
Features

- Quad-Pin long-life triple-tube compact fluorescent lamps included
- Choice of Pendant, Ceiling, Wall or Stanchion mount
- Factory Sealed - No external seal required
- Corrosion resistant-Copper-free aluminum (less than 4/10 of 1%) die-cast construction w/Baked-on epoxy/polyester powder finish
- Exposed hardware is 316 grade stainless steel
- LED charging indicator light visible through lens

Accessories

Exit sign: Model **HEXA-100** (note omit 2nd "G" in catalog number for globe-only fixture).

Reflectors: Use standard dome **ERSD15** or angle model **ERA15**.





LIGHTING
EEQ SERIES

Compact Fluorescent Emergency Lighting

EEQ 26 , 32 & 42 WATT EMERGENCY- ONLY MODE FIXTURES					
QUAD-PIN FLUOR. LAMP INCLUDED	LINE VOLTAGE @ 50/60 HZ	CATALOG NUMBER ^{③④⑥}			
		PENDANT 3/4" ^①	CEILING 3/4" ^①	BRACKET 3/4" ^①	STANCHION 1-1/4" ^②
26Watt	120 - 277VAC ^⑤	EEQ0026E30A2G	EEQ0026E30X2G	EEQ0026E30B2G	EEQ0026E30D4G
32Watt	120 - 277VAC ^⑤	EEQ0032E30A2G	EEQ0032E30X2G	EEQ0032E30B2G	EEQ0032E30D4G
42Watt	120 - 277VAC ^⑤	EEQ0042E30A2G	EEQ0042E30X2G	EEQ0042E30B2G	EEQ0042E30D4G

EEQ 26 , 32 & 42 WATT NORMAL & EMERGENCY MODE FIXTURES					
QUAD-PIN FLUOR. LAMP INCLUDED	LINE VOLTAGE @ 50/60 HZ	CATALOG NUMBER ^{③④⑥}			
		PENDANT 3/4" ^①	CEILING 3/4" ^①	BRACKET 3/4" ^①	STANCHION 1-1/4" ^②
26Watt	120 - 277VAC ^⑤	EEQ2626E30A2G	EEQ2626E30X2G	EEQ2626E30B2G	EEQ2626E30D4G
32Watt	120 - 277VAC ^⑤	EEQ3232E30A2G	EEQ3232E30X2G	EEQ3232E30B2G	EEQ3232E30D4G
42Watt	120 - 277VAC ^⑤	EEQ4242E30A2G	EEQ4242E30X2G	EEQ4242E30B2G	EEQ4242E30D4G

- ① Pendant, Ceiling & Bracket models may be changed to 1" hubs by changing the 12th character from 2 to 3; e.g. EEQ2626E10A3GG.
- ② Stanchion fixtures are 1-1/2" with a 1-1/2 to 1-1/4" reducer.
- ③ Omit 2nd "G" for globe-only fixture for use with HEXA-100 Exit Accessory.
- ④ Standard color for fixtures is Killark beige. Add -R for RED adder.
- ⑤ All EEQ fixtures are factory set to 120V and can be changed to 277V in field by following included instructions. Replacement battery pack kit KF8P9.
- ⑥ EEQ fixtures use a tank extension ring and are 2-1/2" taller than EBF fixtures.
- ⑦ Photometric characteristics similar to EBF26, except adjusted for lumen output.

LUMEN OUTPUT ^⑦		
LAMP SOURCE	NORMAL POWER	EMERG. POWER
26Watt	1800	450
32Watt	2400	575
42Watt	3200	750

BALLAST DATA					
LAMP WATTS	VOLTAGE	OPERATING AMPS	INPUT WATTS	BALLAST CIRCUIT	REGULATION
26Watt (1x26)	120 / 277 VAC	.24@120V / .11 @277V	29	HPF	Electronic
32Watt (1X32)	120 / 277 VAC	.31@120V / .13 @277V	36	HPF	Electronic
42Watt (1x42)	122 / 277 VAC	.38@120V / .17 @277V	46	HPF	Electronic



Replacement Parts/Accessories



Exit Sign Accessory

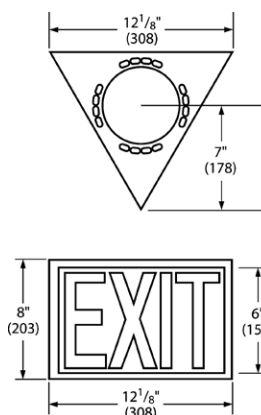
HAZARDOUS LOCATIONS EXIT SIGN

Features

- Three sided illuminated sign visible from all three sides
- EXIT printed in 6" high red letters with 3/4" strokes as required by OSHA. Sign has open bottom providing light on exit area while illuminating the panel

EXIT SIGN	
CATALOG NUMBER	DESCRIPTION
HEXA-100	Fits EMI15, EM120, EQF/EEQ Series without guard* (Fixture not included)

*EQF to 42W



REPLACEMENT FLUORESCENT LAMPS	
CATALOG NUMBER	SIZE & TYPE
MQL26	26W Quad-Pin
MQL32	32W Quad-Pin
MQL42	42W Quad-Pin



REPLACEMENT GLOBE & SUPPORT ASSEMBLIES

REPLACEMENT GLOBE AND GLOBE SUPPORTS			
CATALOG NUMBER ①	SERIES	LAMP TYPE	MAX. WATTAGE
EMGS1	EMI15	INC	150
	EM120	INC	300
	EQF	PL Quad-Pin Fluorescent	26, 32, 42
EMGS2 ② EMGS3	EM130	INC	300
	EMS	HPS	150
	EMH	MH	100
	EQF	PL Quad-Pin Fluorescent	52, 64, 84

① EMGS1, EMGS3 are internally fluted glass.

② EMGS2 is smooth clear glass used for ESX strobe.



EM Series



Female
EZTB



Male
EZCB

REPLACEMENT SOCKETS	
CATALOG NUMBER	DESCRIPTION
EMRS	EM Series E-26 Medium Base

REPLACEMENT CONNECTION BLOCKS	
CATALOG NUMBER	DESCRIPTION
EZTB	Female
EZCB	Male

COLORED GLOBE KITS FOR HAZARDOUS LOCATIONS ③	
KIT NO.	GLOBE COLOR
KT-100SU41R	RED
KT-100SU41G	GREEN

Used to modify EM120 Series only fixtures to accept a colored inner globe. The kit includes the globe plus an adapter assembly and mounting instructions.

③ Maximum lamp size A-21 150 Watt.



LIGHTING EM/EQ/ESX/EEQ SERIES

Dimensions



Pendant



Ceiling

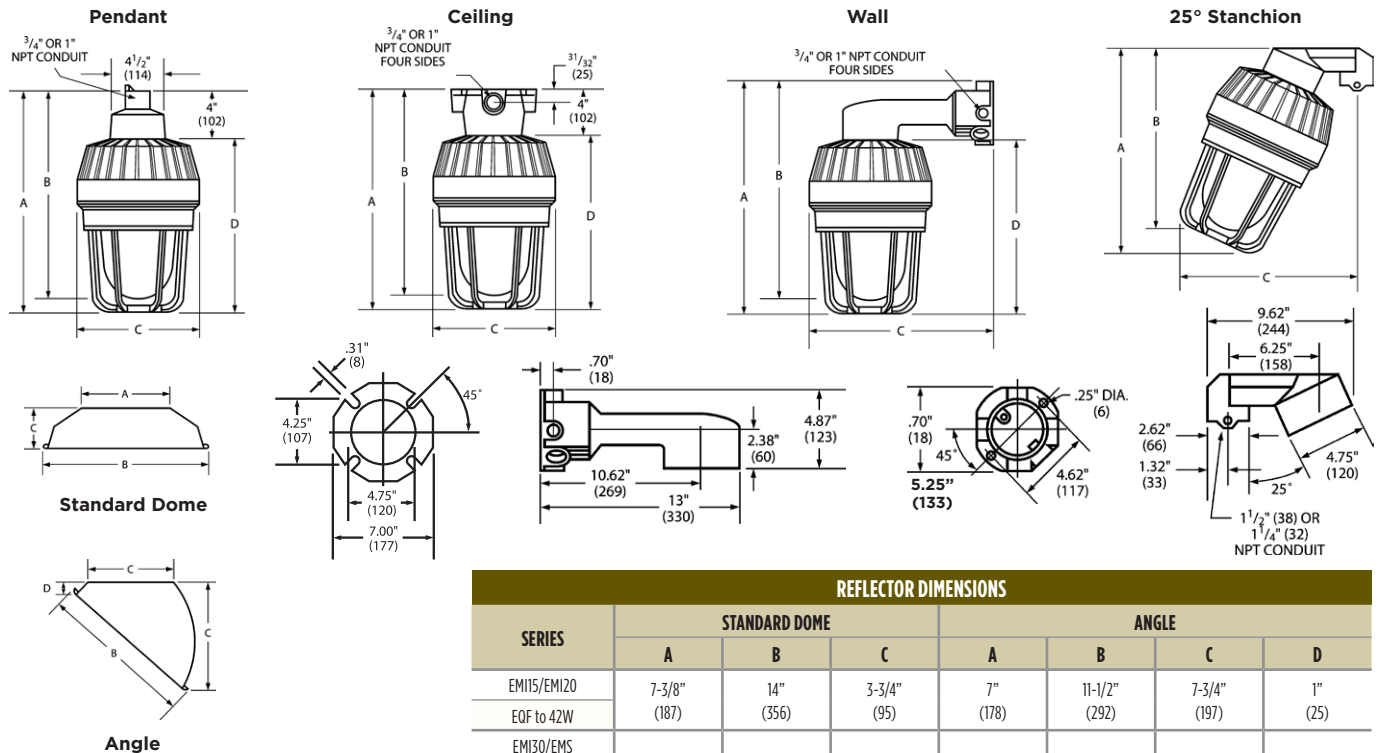


Wall



Stanchion

EM/ EMB/ ESX DIMENSIONS															
SERIES	PENDANT				CEILING				WALL				STANCHION		
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
EM15	14-5/16"	13-11/16"	7-7/16"	10-5/16"	14-5/16"	13-11/16"	7-7/16"	10-5/16"	15-13/16"	14-7/16"	14-1/2"	10-5/16"	14"	13-1/4"	13"
EM20	(363)	(346)	(188)	(261)	(363)	(347)	(188)	(261)	(385)	(366)	(369)	(26)	(256)	(337)	(330)
EQF to 42W	16-13/16"	16-3/16"	7-7/16"	12-5/8"	16-13/16"	16-3/16"	7-7/16"	12-5/8"	18-5/16"	16-15/16"	14-1/2"	12-5/8"	16-1/4"	15-3/4"	15-1/4"
EEQ	(427)	(411)	(188)	(321)	(427)	(411)	(188)	(321)	(465)	(430)	(368)	(321)	(413)	(400)	(387)
EM130															
EMH															
EMS	15-15/16"	15-1/16"	8-13/16"	11-15/16"	15-15/16"	15-1/16"	8-13/16"	11-15/16"	16-13/16"	15-13/16"	15"	11-15/16"	15-1/8"	14"	13-1/2"
ESX	(404)	(382)	(224)	(303)	(404)	(382)	(224)	(303)	(426)	(404)	(379)	(303)	(384)	(356)	(343)
EQF 52, 64, 84															



REFLECTOR DIMENSIONS							
SERIES	STANDARD DOME			ANGLE			
	A	B	C	A	B	C	D
EM15/EM20	7-3/8"	14"	3-3/4"	7"	11-1/2"	7-3/4"	1"
EQF to 42W	(187)	(356)	(95)	(178)	(292)	(197)	(25)
EM130/EMS							
EMH	8-3/4"	16-1/8"	3-15/16"	8-3/4"	14-3/16"	7-3/4"	1"
EQF 52, 64, 84	(222)	(409)	(100)	(222)	(360)	(197)	(25)



Halogen Lamp Emergency Lighting

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2 Groups E,F,G
Class III, Div. 1 & 2
Type 7CD, 9EFG

- UL Listed File E162407
UL-844 Electric Lighting Fixtures for use in Hazardous Locations
- UL-924 Emergency Lighting & Power Equipment Certified File LR11713



Remote test station (included) allows "Push-To-Test" at a location convenient to the user. ②

FEATURES-SPECIFICATIONS

Features

- Patented design three high intensity lamps can be independently adjusted to provide custom emergency lighting to a specific area
- Three 20 watt MR16 lamps included
- Pendant, bracket and ceiling mounting styles for a mounting arrangement that suits any lighting layout
- Remote hazardous location test station (included) allows testing of fixture at a convenient ground level location
- Factory wired for 120V; can be field changed to 208/240/277V.
- Four tough, long life lead-acid batteries require no maintenance and have a 12 VDC output of 60 watts for 90 minutes
- Safety disconnect feature automatically disconnects lamps from battery if globe is removed
- Solid state battery charger has a low voltage disconnect feature
- Red pilot light, easily visible inside globe, indicates AC power is being supplied to batter charger
- Fixture housings are factory sealed by the electro-mechanical connection block
- The only wiring required is attaching supply wires to the integral female connection block in the mounting cap. Threading fixture onto mounting cap makes the electrical connection
- Electrical continuity is not made during assembly or disassembly without five or more threads secured to insure a flame path
- Suitable in ambients 0°C to 40°C
- Patented design

EBB ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
EZG1	Guard (die cast aluminum)
VMPSD40	Reflector (standard dome)
EBB-L12	MR16 12 volt lamp
17505AAAB	MR16 lamp socket
EBB-RB	Rechargeable battery (4 used per unit)
EBB-BC	Battery charger (circuit board)
EBB-TRANS*	Transformer Kit 120, 208, 240, 277V
EBB-PL	LED pilot light

EBB HALOGEN EMERGENCY LIGHTING						
ANSI LAMP TYPE	WATTS	VOLTAGE ①	HUB SIZE	CATALOG NUMBER		
				PENDANT	WALL	CEILING
MR16	3x20W	120, 208, 240, 277V	3/4"	EBB32010A2	EBB32010B2	—
			1"	EBB32010A3	EBB32010B3	EBB32010X3

① Suitable for 220V/50Hz.

HAZARDOUS LOCATION APPLICATION DATA					
LAMP TYPE	LAMP WATTS	RATED AMBIENT DEGREES	MAX SURFACE TEMPERATURE		
			CLASS I	CLASS II	SIMULTANEOUS CLASS I & II
MR16 Halogen	60W Total	40°C	T6 (85°C)	T5 (100°C)	T5 (100°C)

Note: EBB Series fixtures should not be stored for extended periods before energizing.

* Replaces #17506AAAB.

② Furnished with 3/4" feed thru mounting box. For Push-To-Test N.C. momentary cover only. Use also with HFKE, VESQ, EEQ, and LZ2NE. Cover only XCS-0B2-PTT. Order SWB back box separately.



LIGHTING
EBB SERIES

Halogen Lamp Emergency Lighting



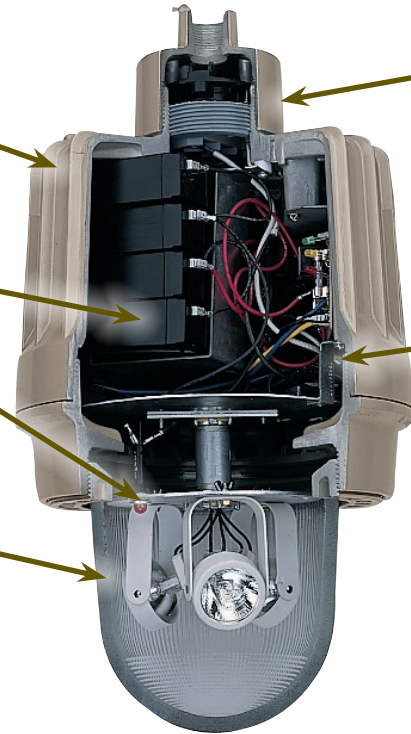
Pendant



Ceiling



Wall Mount



Factory sealed; external seals not required

Cast of copper-free Aluminum (Less than 0.4% copper)

Electrostatically applied epoxy polyester finish is baked on for high density corrosion protection

Four lead-acid batteries are maintenance free and provide 60 watts to the lamps for 90 minutes*

Red pilot light indicates AC power flow to battery charger

Lamps automatically disconnect from battery if globe is disengaged

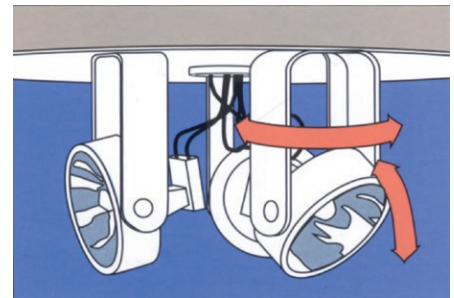
Glass globe prestressed for heat and impact resistance - Globe is internally fluted on sides and prismatic on bottom

* EBB Series fixtures should not be stored for extended periods before energizing.

Wireless assembly of fixture tank to mounting cap — Electro-mechanical male/female block allows fast, easy installation and bench top servicing without disconnecting supply wires

Nameplate displays Third Party Certifications and ratings in English and French (large red plate identifies it as an emergency fixture)

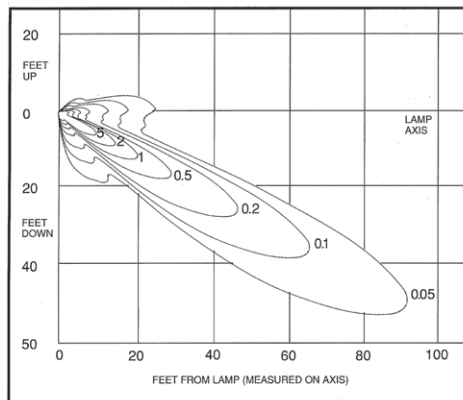
Acme double lead threads assure quick and trouble free assembly



Lamps adjustable on 2 axis for maximum aiming flexibility.

VEXA400 EXIT ACCESSORY

- White painted steel frame
- 8" Red Letters
- 5 Panes: 3 Exit and 2 Blank
- Fits EBB and VE4Q with globe only
- Dimensions: 14.57" x 9.22"
- Spanish Available
VEXA400-SALIDA



Photometrics

Typical vertical ISO foot candle distribution.

One 20 watt lamp aimed at 20° below horizontal.

Note: Some minor variations in light spread will occur as each lamp is rotated up/ down within the glass globe.



Component Parts/Accessories

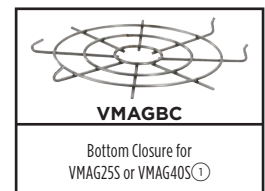


EZG1



VMAG40S

GUARDS				
CATALOG NUMBER	SERIES	LAMP TYPE	WATTAGE	DESCRIPTION
EZG1	EZS	HPS	50-150	Painted cast aluminum
	EZH	MH	70-250	
	EZP	MHP	150, 175, 250	
VMAG40S	EZH	MH	400	Cadmium plated steel
	EZP	MHP	320-400	



^① For VMAG40S with bottom closure order part number VMAG40SBC.



VMPD40



EZTB



VMPA40



HRD400
HRD400ALZ (pictured)



EZCB



EZMO

REFLECTORS	
CATALOG NUMBER	DESCRIPTION
VMPD40	Standard dome, fiberglass reinforced polyester
VMPA40	30° Angle fiberglass reinforced polyester
HRD400	Deep dome, Aluminum with white finish ^②
HRD400ALZ	Deep dome with specular anodized finish ^②

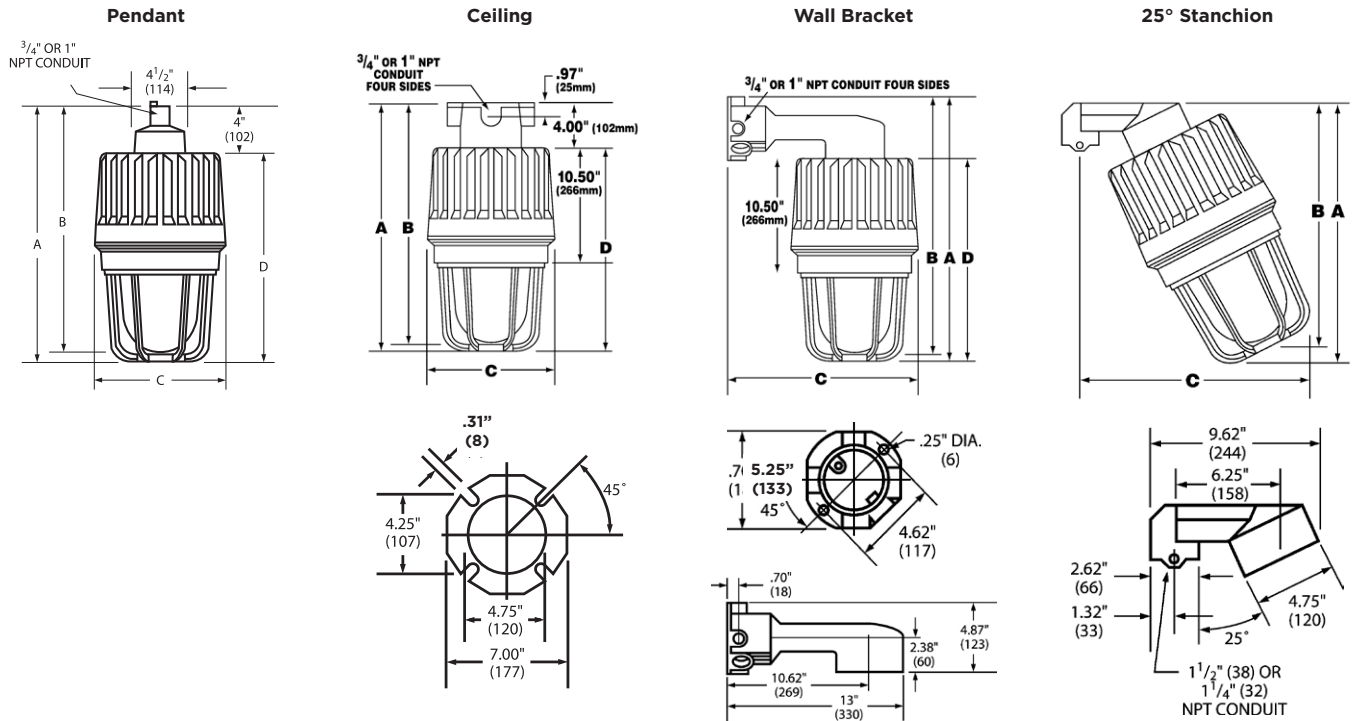
REPLACEMENT CONNECTION BLOCKS AND LAMP SOCKET	
CATALOG NUMBER	DESCRIPTION
EZTB	Female (goes in splice box)
EZCB	Male (goes in top of fixture body)
EZMO	Replacement lamp socket with gasket

^② For clearance, wall mount models require standoff of 1/2" if not bottom feed; 1-1/2" if bottom feed.



LIGHTING EZ SERIES

Dimensions

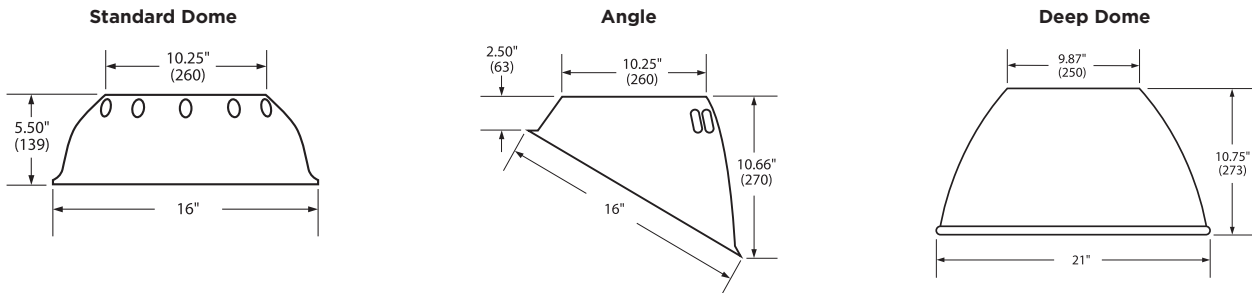


MOUNTING DIMENSIONS															
	PENDANT				CEILING				BRACKET				STANCHION		
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
50-250W* EZL LED	22" (558)	21-1/4" (539)	11-1/4" (285)	18" (457)	22" (558)	21-1/4" (539)	11-1/4" (285)	18" (457)	22-7/8" (580)	22-1/8" (561)	16-3/4" (425)	18" (457)	24-7/8" (631)	24" (609)	19-13/16" (503)
250-400W**	26-1/4" (666)	24-1/4" (615)	11-1/4" (285)	22-1/4" (565)	26-1/4" (666)	24-1/4" (615)	11-1/4" (285)	22-1/4" (565)	26-7/8" (682)	24-7/8" (631)	16-3/4" (425)	22-1/4" (565)	28-1/2" (724)	26-11/16" (678)	21-1/2" (546)

* 50, 70, 100, and 150W HPS; 70, 100, 175 and 250W MH; 150, 175, 250W MHP.

** 250 and 400W HPS, 400W MH; 320, 350, 400W MHP.

REFLECTOR DIMENSIONS





Strobe Signal Light



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2 Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
UL Marine Rated (US only)
Type 3, 4X
Factory sealed

- File E84609

Certified - File LR11713

Compliances

UL-1203 explosion-proof and dust ignition-proof electrical equipment for use in hazardous (classified) locations

UL-1638 visual signaling appliances
UL Marine-type electric lighting fixtures
NEMA 3, 4, 4X, 7CD, 9EFG

FEATURES-SPECIFICATIONS

Features

- Electronic component temperature range -40°C to +55°C
- NEC temperature code, T6 (<85°C)
- Flash rate-85 flashes per minute
- Xenon type lamp
- Voltage and amperage:

12-74 VDC:

Draws 1.25A avg. @ 12 VDC tapering to 0.2A avg. @ 74 VDC, .75A avg. @ 24 VDC

120 VAC (50/60 HZ):

Draws 0.30A avg.

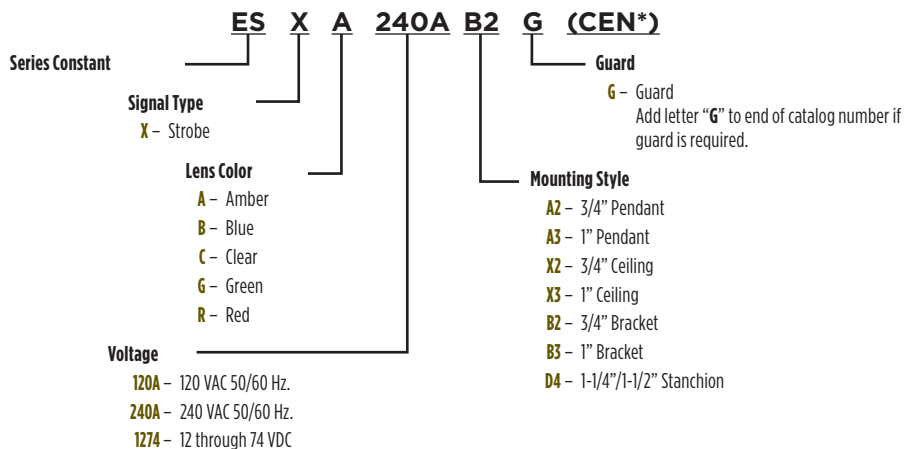
240 VAC (50/60 HZ):

Draws 0.17A avg.

- Power supply output:
13 watts standard
11 watts for 12-74 VDC

- Intensity:

Clear	200 candela effective
Amber	170 candela effective
Blue	90 candela effective
Red	40 candela effective
Green	70 candela effective



*CEN (CENELEC) approved option available. ESX Series strobes with CENELEC labeling are rated T6 by PTB.

REPLACEMENT POWER SUPPLY	
CATALOG NUMBER	VOLTAGE
ESX120PS	120VAC, 50/60 HZ.
ESX240PS	220/240VAC, 50/60 HZ.
ESX1274PS	12-74 VDC

REPLACEMENT LENS & LAMP ASSEMBLY	
CATALOG NUMBER	DESCRIPTION
ESXAL	Amber
ESXBL	Blue
ESXCL	Clear
ESXGL	Green
ESXRL	Red
EMGS2	Rep globe support assembly



LIGHTING
NVS SERIES

Non-Metallic Corrosion Resistant Signals



Pendant LED



Ceiling LED



Wall Xenon

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1&2, Group F,G;
Class III
CSA Enclosure Type 4X, IP66
Type 4X, Marine Rated (US only)

Certified - File LBJ1085

to the following standards:

UL 1598 Standard for luminaires
UL 1598A Marine type luminaires
UL 844 Standard for lighting fixtures for hazardous locations
UL 1638 Standard for visual signalling applications
CSA C22.2 no.137-M1981 electric luminaires for use in hazardous locations
Enclosed and gasketed, Type 3, 4X IP66

FEATURES-SPECIFICATIONS

NVS signals contain no exposed glass and carry Class II, F&G ratings required for many food processing areas.

Features

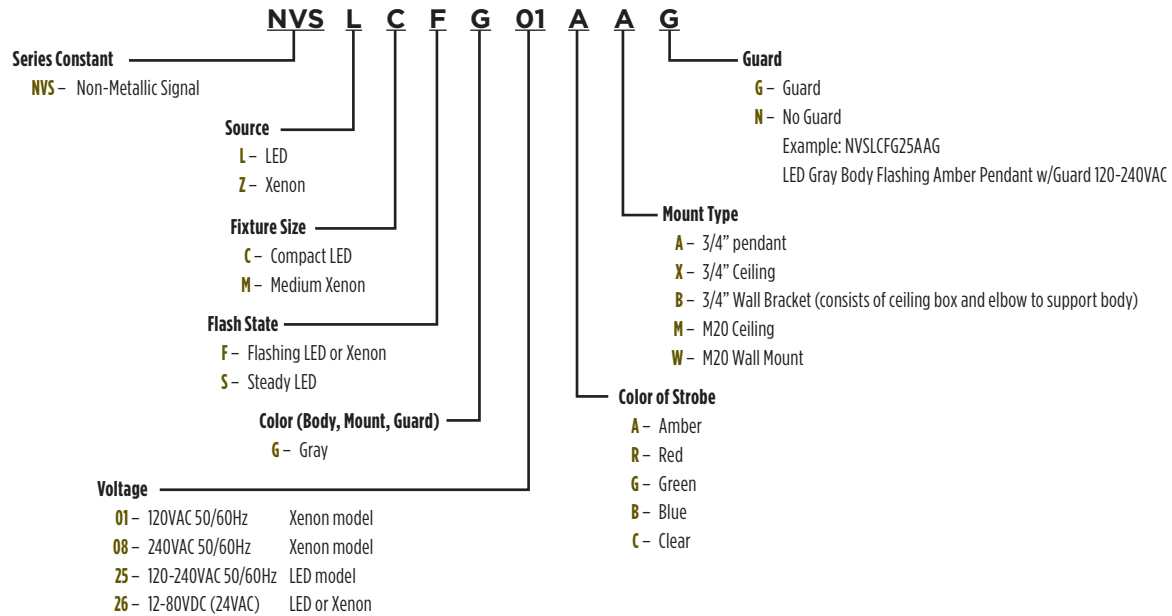
- NVSL Series LED with very compact profile and 50,000 hours expected life; steady - on or flashing.
- NVSZ Series Xenon with 10,000 hours expected life; flashing only.
- LED utilizes inverted cone design to provide full 360 degree coverage for more light projection.
- LED and Xenon available in five colors colors - red, green, amber, blue and clear.
- Flash rate for LED is 7 micro flashes approximately every second for increased visual perception.
- Xenon flash rate 60 to 80 per minute
- Can be mounted in any orientation including lens in the UP or SIDE positions.
- Materials: High strength 30% glass-filled thermoset polyester body with Lexan* lens.
- Resists corrosive effects of most chemicals, hydrocarbons and solvents
- Designed for indoor and outdoor applications

* Lexan is a registered trademark of General Electric.



Non-Metallic Corrosion Resistant Signals

CATALOG NUMERIC LOGIC



HAZARDOUS LOCATION SUITABILITY

SOURCE	SERIES	CL1 DIV.2	CL2 DIV.1	AMBIENT RANGE
		OPERATING TEMP. CODE	OPERATING TEMP. CODE	
LED	NVSLC	T6	F,G	-40°C to +40°C
Xenon	NVSMZ	T2C	F,G	-40°C to +40°C

INTENSITY IN CANDELLAS

FLASHING

STEADY

LED	Amber	4.3/7.4*	11.3
	Red	5.9/10.1*	15.4
	Green	4.5/7.8*	11.8
	Blue	2.5/4.3*	6.6
	Clear	4.8/8.2*	12.5
Xenon	Amber	40	-
	Red	10	-
	Green	20	-
	Blue	20	-
	Clear	50	-

ELECTRICAL RATINGS MAX.

LED	120VAC	040mA Flash
	240VAC	020mA Flash
	12VDC	400mA
	80VDC	60mA
	24VAC	198mA Flash
Xenon	120VAC	.04 Avg.
	240VAC	.02 Avg.
	12VDC	.40 Avg.
	80VDC	.05 Avg.
	24VAC	.35 Avg.

*CD-S/CD-Effective



LIGHTING NVS SERIES



**NV2GG-S
Compact Guard**

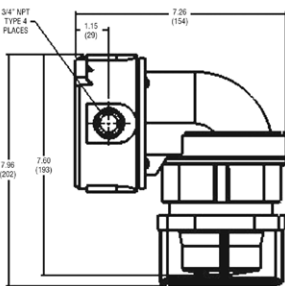


**NV2GG
Medium Guard**

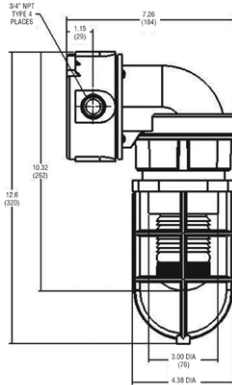
NVSZM XENON SERIES ②

NVSZMFG01	NVS XENON BODY with LAMP 120VAC
NVSZMFG08	NVS XENON BODY with LAMP 240VAC
NVSZMFG26	NVS XENON BODY with LAMP 12-80VDC; 24VAC
NVSZ-LAMP	NVS XENON REPLACEMENT LAMP
NVSMA	NVS AMBER LENS & GASKET
NVSMR	NVS RED LENS & GASKET
NVSMG	NVS GREEN LENS & GASKET
NVSMB	NVS BLUE LENS & GASKET
NVSMC	NVS CLEAR LENS & GASKET
NV2GG	NVSZM MEDIUM XENON GUARD

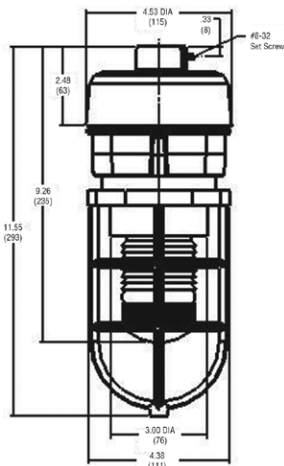
② Body and Power Supply w/ Lamp



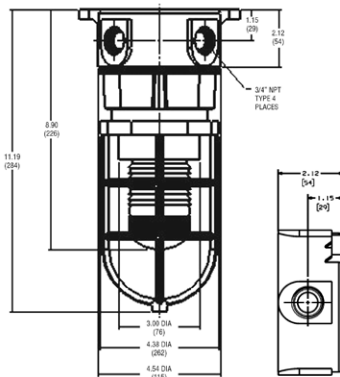
**Wall
NVSL LED**



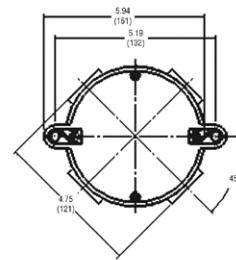
**Wall
NVSZ Xenon**



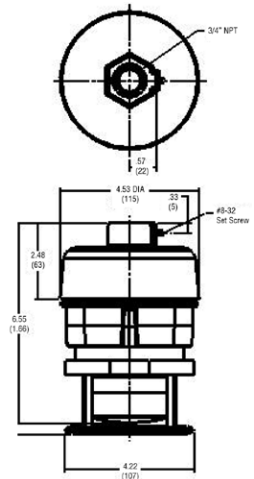
**Pendant
NVSZ Xenon**



**Ceiling/Wall
NVSZ Xenon**



**Ceiling/Wall
NVSL LED**



**Pendant
NVSL LED**

COMPONENT / REPLACEMENT PARTS

CATALOG NO.	DESCRIPTION
NVSLC LED SERIES ①	
NVSLCFG25A	LED BODY AMBR FLASH 120-240VAC
NVSLCFG25R	LED BODY RED FLASH 120-240VAC
NVSLCFG25G	LED BODY GRN FLASH 120-240VAC
NVSLCFG25B	LED BODY BLUE FLASH 120-240VAC
NVSLCFG25C	LED BODY CLR FLASH 120-240VAC
NVSLCSG25A	LED BODY AMBR STEADY 120-240VAC
NVSLCSG25R	LED BODY RED STEADY 120-240VAC
NVSLCSG25G	LED BODY GRN STEADY 120-240VAC
NVSLCSG25B	LED BODY BLUE STEADY 120-240VAC
NVSLCSG25C	LED BODY CLR STEADY 120-240VAC
NVSLCFG26A	LED BODY AMBR FLASH 12-80VDC; 24VAC
NVSLCFG26R	LED BODY RED FLASH 12-80VDC; 24VAC
NVSLCFG26G	LED BODY GRN FLASH 12-80VDC; 24VAC
NVSLCFG26B	LED BODY BLUE FLASH 12-80VDC; 24VAC
NVSLCFG26C	LED BODY CLR FLASH 12-80VDC; 24VAC
NVSLCSG26A	LED BODY AMBR STEADY 12-80VDC; 24VAC
NVSLCSG26R	LED BODY RED STEADY 12-80VDC; 24VAC
NVSLCSG26G	LED BODY GRN STEADY 12-80VDC; 24VAC
NVSLCSG26B	LED BODY BLUE STEADY 12-80VDC; 24VAC
NVSLCSG26C	LED BODY CLR STEADY 12-80VDC; 24VAC

NV2GG-S NVSLC Compact LED Guard

① Body and Lens w/o Mounting Box or Guard

NVS MOUNTING BOXES ③

NV2XG	NVS Ceiling/Wall Mtg Box
NV2AG	NVS Pendant Box
NV2BG	NVS Wall Elbow (use with NV2XG/NV2MG Box)
NV2MG	NVS M20 Ceiling/Wall Mtg Box

③ See NV2 series for additional information



Fixture Hangers



FKA



HOOKLOOP

For replacement ball only
 catalog number 00890545



Listed - File E27731



Certified - File LR11851
 See files for details or call Killark.

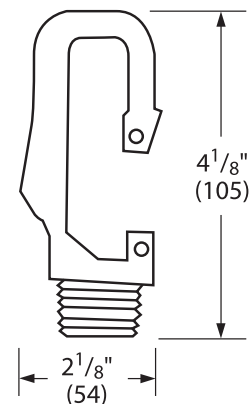
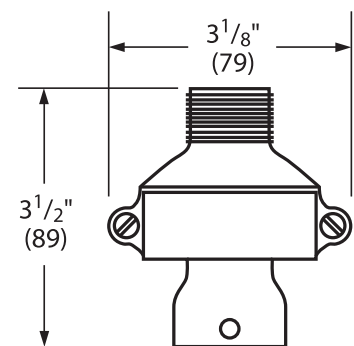
FEATURES-SPECIFICATIONS

FKA Features

- Ball joint permits fixture to hang plumb. Fixture may swing up to 20° from vertical in any direction
- Cast of aluminum alloy (copper-free aluminum; less than 1% of 1%)
- Set screw locks fixture stem in place. Cannot accidentally loosen - intended for use with threaded metal conduit
- Joint cannot twist conductor
- Suitable for fixtures up to 125 pounds

HOOKLOOP Features

- Pendant fixture hanger consists of a "HOOK" and safety bar which allows conversion to a "LOOP" configuration as necessary
- 3/4" male thread
- Maximum load 125 pounds



FKA		
CATALOG NUMBER	MALE THREAD	FIXTURE STEM SIZE
FKA- 22	3/4"	3/4"

HOOKLOOP
CATALOG NUMBER
HOOKLOOP



LIGHTING
FH/VX SERIES

Fixture Hangers

FH



Hook

V HANGER BOXES



VGA



VGC



VGH



VGX


COVERS



Flexible Hanger Covers



Hub Covers
(for Rigid Mounting)

 - File E27731 or E3397
See files for details or call Killark

 - File E27731 or E3397

FEATURES-SPECIFICATIONS

FH HOOK Features

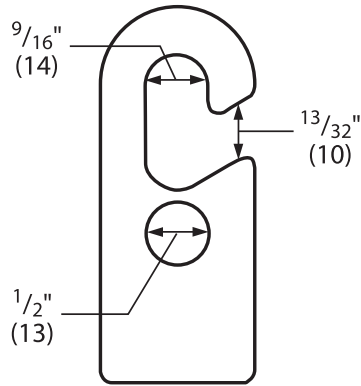
- Economical hanger for pendant fixtures
- Fixtures may absorb minor bumps and vibration through free swinging action
- Hub provided with a set screw to pre-vent accidental loosening of fixture stem
- A 1/2 inch hole in body is for flexible cable. Cord may be assembled with plug for quick removal of fixtures
- Cast of aluminum alloy (copper-free — less than 4/10 of 1%)
- FH supports up to 125 pounds

V SERIES Features

- Flexible fixture hanger for threaded fixture stem. +120° from vertical
- Enclosed and gasketed, suitable for wet locations
- Permits angular displacement of fixture without twisting wires
- Cushioned—absorbs shock and vibration. Internal strap assures ground continuity
- Combines splice box and hanger in one unit. Splice box available in four configurations
- Cast of corrosion resistant aluminum alloy (copper-free—less than 4/10 of 1%)
- Supports up to 125 pounds

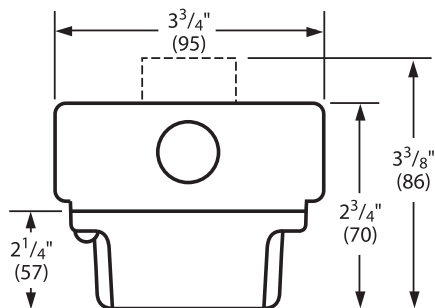


Fixture Hangers



FH HOOK, LOOP		
CATALOG NUMBER	DESCRIPTION	FIXTURE STEM SIZE
FH-2	Hook	3/4"

FLEXIBLE HANGERS, V SERIES ENCLOSED AND GASKETED			
CATALOG NUMBER		HUB SIZE	FIXTURE STEM SIZE
HANGER W/SPLICE BOX	SPLICE BOX ONLY		
VPFHA-12	VGA-1	1/2"	3/4"
VPFHA-22	VGA-2	3/4"	3/4"
VPFHC-12	VGC-1	1/2"	3/4"
VPFHC-22	VGC-2	3/4"	3/4"
VPFHH-12	VGH-1	1/2"	3/4"
VPFHH-22	VGH-2	3/4"	3/4"
VPFHX-12	VGX-1	1/2"	3/4"
VPFHX-22	VGX-2	3/4"	3/4"



Flexible cover with box, dotted line is VGA pendant

FIXTURE HANGERS ONLY		
CATALOG NUMBER	DESCRIPTION	FIXTURE STEM SIZE
VPFH-2	Flexible hanger cover, maximum load 125 Lbs.	3/4"
VG-2	Hub cover for rigid mounting	3/4"



Fixture Hangers



HXB

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III



XFH

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III



EKJ

Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III



FEATURES-SPECIFICATIONS

HXB Features

- Fixture hanger for hazardous locations combining splice box and hanger
- Set screws in female hub prevents accidental loosening of fixture stem; set screws in hub cover lock cover to the splice box
- Four hubs in "X" configuration up to 3/4"
- Flange mounting ring cast as integral part of box
- Splice box wiring hole with cover for access to box interior
- Cast of corrosion resistant aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Supports to 125 pounds; vol. 16 cu."

XFH Features

- Fixture hanger for hazardous locations combining splice box and hanger
- Set screws in female hub prevents accidental loosening of fixture
- Straight through conduit hubs for through feed. 20 cu"
- Mounting lugs are standard
- Cast of corrosion resistant aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Supports to 125 pounds

EKJ Features

- Fixture pendant hanger for hazardous locations
- Permits free swing and plumb hang
- Set screws in each hub prevents accidental loosening of fixture
- Constructed of seamless bronze hose with brass outer braid. Asphaltum impregnated jute inner insulates and protects wire from abrasion. Brass female end fittings are supplied with short nipples
- Electrical ground continuity without bonding jumper
- Suitable for wet locations as well as hazardous locations
- Flexible lengths 4 to 18 inches
- Supports to 125 pounds

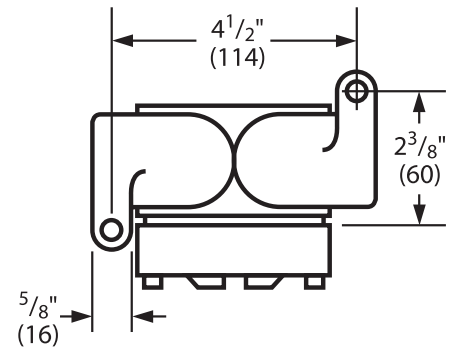
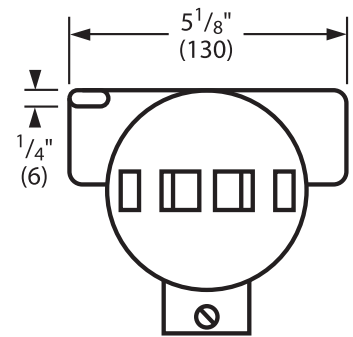


Fixture Hangers

HXB SPLICE BOX AND HANGER		
CATALOG NUMBER	CONDUIT HUB SIZE	FIXTURE STEM SIZE
HXB-11	1/2"	1/2"
HXB-12	1/2"	3/4"
HXB-21	3/4"	1/2"
HXB-22	3/4"	3/4"
HXBC	Blank Cover	
HIC-SILVER	Replacement Wiring Plug	

XFH SPLICE BOX AND HANGER		
CATALOG NUMBER	CONDUIT HUB SIZE	FIXTURE STEM SIZE
XFH-21	3/4"	1/2"
XFH-22	3/4"	3/4"

EKJ FLEXIBLE PENDANT HANGER *		
CATALOG NUMBER	CONDUIT HUB SIZE	FIXTURE STEM SIZE
EKJ-14	1/2"	4"
EKJ-24	3/4"	
EKJ-16	1/2"	6"
EKJ-26	3/4"	
EKJ-18	1/2"	8"
EKJ-28	3/4"	
EKJ-110	1/2"	10"
EKJ-210	3/4"	
EKJ-112	1/2"	12"
EKJ-212	3/4"	
EKJ-115	1/2"	15"
EKJ-215	3/4"	
EKJ-118	1/2"	18"
EKJ-218	3/4"	





LIGHTING

JL/JAL/ENY SERIES

Fixture Hangers



JL



JAL



ENY Pendant Seal

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Group IIB
Class II, Div. 1 & 2, Groups E,F,G
Class III



LISTED - File E10514



Certified - File LR11716

Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

FEATURES-SPECIFICATIONS

JL/JAL Features



- Splice box and hub cover for mounting pendant fixtures in hazardous locations
- Conduit openings in two configurations
- Flange type cover. Set screw in hub prevents accidental loosening of fixture stem
- Integral lugs for mounting box to ceiling
- Cast of corrosion resistant aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Supports up to 125 pounds

ENY PENDANT SEALS Features

- ENY Pendant Seals are designed for hazardous locations and meet code requirements for a safety set-screw when hanging fixtures. Common applications are for Class I Division I Group B or Class I Zone 2 Ex nR restricted breathing fixtures
- Cast of corrosion resistant aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Supports up to 125 pounds

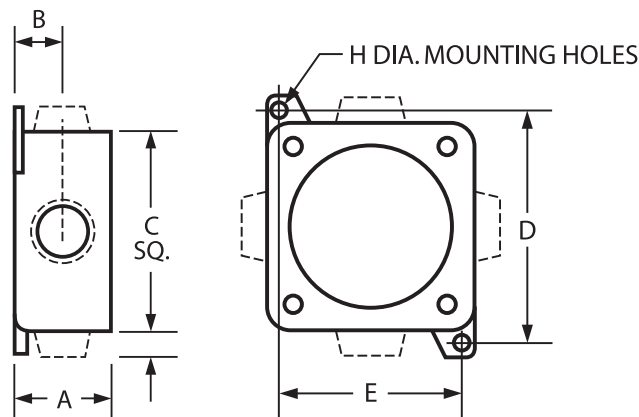


Fixture Hangers

JL/JAL SPLICE BOX AND HUB COVER FIXTURE HANGER				
CATALOG NUMBER		CONDUIT BOX	COVER	TYPE
JL SERIES W/HUB COVER	JAL SERIES W/HUB COVER			
JLC-11	—	1/2"	1/2"	CS Straight Through 
JLC-12	—	1/2"	3/4"	
JLC-21	—	3/4"	1/2"	
JLC-22	—	3/4"	3/4"	
JLX-11	JALX-11	1/2"	1/2"	XF our Hubs 
JLX-12	JALX-12	1/2"	3/4"	
JLX-21	JALX-21	3/4"	1/2"	
JLX-22	JALX-22	3/4"	3/4"	
—	JALX-31	1"	1/2"	
—	JALX-32	1"	3/4"	

CATALOG NUMBER	SIZE
ENY-2SET	3/4"

JL/JAL DIMENSIONS						
SERIES	A	B	C	D	E	F
JL	1-15/16" (49)	11/16" (17)	3-1/4" (95)	4-7/32" (107)	2-3/8" (60)	5/16" (8)
JAL	2-3/8" (60)	15/32" (12)	4-5/8" (117)	5-1/4" (133)	4-1/8" (105)	5/16" (8)





LIGHTING
EVOLUTION X



**Evolution X Ex db eb
LED Floodlight**

**Type of Protection: Ex db eb
(Flameproof, Increased Safety)
Ex tb (Dust Protected Enclosure)**

**ATEX Classification: Group II
Category 2 GD**

**Area Classification: Zone 1 and 21 areas
to EN 60079-10-1 and EN 60079-10-2
with installation to EN 60079-14**

**Certificate: EU Type Examination
Certificate CML20ATEX1114X
IECEX Certificate of Conformity
IECEX CML 20.0073X**

**Coding: Ex db eb IIB+H2 T* Gb
Ex tb IIIC T**C Db IP6X
Refer to table for T rating and
Ambient**



FEATURES-SPECIFICATIONS

Features

- Highly Energy Efficient >109lm/W
- Slimline, sealed for life LED enclosure with no exposed flamepaths
- Available with asymmetric optic, minimizing light pollution.
- Easy access gearbox with captive screws.
- Optional remote gearbox with flying lead for ease of maintenance and installation.
- 120,000 maintenance free hours at 25°C
- Entry: 2 x M20 cable entries
- Termination: 3 core 6mm² max conductor with looping
- Installation: 3 x Ø13 mounting holes stirrup
- Control Gear: Electronic Driver
- Optical Distribution: Wide beam
- Color Temperature (CCT): 5000K (Cool White)

- Color Rendering Index (Ra): >80
- Maintenance: Front access to gearbox lid with 4x M6 captive screws

Materials

- Enclosure: LM6 Marine grade aluminium body with UV resistant glass diffuser.
- LED heatsink and gearbox with epoxy powder finish (RAL 7040)

Electrical Ratings

- LED Lifetime @ 60°C Ambient: L70 > 200,000hrs
- System Life @ Ambient: 120,000hrs @ 25°C
- Impact Protection: IK10
- Ingress Protection: IP66/67 to EN 60529
- Surge Protection: 6kV
- Electrical Supply: 110-277V AC, 50/60Hz
127-250V DC



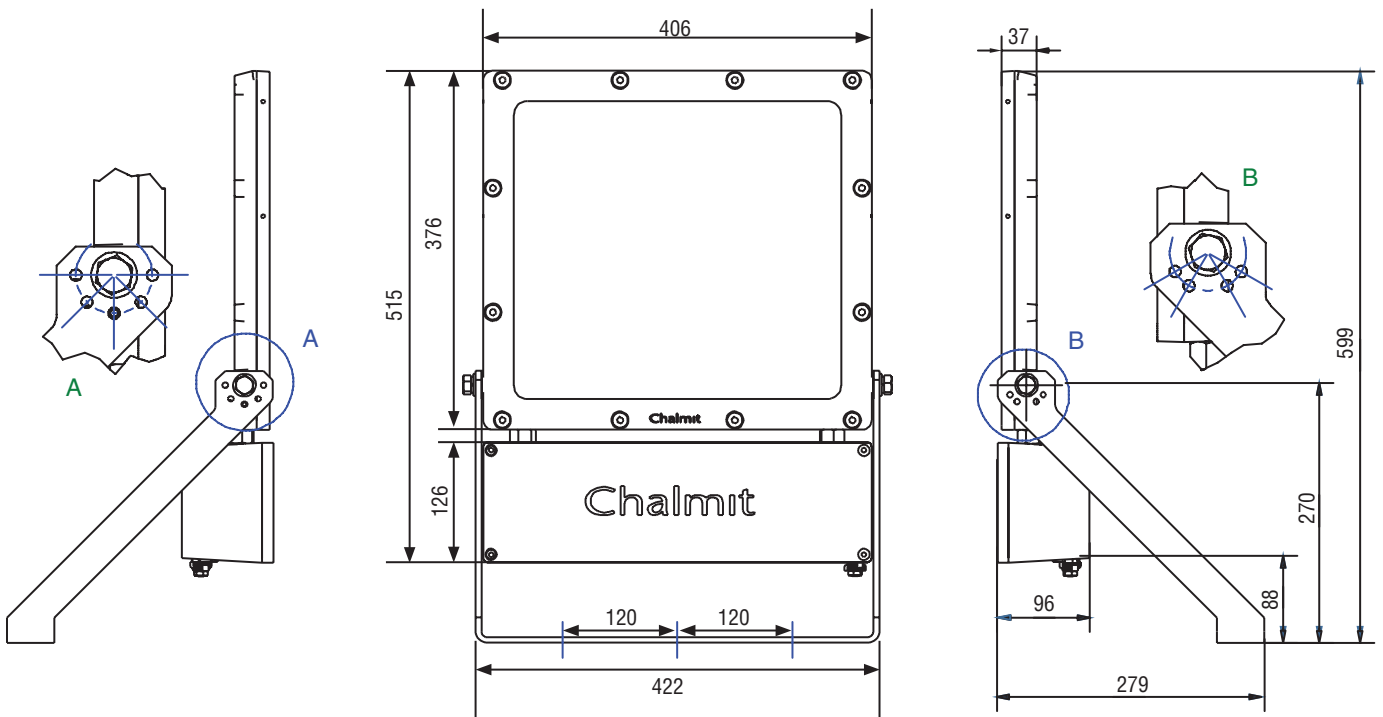
Ordering Information

STD. CAT NO.	DELIVERED OUTPUT	POWER CONSUMPTION	TCLASS	T°C (DUST)	AMBIENT °C	WEIGHT
EVXB/20L/LE	20,980 lm	188W	T5 T4	T100 T135	-55 to +40 -55 to +60	15.5kg
EVXB/30L/LE	29,433 lm	253W	T5 T4	T100 T135	-55 to +40 -55 to +60	17kg
EVXB/40L/LE	40,052 lm	375W	T5 T4	T100 T135	-55 to +40 -55 to +60	17kg

OPTIONS - SUFFIX TO CATALOG NO.	
/M25	M25 Cable Entries
/N	Narrow Beam Distribution (≈5% reduction in output)
/AS	Asymmetric Distribution (≈11% reduction in output)
/DM	DALI Dimmable driver
/RG05	Remote Gearbox complete with 5m Cable to LED Enclosure (10 & 15m cable lengths also available**)
/4K	4000K (Neutral White) LEDs
/3K	3000K (Warm White) LEDs

ACCESSORIES (ORDER SEPARATELY)	
	ORDER CODE
Pole Mounting Bracket Assembly (48-70mm Pole Diameter)	SEVO4-0001
Pendant Mounting kit	SEVX4-0003
Wire Guard	SEVX4-0002
Anti Glare Shield	SEVX4-0001

STIRRUP MOUNT





LIGHTING

EVOLUTION X PENDANT



Evolution X Ex db eb LED Floodlight

Type of Protection: Ex db eb (Flameproof, Increased Safety) Ex tb (Dust Protected Enclosure)

ATEX Classification: Group II Category 2 GD

Area Classification: Zone 1 and 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14

**Certificate: EU Type Examination Certificate CML20ATEX1114X
IECEX Certificate of Conformity IECEX CML 20.0073X
UK Type Examination Certificate CML 21UKEX1510X**

**Coding: Ex db eb IIB+H2 T* Gb
Ex tb IIIC T**C Db IP6X
Refer to table for T rating and Ambient**



International Approvals

FEATURES-SPECIFICATIONS

Features

- Highly Energy Efficient >106lm/W
- Slimline, sealed for life LED enclosure with no exposed flamepaths
- Available with asymmetric optic, minimizing light pollution.
- Easy access gearbox with captive screws.
- Remote gearbox option with flying lead for ease of maintenance and installation.
- 120,000 maintenance free hours at 25°C
- Entry: 2 x M20 cable entries
- Termination: 3 core 6mm² max conductor with looping
- Installation: 3 x Ø13 mounting holes stirrup
- Control Gear: Electronic Driver
- Optical Distribution: Wide beam
- Color Temperature (CCT): 5000K (Cool White)
- Color Rendering Index (Ra): >80
- Maintenance: Front access to gearbox lid with 4x M6 captive screws

Materials

- Enclosure: LM6 Marine grade aluminium body with UV resistant glass diffuser. LED heatsink and gearbox with epoxy powder finish (RAL 7040)

Electrical Ratings

- LED Lifetime @ 60°C Ambient: L70 > 200,000hrs
- System Life @ Ambient: 120,000hrs @ 25°C
- Impact Protection: IK10
- Ingress Protection: IP66/67 to EN 60529
- Surge Protection: 6kV
- Electrical Supply: 110-277V AC, 50/60Hz
127-250V DC



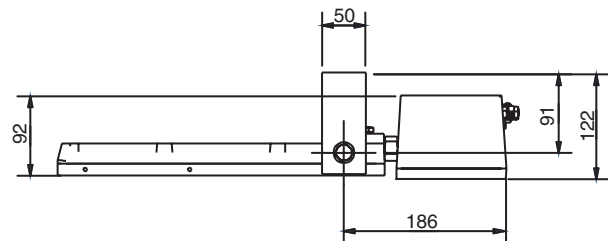
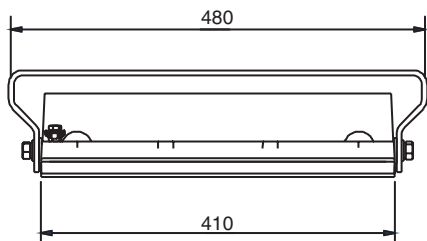
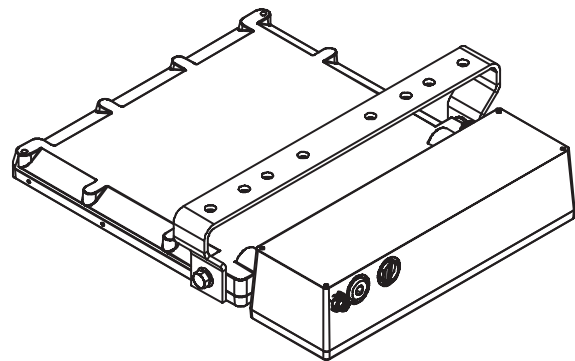
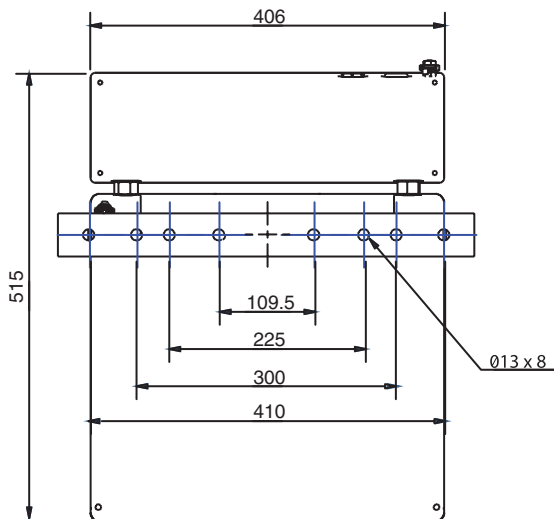
Ordering Information

STD. CAT NO.	DELIVERED OUTPUT	POWER CONSUMPTION	TCLASS	T°C (DUST)	AMBIENT °C	WEIGHT
EVXB/20L/LE/PE	20,980 lm	188W	T5 T4	T100 T135	-55 to +40 -55 to +60	15.5kg
EVXB/30L/LE/PE	29,433 lm	253W	T5 T4	T100 T135	-55 to +40 -55 to +60	17kg
EVXB/40L/LE/PE	40,052 lm	375W	T5 T4	T100 T135	-55 to +40 -55 to +60	17kg

OPTIONS - SUFFIX TO CATALOG NO.	
/M25	M25 Cable Entries
/N	Narrow Beam Distribution (≈5% reduction in output)
/AS	Asymmetric Distribution (≈11% reduction in output)
/DM	DALI Dimmable driver
/RG05	Remote Gearbox complete with 5m Cable to LED Enclosure (0,10 & 15m cable lengths also available**)
/4K	4000K (Neutral White) LEDs
/3K	3000K (Warm White) LEDs

ACCESSORIES (ORDER SEPARATELY)		ORDER CODE
Pole Mounting Bracket Assembly (48-70mm Pole Diameter)		SEVO4-0001
Pendant Mounting kit		SEVX4-0003
Wire Guard		SEVX4-0002
Anti Glare Shield		SEVX4-0001

PENDANT MOUNT





LIGHTING HDL106N



HDL106N Ex e LED Floodlight

Type of Protection: Ex e mb (Increased Safety, Encapsulation)

Ex tb (Dust Protected Enclosure)

**ATEX Classification: Group II
Category 2 GD**

**Area Classification: Zone 1 and 21 areas
to EN 60079-10-1 and EN 60079-10-2
with installation to EN 60079-14**

**Certificate: EU Type Examination
Certificate Sira 09ATEX5159X
IECEX Certificate of Conformity
IECEX SIR 09.0064X**

**Coding: Ex e mb IIC T4/T3 Gb
Ex tb IIIC T103°C Db**

**Ambient °C: -20 to +50 (T4) / +59.5
(T3)**



International
Approvals

FEATURES-SPECIFICATIONS

Features

- Highly Energy Efficient
- Instant on crisp white light output
- Modular design allowing up to four interlinked luminaires, each providing a delivered output >5500lm
- Lower power consumption than HID lamps
- Lightweight (6kg per module) lighting solution
- >150,000 maintenance free hours at 25°C (L70)
- Entry: 2 x M20 cable entries
- Termination: 3 core 6mm² max conductor with looping
- Installation: Stirrup mounting bracket
- Control Gear: Electronic Driver
- Color Temperature (CCT): Refer to Ordering Matrix
- Color Rendering Index (Ra): >70
- Maintenance: M8 Hex Head and M6 SKT Head

Materials

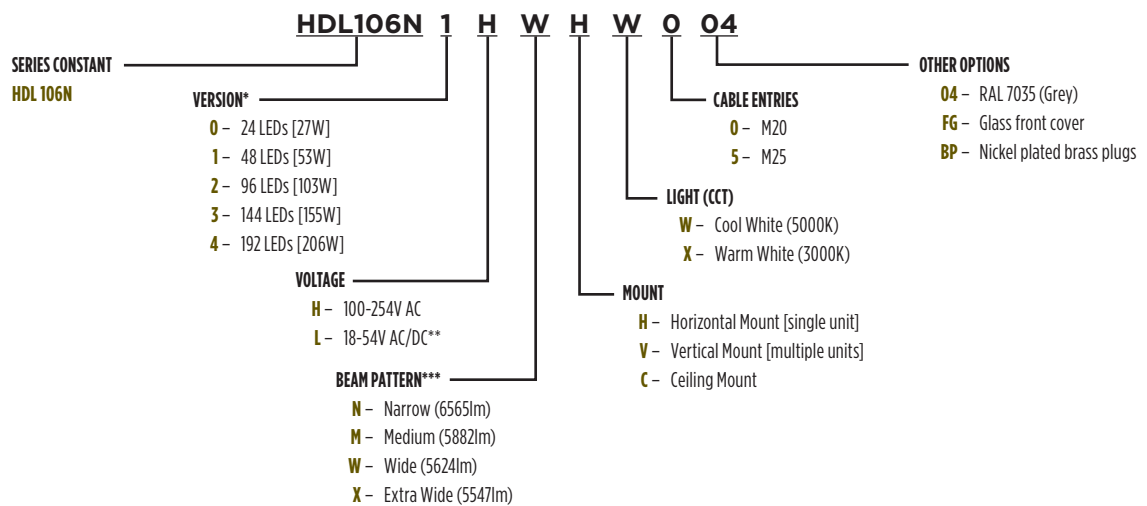
- Enclosure: LM6 Aluminium with epoxy powder finish (RAL 7035) and Polycarbonate diffuser

Electrical Ratings

- Ingress Protection: IP66/67 to EN 60529
- Surge Protection: 4kV line to line, 6kV line to earth
- Electrical Supply: Refer to Ordering Matrix



Catalog Logic / Ordering Information



Typical ordering reference: HDL106N1HWHW004

*Power consumption provided in square brackets

**Upper ambient becomes +55°C. Coding becomes 'Ex e mb IIC T4 Gb; Ex tb IIIC T87°C Db'

***Delivered outputs based on single module 48LED version

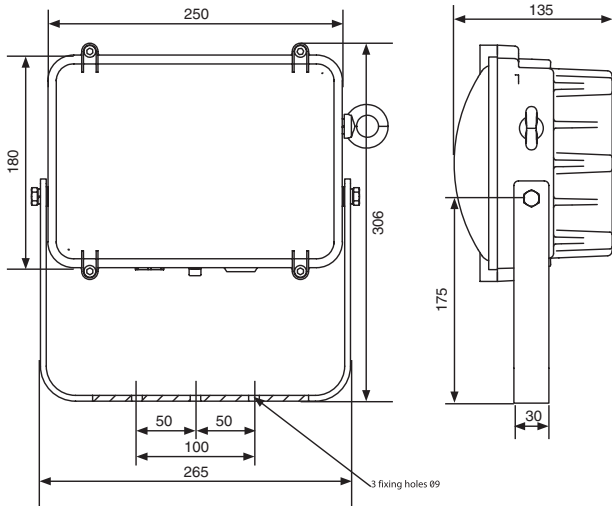
ACCESSORIES ORDER SEPARATELY	
	ORDER CODE
Crane Damper Bracket (96 LEDs Twin Module)	SHDL1-000002
Crane Damper Bracket (144 LEDs Triple Module)	SHDL1-000003



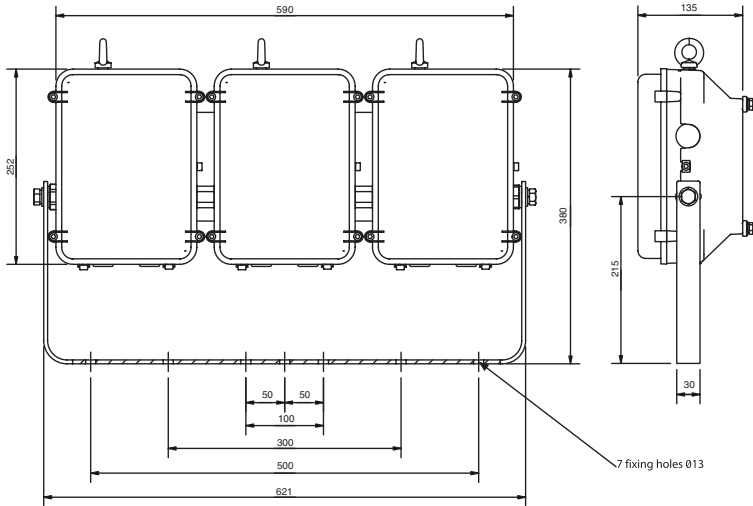
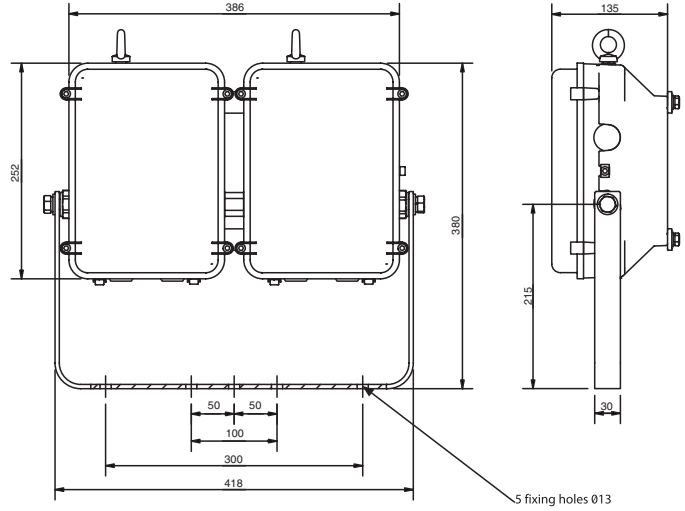
LIGHTING
HDL106N

Dimensions

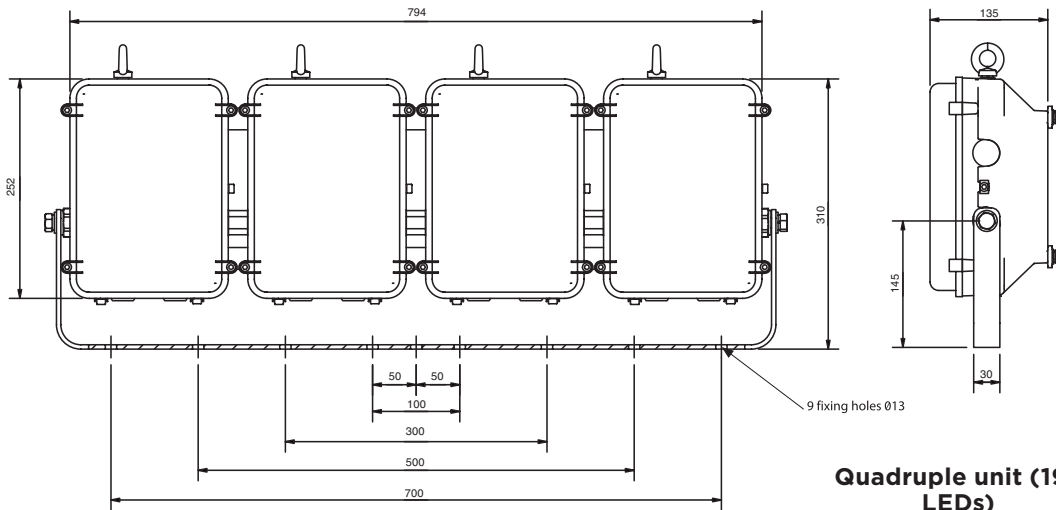
Single Unit (24/48 LEDs)



Double unit (96 LEDs)



Triple unit (144 LEDs)



Quadruple unit (192 LEDs)



HDL106NE Ex e LED Floodlight

Type of Protection: Ex e mb
(Increased Safety, Encapsulation)
Ex tb (Dust Protected Enclosure)

ATEX Classification: Group II
Category 2 GD

Area Classification: Zone 1 and 21 areas
to EN 60079-10-1 and EN 60079-10-2
with installation to EN 60079-14

Certificate: EU Type Examination
Certificate Sira 09ATEX5159X
IECEX Certificate of Conformity
IECEX SIR 09.0064X

Coding: Ex e mb IIC T4 Gb
Ex tb IIC T103°C Db

Ambient °C: -20 to +50



FEATURES-SPECIFICATIONS

Features

- Highly Energy Efficient
- Instant on crisp white light output
- Modular design allowing up to three interlinked luminaires, each providing a delivered output >5500lm
- Lower power consumption than HID lamps
- Lightweight (9kg per module) lighting solution
- >150,000 maintenance free hours at 25°C (L70)
- Entry: 2 x M20 cable entries
- Termination: 3 core 4mm² max. conductor with looping
- Installation: Stirrup mounting bracket
- Control Gear: Electronic Driver
- Color Temperature (CCT): Refer to Ordering Matrix
- Color Rendering Index (Ra): >70
- Maintenance: M8 Hex Head and M6 SKT Head

Materials

- Enclosure: LM6 Aluminium with epoxy powder finish (RAL 7035) and Polycarbonate diffuser

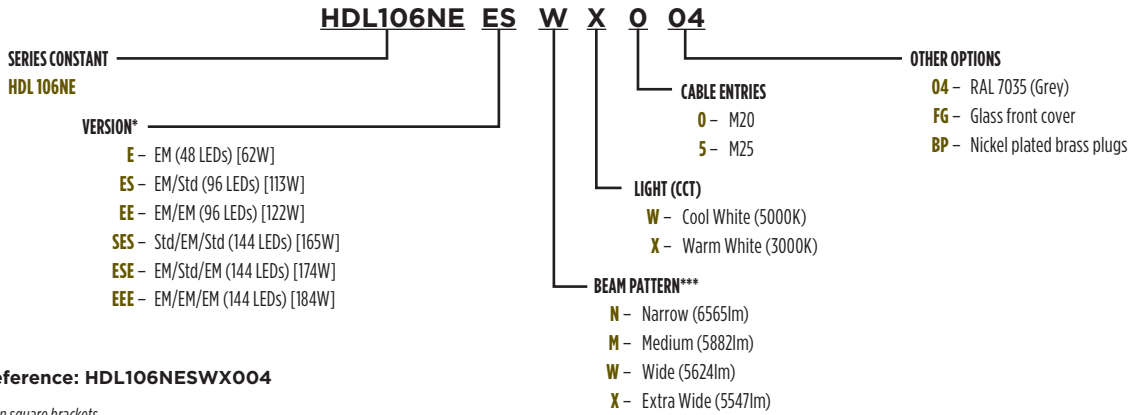
Electrical Ratings

- Emergency Duration: 90mins (75%) or 3hrs (37.5%)
- Ingress Protection: IP66/67 to EN 60529
- Surge Protection: 4kV line to line, 6kV line to earth
- Electrical Supply: 100-254V AC 50/60Hz



LIGHTING
HDL106NE

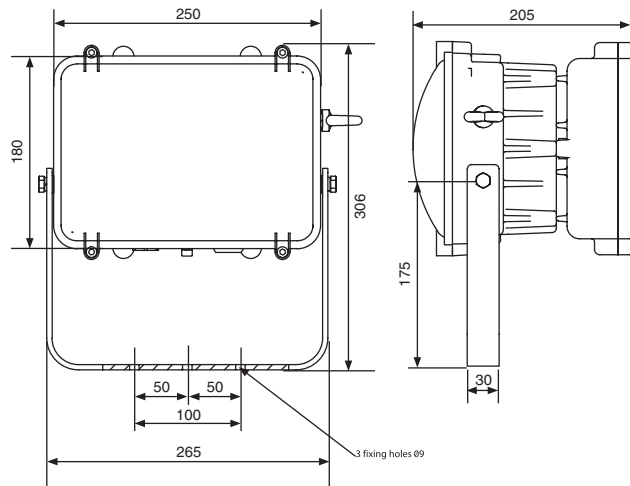
Catalog Logic / Dimensions



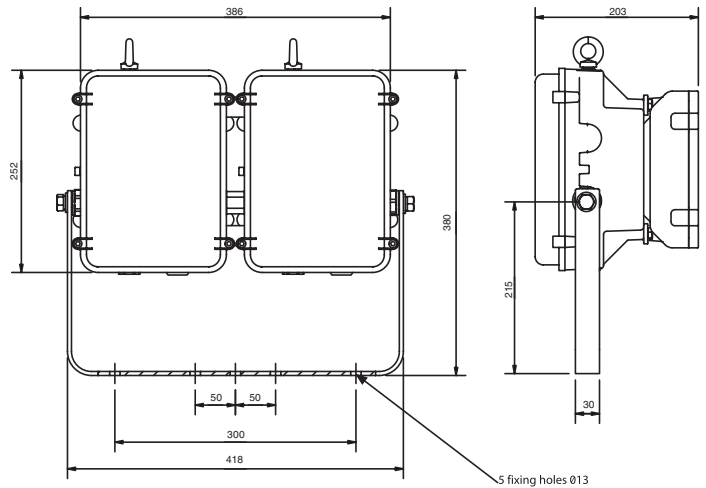
Typical ordering reference: **HDL106NESWXO04**

*Power consumption provided in square brackets
**Delivered outputs based on single module 48LED version

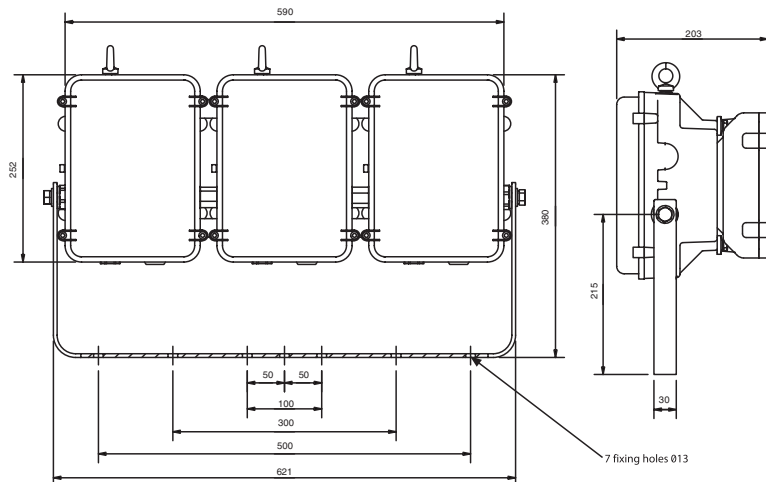
Single Unit (48 LEDs)



Double unit (96 LEDs)



Triple unit (144 LEDs)





HDL206N Ex e LED Floodlight

Type of Protection: Ex e mb (Increased Safety, Encapsulation)
Ex tb (Dust Protected Enclosure)

ATEX Classification: Group II
Category 2 GD

Area Classification: Zone 1 and 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14

Certificate: EU Type Examination
Certificate Sira 09ATEX5159X
IECEX Certificate of Conformity
IECEX SIR 09.0064X

Coding: Ex e mb IIC T4/T3 Gb
Ex tb IIC T103°C Db

Ambient °C: -20 to +50 (T4) / +59.5 (T3)



FEATURES-SPECIFICATIONS

Features

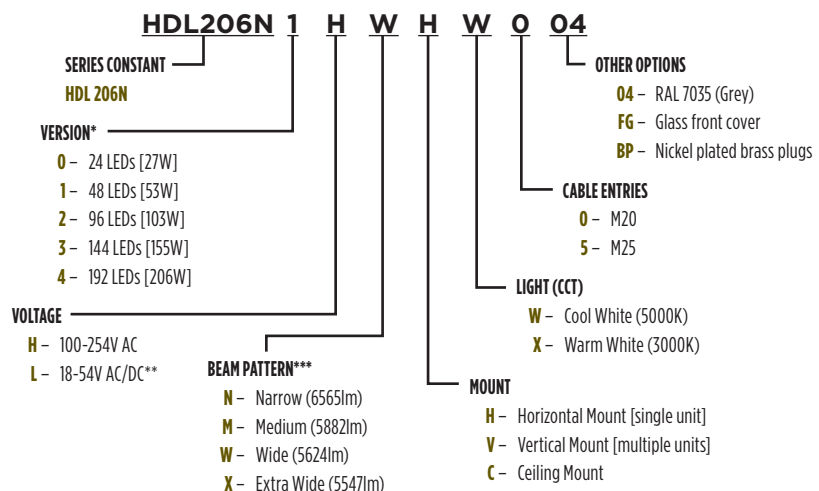
- Highly Energy Efficient
- Instant on crisp white light output
- Modular design allowing up to four interlinked luminaires, each providing a delivered output >5500lm
- Lower power consumption than HID lamps
- Lightweight (6kg per module) lighting solution
- >150,000 maintenance free hours at 25°C (L70)
- Entry: 2 x M20 cable entries
- Termination: 3 core 6mm² max conductor with looping
- Installation: Stirrup mounting bracket
- Control Gear: Electronic Driver
- Color Temperature (CCT): Refer to Ordering Matrix
- Color Rendering Index (Ra): >70
- Maintenance: M8 Hex Head and M6 SKT Head

Materials

- Enclosure: LM6 Aluminium with epoxy powder finish (RAL 7035) and Polycarbonate diffuser

Electrical Ratings

- Ingress Protection: IP66/67 to EN 60529
- Surge Protection: 4kV line to line, 6kV line to earth
- Electrical Supply: Refer to Ordering Matrix



Typical ordering reference: **HDL206N1HWHW004**

*Power consumption provided in square brackets

**Upper ambient becomes +55°C. Coding becomes 'Ex e mb IIC T4 Gb; Ex tb IIC T87°C Db'

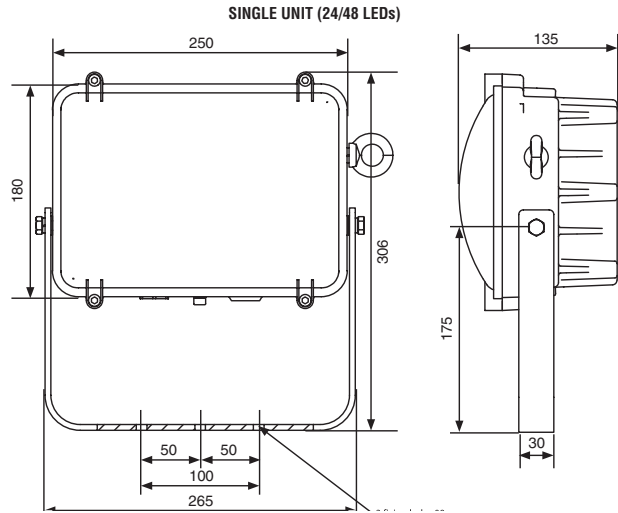
***Delivered outputs based on single module 48LED version



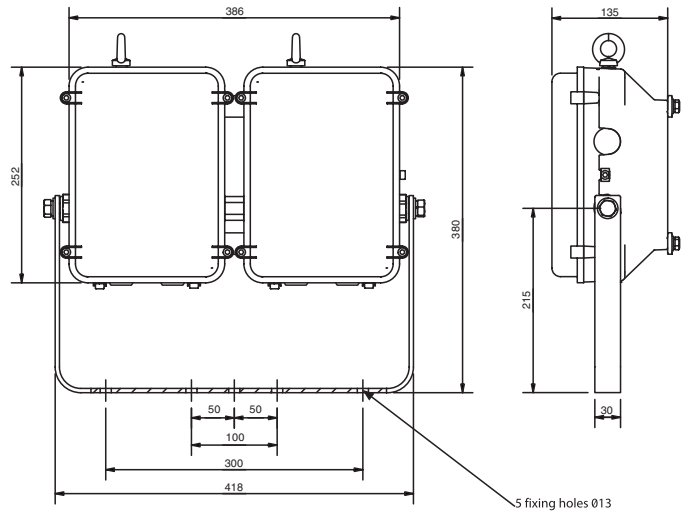
LIGHTING
HDL206N

Dimensions

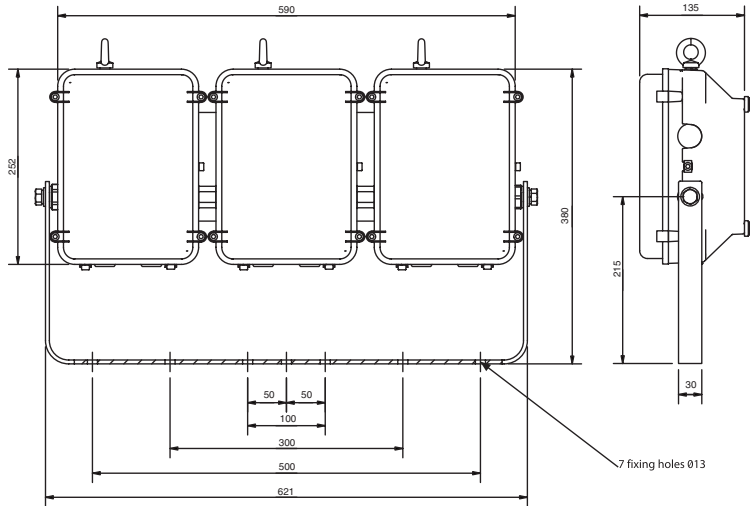
Single Unit (24/48 LEDs)



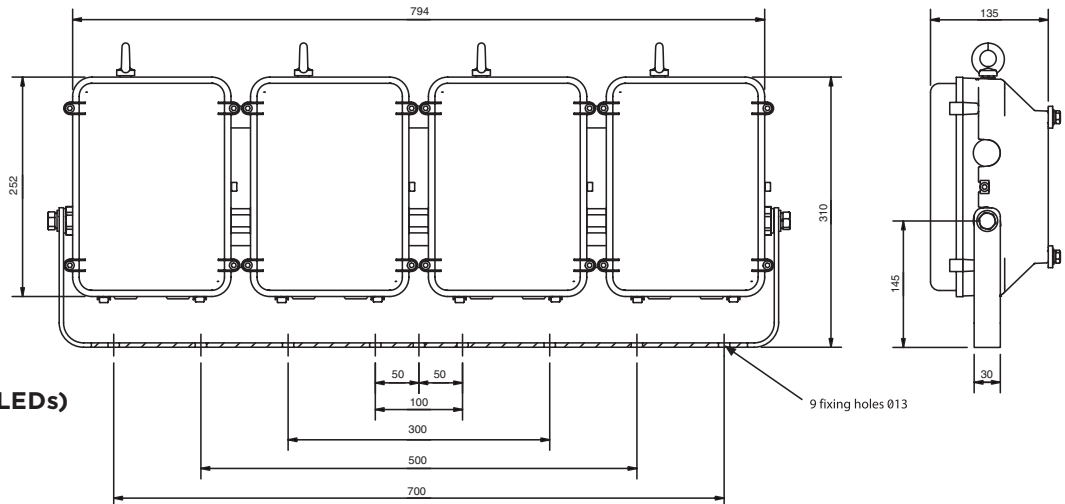
Double unit (96 LEDs)



Triple unit (144 LEDs)



Quadruple unit (192 LEDs)





HDL206NE Ex e LED Floodlight

Type of Protection: Ex e mb
(Increased Safety, Encapsulation)
Ex tb (Dust Protected Enclosure)

ATEX Classification: Group II
Category 2 GD

Area Classification: Zone 1 and 21 areas
to EN 60079-10-1 and EN 60079-10-2
with installation to EN 60079-14

Certificate: EU Type Examination
Certificate Sira 09ATEX5159X
IECEX Certificate of Conformity
IECEX SIR 09.0064X

Coding: Ex e mb IIC T4/T3 Gb
Ex tb IIIC T103°C Db

Ambient °C: -20 to +50 (T4) / +59.5
(T3)



FEATURES-SPECIFICATIONS

Features

- Highly Energy Efficient
- Instant on crisp white light output
- Modular design allowing up to three interlinked luminaires, each providing a delivered output >5500lm
- Lower power consumption than HID lamps
- Lightweight (9kg per module) lighting solution
- >80,000 maintenance free hours at 25°C (L70)
- Entry: 2 x M20 cable entries
- Termination: 3 core 6mm² max conductor with looping
- Installation: Stirrup mounting bracket
- Control Gear: Electronic Driver
- Color Temperature (CCT): Refer to Ordering Matrix
- Color Rendering Index (Ra): >70
- Maintenance: M8 Hex Head and M6 SKT Head

Materials

- Enclosure: LM6 Aluminium with epoxy powder finish (RAL 7035) and Polycarbonate diffuser

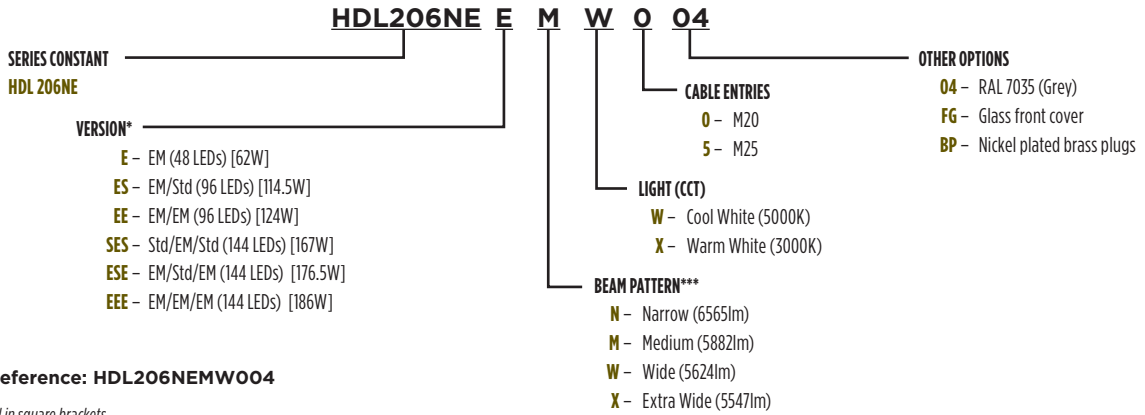
Electrical Ratings

- Ingress Protection: IP66/67 to EN 60529
- Surge Protection: 4kV line to line, 6kV line to earth
- Electrical Supply: Refer to Ordering Matrix



LIGHTING
HDL206NE

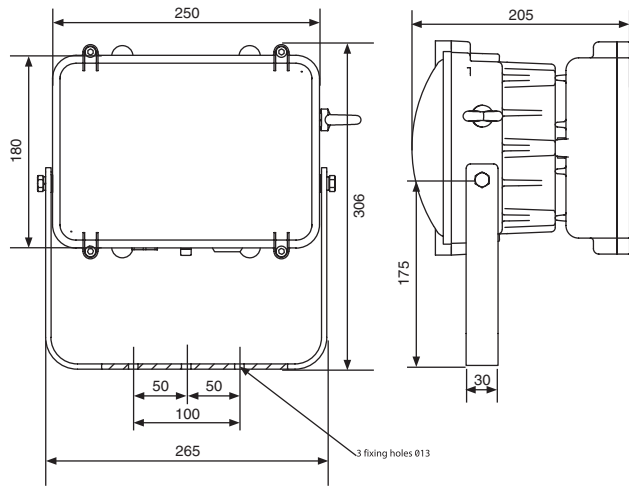
Catalog Logic / Dimensions



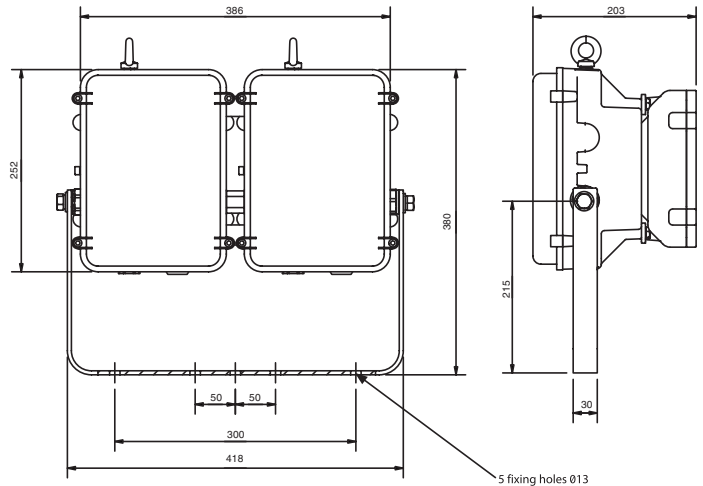
Typical ordering reference: **HDL206NEMW004**

*Power consumption provided in square brackets
**Delivered outputs based on single module 48LED version

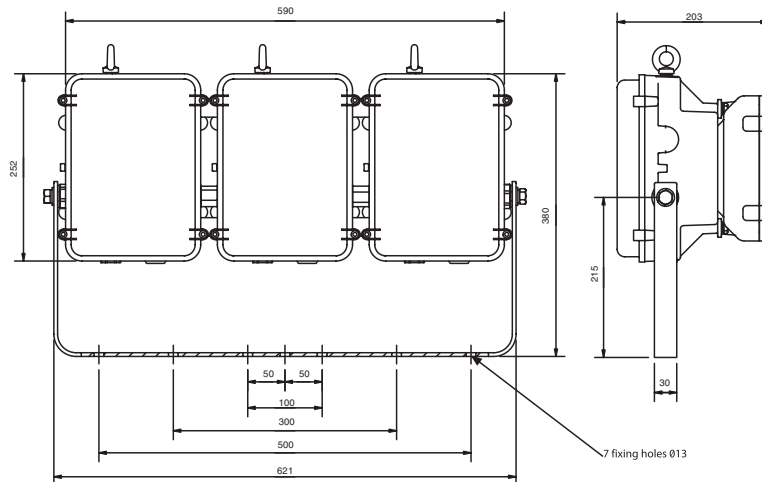
Single Unit (24/48 LEDs)



Double unit (96 LEDs)



Triple unit (144 LEDs)





Protecta X LED Linear



FEATURES-SPECIFICATIONS

Features

- Highly Energy Efficient >135lm/W
- Battery management and automatic self test
- Multiple beam distributions available
- Front access cover with screwless mains terminals for easy termination
- >90,000 maintenance free hours at 60°C
- Externally accessible battery stick for ease of maintenance
- Entry: 4 x M20 cable entries - 2 at each end [3 cable entries on Emergency with battery stick]
- Termination: 3 core 4mm² max conductor [4 core on Emergency] with looping one end and 16A rating through wiring
- Installation: 2 x M8 mounting points located on the rear of the body
- Control Gear: Electronic Driver
- Optical Distribution: Wide beam
- Color Temperature (CCT): 5000K (Cool White)
- Color Rendering Index (Ra): >70 (>80 option available)
- Maintenance: Front access panel with Torx screws

Materials

- Enclosure: Marine grade aluminium body with polycarbonate diffuser. Driver enclosure with epoxy powder finish (RAL 9005)
- Geartray: Aluminium

Electrical Ratings

- LED Lifetime @ 60°C Ambient: L70 > 200,000hrs
- System Life @ Ambient: 120,000hrs @ 25°C; 90,000hrs @ 60°C [excluding battery]
- Battery: Hot-Swappable Ni-MH (6V) battery stick - externally accessed [/EM version only]
- Emergency Duration: 90 mins (O2L = 50% output; O5L = 25% output) [ASL/ASW Asymmetric versions - 3hours only]
- Impact Protection: IK10
- Ingress Protection: IP66/67 to EN 60529
- Surge Protection: 4kV
- Electrical Supply: 110-277V AC, 50/60Hz
127-250V DC



LIGHTING PROTECTA X

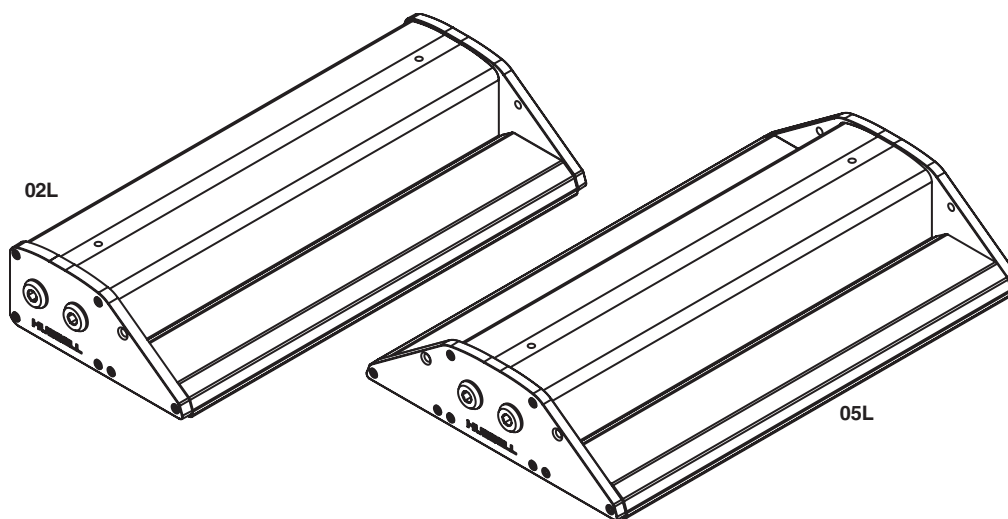
Ordering Information

STD. CAT NO.	DELIVERED OUTPUT	POWER CONSUMPTION	AMBIENT °C	WEIGHT
PRXI/02L/LE	2696 lm	16W	-40 to +60	6.8kg
PRXI/05L/LE	5230 lm	35W	-40 to +60	8.8kg
PRXI/02L/LE/EM	2696 lm	19W	-25 to +60	7.3kg
PRXI/05L/LE/EM	5230 lm	38W	-25 to +60	9.3kg

ACCESSORIES ORDER SEPARATELY	
	ORDER CODE
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Flush mounted wall bracket assembly	SPRO4-0006
Ceiling bracket assembly	SPRO4-0002
Standard wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0008
Eyebolt mounting assembly*	SPRO5-0005
Protecta 4ft adaptor bracket	SPRO5-0006

*Only available for the 05L option.

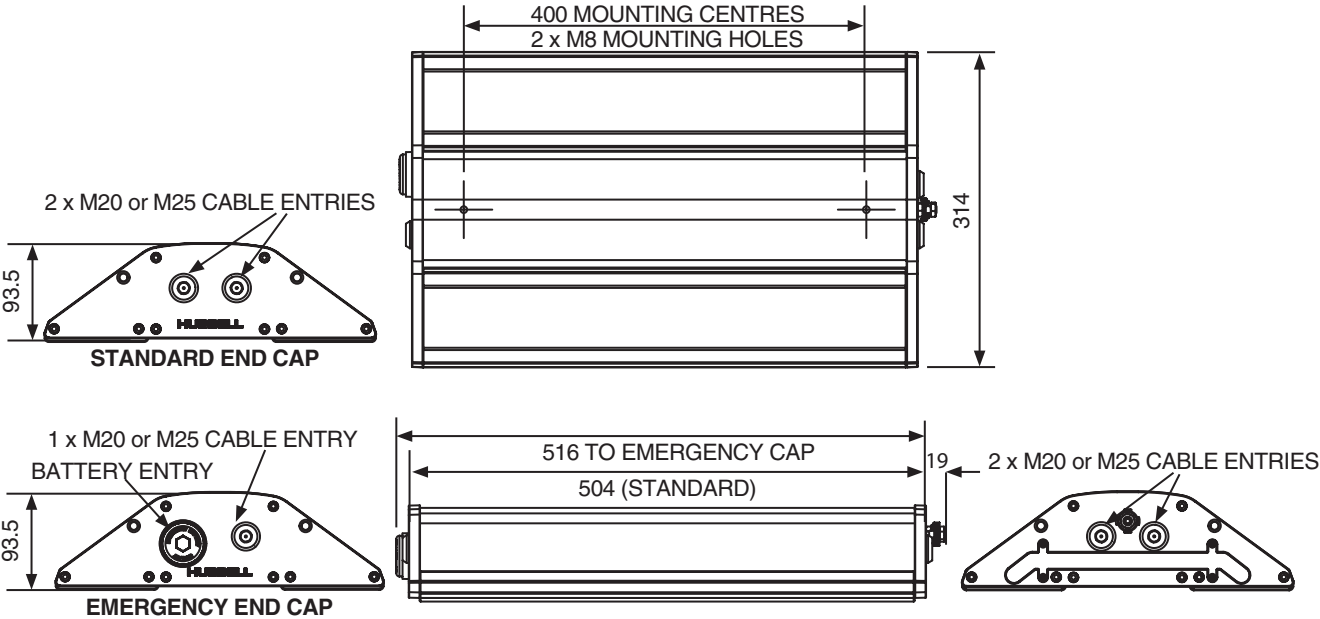
OPTIONS - SUFFIX TO CATALOG NO.	
/M25	M25 cable entries
/LBE	Looping both sides [Non Emergency only]
/EL	Extra live termination facility (to match emergency circuit) [Non Emergency only, Not available with /SC]
/EMI	Internal battery pack [replace /EM with /EMI]
/NST	Non Self Test [Emergency version only]
/ASL	Asymmetric along length optic
/ASW	Asymmetric along width optic [05L version only]
/80	80 CRI LEDs
/3H	3 hour battery duration (02L = 25% output; 05L = 12.5% output) [Standard on ASW or ASL versions]
/4K	4000K (Neutral White) LED Strips
/SC	Screwed connection terminal block (up to 6mm ² conductors) [Non Emergency only]
/BNI	Batteries not included [Emergency version only]
/DM	DALI Dimmable driver
/M	Medium beam optic
/BP	Nickel plated brass plugs
/OD	Opal diffuser (max. 30% reduction in output)



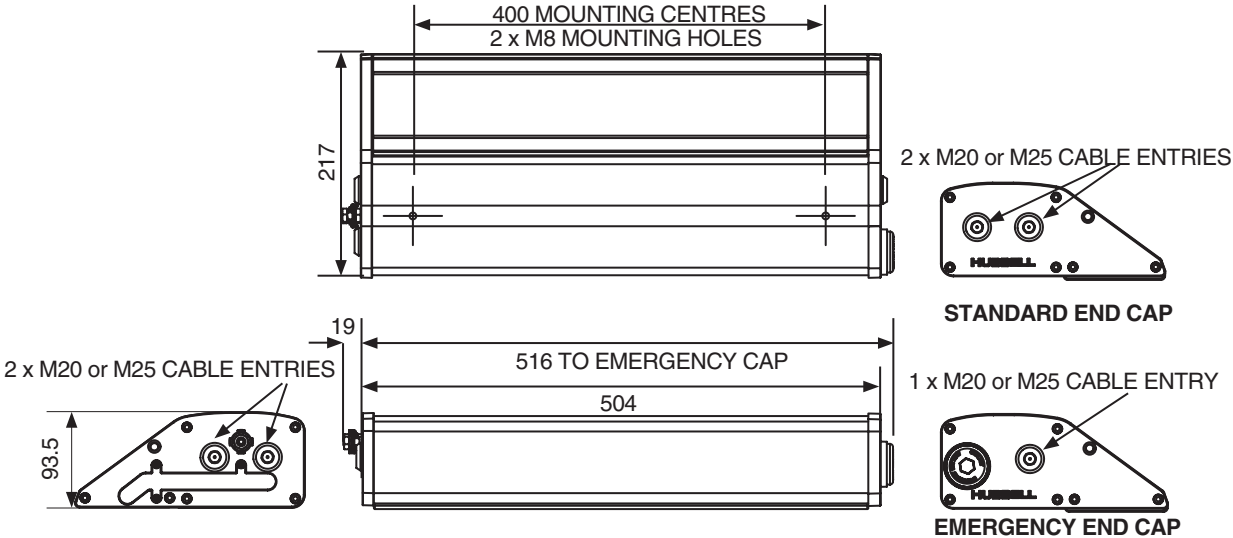


Dimensions

PROTECTA X - 05L



PROTECTA X - 02L





LIGHTING

PROTECTA X Z1

Protecta X Ex eb LED Linear

Type of Protection: Ex db eb mb
(Flameproof, Increased Safety, Encapsulation)
Ex tb (Dust Protected Enclosure)

ATEX Classification: Group II
Category 2 GD

Area Classification: Zone 1 and 21 areas
to EN 60079-10-1 and EN 60079-10-2

Certificate: EU Type Examination
Certificate CML18ATEX3358X
IECEx Certificate of Conformity IECEx
CML 18.0167X
UK Type Examination Certificate CML
21UKEX1506X

Coding: Ex db eb mb IIC T5 Gb
Ex tb IIIC T85°C Db IP6X



International Approvals

FEATURES-SPECIFICATIONS

Features

- Highly Energy Efficient >135lm/W
- Battery management and automatic self test
- Multiple beam distributions available
- Front access cover with screwless mains terminals for easy termination
- >90,000 maintenance free hours at 60°C
- Externally accessible battery stick for ease of maintenance
- Entry: 4 x M20 cable entries - 2 at each end [3 cable entries on Emergency with battery stick]
- Termination: 3 core 4mm² max conductor [4 core on Emergency] with looping one end and 16A rating through wiring
- Installation: 2 x M8 mounting points located on the rear of the body
- Control Gear: Electronic Driver
- Optical Distribution: Wide beam
- Color Temperature (CCT): 5000K (Cool White)
- Color Rendering Index (Ra): >70 (>80 option available)
- Maintenance: Front access panel with Torx screws

Materials

- Enclosure: Marine grade aluminium body with polycarbonate diffuser. Driver enclosure with epoxy powder finish (RAL 9005)
- Geartray: Aluminium

Electrical Ratings

- LED Lifetime @ 60°C Ambient: L70 > 200,000hrs
- System Life @ Ambient: 120,000hrs @ 25°C; 90,000hrs @ 60°C [excluding battery]
- Battery: Hot-Swappable Ni-MH (6V) battery stick - externally accessed [/EM version only]
- Emergency Duration: 90 mins (O2L = 50% output; O5L = 25% output) [ASL/ASW Asymmetric versions - 3hours only]
- Impact Protection: IK10
- Ingress Protection: IP66/67 to EN 60529
- Surge Protection: 4kV
- Electrical Supply: 110-277V AC, 50/60Hz
127-250V DC



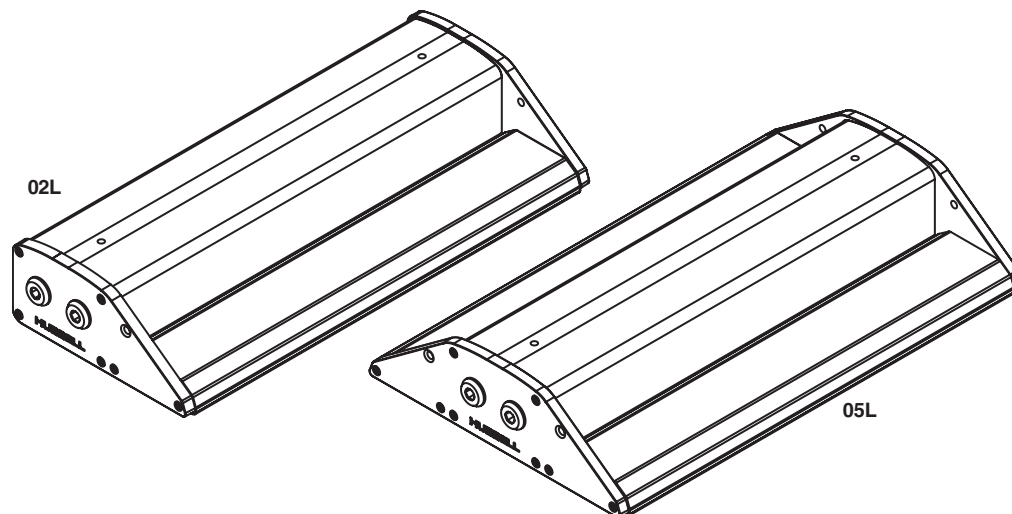
Ordering Information

STD. CAT NO.	DELIVERED OUTPUT	POWER CONSUMPTION	TCLASS	T°C (DUST)	AMBIENT °C	WEIGHT
PRXB/02L/LE	2696 lm	16W	T5	85	-40 to +60	7.1kg
PRXB/05L/LE	5230 lm	35W	T5	85	-40 to +60	9.1kg
PRXB/02L/LE/EM	2696 lm	19W	T5	85	-25 to +60	7.6kg
PRXB/05L/LE/EM	5230 lm	38W	T5	85	-25 to +60	9.6kg

ACCESSORIES ORDER SEPARATELY	
	ORDER CODE
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Flush mounted wall bracket assembly	SPRO4-0006
Ceiling bracket assembly	SPRO4-0002
Standard wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0008
Eyebolt mounting assembly*	SPRO5-0005
Protecta 4ft adaptor bracket	SPRO5-0006

*Only available for the 05L option.

OPTIONS - SUFFIX TO CATALOG NO.	
/M25	M25 cable entries
/LBE	Looping both sides [Non Emergency only]
/EL	Extra live termination facility (to match emergency circuit) [Non Emergency only, Not available with /SC]
/EMI	Internal battery pack [replace /EM with /EMI]
/NST	Non Self Test [Emergency version only]
/ASL	Asymmetric along length optic
/ASW	Asymmetric along width optic [05L version only]
/80	80 CRI LEDs
/3H	3 hour battery duration (02L = 25% output; 05L = 12.5% output) [Standard on ASW or ASL versions]
/4K	4000K (Neutral White) LED Strips
/SC	Screwed connection terminal block (up to 6mm ² conductors) [Non Emergency only]
/BNI	Batteries not included [Emergency version only]
/DM	DALI Dimmable driver
/M	Medium beam optic
/BP	Nickel plated brass plugs
/OD	Opal diffuser (max. 30% reduction in output)



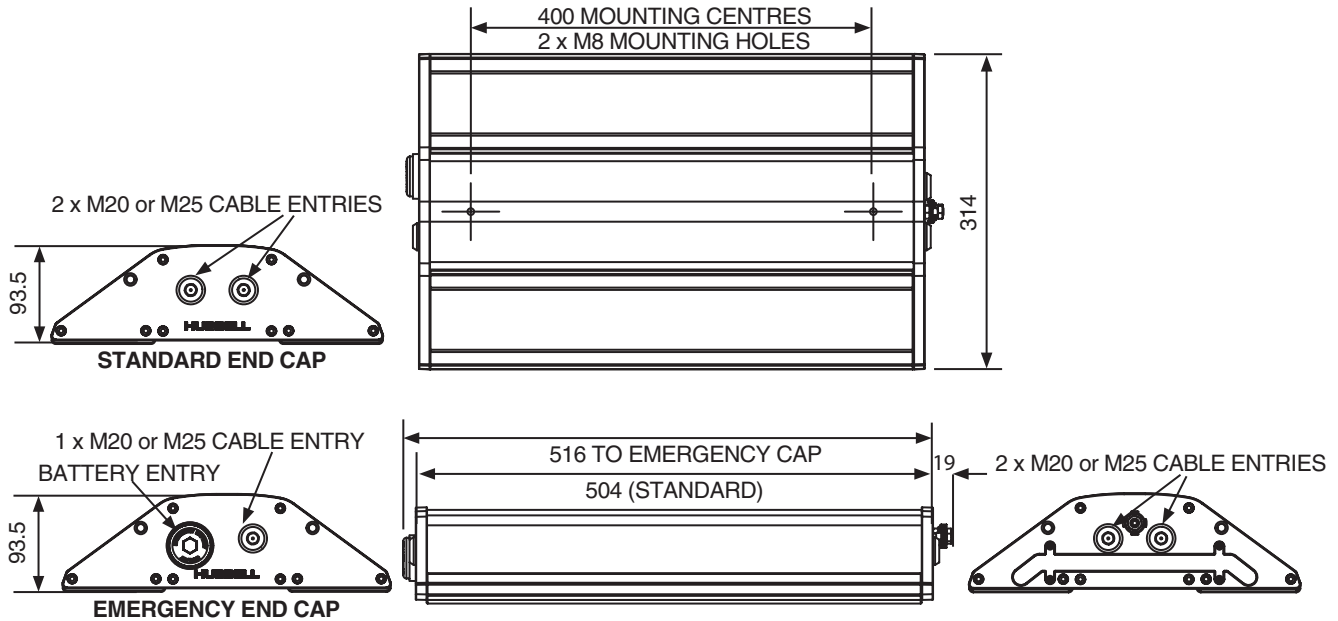


LIGHTING

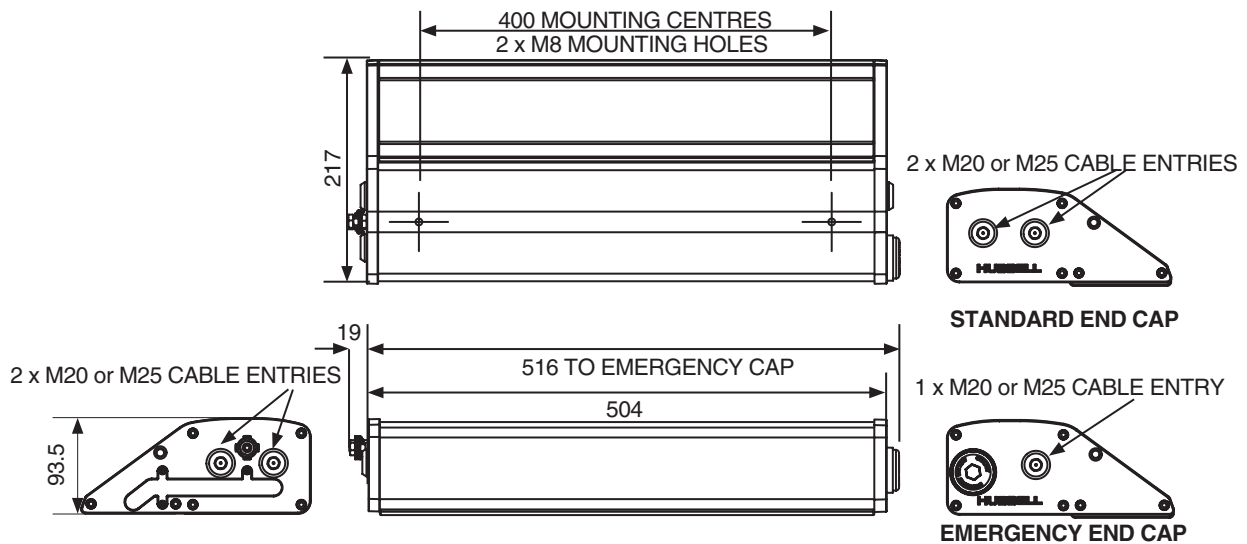
PROTECTA X Z1

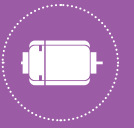
Dimensions

PROTECTA X - 05L



PROTECTA X - 02L





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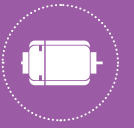




STARTERS
SECTION S

STARTERS FOR HARSH & HAZARDOUS ENVIRONMENTS





Line Starter



Combination Starter

B70
Motor Starter

NEC / CEC Certifications

Class I, Groups B, C & D

Class I, Zone 1 IIB+H2 Gb

Class II, Groups E, F & G

Class III

Type 3, 4 & 4X

Ta=-25°C to +40°C

Ta=-50°C to +40°C



Files E83969

Certificate LR11716 - 51

FEATURES-SPECIFICATIONS

Features

- TYPE 4, 4X rated - providing protection from hose directed water and corrosion
- Universal mounting pan, pre-drilled to facilitate easy field installation of starters. Provision for grounding supplied as standard.
- More wiring room - meets latest NEC wire bend requirements
- Quick release, captivated cover bolts of 316 grade stainless steel
- Flange sealing gasket located to the inside of cover bolt - preventing water seepage into enclosure through bolt holes
- Hinged cover provided as standard for an extra measure of safety and convenience
- Breaker (MCP) handle can be padlocked in "ON" or "OFF" position
- Provisions provided for drain and breather plus conduit openings for power and control
- Reset button provided as standard

- Two control operator openings provided plugged as standard. Additional openings can be factory or field drilled.
- Copper-free (less than 4/10 of 1% copper) enclosure
- Ductile mounting lugs

Materials

- **ENCLOSURE** - Copper-free aluminum
- **O-RING GASKET** - BUNA-N nitrile
- **COVER BOLTS** - 316 grade stainless steel
- **CB/MCP HANDLE** - Copper-free aluminum
- **RESET OPERATOR** - Thermoplastic polyester button molded onto stainless steel shaft. Aluminum shroud.
- **MOUNTING PAN** - Sheet aluminum
- **HINGE** - Aluminum with stainless steel pin
- **RESET SHROUD** - Black anodized

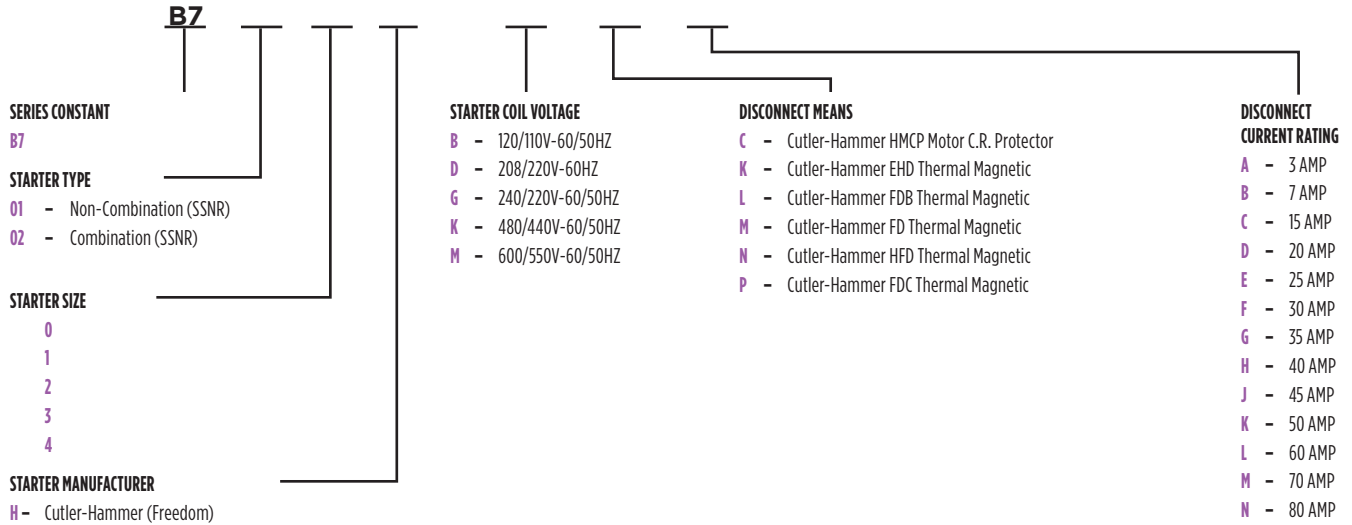
Electrical Rating

- Starters are 3 phase 50/60Hz
- 600VAC Single Speed Non-Reversing



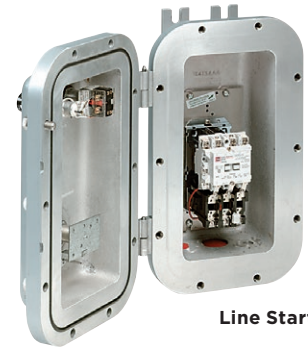
STARTERS B7 SERIES

CATALOG LOGIC - B7 ENCLOSURES WITH CONTROLS



This Catalog Logic Chart is for reference only and is to be used for selection of special voltage and amperage requirements. Consult Factory since not all assemblies are available with complete list of options displayed.

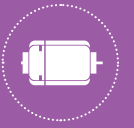
B7 MAGNETIC LINE STARTERS					
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS	MAX. HP	CATALOG NUMBER	ENCLOSURE ONLY NO INTERIORS
				CUTLER-HAMMER SERIES AN16	
0	SEP. CONTROL	120	—	B7010HB	B7011
0	230	240	3	B7010HG	
0	460	480	5	B7010HK	
0	575	600	5	B7010HM	
1	SEP. CONTROL	120	—	B7011HB	B7011
1	230	240	7-1/2	B7011HG	
1	460	480	10	B7011HK	
1	575	600	10	B7011HM	
2	SEP. CONTROL	120	—	B7012HB	B7012
2	230	240	15	B7012HG	
2	460	480	25	B7012HK	
2	575	600	25	B7012HM	
3	SEP. CONTROL	120	—	B7013HB	B7013
3	230	240	30	B7013HG	
3	460	480	50	B7013HK	
3	575	600	50	B7013HM	
4	SEP. CONTROL	120	—	B7014HB	B7014
4	230	240	50	B7014HG	
4	460	480	100	B7014HK	
4	575	600	100	B7014HM	



Line Starter

Magnetic Line Starters - 3 Pole 3Phase, Single Speed Non Reversing 600VAC 60Hz - Overload Heaters Required

- See catalog logic page for additional coil voltages
- Control transformers for use in combination starters only.
- Control transformers will not fit in the starter only below.
- Supplied without overload heaters unless heater value is specified.



Combination Starter

B7 COMBINATION MAGNETIC LINE STARTERS

NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS	MAX. HP	DISCONNECT TRIP AMPS	CATALOG NUMBER	ENCLOSURE ONLY NO INTERIORS
					CUTLER-HAMMER SERIES AN16	
0	SEP. CONTROL	120	—	3	B7020HBCA	B7021
0	SEP. CONTROL	120	—	7	B7020HBCB	
0	SEP. CONTROL	120	—	15	B7020HBCC	
0	230	240	1	7	B7020HGCB	
0	230	240	3	15	B7020HGCC	
0	460	480	1	3	B7020HKCA	
0	460	480	2	7	B7020HKCB	
0	460	480	5	15	B7020HKCC	
0	575	600	1	3	B7020HMCA	
0	575	600	2	7	B7020HMCB	
0	575	600	5	15	B7020HMCC	
1	SEP. CONTROL	120	—	15	B7021HBCC		B7021
1	SEP. CONTROL	120	—	30	B7021HBCF	
1	230	240	7-1/2	30	B7021HGCF	
1	460	480	10	30	B7021HKCF	
1	575	600	10	30	B7021HMCF	
2	SEP. CONTROL	120	—	50	B7022HBCK	B7022
2	SEP. CONTROL	120	—	70	B7022HBCM	
2	230	240	15	50	B7022HGCK	
2	230	240	15	70	B7022HGCM	
2	460	480	25	50	B7022HKCK	
2	575	600	25	50	B7022HMCK	
3	SEP. CONTROL	120	—	100	B7023HBCQ	B7023
3	230	240	30	100	B7023HGQ	
3	460	480	50	100	B7023HKCQ	
3	575	600	50	100	B7023HMCQ	
4	SEP. CONTROL	120	—	150	B7024HBCT	B7024
4	230	240	50	150	B7024HGCT	
4	460	480	100	150	B7024HKCT	
4	575	600	100	150	B7024HMCT	
5	SEP. CONTROL	120	—	250	B7025CBCMCPJ250	See chart below
5	SEP. CONTROL	120	—	400	B7025CBCMCPK400	
5	230	240	75	250	B7025CGCMCPJ250	
5	230	240	100	400	B7025CGCMCPK400	
5	460	480	150	250	B7025CKCMCPJ250	
5	460	480	200	400	B7025CKCMCPK400	
5	575	600	150	250	B7025CMCMCPJ250	
5	575	600	200	400	B7025CMCMCPK400	

Combination Starters - 3 Pole 3Phase, Single Speed Non Reversing 600VAC 60Hz - Overload Heaters Required

- See catalog logic page for additional coil voltages
- Control transformers for use in combination starters only.
- Supplied without overload heaters unless heater value is specified.
- Combination starter enclosures have sufficient space for factory or field mounting of a control transformer.
- Separate Control=Coil control voltage from a second supply source or from an internal control transformer



STARTERS B7 SERIES

SIZE 5 COMBINATION MOTOR STARTER ENCLOSURE ONLY					
STARTER MANUFACTURER	STARTER TYPE	CIRCUIT BREAKER FRAME			ENCLOSURE CAT. NUMBER
		C-H	GE	SQ-D	
Allen Bradley	Series 509	J	F-225	K	B7025A2
Allen Bradley	Series 509	K	J-600	L	B7025A4
Cutler Hammer	Freedom-AN16	J	F-225	K	B7025C2
Cutler Hammer	Freedom-AN16	K	J-600	L	B7025C4
General Electric	Series 306	J	F-225	K	B7025G2
General Electric	Series 306	K	J-600	L	B7025G4
Square D	Series 8536	J	F-225	K	B7025S2
Square D	Series 8536	K	J-600	L	B7025S4
Eaton	Freedom-AN19	J	F-225	K	B7025W2
Eaton	Freedom-AN19	K	J-600	L	B7025W4

OVERLOAD HEATERS

Overload heaters are not supplied as part of the starter assemblies and are to be ordered as separate items by catalog number and priced accordingly.

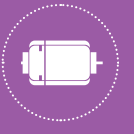
Heaters should be selected on the basis of the actual full-load current and service factor as shown on the motor nameplate or in the manufacturer's published literature.

When motor and overload relay are in the same ambient and the service factor of the motor is ^{1.15} to ^{1.25}, select heaters from the heater selection chart. If the service factor of the motor is ^{1.0}, or there is no service factor shown, or a maximum of ^{115%} protection is desired, select one size smaller heater than indicated.

When motor and overload relay are in different ambients, select heaters from the chart using adjusted motor currents as follows: decrease rated motor current 1% for each °C motor ambient exceeds controller ambient; increase rated motor current 1% for each °C controller ambient exceeds motor ambient.

FOR SIZES 0-1				
KH2001B-3	.254	.306	.359	.411
KH2002B-3	.375	.452	.530	.607
KH2003B-3	.560	.676	.791	.907
KH2004B-3	.814	.983	1.15	1.32
KH2005B-3	1.20	1.45	1.71	1.96
KH2006B-3	1.79	2.16	2.53	2.90
KH2007B-3	2.15	2.60	3.04	3.49
KH2008B-3	3.23	3.90	4.56	5.23
KH2009B-3	4.55	5.50	6.45	7.40
KH2010B-3	6.75	8.17	9.58	11.0
KH2011B-3	9.14	10.8	12.4	14.0
KH2012B-3	14.0	16.9	19.9	22.8
KH2013B-3	18.7	22.7	26.7	30.7
KH2014B-3	23.5	28.5	33.5	38.5
FOR SIZE 2				
KH2015B-3	29.0	34.0	39.1	44.1
KH2016B-3	39.6	45.5	51.5	57.4
KH2017B-3	53.9	60.9	67.9	74.9
FOR SIZES 3-4				
KH2018-3	18.0	20.2	22.3	24.5
KH2019-3	24.6	27.6	30.5	33.4
KH2020-3	33.5	37.5	41.5	45.6
KH2021-3	45.7	51.2	56.7	62.1
KH2022-3	62.2	69.7	77.1	84.6
KH2023-3	84.7	95.0	105.0	115.0
KH2024-3	106.0	118.0	131.0	144.0
FOR SIZE 5				
KH2004B-3	49	59	69	79
KH2005B-3	72	87	103	118
KH2006B-3	107	130	152	174
KH2007B-3	129	156	182	209
KH2008B-3	194	234	274	—

OVERLOAD HEATERS/NON-REVERSING



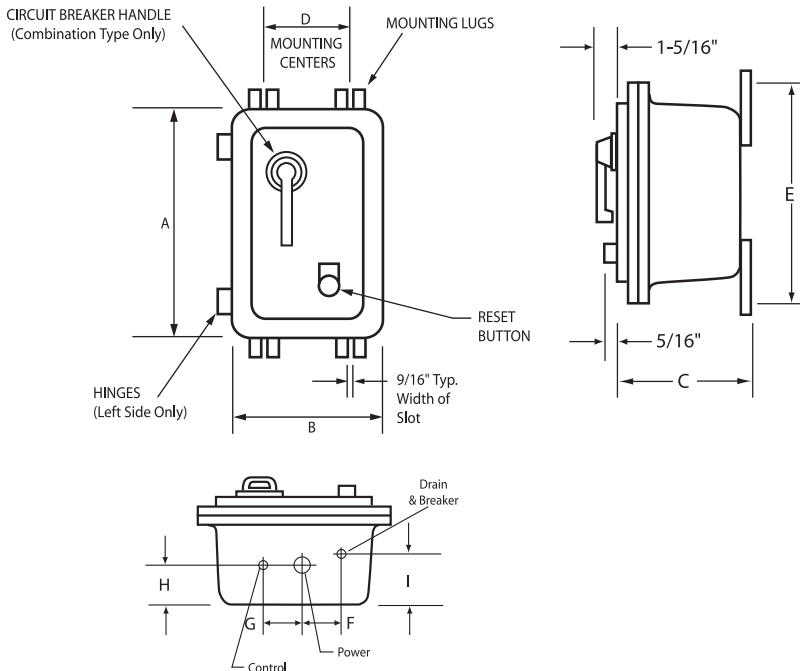
MOTOR STARTERS DIMENSIONS

B7 DIMENSIONS															
CATALOG NUMBER	NEMA SIZE	TYPE	DIMENSIONS IN (MM)									EST. ENCLOSURE WEIGH LBS. (KG)	CONDUIT OPENINGS TOP/BOTTOM (NPT) ①		
			A	B	C	D	E	F	G	H	I		POWER	CONTROL	DRAIN BREATHER
B7011	0,1	Starter Only	18" (457)	11" (280)	9-1/8" (232)	3-5/8" (92)	16-3/8" (416)	2-1/8" (54)	2-3/8" (60)	2-11/16" (68)	3-7/16" (87)	46 (21)	1-1/2"	3/4"	1/2"
B7012	2	Starter Only	20" (508)	12-1/2" (317)	9-1/8" (232)	5" (127)	18-3/8" (467)	2-1/2" (63)	2-1/2" (63)	2-11/16" (68)	3-3/16" (81)	56 (25)	1-1/2"	3/4"	1/2"
B7013	3	Starter Only	26-1/4" (667)	12-1/2" (317)	10-3/4" (276)	5" (127)	24-5/8" (625)	2-1/2" (63)	2-3/4" (70)	4-1/16" (103)	5-1/2" (140)	80 (36)	2"	1"	1/2"
B7014	4	Starter Only	34-1/4" (870)	16-1/2" (419)	11-1/2" (292)	9" (229)	32-5/8" (830)	3-3/4" (95)	4" (102)	4-7/16" (113)	6" (152)	155 (70)	3"	1"	1/2"
B7021	0,1	Combination Starter	23" (584)	14-1/2" (368)	9-1/8" (232)	7" (178)	21-3/8" (545)	2-1/8" (54)	2-1/2" (64)	2-11/16" (68)	3-7/16" (87)	78 (35)	1-1/2"	3/4"	1/2"
B7022	2	Combination Starter	25-1/2" (648)	14-1/2" (368)	9-1/8" (232)	7" (178)	23-7/8" (606)	2-1/8" (54)	2-1/2" (64)	2-11/16" (68)	3-7/16" (87)	88 (40)	1-1/2"	3/4"	1/2"
B7023	3	Combination Starter	27-1/4" (692)	17-7/8" (454)	11" (280)	10-3/8" (263)	25-5/8" (651)	3-1/2" (89)	3-1/2" (89)	4-3/16" (106)	5-1/2" (140)	143 (65)	2"	1"	1/2"
B7024	4	Combination Starter	34-1/4" (870)	21-1/2" (546)	11-7/8" (302)	14" (356)	32-5/8" (829)	4-3/4" (121)	5" (127)	4-9/16" (116)	6-3/16" (157)	235 (107)	3"	1"	1/2"

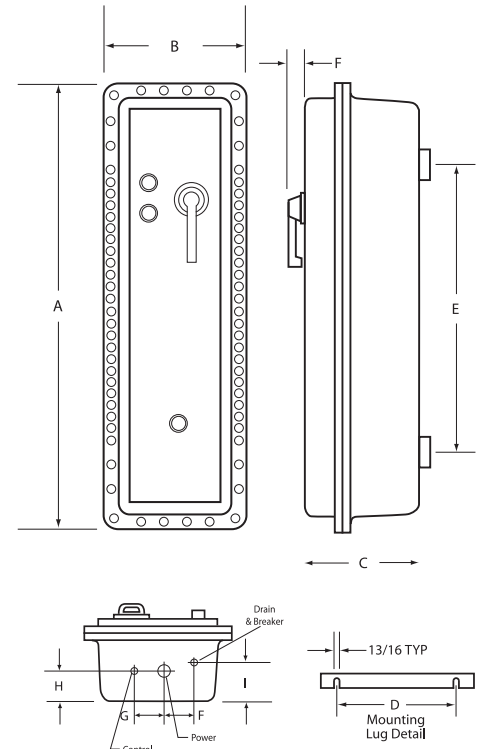
① 1/2" conduit openings may be used for drain and/or breather installation. Smaller conduit openings may be used by utilizing reducing bushings. Custom conduit sizes and locations are available upon request.

DIMENSIONS FOR SIZE 5 COMBINATION STARTER														
DIMENSIONS IN (MM)										CONDUIT TOP & BTM. (NPT)			ENCL. WT. LBS (KG)	
A	B	C	D	E	F	G	H	I	J	K	L	M		
62-1/4" (1581)	20-1/4" (514)	15" (381)	18-1/2" (470)	43-1/2" (1105)	2-5/8" (67)	3-1/8" (79)	5-3/8" (137)	7-3/8" (187)	3-1/2" (89)	4" (102)	1/2" (13)	1" (25)	540 (245)	

Dimensions B7 Size 0 Thru 4



Dimensions B7 Size 5





STARTERS
B7 SERIES



B7AD0 Combination Starter

B70

Motor Starter

NEC / CEC Certifications

Class I, Groups B, C & D
Class I, Zone 1 IIB+H2 Gb
Class II, Groups E, F & G
Class III

Type 3, 4 & 4X

Ta=-25°C to +40°C

Ta=-50°C to +40°C



Files E83969

Certificate LR11716 - 51

FEATURES-SPECIFICATIONS

Eaton Freedom AN19 Starters with C440 Electronic Overload Relays

Features AN19 Starter

- Solid State Overload Relays
- Brownout Protection
- Communications and user interface capabilities
- Overload Heaters not required
- Phase loss and a selectable (On/Off) phase unbalance protection
- Selectable automatic/manual reset
- Selectable Trip Class (10A, 10, 20, 30)
- Class II ground-fault protection - option add "GF" at end of catalog number
- Heaters are not required with the AN19 Starter. The Overload Module has trip current settings via DIP Switch between the amperage range shown.
- All AN19 Starters Coils are wired for separate control and supplied with 110V/50Hz - 120V/60Hz as standard.

Features Enclosure

- TYPE 4, 4X rated - providing protection from hose directed water and corrosion

- Mounting pan, pre-drilled to facilitate easy field installation of starters. Provision for grounding supplied as standard.
- More wiring room - meets latest NEC wire bend requirements
- Quick release, captivated cover bolts of 316 grade stainless steel
- Flange sealing gasket located to the inside of cover bolt - preventing water see page into enclosure through bolt holes
- Hinged cover provided as standard for an extra measure of safety and convenience
- Breaker (MCP) handle can be padlocked in "ON" or "OFF" position
- Provisions provided for drain and breather plus conduit openings for power and control
- Field replaceable reset button provided as standard with gold contact blocks
- Two control operator openings provided plugged as standard. Additional openings can be factory or field drilled
- Copper-free (less than 4/10 of 1% copper) enclosure
- Ductile mounting lugs

- Select from B7 Modification Chart
- Transformers are multi-tap
 - » Size 0 50VA
 - » Size 1-2 100VA
 - » Size 3 150VA
 - » Size 4-5 200VA
- AN19 Starters Auxiliary Contacts available, B7HAC

Materials

- **ENCLOSURE** - Copper-free aluminum
- **O-RING GASKET** - BUNA-N nitrile
- **COVER BOLTS** - 316 grade stainless steel
- **MCCB/MCP HANDLE** - Copper-free aluminum
- **RESET OPERATOR** - Thermoplastic polyester button molded onto stainless steel shaft. Aluminum shroud.
- **MOUNTING PAN** - Sheet aluminum
- **HINGE** - Aluminum with stainless steel pin
- **RESET SHROUD** - Black anodized

ELECTRICAL RATING

- Starters are 3 phase 50/60Hz 600VAC Single Speed Non-Reversing



B7AD COMBINATION STARTER

NEMA STARTER SIZE	MOTOR VOLTS	MAXIMUM HP	COIL VOLTS/ HZ	MCCB OR MCP AMP TRIP	CATALOG NUMBER			
					WITH MOTOR PROTECTOR AND STARTER	*ADD OLR CODE		ENCLOSURE ONLY
						OLR CODE	FLA RANGE	
0	230	3	110/50 120/60	3	B7AD020H6CA* B7AD020H6CB* B7AD020H6CC*	-1P6	0.33-1.62A	B7AD021
	460	5		7		-005	1.0-5.0A	
	575	5		15		-020	4.0-20A	
1	230	7-1/2	110/50 120/60	30	B7AD021H6CF*	-005	1.0-5.0A	B7AD021
	460	10				-020	4.0-20A	
	575	10				-045	0.9-45A	
2	230	15	110/50 120/60	50	B7AD022H6CK*	-20	4.0-20A	B7AD022
	460	25				-045	0.9-45A	
	575	25						
3	230	30	110/50 120/60	100	B7AD023H6CQ*	-100	20-100A	B7AD023
	460	50						
	575	50						
4	230	50	110/50 120/60	150	B7AD024H6CT*	-140	28-140A	B7AD024
	460	100						
	575	100						
5	230	100	110/50 120/60	400	B7AD025H6K400*	-300	60-300A	B7AD025K
	460	200						
	575	200						



STARTERS

XSD/XSX/FXSD/FXSX SERIES



XSD, XSX, Series
Non Factory Sealed



FXSD, FXSX Series
Factory Sealed

XS/FXS Motor Starter

NEC / CEC Certifications

Class I, Groups C & D

Class I, Zone 1 IIB+H2 Gb

Class II, Groups E, F & G

Class III

Type 3 FXS Series Only

Ta=-25°C to +40°C (UL/FM)

Ta=-50°C to +40°C(CSA)

Files E83969

Certificate LR11714

Files 25219



FEATURES-SPECIFICATIONS

Features

- FXSX-FXSD Series require no external seals (factory sealed) and are TYPE 3 (rain-tight) rated
- Enclosures are cast copper-free aluminum alloy
- Operating shaft is stainless steel
- Multiple gang assemblies available in combination with pilot lights, pushbuttons and switches on request
- Ground flange joint between bolted cover and box provide required flame path
- Provisions for padlocking switch in either "ON" or "OFF" position is standard

Materials

- Impact Resistant Non-Metallic PA6 Glass Reinforced Antistatic Material with f1 UV Protection against the most severe exposure to sunlight with a Flame Retardant rating of V-O.
- Silicone gasketing on all enclosures and operators throughout with Thermal Overload Relay.
- Brass gland plates available for metric size applications of plastic enclosures.

Electrical Rating

- Push button stations, selector switches 600 VAC max. heavy duty.
- Pilot Light Electrical Ratings: 250 VAC max.

STARTERS XSD/XSX/FXSD/FXSX SERIES



XSD/FXSD SERIES WITH OVERLOAD PROTECTION

Non-Factory Sealed:

Square D, Class 2510, Type F

1-Pole, 1HP, 115-230 VAC

2-Pole, 1HP, 115-230 VAC

3/4 HP, 115-230 VDC

Factory Sealed:

Square D, Class 2510, Type F

1-Pole, 1HP, 115-230 VAC

2-Pole, 1HP, 115-230 VAC

3/4 HP, 115-230 VDC

XSD SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
1-POLE SINGLE PHASE	2-POLE SINGLE PHASE		
XSD-11	XSD-12	Dead end	1/2"
XSD-21	XSD-22		3/4"
XSD-41	XSD-42	Feed thru	1/2"
XSD-51	XSD-52		3/4"
XSD-01	XSD-02	Cover and Switch assembly	

FXSD SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
1-POLE SINGLE PHASE	2-POLE SINGLE PHASE		
FXSD11	FXSD12	Dead end	1/2"
FXSD21	FXSD22		3/4"
FXSD41	FXSD42	Feed thru	1/2"
FXSD51	FXSD52		3/4"
FXSD01	FXSD02	Cover and Switch assembly	

Overload heaters are not supplied as part of the assembly. Heaters have to be ordered separately.

XSX/FXSX SERIES WITHOUT OVERLOAD PROTECTION

Non-Factory Sealed:

Square D, Class 2510, Type K

2-Pole, 2 HP, 115 VAC

2 HP, 200-230 VAC

3 HP, 460-575 VAC

3-Pole, 2 HP, 115 VAC

7-1/2 HP, 200-230 VAC

10 HP, 460-575 VAC

Factory Sealed:

Square D, Class 2510, Type K

2-Pole, 2 HP, 115 VAC

2 HP, 200-230 VAC

3 HP, 460-575 VAC

3-Pole, 2 HP, 115 VAC

3 HP, 200-230 VAC

5 HP, 460-575 VAC

XSX SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
2-POLE 600V 1-PHASE	3-POLE 600V 3-PHASE		
XSX-12	XSX-13	Dead end	1/2"
XSX-22	XSX-23		3/4"
XSX-42	XSX-43	Feed thru	1/2"
XSX-52	XSX-53		3/4"
XSX-2	XSX-3	Cover and Switch assembly	

FXSX SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
2-POLE 600V 1-PHASE	3-POLE 600V 3-PHASE		
FXSX12	FXSX13	Dead end	1/2"
FXSX22	FXSX23		3/4"
FXSX42	FXSX43	Feed thru	1/2"
FXSX52	FXSX53		3/4"
FXSX02	FXSX03	Cover and Switch assembly	

© FM and CSA only



STARTERS

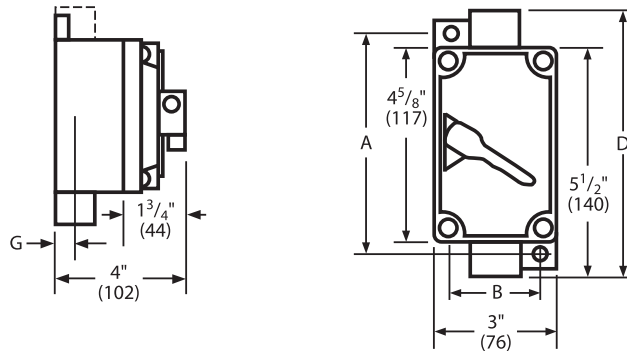
XSD/XSX/FXSD/FXSX SERIES

XSD/XSX/FXSD/FXSX SERIES

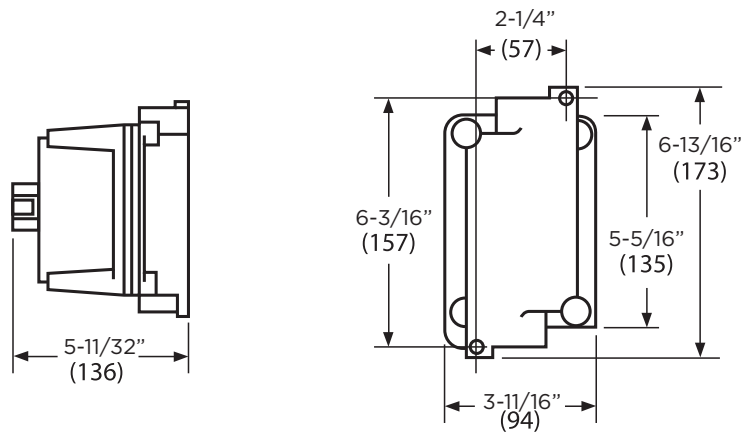
HEATER TABLE		
CATALOG NUMBER	FULL-LOAD MOTOR CURRENT	SQUARE D HEATER CATALOG NUMBER
YOSD-A.49	0.41-0.44	A.49
YOSD-A.54	0.45-0.49	A.54
YOSD-A.59	0.50-0.53	A.59
YOSD-A.65	0.54-0.58	A.65
YOSD-A.71	0.59-0.65	A.71
YOSD-A.78	0.66-0.71	A.78
YOSD-A.86	0.72-0.78	A.86
YOSD-A.95	0.79-0.85	A.95
YOSD-A1.02	0.86-0.96	A1.02
YOSD-A1.16	0.97-1.04	A1.16
YOSD-A1.25	1.05-1.16	A1.25
YOSD-A1.39	1.17-1.29	A1.39
YOSD-A1.54	1.30-1.37	A1.54
YOSD-A1.63	1.38-1.47	A1.63
YOSD-A1.75	1.48-1.56	A1.75
YOSD-A1.86	1.57-1.65	A1.86
YOSD-A1.99	1.66-1.79	A1.99
YOSD-A2.15	1.80-1.95	A2.15
YOSD-A2.31	1.96-2.15	A2.31
YOSD-A2.57	2.16-2.38	A2.57
YOSD-A2.81	2.39-2.75	A2.81
YOSD-A3.61	2.76-2.84	A3.61
YOSD-A3.95	2.85-3.06	A3.95
YOSD-A4.32	3.07-3.45	A4.32
YOSD-A4.79	3.46-3.70	A4.79
YOSD-A5.30	3.71-4.07	A5.30
YOSD-A5.78	4.08-4.32	A5.78
YOSD-A6.20	4.33-4.90	A6.20
YOSD-A6.99	4.91-5.35	A6.99
YOSD-A7.65	5.36-5.85	A7.65
YOSD-A8.38	5.86-6.41	A8.38
YOSD-A9.25	6.42-6.79	A9.25
YOSD-A9.85	6.80-7.57	A9.85
YOSD-A11.0	7.58-8.15	A11.0
YOSD-A11.9	8.16-8.98	A11.9
YOSD-A13.2	8.99-9.67	A13.2
YOSD-A14.1	9.68-9.95	A14.1
YOSD-A14.8	9.96-10.8	A14.8
YOSD-A16.2	10.9-12.1	A16.2
YOSD-A17.9	12.2-13.1	A17.9
YOSD-A19.8	13.2-13.9	A19.8
YOSD-A21.3	14.0-15.0	A21.3
YOSD-A25.2	15.1-16.0	A25.2

Overload heaters are not supplied as part of the assembly. Heaters have to be ordered separately.

XSD/XSX NON-FACTORY SEALED DIMENSIONS					
BOX STYLE	HUB SIZE	A	B	D	G
Single gang dead-end	1/2"	5-1/4"(133)	2-1/4"(57)	—	11/16"(17)
	3/4"	5-1/4"(133)	2-1/4"(57)	—	11/16"(17)
	1"	5-3/8"(136)	2-3/8"(60)	—	7/8"(22)
Single gang feed-thru	1/2"	5-1/4"(133)	2-1/4"(57)	6"(152)	11/16"(17)
	3/4"	5-1/4"(133)	2-1/4"(57)	6"(152)	11/16"(17)
	1"	5-3/8"(136)	2-3/8"(60)	6"(152)	7/8"(22)



Factory Sealed (FXSD/FXSX)





B7MS1P
 Push Button Style



B7MS2R
 Rotary Style

B7MS

Motor Starter

NEC / CEC Certifications

Class I, Groups B, C & D

Class I, Zone 1 IIB+H2 Gb

Class II, Groups E, F & G

Class III

Type 3, 4, 4X

Ta=-25°C to +40°C (CSAus)

Ta=-50°C to +40°C (cCSA)



Certificate LR11714

FEATURES-SPECIFICATIONS

Features

- Compact size enclosures provide application flexibility with cost savings over industry standard sizes
- TYPE 4, 4X rated - providing protection from hose directed water and corrosion
- Pre-drilled to facilitate easy field installation of starters
- 2 operating styles, rotary or push button, including lock-out provision.
- Provisions for drain and breather
- Bolt on ductile mounting lugs
- Two NPT conduit openings provided as standard, with custom openings on request
- When ordered with starters, ABB or Square D supplied.

Materials

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied

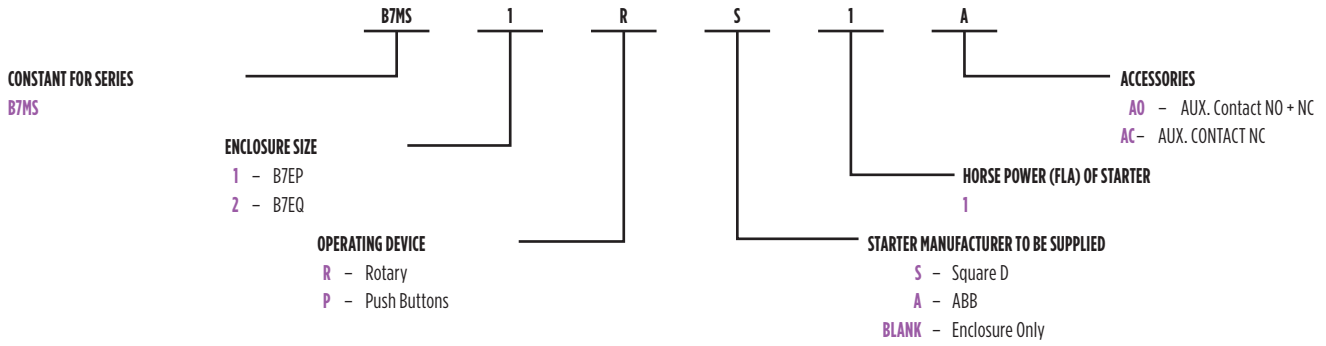
Electrical Rating

- Starters rated 600V, 3 phase up to 50HP

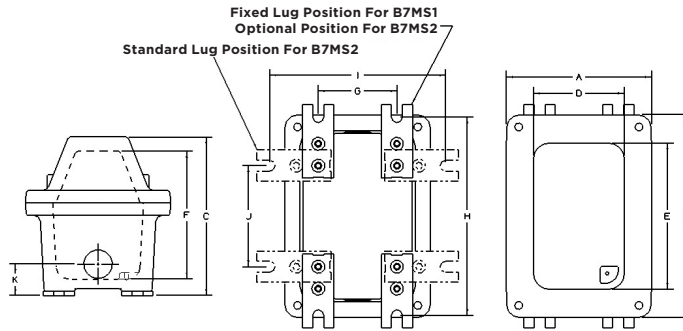


STARTERS B7MS SERIES

CATALOG LOGIC

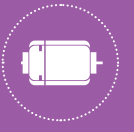


DIMENSIONS



ENCLOSURE	OUTSIDE BOX DIMENSIONS			NOMINAL INSIDE BOX			MOUNTING DIMENSIONS				CONDUIT SIZE	WEIGHT LBS(KG)	
	A	B	C	D	E	F	G	H	I	J			K
B7MS1	5-3/4 (146)	8-1/16 (205)	6-5/16 (160)	3-5/8 (92)	5-13/16 (148)	5-1/16 (129)	3-1/8 (79)	8-1/8 (206)	-	-	1-1/4 (32)	1	11.6 (5.3)
B7MS2	8-1/8 (79)	13-1/16 (345)	7-13/16 (198)	4-1/4 (108)	9-13/16 (249)	6-5/16 (160)	2-1/2 (63)	11-3/8 (289)	6-3/8 (162)	7-1/2 (191)	1-13/16 (46)	1-1/2	23.7 (10.8)

Dimension are shown in inches (mm)



COMPACT MANUAL IEC STARTERS

B7MS – ROTARY STYLE WITH ABB MS132 & MS450 SERIES								
	CATALOG NUMBER	ADJUSTMENT RANGE FLA	SINGLE PHASE HP		THREE PHASE HP			
			120V	230V	200V-208V	230V	480V	600V
ENCLOSURE WITHOUT STARTER B7MS1R	B7MS1RA-1	0.63 - 1.0					0.5	0.5
	B7MS1RA-2	1.0 - 1.6		0.1			0.75	0.75
	B7MS1RA-3	1.6 - 2.5		0.167		0.5	1	1.5
	B7MS1RA-4	2.5 - 4.0	0.125	0.33		1	2	3
	B7MS1RA-5	4.0 - 6.3	0.25	0.5		1.5	3	5
	B7MS1RA-6	6.3 - 9.0	0.33	1		2.5	5	7.5
	B7MS1RA-7	9.0 - 12.5	0.5	2		3	7.5	10
	B7MS1RA-8	12.5 - 16.0	1	2.5		5	10	10
	B7MS1RA-9	16.0 - 20.0	1.5	3		5	10	15
	B7MS1RA-10	20.0 - 25.0	2	3		7.5	15	20
ENCLOSURE WITHOUT STARTER B7MS2RA FOR USE WITH ABB ONLY	B7MS2RA-12	11 - 16	1	3	5	5	10	15
	B7MS2RA-13	14 - 20	1.5	3	5	7.5	15	20
	B7MS2RA-14	18 - 25	2	5	7.5	10	20	25
	B7MS2RA-15	22 - 32	3	5	10	10	25	30
	B7MS2RA-16	28 - 40	3	7.5	15	15	30	40
	B7MS2RA-17	36 - 45	5	7.5	15	15	30	40
	B7MS2RA-18	40 - 50	5	10	15	20	40	50
B7MS – PUSH BUTTON STYLE SQUARE D GV2 SERIES								
ENCLOSURE WITHOUT STARTER B7MS1P*	B7MS1PS-1	0.63 - 1.0					0.5	0.5
	B7MS1PS-2	1.0 - 1.6		0.1			0.75	1
	B7MS1PS-3	1.6 - 2.5		0.167		0.5	0.5	1
	B7MS1PS-4	2.5 - 4.0	0.125	0.33		0.75	1	2
	B7MS1PS-5	4.0 - 6.3	0.25	0.5		1.5	1.5	3
	B7MS1PS-6	6.0 - 10.0	0.5	1.5		2	3	5
	B7MS1PS-7	9.0 - 14.0	0.75	2		3	3	10
	B7MS1PS-8	13.0 - 18.0	1	3		5	5	10
	B7MS1PS-9	17.0 - 23.0	1.5	3		5	7.5	15
	B7MS1PS-10	20.0 - 25.0	2	3		5	7.5	15
	B7MS1PS-11	24.0 - 32.0	2	5		10	10	20
B7MS – ROTARY STYLE WITH SQUARE D GV2 & GV3 SERIES								
ENCLOSURE WITHOUT STARTER B7MS1R	B7MS1RS-1	0.63 - 1.0					0.5	0.5
	B7MS1RS-2	1.0 - 1.6		0.1			0.75	1
	B7MS1RS-3	1.6 - 2.5		0.167		0.5	0.5	1
	B7MS1RS-4	2.5 - 4.0	0.125	0.33		0.75	1	2
	B7MS1RS-5	4.0 - 6.3	0.25	0.5		1.5	1.5	3
	B7MS1RS-6	6.0 - 10.0	0.5	1.5		2	3	5
	B7MS1RS-7	9.0 - 14.0	0.75	2		3	3	10
	B7MS1RS-8	13.0 - 18.0	1	3		5	5	10
	B7MS1RS-9	17.0 - 23.0	1.5	3		5	7.5	15
	B7MS1RS-10	20.0 - 25.0	2	3		5	7.5	15
ENCLOSURE WITHOUT STARTER B7MS2R	B7MS2RS-11	24.0 - 32.0	2	5	10	10	20	30
	B7MS2RS-12	9.0 - 13.0	1	2	3	3	7.5	10
	B7MS2RS-13	12.0 - 18.0	1	3	5	5	10	15
	B7MS2RS-14	17.0 - 25.0	2	3	7.5	7.5	15	20
	B7MS2RS-15	23.0 - 32.0	2	5	10	10	20	30
	B7MS2RS-16	30.0 - 40.0	3	5	10	10	30	30
	B7MS2RS-17	37.0 - 50.0	3	7.5	15	15	40	40
	B7MS2RS-18	48.0 - 65.0	5	10	20	20	50	50

B7MS1R - For use with ABB MS116, MS325, MS132 Automation Direct BM3 Cutler-Hammer XTPR Moeller PKZMO Seimens 3RV Sprecher + Schuh KTA7 SQ D Telemecanique

GV2P WEG MPW25

B7MS2R - For use with Automation Direct BM3 SQ D Telemecanique GV3P

B7MS2RA - For use with ABB

MS450

B7MS1P - For use with Cutler-Hammer XTPB Moeller PKZMO1 SQ D Telemecanique GV2ME WEG MPW25

B7MS2P - For use with Advance Control MMS25

***B7MS1PRW** - (enclosure without starter) For use with Allen-Bradley 140 Sorecher + Schuh KT4



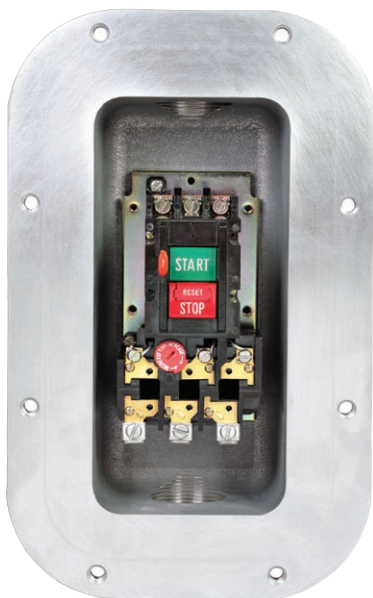
STARTERS

B7MSN SERIES

COMPACT SERIES NEMA STARTERS



B7MSN2P



Internal View

B7MSN

Motor Starter

NEC / CEC Certifications

Class I, Groups B, C & D

Class I, Zone 1 IIB+H2 Gb

Class II, Groups E, F & G

Class III

Type 3, 4, 4X

Ta=-25°C to +40°C (CSAus)

Ta=-50°C to +40°C (cCSA)



Certificate LR11714

FEATURES-SPECIFICATIONS

Features

- Allen-Bradley 609 Series
- Cutler-Hammer B100M Series
- GE CR106 Series
- Square D 2510M Series
- Compact size enclosures provide application flexibility with cost savings over industry standard sizes
- TYPE 4, 4X rated - providing protection from hose directed water and corrosion
- Pre-drilled to facilitate easy field installation of starters
- Large double green/red start-stop push buttons
- Can be pad locked in "OFF" position
- Provisions for drain and breather
- Bolt on ductile mounting lugs
- Two 1-1/2" NPT conduit openings provided as standard, with custom openings on request

Materials

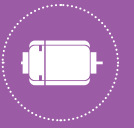
- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted

Electrical Rating

NEMA starter sizes 0, 1, 1-1/2 FVNR;
 2 pole single phase = 230 VAC
 3 pole three phase = 600 VAC
 2 pole VDC = 230 VDC

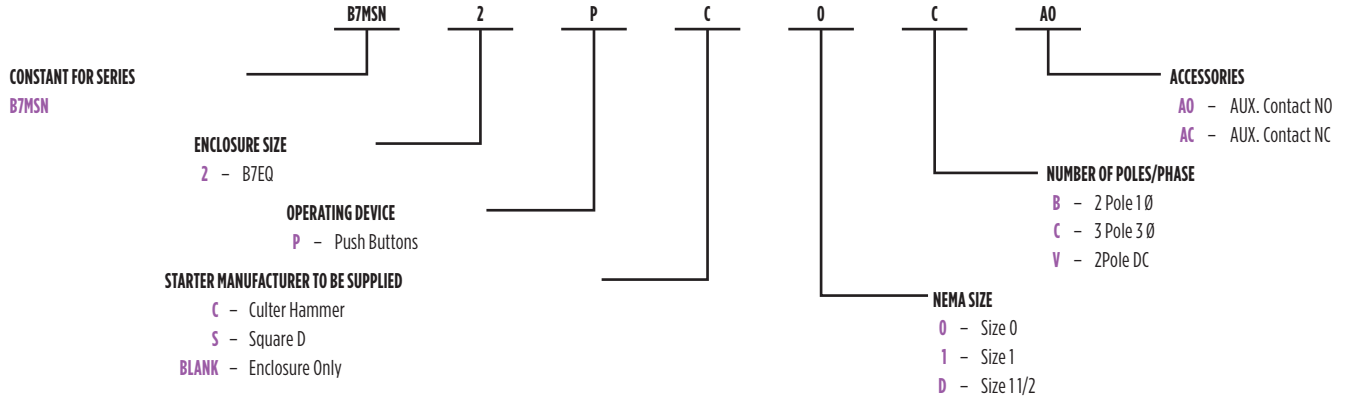
Overload Heaters

Heaters are not included, see next page.



COMPACT SERIES NEMA STARTERS

CATALOG LOGIC



ENCLOSURE	CATALOG NUMBER		SIZE/PHASE	SINGLE PHASE HP		THREE PHASE				DC HP	
	W/CUTLER-HAMMER	W/ SQUARE D		120 VAC	230 VAC	208 VAC	230 VAC	480 VAC	600 VAC	115 DC	230 VDC
B7MSN2P	B7MSN2PC0B	B7MSN2PS0B	M-0 2P	1	2					1 CH	1.5 CH
	B7MSN2PC1B	B7MSN2PS1B	M-1 2P	2	3					1.5 CH	2 CH
		B7MSN2PSDB	M-1P 2P	3	5						
	B7MSN2PC0C	B7MSN2PS0C	M-0 3P			3	3	5	5		
	B7MSN2PC1C	B7MSN2PS1C	M-1 3P			7.5	7.5	10	10		
		B7MSN2PS0V	M-0 2P VDC							1	1.5
		B7MSN2PS1V	M-1 2P VDC							1.5	2

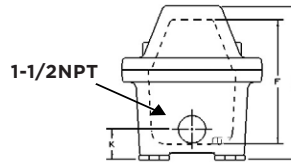
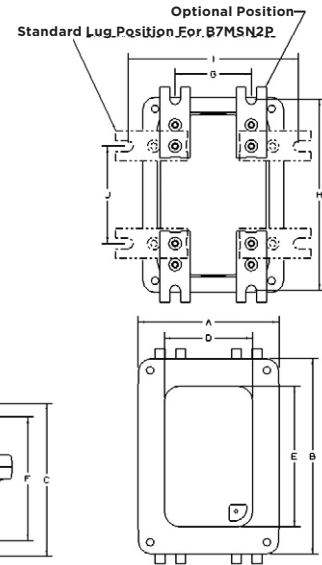


STARTERS B7MSN SERIES

HEATERS, CATALOG LOGIC, DIMENSIONS

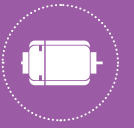
B7MSN HEATER SELECTION SQUARE D 2510M ONLY		
MOTOR FULL LOAD AMPS @ 40° C		
SIZE 0		
CATALOG NUMBER	SINGLE PHASE	THREE PHASE
KB044	0.33 - 0.36	0.29 - 0.32
KB051	0.37 - 0.40	0.33 - 0.36
KB057	0.41 - 0.45	0.37 - 0.39
KB063	0.46 - 0.52	0.40 - 0.47
KB071	0.53 - 0.59	0.48 - 0.56
KB081	0.60 - 0.66	0.57 - 0.63
KB092	0.67 - 0.73	0.64 - 0.69
KB103	0.74 - 0.81	0.70 - 0.77
KB116	0.82 - 0.91	0.78 - 0.86
KB130	0.92 - 1.02	0.87 - 0.96
KB145	1.03 - 1.14	0.97 - 1.11
KB167	1.15 - 1.29	1.12 - 1.23
KB188	1.20 - 1.42	1.24 - 1.37
KB210	1.43 - 1.64	1.38 - 1.55
KB240	1.65 - 1.80	1.56 - 1.75
KB265	1.81 - 2.10	1.76 - 1.92
KB300	2.11 - 2.30	1.93 - 2.16
KB330	2.31 - 2.61	2.17 - 2.50
KB370	2.62 - 2.99	2.51 - 2.81
KB415	3.00 - 3.37	2.82 - 3.16
KB485	3.38 - 3.94	3.17 - 3.40
KB550	3.95 - 4.24	3.41 - 3.76
KB625	4.25 - 4.54	3.77 - 4.00
KB690	4.55 - 5.29	4.01 - 4.68
KB770	5.30 - 5.73	4.69 - 5.18
KB820	5.74 - 6.35	5.19 - 5.51
KB910	6.36 - 7.08	5.52 - 6.19
KB102	7.09 - 7.83	6.20 - 7.12
KB115	7.84 - 8.47	7.13 - 8.15
KB128	8.48 - 9.83	8.16 - 8.60
KB014	9.84 - 10.5	8.61 - 9.21
KB155	10.6 - 11.4	9.22 - 10.1
KB175	11.5 - 12.8	10.2 - 11.2
KB195	12.9 - 13.9	11.3 - 12.0
KB022	14.0 - 16.1	—
KB025	16.2 - 18.0	—
SIZE 1 & 1P	SIZE 1 & 1P	SIZE 1 & 1P
KB195	—	11.3 - 12.1
KB022	—	12.2 - 13.6
KB025	16.2 - 17.6	13.7 - 15.3
KB280	17.7 - 20.6	15.4 - 17.3
KB032	20.7 - 23.1	17.4 - 19.1
KB036	23.2 - 26.0	19.2 - 21.7
KB040	—	21.8 - 24.2
KB045	—	24.3 - 26.0
SIZE 1P	SIZE 1P	SIZE 1P
KB036	23.2 - 27.1	—
KB040	27.2 - 29.2	—
KB045	29.3 - 33.0	—
KB050	33.1 - 36.0	—

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
AO	Aux. contact NO only
AC	Aux. contact NC only
SU-2	Hinge-9 Installed
SU3B-4X	Drain & Breather installed TYPE 4X
SU3B-4XSS	Drain & Breather installed TYPE 4X SS
B7SPNPT	Change Std. conduit size and location
SU9	Special paint finish
SU14	Fungus proofing of enclosures



B7MSN HEATER SELECTIONS CUTLER-HAMMER							
CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40° C		CUTLER-HAMMER CODEMARK	CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40° C		CUTLER-HAMMER CODEMARK
	SINGLE PHASE	THREE PHASE			SINGLE PHASE	THREE PHASE	
YOWEA200-FH03	.28-.29	.25-.26	FH03	YOWEA200-FH31	4.41-4.81	3.87-4.22	FH31
YOWEA200-FH04	.30-.33	.27-.29	FH04	YOWEA200-FH32	4.82-5.26	4.23-4.61	FH32
YOWEA200-FH05	.34-.36	.30-.32	FH05	YOWEA200-FH33	5.27-5.74	4.62-5.03	FH33
YOWEA200-FH06	.37-.40	.33-.35	FH07	YOWEA200-FH34	5.75-6.25	5.04-5.49	FH34
YOWEA200-FH07	.41-.45	.36-.39	FH07	YOWEA200-FH35	6.27-6.83	5.50-5.99	FH35
YOWEA200-FH08	.46-.50	.40-.44	FH08	YOWEA200-FH36	6.84-7.45	6.00-6.53	FH36
YOWEA200-FH09	.51-.56	.45-.49	FH09	YOWEA200-FH37	7.46-8.11	6.54-7.11	FH37
YOWEA200-FH10	.57-.63	.50-.55	FH10	YOWEA200-FH38	8.12-8.81	7.12-7.73	FH38
YOWEA200-FH11	.64-.70	.56-.61	FH11	YOWEA200-FH39	8.82-9.58	7.74-8.40	FH39
YOWEA200-FH12	.71-.78	.62-.68	FH12	YOWEA200-FH40	9.59-10.40	8.41-9.12	FH40
YOWEA200-FH13	.79-.86	.69-.75	FH13	YOWEA200-FH41	10.41-11.3	9.13-9.89	FH41
YOWEA200-FH14	.87-.95	.76-.83	FH14	YOWEA200-FH42	11.4-12.2	9.9-10.7	FH42
YOWEA200-FH15	.96-1.04	.84-.91	FH15	YOWEA200-FH43	12.3-13.5	10.8-11.8	FH43
YOWEA200-FH16	1.05-1.14	.92-1.00	FH16	YOWEA200-FH44	13.6-14.9	11.9-13.0	FH44
YOWEA200-FH17	1.15-1.25	1.01-1.10	FH17	YOWEA200-FH45	15.0-16.0	13.1-14.0	FH45
YOWEA200-FH18	1.26-1.39	1.11-1.22	FH18	YOWEA200-FH46	16.1-17.1	14.1-15.0	FH46
YOWEA200-FH19	1.40-1.54	1.23-1.35	FH19	YOWEA200-FH47	17.2-18.3	15.1-16.1	FH47
YOWEA200-FH20	1.55-1.71	1.36-1.50	FH20	YOWEA200-FH48	18.4-19.7	16.2-17.3	FH48
YOWEA200-FH21	1.72-1.89	1.51-1.66	FH21	YOWEA200-FH49	19.8-21.2	17.4-18.6	FH49
YOWEA200-FH22	1.90-2.10	1.67-1.84	FH22	YOWEA200-FH50	21.3-22.8	18.7-20.0	FH50
YOWEA200-FH23	2.11-2.32	1.85-2.03	FH23	YOWEA200-FH51	22.9-24.5	20.1-21.5	FH51
YOWEA200-FH24	2.33-2.54	2.04-2.23	FH24	YOWEA200-FH52	24.6-26.4	21.6-23.2	FH52
YOWEA200-FH25	2.55-2.79	2.24-2.45	FH25	YOWEA200-FH53	26.5-28.5	23.2-25.0	FH53
YOWEA200-FH26	2.80-3.07	2.46-2.69	FH26	YOWEA200-FH54	28.6-30.8	25.1-26.8	FH54
YOWEA200-FH27	3.08-3.36	2.70-2.95	FH27	YOWEA200-FH55	30.9-33.3	—	FH55
YOWEA200-FH28	3.37-3.68	2.96-3.23	FH28	YOWEA200-FH56	33.4-36.0	—	FH56
YOWEA200-FH29	3.69-4.03	3.24-3.53	FH29	YOWEA200-FH57	36.1-38.9	—	FH57
YOWEA200-FH30	4.04-4.40	3.54-3.86	FH30				

Select heater element based on motor nameplate listed full load amps. Trip rating of element is 125% of motor minimum F.L.A. listed for the element



XMSW

Motor Starter

NEC / CEC Certifications

Class I, Groups C & D

Class I, Zone 1 IIB+H2 Gb

Class II, Groups E, F & G

Class III

Type 3R

Ta=-25°C to +40°C

UL File E12379

FEATURES-SPECIFICATIONS

CUTLER HAMMER/EATON B100 STARTERS FULL VOLTAGE, NON-REVERSING SINGLE AND POLYPHASE

Features

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Enclosure and external handle are diecast copper-free (less than 0.4%) aluminum alloy
- Cast "ON," "OFF," "TRIPPED" markings on cover align with external handle and provide clear indication of enclosed starter condition
- External handle is a vault type with standard provisions for locking in the "OFF" position with up to three pad-locks. Provision for locking in "ON" position is available as factory modification (add suffix SU-40 to catalog number).
- Two cast 1" NPT conduit hubs with integral pipe stop, one top and one bottom, are standard on all assemblies

Materials

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel

Electrical Rating

- Starter sizes 0, 1, 1-1/2
- Two pole, single phase; three pole, polyphase
- Maximum 10 HP, 600 Volts AC

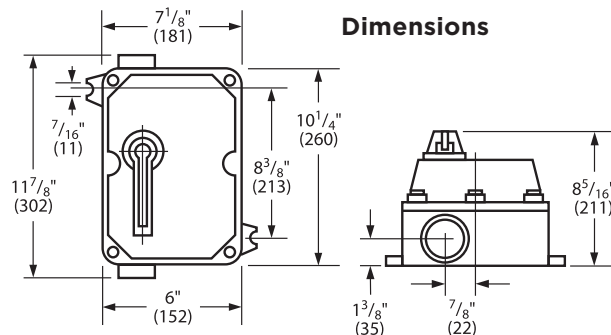


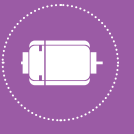
STARTERS XMSW SERIES

XMSW MANUAL LINE STARTERS						
NEMA SIZE	NUMBER OF POLE SIZE	MAXIMUM HORSEPOWER			CATALOG NUMBER	
		120 VAC	208-240 VAC	480-600 VAC	WITH STARTER	ENCLOSURE ONLY
0	2-POLE; 10, A C	1	2	—	XMSW-0BT	XMSW-00T
0	3-POLE; 30, A C	2	3	5	XMSW-0CT	
1	2-POLE; 10, A C	2	3	—	XMSW-1BT	
1	3-POLE; 30, A C	3	7-1/2	10	XMSW-1CT	
1-1/2	2-POLE; 10, A C	3	5	—	XMSW-DBT	

Heaters not included. If heaters are required order as separate item by catalog number, three phase starters require three heaters. Single phase starters require two heaters. Three pole starters may be used on two-phase four-wire circuits by running one wire direct to motor.

HEATER TABLE FOR XMSW SERIES MANUAL LINE STARTERS							
CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER-HAMMER	CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER-HAMMER
	SINGLE PHASE	THREE PHASE			SINGLE PHASE	THREE PHASE	
YOWEA200-FH03	.28-.29	.25-.26	FH03	YOWEA200-FH31	4.41-4.81	3.87-4.22	FH31
YOWEA200-FH04	.30-.33	.27-.29	FH04	YOWEA200-FH32	4.82-5.26	4.23-4.61	FH32
YOWEA200-FH05	.34-.36	.30-.32	FH05	YOWEA200-FH33	5.27-5.74	4.62-5.03	FH33
YOWEA200-FH06	.37-.40	.33-.35	FH07	YOWEA200-FH34	5.75-6.25	5.04-5.49	FH34
YOWEA200-FH07	.41-.45	.36-.39	FH07	YOWEA200-FH35	6.27-6.83	5.50-5.99	FH35
YOWEA200-FH08	.46-.50	.40-.44	FH08	YOWEA200-FH36	6.84-7.45	6.00-6.53	FH36
YOWEA200-FH09	.51-.56	.45-.49	FH09	YOWEA200-FH37	7.46-8.11	6.54-7.11	FH37
YOWEA200-FH10	.57-.63	.50-.55	FH10	YOWEA200-FH38	8.12-8.81	7.12-7.73	FH38
YOWEA200-FH11	.64-.70	.56-.61	FH11	YOWEA200-FH39	8.82-9.58	7.74-8.40	FH39
YOWEA200-FH12	.71-.78	.62-.68	FH12	YOWEA200-FH40	9.59-10.40	8.41-9.12	FH40
YOWEA200-FH13	.79-.86	.69-.75	FH13	YOWEA200-FH41	10.41-11.3	9.13-9.89	FH41
YOWEA200-FH14	.87-.95	.76-.83	FH14	YOWEA200-FH42	11.4-12.2	9.9-10.7	FH42
YOWEA200-FH15	.96-1.04	.84-.91	FH15	YOWEA200-FH43	12.3-13.5	10.8-11.8	FH43
YOWEA200-FH16	1.05-1.14	.92-1.00	FH16	YOWEA200-FH44	13.6-14.9	11.9-13.0	FH44
YOWEA200-FH17	1.15-1.25	1.01-1.10	FH17	YOWEA200-FH45	15.0-16.0	13.1-14.0	FH45
YOWEA200-FH18	1.26-1.39	1.11-1.22	FH18	YOWEA200-FH46	16.1-17.1	14.1-15.0	FH46
YOWEA200-FH19	1.40-1.54	1.23-1.35	FH19	YOWEA200-FH47	17.2-18.3	15.1-16.1	FH47
YOWEA200-FH20	1.55-1.71	1.36-1.50	FH20	YOWEA200-FH48	18.4-19.7	16.2-17.3	FH48
YOWEA200-FH21	1.72-1.89	1.51-1.66	FH21	YOWEA200-FH49	19.8-21.2	17.4-18.6	FH49
YOWEA200-FH22	1.90-2.10	1.67-1.84	FH22	YOWEA200-FH50	21.3-22.8	18.7-20.0	FH50
YOWEA200-FH23	2.11-2.32	1.85-2.03	FH23	YOWEA200-FH51	22.9-24.5	20.1-21.5	FH51
YOWEA200-FH24	2.33-2.54	2.04-2.23	FH24	YOWEA200-FH52	24.6-26.4	21.6-23.2	FH52
YOWEA200-FH25	2.55-2.79	2.24-2.45	FH25	YOWEA200-FH53	26.5-28.5	23.2-25.0	FH53
YOWEA200-FH26	2.80-3.07	2.46-2.69	FH26	YOWEA200-FH54	28.6-30.8	25.1-26.8	FH54
YOWEA200-FH27	3.08-3.36	2.70-2.95	FH27	YOWEA200-FH55	30.9-33.3	—	FH55
YOWEA200-FH28	3.37-3.68	2.96-3.23	FH28	YOWEA200-FH56	33.4-36.0	—	FH56
YOWEA200-FH29	3.69-4.03	3.24-3.53	FH29	YOWEA200-FH57	36.1-38.9	—	FH57
YOWEA200-FH30	4.04-4.40	3.54-3.86	FH30				





EXB70

Empty Enclosure

NEC / CEC Certifications

Class I, Groups B, C & D
Class I, Zone 1 IIB+H2
Class II, Groups E, F & G
Class III

Type 3, 4, 4X

Ta = -0°C to +50°C (UL & CSA)



Files E83969

File LR11716 - 1723354



ATEX Certificate

II 2 G D CE 2813

Ex d IIB+H2 T6

Ex tD A21 IP66 T80°C

Ta = -0°C to +50°C

PTB 07ATEX 1024

IEC Ex Certificate

Ex db IIB+H2 Gb

Ex tb IIIC Db IP66 T85°C

Ta = -0°C to +50°C

IECEx QPS 17.0014X

FEATURES-SPECIFICATIONS

The EXB70 Series is offered with the ABB brand AF contactor/TF overload relay, XT circuit breakers and motor circuit protectors.

Features

- Copper free cast aluminum construction. High in strength, lighter in weight, corrosion resistant
- Stainless steel metric cover bolts
- Cover o-ring supplied as standard for TYPE 4X and IP66 applications.
- Starters supplied with hinged covers as standard
- Bi-directional bolt on mounting lugs made from a ductile aluminum alloy which will adjust to irregular surfaces without causing damage to the casting.
- Starter only supplied as standard with a manual reset button and two future control operator openings with plugs.
- Combination starter supplied as standard with a manual reset button, through the door circuit breaker handle and two future control operator openings with plugs.
- Each starter comes with three NPT conduit openings in both the top and in the bottom allowing for power, control and drain/breathers.
- The EXB70 can be ordered with custom sizes and quantity of holes both in NPT and metric.

- Additional control operators can be supplied along with addition future operator openings.

Materials

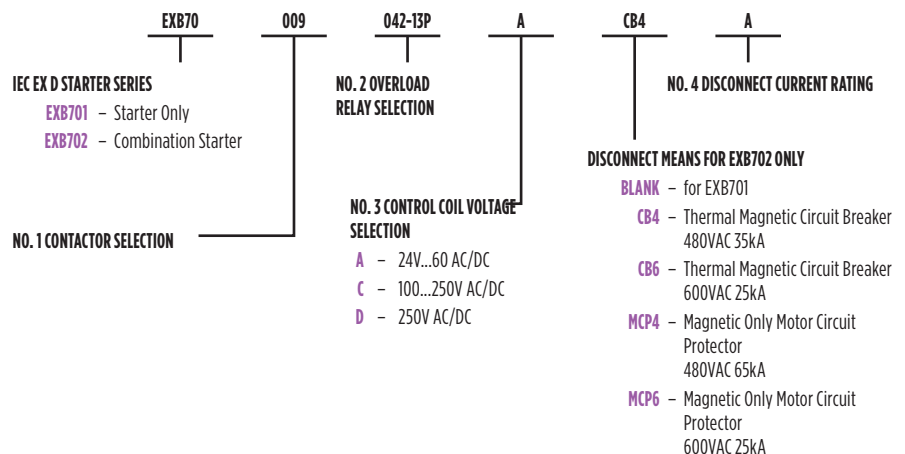
- **BOX & COVER:** Cooper free aluminum (less than 4/10 of 1%)
- **FINISH:** Aluminum lacquer paint - Grey
- **O-RING GASKET MATERIAL:** Nitrile (BUNA-N) compound
- Stainless steel, A2, cover screw.

- **CB/MCP HANDLE** - Copper free aluminum
- **RESET OPERATOR** - Thermoplastic polyester button molded onto stainless steel shaft. Aluminum shroud, black anodized.

Electrical Rating

- Single Speed Full Voltage Non-Reversing
- 3 Phase 600VAC/690VAC 50/60Hz Coil Voltage
- 24V AC/DC through 500V AC/DC

CATALOG LOGIC





STARTERS EXB70 SERIES

No. 1 - Contactor Selection

UL / CSA RATINGS	009		012		016		026		030		040		052		065		096		116		140	
	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS
120 VAC - 1Phase	0.75	13.8	1	16	1.5	20	2	24	2	24	3	34										
240 VAC - 1Phase	1.5	10	2	12	3	17	3	17	5	28	7.5	40										
200 - 208 VAC - 3Phase	2	7.8	3	11	5	17.5	7.5	25.3	10	32.2	10	32.2	15	48.3	20	62.1	30	92	30	92	40	120
220 - 240 VAC - 3Phase	2	6.8	3	9.6	5	15.2	7.5	22	10	28	15	42	20	54	25	68	30	80	40	104	50	130
440 - 480 VAC - 3Phase	5	7.6	7.5	11	10	14	15	21	20	27	30	40	40	52	50	65	60	77	75	96	100	124
550 - 600 VAC - 3Phase	7.5	9	10	11	10	17	20	22	25	27	40	41	50	52	60	62	75	77	100	99	125	125
IEC RATINGS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS
220 - 240 VAC - 3Phase	2.2	9	3	12	4	18	6.5	26	9	33	11	40	15	53	18.5	65	25	96	30	116	37	140
380 - 400 VAC - 3Phase	4	9	5.5	12	7.5	18	11	26	15	32	18.5	40	22	53	30	65	45	96	55	116	75	140
415 VAC - 3Phase	4	9	5.5	12	9	18	11	26	15	32	22	40	30	53	37	65	55	96	55	116	75	140
440 VAC - 3Phase	4	9	5.5	12	9	18	15	26	18.5	32	22	40	30	53	37	65	55	96	75	116	90	140
500 VAC - 3Phase	5.5	9.5	7.5	12.5	9	15	15	23	18.5	28	22	35	30	45	37	55	55	80	75	110	90	130
690 VAC - 3Phase	5.5	7	7.5	9	9	10.5	15	17	18.5	21	22	25	30	35	37	39	55	57	55	65	75	80
See Overload Relay Selection Chart	042-										065-					096-			140-			

No. 2 - Overload Relay Selection

042-				065-			
SELECTION	AMP SETTING RANGE			SELECTION	AMP SETTING RANGE		
042- .13	0.10	to	0.13	065- 28	22.0	to	28.0
042- .17	0.13	to	0.17	065- 33	25.0	to	33.0
042- .23	0.17	to	0.23	065- 40	30.0	to	40.0
042- .31	0.23	to	0.31	065- 47	36.0	to	47.0
042- .41	0.31	to	0.41	065- 53	44.0	to	53.0
042- .55	0.41	to	0.55	065- 60	50.0	to	60.0
042- .74	0.55	to	0.74	065- 67	57.0	to	67.0
042- 1.0	0.74	to	1.00	096-			
042- 1.3	1.00	to	1.30				
042- 1.7	1.30	to	1.70	SELECTION			
042- 2.3	1.70	to	2.30	096- 51	40.0	to	51.0
042- 3.1	2.30	to	3.10	096- 60	48.0	to	60.0
042- 4.2	3.10	to	4.20	096- 68	57.0	to	68.0
042- 5.7	4.20	to	5.70	096- 78	65.0	to	78.0
042- 7.6	5.70	to	7.60	096- 87	75.0	to	87.0
042- 10	7.60	to	10.0	096- 96	84.0	to	96.0
042- 13.0	10.0	to	13.0	140-			
042- 16.0	13.0	to	16.0				
042- 20.0	16.0	to	20.0	SELECTION			
042- 24.0	20.0	to	24.0	140- 90.0	66.0	to	90.0
042- 29.0	24.0	to	29.0	140- 110.0	80.0	to	110.0
042- 35.0	29.0	to	35.0	140- 135.0	100.0	to	135.0
				140- 142.0	110.0	to	142.0

No. 3 - Coil Voltage Code

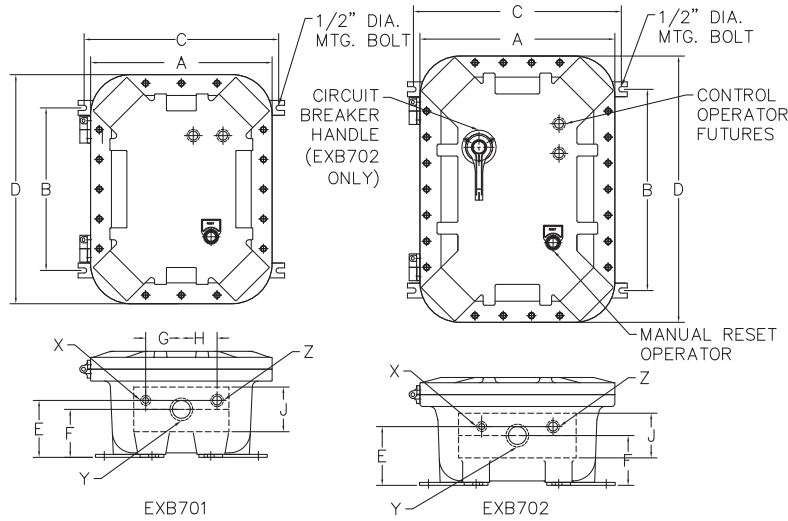
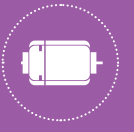
SELECTION	VAC	VDC
A	24 .. 60	24 .. 60
B	48 .. 130	48 .. 130
C	100 .. 250	100 .. 250
D	250 .. 500	250 .. 500

When contactors 009 through 030 are being used with a 24 to 60 VDC control supply voltage add suffix "-DC" to the end of the catalog logic.

No. 4 - BREAKER CODE - EXB702 ONLY

CIRCUIT BREAKER		MOTOR CIRCUIT PROTECTOR	
SELECTION	AMP	SELECTION	AMP
A	15	003	3
B	20	007	7
C	25	015	15
D	30	030	30
E	40	050	50
F	50	070	70
G	60	100	100
H	70	125	125
I	80	150	150
J	90	175	175
K	100	200	200
L	125	225	225
M	150	250	250
N	175		
O	200		
T	250		

STARTERS EXB70 SERIES



EXB70 DIMENSIONS

CATALOG NUMBER	TYPE	DIMENSIONS IN. (MM)									CONDUIT OPENINGS TOP & BOTTOM			WT. LBS (KG)
		A	B	C	D	E	F	G	H	J	X	Y	Z	
EXB701009 TO EXB701030	Starter Only	12.38 (314)	8 (203)	9.88 (251)	14.32 (364)	5.04 (128)	3.64 (92)	2.38 (60)	2.38 (60)	9.82 (249)	1/2 NPT	1-1/2 NPT	3/4 NPT	41 (18)
EXB701040 TO EXB701096	Starter Only	15.25 (387)	8.94 (277)	12.94 (329)	19.25 (489)	4.92 (125)	4.04 (103)	3 (76)	3 (76)	10.4 (264)	1/2 NPT	2 NPT	3/4 NPT	88 (39)
EXB701140	Starter Only	16.38 (416)	18.88 (479)	14.94 (379)	28.38 (721)	7.1 (180)	5.19 (132)	3.94 (100)	3.94 (100)	12.82 (325)	1/2 NPT	3 NPT	3/4 NPT	173 (78)
EXB702009 TO EXB702030	Combination	15.25 (387)	8.94 (277)	12.94 (329)	19.25 (489)	4.92 (125)	4.04 (103)	3 (76)	3 (76)	10.9 (277)	1/2 NPT	1-1/2 NPT	3/4 NPT	88 (40)
EXB702065	Combination	16.38 (416)	12.88 (327)	14.94 (379)	22.38 (568)	5 (127)	4.13 (105)	3.94 (100)	3.94 (100)	11.06 (280)	1/2 NPT	2 NPT	3/4 NPT	120 (54)
EXB702096 TO EXB702140	Combination	21.25 (540)	19.38 (492)	19.38 (492)	29.25 (743)	7.34 (186)	5.47 (139)	6 (152)	6 (152)	14 (355)	1/2 NPT	3 NPT	3/4 NPT	273 (123)

EXB70 MODIFICATION AND ACCESSORIES

OPTIONS	DESCRIPTIONS	OPTIONS	DESCRIPTIONS		
EXB7RPL-120	Pilot light 120V - Red	EXB7DBP	Double pushbutton Start - Stop	EXB7CT100-24	Control transformer 100VA 240/480VAC to 24VAC
EXB7GPL-120	Pilot light 120V - Green	EXB72SS	2 position selector switch On-Off	EXB7CT150-24	Control transformer 150VA 240/480VAC to 24VAC
EXB7APL-120	Pilot light 120V - Amber	EXB7SSHOA	3 position selector switch Hand-Off-Auto	EXB7CT200-24	Control transformer 200VA 240/480VAC to 24VAC
EXB7RPL-24	Pilot light 24V - Red	KB1BCEN	Breather installed	EXB7CT250-24	Control transformer 250VA 240/480VAC to 24VAC
EXB7GPL-24	Pilot light 24V - Green	KB1DCEN	Drain installed	EXB7CT300-24	Control transformer 300VA 240/480VAC to 24VAC
EXB7APL-24	Pilot light 24V - Amber	AUX	Auxiliary contact INO & INC	EXB72SH251	Space heater 25 watts 120 volts
EXB7LPBR	Illuminated pushbutton 120V - Red	EXB7TB	6 point terminal block	EXB72SH252	Space heater 25 watts 240 volts
EXB7LPBG	Illuminated pushbutton 120V - Green	EXB7SF	Epoxy powder paint	EXB72SH254	Space heater 25 watts 480 volts
EXB7LPBA	Illuminated pushbutton 120V - Amber	EXB7CT50	Control transformer 50 VA 240/480VAC to 120VAC	EXB72SH501	Space heater 50 watts 120 volts
EXB7LPBR-24	Illuminated pushbutton 24V - Red	EXB7CT75	Control transformer 75VA 240/480VAC to 120VAC	EXB72SH502	Space heater 50 watts 240 volts
EXB7LPBG-24	Illuminated pushbutton 24V - Green	EXB7CT100	Control transformer 100VA 240/480VAC to 120VAC	EXB72SH504	Space heater 50 watts 480 volts
EXB7LPBA-24	Illuminated pushbutton 24V - Amber	EXB7CT150	Control transformer 150VA 240/480VAC to 120VAC		
EXB7PLR220	Pilot light resistor 220/120V	EXB7CT200	Control transformer 200VA 240/480VAC to 120VAC		
EXB7PLR440	Pilot light resistor 440/120V	EXB7CT250	Control transformer 250VA 240/480VAC to 120VAC		
EXB7PLR550	Pilot light resistor 550/120V	EXB7CT300	Control transformer 300VA 240/480VAC to 120VAC		
EXB7PLXF220	Pilot transformer 220/120V	EXB7CT50-24	Control transformer 50 VA 240/480VAC to 24VAC		
EXB7PLXF440	Pilot transformer 440/120V	EXB7CT75-24	Control transformer 75VA 240/480VAC to 24VAC		



Hubbell Harsh & Hazardous Contact Details

United States

Killark / RigPower / Vantage Technology

2112 Fenton Logistics Park Blvd.
Fenton, Missouri 63026
Tel: (314) 531-0460
www.hubbell.com/killark
Email: killarkinfo@hubbell.com

Hawke International U.S.A.

2112 Fenton Logistics Park Blvd.
Fenton, Missouri 63026
Tel: (281) 445-7400 • Fax: (281) 445-7404
Email: killarkinfo@hubbell.com

Canada

Hubbell Canada LP

870 Brock Road South
Pickering, Ontario
Canada L1W 1Z8
Tel: (905) 839-1139 • Fax: (905) 839-9108
Email: infohclp@hubbell-canada.com

Mexico

Hubbell Products Mexico

Calle 5 Sur No. 105 Col. Parque
Ind. Toluca 2000
Toluca Edo. Mex. CP 50200
Tel: (01 52) 559-151-9999
Fax: (01 52) 559-151-9988/89
www.hubbell.com.mx
Email: info@hubbell.com.mx

United Kingdom

Hawke International

Oxford Street West, Ashton-under-Lyne
Lancashire OL7 0NA
Tel: +44 (0) 141 882 5555
Email: hhsales1@hubbell.com

Chalmit

388 Hillington Road
Glasgow G52 4BL Scotland
Tel: +44 (0) 141 882 5555
Email: hhsales1@hubbell.com

Middle East

Office #432, Bldg #6EB
Dubai Airport Free Zone (DAFZ) • PO Box 23529
Dubai UAE
Tel: +971 4 609 1222
Email: hhsales2@hubbell.com

Asia Pacific

130 Joo Seng Road, #03-02
Singapore 368357
Tel: +65 6282 2242 • Fax: +65 6284 4244
Email: hhsales2@hubbell.com

Korea

1212 (IS Biz. Tower), 427Bungil 57-2
Heungandae-Ro, Dongan-Gu
Anyang-Si, Kyunggi-Do
14059, Republic of Korea
Tel: +82 2 2063 3719 • Fax: +82 2 2603 7386
Email: hhsales2@hubbell.com

China

Room L, 18F, No. 720 Pudong Avenue,
Shanghai International Ocean and Finance Building,
Shanghai 200120 P.R. China
Tel: +86 (21) 3392 6550 ext. 317 • Fax +86 (21) 3392 6551
Email: hhsales2@hubbell.com

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2112 Fenton Logistics Park Blvd., Fenton, MO 63026 | 314-531-0460
www.hubbell.com/killark | killarkinfo@hubbell.com
LI_KIL_MULT_CAT_EN_00009



A proud member of the Hubbell family.



Hubbell Canada LP

870 Brock Road South
Pickering, Ontario L1W 1Z8
(905) 839-1138 | infohclp@hubbell-canada.com

Hubbell de Mexico

Av. Insurgentes Sur 1228, Piso 8
Col. Tlacoquemécatl Del Valle
C.P. 03200, Mexico D.F.
(01 52) 559-151-9999 | info@hubbell.com.mx