



Harsh & Hazardous

**KILLARK®**

# EXB70 Series Motor Starters

*for Harsh and Hazardous Environments*



EXB701

EXB702



**EXB70 SERIES**

**IEC MAGNETIC MOTOR STARTERS**

**FEATURES-SPECIFICATIONS**

**Applications**

The EXB70 Series of across-the-line starter and combination motor control centers utilize SSNR (single speed non-reversing) IEC starters. The EXB70 starters is for use in locations made hazardous due to the presence of flammable gases or vapors, combustible dust, or easily ignitable fibers and flyings, and areas which are subject to corrosion, weather and dampness.

- Petroleum Refineries
- Oil Rigs & Platforms
- Chemical/Petrochemical Plants
- Pharmaceutical Facilities
- Automotive Repair Facilities
- Aircraft Facilities
- Wet/Corrosive Environments
- Grain Elevators

The EXB70 Series is offered with the ABB brand AF contactor / TF overload relay, XT circuit breakers and motor circuit protectors.

**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.

**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 & quantity of holes both in NPT and metric.
- Additional control operators can be supplied along with addition future operator openings.

**UL** - File E83969

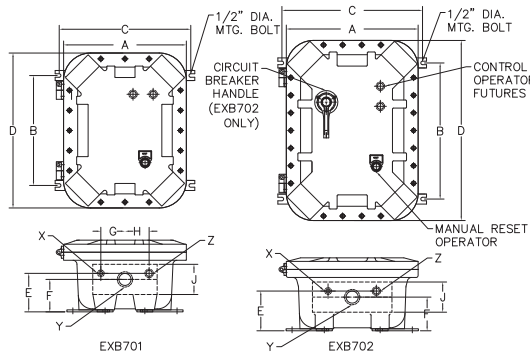
**SP** Certified - File LR11716

PTB 07ATEX1024  
IECEX PTB 07.0023

**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**

**CE** 0518 **Ex** II 2 G D  
**Ex d IIB+H<sub>2</sub> T6**  
**Ex tD A21 IP66**  
**Ta < +60°C**



EXB70 MODIFICATION AND ACCESSORIES			
OPTIONS	DESCRIPTIONS	OPTIONS	DESCRIPTIONS
EXB7RPL-120	Pilot light 120V - Red	EXB7TB	6 point terminal block
EXB7GPL-120	Pilot light 120V - Green	EXB7SF	Epoxy powder paint
EXB7APL-120	Pilot light 120V - Amber	EXB7CT50	Control transformer 50 VA 240/480VAC to 120VAC
EXB7RPL-24	Pilot light 24V - Red	EXB7CT75	Control transformer 75VA 240/480VAC to 120VAC
EXB7GPL-24	Pilot light 24V - Green	EXB7CT100	Control transformer 100VA 240/480VAC to 120VAC
EXB7APL-24	Pilot light 24V - Amber	EXB7CT150	Control transformer 150VA 240/480VAC to 120VAC
EXB7LPBR	Illuminated pushbutton 120V - Red	EXB7CT200	Control transformer 200VA 240/480VAC to 120VAC
EXB7LPBG	Illuminated pushbutton 120V - Green	EXB7CT250	Control transformer 250VA 240/480VAC to 120VAC
EXB7LPBA	Illuminated pushbutton 120V - Amber	EXB7CT300	Control transformer 300VA 240/480VAC to 120VAC
EXB7LPBR-24	Illuminated pushbutton 24V - Red	EXB7CT50-24	Control transformer 50 VA 240/480VAC to 24VAC
EXB7LPBG-24	Illuminated pushbutton 24V - Green	EXB7CT75-24	Control transformer 75VA 240/480VAC to 24VAC
EXB7LPBA-24	Illuminated pushbutton 24V - Amber	EXB7CT100-24	Control transformer 100VA 240/480VAC to 24VAC
EXB7PLR220	Pilot light resistor 220/120V	EXB7CT150-24	Control transformer 150VA 240/480VAC to 24VAC
EXB7PLR440	Pilot light resistor 440/120V	EXB7CT200-24	Control transformer 200VA 240/480VAC to 24VAC
EXB7PLR550	Pilot light resistor 550/120V	EXB7CT250-24	Control transformer 250VA 240/480VAC to 24VAC
EXB7PLXF220	Pilot transformer 220/120V	EXB7CT300-24	Control transformer 300VA 240/480VAC to 24VAC
EXB7PLXF440	Pilot transformer 440/120V	EXB72SH251	Space heater 25 watts 120 volts
EXB7DBP	Double pushbutton Start - Stop	EXB72SH252	Space heater 25 watts 240 volts
EXB72SS	2 position selector switch On-Off	EXB72SH254	Space heater 25 watts 480 volts
EXB7SSH0A	3 position selector switch Hand-Off-Auto	EXB72SH501	Space heater 50 watts 120 volts
KB1BCEN	Breather installed	EXB72SH502	Space heater 50 watts 240 volts
KB1DCEN	Drain installed	EXB72SH504	Space heater 50 watts 480 volts
AUX	Auxiliary contact 1NO & 1NC		

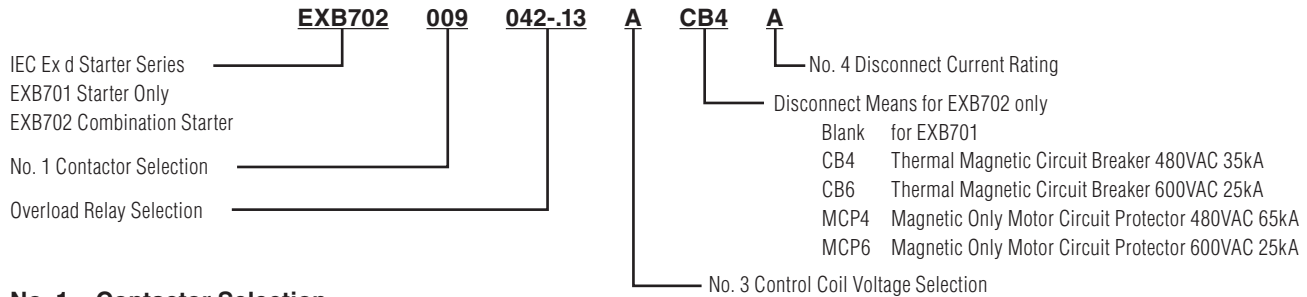
EXB70 DIMENSIONS															
CATALOG NUMBER	TYPE	DIMENSIONS IN. (MM)										CONDUIT OPENINGS TOP & BOTTOM			WT. LBS (KG)
		MTG. DIM			D	E	F	G	H	J	X	Y	Z		
		A	B	C											
EXB701009 to EXB701030	Starter Only	12.38 (314)	8 (203)	9.88 (251)	14.32 (364)	5.04 (128)	3.64 (92)	2.38 (60)	2.38 (60)	9.82 (249)	1/2 NPT	1-1/2 NPT	3/4 NPT	41 (18)	
EXB701040 to EXB701096	Starter Only	15.25 (387)	8.94 (227)	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)	
EXB071140	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)	5.81 (148)	1/2 NPT	3 NPT	3/4 NPT	173 (78)	
EXB702009 to EXB702030	Combination	15.25 (387)	8.94 (227)	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)	
EXB702040 to EXB702096	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)	
EXB702116 to EXB702140	Combination	16.38 (416)	18.88 (479)	14.94 (379)	28.38 (721)	7.34 (186)	5.47 (139)	3.94 (76)	3.94 (76)	5.81 (148)	1/2 NPT	3 NPT	3/4 NPT	180 (81)	

# STARTERS

EXB70 SERIES



## EXB701 STARTER ONLY & EXB702 COMBINATION STARTER SELECTION



### 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	<b>096-</b>			
042- 1.3	1.00	to	1.30	<b>SELECTION AMP SETTING RANGE</b>			
042- 1.7	1.30	to	1.70	096- 51	40.0	to	51.0
042- 2.3	1.70	to	2.30	096- 60	48.0	to	60.0
042- 3.1	2.30	to	3.10	096- 68	57.0	to	68.0
042- 4.2	3.10	to	4.20	096- 78	65.0	to	78.0
042- 5.7	4.20	to	5.70	096- 87	75.0	to	87.0
042- 7.6	5.70	to	7.60	096- 96	84.0	to	96.0
042- 10	7.60	to	10.0	<b>140-</b>			
042- 13.0	10.0	to	13.0	<b>SELECTION AMP SETTING RANGE</b>			
042- 16.0	13.0	to	16.0	140- 90.0	66.0	to	90.0
042- 20.0	16.0	to	20.0	140- 110.0	80.0	to	110.0
042- 24.0	20.0	to	24.0	140- 135.0	100.0	to	135.0
042- 29.0	24.0	to	29.0	140- 142.0	110.0	to	142.0
042- 35.0	29.0	to	35.0				

### 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		

# Harsh & Hazardous Motor Starters from KILLARK

## MOTOR STARTERS TO MEET THE GLOBAL DEMANDS FOR **HARSH & HAZARDOUS** LOCATIONS BOTH ON SHORE AND OFF SHORE APPLICATIONS

Killark offers a wide range of motor starters supplied with internal motor controllers from leading internationally recognized control manufacturers. We provide across the line magnetic starter only, combination magnetic starters and manual starters with both NEMA and IEC controllers. Applications include Explosion / Flame Proof, Hazardous Dust, Wet, Hose Down and Corrosive environments on shore and off shore.

### MOTOR STARTER QUICK SELECTION



EXB70 Series; IEC compact magnetic starters for motor control applications ranging from 5Hp (7.5kW) to 100Hp (124kW) as both starter only and combination starter.

**UL/CSA/ATEX/IEC Ex for Class I Grps BCD, Class II Grps EFG Ex d IIB+H<sub>2</sub> Ex tD A21 IP66, Type 4 & 4X**



B70 Series; NEMA magnetic starters for motor control applications ranging from Size 0 (5Hp / 3.7kW) to Size 5 (200Hp / 150kW) as both starter only and combination starter.

**UL/CSA for Class I Grps BCD, Class I Zone 1 & 2 IIB+H<sub>2</sub>, Class II Grps EFG, Class III Type 4 & 4X**



B7MS Compact Series; IEC non reversing manual motor starters, push button or toggle switch operator. Two small compact enclosure sizes offering starter sizes starting from 1/2Hp (3.7kW) to 50Hp (37kW) 3 Phase 600V.

**cCSAus Class I Grps BCD, Class II Grps EFG, Class III Type 4X**



B7MSN Compact Series; NEMA non reversing manual push button motor starters. Small compact enclosure offering starters sizes 0 (5Hp / 3.7kW) to size 1 (10Hp / 7.5kW) 3 Phase 600V.

**cCSAus Class I Groups BCD, Zone 1 & 2 IIB+H<sub>2</sub>, Class II Groups EFG, Class III Type 4X**



XS/FXS Series; non reversing manual toggle switch motor starters. For use with small AC or DC motors. Factory sealed or non factory sealed and with or without overload heaters. Offered in 2 & 3 poles up to 10Hp 600V.

**UL/CSA/FM Class I Grp CD, Class II Grp EFG, Class III Type 3**



HKSB-EXB70 05-17 © Killark, 2017

**KILLARK**<sup>®</sup>

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