SECTION J

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LINKOSITY® Power Components

Control Connectors

DRUB and PANEL-SAFE®

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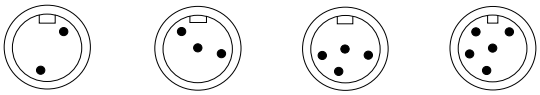
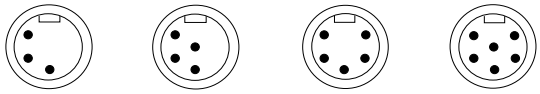
LINKOSITY®

Cables and Receptacles - Power Components

Device Type	Ratings	Wires	Conductor Colors**	Length (FT)
 **PH** = Double Ended Cable with Male/Female Straight **PM** = Male Single Ended Straight **PN** = Male Single Ended 90° **PF** = Female Single Ended Straight **PG** = Female Single Ended 90° **PQ** = Double Ended Cable with Female 90° **PR** = Double Ended Cable with Male 90° **PS** = Double Ended Cable with (2) 90° Connectors	**20** = 20A up to 600V	**02** **03** **04** **05**	**PA** = Green/Yellow Black (all others) **PB** = Green/Yellow White Black (all others) **PE** = All Blue***	**001** = 1' **005** = 5' **010** = 10' **015** = 15' **020** = 20' **025** = 25' **030** = 30' **035** = 35' **040** = 40' **045** = 45' **050** = 50'
	23 = 20A up to 600V Specialty construction (Includes isolated ground on 6 wire and #10 AWG super neutral conductor on 5 and 6 wire devices, PB color code only)	**03** **04** **05** **06**		
 **RF** = Female Receptacle*  **RM** = Male Receptacle (Inlet)*	**30** = 30A up to 600V	**04**		
Example: PH	***23***	***06***	***PB***	***005***

*Note: *½" NPT rear thread.*
***Other color codes available upon request.*
****Two wire only.*

Configurations (Male face view shown, female view is opposite)

20 AMP	
20A SNIG (with super neutral and IG)	
30 AMP	

TX2304002304T00

Tees

Description	Catalog Number
LINKOSITY® M/F/F Tee, 20A, 2P	**TX2002002002T00**
LINKOSITY® M/F/F Tee, 20A, 3P	**TX2003002003T00**
LINKOSITY® M/F/F Tee, 20A, 4P	**TX2004002004T00**
LINKOSITY® M/F/F Tee, 20A, 5P	**TX2005002005T00**
LINKOSITY® M/F/F Tee, 20A SNIG, 4P	**TX2304002304T00**
LINKOSITY® M/F/F Tee, 20A SNIG, 6P	**TX2306002306T00**
LINKOSITY® M/F/F Tee, 20A SNIG, A Phase Tap	**TX2306002304A00**
LINKOSITY® M/F/F Tee, 20A SNIG, B Phase Tap	**TX2306002304B00**
LINKOSITY® M/F/F Tee, 20A SNIG, C Phase Tap	**TX2306002304C00**
LINKOSITY® M/F/F Tee, 30A, 4P	**TX3004003004T00**

CCMBC

Closure Caps

Description	For use with Female Receptacle	Male Inlet
20A and 30A Receptacle Closure Cap	**CCMBC**	**CCFBC**

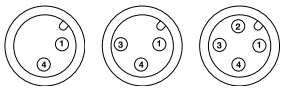
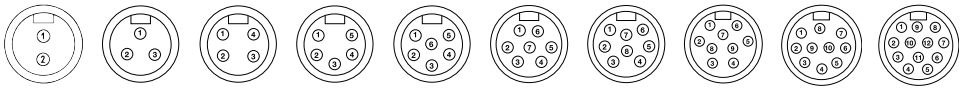
LINKOSITY®

Cables and Receptacles - Control Integration Components

Device Type	Ratings	Wires	Conductor Colors**	Length (FT)
 **PH** = Double Ended Cable with Male/Female Straight **PM** = Male Single Ended Straight **PN** = Male Single Ended 90° **PF** = Female Single Ended Straight **PG** = Female Single Ended 90° **PQ** = Double Ended Cable with Female 90° **PR** = Double Ended Cable with Male 90° **PS** = Double Ended Cable with (2) 90° Connectors  **RF** = Female Receptacle*  **RM** = Male Receptacle (Inlet)*	**03** = 3A - 2W, 3W 3A - 4W up to 300V	**02** **03** **04**	**PA** = Green/Yellow Black (all others) **PB** = Green/Yellow White Black (all others) **PE** = All Blue***	**001** = 1' **005** = 5' **010** = 10' **015** = 15' **020** = 20' **025** = 25' **030** = 30' **035** = 35' **040** = 40' **045** = 45' **050** = 50'
	R3 = 3A - 2W, 3W 3A - 4W up to 300V	**02** **03** **04**		
	10 = 10A - 2W, 3W 10A - 4W 10A - 5W, 6W, 7W 10A - 8W, 9W 7A - 10W, 12W up to 600V	**02** **03** **04** **05** **06** **07** **08** **09** **10** **12**		
Example: PH	***10***	***06***	***PB***	***005***

*Note: *½" NPT rear thread.*
***Other color codes available upon request.*
****Two wire only.*

Configurations (Male face view shown, female view is opposite)

03		Typically used for inputs in DC control circuits
R3*		Typically used for outputs in DC control circuits
10		

*Note: *Reverse key.*

Splitters/Tees

Description	Catalog Number
LINKOSITY® M/F/F Splitter, 3A/4W	**TX0304000304T00**
LINKOSITY® M/F/F Tee, 10A, 2 Pole	**TX1002001002T00**
LINKOSITY® M/F/F Tee, 10A, 3 Pole	**TX1003001003T00**
LINKOSITY® M/F/F Tee, 10A, 4 Pole	**TX1004001004T00**
LINKOSITY® M/F/F Tee, 10A, 5 Pole	**TX1005001005T00**
LINKOSITY® M/F/F Tee, 10A, 6 Pole	**TX1006001006T00**

TX1004001004T00

Closure Caps

Description	For use with Female Receptacle	Male Inlet
3A Closure Cap	**CCM1C**	**CCF1C**
10A Closure Cap, 2, 3, 4, 4, 5 and 6 Pole	**CCMAC**	**CCFAC**
10A Closure Cap, 7 and 8 Pole	**CCMBC**	**CCFBC**
10A Closure Cap, 9, 10, 12 Pole	**CCMCC**	**CCFCC**

CCFAC

Features and Benefits

Power System Distribution Assemblies

- Available with up to 5 receptacles, wide variety of NEMA 5-20 receptacle grades
- Power pass thru option
- 16 gauge sheet metal enclosure ANSI 61 gray powder coat NEMA 1
- Device identification marking
- Versatile mounting provision
- Local or master switch
- LINKOSITY® connection

MSL3L1IGP

Note: Accepts PH2304 series cables.

Straight Blade - UL Type 1

Device Type	Switch Types	# Receps	Receptacle Type	Receptacle Feature	Pass-thru	Custom Configurations*
M	**SL** = Switch Local **SM** = Switch Master **00** = No Switch	**1** **2** **3** **4** **5**	**SG** = Spec Grade **HG** = Hospital Grade **CR** = Corrosion Resistant	**IG** = Isolated Ground **GF** = Ground Fault **SS** = Surge Suppression **00** = Standard	**P** = Pass-thru** **0** = No Pass-thru	**D** = 2 Circuit **A** = A Phase **B** = B Phase **C** = C Phase
Example: M	**SL**	**1**	**SG**	**00**	**P**	

Twist-Lock® - UL Type 1

Device Type	Switch Types	# Receps	Receptacle Type	Receptacle Feature	Pass-thru	Custom Configurations*
M	**SL** = Switch Local **SM** = Switch Master **00** = No Switch	**1** **2** **3** **4** **5**	**L1** = 15A **L2** = 20A	**IG** = Isolated Ground **00** = Standard	**P** = Pass-thru **0** = No Pass-thru	**6** = 250V
Example: M	**00**	**3**	**L1**	**IG**	**0**	

Note: Local switches control all receptacles in a box. Master switches control local and downstream receptacles. Consult factory for alternate wiring schemes.
**Consult factory for wiring specifications and connecting cables.*
***Pass-thru on phase tap boxes are 3Ø.*

Switch Only (ON/OFF) - UL Type 1

Device Type	Switch Types	Switch Style	Poles
S	**1** = 1 Gang **2** = 2 Gang **3** = 3 Gang	**2W** = ON/OFF	**1P** = Single Pole **DP** = Two Pole
Example: S	**1**	**2W**	**1P**

Switch Only (4-Way) - UL Type 1

Device Type	Switch Types	Switch Style
S	**1** = 1 Gang	**4W** = 4 Way
Example: S	**1**	**4W**

Switch Only (3-Way) - UL Type 1

Device Type	Switch Types	Switch Style	Position
S	**1** = 1 Gang	**3W** = 3 Way	**M** = Main **R** = Remote **LM** = Line to Main **LR** = Load to Remote
Example: S	**1**	**3W**	**M**

Note: For use with Px2304PBxxx series cables.

Features

Receptacle Types		CR	HG	SG	L1
00	Standard	**HBL53CM62**	**HBL8300GY**	**5362G**	**HBL4700**
IG	Isolated Ground	**—**	**—**	**CR5352IGGY**	**IG4700A**
GF	Ground Fault	**—**	**GFRST83GY**	**GFRST20GY**	**—**
SS	Surge Suppression	**—**	**HBL8362GYSA**	**HBL5362GYSA**	**—**
Switch Types		CR	HG	SG	L1
SL	Local ON/OFF	**—**	**—**	**HBL1221PL**	**—**
SM	Master ON/OFF	**—**	**—**	**HBL1221PL**	**—**

LINKOSITY®

LINKOSITY® Feed - UL Type 3R Rated*

3R Rated Standard Items

Description	Catalog Number
20A 125V Ground Fault	**M3R002SGGF0**
20A 125V Switched, Spec Grade	**M3RSL1SG000**
20A 125V Switched, Ground Fault	**M3RSL1SGGF0**
20A 125V Spec Grade	**M3R002SG000**
20A 125V Ground Fault, Pass-Thru	**M3R002SGGFP**
20A 125V Switched, Spec Grade, Pass-Thru	**M3RSL1SG00P**
20A 125V Switched, Ground Fault Pass-Thru	**M3RSL1SGGFP**
Spec Grade, Pass-Thru	**M3R002SG00P**

*Note: *When cover closed.*
Accepts PH2304 series cables.


Device Type	Style	Type	No. of Devices	Device Type	Device Feature	Pass-Thru
M	**3R** - 3R Lids **3D** - 3R Deep Cover	**SL** - Switch Local **SM** - Switch Master **00** - None	**1** **2**	**SG** - Spec Grade **HG** - Hospital Grade **CR** - Corrosion Resistant **L1** - 15A Locking	**IG** - Isolated Ground **GF** - Ground Fault **SI** - Surge/IG **SS** - Surge **00** - Standard	**P** - Pass-Thru **0** - No Pass-Thru

LINKOSITY® Feed - UL Type 4X Rated*

4X Rated NEMA Standard Items

Description	Catalog Number
20A 125V Straight Blade	**MLWF2010**
20A 125V WTSSTL	**MLWF2020**
20A 125V Straight Blade, Pass-Thru	**MLWF201P**
20A 125V WTSSTL, Pass-Thru	**MLWF202P**

*Note: *Watertight Safety-Shroud® Twist-Lock® Plug required when in use.*
***Straight Blade are UL Type 4X when not in use only.*
WTSSTL is an abbreviation for Watertight Safety-Shroud® Twist-Lock®.
Accepts PH2304 series cables.


Device Type	Style	Type	No. of Devices	Device Type	Pass-Thru
M	**L** - LINKOSITY	**WF** - Watertight Safety-Shroud Receptacle **WM** - Watertight Safety-Shroud Inlet	**2**	**01** - 20A 125V Straight Blade** **02** - 20A 125V Twist-Lock **03** - 20A 250V Twist-Lock **04** - 20A 277V Twist-Lock **05** - 30A 125V Twist-Lock **06** - 30A 250V Twist-Lock **07** - 20A 125/250V Twist-Lock **08** - 20A 3Ø 250V Twist-Lock **09** - 20A 3Ø 480V Twist-Lock **10** - 30A125/250V Twist-Lock **11** - 30A 3Ø 250V Twist-Lock **12** - 30A 3Ø 480V Twist-Lock **13** - 30A 3Ø 600V Twist-Lock	**P** - Pass-Thru **0** - No Pass-Thru

All LINKOSITY® - UL Type 4X Rated*

4X Rated LINKOSITY Standard Items

Description	Catalog Number
20A 3W up to 600V, 4 Port	**M4L2003PB0**
20A 3W up to 600V, 4 Port Pass-Thru	**M4L2003PBP**

*Note: *Closure Cap required when not in use.*
Accepts PH2304 series cables.


Device Type	Style	Type	No. of Poles	Conductor Colors	Pass - Thru
M	**4L** - LINKOSITY	**20** - 20A **23** - 20A Super Neutral Isolated Ground **30** - 30A	**02** **03** **04** **05** **06**	**PA** - Green/Yellow Black (all others) **PB** - Green/Yellow White Black (all others)	**P** - Pass-Thru **0** - No Pass-Thru

Conduit Feed - UL Type 4X Rated*

Conduit Feed Standard Items

Description	Catalog Number
20A 125V Straight Blade	**MCWF2010**
20A 125V WTSSTL	**MCWF2020**
20A 250V WTSSTL	**MCWF2030**
20A 277V WTSSTL	**MCWF2040**
30A 125V WTSSTL	**MCWF2050**
30A 250V WTSSTL	**MCWF2060**
20A 125/250V WTSSTL	**MCWF2070**
20A 3Ø, 250V WTSSTL	**MCWF2080**
20A 3Ø, 480V WTSSTL	**MCWF2090**
30A 125/250V WTSSTL	**MCWF2100**
30A 3Ø 250V WTSSTL	**MCWF2110**
30A 3Ø 480V WTSSTL	**MCWF2120**
30A 3Ø 600V WTSSTL	**MCWF2130**

*Note: *Watertight Safety-Shroud® Twist-Lock® Plug required when in use.*
WTSSTL is an abbreviation for Watertight Safety-Shroud® Twist-Lock®.

Device Type	Style	Type	No. of Devices	NEMA Device Type	Pass-Thru
M	**C** - Conduit Feed	**WF** - Watertight Safety-Shroud Receptacles **WM** - Watertight Safety-Shroud Inlet	**2**	**01** - 20A 125V Straight Blade **02** - 20A 125V Twist-Lock **03** - 20A 250V Twist-Lock **04** - 20A 277V Twist-Lock **05** - 30A 125V Twist-Lock **06** - 30A 250V Twist-Lock **07** - 20A 125/250V Twist-Lock **08** - 20A 3Ø 250V Twist-Lock **09** - 20A 3Ø 480V Twist-Lock **10** - 30A125/250V Twist-Lock **11** - 30A 3Ø 250V Twist-Lock **12** - 30A 3Ø 480V Twist-Lock **13** - 30A 3Ø 600V Twist-Lock	**0** - No Pass-Thru

Replacement Mounting Feet

Description	Catalog Number
For Power Distribution Assemblies.	**HBLRFT1**[Δ]

Note: [Δ] Package of 10 mounting feet and 10 screws.

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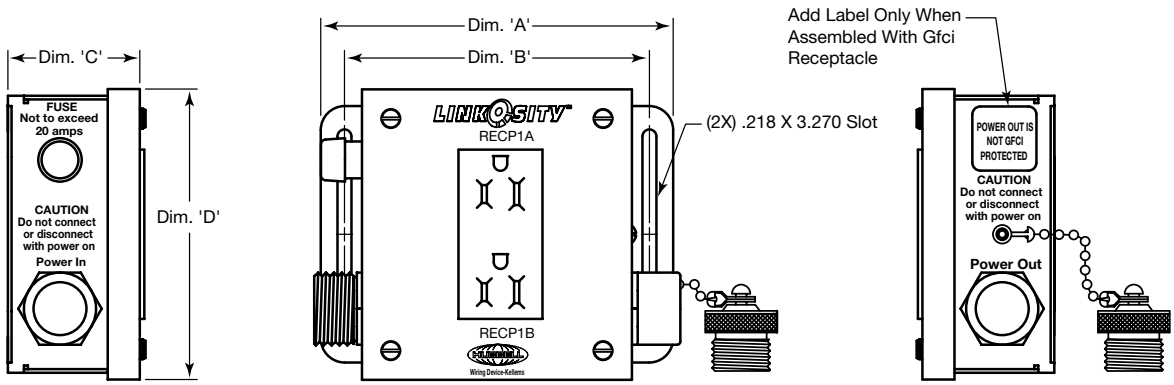


Catalog Number M001****P Shown

Catalog Number	Gangs	Dimension 'A'	Dimension 'B'	Dimension 'C'	Dimension 'D'
M001**P**	1	5.50 (139.7)	4.75 (120.7)	2.25 (57.2)	4.53 (115.1)
M002**P**	2	7.50 (190.5)	6.75 (171.5)	2.25 (57.2)	4.53 (115.1)
M003**P**	3	9.50 (241.3)	8.75 (222.3)	2.25 (57.2)	4.53 (115.1)
M004**P**	4	11.50 (292.1)	10.75 (273.1)	2.25 (57.2)	4.53 (115.1)
M005**P**	5	13.50 (342.9)	12.75 (323.9)	2.25 (57.2)	4.53 (115.1)

LINKOSITY® Specifications

Certifications	
System Level	ETL Classified to NEC
Component Assemblies (PSDA)	UL Listed
Connecting Components	Listed to UL2238 and UL 50
Cable (Up to #22 AWG)	UL 300V Type ITC/PLTC 105°C
Cable (#16 AWG and Up)	UL 600V Type TC-ER, MTW 90°C or STOOW 600V 105°C

Cable Diameter

Amps	Wires	O.D.
20	3	.595 (15.1)
20	4	.645 (16.4)
20	5	.710 (18.0)
20	6	.760 (19.3)
30	4	.710 (18.0)

Performance

Electrical	
Voltage	Up to 600V
Amperage	Up to 30A

Environmental

Connectivity System Components	
Moisture Resistance	UL Type 4, 4X, 12 and 13
Ingress Protection	IP66 Suitability
Flammability	UL94HB Cables/UL94V-0 receptacles

Power System Distribution Assemblies	
Moisture Resistance	NEMA Type 1, Type 3R, Type 4X

Dimensions in Inches (mm)

MotorQuick®

IP67 SUITABILITY

Housing Design

- Thermoplastic Cover on Plated Steel Base
- NEMA 1 Enclosure
- Pre-wired with LINKOSITY® Components
- Crush and Impact Resistance of MC Cable

HBL1389MQ5

Housing Design

- High Impact Valox® Enclosure
- Type 4X Enclosure
- Permanent Labelless Marking
- Lockable Handle to Meet OSHA Lockout/Tagout Regulations
- Cable Ratings: TC-ER, MTW, STOOW

HBLDS3MQ5

MotorQuick® Disconnect Switches

Type 1 Non-Metallic Enclosure 30A 3 Pole 600V AC	Catalog Number
HBL1389D with one pre-wired LINKOSITY® female receptacle (load side).	**HBL1389MQR**
HBL1389D with 5 foot pre-wired LINKOSITY® female cable (load side).	**HBL1389MQ5**
HBL1389D with one pre-wired LINKOSITY® male receptacle (line side) and one pre-wired LINKOSITY® female receptacle (load side).	**HBL1389MQR2**

HBL1389MQR2

Type 4X Non-Metallic Labelless Enclosure 30A 3 Pole 600V AC	
HBLDS3 with one pre-wired LINKOSITY® female receptacle (load side).	**HBLDS3MQR**
HBLDS3 with 5 foot pre-wired LINKOSITY® female cable (load side).	**HBLDS3MQ5**
HBLDS3 with one pre-wired LINKOSITY® male receptacle (line side) and one pre-wired LINKOSITY® female receptacle (load side).	**HBLDS3MQR2**

HBLDS3MQR

Type 4X Stainless Steel Enclosure 30A 3 Pole 600V AC	Sloped Top	Square Top
HBLDS3SS with one pre-wired LINKOSITY® female receptacle (load side).	**HBLDS3SSRMQR**	**HBLDS3SSMQR**
HBLDS3SS with 5 foot pre-wired LINKOSITY® female cable (load side).	**HBLDS3SSRMQ5**	**HBLDS3SSMQ5**
HBLDS3SS with one pre-wired LINKOSITY® male receptacle (line side) and one pre-wired LINKOSITY® female receptacle (load side).	**HBLDS3SSRMQR2**	**HBLDS3SSMQR2**

HBLDS3SSRMQR

HBLDS3SSMQR

Accessories

Description	Catalog Number
3P 4W LINKOSITY® male receptacle for installation on motor.	**RM3004PA001**
3P 4W LINKOSITY® female receptacle for installation in switch.	**RF3004PA001**
3P 4W LINKOSITY® double ended (male/female) 5-50 foot cable.	**PH3004PAxxx***
3P 4W LINKOSITY® single ended (female) 5-50 foot cable.	**PF3004PAxxx***
Cord connector, ¾ in. NPT .63–.75 in. (16.0–19.1) diameter.	**SHC1037CR**
Lock-on cover for LINKOSITY® connections.	**PH2030C**

*Note: *Cables available from 5-50 feet in 5 foot increments. To purchase larger cable, replace the **XXX** with the required length in feet. (Examples: **PH3004PA005** = 5 foot cable, **PH3004PA050** = 50 foot cable.)*

PH2030C

Sample Set Up

(1) **HBLDS3MQR** + (1) **PH3004PAxxx** + (1) **RM3004PA001** = **Total Set Up****

*Note: ** Retrofit parts available for pre-existing disconnect switch installations. Please consult factory for availability.*

Valox® is a trademark of SABIC Innovative Plastics, acquired from General Electric Company.

c UL us LISTED

Features and Benefits

IP66
SUITABILITY

Mini-Quick® Control Connectors

- Nickel plated brass coupling nuts and receptacle shells
- Black overmold and cable
- Insulgrip connector body design
- UL Listed cable assemblies and receptacles
- Plating resists corrosion in high abuse environments
- Cable assembly resists dirt and blends with environment giving a clean look to the installation
- Third party certified for electrical, mechanical and environmental performance
- Ergonomic connector body has an industrial look

Housing Design

- Gated strain relief with graduated window sizes improves flexibility, strength and protects wire terminations; superior arc of bend control

Internal Design

- Leaded nickel copper sleeved contact extendes contact life and continuity
- O-rings for moisture protection
- Anti-vibration coupling nut prevents conection from loosening under harsh vibration conditions
- Indicator ring ensures proper mating

Material Specifications

Insulator Materials	Nylon 6/6, White
Contact Materials	Pins - Brass, Sockets Leaded nickel copper w/ stainless steel sleeve
Contact Plating	Hard gold over palladium/nickel
Overmold Material	Polyurethane, Black
Coupling Nut, Metallic	Nickel plated brass
Coupling Nut, Nylon	Nylon 6/6, Black
Receptacle Shell	Nickel plated brass, SST consult factory
Receptacle Shell, Nylon	Nylon 6/6, Black
Receptacle Shell, Right Angle	Nickel plated zinc alloy die cast, SST consult factory
Cable	#16 AWG SEOOW - TPE jacket, Black, PVC conductor insulation, Stranding - 65/34 #18 AWG SEOOW - TPE jacket, Black, PVC conductor insulation, Stranding - 41/34
Strain Relief	#16 AWG and #18 AWG - 30 pounds min per UL2238

Electrical Specifications

Voltage Rating	600V DC/600V AC
Amperage	#16 AWG - 2&3P=15A, 4P=12A, 5&6P=10A 7P=10A, 8&9P=9A, 10&12P=8A #18 AWG - 2&3P=11A, 4P=8A, 5&6P=7A
Contact Resistance	≤ 5 mΩ
Isolation Resistance	≥ 1000 MΩ

Environmental Specifications

Moisture Protection	UL Type 4, 4X, 12 and 13
Ingress Protection	IP66 Suitability
Operating Temperature	SEOOW cable: -40°C to 105° C
Corrosion Resistance	500 hours salt spray per MIL-STD-1344, Method 1001
Vibration Resistance	10 - 2,000 Hz @15g per MIL-STD-1344, Method 2005

Certifications

UL 2238 and UL50E, File No. E192071

CSA Certified, C22.2 No. 182.3 and CSA C22.2 No. 94.2-07

Mini-Quick® 2 - 6 Pole Plugs

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

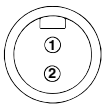
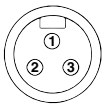
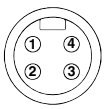
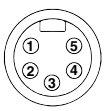
For example, catalog number **HCMA05112** is derived as follows:

DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	POLES	CONDUCTOR TYPE	CABLE LENGTH (ft)
HC = Plug, Female **HP** = Plug, Male **HI** = Plug, Male Inline◆ **HE** = Male/Female Extension Cable◆ **HJ** = Male/Female Jumper Cable	**M** = Metallic **N** = Nylon	**A** = Right Angle **S** = Straight	**02** **03** **04** **05** **06**	**1** = #16 AWG SEOOW Cable **4** = #18 AWG SEOOW Cable **3 - 5 Pole Only*	****** **03** **06** **12** **20** ***Replace with Length*
↓	↓	↓	↓	↓	↓
HC	**M**	**A**	**05**	**1**	**12**

Note: Availability of specific items may vary. Consult factory for delivery. Consult the factory for additional cable lengths or cable types.
◆Available with metallic coupling nut only.

Mini-Quick® 2 - 6 Pole Plugs

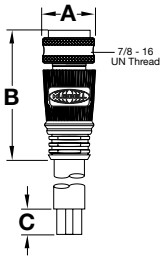
Catalog numbers using #16 AWG SEOOW cable are listed below. For #18 AWG SEOOW cable, change the conductor type per the Hubbell Logic chart above.

Poles	Male Face Shown Female - mirror image	Cable Length	Female Plugs		Male Plugs		Male/Female JumperCables
			Straight	Right Angle	Straight	Right Angle	Straight
2		3 ft (0.91m) 6 ft (1.83m) 12 ft (3.66m) All other lengths▲	**HCMS02103** **HCMS02106** **HCMS02112** **HCMS021****	**HCMA02103** **HCMA02106** **HCMA02112** **HCMA021****	**HPMS02103** **HPMS02106** **HPMS02112** **HPMS021****	**HPMA02103** **HPMA02106** **HPMA02112** **HPMA021****	**HJMS02103** **HJMS02106** **HJMS02112** **HJMS021****
3		3 ft (0.91m) 6 ft (1.83m) 12 ft (3.66m) All other lengths▲	**HCMS03103** **HCMS03106** **HCMS03112** **HCMS031****	**HCMA03103** **HCMA03106** **HCMA03112** **HCMA031****	**HPMS03103** **HPMS03106** **HPMS03112** **HPMS031****	**HPMA03103** **HPMA03106** **HPMA03112** **HPMA031****	**HJMS03103** **HJMS03106** **HJMS03112** **HJMS031****
4		3 ft (0.91m) 6 ft (1.83m) 12 ft (3.66m) All other lengths▲	**HCMS04103** **HCMS04106** **HCMS04112** **HCMS041****	**HCMA04103** **HCMA04106** **HCMA04112** **HCMA041****	**HPMS04103** **HPMS04106** **HPMS04112** **HPMS041****	**HPMA04103** **HPMA04106** **HPMA04112** **HPMA041****	**HJMS04103** **HJMS04106** **HJMS04112** **HJMS041****
5		3 ft (0.91m) 6 ft (1.83m) 12 ft/3.66m) All other lengths▲	**HCMS05103** **HCMS05106** **HCMS05112** **HCMS051****	**HCMA05103** **HCMA05106** **HCMA05112** **HCMA051****	**HPMS05103** **HPMS05106** **HPMS05112** **HPMS051****	**HPMA05103** **HPMA05106** **HPMA05112** **HPMA051****	**HJMS05103** **HJMS05106** **HJMS05112** **HJMS051****
6		3 ft/0.91m) 6 ft/1.83m) 12 ft/3.66m) All other lengths▲	**HCMS06103** **HCMS06106** **HCMS06112** **HCMS061****	**HCMA06103** **HCMA06106** **HCMA06112** **HCMA061****	**HPMS06103** **HPMS06106** **HPMS06112** **HPMS061****	**HPMA06103** **HPMA06106** **HPMA06112** **HPMA061****	**HJMS06103** **HJMS06106** **HJMS06112** **HJMS061****

*Note: ▲Replace ** with length required in feet. For nylon coupling nuts, replace "M" with "N" per the ordering chart above.*
*Example: change HP**M**A05106 to HP**N**A05106.*

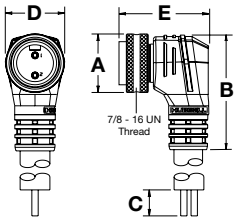
Mini-Quick® 2 - 6 Pole Plugs

Straight Plug



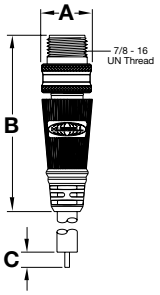
	MALE	FEMALE
A	0.99" (25.2)	0.99 (25.2)
B	2.44" (62.0)	2.40 (61.0)
C	2.75" (69.9)	2.75 (69.9)

Right Angle Plug



	MALE	FEMALE
A	0.99" (25.2)	0.99" (25.2)
B	2.14" (54.4)	2.14" (54.4)
C	2.75" (69.9)	2.75" (69.9)
D	1.03" (26.2)	1.03" (26.2)
E	1.64" (40.6)	1.60" (40.6)

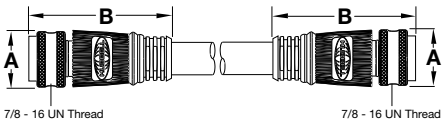
Inline Plug



	MALE
A	0.99" (25.2)
B	2.47" (62.8)
C	2.75" (69.9)

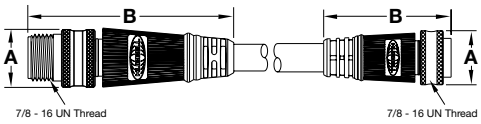
Right Angle version also available.

Jumper Cable



	MALE	FEMALE
A	0.99" (25.2)	0.99" (25.2)
B	2.44" (62.0)	2.40" (61.0)

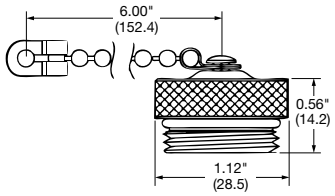
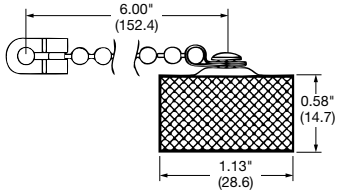
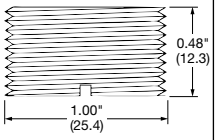
Male/Female Extension Cable



	MALE	FEMALE
A	0.99" (25.2)	0.99" (25.2)
B	2.47" (62.7)	2.40" (61.0)

Accessories

Closure caps protect plugs and receptacles when not in use. Adapter rings allow the mating of male and female plugs for in-line applications. Shell size is 1, and the thread is 7/8-16 UN.

Description	Catalog Number	
Closure Cap	**HPCAP1**	
Closure Cap	**HRCAP1**	
Adapter Ring	**HMQAR1**	

Dimensions in Inches (mm)

Cable Diameters By Cable Type

Number of Conductors	#16 AWG SEOOW	#18 AWG SEOOW
2	0.37" (9.4)	0.35" (8.9)
3	0.39" (9.9)	0.37" (9.4)
4	0.42" (10.7)	0.39" (9.9)
5	0.50" (12.7)	0.47" (11.9)
6	0.52" (13.2)	0.48" (12.2)

Conductor Color Code

#16 AWG SEOOW Plugs

Contact Number	2 Pole	3 Pole	4 Pole	5 Pole	6 Pole
1	White	Green	Black	White	White
2	Black	Black	White	Red	Red
3		White	Red	Green	Green
4			Green	Orange	Orange
5				Black	Black
6					Blue

#18 AWG SEOOW Plugs

Contact Number	3 Pole	4 Pole	5 Pole
1	Green	Black	White
2	Black	White	Red
3	White	Red	Green
4		Green	Orange
5			Black

Mini-Quick® 2 - 6 Pole Receptacles

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

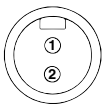
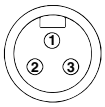
For example, catalog number **HBMS05501** is derived as follows:

DEVICE TYPE	SHELL MATERIAL	BODY STYLE	POLES	CONDUCTOR TYPE	LEAD WIRE LENGTH (ft)
HR = Receptacle, Female **HB** = Receptacle, Male	**M** = Metallic **N** = Nylon	**A** = Right Angle* **S** = Straight **F** = Flange Mount* **Metallic Only*	**02** **03** **04** **05** **06**	**5** = #16 AWG Discrete Wire **6** = #18 AWG IEC Discrete Wire (IEC colors)* **3 - 5 Pole Only*	**01*** ** **1 Standard Length* ***Replace with Length*
↓ **HB**	↓ **M**	↓ **S**	↓ **05**	↓ **5**	↓ **01**

Note: Availability of specific items may vary. Consult factory for delivery. Use this chart to build receptacles to meet any application need. Consult the factory for additional wire lengths or wire types.

Mini-Quick® 2 - 6 Pole Receptacles

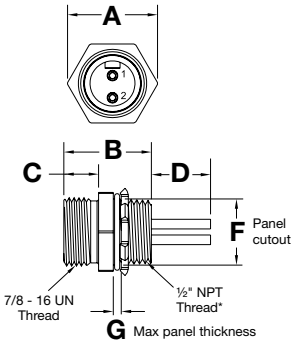
#16 AWG Discrete Wire◆

Poles	Male Face Shown Female - mirror image	Female Receptacles				Male Receptacles			
		Straight	Nylon	Right Angle	Flange Mount	Straight	Nylon	Right Angle	Flange Mount
2		**HRMS02501**	**HRNS02501**	**HRMA02501**	**HRMF02501**	**HBMS02501**	**HBNS02501**	**HBMA02501**	**HBMF02501**
3		**HRMS03501**	**HRNS03501**	**HRMA03501**	**HRMF03501**	**HBMS03501**	**HBNS03501**	**HBMA03501**	**HBMF03501**
4		**HRMS04501**	**HRNS04501**	**HRMA04501**	**HRMF04501**	**HBMS04501**	**HBNS04501**	**HBMA04501**	**HBMF04501**
5		**HRMS05501**	**HRNS05501**	**HRMA05501**	**HRMF05501**	**HBMS05501**	**HBNS05501**	**HBMA05501**	**HBMF05501**
6		**HRMS06501**	**HRNS06501**	**HRMA06501**	**HRMF06501**	**HBMS06501**	**HBNS06501**	**HBMA06501**	**HBMF06501**

Note: ◆For #18 AWG IEC discrete wire, change the conductor type using the Hubbell Logic chart above.

Mini-Quick® 2 - 6 Pole Receptacles

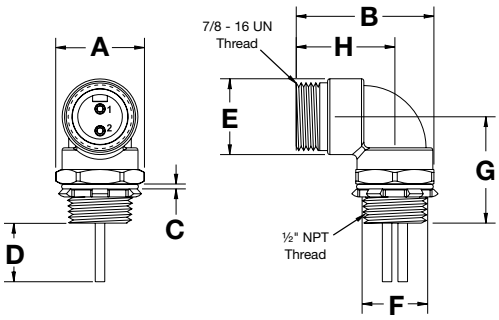
Straight Receptacles



	MALE	FEMALE
A	1.14" (29.0)	1.14" (29.0)
B	1.11" (28.2)	1.11" (28.2)
C	0.44" (11.2)	0.44" (11.2)
D	12.0" (304.8)	12.0" (304.8)
F	0.88" (22.4)	0.83" (22.4)
G	0.25" (6.4)	0.25" (6.4)

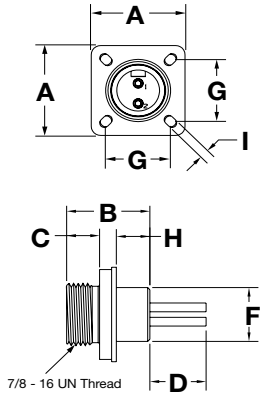
*Note: *IEC receptacle has PG13.5 rear thread.*

Right Angle Receptacles



	MALE	FEMALE
A	1.14" (29.0)	1.14" (29.0)
B	1.76" (44.7)	1.76" (44.7)
C	0.25" (6.4)	0.25" (6.4)
D	12.0" (304.8)	12.0" (304.8)
E	0.97" (24.6)	0.97" (24.6)
F	0.83" (21.8)	0.83" (21.8)
G	1.36" (34.5)	1.36" (34.5)
H	1.26" (32.0)	1.26" (32.0)

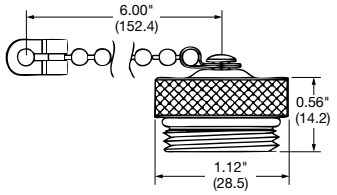
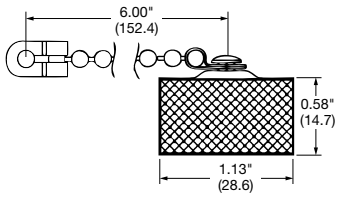
Flange Mount Receptacles



	MALE	FEMALE
A	1.25" (31.75)	1.25" (31.75)
B	1.11" (28.19)	1.11" (28.19)
C	0.44" (11.18)	0.44" (11.18)
D	12.0" (304.8)	12.0" (304.8)
F	0.75" (19.05)	0.75" (19.05)
G	0.86" (21.84)	0.86" (21.84)
H	0.45" (11.43)	0.45" (11.43)
I	0.12" (03.02)	0.12" (03.02)

Accessories

Closure caps protect plugs and receptacles when not in use.
Shell size is 1, and the thread is 7/8-16 UN.

Description	Catalog Number	
Closure Cap	**HPCAP1**	
Closure Cap	**HRCAP1**	

Dimensions in Inches (mm)

Color Code By Wire Type

#16 AWG Receptacles

Contact Number	2 Pole	3 Pole	4 Pole	5 Pole	6 Pole
1	White	Green	Black	White	White
2	Black	Black	White	Red	Red
3		White	Red	Green	Green
4			Green	Orange	Orange
5				Black	Black
6					Blue

#18 AWG Receptacles

Contact Number	3 Pole	4 Pole	5 Pole
1	Yellow/Green	Black	Black
2	Brown	Blue	Blue
3	Blue	Brown	Yellow/Green
4		White	Brown
5			White

Mini-Quick® 7 - 12 Pole Plugs

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

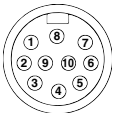
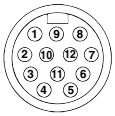
For example, catalog number **HCMA08112** is derived as follows:

DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	POLES	CONDUCTOR TYPE	CABLE LENGTH (ft)
HC = Plug, Female **HP** = Plug, Male **HJ** = Male/Female Jumper Cable	**M** = Metallic **N** = Nylon	**A** = Right Angle **S** = Straight	**07** **08** **09** **10** **12**	**1** = #16 AWG SEOOW Cable	****** **03** **06** **12** **20** ***Replace with Length*
↓	↓	↓	↓	↓	↓
HC	**M**	**A**	**08**	**1**	**12**

Note: Availability of specific items may vary. Consult factory for delivery. Consult the factory for additional cable lengths or cable types.

Mini-Quick® 7 - 12 Pole Plugs

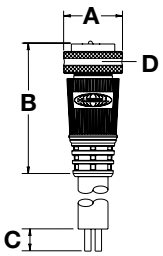
Catalog numbers using #16 AWG SEOOW cable are listed below.

Poles	Male Face Shown Female - mirror image	Cable Length	Female Plugs		Male Plugs		Male/Female JumperCables
			Straight	Right Angle	Straight	Right Angle	Straight
7		3 ft (0.91m) 6 ft (1.83m) 12 ft (3.66m) All other lengths▲	**HCMS07103** **HCMS07106** **HCMS07112** **HCMS071****	**HCMA07103** **HCMA07106** **HCMA07112** **HCMA071****	**HPMS07103** **HPMS07106** **HPMS07112** **HPMS071****	**HPMA07103** **HPMA07106** **HPMA07112** **HPMA071****	**HJMS07103** **HJMS07106** **HJMS07112** **HJMS071****
8		3 ft (0.91m) 6 ft (1.83m) 12 ft (3.66m) All other lengths▲	**HCMS08103** **HCMS08106** **HCMS08112** **HCMS081****	**HCMA08103** **HCMA08106** **HCMA08112** **HCMA081****	**HPMS08103** **HPMS08106** **HPMS08112** **HPMS081****	**HPMA08103** **HPMA08106** **HPMA08112** **HPMA081****	**HJMS08103** **HJMS08106** **HJMS08112** **HJMS081****
9		3 ft (0.91m) 6 ft (1.83m) 12 ft (3.66m) All other lengths▲	**HCMS09103** **HCMS09106** **HCMS09112** **HCMS091****	**HCMA09103** **HCMA09106** **HCMA09112** **HCMA091****	**HPMS09103** **HPMS09106** **HPMS09112** **HPMS091****	**HPMA09103** **HPMA09106** **HPMA09112** **HPMA091****	**HJMS09103** **HJMS09106** **HJMS09112** **HJMS091****
10		3 ft (0.91m) 6 ft (1.83m) 12 ft/3.66m) All other lengths▲	**HCMS10103** **HCMS10106** **HCMS10112** **HCMS101****	**HCMA10103** **HCMA10106** **HCMA10112** **HCMA101****	**HPMS10103** **HPMS10106** **HPMS10112** **HPMS101****	**HPMA10103** **HPMA10106** **HPMA10112** **HPMA101****	**HJMS10103** **HJMS10106** **HJMS10112** **HJMS101****
12		3 ft/0.91m) 6 ft/1.83m) 12 ft/3.66m) All other lengths▲	**HCMS12103** **HCMS12106** **HCMS12112** **HCMS121****	**HCMA12103** **HCMA12106** **HCMA12112** **HCMA121****	**HPMS12103** **HPMS12106** **HPMS12112** **HPMS121****	**HPMA12103** **HPMA12106** **HPMA12112** **HPMA121****	**HJMS12103** **HJMS12106** **HJMS12112** **HJMS121****

*Note: ▲Replace ** with length required in feet. For nylon coupling nuts, replace "M" with "N" per the ordering chart above.*
*Example: change HP**M**A07106 to HP**N**A07106.*

Mini-Quick® 7 - 12 Pole Plugs

Straight Plug



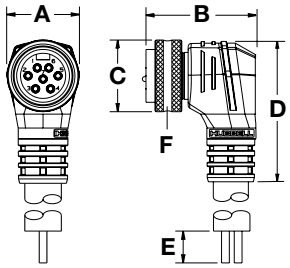
7 - 8 Pole

	MALE	FEMALE
A	1.12" (28.5)	1.12" (28.5)
B	2.53" (64.3)	2.49" (63.3)
C	2.75" (69.9)	2.75" (69.9)
D	1 - 16 UN Thread	

9 - 12 Pole

	MALE	FEMALE
A	1.25" (31.8)	1.25" (31.8)
B	2.77" (70.4)	2.73" (69.3)
C	2.75" (69.9)	2.75" (69.9)
D	1 1/8 - 16 UN Thread	

Right Angle Plug



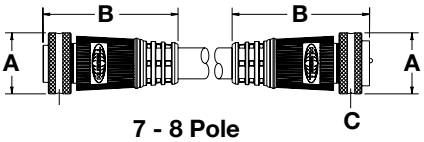
7 - 8 Pole

	MALE	FEMALE
A	1.14" (29.0)	1.14" (29.0)
B	1.73" (43.9)	1.69" (42.9)
C	1.12" (28.5)	1.12" (28.5)
D	2.22" (56.4)	2.22" (56.4)
E	2.75" (69.9)	2.75" (69.9)
F	1 - 16 UN Thread	

9 - 12 Pole

	MALE	FEMALE
A	1.25" (31.8)	1.25" (31.8)
B	1.84" (47.0)	1.80" (45.7)
C	1.25" (31.8)	1.25" (31.8)
D	2.54" (64.5)	2.54" (64.5)
E	2.75" (69.9)	2.75" (69.9)
F	1 1/8 - 16 UN Thread	

Jumper Cable



7 - 8 Pole

	MALE	FEMALE
A	1.12" (28.5)	1.12" (28.5)
B	2.53" (64.3)	2.49" (63.3)
C	1 - 16 UN Thread	

9 - 12 Pole

	MALE	FEMALE
A	1.25" (31.8)	1.25" (31.8)
B	2.77" (70.4)	2.73" (69.3)
C	1 1/8 - 16 UN Thread	

Cable Diameters By Cable Type

Number of Conductors	#16 AWG STOOW
7	0.52" (13.2)
8	0.56" (14.2)
9	0.60" (15.2)
10	0.65" (16.7)
12	0.70" (17.7)

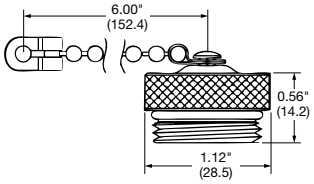
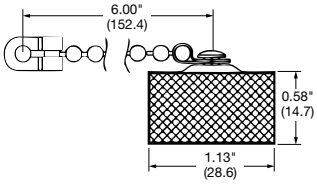
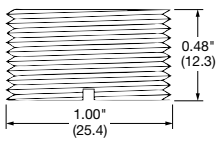
Conductor Color Code

#16 AWG SEOOW Plugs

Contact Number	2 Pole	3 Pole	4 Pole	5 Pole	6 Pole	7 Pole	8 Pole	9 Pole	10 Pole	12 Pole
1	White	Green	Black	White	White	White/Black	Orange	Orange	Orange	Orange
2	Black	Black	White	Red	Red	Black	Blue	Blue	Blue	Blue
3		White	Red	Green	Green	White	White/Black	Red/Black	White/Black	White/Black
4			Green	Orange	Orange	Red	Black	Green/Black	Red/Black	Red/Black
5				Black	Black	Orange	White	White	Green/Black	Green/Black
6					Blue	Blue	Red	Red	Orange/Black	Orange/Black
7						Green	Green	Green	Red	Blue/Black
8							Red/Black	White/Black	Green	Black/White
9								Black	Black	Green
10									White	Red
11										White
12										Black

Accessories

Closure caps protect plugs and receptacles when not in use. Adapter rings allow the mating of male and female plugs for in-line applications.

Description	Closure Cap Shell Size	Closure Cap Thread Size	Closure Cap Catalog Number	Closure Cap Shell Size	Closure Cap Thread Size	Closure Cap Catalog Number	Adapter Ring Shell Size	Adapter Ring Thread Size	Adapter Ring Catalog Number
7 to 8 Pole	II	1 - 16 UN	**HPCAP2**	II	1 - 16 UN	**HRCAP2**	II	1 - 16 UN	**HMQAR2**
9 to 12 Pole	III	1 1/8 - 16UN	**HPCAP3**	III	1 1/8 - 16UN	**HRCAP3**	III	1 1/8 - 16UN	**HMQAR3**
									
Cap Size	II- 1.12" (28.5), III- 1.25" (31.8)			II- 1.13" (28.6), III- 1.25" (31.8)			II- 1.00" (25.4), III- 1.13" (28.6)		

Dimensions in Inches (mm)

Mini-Quick® 7 - 12 Pole Receptacles

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

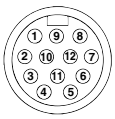
For example, catalog number **HRMS10501** is derived as follows:

DEVICE TYPE	SHELL MATERIAL	BODY STYLE	POLES	CONDUCTOR TYPE	LEAD WIRE LENGTH (ft)
HR = Receptacle, Female **HB** = Receptacle, Male	**M** = Metallic	**S** = Straight	**07** **08** **09** **10** **12**	**5** = #16 AWG Discrete Wire	**01*** ** **1 Standard Length* ***Replace with Length*
↓	↓	↓	↓	↓	↓
HR	**M**	**S**	**10**	**5**	**01**

Note: Availability of specific items may vary. Consult factory for delivery. Consult the factory for additional wire lengths or wire types.

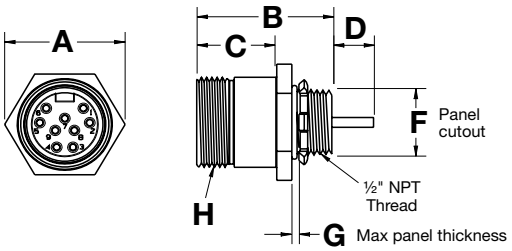
Mini-Quick® 7 - 12 Pole Receptacles

#16 AWG Discrete Wire

Poles	Male Face Shown Female - mirror image	Female Receptacles	Male Receptacles
7		**HRMS07501**	**HBMS07501**
8		**HRMS08501**	**HBMS08501**
9		**HRMS09501**	**HBMS09501**
10		**HRMS10501**	**HBMS10501**
12		**HRMS12501**	**HBMS12501**

Mini-Quick® 7 - 12 Pole Receptacles

Straight Receptacles



7 - 8 Pole

	MALE	FEMALE
A	1.29" (32.8)	1.29" (32.8)
B	1.44" (36.6)	1.44" (36.6)
C	0.80" (20.3)	0.80" (20.3)
D	12.0" (304.8)	12.0" (304.8)
F	0.83" (21.1)	0.83" (21.1)
G	0.25" (6.4)	0.25" (6.4)
H	1 - 16 UN Thread	

9 - 12 Pole

	MALE	FEMALE
A	1.44" (36.6)	1.44" (36.6)
B	1.62" (41.2)	1.62" (41.2)
C	0.96" (24.4)	0.96" (24.4)
D	12.0" (304.8)	12.0" (304.8)
F	0.83" (21.1)	0.83" (21.1)
G	0.25" (6.4)	0.25" (6.4)
H	1 1/8 - 16 UN Thread	

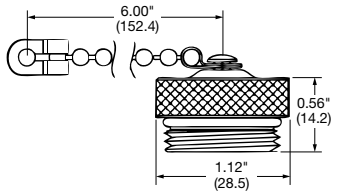
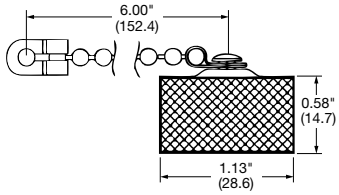
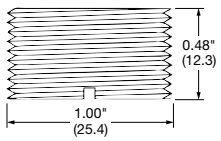
Conductor Color Code

#16 AWG Receptacles

Contact Number	2 Pole	3 Pole	4 Pole	5 Pole	6 Pole	7 Pole	8 Pole	9 Pole	10 Pole	12 Pole
1	White	Green	Black	White	White	White/Black	Orange	Orange	Orange	Orange
2	Black	Black	White	Red	Red	Black	Blue	Blue	Blue	Blue
3		White	Red	Green	Green	White	White/Black	Red/Black	White/Black	White/Black
4			Green	Orange	Orange	Red	Black	Green/Black	Red/Black	Red/Black
5				Black	Black	Orange	White	White	Green/Black	Green/Black
6					Blue	Blue	Red	Red	Orange/Black	Orange/Black
7						Green	Green	Green	Red	Blue/Black
8							Red/Black	White/Black	Green	Black/White
9								Black	Black	Green
10									White	Red
11										White
12										Black

Accessories

Closure caps protect plugs and receptacles when not in use. Adapter rings allow the mating of male and female plugs for in-line applications.

Description	Closure Cap Shell Size	Closure Cap Thread Size	Closure Cap Catalog Number	Closure Cap Shell Size	Closure Cap Thread Size	Closure Cap Catalog Number	Adapter Ring Shell Size	Adapter Ring Thread Size	Adapter Ring Catalog Number
7 to 8 Pole	II	1 - 16 UN	**HPCAP2**	II	1 - 16 UN	**HRCAP2**	II	1 - 16 UN	**HMQAR2**
9 to 12 Pole	III	1 1/8 - 16UN	**HPCAP3**	III	1 1/8 - 16UN	**HRCAP3**	III	1 1/8 - 16UN	**HMQAR3**
									
Cap Size	II- 1.12" (28.5), III- 1.25" (31.8)			II- 1.13" (28.6), III- 1.25" (31.8)			II- 1.00" (25.4), III- 1.13" (28.6)		

Dimensions in Inches (mm)

Features and Benefits

IP66
SUITABILITY

Mini-Quick® Field Attachable Connectors - Screw Terminal Style

Electrical Specifications

Voltage Rating	250V
Amperage	3 Pin - 12A 4,5 Pin - 9A
Wire Size, Max	#16 AWG

Mechanical Specifications

Coupling Nut	Anodized aluminum, SST consult factory
Connector Shell	PBT
Connector Insert	PUR/PA
Contacts	Brass, gold plate over palladium nickel

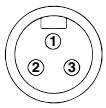
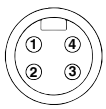
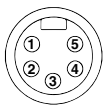
Environmental Specifications

Moisture Resistance	IP66 Suitability
Operating Temperature	-40°C to 85°C

Housing Design
- High impact body design
- Strain relief protects terminations

Internal Design
- Superior contact design utilizing high performance gold over palladium nickel plating
- Coupling nut anodized aluminum, SST option consult factory
- Precision wire funnels eliminate stray strands

Mini-Quick® 3 - 5 Pole Field Attachable Connectors

Poles	Male Face Shown Female - mirror image	Cable Range	Female Connector		Male In-Line Connector		Male Connector	
			Straight	Right Angle	Straight	Right Angle	Straight	Right Angle
3		.24"-.32" (6.1-8.1) .39"-.47" (9.9-11.9) .47"-.55" (11.9-13.1)	**HCMS03F9** **HCMS03F13** —	**HCMA03F9** — —	**HIMS03F9** **HIMS03F13** —	**HIMA03F9** — —	**HPMS03F9** **HPMS03F13** —	**HPMA03F9** — —
4		.24"-.32" (6.1-8.1) .39"-.47" (9.9-11.9) .47"-.55" (11.9-13.1)	**HCMS04F9** **HCMS04F13** **HCMS04F16**	**HCMA04F9** — —	**HIMS04F9** **HIMS04F13** **HIMS04F16**	**HIMA04F9** — —	**HPMS04F9** **HPMS04F13** **HPMS04F16**	**HPMA04F9** — —
5		.24"-.32" (6.1-8.1) .39"-.47" (9.9-11.9) .47"-.55" (11.9-13.1)	**HCMS05F9** **HCMS05F13** **HCMS05F16**	**HCMA05F9** — —	**HIMS05F9** **HIMS05F13** **HIMS05F16**	**HIMA05F9** — —	**HPMS05F9** **HPMS05F13** **HPMS05F16**	**HPMA05F9** — —

Female, Straight
Male, Straight

Female, Right Angle
Male, Right Angle

Male In-Line, Straight

Male In-Line, Right Angle

Dimensions in Inches (mm)

c UL us LISTED

Features and Benefits

IP66 SUITABILITY

Micro-Quick® Control Connectors

- Nickel plated brass coupling nuts and receptacle shells
- Black overmold and cable
- Insulgrip connector body design
- Beryllium copper socket contacts
- Standard #22 AWG cable 85% copper braid coverage
- Plating resists corrosion in high abuse environments
- Strong, resilient base metal ensures contacts maintain their shape and continuity over time.
- Cable resists nicks and abrasions and provides shielding when braid is terminated
- Resilient base metal maintains socket contact shape
- Ergonomic connector body has an industrial look

Housing Design

- Gated strain relief with graduated window sizes distributes force away from contacts to protect terminations

Internal Design

- Hard gold over palladium/nickel contact plating high mating cycles and longer contact life
- O-rings for moisture protection
- Custom knurled, anti-vibration coupling nut prevents conection from loosening under harsh vibration conditions
- Indicator ring ensures proper mating

Material Specifications

Insulator Materials		Nylon 6/6, White
Contact Materials		Pins - Brass Sockets - Beryllium copper
Contact Plating		Hard gold over palladium/nickel
Overmold Material		Glass filled polyurethane, Black
Coupling Nut, Metallic		Nickel plated brass
Coupling Nut, Nylon		Nylon 6/6, Black
Receptacle Shell		Nickel plated brass
Cable	#22 AWG -	PVC jacket (black) PVC conductor insulation Copper braid - 85% coverage Stranding - 19/34
	#18 AWG -	TPE jacket (black) PVC conductor insulation Stranding - 41/34
Strain Relief	#22 AWG -	20 pounds min per UL2238
	#18 AWG -	30 pounds min per UL 2238

Electrical Specifications

Voltage Rating	300V DC/300V AC
Amperage	#22 AWG - 2&3P=5A, 4&5P=4A, 6P=3A #18 AWG - 2&3P=8A, 4P=6A, 5P=5A
Contact Resistance	≤ 5 mΩ
Isolation Resistance	≥ 1000 MΩ

Environmental Specifications

Moisture Protection	UL Type 4, 4X, 12 and 13
Ingress Protection	IP66 Suitability
Operating Temperature	#22 AWG PVC cable: -20°C to 105° C #18 AWG TPE cable: -40°C to 105° C
Corrosion Resistance	500 hours salt spray per MIL-STD-1344, Method 1001
Vibration Resistance	10 - 2,000 Hz @15g per MIL-STD-1344, Method 2005

Certifications

UL 2238 and UL50E, File No. E192071

CSA Certified, C22.2 No. 182.3 and CSA C22.2 No. 94.2-07

Micro-Quick® Single Key 3 - 5 Pole Plugs

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

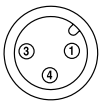
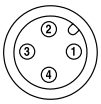
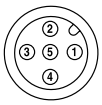
For example, catalog number **MCMS1312** is derived as follows:

DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	KEY STYLE	POLES	CONDUCTOR TYPE	CABLE LENGTH (m)
MC = Plug, Female **MI** = Plug, Male Inline **ME** = Male/Female Extension Cable	**M** = Metallic **N** = Nylon	**A** = Right Angle **S** = Straight	**1** = Single	**3** **4** **5**	**1** = #22 AWG PVC Cable **2** = #18 AWG TPE Cable* **2 - 4 Pole Only*	****** **2** **4** **5** ***Replace with Length*
↓ **MC**	↓ **M**	↓ **S**	↓ **1**	↓ **3**	↓ **1**	↓ **2**

Note: Availability of specific items may vary. Consult factory for delivery. Consult the factory for additional cable lengths or cable types.

Micro-Quick® 3 - 5 Pole Single Key Plugs

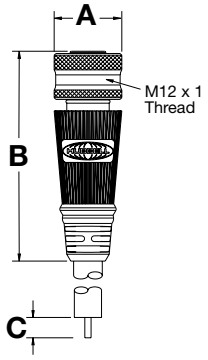
Catalog numbers using #22 AWG PVC cable are listed below. For #18 AWG TPE cable, change the conductor type per the Hubbell Logic chart above.

Poles	Male Face Shown Female - mirror image	Cable Length	Female Plugs		Male In-Line Plugs	Male/Female Extension Cables
			Straight	Right Angle	Straight	Straight
3		6.56 ft (2m) 13.12 ft (4m) 16.40 ft (5m) All other lengths▲	**MCMS1312** **MCMS1314** **MCMS1315** **MCMS131****	**MCMA1312** **MCMA1314** **MCMA1315** **MCMA131****	**MIMS1312** **MIMS1314** **MIMS1315** **MIMS131****	**MEMS1312** **MEMS1314** **MEMS1315** **MEMS131****
4		6.56 ft (2m) 13.12 ft (4m) 16.40 ft (5m) All other lengths▲	**MCMS1412** **MCMS1414** **MCMS1415** **MCMS141****	**MCMA1412** **MCMA1414** **MCMA1415** **MCMA141****	**MIMS1412** **MIMS1414** **MIMS1415** **MIMS141****	**MEMS1412** **MEMS1414** **MEMS1415** **MEMS141****
5		6.56 ft (2m) 13.12 ft (4m) 16.40 ft (5m) All other lengths▲	**MCMS1512** **MCMS1514** **MCMS1515** **MCMS151****	**MCMA1512** **MCMA1514** **MCMA1515** **MCMA151****	**MIMS1512** **MIMS1514** **MIMS1515** **MIMS151****	**MEMS1512** **MEMS1514** **MEMS1515** **MEMS151****

*Note: ▲Replace ** with length required in meters. For nylon coupling nuts, replace "M" with "N" per the ordering chart above. Example: change MCMA1412 to MCNA1412.*

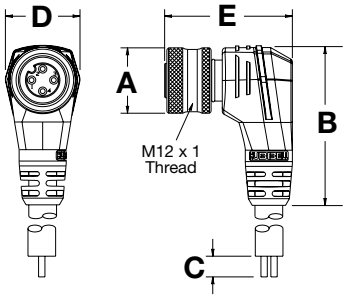
Micro-Quick® Single Key 3 - 5 Pole Plugs

Straight Female Plug



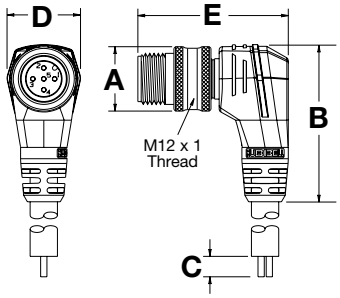
A	0.59" (15.0)
B	1.83" (46.5)
C	2.75" (69.9)

Right Angle Female Plug



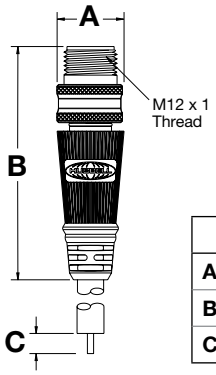
A	0.59" (15.0)
B	1.44" (36.6)
C	2.75" (69.9)
D	0.67" (17.0)
E	1.15" (29.2)

Right Male In-Line Plug



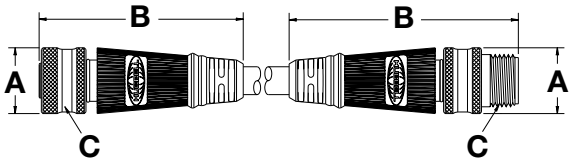
A	0.59" (15.0)
B	1.44" (36.6)
C	2.75" (69.9)
D	0.67" (17.0)
E	1.38" (35.1)

Straight Male In-Line Plug



	MALE
A	0.59" (15.0)
B	2.06" (52.3)
C	2.75" (69.9)

Extension Cable



	FEMALE	MALE
A	0.59" (15.0)	0.59" (15.0)
B	1.83" (46.5)	2.06" (52.3)
C	M12 x 1	

Cable Diameters By Cable Type

Number of Conductors	#22 AWG PVC	#18 AWG TPE
3	0.21" (5.3)	0.24" (6.1)
4	0.22" (5.7)	0.26" (6.6)
5	0.26" (6.6)	0.28" (7.1)

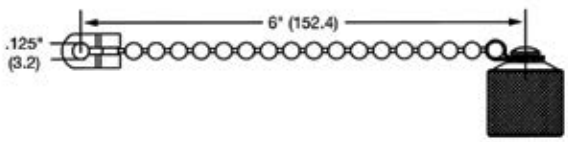
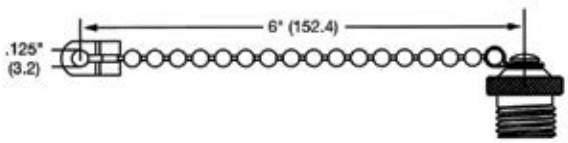
Conductor Color Code

Contact Number	3 Pole	4 Pole	5 Pole
1	Brown	Brown	Brown
2	Not Used	White	White
3	Blue	Blue	Blue
4	Black	Black	Black
5	Not Used	Not Used	Gray

Accessories

Dust Caps

Closure caps protect plugs and receptacles when not in use. Thread is M12 x 1.

Catalog Number	
MRCM1	
MPCM1	

Dimensions in Inches (mm)

Micro-Quick® Single Key 3 - 5 Pole Receptacles

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

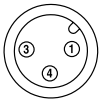
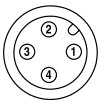
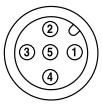
For example, catalog number **MRMS13314** is derived as follows:

DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	KEY STYLE	POLES	CONDUCTOR TYPE	REAR THREAD STYLE
MB = Receptacle, Male **MF** = Receptacle, Female Inverse	**M** = Metallic	**S** = Straight	**1** = Single	**3** **4** **5**	**3** = #22 AWG PVC Discrete Wire **4** = #18 AWG PVC Discrete Wire* **3 - 4 Pole Only*	**14** = M14x1* **25** = ¼" NPT** **50** = ½" NPT* **MB Style Only* ***MF Style Only*
↓	↓	↓	↓	↓	↓	↓
MR	**M**	**S**	**1**	**3**	**3**	**14**

Note: Availability of specific items may vary. Consult factory for delivery. Consult the factory for additional cable lengths or cable types.

Micro-Quick® 3 - 5 Pole Single Key Receptacles- #22 AWG Discrete Wire*

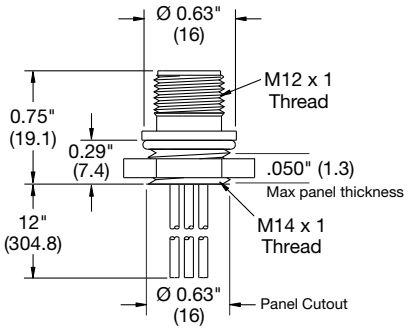
Catalog numbers using #22 AWG PVC discrete wire are listed below. For #18 AWG PVC discrete wire, change the conductor type per the Hubbell Logic chart above.

Poles	Male Face Shown Female - mirror image	Male Receptacle Rear Thread Style		Female Inverse Receptacles Rear Thread Style
		M14 x 1	½" NPT	¼" NPT
3		**MBMS13314**	**MBMS13350**	**MFMS13325**
4		**MBMS14314**	**MBMS14350**	**MFMS14325**
5		**MBMS15314**	**MBMS15350**	**MFMS15325**

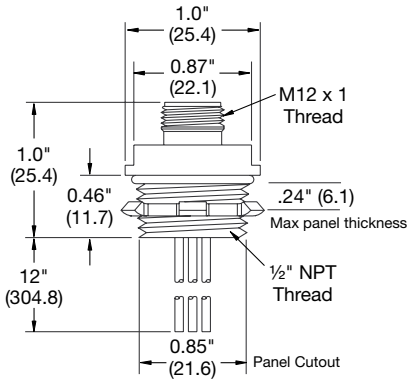
*Note: *For #18 AWG discrete wire, replace the conductor type per Hubbell Logic chart above.*
All receptacles available in 1ft. length standard. For additional lengths, please consult factory.

Micro-Quick® Single Key 3 - 5 Pole Receptacles

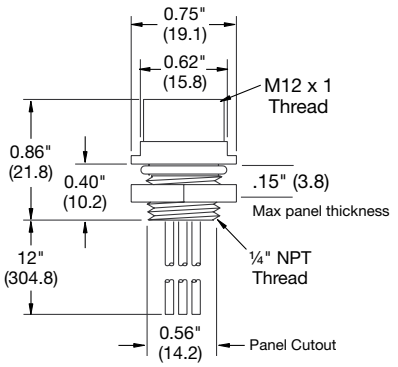
Male Receptacle Rear Thread - M14x1



Male Receptacle Rear Thread - ½" NPT



Female Inverse Receptacle Rear Thread - ¼" NPT



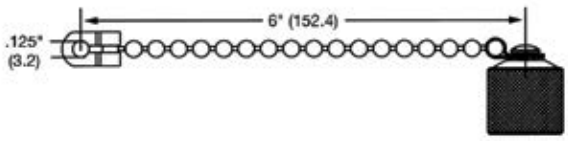
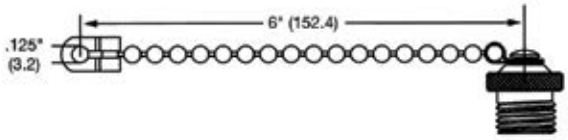
Conductor Color Code - Single Key

Contact Number	3 Pole	4 Pole	5 Pole
1	Brown	Brown	Brown
2	Not Used	White	White
3	Blue	Blue	Blue
4	Black	Black	Black
5	Not Used	Not Used	Gray

Accessories

Dust Caps

Closure caps protect plugs and receptacles when not in use. Thread is M12 x 1.

Catalog Number	
MRCM1	
MPCM1	

Dimensions in Inches (mm)

Micro-Quick® Dual Key 2 - 6 Pole Plugs

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

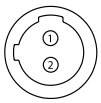
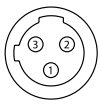
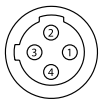
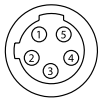
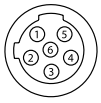
For example, catalog number **MPMS2512** is derived as follows:

DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	KEY STYLE	POLES	CONDUCTOR TYPE	CABLE LENGTH (m)
MC = Plug, Female **MP** = Plug, Male **MI** = Plug, Male Inline **ME** = Male/Female Extension Cable	**M** = Metallic **N** = Nylon	**A** = Right Angle **S** = Straight	**2** = Dual	**2** **3** **4** **5** **6**	**1** = #22 AWG PVC Cable **2** = #18 AWG TPE Cable* *2 - 5 Pole Only	****** **2** **4** **5** ****Replace with Length**
↓ **MP**	↓ **M**	↓ **S**	↓ **2**	↓ **5**	↓ **1**	↓ **2**

Note: Availability of specific items may vary. Consult factory for delivery. Consult the factory for additional cable lengths or cable types.

Micro-Quick® 2 - 6 Pole Dual Key Plugs

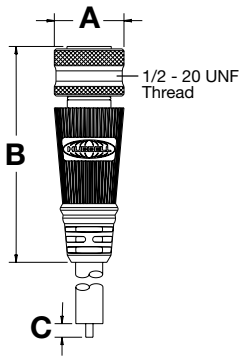
Catalog numbers using #22 AWG PVC cable are listed below. For #18 AWG TPE cable, change the conductor type per the Hubbell Logic chart above.

Poles	Male Face Shown Female - mirror image	Cable Length	Female Plugs		Male Plugs			Male/Female Extension Cables
			Straight	Right Angle	Straight	Right Angle	In-Line Straight	Straight
2		6.56 ft (2m) 13.12 ft (4m) 16.40 ft (5m) All other lengths➹	**MCMS2212** **MCMS2214** **MCMS2215** **MCMS221****	**MCMA2212** **MCMA2214** **MCMA2215** **MCMA221****	**MPMS2212** **MPMS2214** **MPMS2215** **MPMS221****	**MPMA2212** **MPMA2214** **MPMA2215** **MPMA221****	**MIMS2212** **MIMS2214** **MIMS2215** **MIMS221****	**MEMS2212** **MEMS2214** **MEMS2215** **MEMS221****
3		6.56 ft (2m) 13.12 ft (4m) 16.40 ft (5m) All other lengths➹	**MCMS2312** **MCMS2314** **MCMS2315** **MCMS231****	**MCMA2312** **MCMA2314** **MCMA2315** **MCMA231****	**MPMS2312** **MPMS2314** **MPMS2315** **MPMS231****	**MPMA2312** **MPMA2314** **MPMA2315** **MPMA231****	**MIMS2312** **MIMS2314** **MIMS2315** **MIMS231****	**MEMS2312** **MEMS2314** **MEMS2315** **MEMS231****
4		6.56 ft (2m) 13.12 ft (4m) 16.40 ft (5m) All other lengths➹	**MCMS2412** **MCMS2414** **MCMS2415** **MCMS241****	**MCMA2412** **MCMA2414** **MCMA2415** **MCMA241****	**MPMS2412** **MPMS2414** **MPMS2415** **MPMS241****	**MPMA2412** **MPMA2414** **MPMA2415** **MPMA241****	**MIMS2412** **MIMS2414** **MIMS2415** **MIMS241****	**MEMS2412** **MEMS2414** **MEMS2415** **MEMS241****
5		6.56 ft (2m) 13.12 ft (4m) 16.40 ft (5m) All other lengths➹	**MCMS2512** **MCMS2514** **MCMS2515** **MCMS251****	**MCMA2512** **MCMA2514** **MCMA2515** **MCMA251****	**MPMS2512** **MPMS2514** **MPMS2515** **MPMS251****	**MPMA2512** **MPMA2514** **MPMA2515** **MPMA251****	**MIMS2512** **MIMS2514** **MIMS2515** **MIMS251****	**MEMS2512** **MEMS2514** **MEMS2515** **MEMS251****
6		6.56 ft (2m) 13.12 ft (4m) 16.40 ft (5m) All other lengths➹	**MCMS2612** **MCMS2614** **MCMS2615** **MCMS261****	**MCMA2612** **MCMA2614** **MCMA2615** **MCMA261****	**MPMS2612** **MPMS2614** **MPMS2615** **MPMS261****	**MPMA2612** **MPMA2614** **MPMA2615** **MPMA261****	**MIMS2612** **MIMS2614** **MIMS2615** **MIMS261****	**MEMS2612** **MEMS2614** **MEMS2615** **MEMS261****

*Note: ➹ Replace ** with length required in meters. For nylon coupling nuts, replace "M" with "N" per the ordering chart above.*
*Example: change MC**M**S2314 to MC**N**S2314.*

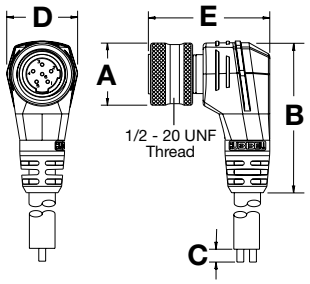
Micro-Quick® Dual Key 2 - 6 Pole Plugs

Straight Plug



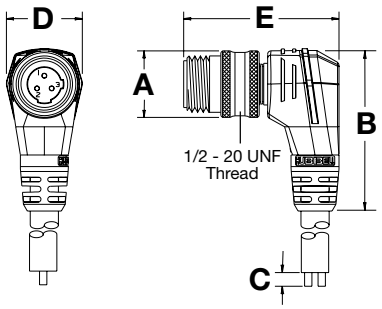
	MALE	FEMALE
A	0.59" (15.0)	0.59" (15.0)
B	1.83" (46.5)	1.83" (46.5)
C	2.75" (69.9)	2.75" (69.9)

Right Angle Plug



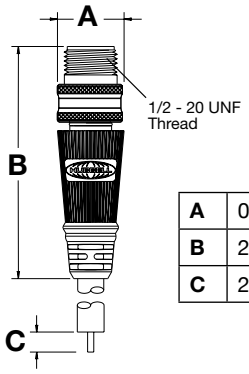
	MALE	FEMALE
A	0.59" (15.0)	0.59" (15.0)
B	1.44" (36.6)	1.44" (36.6)
C	2.75" (69.9)	2.75" (69.9)
D	0.67" (17.0)	0.67" (17.0)
E	1.15" (29.2)	1.15" (29.2)

Right Angle Male In-Line Plug



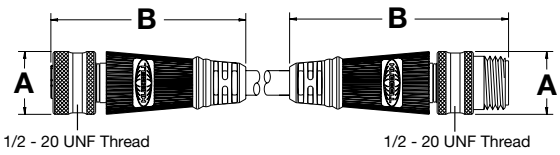
A	0.59" (15.0)
B	1.44" (36.6)
C	2.75" (69.9)
D	0.67" (17.0)
E	1.38" (35.1)

Male In-Line Plug



A	0.59" (15.0)
B	2.06" (52.3)
C	2.75" (69.9)

Extension Cable



	MALE	FEMALE
A	0.59" (15.0)	0.59" (15.0)
B	2.06" (52.3)	1.83" (46.5)

Conductor Color Code - Dual Key

Contact Number	2 Pole	3 Pole	4 Pole	5 Pole	6 Pole
1	Brown	Green	Red/Black	Red/White	Red/White
2	Blue	Red/Black	Red/White	Red	Red
3		Red/White	Red	Green	Green
4			Green	Red/Yellow	Red/Yellow
5				Red/Black	Red/Black
6					Red/Blue

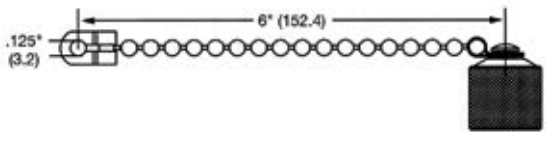
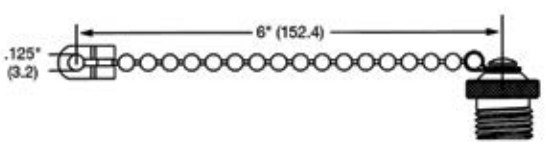
Cable Diameters By Cable Type

Number of Conductors	#22 AWG PVC	#18 AWG TPE
2	0.20" (5.1)	0.23" (5.8)
3	0.21" (5.3)	0.24" (6.09)
4	0.22" (5.7)	0.26" (6.6)
5	0.26" (6.7)	0.28" (7.1)
6	0.26" (6.5)	–

Accessories

Dust Caps

Closure caps protect plugs and receptacles when not in use.
Key style is for dual with thread of ½"-20 UNF.

Catalog Number	
MRCM2	
MPCM2	

Dimensions in Inches (mm)

Micro-Quick® Dual Key 2 - 6 Pole Receptacles

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

For example, catalog number **MRMS22325** is derived as follows:

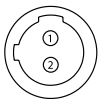
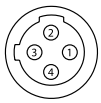
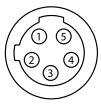
DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	KEY STYLE	POLES	CONDUCTOR TYPE	REAR THREAD STYLE
MR = Receptacle, Female **MB** = Receptacle, Male **MF** = Receptacle, Female Inverse	**M** = Metallic	**S** = Straight	**2** = Dual	**2** **3** **4** **5** **6**	**3** = #22 AWG PVC Discrete Wire **4** = #18 AWG PVC Discrete Wire* **2 - 5 Pole Only*	**25** = ¼" NPT* **50** = ½" NPT **MF Style Only*
↓	↓	↓	↓	↓	↓	↓
MR	**M**	**S**	**2**	**2**	**3**	**25**

Note: Availability of specific items may vary. Consult factory for delivery. Consult the factory for additional cable lengths or cable types.

Male Receptacle Rear Thread Style		Female Inverse Receptacles Rear Thread Style
M14 X 1	**½" NPT**	**¼" NPT**

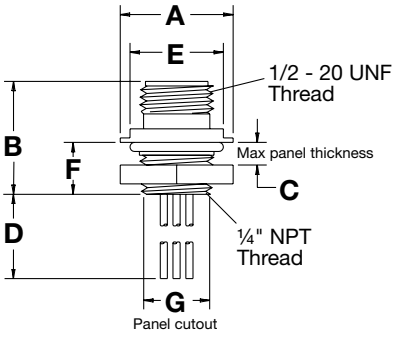
Micro-Quick® 2 - 6 Pole Dual Key Receptacles

Catalog numbers using #22 AWG PVC cable are listed below. For #18 AWG PVC discrete wire, change the conductor type per the Hubbell Logic chart above.

Poles	Male Face Shown Female - mirror image	Female Receptacle Rear Thread Style		Male Receptacle Rear Thread Style		Female Inverse Receptacles
		¼" NPT	½" NPT	¼" NPT	½" NPT	¼" NPT
2		**MRMS22325**	**MRMS22350**	**MBMS22325**	**MBMS22350**	**MFMS22325**
3		**MRMS23325**	**MRMS23350**	**MBMS23325**	**MBMS23350**	**MFMS23325**
4		**MRMS24325**	**MRMS24350**	**MBMS24325**	**MBMS24350**	**MFMS24325**
5		**MRMS25325**	**MRMS25350**	**MBMS25325**	**MBMS25350**	**MFMS25325**
6		**MRMS26325**	**MRMS26350**	**MBMS26325**	**MBMS26350**	**MFMS26325**

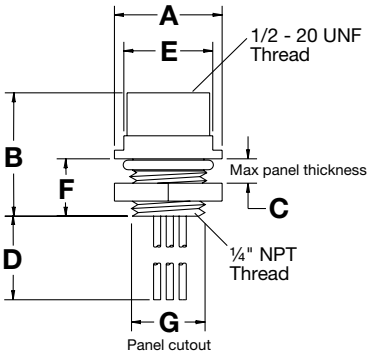
Micro-Quick® Dual Key 2 - 6 Pole Receptacles

¼" NPT Rear Thread Receptacle



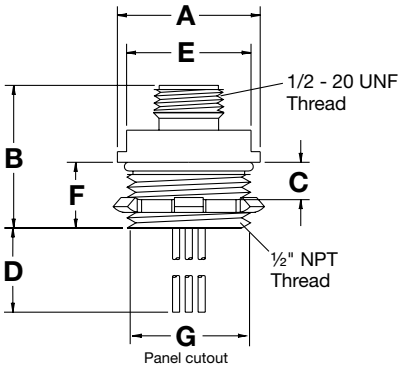
	MALE	FEMALE
A	0.75" (19.1)	0.75" (19.1)
B	0.75" (19.1)	0.86" (21.8)
C	0.10" (2.5)	0.10" (2.5)
D	12.0" (304.8)	12.0" (304.8)
E	0.62" (15.8)	0.62" (15.8)
F	0.35" (8.9)	0.38" (9.7)
G	0.56" (14.2)	0.56" (14.2)

Female Inverse Receptacle ¼" NPT Rear Thread



A	0.75" (19.1)
B	0.86" (21.8)
C	0.15" (3.8)
D	12.0" (304.8)
E	0.62" (15.8)
F	0.40" (10.2)
G	0.56" (14.2)

½" NPT Rear Thread Receptacle



	MALE	FEMALE
A	1.00" (25.4)	1.00" (25.4)
B	1.00" (25.4)	1.00" (25.4)
C	0.24" (6.10)	0.24" (6.10)
D	12.0" (304.8)	12.0" (304.8)
E	0.87" (22.1)	0.87" (22.1)
F	0.46" (11.7)	0.46" (11.7)
G	0.85" (21.6)	0.85" (21.6)

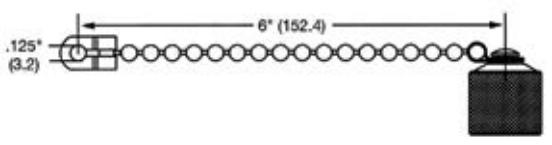
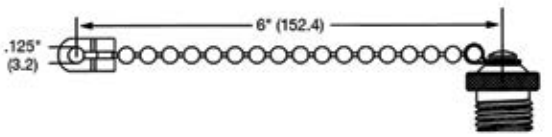
Conductor Color Code - Dual Key

Contact Number	2 Pole	3 Pole	4 Pole	5 Pole	6 Pole
1	Brown	Green	Red/Black	Red/White	Red/White
2	Blue	Red/Black	Red/White	Red	Red
3		Red/White	Red	Green	Green
4			Green	Red/Yellow	Red/Yellow
5				Red/Black	Red/Black
6					Red/Blue

Accessories

Dust Caps

Closure caps protect plugs and receptacles when not in use.
Key style is for dual with thread of ½"-20 UNF.

Catalog Number	
MRCM2	
MPCM2	

Dimensions in Inches (mm)

Features and Benefits

IP66
SUITABILITY

Micro-Quick® Field Attachable Connectors - Screw Terminal Style

Electrical Specifications

Voltage Rating	250V
Amperage	4A
Wire Size, Max	#18 AWG

Mechanical Specifications

Coupling Nut	Nickel plated brass, SST consult factory
Connector Shell	PBT
Connector Insert	Nylon
Contacts	Brass, gold plate over palladium nickel

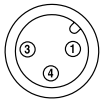
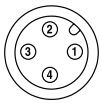
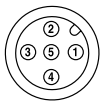
Environmental Specifications

Moisture Resistance	IP66 Suitability
Operating Temperature	-40°C to 90°C

Housing Design
- High impact body design
- Strain relief protects terminations

Internal Design
- Superior contact design utilizing high performance gold over palladium nickel plating
- Coupling nut anodized aluminum, SST option consult factory
- Precision wire funnels eliminate stray strands

3 - 5 Pole Field Attachable Connectors

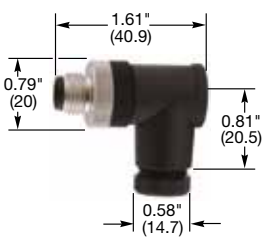
Poles	Male Face Shown Female - mirror image	Cable Range	Female Connector		Male In-Line Connector	
			Straight	Right Angle	Straight	Right Angle
3		.16"-.24" (4.1-6.1) .24"-.32" (6.1-8.1)	**MCMS23F7** **MCMS23F9**	**MCMA23F7** **MCMA23F9**	**MIMS23F7** **MIMS23F9**	**MIMA23F7** **MIMA23F9**
4		.16"-.24" (4.1-6.1) .24"-.32" (6.1-8.1)	**MCMS14F7** **MCMS14F9**	**MCMA14F7** **MCMA14F9**	**MIMS14F7** **MIMS14F9**	**MIMA14F7** **MIMA14F9**
5		.16"-.24" (4.1-6.1) .24"-.32" (6.1-8.1)	**MCMS15F7** **MCMS15F9**	**MCMA15F7** **MCMA15F9**	**MIMS15F7** **MIMS15F9**	**MIMA15F7** **MIMA15F9**

Female, Straight

Female, Right Angle

Male In-Line, Straight

Male In-Line, Right Angle



Dimensions in Inches (mm)

c UL us LISTED

Features and Benefits

IP66
SUITABILITY

Micro-Quick® Field Attachable Connectors - IDC Style

Allows field installation of control connector. Insulation Displacement Contacts do not require stripped conductors, greatly speeding installation.

Material Specifications

Housing	Polyester Elastomer, Black
Wire Guide	Nylon 6/6, Gray
Strain Relief Bushing	Neoprene, Black
Contact Materials	Copper Alloy
Contact Plating	Tin over Nickel
Coupling Nut	Zinc Alloy with Nickel Plating
O-ring	Neoprene, Black
Cable Compression Nut	Zinc Alloy with Nickel Plating

Electrical Specifications

Catalog Suffix	IDC	IDCL
Voltage Rating	32V AC/DC	50V AC/DC
Wire Range	#22 AWG max., #24 AWG min.	#18 AWG max., #22 AWG min.
Cable Diameters	.16" to .21" (4.1 to 5.3 mm)	.22" to .32" (5.6 to 8.1 mm)
Amperage	3A	6A
Contact Res.	< 5 mΩ	< 5 mΩ

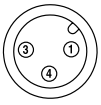
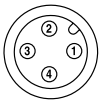
Housing Design

- Rugged, nickel-plated hardware, excellent corrosion and abuse resistance
- Strain relief bushing protects terminations and provides IP66 ingress protection
- Operating temperature -20°C to 110°C

Internal Design

- Copper alloy insulation displacement contacts
- Wire guide for virtually toolless termination

Micro-Quick® IDC Style

Poles	Male Face Shown Female - mirror image	Cable Range	Wire Gauge	Female Connector		Male In-Line Connector	
				Straight	Right Angle	Straight	Right Angle
3		.16"-.21" (4.1-5.3) .22"-.32" (5.6-8.1)	22 - 24 18 - 22	**MCMS13IDC** **MCMS13IDCL**	– –	**MIMS13IDC** **MIMS13IDCL**	– –
4		.16"-.21" (4.1-5.3) .22"-.32" (5.6-8.1)	22 - 24 18 - 22	**MCMS14IDC** **MCMS14IDCL**	**MCMA14IDC** –	**MIMS14IDC** **MIMS14IDCL**	**MIMA14IDC** –

Female, Straight

MCMS13IDC

MCMS13IDCL

Female, Right Angle

MCMA14IDC

Male In-Line, Straight

MIMS13IDC

MIMS13IDCL

Male In-Line, Right Angle

MIMA14IDC

Dimensions in Inches (mm)

c UL us LISTED

Features and Benefits

IP66
SUITABILITY

Nano-Quick® Control Connectors

- Nickel plated brass coupling nuts and receptacle shells
- Black overmold and cable
- Insulgrip connector body design
- UL Listed cable assemblies and receptacles
- Plating resists corrosion in high abuse environments
- Cable assembly resists dirt and blends with environment giving a clean look to the installation
- Third party certified for electrical, mechanical and environmental performance
- Ergonomic connector body has an industrial look
- Strong, resilient base metal ensures contacts maintain their shape and continuity over time

Housing Design

- Gated strain relief with graduated window sizes improves flexibility, strength and protects wire terminations; superior arc of bend control
- Operating temperature
  - PVC Cable: -20° to 105° C
  - TPE Cable: -40°C to 105° C

Internal Design

- Hard gold over palladium nickel contact plating; superior conductivity, extended contact life
- O-rings for moisture protection
- Anti-vibration coupling nut prevents conection from loosening under harsh vibration conditions
- Beryllium copper socket contacts ensures contacts maintain their shape and continuity

Material Specifications

Insulator Materials	Nylon 6/6, White	
Contact Materials	Pins - Brass, Sockets Sockets - Beryllium copper	
Contact Plating	Hard gold over palladium/nickel	
Overmold Material	Polyurethane, Black	
Coupling Nut, Metallic	Nickel plated brass	
Receptacle Shell	Nickel plated brass	
Cable	#24 AWG -	PVC jacket, Black, PVC conductor insulation, Copper braid - 85% coverage, Stranding 19/36
	#24 AWG -	TPE jacket, Black, PVC conductor insulation, Stranding - 19/36
Strain Relief		20 pounds min per UL 2238

Electrical Specifications

Voltage Rating	125V AC/75V DC
Amperage	3&4P=4A
Contact Resistance	≤ 5 mΩ
Isolation Resistance	≥ 1000 MΩ

Environmental Specifications

Moisture Protection	UL Type 4, 4X, 12 and 13
Ingress Protection	IP66 Suitability
Operating Temperature	PVC Cable: -20° to 105° C TPE Cable: -40°C to 105° C
Corrosion Resistance	500 hours salt spray per MIL-STD-1344, Method 1001
Vibration Resistance	10 - 2,000 Hz @15g per MIL-STD1344, Method 2005

Certifications

UL 2238 and UL50E, File No. E192071

CSA Certified, C22.2 No. 182.3 and CSA C22.2 No. 94.2-07

Nano-Quick® 3 - 4 Pole Plugs and Receptacles

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

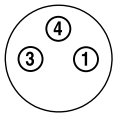
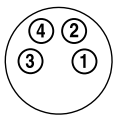
For example, catalog number **NCTA3105** is derived as follows:

DEVICE TYPE	RETENTION STYLE	BODY STYLE	POLES	CABLE TYPE	CABLE LENGTH (m)
NC = Plug, Female	**T** = Threaded, Locking **S** = Snap On	**A** = Right Angle **S** = Straight	**3** **4**	**1** = #24 AWG PVC Cable **2** = #24 AWG TPE Cable	****** **02** **05** ***Replace with Length*
↓	↓	↓	↓	↓	↓
NC	**T**	**A**	**3**	**1**	**05**

Note: Availability of specific items may vary. Consult factory for delivery. Use this chart to build plugs to meet any application need. Consult the factory for additional cable lengths or cable types.

3 - 4 Pole Female Plugs

Catalog numbers using #24 AWG PVC cable are listed below. For #24 AWG TPE cable, change the cable type per the Hubbell Logic chart above.

Poles	Female Face Shown	Cable Length	Threaded, Locking		Snap Together	
			Straight	Right Angle	Straight	Right Angle
3		6.56 ft (2m) 16.40 ft (5m) All other lengths ⅄	**NCTS3102** **NCTS3105** **NCTS31****	**NCTA3102** **NCTA3105** **NCTA31****	**NCSS3102** **NCSS3105** **NCSS31****	**NCSA3102** **NCSA3105** **NCSA31****
4		6.56 ft (2m) 16.40 ft (5m) All other lengths ⅄	**NCTS4102** **NCTS4105** **NCTS41****	**NCTA4102** **NCTA4105** **NCTA41****	**NCSS4102** **NCSS4105** **NCSS41****	**NCSA4102** **NCSA4105** **NCSA41****

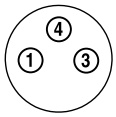
*Note: ⅄ Replace ** with length required in feet. For snap on retention style, replace "T" with "S" per the ordering chart above. Example: change NC**T**A3105 to NC**S**A3105.*

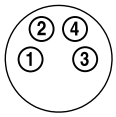
Hubbell Logic Configurator

For example, Catalog Number **NBCS3D** is derived as follows:

DEVICE TYPE	RETENTION STYLE	BODY STYLE	POLES	CONDUCTOR TYPE
NB = Receptacle, Male	**C** = Combination	**S** = Straight	**3** **4**	**D** = 0.25m #24 AWG discrete wire
↓	↓	↓	↓	↓
NB	**C**	**S**	**3**	**D**

3 - 4 Pole Male Receptacles

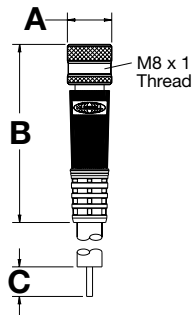
Poles	Male Face Shown	Male Receptacle Rear Thread Style
		M8 x 1
3		**NBCS3D**

Poles	Male Face Shown	Male Receptacle Rear Thread Style
		M8 x 1
4		**NBCS4D**

*Note: Replace ** with length required in feet.*

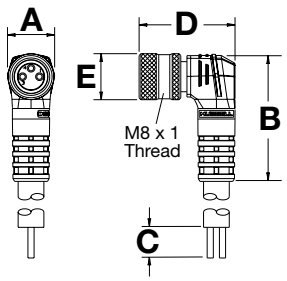
Nano-Quick® 3 - 4 Pole Plugs and Receptacles

Straight Female Locking Plug



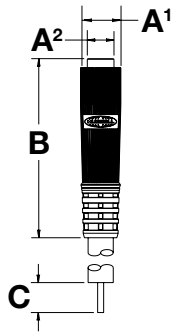
A	0.38" (9.7)
B	1.51" (38.4)
C	2.75" (69.9)

Right Angle Female Locking Plug



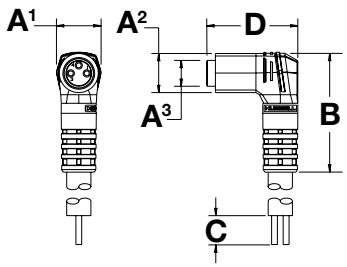
A	0.39" (9.9)
B	1.04" (26.4)
C	2.75" (69.9)
D	0.78" (19.8)
E	0.38" (9.7)

Straight Female Snap Together Plug



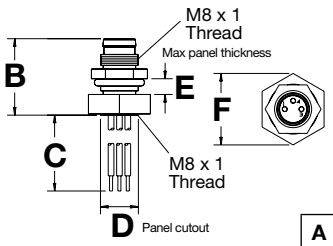
A1	0.34" (8.6)
A2	0.22" (5.6)
B	1.50" (38.1)
C	2.75" (69.9)

Right Angle Female Snap Together Plug



A1	0.39" (9.9)
A2	0.38" (9.7)
A3	0.22" (5.6)
B	1.04" (26.4)
C	2.75" (69.9)
D	0.79" (20.1)

Male Combination Receptacle



A	0.31" (7.9)
B	0.63" (16.0)
C	12.0" (304.8)
D	0.35" (8.8)
E	0.80" (2.0)
F	0.59" (15.0)

Cable Diameters By Cable Type

Number of Conductors	#24 AWG PVC	#24 AWG TPE
3	0.21" (5.3)	0.21" (5.3)
4	0.21" (5.3)	0.21" (5.3)

Conductor Color Code

Contact Number	3 Pole	4 Pole
1	Brown	Brown
2	Not Used	White
3	Blue	Blue
4	Black	Black

Dimensions in Inches (mm)

Features and Benefits

IP66
SUITABILITY

Nano-Quick® Field Attachable Connectors - IDC Style

Allows field installation of control connector. Insulation Displacement Contacts do not require stripped conductors, greatly speeding installation.

Material Specifications

Housing	Polyester Elasomer, Black
Wire Guide	Nylon 6/6, Gray
Strain Relief Bushing	Neoprene, Black
Contact Materials	Copper Alloy
Contact Plating	Tin over Nickel
Coupling Nut	Zinc Alloy with Nickel Plating
O-ring	Neoprene, Black
Cable Compression Nut	Zinc Alloy with Nickel Plating

Electrical Specifications

Voltage Rating	32VAC/DC
Wire Range	#22 AWG max., #24 AWG min.
Cable Diameters	.13" to .21" (3.3 to 5.3 mm)
Amperage	3A
Contact Resistance	< 5 mΩ

Housing Design

- Rugged, nickel-plated hardware, excellent corrosion and abuse resistance
- Strain relief bushing protects terminations and provides IP66 ingress protection
- Operating temperature -20°C to 110°C

Internal Design

- Copper alloy insulation displacement contacts
- Wire guide for virtually toolless termination

Nano-Quick® IDC

Poles	Male Face Shown Female - mirror image	Cable Range	Wire Gauge	Female Connector Straight	Male Connector Straight
3		.13"-.21" (3.3-5.3)	22 - 24	**NCTS13IDC**	**NITS13IDC**
4		.13"-.21" (3.3-5.3)	22 - 24	—	**NITS14IDC**

Female, Straight

NCTS13IDC

Male, Straight

NITS13IDC

Dimensions in Inches (mm)

IP66
SUITABILITY

Signal-Quick® Cushioned Sensor Mounts

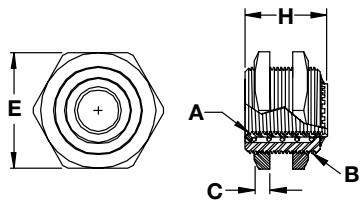
Install tubular proximity sensors with a Cushioned Sensor Mount and protect against over-travel damage. Reduces replacement expenses and downtime. Hubbell's Cushioned Sensor Mounts feature:

- Spring-loaded housing eliminates impact damage
- Reduces downtime and replacement expenses
- Reduces spare sensor inventories
- Shielded and non-shielded end caps eliminate abrasion damage
- Block style or threaded housing designs
- Anodized aluminum or stainless steel

When something out of the ordinary happens or targets over-travel, the sensor simply retracts to avoid damage. The sensor returns to its original position and the equipment continues to operate.

Material Specifications

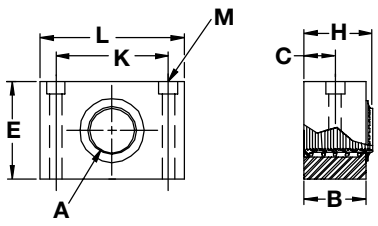
Material: Anodized aluminum housing
Zinc-plated brass jam nuts
CSM12LP is all Stainless Steel



Threaded Style

Threaded Style

Catalog Number	A	B	C	E	H
CSM8	M8 x 1	M16 x 1.5	0.12" (3.1)	0.87" (22.1)	0.87" (22.1)
CSM12LP	M12 x 1	M18 x 1	0.16" (4.1)	0.95" (24)	0.83" (21.1)
CSM18	M18 x 1	M30 x 1.5	0.20" (5.1)	1.41" (35.8)	1.17" (29.7)
CSM30	M30 x 1.5	M47 x 1.5	0.20" (5.1)	2.01" (51)	1.47" (37.3)



Block Style

Block Style

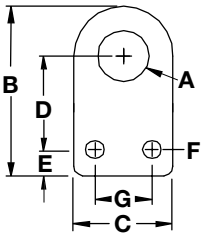
Catalog Number	A	B	C	E	H	K	L	M
BCSM8	M8 x 1	0.75" (19)	0.37" (9.5)	0.62" (15.8)	0.87" (22.1)	0.72" (18.4)	1.0" (25.4)	0.14" (3.6)
BCSM12	M12 x 1	0.75" (19)	0.37" (9.5)	1.0" (25.4)	0.87" (22.1)	0.98" (24.8)	1.5" (38.1)	0.20" (5.2)
BCSM18	M18 x 1	1.0" (25.4)	0.50" (12.7)	1.25" (31.7)	1.17" (29.7)	1.21" (30.7)	1.5" (38.1)	0.18" (4.6)
BCSM30	M30 x 1.5	1.38" (34.9)	0.68" (17.5)	2.0" (50.8)	1.47" (37.4)	2.03" (51.5)	2.5" (63.5)	0.26" (6.7)

Dimensions in Inches (mm)

Signal-Quick® Sensor Mounting Brackets

Eliminate design time and fabrication expense. Choose the Hubbell Angle Bracket or Flat Bracket to mount any tubular proximity sensor.

- Fixed mounting patterns or multi-slotted for positioning versatility.
- Industry standard mounting footprints.
- Rapid installation.
- Immediately available from stock.
- Cost savings over “make your own”.

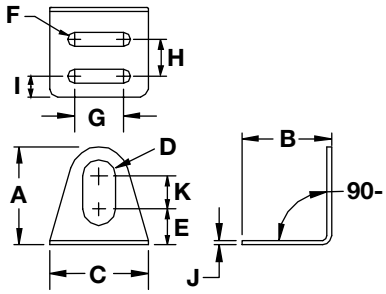


Material Specifications

Material: Stainless Steel

Flat Brackets

Catalog Number	A	B	C	D	E	F	G	Thickness
FB12	0.48" (12.1)	1.95" (49.6)	1.25" (31.8)	0.86" (21.8)	0.47" (11.9)	0.22" (5.54)	0.75" (19.1)	0.12" (3.02)
FB18	0.72" (18.2)	2.27" (57.6)	1.38" (34.9)	1.36" (34.6)	0.22" (5.56)	0.24" (6.05)	1.0" (25.4)	0.12" (3.02)
FB30	1.19" (30.1)	3.42" (86.9)	2.0" (50.8)	2.05" (52)	0.37" (9.40)	0.31" (7.94)	1.25" (31.8)	0.12" (3.02)

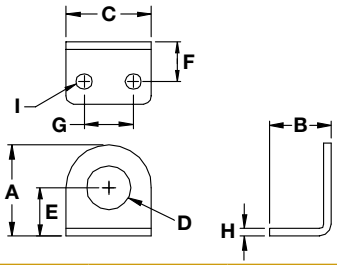


Material Specifications

Material: Stainless steel
Zinc-plated steel (AAB47)

Adjustable Angle Brackets

Catalog Number	A	B	C	D	E	F	G	H	I	J	K
AAB08	1.0" (25.4)	1.25" (31.8)	1.25" (31.8)	0.34" (8.74)	0.31 (7.92)	0.22" (5.54)	0.62" (15.9)	0.46" (11.9)	0.28" (7.14)	0.07" (1.78)	0.38" (9.53)
AAB12	1.5" (38.1)	1.37" (34.8)	1.5" (38.1)	0.50" (12.7)	0.55" (13.9)	0.22" (5.54)	0.75" (19.1)	0.56" (14.3)	0.31" (7.92)	0.07" (1.78)	0.50" (12.7)
AAB18	2.0" (50.8)	1.37" (34.8)	1.75" (44.5)	0.72" (18.3)	0.75" (19.1)	0.22" (5.54)	1.0" (25.4)	0.56" (14.3)	0.31" (7.92)	0.07" (1.78)	0.63" (15.9)
AAB22	2.0" (50.8)	1.37" (34.8)	1.75" (44.5)	0.88" (22.2)	0.69" (17.4)	0.22" (5.54)	1.0" (25.4)	0.56" (14.3)	0.31" (7.92)	0.07" (1.78)	0.63" (15.9)
AAB30	2.5" (63.5)	1.75" (44.5)	2.25" (57.2)	1.19" (30.1)	0.91" (23)	0.28" (7.11)	1.37" (34.8)	0.81" (20.6)	0.41" (10.3)	0.09" (2.29)	0.75" (19.1)



Material Specifications

Material: Stainless Steel

Angle Brackets

Catalog Number	A	B	C	D	E	F	G	H	I
AB12	1.16"" (29.3)	1.0"" (25.4)	1.25" (31.8)	0.48" (12.1)	0.53" (13.5)	0.53" (13.5)	0.75" (19.1)	0.12" (3.02)	0.22" (5.6)
AB18	1.47" (37.3)	1.0" (25.4)	1.38" (34.9)	0.48" (12.1)	0.53" (13.5)	0.78" (19.8)	1.0" (25.4)	1.12" (3.02)	0.24" (6.0)
AB30	2.13" (54.0)	1.50" (38.1)	2.00" (50.8)	1.19" (30.1)	1.13" (28.7)	1.13" (28.7)	1.25" (31.8)	0.12" (3.02)	0.31" (7.9)

Dimensions in Inches (mm)

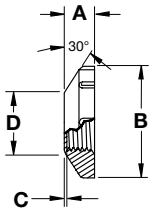
Signal-Quick® End Caps

- Use alone or with Cushioned Sensor Mount.
- Beveled edge deflects lateral impacts.
- Reduces and or eliminates abrasion damage.
- Reduces downtime and sensor replacement expenses.

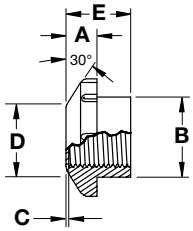
Specifications

Material: Delrin (Non-Shielded)
Glass-filled Nylon (Shielded)
Polypropylene (EC30)

Shielded



Non-Shielded



End Caps

Shielded	Style	A	B	C	D	E	Thread
EC08	8mm	0.21" (5.28)	0.60" (15.2)	0.015" (.38)	0.25" (6.45)	N/A	M8 x 1
EC12	12mm	0.25" (6.35)	0.96" (24.4)	0.015" (.38)	0.45" (11.4)	N/A	M12 x 1
EC18	18mm	0.33" (8.38)	1.23" (31.3)	0.03" (.76)	0.73" (17.5)	N/A	M18 x 1
EC30	30mm	0.30" (7.62)	1.72" (43.7)	0.03" (.76)	1.13" (28.6)	N/A	M30 x 1
Non-Shielded							
EC08N	8mm	0.20" (5.08)	0.57" (14.5)	0.015" (.38)	0.25" (6.45)	0.37" (9.50)	M8 x 2
EC12N	12mm	0.25" (6.35)	0.90" (22.9)	0.03" (.76)	0.45" (11.4)	0.68" (17.3)	M12 x 1
EC18N	18mm	0.33" (8.38)	1.34" (34.0)	0.025" (.64)	0.67" (17.0)	0.70" (17.8)	M18 x 1
EC30N	30mm	0.31" (7.87)	1.75" (44.5)	0.04" (1.02)	1.15" (29.2)	0.90" (22.9)	M30 x 1

Note: The wear surface thickness (Dimension C) does not reduce a sensor's sensing range, but will consume an equal amount of the gap required between the sensor and target.

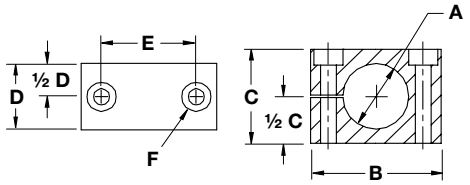
Signal-Quick® Block Mounts

Bond to sensor face with any epoxy.
- Use when threads are inaccessible.
- Reduces and/or eliminates abrasion damage.
- Reduces downtime and sensor replacement expenses.

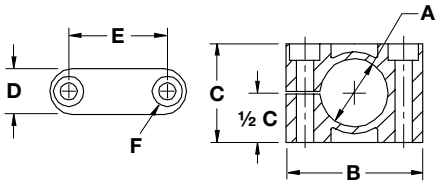
Specifications

Material: Glass-filled Nylon
Anodized aluminum

Metallic



Nylon



Block Mounts

Metallic	Style	A	B	C	D	E	F
BM08M	8mm	0.32" (8.05)	0.62" (15.8)	1.0" (25.4)	0.75" (19.0)	0.72" (18.4)	0.14" (3.58)
BM12M	12mm	0.48" (12.1)	1.0" (25.4)	1.5" (38.1)	0.75" (19.0)	0.98" (24.9)	0.20" (5.08)
BM18M	18mm	0.71" (18.1)	1.25" (31.7)	1.5" (38.1)	1.0" (25.4)	1.21" (30.7)	0.18" (4.58)
BM30M	30mm	1.19" (30.1)	2.0" (50.8)	2.5" (63.5)	1.38" (34.9)	2.03" (51.5)	0.26" (6.73)
Nylon							
BM08N	8mm	0.32" (8.05)	1.06" (27)	0.63" (16)	0.47" (12)	0.67" (17)	0.18" (4.5)
BM12N	12mm	0.48" (12.1)	1.26" (32)	0.79" (20)	0.47" (12)	0.87" (22)	0.18" (4.5)
BM16N	16mm	0.63" (16.1)	1.42" (36)	1.02" (26)	0.47" (12)	1.02" (26)	0.18" (4.5)
BM18N	18mm	0.71" (18.1)	1.42" (36)	1.02" (26)	0.47" (12)	1.02" (26)	0.18" (4.5)
BM20N	20mm	0.79" (20.1)	1.77" (45)	1.18" (30)	0.59" (15)	1.26" (32)	0.22" (5.5)
BM22N	22mm	0.87" (22.1)	1.77" (45)	1.18" (30)	0.59" (15)	1.26" (32)	0.22" (5.5)
BM30N	30mm	1.18" (30.1)	2.17" (55)	1.50" (38)	0.71" (18)	1.65" (42)	0.22" (5.5)

Dimensions in Inches (mm)

Signal-Quick® Universal Aiming Brackets

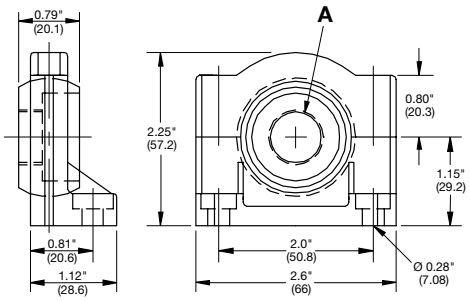
Attach limit switch style (30mm threaded base) or threaded barrel photoelectric and ultrasonic sensors. Achieve secure mounting quickly and with ease.

- Swivel action for aiming simplicity.
- Durable glass-filled nylon construction.
- Regular or extended base models.
- Sizes for 12, 18 and 30mm threaded sensors.

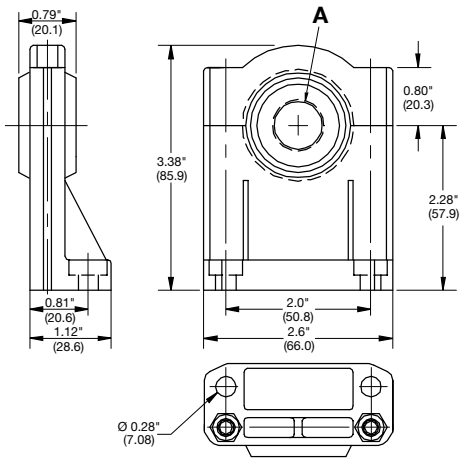
Material Specifications

Material:	Glass-filled Nylon

Bracket, Standard



Bracket, Extended



Universal Aiming Brackets

Catalog Number	Style	Description	Thread
UB12	12mm	Bracket	M12 x 1
UB12E	12mm	Bracket, Extended Base	M12 x 1
UB18	18mm	Bracket	M18 x 1
UB18E	18mm	Bracket, Extended Base	M18 x 1
UB30	30mm	Bracket	M30 x 1.5
UB30E	30mm	Bracket, Extended Base	M30 x 1.5

Dimensions in Inches (mm)

CableTrak® Hose and Cable Carrier System

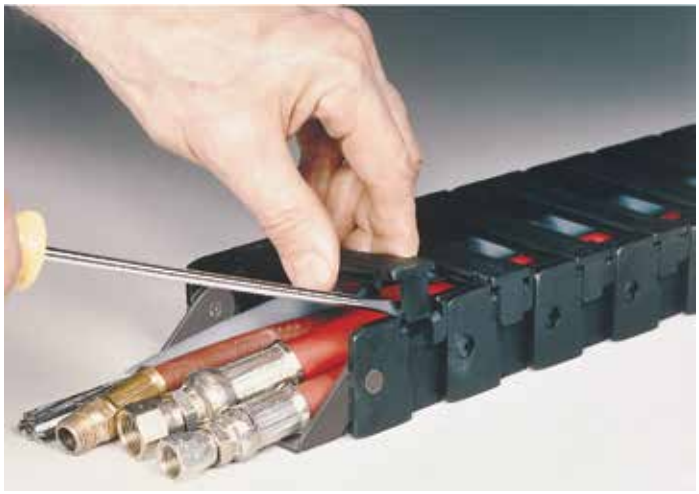
The design of CableTrak carriers provides easy access to components during installation and repair. The track's flip top design allows the installer to lay cable and hose components directly into the track instead of pulling them through the length of the track. Hubbell CableTrak carriers can be ordered as assembled kits with brackets or by the foot without brackets. The final length of the track is easily customized by adding or removing sections of track or individual links with a flat head screwdriver.

CableTrak® Installation

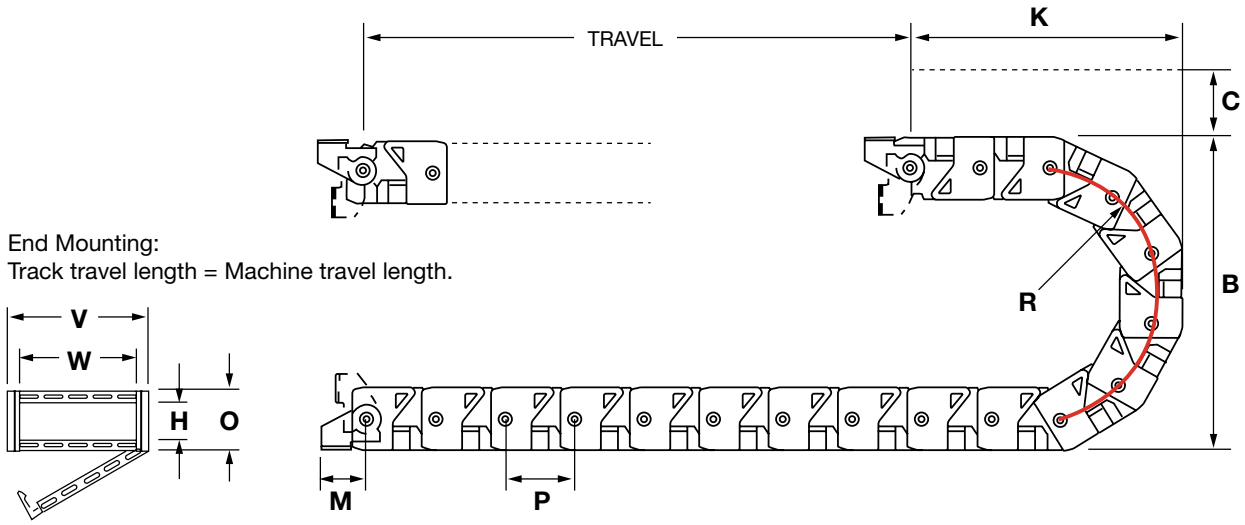
1. Unlock Tab.
2. Locking tabs secure the retaining bar into place. To unlock tabs, slide a flat head screwdriver under the tab and release it with a twisting motion.

Access/Install Cables and Hoses

3. Easy access is important, especially for pre-assembled cable/hose sets involving large O.D. plugs, receptacles, and couplings.
4. Lock Tab.
5. To re-secure retaining bars, engage the hinge and snap the locking tab into place.



CableTrak® Kits



End Mounting:
Track travel length = Machine travel length.

CableTrak® Kit with Brackets

Catalog Number	Track Length (ft)	W Inner Width	H Inner Height	A Max Hose/Cab O.D.	B Max Component Width	V Outer Width	O Outer Height	R Bend Radius	B Bend Height	C Clearance	K Min Brkt to Bend	M Brkt to Pivot	P Pitch	L* Curve Length (ft)
HCT10114K**	4.0'	0.59"	0.75"	0.286"	0.531"	1.03"	1.00"	1.44"	3.86"	2.00"	5.68"	1.33"	1.250"	1.000'
HCT10219K**	4.0'	1.00"	0.75"	0.382"	0.900"	1.44"	1.00"	1.91"	4.82"	2.00"	5.41"	1.33"	1.250"	1.000'
HCT16119K	4.0'	1.50"	1.00"	0.382"	1.350"	2.12"	1.62"	1.91"	5.44"	3.00"	5.72"	1.19"	1.812"	1.000'
HCT16134K	4.5'	1.50"	1.00"	0.688"	1.350"	2.12"	1.62"	3.44"	8.50"	3.00"	7.85"	1.19"	1.812"	1.500'
HCT16219K	4.0'	2.28"	1.00"	0.328"	2.052"	2.91"	1.62"	1.91"	5.44"	3.00"	5.72"	1.19"	1.812"	1.000'
HCT16234K	4.5'	2.28"	1.00"	0.688"	2.052"	2.91"	1.62"	3.44"	8.50"	3.00"	7.85"	1.19"	1.812"	1.500'
HCT16334K	4.5'	3.08"	1.00"	0.688"	2.772"	3.70"	1.62"	3.44"	8.50"	3.00"	7.85"	1.19"	1.812"	1.500'
HCT16434K	4.5'	4.06"	1.00"	0.688"	3.654"	4.69"	1.62"	3.44"	8.50"	3.00"	7.85"	1.19"	1.812"	1.500'
HCT25134K	4.5'	2.60"	1.75"	0.680"	2.340"	3.70"	2.50"	3.40"	9.30"	3.00"	8.31"	1.75"	2.500"	1.500'
HCT25234K	4.5'	4.25"	1.75"	0.680"	3.825"	5.36"	2.50"	3.40"	9.30"	3.00"	8.31"	1.75"	2.500"	1.500'
HCT25247K	5.0'	4.25"	1.75"	0.956"	3.825"	5.36"	2.50"	4.78"	12.06"	3.00"	10.52"	1.75"	2.500"	2.000'
HCT25347K	5.0'	6.60"	1.75"	0.956"	5.940"	7.70"	2.50"	4.78"	12.06"	3.00"	10.52"	1.75"	2.500"	2.000'

CableTrak® Kit without Brackets

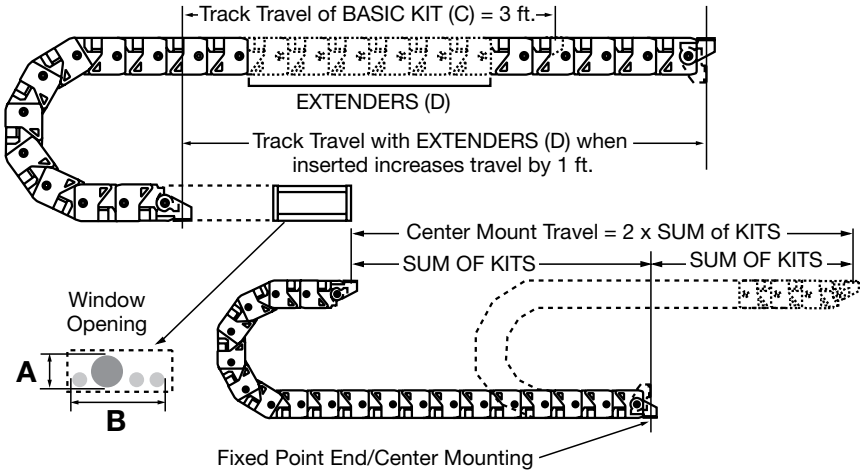
Catalog Number	Track Length (ft)	W Inner Width	H Inner Height	A Max Hose/Cab O.D.	B Max Component Width	V Outer Width	O Outer Height	R Bend Radius	B Bend Height	C Clearance	P Pitch	L* Curve Length (ft)
HCT101141**	1.0'	0.59"	0.75"	0.286"	0.531"	1.03"	1.00"	1.44"	3.86"	2.00"	1.250"	1.000'
HCT102191**	1.0'	1.00"	0.75"	0.382"	0.900"	1.44"	1.00"	1.91"	4.82"	2.00"	1.250"	1.000'
HCT161191	1.0'	1.50"	1.00"	0.382"	1.350"	2.12"	1.62"	1.91"	5.44"	3.00"	1.812"	1.000'
HCT161341	1.0'	1.50"	1.00"	0.688"	1.350"	2.12"	1.62"	3.44"	8.50"	3.00"	1.812"	1.500'
HCT162191	1.0'	2.28"	1.00"	0.328"	2.052"	2.91"	1.62"	1.91"	5.44"	3.00"	1.812"	1.000'
HCT162341	1.0'	2.28"	1.00"	0.688"	2.052"	2.91"	1.62"	3.44"	8.50"	3.00"	1.812"	1.500'
HCT163341	1.0'	3.08"	1.00"	0.688"	2.772"	3.70"	1.62"	3.44"	8.50"	3.00"	1.812"	1.500'
HCT164341	1.0'	4.06"	1.00"	0.688"	3.654"	4.69"	1.62"	3.44"	8.50"	3.00"	1.812"	1.500'
HCT251341	1.0'	2.60"	1.75"	0.680"	2.340"	3.70"	2.50"	3.40"	9.30"	3.00"	2.500"	1.500'
HCT252341	1.0'	4.25"	1.75"	0.680"	3.825"	5.36"	2.50"	3.40"	9.30"	3.00"	2.500"	1.500'
HCT252471	1.0'	4.25"	1.75"	0.956"	3.825"	5.36"	2.50"	4.78"	12.06"	3.00"	2.500"	2.000'
HCT253471	1.0'	6.60"	1.75"	0.956"	5.940"	7.70"	2.50"	4.78"	12.06"	3.00"	2.500"	2.000'

*Note: *L = Minimum length in feet to form CableTrak curve.*
***These models do not have a flip top design and do not accept separators due to their small size.*

Dimensions in Inches (mm)

CableTrak® Accessories

Center Mounting: Mounting the fixed track end in the center of the machine travel allows the track to travel beyond the fixed end. Center mounting effectively doubles the travel distance of the track requiring half the track length of an end mounted application.



Calculating

Center Mount (Stationary bracket mounted in center of travel range): Track Length = (MT/2) + L
End Mount (Stationary bracket mounted off center of travel range): Track Length = (MT/2) + L + offset from center in feet
MT = Total machine travel distance in feet
L = Length of track taken up by the bend radius

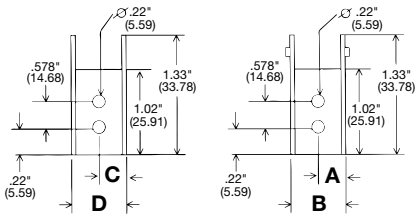
Customizing Track Length

Hubbell CableTrak is easily customized by adding or subtracting links to the track. CableTrak kits provide 4 to 5 feet of track with brackets pre-installed. Track length can be increased by installing the required number of extenders to reach the required length. To further tune the length of track, individual links can be added or removed. To determine the number of links to add or remove, divide the length in inches to be added or subtracted by the pitch of the track and round up.

CableTrak® Accessories

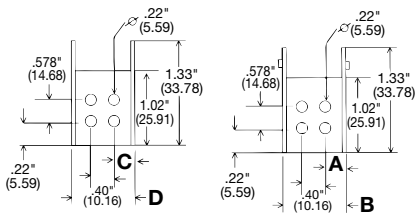
Bracket Kits	For Use With	A	B	C	D	E	F	G	H
HCTBK101	HCT101 Series	.40" (10.2)	.81" (20.6)	.47" (12.0)	.94" (23.9)	–	–	–	–
HCTBK102	HCT102 Series	.44" (11.2)	1.22" (31.0)	.44" (11.2)	1.35" (34.3)	–	–	–	–
HCTBK161	HCT161 Series	.99" (25.2)	1.97" (50.1)	.87" (22.1)	1.84" (46.7)	1.19" (30.2)	.281" (7.1)	.75" (19.1)	.81" (20.6)
HCTBK162	HCT162 Series	1.78" (45.2)	2.75" (69.9)	1.65" (41.9)	2.63" (66.8)	1.19" (30.2)	.281" (7.1)	.75" (19.1)	.81" (20.6)
HCTBK163	HCT163 Series	2.57" (65.3)	3.55" (90.2)	2.44" (62.0)	3.42" (86.9)	1.19" (30.2)	.281" (7.1)	.75" (19.1)	.81" (20.6)
HCTBK164	HCT164 Series	3.56" (90.4)	4.53" (115.1)	3.47" (88.1)	4.41" (112.0)	1.19" (30.2)	.281" (7.1)	.75" (19.1)	.81" (20.6)
HCTBK251	HCT251 Series	2.08" (52.8)	3.21" (81.5)	1.80" (45.7)	3.03" (77.0)	1.75" (44.5)	.344" (8.7)	1.00" (25.4)	1.25" (31.8)
HCTBK252	HCT252 Series	3.74" (95.0)	4.87" (123.7)	3.46" (87.9)	4.69" (119.1)	1.75" (44.5)	.344" (8.7)	1.00" (25.4)	1.25" (31.8)
HCTBK253	HCT253 Series	6.08" (154.4)	7.21" (183.1)	5.80" (147.3)	7.03" (178.6)	1.75" (44.5)	.344" (8.7)	1.00" (25.4)	1.25" (31.8)
Separators	For Use With	A	B	C	D	E	F		
HCTSP16PK12	HCT16 Series	1.24" (31.5)	.82" (20.8)	.94" (23.9)	.27" (6.9)	.14" (3.6)	.50" (12.7)		
HCTSP25PK12	HCT25 Series	2.03" (51.6)	1.00" (25.4)	1.19" (30.2)	.35" (8.9)	.15" (3.8)	.62" (15.8)		

HCTBK101 – Brackets



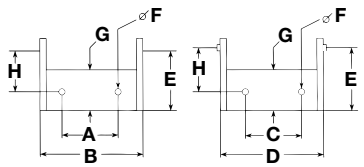
Female **Male**

HCTBK102 – Brackets



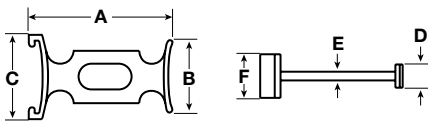
Female **Male**

HCTBK161 – HCTGK253 Brackets



Female **Male**

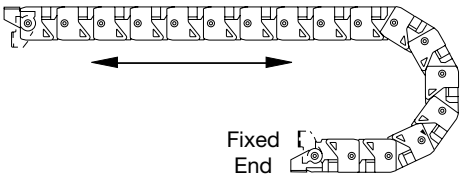
Separators

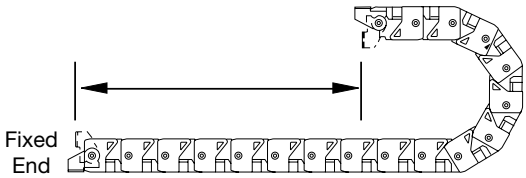


Dimensions in Inches (mm)

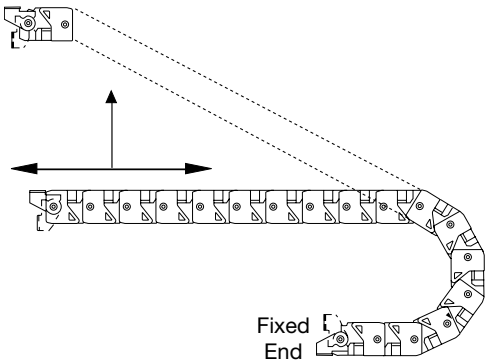
CableTrak® System Mounting Options

Horizontal Travel

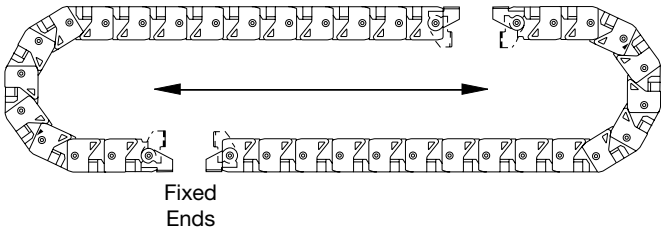




Combination Horizontal & Vertical Travel

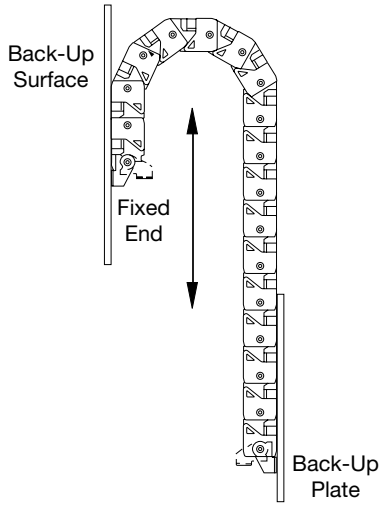


Opposed Travel

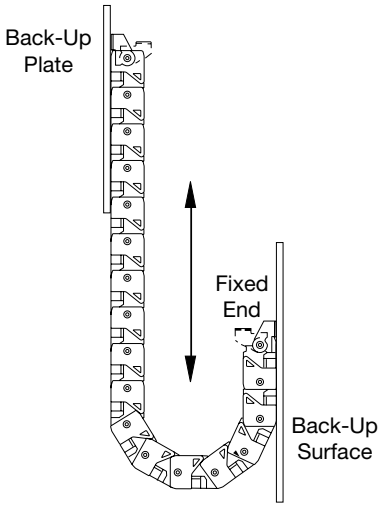


Vertical Travel

Curve Up



Curve Down



Specifications

Material	Fiberglass reinforced nylon.
Operating Temperature	Continuous +20°F to +100°F (-7°C to 38°C). Intermittent* -40°F to +220°F (-40°C to 104°C).
Maximum Operating Speed	600 FPM (feet per minute), 180 MPM (meters per minute). Operating speed is based on short lengths that are self supported (up to 9ft.).
Maximum Unsupported Travel Distance	HCT16 Series without sag 9 ft. (2.8 m) with sag 10.5 ft. (3.2 m). HCT25 Series without sag 13.5 ft. (4.1 m) with sag 17 ft. (5.2 m).
Applications	Machine tool, robotic automation, material handling.

*Note: *Intermittent refers to the operating of the product outside the normal (continuous operating) temperature range momentarily before returning back to the normal range.*

DIN Rail Utility Box

Hubbell's DIN Rail Utility Box offers a labor saving way to provide utility power to any control cabinet. Installing the DIN Rail Utility Box is as easy as snapping the box onto a 35mm DIN Rail and connecting the line, neutral and ground wires to the terminal block. Utility power for fans, lights, laptop computers, testers or any other power requirement. If load limiting is a concern, Hubbell's "CB" version comes with a 5 Amp circuit breaker that provides over-current protection to make sure that large loads are not drawn from the DIN Rail Utility Box. All Hubbell DIN Rail Utility Boxes may be mounted either vertically or horizontally on the DIN Rail; the "H" version comes with the terminal block mounted for easy wiring when the DIN Rail Utility Box is mounted horizontally.

Duplex Receptacles

Description	Color	15A 125V NEMA 5-15R UL CSA 0.5 HP	20A 125V NEMA 5-20R UL CSA 1 HP
Complete unit.	Gray	**DRUB15**	**DRUB20**
Complete unit, horizontal mount.	Gray	**DRUB15H**	**–**
Complete unit with 5A circuit breaker.	Gray	**DRUB15CB5**	**–**
Complete unit with 5A circuit breaker, horizontal.	Gray	**DRUB15HCB5**	**–**
Complete unit with aux.	Gray	**–**	**DRUB20AC**
Complete unit with aux and 5A circuit breaker.	Gray	**–**	**DRUB20ACCB5**
Complete unit with NEMA® 6-20R duplex (250V).	Gray	**–**	**DRUB5462***

GFCI Duplex Receptacles

Description	Color	Catalog Number	
Complete unit.	Gray	**DRUBGFI15**	**DRUBGFI20**
Complete unit, horizontal.	Gray	**DRUBGFI15H**	**–**
Complete unit with 5A circuit breaker.	Gray	**DRUBGFI15CB5**	**–**
Complete unit with 5A circuit breaker, horizontal.	Gray	**DRUBGFI15HCB5**	**–**
Complete unit with aux GFCI contacts.	Gray	**DRUBGFI15AC**	**DRUBGFI20AC**
Complete unit, faceless with aux GFCI contacts.	Gray	**–**	**DRUBGFI20BFAC**

TVSS Duplex Receptacles

Description	Color	Catalog Number	
Complete unit.	Gray	**DRUBTVSS15**	**–**
Complete unit with aux contacts.	Gray	**DRUBTVSS15AC**	**–**

Isolated Ground△ Duplex Receptacles

Description	Color	Catalog Number	
Complete unit.	Gray	**DRUBIG15**	**–**

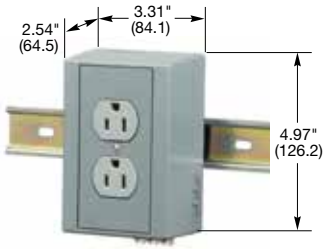
Toggle Switch Unit

Description	Color	Catalog Number
Complete unit with HBL1221.	Gray	**DRUB1221AC**
Complete unit with 15A 125V SW/REC.	Gray	**DRUB6404**

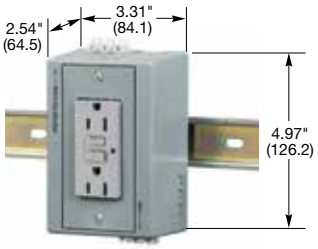
DIN Rail Utility Box Components

Description	Color	Catalog Number
Pre-wired kit without circuit breaker.	Gray	**DRUBKIT**
Pre-wired kit with circuit breaker.	Gray	**DRUBKITCB5**
Pre-wired kit with aux.	Gray	**DRUBKITAC**
Pre-wired kit with circuit breaker and aux.	Gray	**DRUBKITACCB5**
Communications kit (unloaded). (For use with Network Wiring frames in section W).	Gray	**HIDRUBCKIT**
Switch plate only.	Gray	**KP1GY****
Rectangular opening plate only.	Gray	**KP26GY****
1.60 in. opening plate only.	Gray	**KP720GY****
1.40 in. opening plate only.	Gray	**KP7GY****
Duplex receptacle plate only.	Gray	**KP8GY****

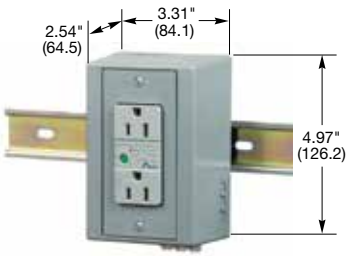
Note: △See section M for additional information on isolated ground devices.
**DRUB5462 configuration not pictured.*
***UL Listed, CSA Certified.*



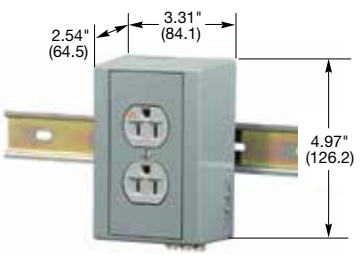
DRUB15



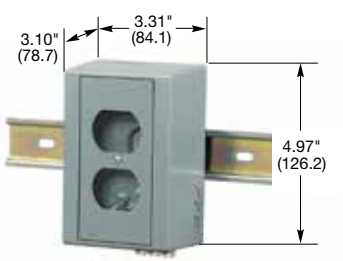
DRUBGFI15AC



DRUBTVSS15



DRUBIG15



HIDRUBCKIT

NEMA® is a registered trademark of the National Electrical Manufacturers Association.

Dimensions in Inches (mm)

Features and Benefits

IP66
SUITABILITY

NFPA 70E Compliant

PANEL-SAFE® Power and Data

An arc flash is a short circuit that travels through air from one live circuit to another. Problems including gaps in insulation, dust or corrosion on the surface of a conductor, or even use of substandard components can cause a serious safety hazards and equipment failures. Arc flash incidents can be extremely costly to a business and can result in serious or even fatal burns, as well as damage to eyesight. Hubbell PANEL-SAFE® provides through door access to live electrical components without having to open the enclosure.

- Available in Type 4, 12 and 4X versions with protective clear cover
- Provides overcurrent protection for both power and data access ports
- Ensures safety with finger-safe contacts and Hubbell GFCI functionality

Available in NEMA TYPE 4, 12 and NEMA TYPE 4X Versions!

Housing Design

- Rugged, nickel-plated hardware, excellent corrosion and abuse resistance
- Protective clear cover
- Operating temperature -20°C to 110°C

Internal Design

- Hubbell GFCI with functionality indicator
- Cat. 5e Ethernet access*
- Overcurrent protection

Housing Design

- Locking Hasp accepts 5⁄32" padlock
- Supplemental "Tool" entry screw closure

Internal Design

- Additional convenience outlet on GFCI versions
- Finger-safe contacts
- Stainless steel snap latch

*Note: *Additional computer interfaces and PLC connections available upon request.*

Specifications

Electrical	GFCI - conforms to UL 943 2006 requirement In-Cabinet Receptacle - GFCI protected Data Jack - Cat. 5e Circuit Breaker - 3A
Mechanical	Cover - Clear Polycarbonate (UV Rated) Housing - Cast Aluminum Finish - Powder Coat Latch - Stainless steel
Environmental	Enclosure - NEMA Type 4, 12 and NEMA Type 4X
Certification	UL Recognized CSA Certified

Application

NFPA 70E Compliant

PANEL-SAFE® Power Only

Description	NEMA TYPE 4	NEMA TYPE 4X
20A 125V GFCI with In-Cabinet Receptacle.	**PR20**	—

PR20

PANEL-SAFE® Data Only

Description	NEMA TYPE 4	NEMA TYPE 4X
Cat. 5e Ethernet Access only.	**P5E**	**P4X5E**
DB9 Interface Connector only.	**PDB9**	—
PANEL-SAFE Data Port with DB9 Connector.	**PDB9MF**	—
DH + Combo (DB9/8M Din) and Cat. 5e Ethernet.	**PDH5E**	—
PANEL-SAFE Data Port, (2) USBA, 3 ft. Cable.	—	**P4XUSBA2C3**

P5E

PANEL-SAFE® Power and Data

Description	NEMA TYPE 4	NEMA TYPE 4X
20A 125V GFCI with In-Cabinet Receptacle and Cat. 5e Ethernet Access.	**PR205E**	**PR4X205E**
20A 125V GFCI with In-Cabinet Receptacle, Cat. 5e Ethernet Access and 3A Circuit Breaker.	**PR205EB**	**PR4X205EB**
PANEL-SAFE with 20A GFCI and Cat.5e, DB9 and 3A Circuit Breaker.	**PR205EDB9B**	—
PANEL-SAFE with 20A GFCI and Cat.5e, (1) 3A USB.	**PR205EUSBA**	—
PANEL-SAFE with 20A GFCI and Cat.5e, (2) 3A USB.	**PR205EUSBA2**	—
PANEL-SAFE Data Access Port.	**PR205EUSBA2VGA**	—
20A 125V GFCI Power and Cat. 5e, DB9 and 3A Circuit Breaker.	**PR205EDB9MFB**	—
20A 125V GFCI Power and Cat. 5e Ethernet, DH + Combo (DB9/8M Din).	**P20DH5E**	—
PANEL-SAFE with 20A GFCI and Cat.5/DB9.	**P205EDB9**	—
15A 125V Power and Cat. 5e Ethernet Access.	**P155E**	**P4X155E**
15A 125V Power, Cat. 5e Ethernet Access and 3A Circuit Breaker.	**P155EB**	**P4X155EB**
15A 125V Power and (2) Cat. 5e Ethernet Access.	**P155E2**	—
15A 125V Power, Cat.5e and (1) 3A USB.	**P155EUSB**	—
15A 120V AC Power, NEMA 12/4, DB9 M/F, 10 ft. Cable.	**P15DB9MFC10**	—
15A 125V Power and DH485 Interface (RJ-45F to RJ-45M, 10 ft. Cable).	**P15DH485C10**	—
15A 125V Power and Micrologix 8M Din/F to 8M Din/M, 10 ft. Cable.	**P15ML8F8MC10**	—

PR205E

PR205EB

P155E

P155EB

Additional computer interfaces, PLC connections and configurations available upon request. Consult factory for catalog number and availability.

Features and Benefits

HI-Impact Industrial Ethernet Connectors

Hubbell's Industrial Ethernet System provides leading edge Category 5e and 6 network transmission performance suitable for industrial and other harsh environments. This system incorporates the use of our standard data connectivity jacks which feature our keystone latching mechanism, in a rugged sealed housing providing IP67 rated protection.

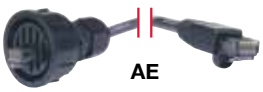
Extend your LAN to include automation equipment and manufacturing or process control equipment. Utilize the Hubbell system to provide added protection in harsh environments such as convention centers, food processing plants, outdoor billboards and display screens, medical and other environments which require added protection from moisture, corrosion, dust-debris, vibration and chemicals.

Housing Design

- Housing made from high impact polymer
- O-rings for moisture protection
- Sealed connection is IP67 rated

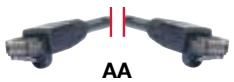
Internal Design

- Category 6 and 5e component connectors
- Standard Hubbell Keystone latching system



AE

EE



AA

HICH

HIC

HISF11

Industrial Ethernet Connectors

Description	Cat. 6	Cat. 6 Inline Coupler
Connector	**HI6**	**HI6C**

Industrial Ethernet Patch Cords and Plugs

Description	Catalog Number
HI-Impact RJ-45 to standard RJ-45.	**HI6xxAE**
HI-Impact RJ-45 on both ends.	**HI6xxEE**
Standard RJ-45 on both ends.	**HI6xxAA**

Note: Substitute "xx" with 03, 05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50 to indicate length in feet.

Coupler Housing and Connector Cap

Description	Catalog Number
HI-Impact coupler housing is a perfect solution for temporary and flexible work areas where single port drops are needed. Add any HI-Impact connector to support your application.	**HICH**
Connector Cap	**HIC**

HI-Impact Wallplates

Description	1-Gang 1-Port Opening	1-Gang 2-Port Openings	2-Gang 2-Port Openings	2-Gang 4-Port Openings
Stainless steel wallplate.	**HISF11**	**HISF12**	**HISF22**	**HISF24**

Valox® is a trademark of SABIC Innovative Plastics, acquired from General Electric Company.

Environmental Specifications

Ingress Protection:	NEMA TYPE 4X (connectors). IP67 and IP66 (dust/water). IP55 (plates).
Corrosion:	Resistant to most common chemicals, oils and cleaning agents.
HI-Impact Housing:	UV resistant.
Temperature Range:	TIA/EIA-568-B.2 -25°C to 70°C.

Material

HI-Impact Housing:	Valox®, UL 94V-0.
Nose Contacts:	Beryllium copper with a minimum of 50 micro-inch gold plating over nickel under plating.

Mechanical

Vibration	
Frequency Range:	10-500Hz.
Acceleration:	5g (operational).
Mating Cycles:	750 minimum.

UL 1863 compliant.

Electrical

ANSI/TIA/EIA-568-B.2-1 (Cat. 6 and 5e).
Supports TIA-1005 Industrial Telecommunications Infrastructure.