

Section G

Industrial Connectivity and Control Products

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Mini-Quick® Control Connectors



Mini-Quick® Control Connectors

Mini-Quick Control Connectors are a line of environmentally protected, industrial circular connectors typically used for the installation and quick disconnect of solenoid valves, photo eyes, limit switches and 18 and 30 mm proximity switches. The electrical and environmental ratings of Mini-Quick connectors also make them well suited for use with outdoor lighting as well as other commercial applications requiring circular disconnect cable assemblies.

Hubbell's Mini-Quick line features:

- UL Listed connectors with UL Type 4, 4X, 12 and 13 environmental ratings.
- Nickel plated brass coupling nuts designed with an anti-vibration feature provide a secure connection that is resistant to corrosion and water.
- Gold over palladium nickel contact plating for superior conductivity and extended contact life.
- Sleeved, leaded nickel copper socket contacts maintain their shape and continuity over time.

This highly durable line of connectors ensures extended product life resulting in decreased downtime and labor costs.

Hubbell offers you a complete Mini-Quick product line with straight and right angle molded-on plugs and pre-wired receptacles available in 2 through 12 pole configurations with a variety of cable types and lengths. If you know the product you need, save time and go directly to the Mini-Quick **Hubbell Logic** ordering chart to build your catalog number. Hubbell will provide the product you want, when you need it.

Mini-Quick® Control Connectors

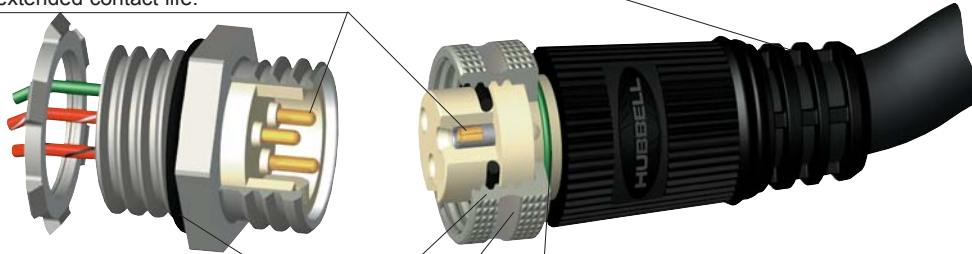
Features and Benefits

Gated Strain Relief with Graduated Window Sizes-

Improved flexibility and strength
protects wire terminations;
Superior arc of bend control.

Hard Gold Over Palladium Nickel Contact Plating-

Superior conductivity, extended contact life.



O-Rings- Moisture protection.

Anti-Vibration Coupling Nut-

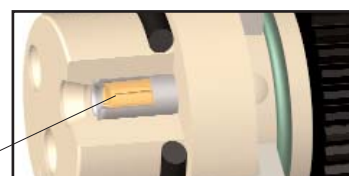
Prevents coupling nut from loosening under harsh vibration conditions.

Indicator Ring-

Ensures proper mating.

Leaded Nickel Copper Sleeved Contact-

Extended contact life and continuity.



Features

- Nickel plated brass coupling nuts and receptacle shells.
- Black overmold and cable.
- Insulgrip connector body design.
- UL Listed cable assemblies and receptacles.

Benefits

- Plating resists corrosion in high abuse environments
- Cable assembly resists dirt and blends with environment giving a clean look to the installation
- Ergonomic connector body has an industrial look.
- Third party certified for electrical, mechanical and environmental performance.

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
Receptacle Shell, Nylon	Nylon 6/6, Black
Receptacle Shell, Right Angle	Nickel plated zinc alloy die cast

Cable	#16 AWG STOOW - PVC jacket, Black, PVC conductor insulation, Stranding - 65/34
	#16 AWG SEOOW - TPE jacket, Black, PVC conductor insulation, Stranding - 65/34
	#18 AWG STOOW - PVC jacket, Black, PVC conductor insulation, Stranding - 41/34
	#18 AWM2661 - PVC jacket, Black, PVC conductor insulation, Stranding - 41/34
Strain Relief	#16 AWG & #18 AWG - 30 pounds min per UL2238

Electrical Specifications

Voltage Rating	600VDC/600VAC.
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	IP67.
Operating Temperature	STOOW & AWM2661 cables: -20°C to 105° C. 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 UL50, File No. E192071.
CSA Certified, C22.2 No. 182.3 and CSA C22.2 No. 94.

Mini-Quick® Control Connectors 2 - 6 Pole Plugs

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

For example, Catalog Number **HCMA05212** 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 In-line* 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 STOOW Cable 2 = #16 AWG SEOOW Cable ♦ 3 = #18 AWM2661 IEC Cable ♦ 4 = #18 AWG STOOW Cable ♦ 3 - 5 pole only	** 03 06 12 20 ** Replace w / length
HC	M	A	05	2	12

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.

2 - 6 Pole Plugs

Catalog numbers using #16 AWG STOOW cable are listed below. For #16 AWG SEOOW, #18 AWG STOOW or #18 AWM2661 IEC 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 Jumper Cables
			Straight	Right Angle	Straight	Right Angle	Straight
2		3 ft (0.91m)	HCMS02103	HCMA02103	HPMS02103	HPMA02103	HJMS02103
		6 ft (1.83m)	HCMS02106	HCMA02106	HPMS02106	HPMA02106	HJMS02106
		12 ft (3.66m)	HCMS02112	HCMA02112	HPMS02112	HPMA02112	HJMS02112
		All other lengths [^]	HCMS021**	HCMA021**	HPMS021**	HPMA021**	HJMS021**
3		3 ft (0.91m)	HCMS03103	HCMA03103	HPMS03103	HPMA03103	HJMS03103
		6 ft (1.83m)	HCMS03106	HCMA03106	HPMS03106	HPMA03106	HJMS03106
		12 ft (3.66m)	HCMS03112	HCMA03112	HPMS03112	HPMA03112	HJMS03112
		All other lengths [^]	HCMS031**	HCMA031**	HPMS031**	HPMA031**	HJMS031**
4		3 ft (0.91m)	HCMS04103	HCMA04103	HPMS04103	HPMA04103	HJMS04103
		6 ft (1.83m)	HCMS04106	HCMA04106	HPMS04106	HPMA04106	HJMS04106
		12 ft (3.66m)	HCMS04112	HCMA04112	HPMS04112	HPMA04112	HJMS04112
		All other lengths [^]	HCMS041**	HCMA041**	HPMS041**	HPMA041**	HJMS041**
5		3 ft (0.91m)	HCMS05103	HCMA05103	HPMS05103	HPMA05103	HJMS05103
		6 ft (1.83m)	HCMS05106	HCMA05106	HPMS05106	HPMA05106	HJMS05106
		12 ft (3.66m)	HCMS05112	HCMA05112	HPMS05112	HPMA05112	HJMS05112
		All other lengths [^]	HCMS051**	HCMA051**	HPMS051**	HPMA051**	HJMS051**
6		3 ft (0.91m)	HCMS06103	HCMA06103	HPMS06103	HPMA06103	HJMS06103
		6 ft (1.83m)	HCMS06106	HCMA06106	HPMS06106	HPMA06106	HJMS06106
		12 ft (3.66m)	HCMS06112	HCMA06112	HPMS06112	HPMA06112	HJMS06112
		All other lengths [^]	HCMS061**	HCMA061**	HPMS061**	HPMA061**	HJMS061**

[^] Replace ** with length required in feet. For nylon coupling nuts, replace "M" with "N" per the ordering chart above. Example: change HPMA05106 to HPNA05106.

Mini-Quick® Control Connectors 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)

Jumper Cable

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

Inline Plug

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

Right Angle version also available.

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)

Male/Female Extension Cable

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

Cable Diameters By Cable Type

Number of Conductors	#16 AWG STOOV	#18 AWG STOOV
2	0.37" (9.4)	0.37" (9.4)
3	0.42" (10.7)	0.37" (9.4)
4	0.42" (10.7)	0.42" (10.7)
5	0.50" (12.7)	0.50" (12.7)
6	0.52" (13.2)	0.50" (12.7)

Number of Conductors	#16 AWG SEOOW	#18 AWM2661 IEC
3	0.42" (10.7)	0.26" (6.6)
4	0.42" (10.7)	0.26" (6.6)
5	0.50" (12.7)	0.26" (6.6)

Conductor Color Code

#16 AWG STOOV 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

#16 AWG SEOOW Plugs

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

#18 AWG STOOV 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

#18 AWG IEC Plugs

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

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 No.	
Closure Cap	HPCAP1	
Closure Cap	HRCAP1	
Adapter Ring	HMQAR1	

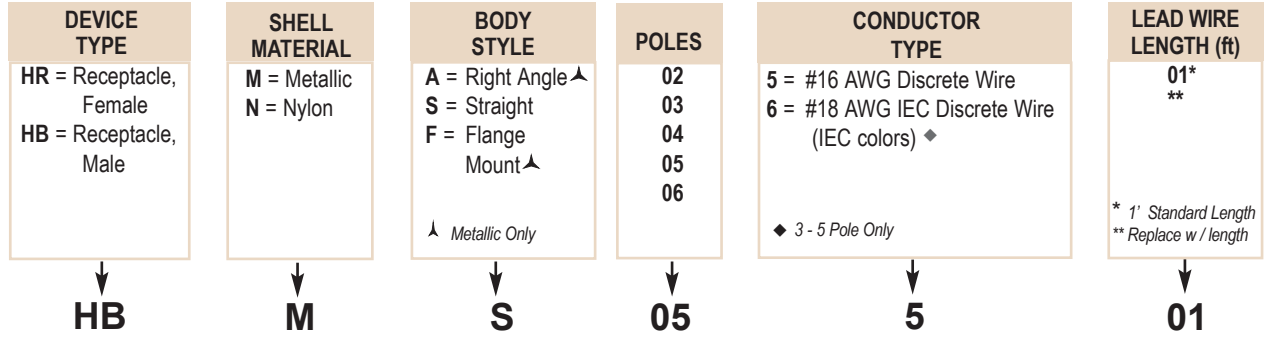
Mini-Quick® Control Connectors

2 - 6 Pole Receptacles

Choose the appropriate configuration from the selector below.

Hubbell Logic Configurator

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



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.

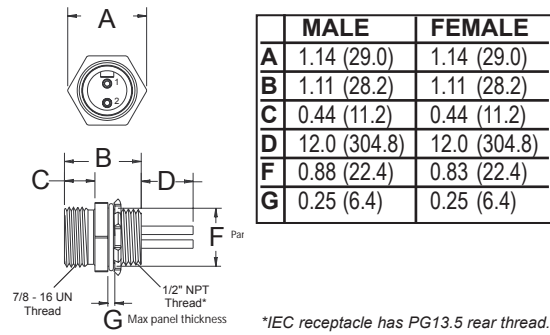
2 - 6 Pole Receptacles #16 AWG Discrete Wire◆

Poles	Male Face Shown Female - mirror image	Female Receptacle				Male Receptacle			
		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	HBMF0550
6		HRMS06501	HRNS06501	HRMA06501	HRMF06501	HBMS06501	HBNS06501	HBMA06501	HBMF06501

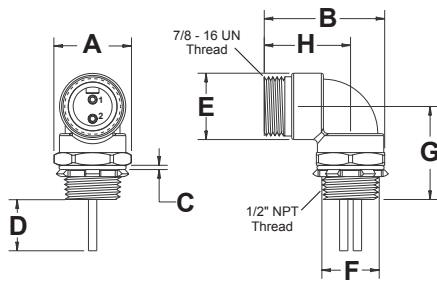
◆ For #18 AWG IEC discrete wire, change the conductor type using the Hubbell Logic chart above.

Mini-Quick® Control Connectors 2 - 6 Pole Receptacles

Straight Receptacles



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)

Color Code By Wire Type

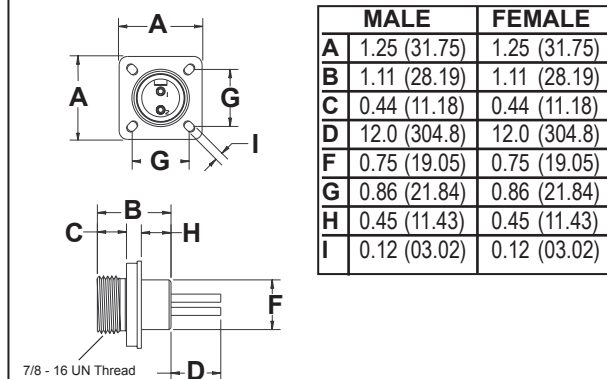
#16 AWG Receptacles

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

Flange Mount Receptacles



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 No.	
Closure Cap	HPCAP1	
Closure Cap	HRCAP1	

All dimensions are shown in inches (mm)

Mini-Quick® Control Connectors

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 = Jumper, Male/Female	M = Metallic N = Nylon	A = Right Angle S = Straight	07 08 09 10 12	1 = #16 AWG STOOW Cable	** 03 06 12 20
↓	↓	↓	↓	↓	↓
HC	M	A	08	1	12

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

7 - 12 Pole Plugs

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

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

[^] Replace ** with length required in feet. For nylon coupling nuts, replace "M" with "N" per the ordering chart above. Example: change HPMA07106 to HPNA07106.

Mini-Quick® Control Connectors 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		9 - 12 Pole			
	MALE	FEMALE		MALE	FEMALE
A	1.12 (28.5)	1.12 (28.5)	A	1.25 (31.8)	1.25 (31.8)
B	2.53 (64.3)	2.49 (63.3)	B	2.77 (70.4)	2.73 (69.3)
C	1 - 16 UN Thread		C	1 1/8 - 16 UN Thread	

All dimensions are shown in inches (mm)

Cable Diameters By Cable Type

Number of Conductors	#16 AWG STOOV
7	0.57" (14.5)
8	0.57" (14.5)
9	0.65" (16.7)
10	0.65" (16.7)
12	0.71" (17.9)

Conductor Color Code

#16 AWG STOOV Plugs	2	3	4	5	6	7	8	9	10	12
Contact Number	Pole	Pole	Pole	Pole	Pole	Pole	Pole	Pole	Pole	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			Closure Cap			Adapter Ring		
	Shell Size	Thread Size	Catalog Number	Shell Size	Thread Size	Catalog Number	Shell Size	Thread Size	Catalog Number
7 to 8 Pole	II	1 - 16 UN	HPCAP2	II	1 - 16 UN	HRCAP2	II	1 - 16 UN	HMQR2
9 to 12 Pole	III	1 1/8 - 16UN	HPCAP3	III	1 1/8 - 16UN	HRCAP3	III	1 1/8 - 16UN	HMQR3
Cap Size	II- 1.12" (28.5), III- 1.25" (31.8)			II- 1.00" (25.4), III- 0.97" (24.6)					

Mini-Quick® Control Connectors

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* **
↓	↓	↓	↓	↓	↓
HR	M	S	10	5	01

* 1' Standard Length
** Replace w / length

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

7-12 Pole Receptacles

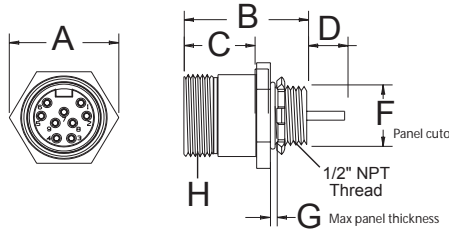
#16 AWG Discrete Wire

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

Mini-Quick® Control Connectors

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	

All dimensions are shown in inches (mm)

Cable Diameters By Cable Type

Number of Conductors	#16 AWG STOOW
7	0.57" (14.5)
8	0.57" (14.5)
9	0.66" (16.7)
10	0.66" (16.7)
12	0.71" (18.0)

Conductor Color Code

#16 AWG STOOW Plugs

Contact	2	3	4	5	6	7	8	9	10	12
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			Closure Cap			Adapter Rings		
	Shell Size	Thread	Catalog Number	Shell Size	Thread	Catalog Number	Shell Size	Thread	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- 1.00" (25.4), III- 0.97" (24.6)					

Mini-Quick® Control Connectors

Coil Cord

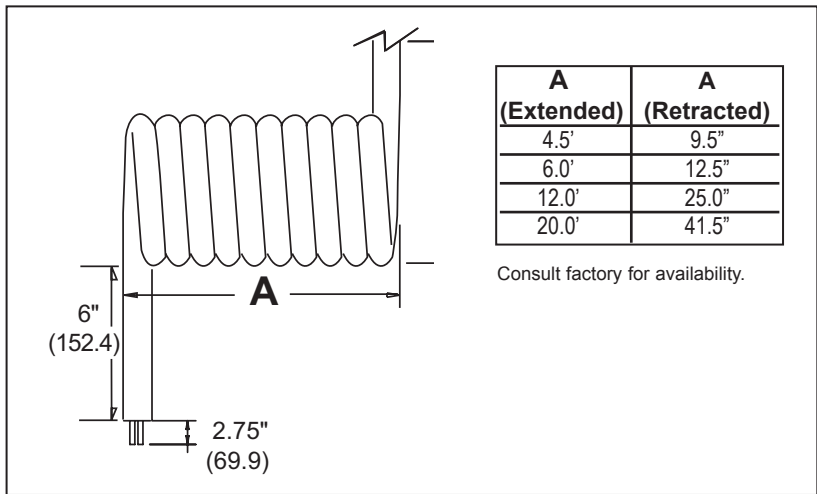
Coil Cord allows control connector plugs to extend and retract to pre-defined lengths, much like a mechanical spring. Coil cords come standard with 18 AWG polyurethane (PUR) jacketed cable. Consult factory for alternate construction. Simply choose the appropriate configuration from the selector below.

Hubbell Logic Configurator

For example, Catalog Number **HEMS03C045** is derived as follows:

DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	POLES	CABLE TYPE	EXTENDED LENGTH (ft)
HP = Plug, Male HC = Plug, Female HJ = Male/Female Jumper HI = Plug, Male Inline* HE = Male/Female Extension*	M = Metallic N = Nylon	A = Right Angle S = Straight	03 = 3 04 = 4 05 = 5	C	** 045 = 4.5* 06 = 6 12 = 12 20 = 20 * 045 = 4.5 feet ** Replace w / length
HE	M	S	03	C	045

* Available with metallic coupling nut only.



Material Specifications		Cable Diameter	
18 AWG PUR	PUR jacket, black	Number of Conductors	Diameter
	PVC conductor insulation	3	0.24 (6.1)
	Stranding - 41/34	4	0.26 (6.6)
		5	0.28 (7.1)

Color Codes		Wire Color		Wire Color		Wire Color	
1	Green	1	Red/Black	1	Red/White	1	Red/White
2	Red/Black	2	Red/White	2	Red	2	Red
3	Red White	3	Red	3	Green	3	Green
		4	Green	4	Red/Orange	4	Red/Orange
				5	Red/Black	5	Red/Black

Female face shown, Male- mirror image.

Mini-Quick® Control Connectors LED Cables

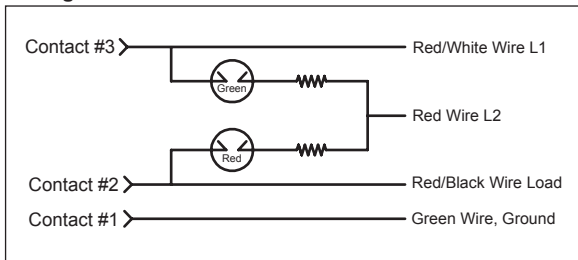
LED Plugs

Mini-Quick plugs are available in straight and right angle versions to aid in visibility of sensor functions in the manufacturing plant. These plugs are available in the 3-pole, 4-wire, 18AWG configurations. The last two alpha numeric digits of each of catalog number gives the assembly length in feet.

Electrical Rating: 6A/300V



Wiring Schematic



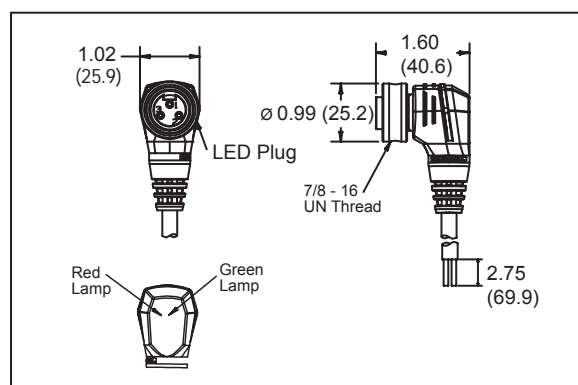
Mini-Quick Right Angle Female LED Plugs

Description	Catalog No. Metallic	Catalog No. Nylon
3-Pole/4-wire, 3 ft.	HCMA03L03	HCNA03L03
3-Pole/4-wire, * ft.	HCMA03L**	HCNA03L**

** User-specified cable lengths.

Conductor Colors

Contact	Color
1	Green - Ground
2	Red/Black - Load
3	Red/White - L1
4	Red - L2



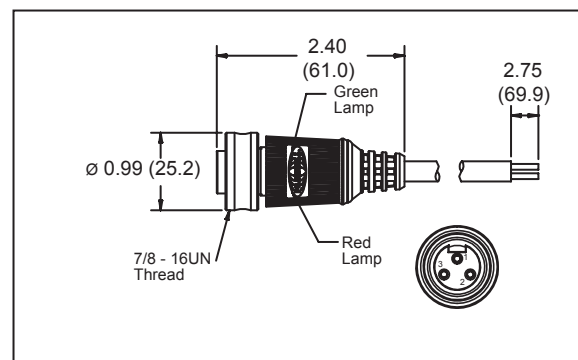
Mini-Quick Straight Female LED Plugs

Description	Catalog No. Metallic	Catalog No. Nylon
3-Pole/4-wire, 3 ft.	HCMS03L03	HCNS03L03
3-Pole/4-wire, * ft.	HCMS03L**	HCNS03L**

** User-specified cable lengths.

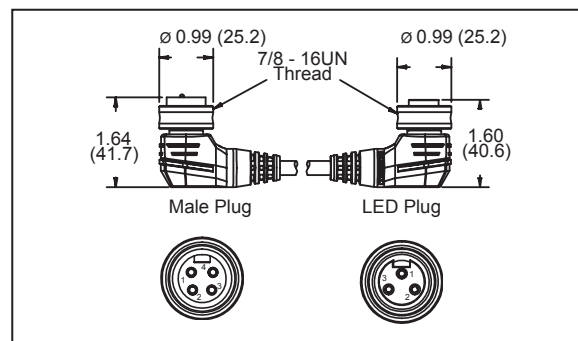
Conductor Colors

Contact	Color
1	Green - Ground
2	Red/Black - Load
3	Red/White - L1
4	Red - L2



Mini-Quick LED Jumper Cables

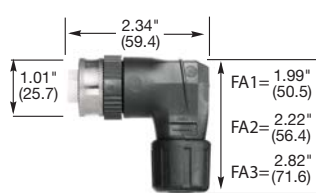
Description	Catalog No. Metallic	Catalog No. Nylon
2 Right Angle	HJMA03L06	HJNA03L06
R/A Male, Straight Female	HJMA03L06A	HJNA03L06A
R/A Female, Straight Male	HJMA03L06B	HJNA03L06B



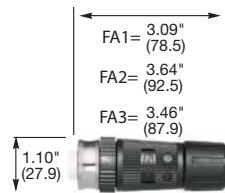
Mini-Quick® Field Attachable Connectors - Screw Terminal Style



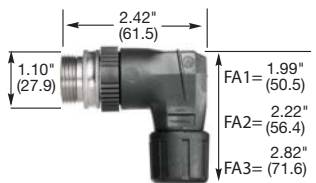
	Body	Cable Range			
Female	Straight	.20"-.27" (5.1-6.9)	HCMS03FA1	HCMS04FA1	HCMS05FA1
		.25"-.38" (6.4-9.7)	HCMS03FA2	HCMS04FA2	HCMS05FA2
		.38"-.50" (9.7-12.7)	HCMS03FA3	HCMS04FA3	HCMS05FA3
Female	Right Angle	.20"-.27" (5.1-6.9)	HCMA03FA1	HCMA04FA1	HCMA05FA1
		.25"-.31" (6.4-9.7)	HCMA03FA2	HCMA04FA2	HCMA05FA2
		.25"-.31" (9.7-12.7)	HCMA03FA3	HCMA04FA3	HCMA05FA3
Male In-Line	Straight	.14"-.27" (5.1-6.9)	HIMS03FA1	HIMS04FA1	HIMS05FA1
		.25"-.38" (6.4-9.7)	HIMS03FA2	HIMS04FA2	HIMS05FA2
		.38"-.50" (9.7-12.7)	HIMS03FA3	HIMS04FA3	HIMS05FA3
Male In-Line	Right Angle	.20"-.27" (5.1-6.9)	HIMA03FA1	HIMA04FA1	HIMA05FA1
		.25"-.38" (6.4-9.7)	HIMA03FA2	HIMA04FA2	HIMA05FA2
		.38"-.50" (9.7-12.7)	HIMA03FA3	HIMA04FA3	HIMA05FA3
Male	Straight	.20"-.27" (5.1-6.9)	HPMS03FA1	HPMS04FA1	HPMS05FA1
		.25"-.38" (6.4-9.7)	HPMS03FA2	HPMS04FA2	HPMS05FA2
		.38"-.50" (9.7-12.7)	HPMS03FA3	HPMS04FA3	HPMS05FA3
Male	Right Angle	.20"-.27" (5.1-6.9)	HPMA03FA1	HPMA04FA1	HPMA05FA1
		.25"-.38" (6.4-9.7)	HPMA03FA2	HPMA04FA2	HPMA05FA2
		.38"-.50" (9.7-12.7)	HPMA03FA3	HPMA04FA3	HPMA05FA3



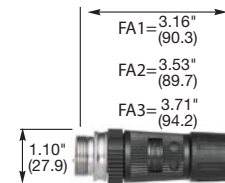
Female, Right Angle
Male, Right Angle



Female, Straight
Male, Straight



Male In-Line, Right Angle



Male In-Line, Straight

Material Specifications

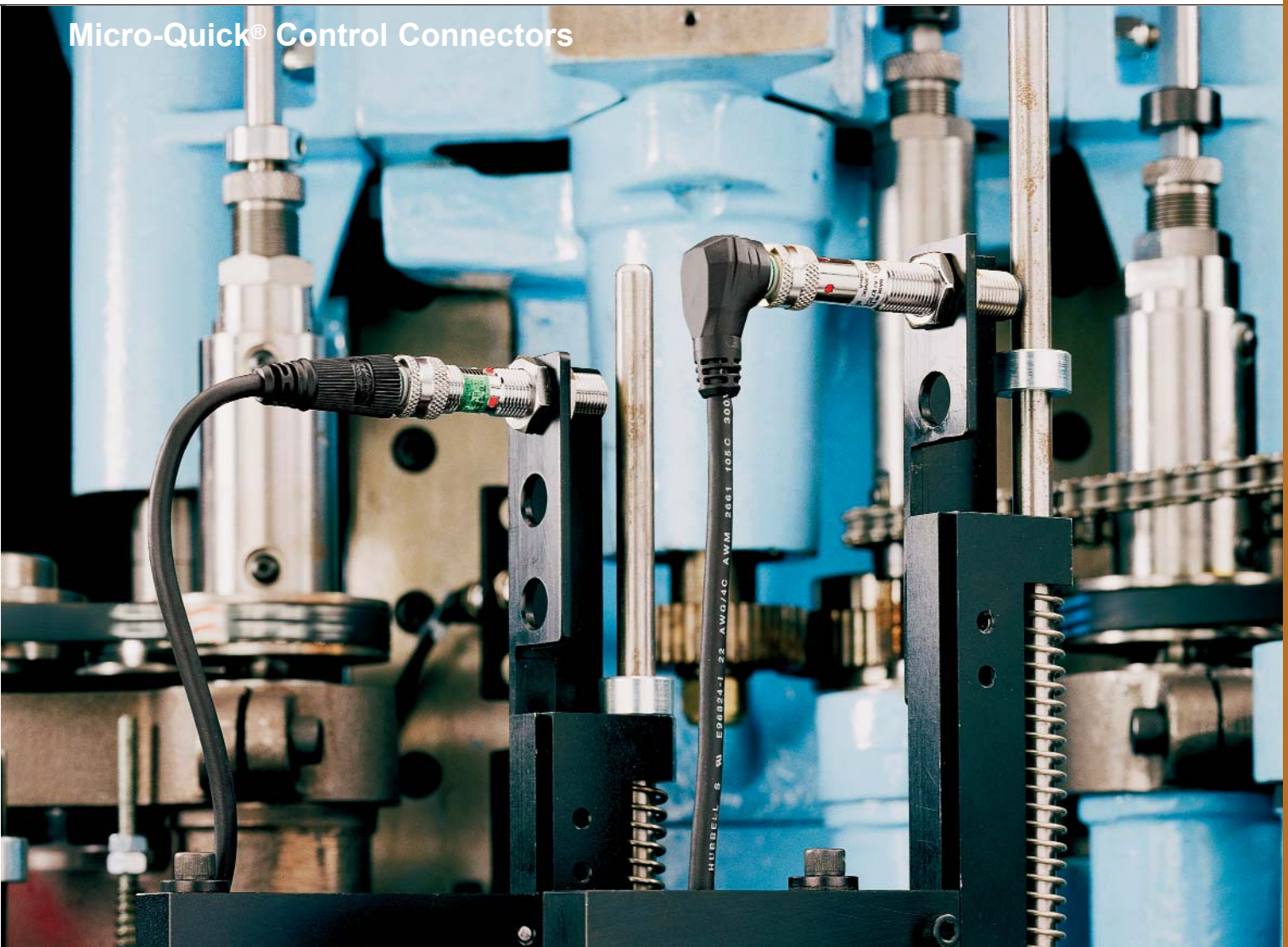
Non-Metallic Materials	PBT, Nylon 6/6
Contact Materials	Pins-Brass, Sockets-Leaded nickel copper w/stainless steel sleeve
Contact Plating	Hard gold over palladium/nickel
Coupling Nut	Nickel plated brass
Gotcha -rings	Nylon 6/6, Natural, yellow, blue and black
Bushings	Rubber, Black
Set Screw	Zinc plated steel

Electrical Specifications

Voltage Rating	600V AC/DC
Wire Range	16AWG max, 18 AWG min.
Cable Diameters	FA1= .20"-.27", FA2= .25"-.31", FA3= .38"-.50"
Amperage	#16 AWG- 3p=15A, 4p=12A, 5p=10A #18 AWG- 3p=11A, 4p=8A, 5p=7A
Contact Resistance	≤ 5 mΩ
Isolation Resistance	≥1000 MΩ

Environmental Specifications

Moisture Resistance	UL Type 4, 4X, 12 and 13, IP67
Operating Temperature	-20°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



Micro-Quick® Control Connectors

Whether you have a need for an industrial connector for sensitive signal applications, or for connecting to photo eyes or to 12 and 18 mm proximity switches, Hubbell's Micro-Quick connector line is the best choice available today. Micro-Quick control connectors are made with the same high quality materials as the Mini-Quick line, resulting in the same industrial strength in a smaller package to fit your size, signal and wire gauge requirements.

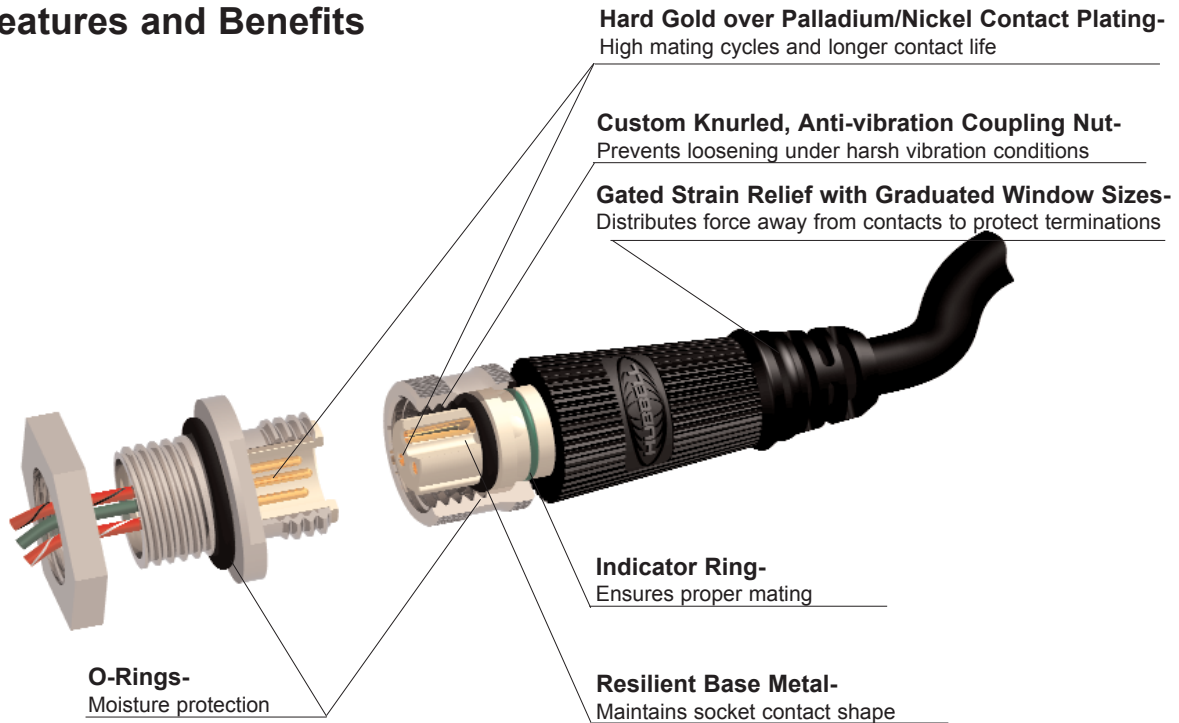
Hubbell's Micro-Quick line features:

- UL Listed connectors with UL Type 4, 4X, 12 and 13 environmental ratings.
- Beryllium copper socket contacts maintain continuity over time and reduce intermittencies.
- Gold over palladium nickel contact plating for superior conductivity and extended contact life.

As you would expect from Hubbell, Micro-Quick control connectors are the most durable and longest lasting micro connector available on the market today. Give us your harshest environment and we will give you a Micro-Quick connector that stands up to the job.

The Micro-Quick product offering is complete with straight and right angle molded on plugs and pre-wired receptacles available in 2 through 6 pole configurations with a variety of cable types and lengths. This line offers AC and DC key styles to prevent mismatching which can cause equipment damage. The **Hubbell Logic** chart helps you build the product you need quickly and easily.

Micro-Quick® Control Connectors Features and Benefits



Features	Benefits
<ul style="list-style-type: none"> Nickel plated brass coupling nuts and receptacle shells. Beryllium copper socket contacts. Standard #22 AWG cable 85% copper braid coverage. Black overmold and cable. Insulgrip connector body design. 	<ul style="list-style-type: none"> 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. Cable assembly resists dirt and blends with environment giving a clean look to the installation. Ergonomic connector body has an industrial look.

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	300VDC/300VAC
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	IP67 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 UL50, File No. E192071	CSA Certified, C22.2 No. 182.3 and CSA C22.2 No. 94

Micro-Quick® Control Connectors 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 5
↓	↓	↓	↓	↓	↓	↓
MC	M	S	1	3	1	2

♦ 2 - 4 pole only ** Replace w / length

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

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	Right Angle
3		6.56 ft (2m)	MCMS1312	MCMA1312	MIMS1312	MEMS1312
		13.12 ft (4m)	MCMS1314	MCMA1314	MIMS1314	MEMS1314
		16.40 ft (5m)	MCMS1315	MCMA1315	MIMS1315	MEMS1315
		All other lengths [^]	MCMS131**	MCMA131**	MIMS131**	MEMS131**
4		6.56 ft (2m)	MCMS1412	MCMA1412	MIMS1412	MEMS1412
		13.12 ft (4m)	MCMS1414	MCMA1414	MIMS1414	MEMS1414
		16.40 ft (5m)	MCMS1415	MCMA1415	MIMS1415	MEMS1415
		All other lengths [^]	MCMS141**	MCMA141**	MIMS141**	MEMS141**
5		6.56 ft (2m)	MCMS1512	MCMA1512	MIMS1512	MEMS1512
		13.12 ft (4m)	MCMS1514	MCMA1514	MIMS1514	MEMS1514
		16.40 ft (5m)	MCMS1515	MCMA1515	MIMS1515	MEMS1515
		All other lengths [^]	MCMS151**	MCMA151**	MIMS151**	MEMS151**

[^] Replace ** with length required in feet. For nylon coupling nuts, replace "M" with "N" per the ordering chart above. Example: change **MCMA1412** to **MCNA1412**.

Micro-Quick® Control Connectors Single Key 3 - 5 Pole Plugs

Drawings (in/mm)

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	1/2 - 20 UNF Thread	

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

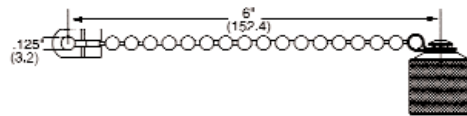
ACCESSORIES

Dust Caps

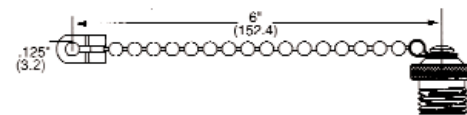
Closure caps protect plugs and receptacles when not in use. Thread is M12 x 1.

Catalog

MRCM1



MPCM1



Micro-Quick® Control Connectors 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
MR= Receptacle, Female 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 = 1/4" NPT** 50 = 1/2" NPT* * MB Style Only **MF Style Only
MR	M	S	1	3	3	14

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

3 - 5 Pole Single Key Receptacles

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.

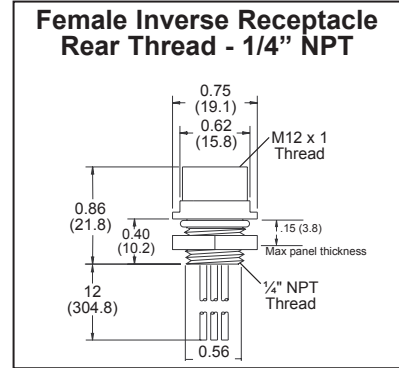
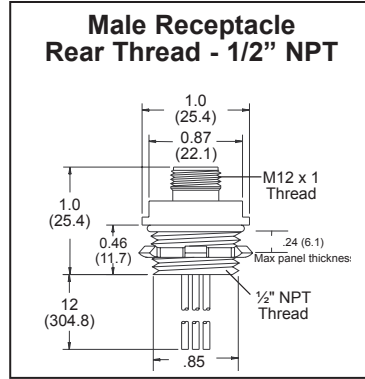
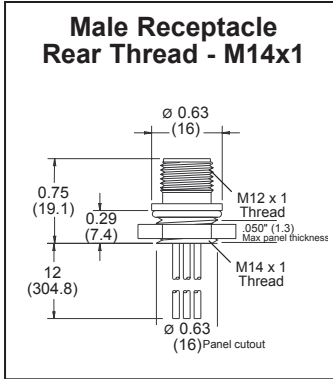
3 - 5 Pole Single Key Receptacles- #22 AWG Discrete Wire ♦

Poles	Male Face Shown Female - mirror image	Male Receptacle Rear Thread Style		Female Inverse Receptacles Rear Thread Style
		M14 x 1	1/2" NPT	1/4" NPT
3		MBMS13314	MBMS13350	MFMS13325
4		MBMS14314	MBMS14350	MFMS14325
5		MBMS15314	MBMS15350	MFMS15325

♦ For 18 AWG discrete wire, replace the conductor type per Hubbell Logic chart above.

All receptacles available in 1 ft. length standard. For additional lengths, please consult factory.

Micro-Quick® Control Connectors Single Key 3 - 5 Pole Receptacles



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 #	
MRCM1	
MPCM1	

Micro-Quick® Control Connectors 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 4 5
↓	↓	↓	↓	↓	↓	↓
MP	M	S	2	5	1	2

♦ 2 - 5 pole only ** Replace w / length

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

2 - 6 Pole Dual Key Plugs

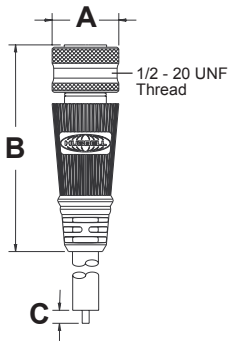
Catalog numbers using #22 AWG PVC cable are listed below. For #18 AWG TPE cable, change the conductor type per the **Hubbell Logic** chart above.

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

^λ Replace ** with length required in feet. For nylon coupling nuts, replace "M" with "N" per the ordering chart above.
Example: change MCMS2314 to MCNS2314.

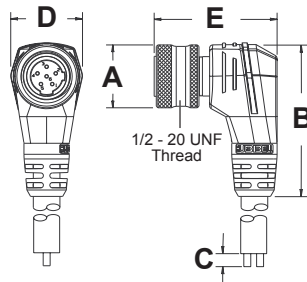
Micro-Quick® Control Connectors Dual Key 2 - 6 Pole Plugs

Straight Plug



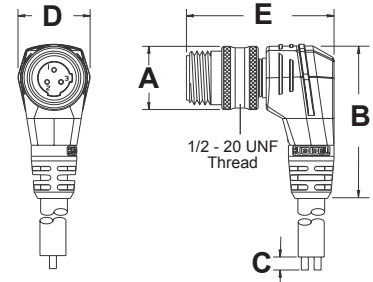
	MALE	FEMALE
A	0.59 (15.0)	0.59 (15.0)
B	1.83 (46.5)	1.83 (46.5)
C	2.75 (69.9)	2.75 (69.9)

Right Angle Plug



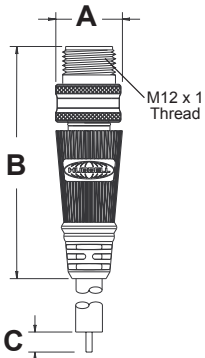
	MALE	FEMALE
A	0.59 (15.0)	0.59 (15.0)
B	1.44 (36.6)	1.44 (36.6)
C	2.75 (69.9)	2.75 (69.9)
D	0.67 (17.0)	0.67 (17.0)
E	1.15 (29.2)	1.15 (29.2)

Right Angle Male In-Line Plug



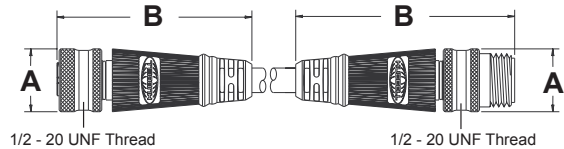
A	0.59 (15.0)
B	1.44 (36.6)
C	2.75 (69.9)
D	0.67 (17.0)
E	1.38 (35.1)

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)

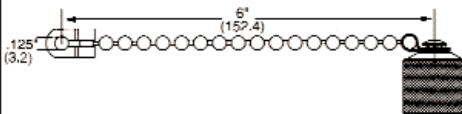
ACCESSORIES

Dust Caps

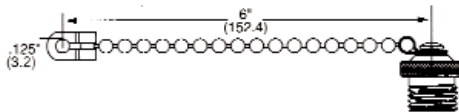
Closure caps protect plugs and receptacles when not in use. Key style is for dual with thread of 1/2"-20 UNF.

Catalog

MRCM2



MPCM2



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)	-

Micro-Quick® Control Connectors

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	SHELL 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 = 1/4"NPT* 50 = 1/2"NPT * MF Only Available w/ 25
↓	↓	↓	↓	↓	↓	↓
MR	M	S	2	2	3	25

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

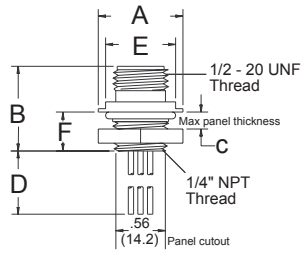
2 - 6 Pole Dual Key Receptacles

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 Receptacles		Male Receptacles		Female Inverse Receptacles
		Rear Thread Style		Rear Thread Style		Rear Thread Style
		1/4" NPT	1/2" NPT	1/4" NPT	1/2" NPT	1/4" 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

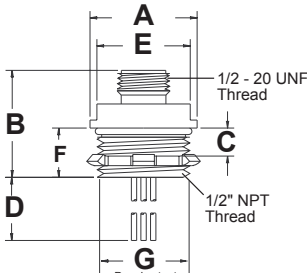
Micro-Quick® Control Connectors Dual Key 2 - 6 Pole Receptacles

1/4" NPT Rear Thread Receptacle



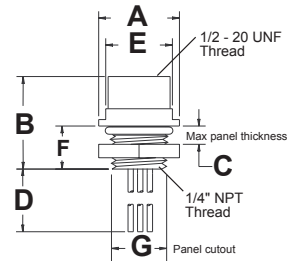
	MALE	FEMALE
A	0.75 (19.1)	0.75 (19.1)
B	0.75 (19.1)	0.86 (21.8)
C	0.10 (2.5)	0.10 (2.5)
D	12.0 (304.8)	12.0 (304.8)
E	0.62 (15.8)	0.62 (15.8)
F	0.35 (8.9)	0.38 (9.7)

1/2" 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 (6.1)
D	12.0 (304.8)	12.0 (304.8)
E	0.87 (22.1)	0.87 (22.10)
F	0.46 (11.7)	0.46 (11.7)
G	0.85 (21.6)	0.85 (21.6)

Female Inverse Receptacle 1/4" 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)

All dimensions are shown in inches (mm)

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

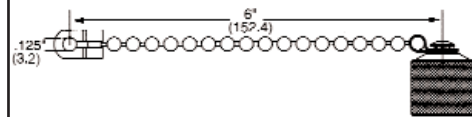
ACCESSORIES

Dust Caps

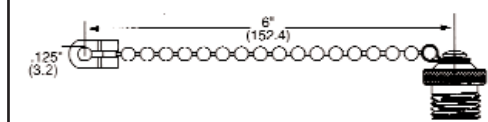
Closure caps protect plugs and receptacles when not in use. Thread is 1/2-20 UNF.

Catalog

MRCM2



MPCM2



Micro-Quick® Control Connectors

Inverse Key 3 - 4 Pole Plugs & Receptacles

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

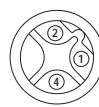

For example, Catalog Number **MCMS3312** is derived as follows:

DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	KEY STYLE	POLES	CONDUCTOR TYPE	CABLE LENGTH (m)
MC= Plug, Female	M = Metallic N = Nylon	A = Right Angle S = Straight	3 = Inverse	3 4	1 = #22 AWG PVC Cable 2 = #18 AWG TPE Cable	** 2 4 5 ** Replace w / length
↓	↓	↓	↓	↓	↓	↓
MC	M	S	3	3	1	2

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

3 - 4 Pole Inverse 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		Poles	Male Face Shown Female - mirror image	Female Plugs	
			Straight	Right Angle			Straight	Right Angle
3		6.56 ft (2m)	MCMS3312	MCMA3312	4		MCMS3412	MCMA3412
		13.12 ft (4m)	MCMS3314	MCMA3314			MCMS3414	MCMA3414
		16.40 ft (5m)	MCMS3315	MCMA3315			MCMS3415	MCMA3415
		All other lengths ^λ	MCMS331**	MCMA331**			MCMS341**	MCMA341**

^λ Replace ** with length required in feet. For nylon coupling nuts, replace "M" with "N" per the ordering chart above.
Example: change MCMA2314 to MCNA2314.



Hubbell Logic Configurator

For example, Catalog Number **MBMS33314** is derived as follows:

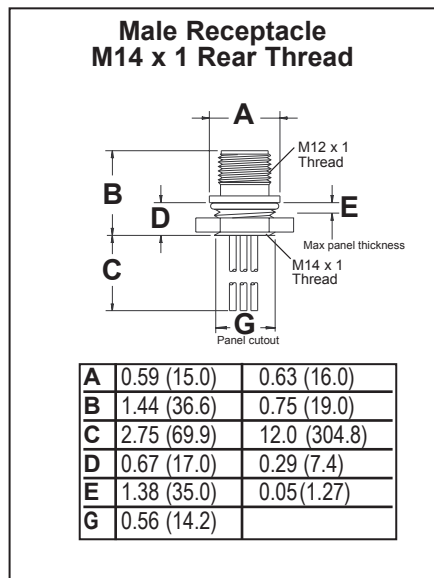
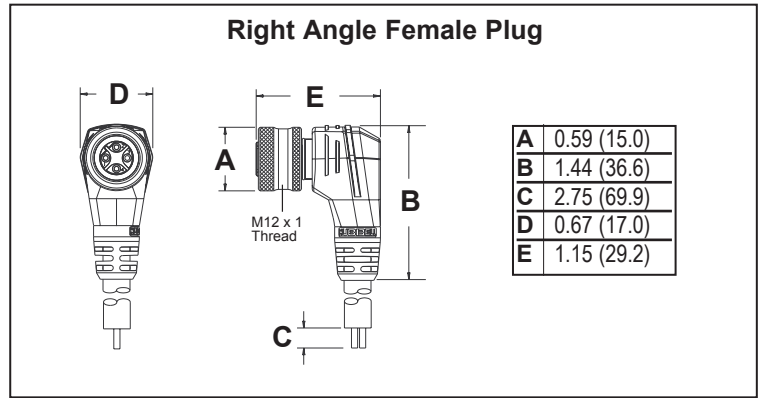
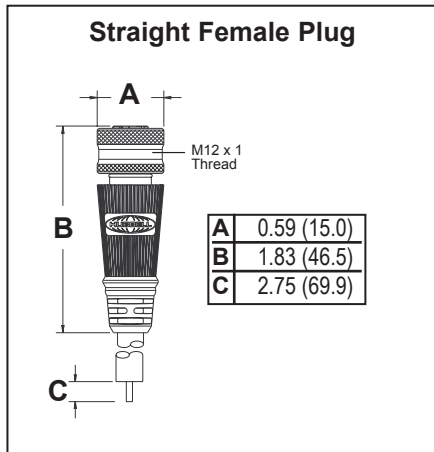
DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	KEY STYLE	POLES	CONDUCTOR TYPE	REAR THREAD STYLE
MB= Receptacle, Male	M = Metallic	S = Straight	3 = Inverse	3 4	3 = #22 AWG PVC Discrete Wire 4 = #18 AWG PVC Discrete Wire	14 = M14x1 ^λ
↓	↓	↓	↓	↓	↓	↓
MB	M	S	3	3	3	14

3 - 4 Pole Inverse Key Receptacles

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		Poles	Male Face Shown Female - mirror image	Male Receptacle Rear Thread Style	
		M14 x 1				M14 x 1	
3		MBMS33314		4		MBMS34314	

Micro-Quick® Control Connectors Inverse Key 3 - 4 Pole Plugs & Receptacles



Cable Diameters By Cable Type

Contact Number	3 Pole	4 Pole
1	Brown	Brown
2	Blue	Blue
3	Not Used	Black
4	Green/Yellow	Green/Yellow

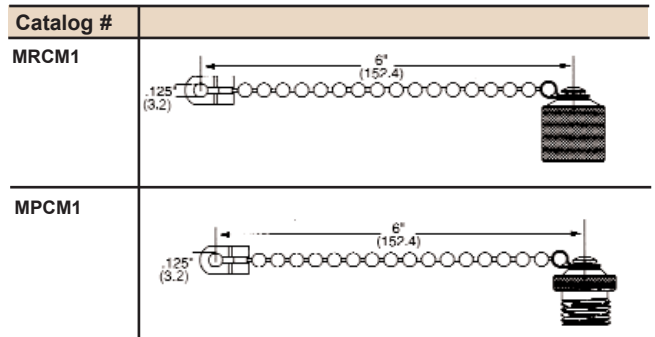
Conductor Color Code

Number of Conductors	#22 AWG PVC	#18 AWG TPE
3	0.21" (5.30)	0.24" (6.1)
4	0.22" (5.68)	0.26" (6.6)

ACCESSORIES

Dust Caps

Closure caps protect plugs and receptacles when not in use. Thread is M12X1.



Micro-Quick® Control Connectors

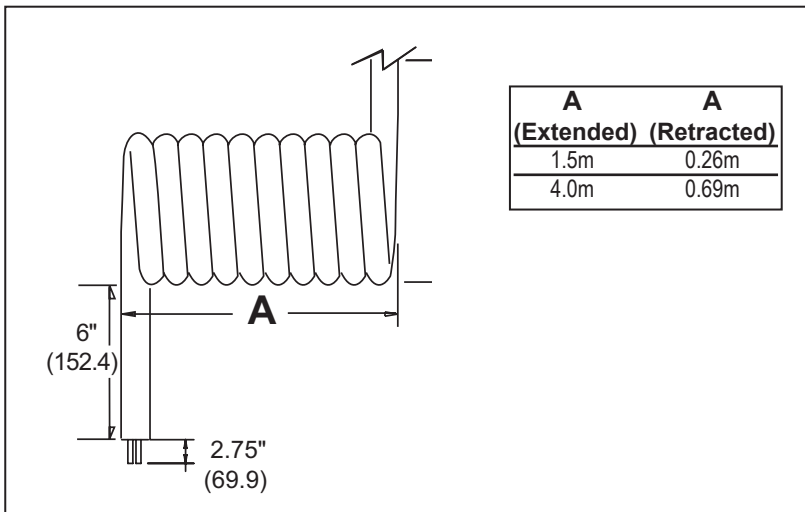
Coil Cord

Coil Cord allows control connector plugs to extend and retract to pre-defined lengths, much like a mechanical spring. Coil cords come standard with 18 AWG polyurethane (PUR) jacketed cable. Consult factory for alternate construction. Simply choose the appropriate configuration from the selector below.

Hubbell Logic Configurator

For example, Catalog Number **MCMS14C105** is derived as follows:

DEVICE TYPE	COUPLING NUT MATERIAL	BODY STYLE	KEY STYLE	POLES	CABLE TYPE	EXTENDED 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	1 = Single 2 = Dual	3 4	C	105 = 1.5m 4 = 4.0m
MC	M	S	1	4	C	105



Consult factory for availability

Color Codes - Single Key (Female Face)

Wire	Color
1	Brown
2	White
3	Blue
4	Black

Color Codes - Dual Key (Female Face)

Wire	Color
1	Green
2	Red/Black
3	Red/White

Material Specifications

18 AWG PUR	PUR jacket, black
	PVC conductor insulation
	Stranding - 41/34

Cable Diameter

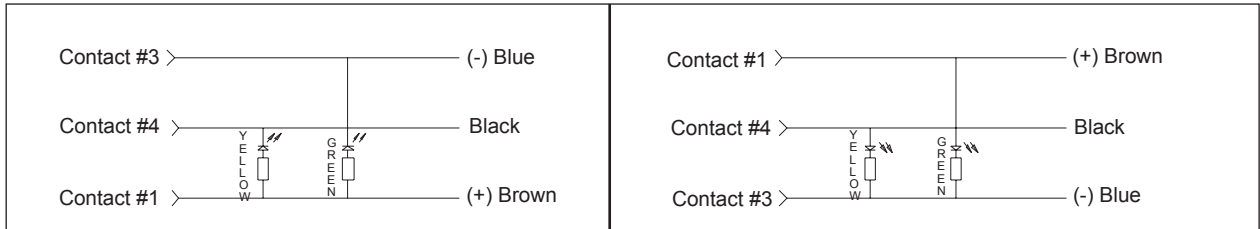
Number of Conductors	Diameter
3	0.24 (6.1)
4	0.26 (6.6)

Micro-Quick® Control Connectors LED Cables

LED Plugs

Micro-Quick plugs are available in NPN and PNP LED versions to aid in visibility of sensor functions in the manufacturing plant. These plugs are available in the 3 pole, single key, straight, and right angle configurations. The last digit of each catalog number gives the assembly length in meters, with 22 AWG cable as the standard.

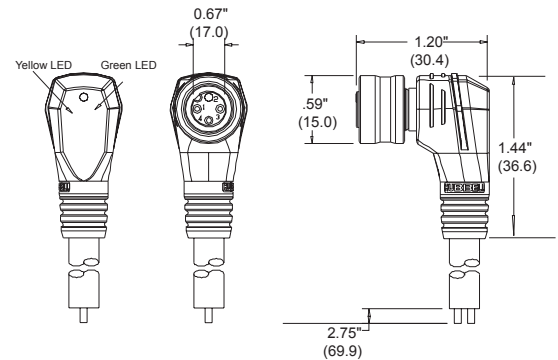
Electrical Rating: 5A/30V DC



Micro-Quick Right Angle Female LED Plugs

PNP Version		Catalog Numbers	
Description	Metallic Coupling Nut	Nylon Coupling Nut	
3 Pole, 2 Meter	MCMP1312	MCNP1312	
3 Pole, 4 Meter	MCMP1314	MCNP1314	
3 Pole, 5 Meter	MCMP1315	MCNP1315	
3 Pole, * Meter	MCMP131*	MCNP131*	
NPN Version		Catalog Numbers	
Description	Metallic Coupling Nut	Nylon Coupling Nut	
3 Pole, 2 Meter	MCMN1312	MCNN1312	
3 Pole, 4 Meter	MCMN1314	MCNN1314	
3 Pole, 5 Meter	MCMN1315	MCNN1315	
3 Pole, * Meter	MCMN131*	MCNN131*	

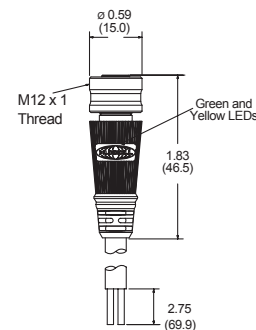
* User specified cable length



Micro-Quick Straight Female LED Plugs

PNP Version		Catalog Numbers	
Description	Metallic Coupling Nut	Nylon Coupling Nut	
3 Pole, 5 Meter	MCMP1315	MCNPS1315	
3 Pole, * Meter	MCMP131*	MCNPS131*	
NPN Version		Catalog Numbers	
Description	Metallic Coupling Nut	Nylon Coupling Nut	
3 Pole, 5 Meter	MCMNS1315	MCNNS1315	
3 Pole, * Meter	MCMNS131*	MCNNS131*	

* User specified cable length



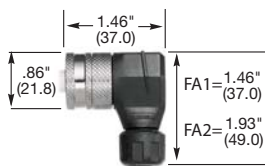
Color Codes

Wire	Color
1	Brown
2	Not Used
3	Blue
4	Black

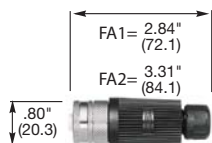
Micro-Quick® Field Attachable Connectors - Screw Terminal Style



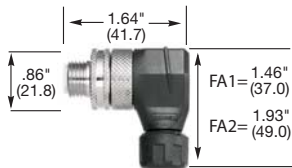
Gender	Body	Cable Range	Pole		
			3 Pole	4 Pole	5 Pole
Female	Straight	.14"-.27" (3.6-6.9)	MCMS23FA1	MCMS14FA1	MCMS15FA1
		.25"-.31" (6.4-7.9)	MCMS23FA2	MCMS14FA2	MCMS15FA2
	Right Angle	.14"-.27" (3.6-6.9)	MCMA23FA1	MCMA14FA1	MCMA15FA1
		.25"-.31" (6.4-7.9)	MCMA23FA2	MCMA14FA2	MCMA15FA2
Male In-Line	Straight	.14"-.27" (3.6-6.9)	MIMS23FA1	MIMS14FA1	MIMS15FA1
		.25"-.31" (6.4-7.9)	MIMS23FA2	MIMS14FA2	MIMS15FA2
	Right Angle	.14"-.27" (3.6-6.9)	MIMA23FA1	MIMA14FA1	MIMA15FA1
		.25"-.31" (6.4-7.9)	MIMA23FA2	MIMA14FA2	MIMA15FA2



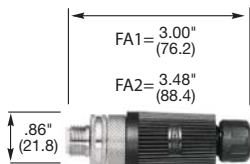
Female, Right Angle



Female, Straight



Male In-Line, Right Angle



Male In-Line, Straight

Material Specifications

Insulator	PBT, White
Housing	Nylon 6/6, Black
Collar	Nylon 6/6, White
Cover	Nylon 6/6, White
Wire Guide	Nylon 6/6, White
Strain Relief Bushing	Neoprene, White
Contact Materials	Pins-Brass, Sockets-Beryllium copper
Contact Plating	Hard gold over palladium/nickel
Coupling/Coupler Nut	Nickel plated brass
Gotcha -rings	Nylon 6/6, Natural, yellow and black
Bushings	Rubber, Black
Nuts	Nylon 6/6, Black
Set Screw	Zinc plated steel

Electrical Specifications

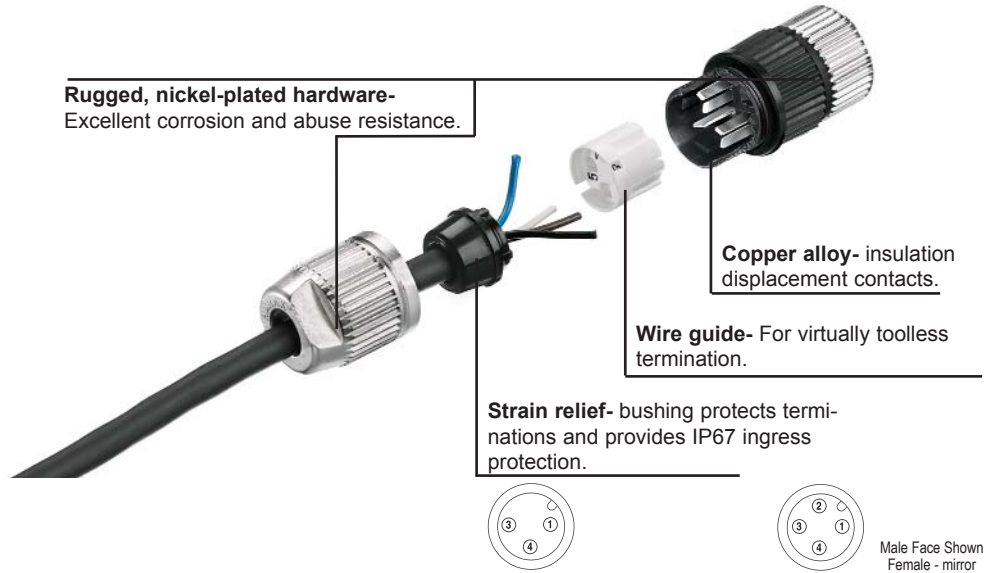
Voltage Rating	250V AC/DC
Wire Range	18AWG max, 22 AWG min.
Cable Diameters	FA1= .14"-.27", FA2= .25"-.31"
Amperage	#18 AWG- 3p=8A, 4p=6A, 5p=5A #22 AWG- 3p=5A, 4p=4A, 5p=3A
Contact Resistance	≤ 5 mΩ
Isolation Resistance	≥1000 MΩ

Environmental Specifications

Moisture Resistance	UL Type 4, 4X, 12 and 13, IP67
Operating Temperature	-20°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

Micro-Quick® Field Attachable Connectors - IDC Style

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



Micro-Quick® IDC

	Body	Cable Range	Wire Gauge	3 Pole	4 Pole
Female	Straight	.16"-.21" (4.1-5.3)	22 - 24	MCMS13IDC	MCMS14IDC
		.22"-.32" (5.6-8.1)	18 - 22	MCMS13IDCL	MCMS14IDCL
	Right Angle	.16"-.21" (4.1-5.3)	22 - 24	MCMA13IDC	MCMA14IDC
Male	Straight	.16"-.21" (4.1-5.3)	22 - 24	MIMS13IDC	MIMS14IDC
		.22"-.32" (5.6-8.1)	18 - 22	MIMS13IDCL	MIMS14IDCL
In-Line	Right Angle	.16"-.21" (4.1-5.3)	22 - 24	MIMA13IDC	MIMA14IDC



Male Face Shown
Female - mirror
image



Material Specifications

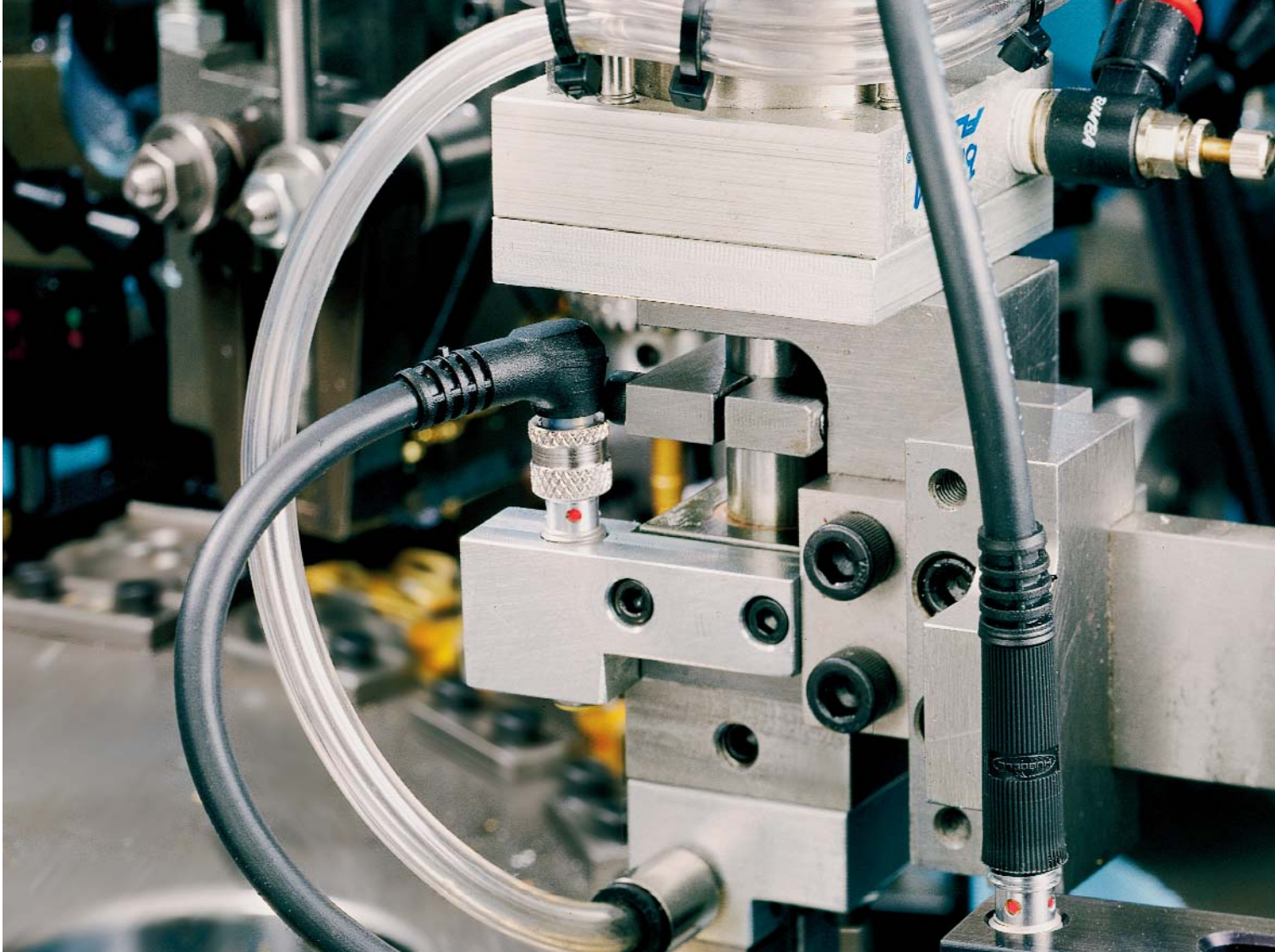
Housing	Polyester Elasmomer, Black
Wire Guide	Nylon 6/6, Gray
Strain Relief Bushing	Neoprene, Black
Contact Materials	Copper Alloy
Contact Plating	Tin over Nickel
Coupling Nut	Zinc Alloy with Nickel Plating
O-ring	Neoprene, Black
Cable Compression Nut	Zinc Alloy with Nickel Plating

Electrical Specifications

Catalog Suffix	IDC	IDCL
Voltage Rating	32VAC	50VAC
Wire Range	#22AWG max., #24AWG min.	#18AWG max., #22AWG min.
Cable Diameters	.157" to .210" (3.9 to 5.3 mm)	.216" to .315" (5.5 to 8 mm)
Amperage	3A	6A
Contact Resistance	≤ 5 mΩ	≤ 5 mΩ

Environmental Specifications

Ingress Protection	IP67 Suitability
Operating Temperature	-20°C to 110°C



Nano-Quick™ Control Connectors

As time goes by, electronics get smaller and smaller. Industry demands for smaller photo eyes and 8 mm proximity switches have led to the demand for the connectors that mate with them; the Hubbell Nano-Quick connector meets that demand. As connectors get smaller, the components become smaller and more fragile and it becomes more important than ever to use the best and strongest materials to ensure a sturdy, long lasting connector. Hubbell Nano-Quick connectors meet your need for a tough connector in a tiny package.

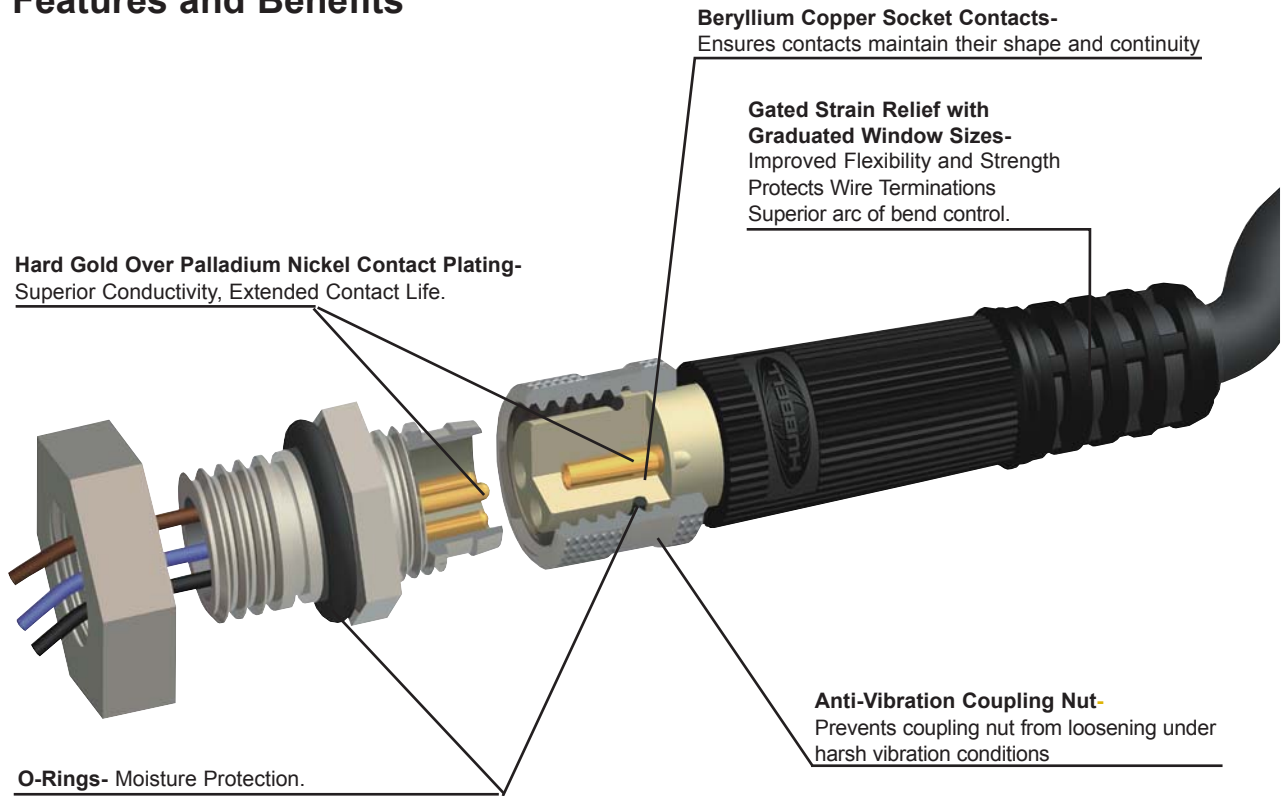
Hubbell's Nano-Quick line features:

- UL Listed connectors with UL Type 4, 4X, 12 and 13 environmental ratings.
- Beryllium copper socket contacts maintain continuity over time and reduce intermittencies.
- Gold over palladium nickel contact plating for superior conductivity and extended contact life.
- Snap type coupling option in addition to standard threaded coupling nut; both with UL 4X rating.

Nano-Quick control connectors may be small, but they are also Hubbell industrial connectors, so you can count on them to perform for you.

The Nano-Quick Control Connector product offering consists of 3 and 4 pole straight and right angle female plugs in a variety of cable types and lengths and male pre-wired receptacles. The Nano-Quick **Hubbell Logic** chart will help you to build your custom connector quickly and easily.

Nano-Quick® Control Connectors Features and Benefits



Features

- Nickel plated brass coupling nuts and receptacle shells.
- Black overmold and cable.
- Insulgrip connector body design.
- UL Listed cable assemblies and receptacles.

Benefits

- Plating resists corrosion in high abuse environments.
- Cable assembly resists dirt and blends with environment giving a clean look to the installation.
- Ergonomic connector body has an industrial look.
- Third party certified for electrical, mechanical and environmental performance.

Material Specifications

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

Electrical Specifications

Voltage Rating	125VAC/75VDC
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	IP67
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-STD-1344, Method 2005

Certifications

UL 2238 and UL50, File No. E192071

CSA Certified, C22.2 No. 182.3 and CSA C22.2 No. 94

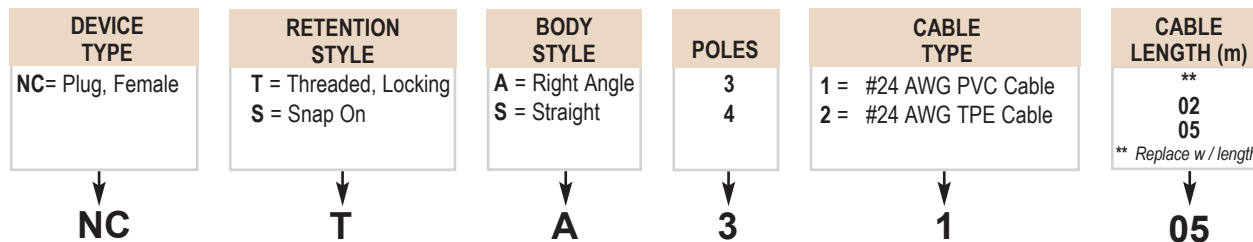
Nano-Quick® Control Connectors

3 - 4 Pole Plugs & Receptacles

Choose the appropriate configuration from the Selector below.

Hubbell Logic Configurator

For example, Catalog Number **NCTA3105** is derived as follows:



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

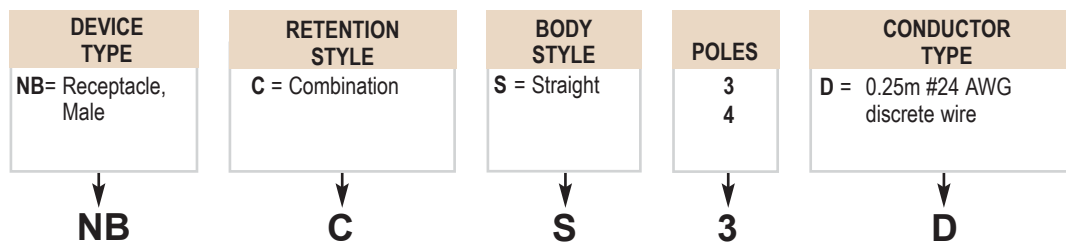
Catalog numbers using #24 AWG PVC cable are listed below. For #24 AWG TPE cable, change the cable type per the **Hubbell Logic** chart above.

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

[^] Replace ** with length required in feet. For snap on retention style, replace "T" with "S" per the ordering chart above.
Example: change NCTA3105 to NCSA3105.

Hubbell Logic Configurator

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



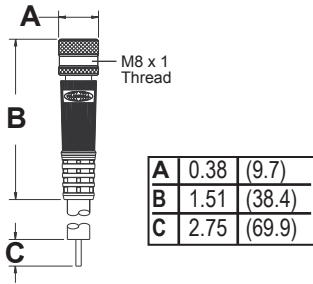
3 - 4 Pole Male Receptacles

Poles	Male Face Shown	Male Receptacle Rear Thread Style		Poles	Male Face Shown	Male Receptacle Rear Thread Style	
		M8 x 1				M8 x 1	
3		NBCS3D		4		NBCS4D	

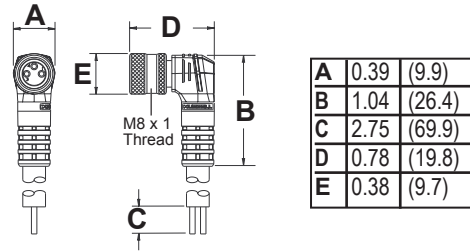
[^] Replace ** with length required in feet.

Nano-Quick® Control Connectors 3 - 4 Pole Plugs & Receptacles

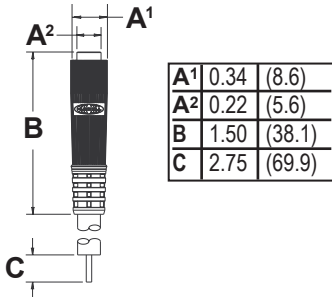
Straight Female Locking Plug



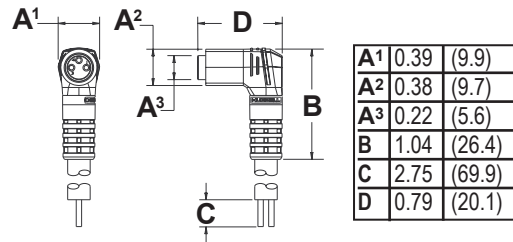
Right Angle Female Locking Plug



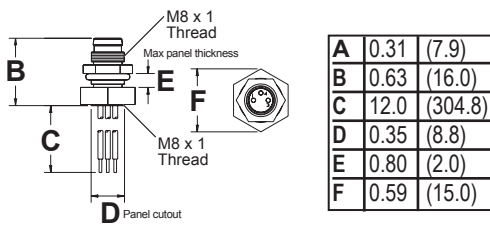
Straight Female Snap Together Plug



Right Angle Female Snap Together Plug



Male Combination Receptacle



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)

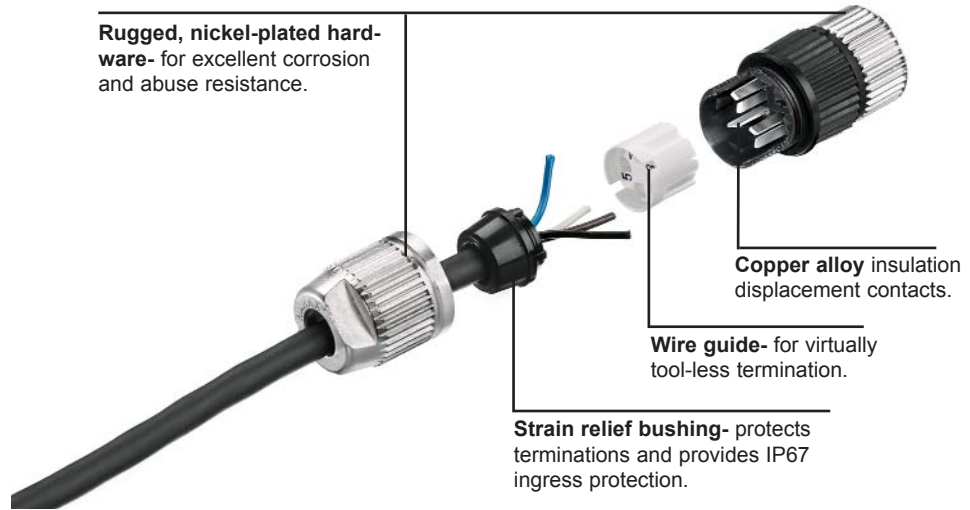
Conductor Color Code

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

All dimensions are shown in inches (mm)

Nano-Quick® IDC Style Field Attachable Connectors - IDC Style

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



Nano-Quick® IDC

	Body	Cable Range	Wire Gauge		
Female	Straight	.157"-.210" (3.9-5.3)	22 - 24	NCTS13IDC	NCTS14IDC
Male	Straight	.157"-.210" (3.9-5.3)	22 - 24	NITS13IDC	NITS14IDC

Male Face Shown
Female - mirror image

Material Specifications

Housing	Polyester Elasmomer, 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

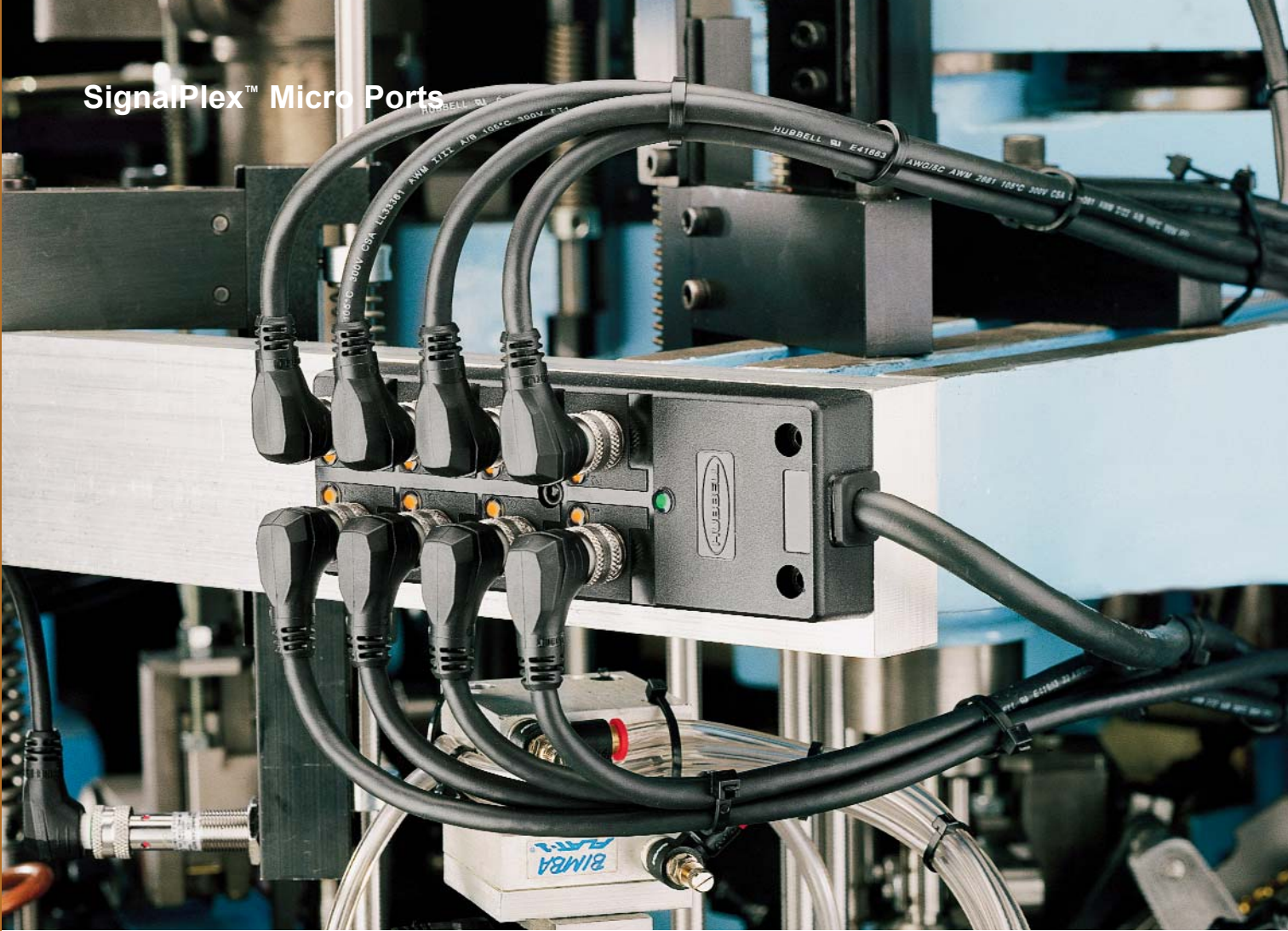
Voltage Rating	32VAC
Wire Range	#22AWG max., #24AWG min.
Cable Diameters	.157" to .210" (3,9 to 5,3 mm)
Amperage	3A
Contact Resistance	≤ 5 mΩ

Environmental Specifications

Ingress Protection	IP67 Suitability
Operating Temperature	-20°C to 110°C



SignalPlex™ Micro Ports



SignalPlex™ Micro Ports

The priorities in the industrial world today are automation and networking which means increased connections. The best way to maximize your connections and minimize your wiring and labor is by using Hubbell SignalPlex Micro Ports. SignalPlex Micro Ports allow you to centralize your connections by offering a single enclosure where you can make 4, 6 or 8 Micro-Quick connections. As a result, only a single home run cable is required to be wired back to your I/O or PLC. Now, you can standardize on the cable lengths you run from your devices to the ports and minimize your inventory of custom length cable assemblies.

SignalPlex Ports feature:

- UL Listed enclosures with UL Type 4, 4X, 12 and 13 environmental ratings.
- Receptacles that are flush with the enclosure minimizing the overall installed height and protecting them from abuse.
- Beryllium copper socket contacts to maintain continuity and reduce intermittencies.
- Gold over palladium/nickel contact plating for superior conductivity and high mating cycles.

SignalPlex Micro Ports are another line of quality enclosures from Hubbell. The localized connections that Hubbell SignalPlex Micro Ports provide minimize your wiring and make your repair jobs as quick as possible so you are back up and running in no time.

SignalPlex™ Micro Ports Features and Benefits

LEDs on DC Style Ports

Maximum Visibility

Homerun Connections

Connectorized

Hard wired

Black Textured Finish

Resists dirt and residue

Clean appearance

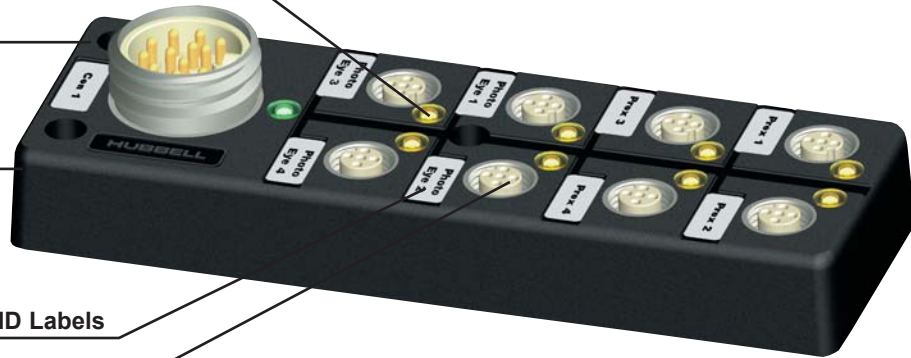
Industrial Adhesive Circuit ID Labels

Easy to use and replace

Flush Receptacle Enclosure

Reduces installation height

Protects receptacle shells



Features

- Consistent mounting pattern between 4, 6 and 8 port enclosures.
- Hard gold over palladium/nickel contact plating.
- Beryllium copper socket contacts.
- Wiring diagram on back of enclosure.
- UL Listed product.

Benefits

- Allows quick change over to increase or decrease the number of ports without having to drill new holes.
- Durable plating for high mating cycles and extended contact life.
- Strong, resilient base metal ensures contacts maintain their shape and continuity over time.
- Wiring diagram is accessible even if instructions are lost.
- Third party certified for electrical, mechanical and environmental performance.

Material Specifications

Housing Materials	Rigid PVC	Strain Relief	Thermoplastic Elastomer
Micro-Quick Insulators	Nylon 6/6, White	Receptacle Caps	Nickel plated brass
Mini-Quick Insulator	Thermoplastic Elastomer, White	LED Life Expectancy	100,000 hours
Contact Materials	Pins - Brass	Circuit ID Labels	Adhesive Polyester
	Sockets - Beryllium copper	Cable	#18 AWG, PVC insulated stranded copper conductors
Contact Plating	Hard gold over palladium/nickel	Cable Stranding	Black PVC jacket
Receptacle Shell	Nickel plated brass		41/34
O-ring	Nitrile rubber		

Electrical Specifications

Current Rating	(Dual Key, 3P/3W) 300V AC Max, 3A per individual port, 7A per unit
(Single Key, 5P/3W and 5P/4W)	10-30V DC, 3A per individual port, 7A per unit
Contact Resistance	≤ 5 mΩ
Isolation Resistance	≥ 1000 MΩ
Indicating LEDs	Green = Power, Yellow = Signal/Function
Current Limiting Resistor	2200 Ω

Environmental Specifications

Moisture Protection	UL Type 4, 4X, 12 and 13
Ingress Protection	IP67
Operating Temperature	-20° to 85° 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-STD-1344, Method 2005

Certifications

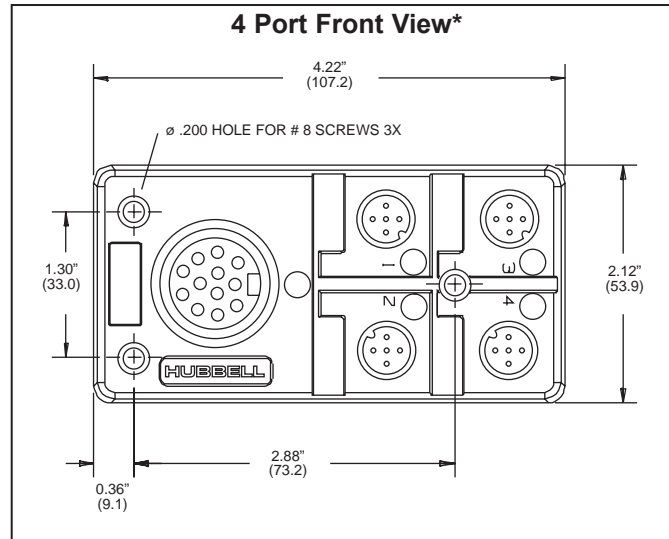
UL 2238 and UL50

CSA Certified, C22.2 No. 182.3 and CSA C22.2 No. 94

SignalPlex™ Micro Ports

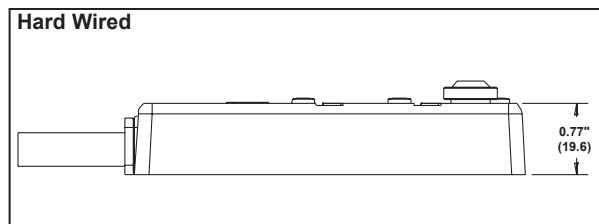
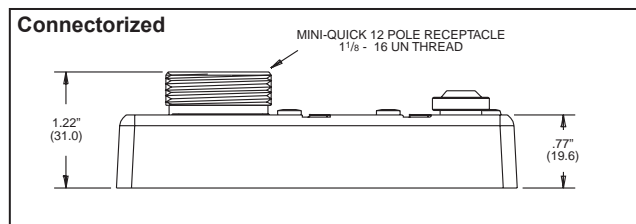
4 Port

Enclosure Dimensions



* Hard wired and connectorized enclosures have same enclosure dimensions.

Profile Views



Micro-Quick 4 Port Enclosures

Connectorized with Mini-Quick Male Receptacle	Hard Wired with 5m Cable	Micro-Quick Female Receptacle Face View	Poles/Wires	Micro-Quick Circuit Style	Voltage Rating	LED Status
MMC342	MMW34205*		3P/3W	Dual Key	300V AC	No
MMC441 MMC445	MMW44105* MMW44505*		5P/3W	PNP NPN	10 - 30V DC	Yes
MMC541 MMC545	MMW54105* MMW54505*		5P/ 4W	PNP NPN	10 - 30V DC	Yes

* For additional cable lengths, consult factory.
Mating Mini-Quick cable assemblies are located on page G44.

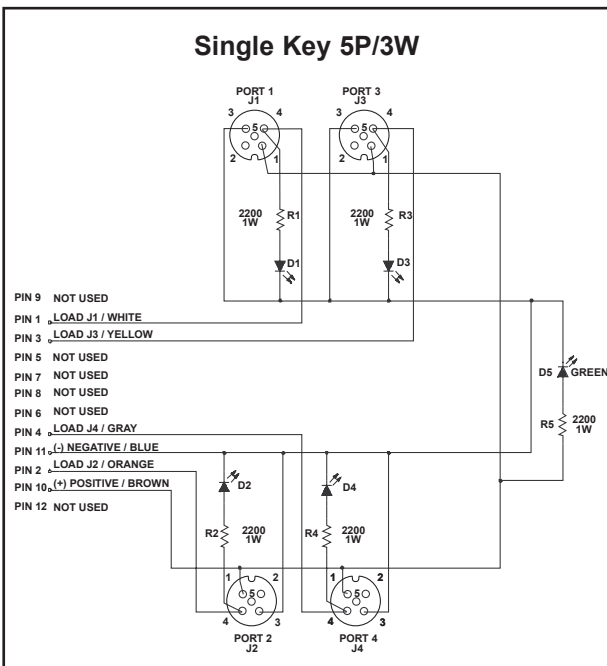
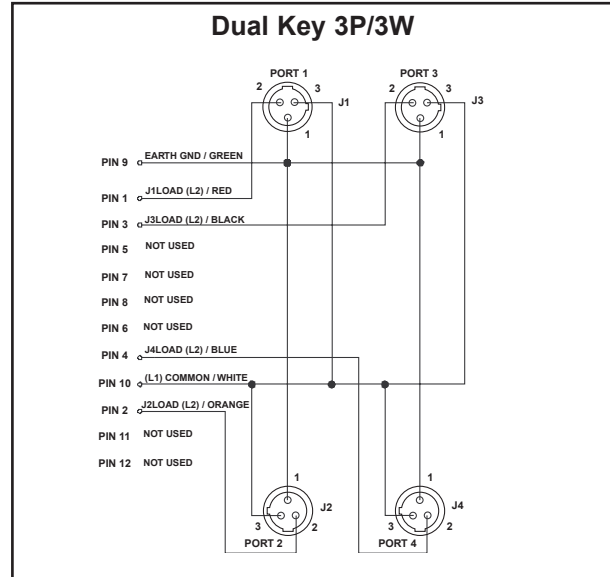
SignalPlex™ Micro Ports

4 Port

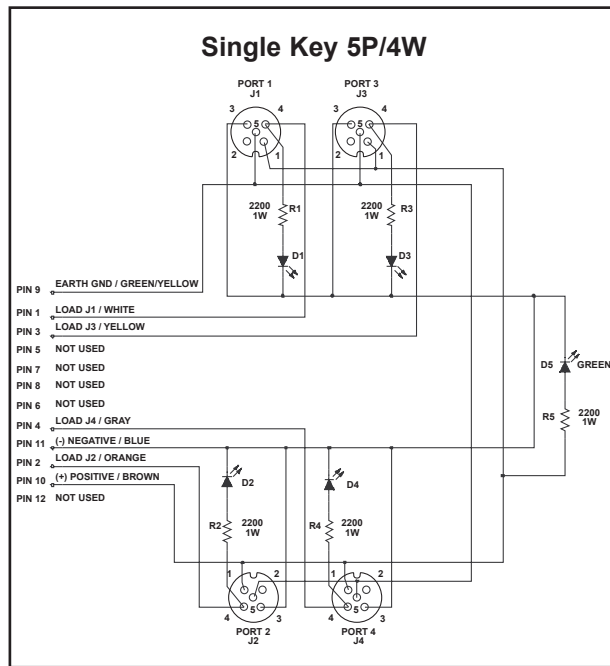
Wiring Diagrams

4 Port Color Codes (Hard Wired)

	MMW34205	MMW44105	MMW54105
Common	White	-	-
Ground	Green	-	Green/Yellow
J1 Load	Red	White	White
J2 Load	Orange	Orange	Orange
J3 Load	Black	Yellow	Yellow
J4 Load	Blue	Grey	Grey
(+) Positive	-	Brown	Brown
(-) Negative	-	Blue	Blue



* PNP Circuit Shown

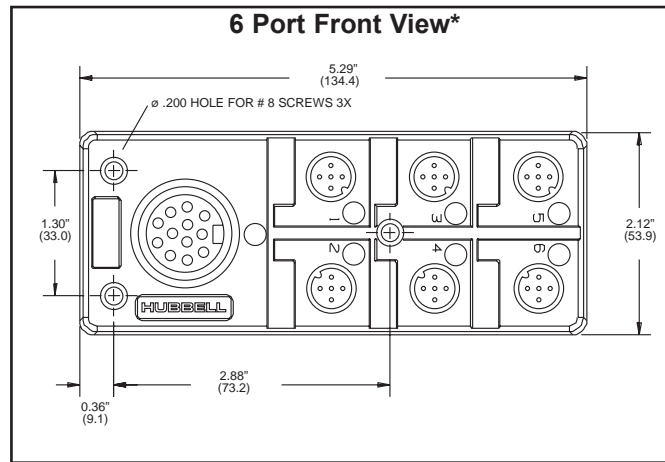


* PNP Circuit Shown

SignalPlex™ Micro Ports

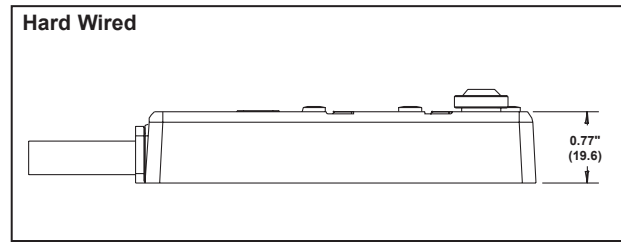
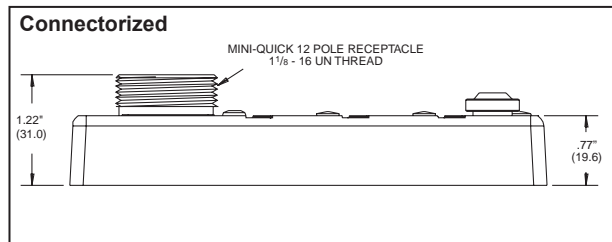
6 Port

Enclosure Dimensions



* Hard wired and connectorized enclosures have same enclosure dimensions.

Profile Views



Micro-Quick 6 Port Enclosures

Connectorized with Mini-Quick Male Receptacle	Hard Wired with 5m Cable	Micro-Quick Female Receptacle Face View	Poles/Wires	Micro-Quick Circuit Style	Voltage Rating	LED Status
MMC362	MMW36205*		3P/3W	Dual Key	300V AC	w/o LEDs
MMC461 MMC465	MMW46105* MMW46505*		5P/3W	PNP NPN	10 - 30V DC	w/LEDs
MMC561 MMC565	MMW56105* MMW56505*		5P/ 4W	PNP NPN	10 - 30V DC	w/LEDs

* For additional cable lengths, consult factory.
Mating Mini-Quick cable assemblies are located on page G-44.

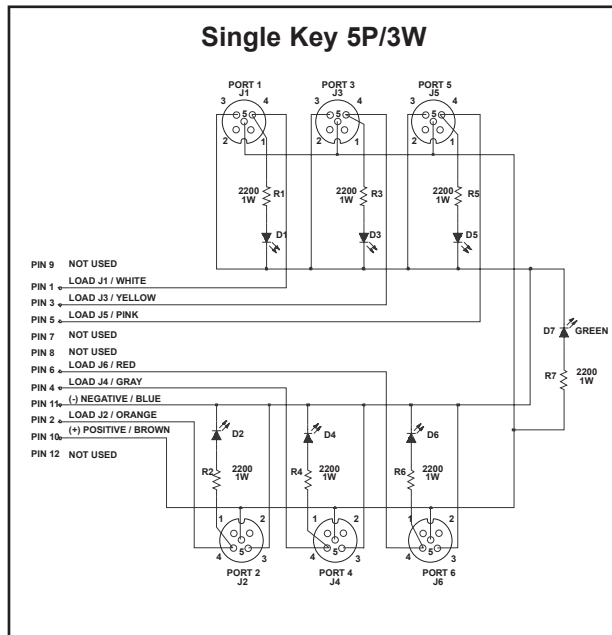
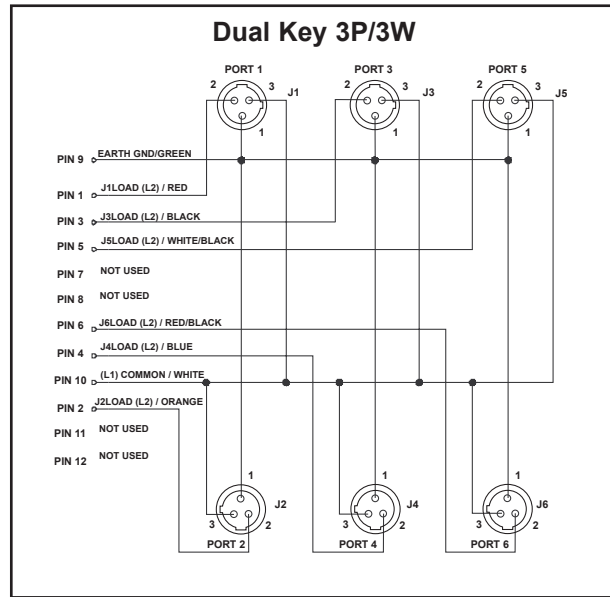
SignalPlex™ Micro Ports

6 Port

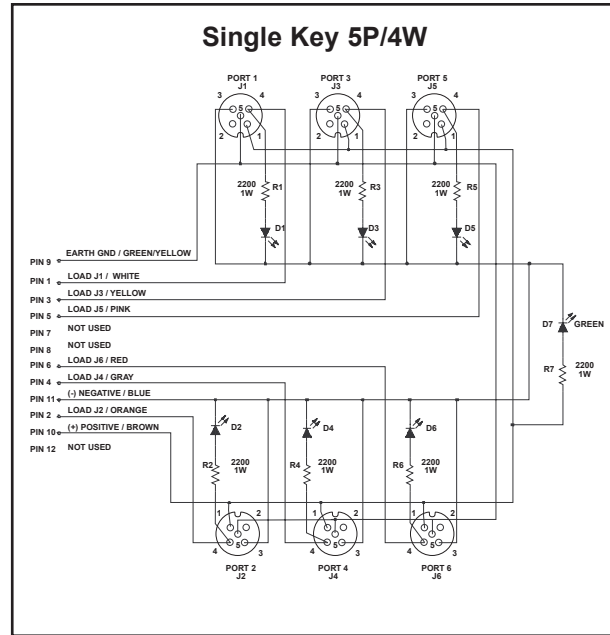
Wiring Diagrams

6 Port Color Codes (Hard Wired)

	MMW36205	MMW46105	MMW56105
Common	White	-	-
Ground	Green	-	Green/Yellow
J1 Load	Red	White	White
J2 Load	Orange	Orange	Orange
J3 Load	Black	Yellow	Yellow
J4 Load	Blue	Grey	Grey
J5 Load	White/Black	Pink	Pink
J6 Load	Red/Black	Red	Red
(+) Positive	-	Brown	Brown
(-) Negative	-	Blue	Blue



PNP Circuit Shown

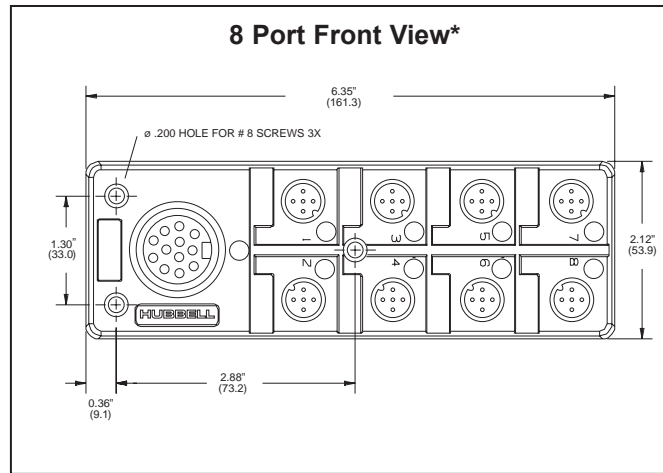


PNP Circuit Shown

SignalPlex™ Micro Ports

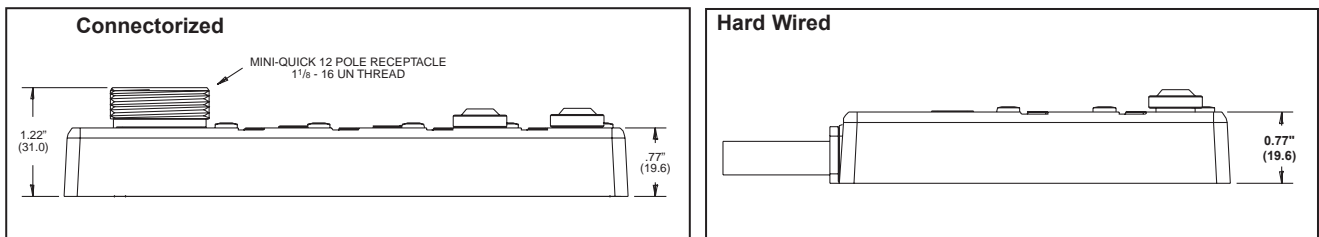
8 Port

Enclosure Dimensions



* Hard wired and connectorized enclosures have same enclosure dimensions.

Profile Views



Micro-Quick 8 Port Enclosures

Connectorized with Micro-Quick Male Receptacle	Hard Wired with 5m Cable	Micro-Quick Female Receptacle Face View	Poles/Wires	Micro-Quick Circuit Style	Voltage Rating	LED Status
MMC382	MMW38205*		3P/3W	Dual Key	300V AC	w/o LEDs
MMC481 MMC485	MMW48105* MMW48505*		5P/3W	PNP NPN	10 - 30V DC	w/LEDs
MMC581 MMC585	MMW58105* MMW58505*		5P/ 4W	PNP NPN	10 - 30V DC	w/LEDs

* For additional cable lengths, consult factory.
Mating Mini-Quick cable assemblies are located on page G-44.

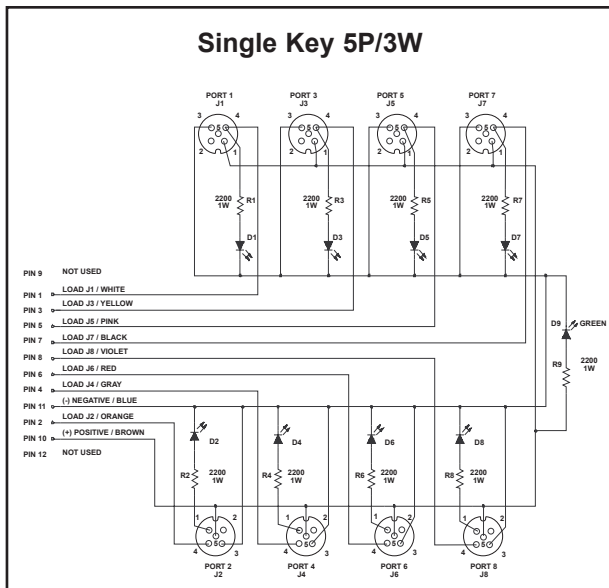
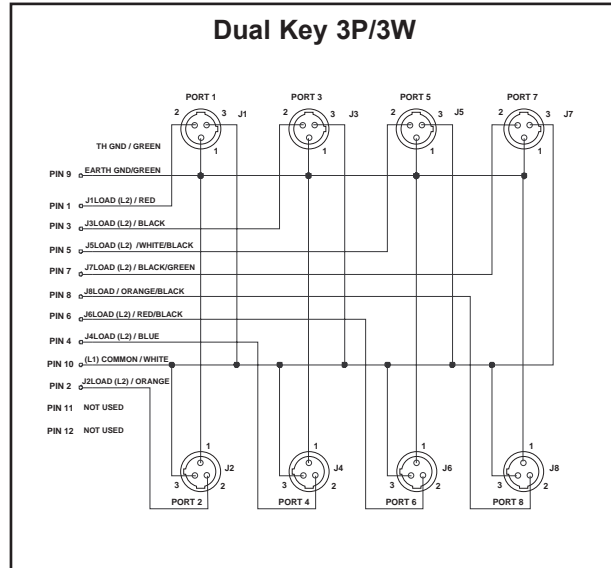
SignalPlex™ Micro Ports

8 Port

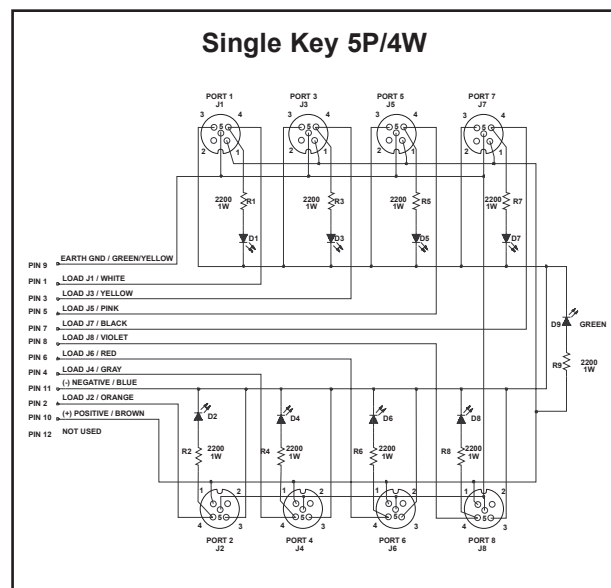
Wiring Diagrams

8 Port Color Codes (Hard Wired)

	MMW38205	MMW48105	MMW58105
Common	White	-	-
Ground	Green	-	Green/Yellow
J1 Load	Red	White	White
J2 Load	Orange	Orange	Orange
J3 Load	Black	Yellow	Yellow
J4 Load	Blue	Grey	Grey
J5 Load	White/Black	Pink	Pink
J6 Load	Red/Black	Red	Red
J7 Load	Black/Green	Black	Black
J8 Load	Orange/Black	Violet	Violet
(+) Positive	-	Brown	Brown
(-) Negative	-	Blue	Blue



PNP Circuit Shown



PNP Circuit Shown

SignalPlex™ Micro Ports

Accessories

SignalPlex Port Mating Cable Assemblies

Micro-Quick Male In-Line Plugs for use with all SignalPlex Ports

To Mate With SignalPlex Ports		Male In-Line Plugs #22 AWG PVC Cable		Micro-Quick (Male Face View Shown)	Cable Length*
Connectorized	Hard Wired	Straight	Right Angle	Poles	
MMC342	MMW34205	MIMS2312	MIMA2312		6.56 ft/2m
MMC362	MMW36205	MIMS2314	MIMA2314		13.12 ft/4m
MMC382	MMW38205	MIMS2315	MIMA2315		16.40 ft/5m
MMC441	MMW44105	MIMS1512	MIMA1512		6.56 ft/2m
MMC461	MMW46105	MIMS1514	MIMA1514		13.12 ft/4m
MMC481	MMW48105	MIMS1515	MIMA1515		16.40 ft/5m
MMC541	MMW54105	MIMS1512	MIMA1512		6.56 ft/2m
MMC561	MMW56105	MIMS1514	MIMA1514		13.12 ft/4m
MMC581	MMW58105	MIMS1515	MIMA1515		16.40 ft/5m

*For additional cable lengths, consult factory.

All connectorized SignalPlex Ports have a Mini-Quick 12 pole on-board male receptacle. The mating Mini-Quick female plugs given below have been wired specifically for use with Hubbell SignalPlex ports to customize the number of wires used by each port. The color codes of the cables given below also match the color codes of the hard wired ports for your convenience.

Mini-Quick Female Plugs for use with SignalPlex Ports




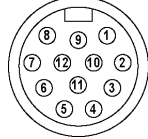

To Mate With Connectorized SignalPlex Port	Female Plugs		Mini-Quick 12 Pole (Female Face View Shown)	Cable Length*	Cable Type	Number of Wires in Cable
	Straight	Right Angle				
MMC342	HCMS12412P6	HCMA12412P6		12 ft/3.66m	#18 AWG STOOW	6
MMC362	HCMS12312P8	HCMA12312P8		12 ft/3.66m	#18 AWM2661 PVC	8
MMC382	HCMS12312P10	HCMA12312P10		12 ft/3.66m	#18 AWM2661 PVC	10
MMC441 MMC541	HCMS12312P7	HCMA12312P7		12 ft/3.66m	#18 AWM2661 PVC	7
MMC461 MMC481 MMC561 MMC581	HCMS12312P11	HCMA12312P11		12 ft/3.66m	#18 AWM2661 PVC	11

* For additional cable lengths, please consult factory.

For SignalPlexport specifications, color codes, and cable diameters, refer to individual pages.

SignalPlex™ Micro Ports Specifications

Color Codes for Mini-Quick SignalPlex Port Cables

					
	HCMA12412P6 HCMS12412P6	HCMA12312P7 HCMS12312P7	HCMA12312P8 HCMS12312P8	HCMA12312P10 HCMS12312P10	HCMA12312P11 HCMS12312P11
1	Red	White	Red	Red	White
2	Orange	Orange	Orange	Orange	Orange
3	Black	Yellow	Black	Black	Yellow
4	Blue	Gray	Blue	Blue	Gray
5	Not Used	Not Used	White/Black	White/Black	Pink
6	Not Used	Not Used	Red/Black	Red/Black	Red
7	Not Used	Not Used	Not Used	Black/Green	Black
8	Not Used	Not Used	Not Used	Orange/Black	Violet
9	Green	Green/Yellow	Green	Green	Green/Yellow
10	White	Brown	White	White	Brown
11	Not Used	Blue	Not Used	Not Used	Blue
12	Not Used	Not Used	Not Used	Not Used	Not Used

Cable Diameters By Product

Hard Wired Ports

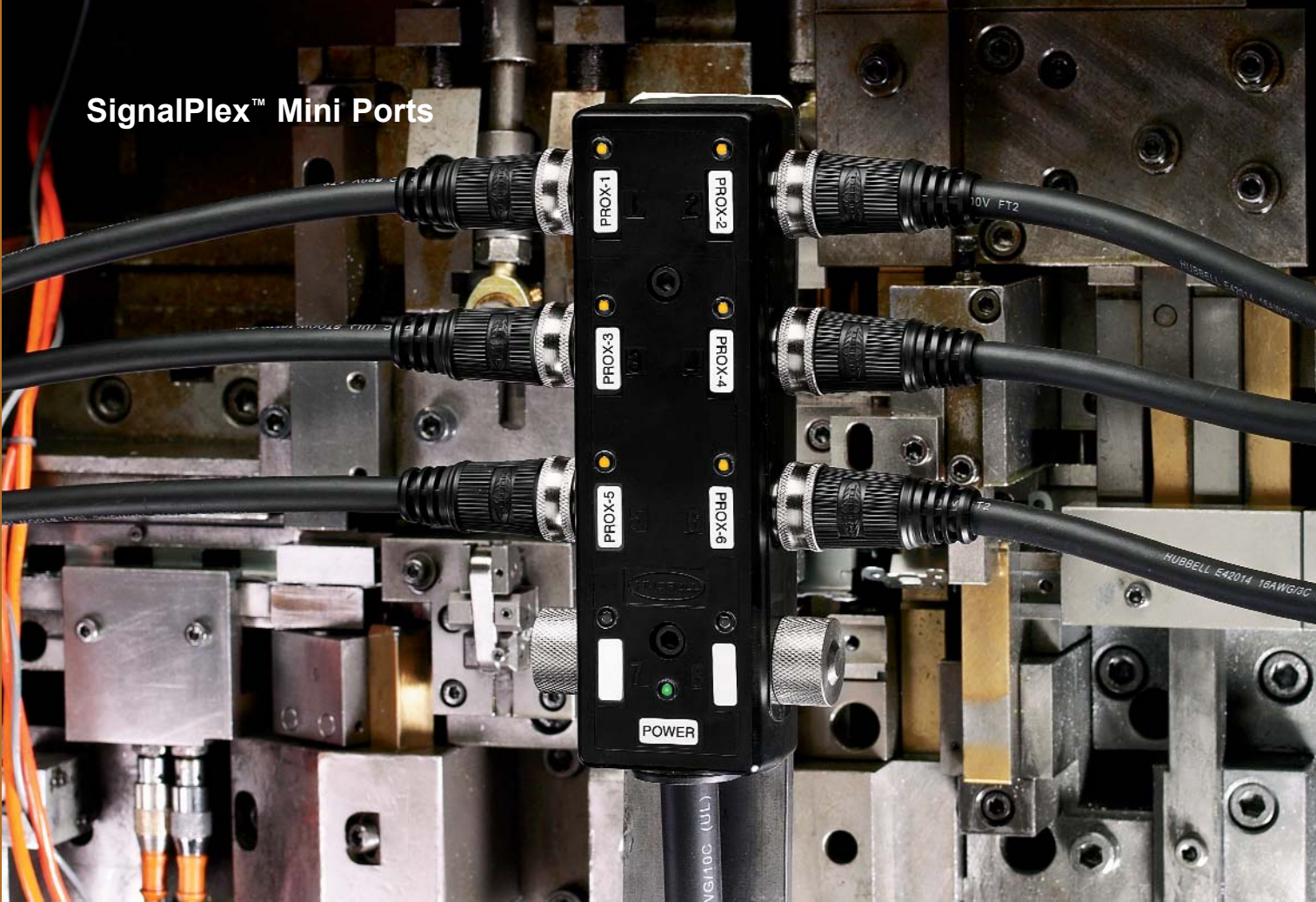
Port Catalog #	#18 AWG Cable
MMW34205	0.364" (9.3)
MMW36205	0.364" (9.3)
MMW38205	0.364" (9.3)
MMW44105	0.364" (9.3)
MMW46105	0.364" (9.3)
MMW48105	0.364" (9.3)
MMW54105	0.364" (9.3)
MMW56105	0.364" (9.3)
MMW58105	0.364" (9.3)

Mini-Quick Female Plugs

Straight	Right Angle	#18 AWG PVC Cable
HCMS12412P6	HCMA12412P6	0.500" (12.7)
HCMS12312P7	HCMA12312P7	0.364" (9.3)
HCMS12312P8	HCMA12312P8	0.364" (9.3)
HCMS12312P10	HCMA12312P10	0.364" (9.3)
HCMS12312P11	HCMA12312P11	0.364" (9.3)

Please Note: Cable diameters for Micro-Quick Male In-Line Plugs are located on page G-25.

SignalPlex™ Mini Ports



SignalPlex™ Mini Ports

The priorities in the industrial world today are automation and networking which means increased connections. The best way to maximize your connections and minimize your wiring and labor is by using Hubbell SignalPlex Mini Ports. SignalPlex Mini Ports allow you to centralize your connections by offering a single enclosure where you can make 4, 6 or 8 Mini-Quick connections. As a result, only a single home run cable is required to be wired back to your I/O or PLC. Now, you can standardize on the cable lengths you run from your devices to the ports and minimize your inventory of custom length cable assemblies.

SignalPlex Ports feature:

- UL Listed enclosures with UL Type 4, 4X, 12 and 13 environmental ratings.
- Receptacles that are side mounted with the enclosure minimizing the overall installed height and protecting them from abuse.
- Copper Alloy with stainless steel socket contacts to maintain continuity and reduce intermittencies.
- Gold over palladium/nickel contact plating for superior conductivity and high mating cycles.

SignalPlex Mini Ports are another line of quality enclosures from Hubbell. The localized connections that Hubbell SignalPlex Mini Ports provide minimize your wiring and make your repair jobs as quick as possible so you are back up and running in no time.

SignalPlex™ Mini Ports Features and Benefits

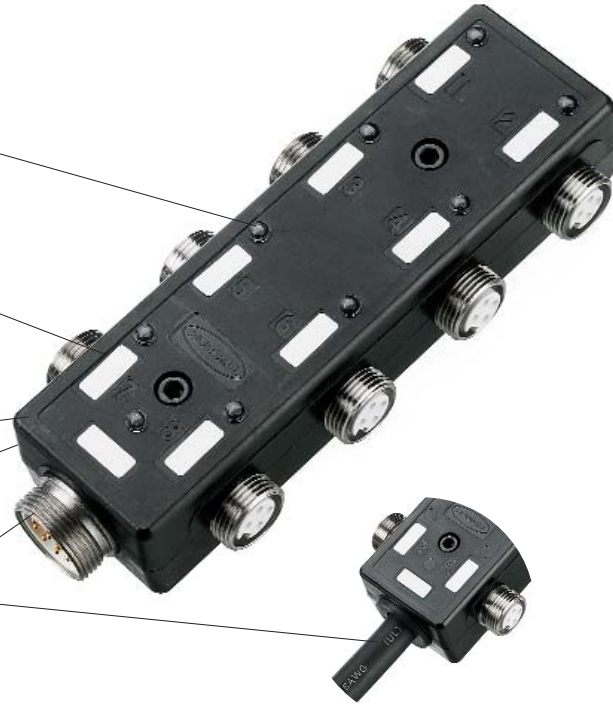
Illuminated Indicators-
Power and signal

Industrial Adhesive Circuit ID Labels-
Easy to use and replace.

Black Textured Finish-
Impact resistant
Resists dirt and residue
Clean appearance.

Side Mount Receptacle Enclosure-
Reduces installation height
Protects receptacle shells.

Homerun Connections-
Connectorized or
Hard wired.



Features

- Hard gold over palladium/nickel contact plating.
- Copper alloy sockets with stainless steel sleeves.
- Wiring diagram on back of enclosure.

Benefits

- Durable plating for high mating cycles and extended contact life.
- Strong, resilient base metal ensures contacts maintain their shape and continuity over time.
- Wiring diagram is accessible even if instructions are lost.

Material Specifications

Housing Materials	Rigid PVC	Strain Relief	Thermoplastic Elastomer
Micro-Quick Insulators	Nylon 6/6, White	Receptacle Caps	Nickel plated brass
Mini-Quick Insulator	Thermoplastic Elastomer, White	LED Life Expectancy	100,000 hours
Contact Materials	Pins - Brass Sockets - Copper alloy w/stainless steel sleeve	Circuit ID Labels	Adhesive Polyester
Contact Plating	Hard gold over palladium/nickel	Cable	#16 AWG, PVC insulated stranded copper conductors Black PVC jacket
Receptacle Shell	Nickel plated brass	Cable Stranding	65/34
O-ring	Nitrile rubber		

Electrical Specifications

Voltage Rating (with LEDs)	120V AC/DC Max
(without LEDs)	600V AC/DC Max
Amperage (4-port)	10A Total
(6-port)	9A Total
(8-port)	8A Total
Contact Resistance	≤ 5 mΩ
Isolation Resistance	≥ 1000 MΩ
Indicating LEDs	Green = Power, Yellow = Signal/Function

Environmental Specifications

Moisture Protection	UL Type 4, 4X, 12 and 13
Ingress Protection	IP67
Operating Temperature	-20° to 85° 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-STD-1344, Method 2005

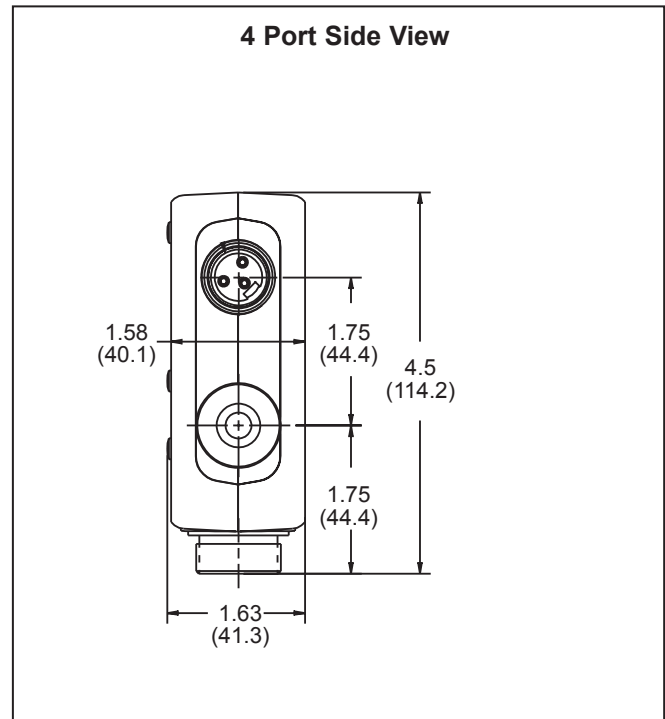
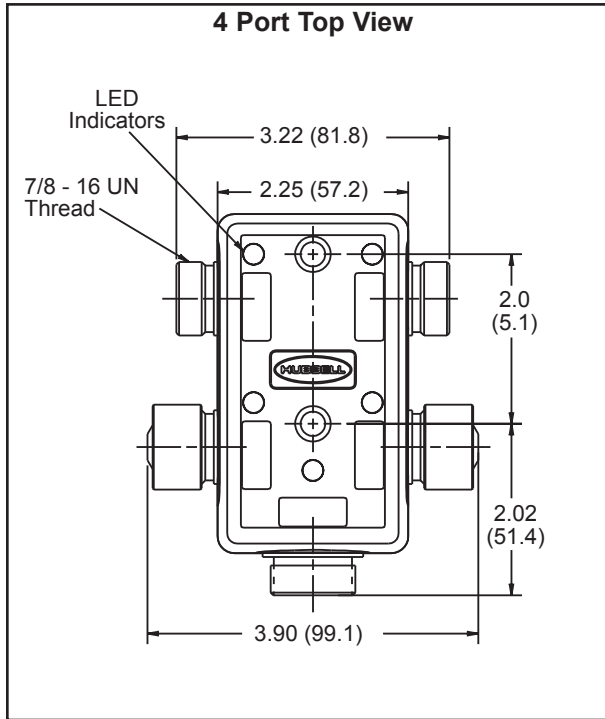
Certifications

UL 2238 and UL50.

CSA Certified, C22.2 No. 182.3 and CSA C22.2 No. 94

SignalPlex™ Mini Ports

4 Port



Mini-Quick 4 Port Enclosures

Ports		Mini-Quick Female Receptacle Face View	Wiring	Voltage Rating	LED Status
Connectorized Port	Hard Wired with 15ft Cable				
HMC341 HMC342	HMW34115* HMW34215*		3W Parallel 3W Parallel	120V AC/DC 600V AC/DC	Yes No
HMC441 HMC442	HMW44115* HMW44215*		4W Parallel 4W Parallel	120V AC/DC 600V AC/DC	Yes No
HMC542 HMC544	HMW54215* HMW54415*		5W Parallel 5W Solenoid	600V AC/DC	No

* For additional cable lengths, consult customer service. Mating Mini-Quick cable assemblies are located on page G4 and G5.

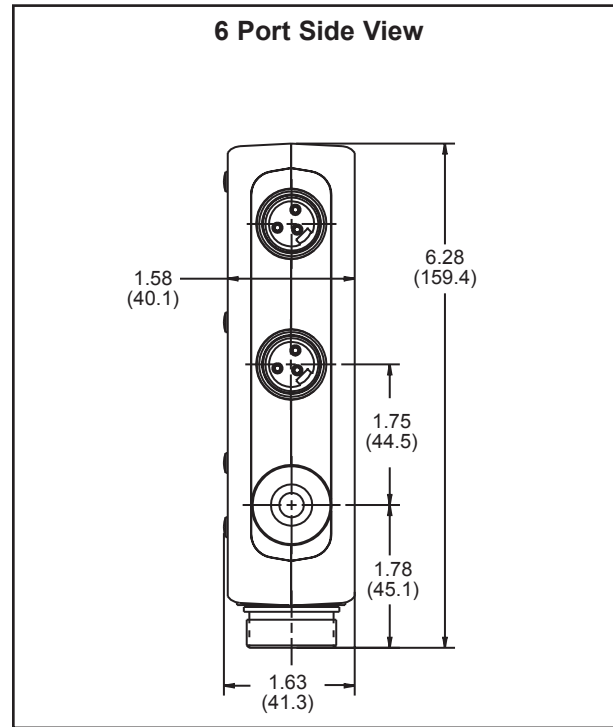
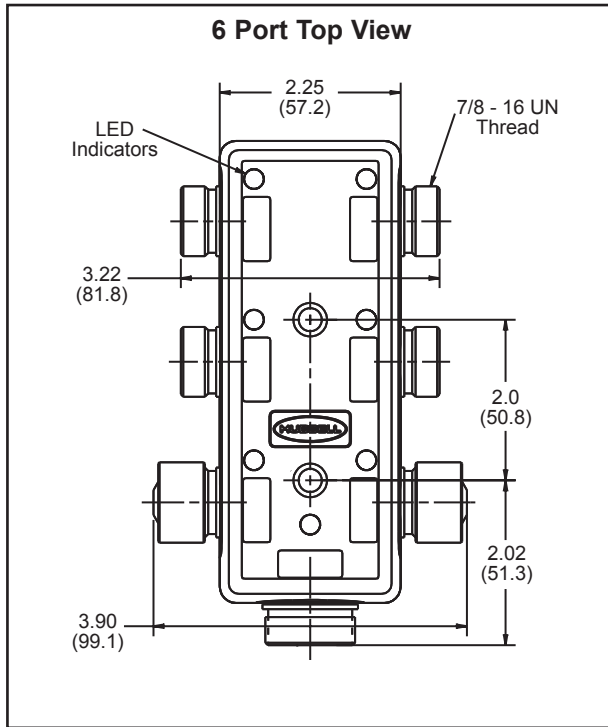
Connector Styles (Connectorized Ports)

Port Catalog Number	Style	Male View
HMC441 HMC442	6 Pole Mini-Quick 6 Pole Mini-Quick	
HMC341 HMC342	7 Pole Mini-Quick 7 Pole Mini-Quick	
HMC542 HMC542	10 Pole Mini-Quick 10 Pole Mini-Quick	

4 Port Color Codes (Hard Wired)

Common	White	-	-
Ground	Green	-	Green/Yellow
J1 Load	Red	White	White
J2 Load	Orange	Orange	Orange
J3 Load	Black	Yellow	Yellow
J4 Load	Blue	Grey	Grey
(+) Positive	-	Brown	Brown
(-) Negative	-	Blue	Blue

SignalPlex™ Mini Ports 6 Port



Mini-Quick 6 Port Enclosures

Ports		Mini-Quick Female Receptacle Face View	Wiring	Voltage Rating	LED Status
Connectorized Port	Hard Wired with 15ft Cable				
HMC361 HMC362	HMW36115* HMW36215*		3W Parallel 3W Parallel	120V AC/DC 600V AC/DC	Yes No
HMC461 HMC462	HMW46115* HMW46215*		4W Parallel 4W Parallel	120V AC/DC 600V AC/DC	Yes No

* For additional cable lengths, consult customer service. Mating Mini-Quick cable assemblies are located on page G4 and G5.

Connector Styles (Connectorized Ports)

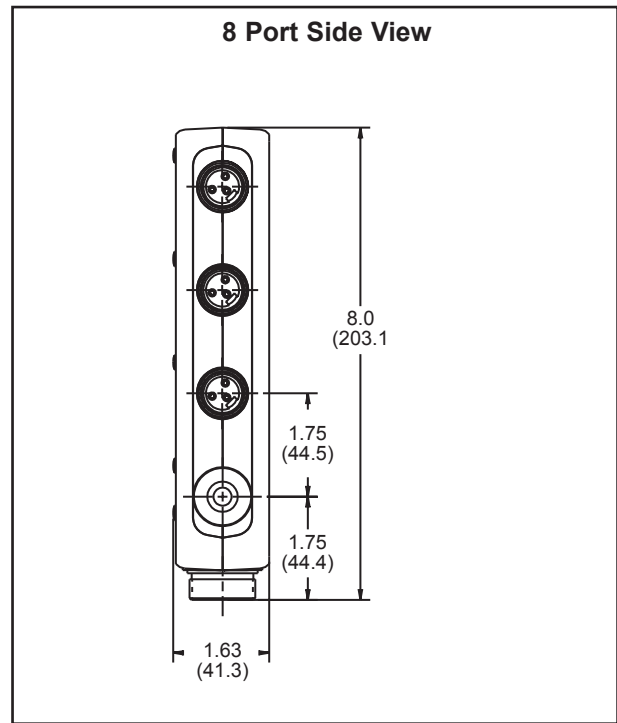
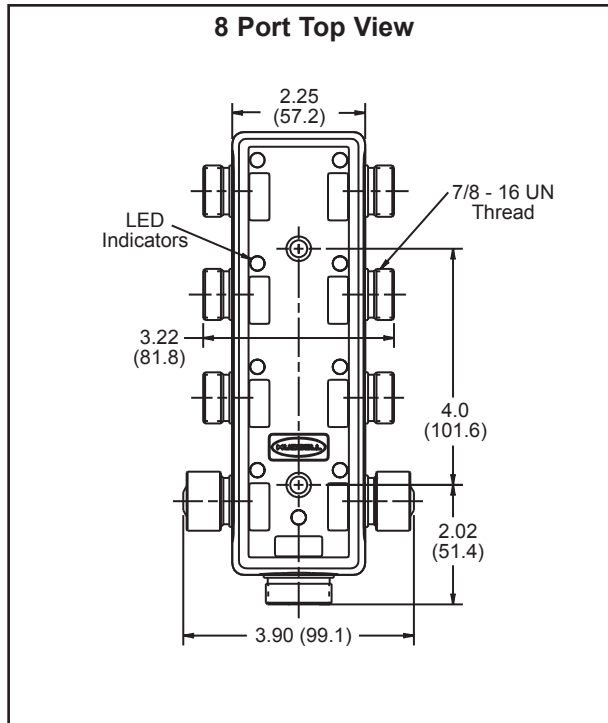
Port Catalog Number	Style	Male View
HMC361 HMC362	9 Pole Mini-Quick 9 Pole Mini-Quick	
HMC461 HMC462	9 Pole Mini-Quick 9 Pole Mini-Quick	

6 Port Color Codes (Hard Wired)

Common	White	-	-
Ground	Green	-	Green/Yellow
J1 Load	Red	White	White
J2 Load	Orange	Orange	Orange
J3 Load	Black	Yellow	Yellow
J4 Load	Blue	Grey	Grey
J5 Load	White/Black	Pink	Pink
J6 Load	Red/Black	Red	Red
(+) Positive	-	Brown	Brown
(-) Negative	-	Blue	Blue

SignalPlex™ Mini Ports

8 Port



Mini-Quick 8 Port Enclosures

Ports		Mini-Quick Female Receptacle Face View	Wiring	Voltage Rating	LED Status
Connectorized Port	Hard Wired with 15ft Cable				
HMC381 HMC382	HMW38115* HMW38215*		3W Parallel 3W Parallel	120V AC/DC 600V AC/DC	Yes No
HMC481	HMW48115*		4W Parallel	120V AC/DC	Yes

* For additional cable lengths, consult customer service. Mating and Mini-Quick cable assemblies are located on page G4 and G5.

Connector Styles (Connectorized Ports)

Port Catalog Number	Style	Male View
HMC381 HMC382	12 Pole Mini-Quick 12 Pole Mini-Quick	
HMC481 HMC482	10 Pole Mini-Quick 10 Pole Mini-Quick	

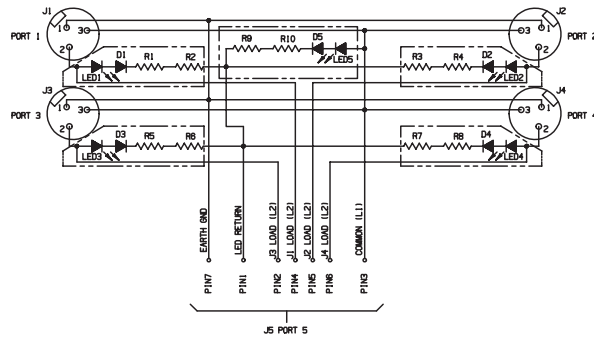
8 Port Color Codes (Hard Wired)

Common	White	-	-
Ground	Green	-	Green/Yellow
J1 Load	Red	White	White
J2 Load	Orange	Orange	Orange
J3 Load	Black	Yellow	Yellow
J4 Load	Blue	Grey	Grey
J5 Load	White/Black	Pink	Pink
J6 Load	Red/Black	Red	Red
(+) Positive	-	Brown	Brown
(-) Negative	-	Blue	Blue

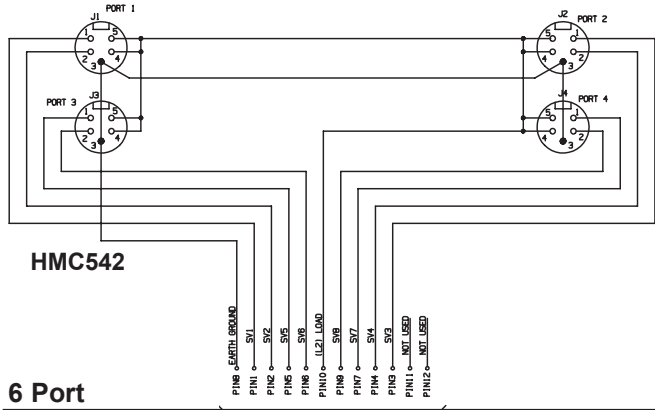
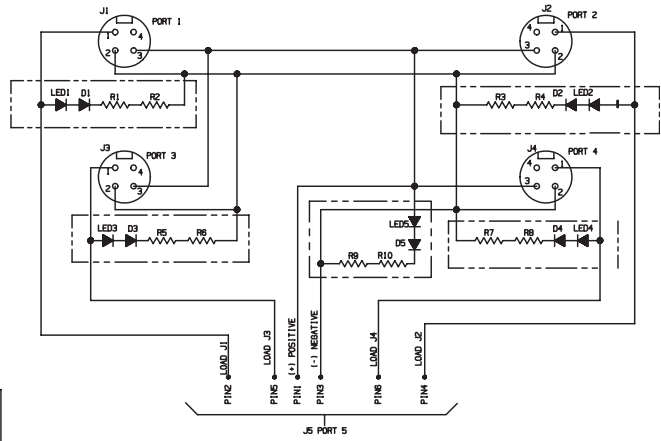
SignalPlex™ Mini Ports Wiring Schematics

4 Port

HMC341



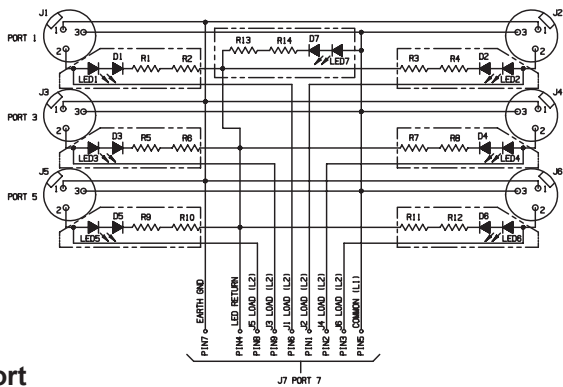
HMC441



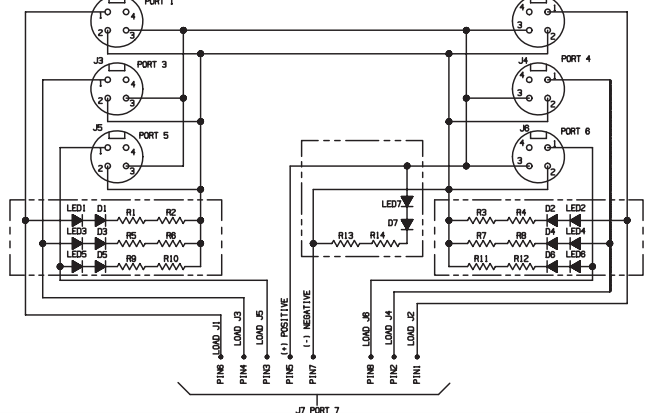
HMC542

6 Port

HMC361

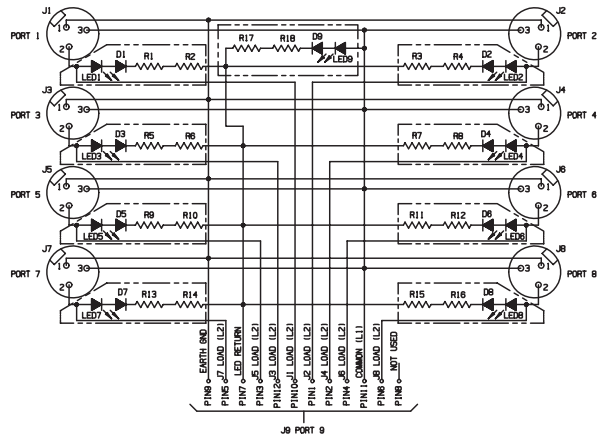


HMC461

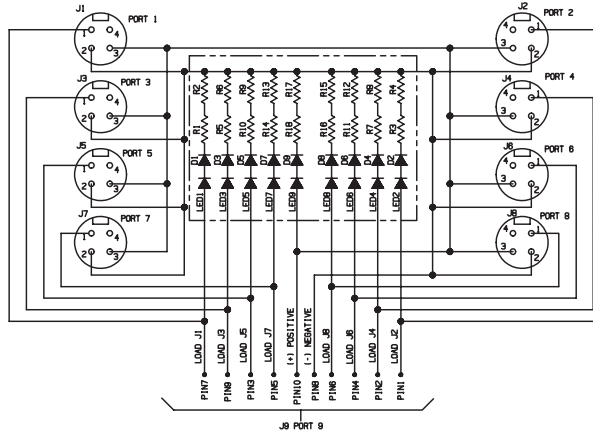


8 Port

HMC381



HMC481



Signal-Quick™ Sensor Mounting Accessories



Signal-Quick™ Sensor Mounting Accessories

Signal-Quick™ is a full line of sensor mounting innovations designed to save design, manufacturing and maintenance costs. Industrial sensor mounts are costly and time consuming to fabricate. When subjected to harsh industrial environments sensor mounts can be misaligned and damaged. Signal-Quick™ accessories solve these problems.

The Signal-Quick™ line includes cushioned sensor mounts, modular mounting components, sensor converters, brackets, protective caps and special application mounts. Sensor protection devices add longevity to standard tubular proximity sensors. Off-the-shelf brackets provide a cost effective, quick delivery alternative to self-design and fabrication. Mounting components give modularity and flexibility to any mounting challenge. Sensor converters increase the functionality of standard tubular proximity sensors allowing their use in new applications.

Hubbell has a unique mounting solution for virtually every application.

Signal-Quick™ Sensor Mounting Accessories

Cushioned Sensor Mounts

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 & replacement expenses.
- Reduces spare sensor inventories.
- Shielded & 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.

Specifications

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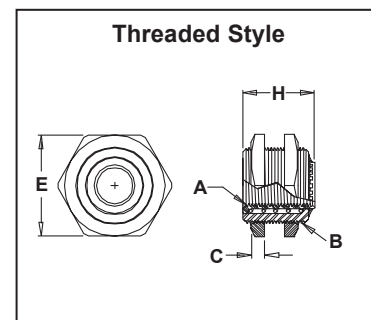
Threaded style



Block style

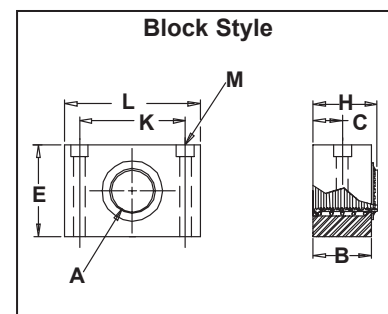
Threaded Style

Catalog No.	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)



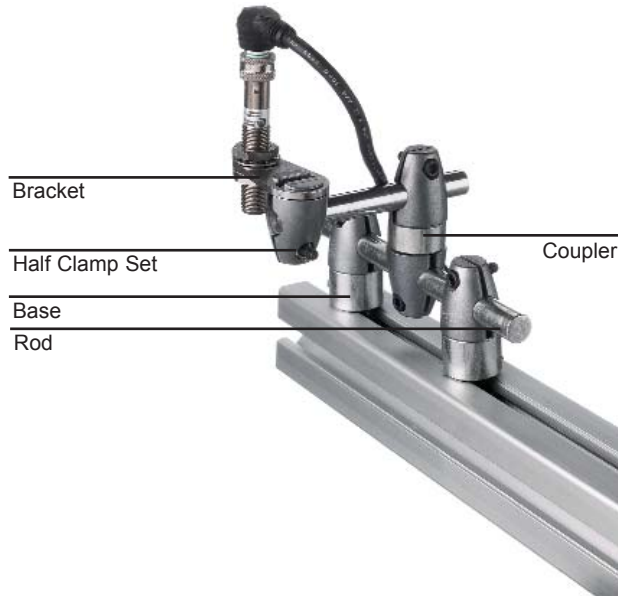
Block Style

Catalog No.	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)



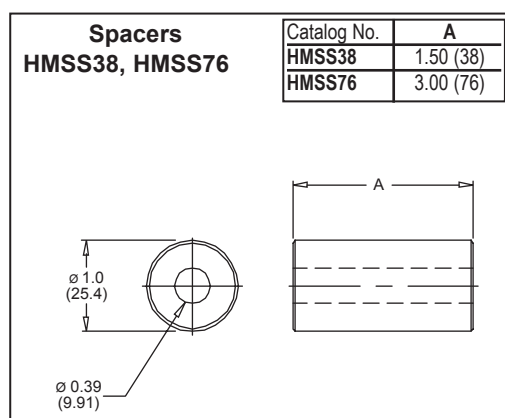
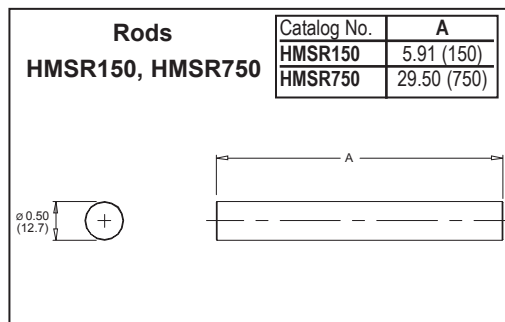
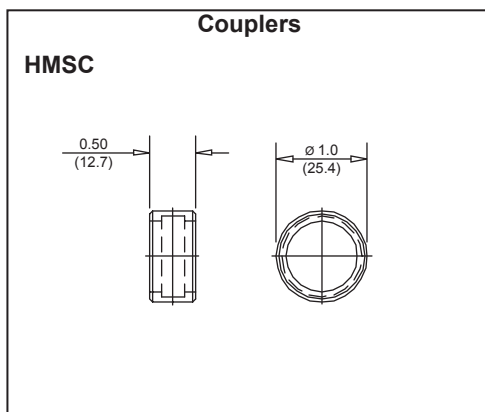
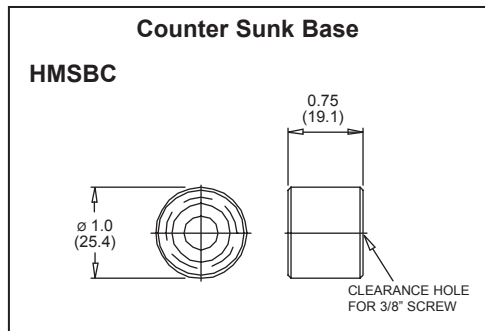
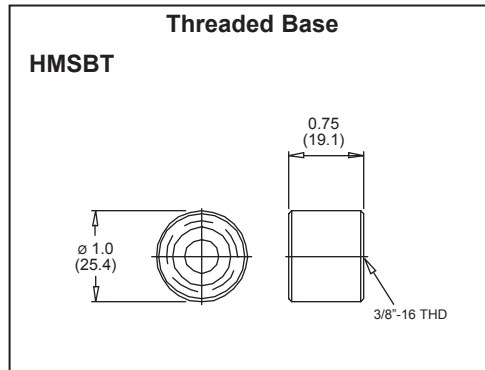
Signal-Quick™ Sensor Mounting Accessories

Sensor Mounting System Components



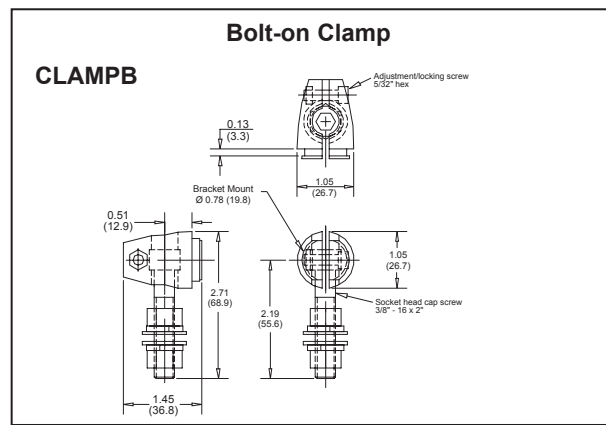
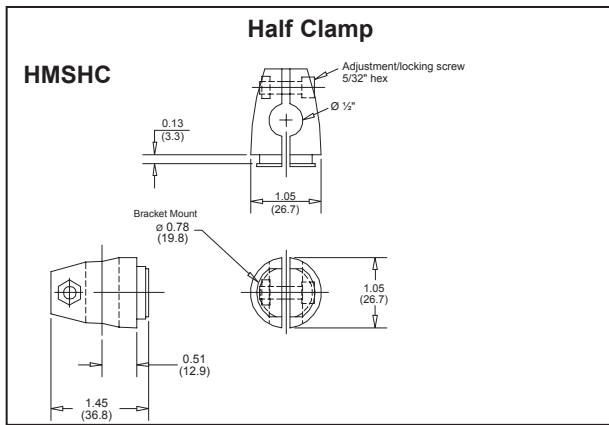
The ultimate in positioning flexibility. Hubbell Sensor Mounting System (HMS) components create a superior structure for virtually any sensor(s) to be mounted and aimed. Dramatically reduce design costs and fabricating time. Hubbell's Cushioned Sensor Mounts feature:

- Complete system building blocks.
- Brackets to accommodate all sensors.
- Extremely rigid mounting.
- Durable all metal construction.
- Assemble and adjust with a single allen wrench.

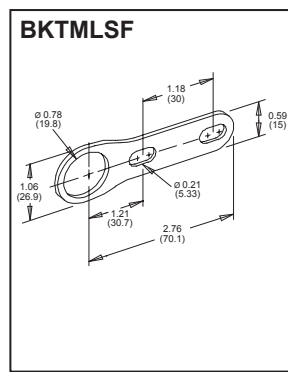
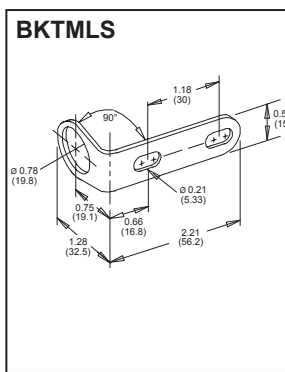
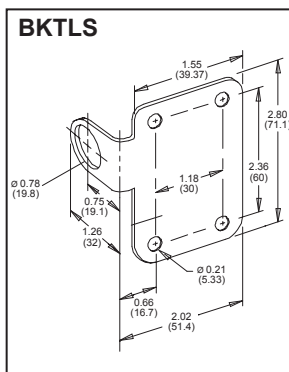
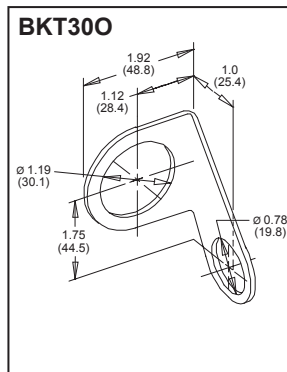
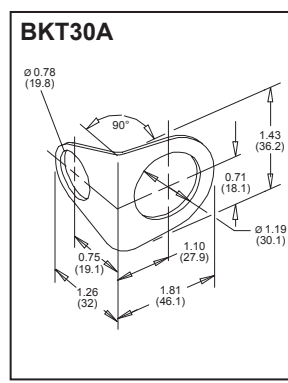
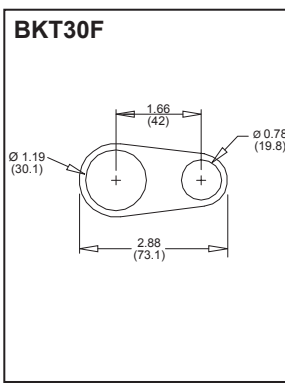
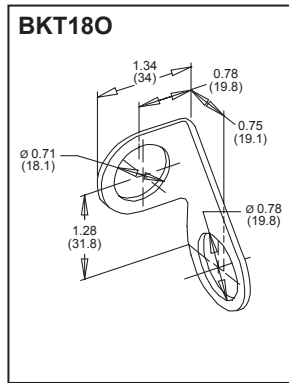
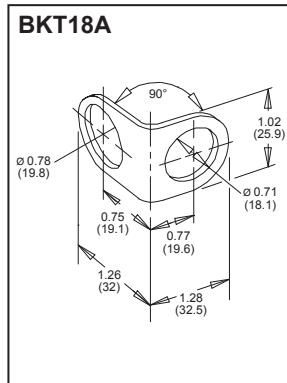
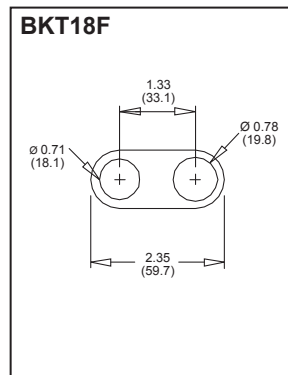
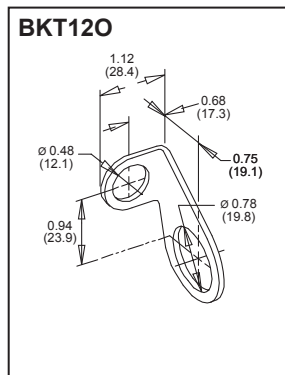
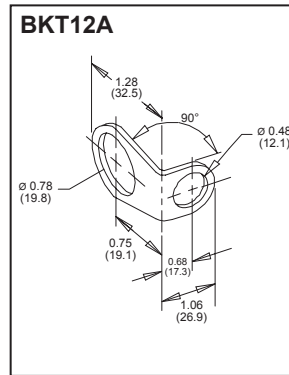
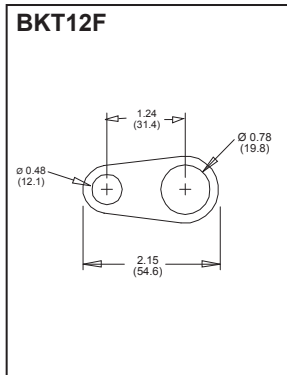


Specifications

Material:	
Half Clamp:	Zinc diecast, zinc-plated steel screws
Brackets:	304 Stainless Steel
Bases:	Zinc-plated Steel
Spacers:	Zinc-plated Steel
Rods:	Zinc-plated Steel
Couplers:	Zinc-plated Steel



Brackets



Signal-Quick™ Flat and Right Angle Adjustable Brackets

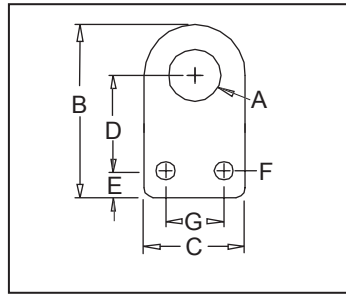
Sensor Mounting Brackets

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”.



Flat Brackets

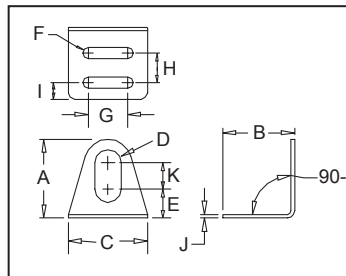


Material Specifications

Material: Stainless Steel

Catalog No.	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)
FB22	0.87 (22.1)	2.27 (57.6)	1.38 (34.9)	1.36 (34.6)	0.22 (5.56)	0.26 (6.48)	0.88 (22.2)	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)
FB47	1.86 (47.2)	4.05 (102.8)	2.5 (63.5)	2.24 (56.8)	0.56 (14.3)	0.39 (9.91)	1.5 (38.1)	0.12 (3.02)

Adjustable Angle Brackets

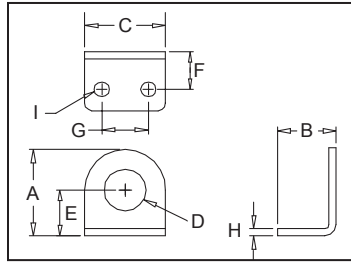


Material Specifications

Material: Stainless steel
Zinc-plated steel (AAB47)

Catalog No.	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)
AAB47	3.5 (88.9)	2.00 (50.8)	2.50 (63.5)	1.87 (47.5)	1.50 (38.1)	0.28 (7.11)	1.50 (38.1)	0.88 (22.2)	0.50 (12.7)	0.12 (3.05)	0.75 (19.1)
AAB47SS	3.5 (88.9)	2.00 (50.8)	2.50 (63.5)	1.87 (47.5)	1.50 (38.1)	0.28 (7.11)	1.50" (38.1)	0.88 (22.2)	0.50 (12.7)	0.12 (3.05)	0.75 (19.1)

Signal-Quick™ Right Angle Fixed Brackets



Material Specifications

Bracket Material: Stainless Steel

Angle Brackets

Catalog No.	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)
AB22	1.47 (37.3)	1.0 (25.4)	1.38 (34.9)	0.87 (22.1)	0.78 (19.8)	0.78 (19.8)	0.88 (22.2)	0.12 (3.02)	0.26 (6.6)
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)
AB47	2.75 (69.9)	1.50 (38.1)	2.50 (63.5)	1.85 (47.2)	1.50 (38.1)	0.94 (23.8)	1.50 (38.1)	0.12 (3.02)	0.39 (9.9)

Signal-Quick™ Sensor Quick Mounts

Sensor Quick Mounts

Install tubular proximity sensors with a mount that securely holds and releases a sensor with a quick twist of a single collet-style nut. Speeds installation and replacement procedures.

Sensor Quick Mounts can be used as a "smart rest pad" for tooling and fixturing. You can rest castings or work pieces right on your sensors. Sensor Quick Mounts can take the load and adjustments are easy with the threaded housing. Sensors confirm part positioning to initiate machining, welding or other control cycles.

- Collet-style locknut secures sensor.
- Integral stop shoulder maintains target gap.
- Housing protects sensor from physical impact.
- Sensor change-out is fast. No adjustments required.
- Target/product can rest on sensor face.
- Create new applications for sensors.
- Short or long barrel lengths.



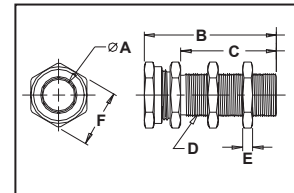
Material Specifications

Material: Nickel-plated brass (body, nuts)
Polypropylene (ferrule)

Operating Temperature: 300°F (149°C)

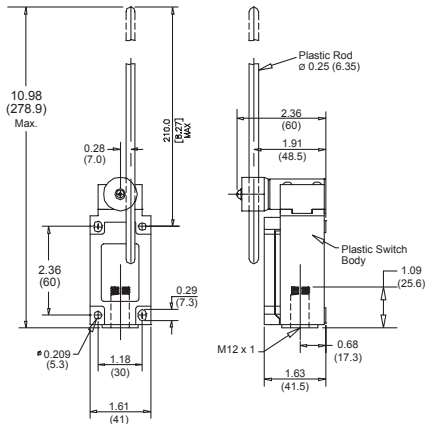
Sensor Quick Mounts

Catalog No.	A	B	C	D	E	F
SM8	0.32 (8.18)	1.28 (32.4)	0.69 (17.5)	M12 x 1	0.15 (3.85)	0.67 (16.9)
SM12	0.47 (12.1)	1.34 (34.0)	0.77 (19.5)	M16 x 1	0.16 (4.01)	0.86 (21.8)
SM18	0.71 (18.1)	1.39 (35.3)	0.82 (20.8)	M24 x 1	0.19 (4.83)	1.18 (30.0)
SM30	1.19 (30.1)	1.40 (35.6)	0.81 (20.6)	M36 x 1	0.23 (5.84)	1.61 (41.0)

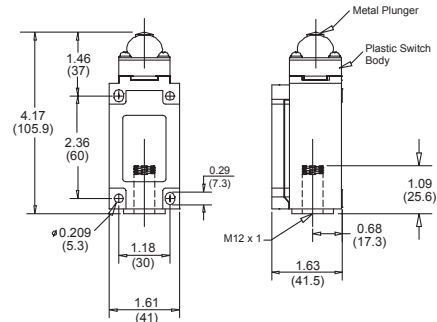


Signal-Quick™ Solid State Limit Switches

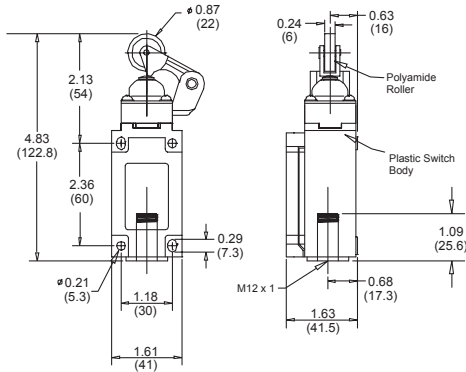
Side Rotary, Plastic Rod, SSSL1SRPR



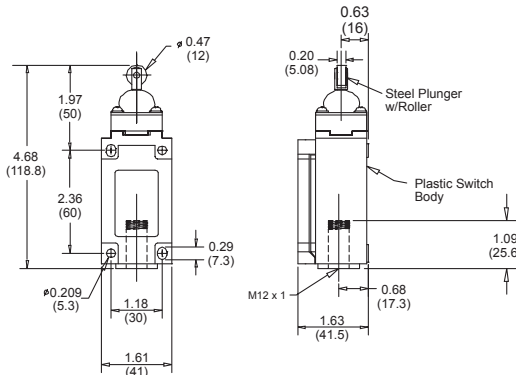
Top Push, Metal Plunger - SSSL1TMP



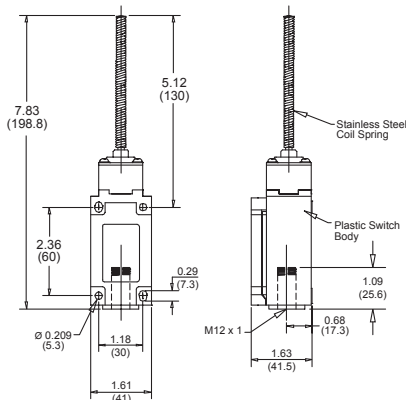
Top Push, Roller Lever - SSSL1TRL



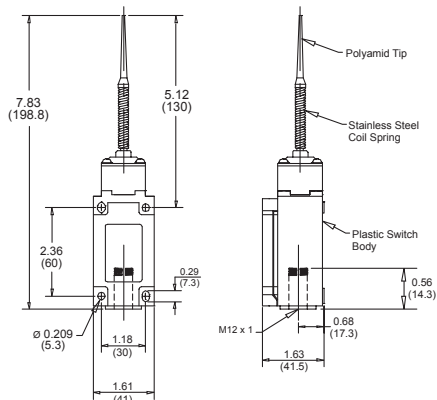
Top Push, Roller Plunger - SSSL1TRP



Top Wobble, Coil Spring - SSSL1TCS



Top Wobble, Coil Spring with Poly Tip - SSSL1TCSPT



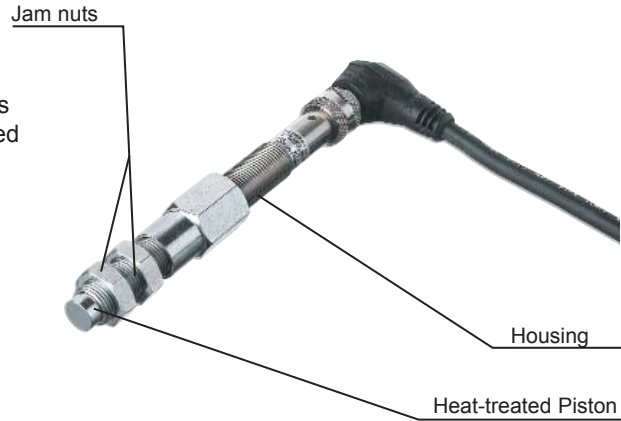
Signal-Quick™ Stop Screws

Stop Screws

Attach any standard shielded proximity sensor to the Stop Screw and create a heavy-duty, solid state switch.

Spring loaded design triggers the sensor when the piston is displaced. The sensor is isolated from impact and separated from the target with a plastic bushing. Two heavy-duty jam nuts secure the Stop Screw to a flat or 90° bracket.

- Isolates sensor from impact damage.
- Heat-treated alloy steel construction.
- Stop travel and sense with one device.
- Versatile outputs using any shielded sensor.
- Accurate and easy adjustments.

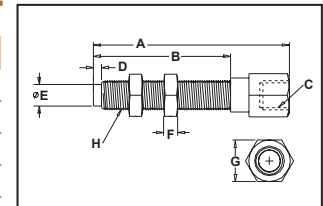


Specifications

Material:	Heat-treated, Zinc-plated steel Zinc-plated steel jam nuts
Piston travel:	0.076 (1.93)
Spring rate:	9 oz. (252 grams)
Max. allowable force:	250 lb-ft (2 KN)

Stop Screws

Catalog No.	A	B	C	D	E	F	G
SS0825	M8 x 1	0.98 (25)	M8 x 1	0.12 (3.16)	0.23 (5.84)	0.24 (6.26)	0.50 (12.8)
SS0850	M8 x 1	1.97 (50)	M8 x 1	0.12 (3.16)	0.23 (5.84)	0.24 (6.26)	0.50 (12.8)
SS1225	M12 x 1	0.98 (25)	M12 x 1	0.17 (4.32)	0.37 (9.40)	0.23 (5.94)	0.62 (15.7)
SS1250	M12 x 1	1.97 (50)	M12 x 1	0.17 (4.32)	0.37 (9.40)	0.23 (5.94)	0.50 (15.7)



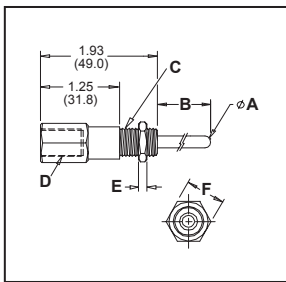
Proximity Probes

Use Proximity Probes to monitor internal tooling components or for part detection. Reliable and versatile solid state output allows greater control.

- Spring-loaded probe with Oilite® bearing.
- Reaches into tight areas.
- Compact and highly adjustable.
- Accepts standard shielded 8 or 12mm sensors.

Specifications

Material:	Heat-treated, Zinc-plated Steel Zinc-plated Steel jam nuts
Piston travel:	0.076 1.93
Spring rate:	9 oz. (252 grams)
Max. allowable force:	250 lb-ft (2 KN)



Proximity Probes

Catalog No.	A	B	C	D	E	F
PRB0825	2.98 (75.6)	1.0 (25.4)	M8 x 1 to a depth of .79 (20)	M8 x 1	0.125 (3.18)	0.51 (13)
PRB0850	3.92 (99.6)	2.0 (50.8)	M8 x 1 to a depth of .79 (20)	M8 x 1	0.125 (3.18)	0.51 (13)
PRB1225	2.98 (75.6)	1.0 (25.4)	M12 x 1 to a depth of .71 (18)	M12 x 1	0.125 (3.18)	0.67 (17)
PRB1250	3.92 (99.6)	2.0 (50.8)	M12 x 1 to a depth of .71 (18)	M12 x 1	0.25 (6.35)	0.67 (17)

Probe Travel

PRB0825, PRB0850 - Maximum: .076 (1.93) Activation varies by sensing range, typically: .005 (0.13) to .01 (0.25)
PRB1225, PRB1250 - Maximum: .076 (1.93) Activation varies by sensing range, typically: .010 (.25) to .015 (.38)

Signal-Quick™ Protective Caps

Protective Caps

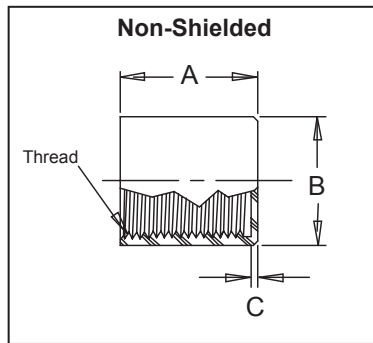
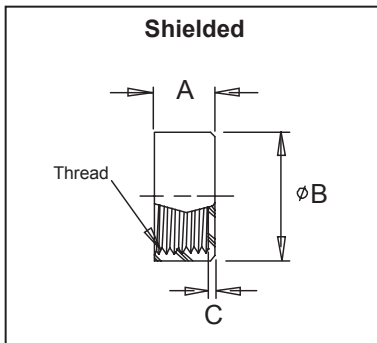
Use thread-on caps or epoxy-on faces to protect proximity sensors from dangerous elements on the plant floor.

- Reduces and/or eliminates abrasion damage.
- Reduces downtime & sensor replacement expenses.
- Available in ceramic, Delrin® and Teflon®.



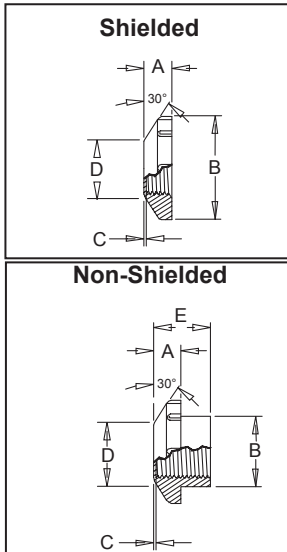
Specifications

Material:	Delrin, Teflon, Ceramic
Operating Temperature:	Delrin: 160°F; Teflon: 400°F, Ceramic: 4172°F



Catalog No.	Style	Description	A	B	C	Thread
PC08T	8mm	Teflon	0.22 (5.10)	0.43 (10.9)	0.02 (0.51)	M8 x 1
PC08NT	8mm	Non-shielded, Teflon	0.39 (9.75)	0.43 (10.9)	0.02 (0.51)	M8 x 1
PC12T	12mm	Teflon	0.35 (8.90)	0.58 (14.7)	0.04 (0.89)	M12 x 1
PC12D	12mm	Delrin	0.35 (8.90)	0.58 (14.7)	0.04 (0.89)	M12 x 1
PC12ND	12mm	Non-shielded, Delrin	0.60 (15.2)	0.58 (14.7)	0.04 (0.89)	M12 x 1
PC12C	12mm	Ceramic	0.35 (8.90)	0.58 (14.7)	0.04 (0.89)	M12 x 1
PC18T	18mm	Teflon	0.35 (8.90)	0.95 (24.1)	0.05 (1.14)	M18 x 1
PC18D	18mm	Delrin	0.35 (8.90)	0.95 (24.1)	0.05 (1.14)	M18 x 1
PC18ND	18mm	Non-shielded, Delrin	0.70 (17.8)	0.95 (24.1)	0.05 (1.14)	M18 x 1
PC18C	18mm	Ceramic	0.35 (8.90)	0.95 (24.1)	0.05 (1.14)	M18 x 1
PC30D	30mm	Delrin	0.39 (9.90)	1.50 (38.1)	0.08 (2.03)	M30 x 1
PC30ND	30mm	Non-shielded, Delrin	1.0 (25.4)	1.50 (38.1)	0.08 (2.03)	M30 x 1
PC30T	30mm	Teflon	0.39 (9.90)	1.50 (38.1)	0.08 (2.03)	M30 x 1
PC30C	30mm	Ceramic	0.39 (9.90)	1.50 (38.1)	0.08 (2.03)	M30 x 1

Signal-Quick™ End Caps and Ceramic Faces



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)
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End Caps

Catalog No.	Style	A	B	C	D	E	Thread
Shielded							
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.

Ceramic Faces

Bond to sensor face with any epoxy.

- Use when threads are inaccessible.
- Reduces and or eliminates abrasion damage.
- Reduces downtime and sensor replacement expenses.

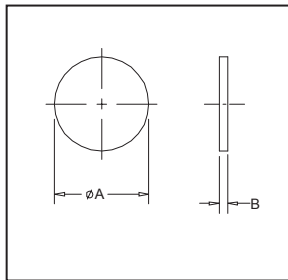
Specifications

Material:	Ceramic
Operating Temperature:	4172°F (2300C)

Ceramic Faces

Catalog No.	Style	A	B
CF08	8mm	0.23 (5.80)	0.12 (3.0)
CF12	12mm	0.41 (10.4)	0.12 (3.0)
CF18	18mm	0.60 (15.2)	0.02 (.50)
CF30	30mm	0.98 (27.9)	0.02 (.50)

NOTE: The wear surface thickness (Dimension B) 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

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.

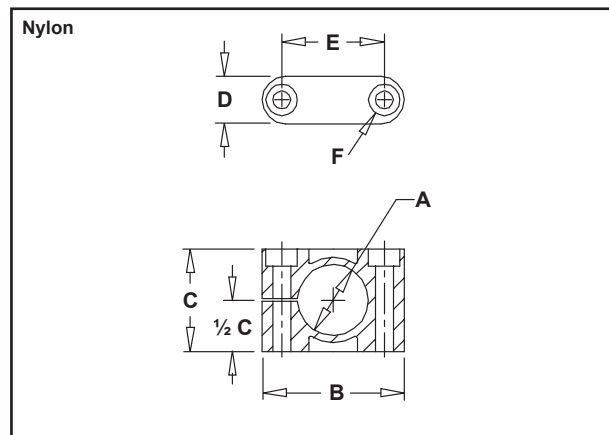
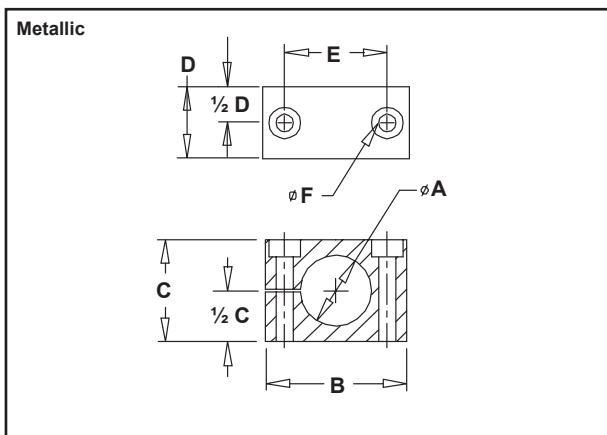


Specifications

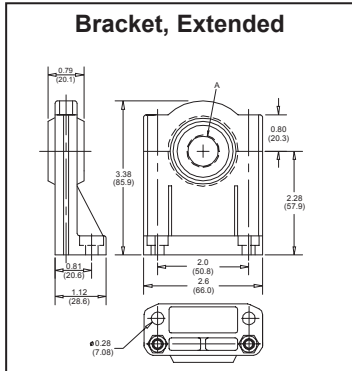
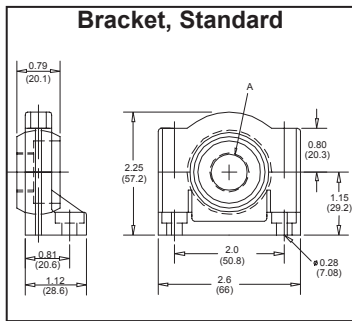
Material: Glass-filled Nylon
Anodized aluminum

Block Mounts

Catalog No.	Style	A	B	C	D	E	F
Metallic							
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)
BM36N	36mm	1.42 (36.1)	2.40 (61)	1.73 (44)	0.71 (18)	1.89 (48)	0.22 (5.5)



Signal-Quick™ Universal Aiming Brackets



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.

Specifications

Material: Glass-filled Nylon

Universal Aiming Brackets

Catalog No.	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



Conversion Brackets

Allows 12mm and 18mm sensors to replace a wide variety of standard limit switches.

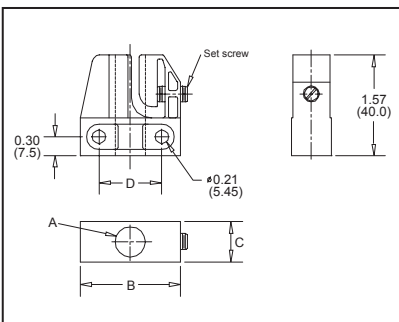
- Simple to secure with a set screw.
- Abuse resistant glass filled nylon material.

Specifications

Material: Glass-filled Nylon

Conversion Brackets

Catalog No.	Sensor Style	A	B	C	D
CB12	12mm	0.47 (12.1)	1.57 (40)	0.62 (15.8)	0.98 (25)
CB18	18mm	0.71 (18.1)	1.77 (45)	0.87 (22)	1.18 (30)



Signal-Quick™ Well Mounts

Well Mounts

Adapt tubular proximity sensors to a wide variety of vessels for level detection applications. Keep systems sealed prior to sensor installation, as well as during sensor removal. Reliability and performance is improved because the sensor is isolated from the system fluids/materials.

- Delrin®, UHMW and Teflon® models.
- Accommodates all sensor diameters.
- Types include flange mount, SAE and NPT threads.



Well Mounts

Catalog No.	Style	Description	A	B	C	D	E	F	G	H	I	NPT
WMPTSB12D	12mm	PTSB, Delrin	1.75 (44.5)	1.30 (33)	1.05 (26.7)	0.36 (9.14)	0.03 (.76)	0.70 (17.8)	0.99 (25.1)	1.25 (31.8)	0.48 (12.1)	½ x 14
WMPTSB18D	18mm	PTSB, Delrin	2.35 (59.7)	1.90 (48.3)	1.53 (38.9)	0.65 (16.5)	0.06 (1.52)	0.89 (22.6)	1.24 (31.5)	1.47 (37.3)	0.71 (18.1)	¾ x 14
WMPTSB30T	30mm	PTSB, Teflon	2.35 (59.7)	1.90 (48.3)	1.53 (38.9)	0.65 (16.5)	0.06 (1.52)	1.44 (36.6)	1.75 (44.5)	1.75 (44.5)	1.19 (30.1)	1¼ x 11.5
WMSAESB18D	18mm	SAESB, Delrin	See diagram									
WMBHSB30D	30mm	BHSB, Delrin	See diagram									
WMCTTB30T	30mm	CTTB, Teflon	See diagram									
WMFMSB30H	30mm	FMSB, UHMW	See diagram									

Specifications

Material:

PTSB, SAESB, BHSB style: Delrin®, stainless steel band clamps, neoprene o-ring
Teflon®

CTTB style:

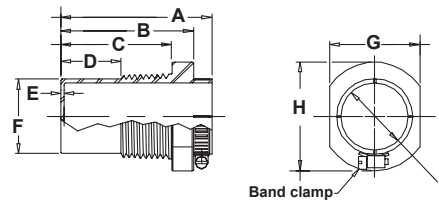
Flange style:

UHMW-PE (body), stainless steel band clamps, neoprene o-ring

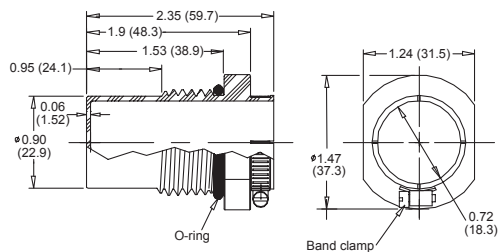
Max. allowable PSI:

120

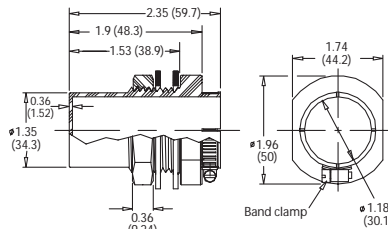
WMPTSB12D, WMPTSB18D, WMPTSB30T



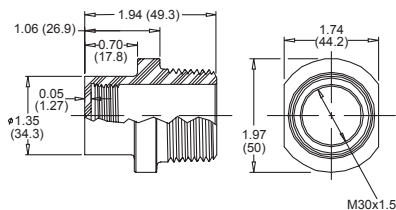
WMSAESB18D



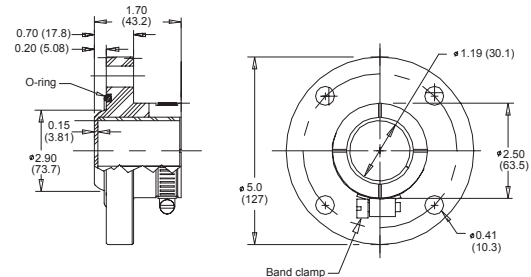
WMBHSB30D



WMCTTB30T



WMFMSB30H



Signal-Quick™ Sight Glass Mounts



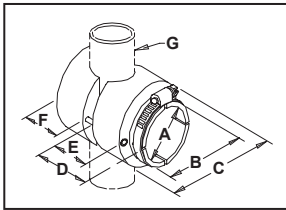
Sight Glass Mounts

Quickly attach tubular proximity sensors to glass and plastic indicator tubes for level detection.

- Rapid “out of tank” adjustments.
- Simple sensor change-out/replacement.
- For 9.5mm (3/8”) to 44mm (1¾”) tubes.
- Stainless steel and Delrin® Construction.

Specifications

Material:	Delrin® (body), stainless steel (hardware)
Pipe Range:	3/8” - 1¾”



Conduit Adapter

Catalog No.	Style	A	B	C	D	E	F	G
SGM12D	12mm	0.48 (12.2)	0.77 (19.6)	1.50 (38.1)	1.16 (29.5)	0.51 (13)	0.42 (10.5)	0.37-0.81 (9.40-20.6)
SGM18D	18mm	0.71 (19.6)	1.0 (25.4)	1.75 (44.5)	1.50 (38.1)	0.63 (15.9)	0.46 (11.7)	0.63-1.12 (16.0-28.4)
SGM30D	30mm	1.19 (30.1)	1.45 (36.8)	2.75 (69.9)	2.67 (67.8)	1.25 (31.8)	0.75 (19.1)	1.0-1.7” (25.4-44.5)

Signal-Quick™ Conduit Adapters



Conduit Adapters

Seal your sensor and the cable in conduit for harsh environments. One end is threaded for 1/2” conduit and the other for standard 12, 18 or 30mm sensors.

- Round steel or Hex aluminum styles.
- Fully threaded to accommodate all sensors.

Specifications

Material:	Zinc-plated Steel (round) Aluminum (hex)
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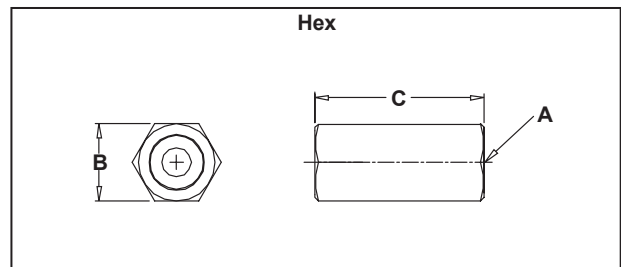
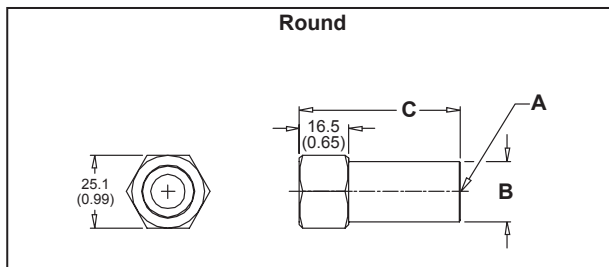
Round body



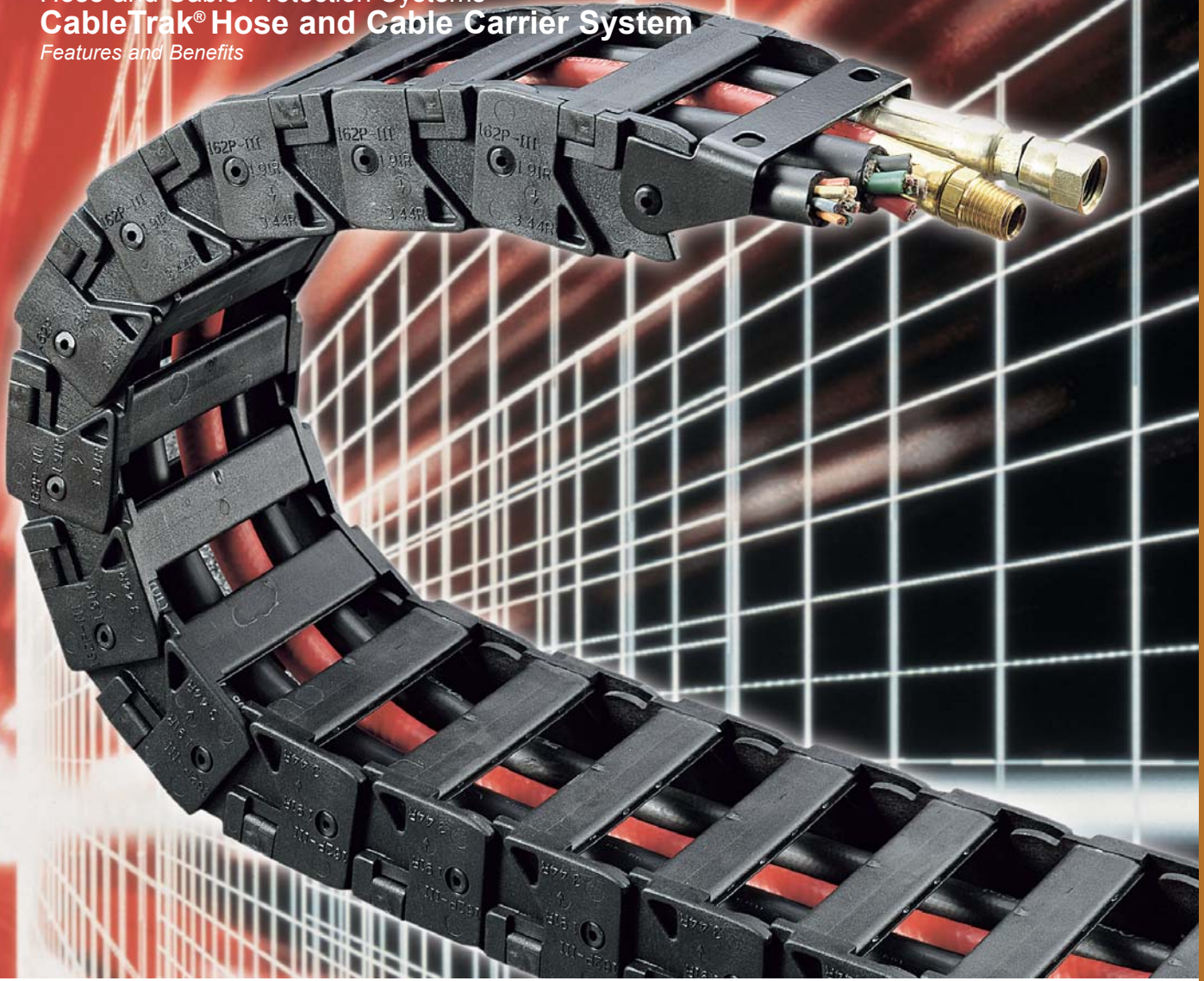
Hex body

Conduit Adapter

Catalog No.	Sensor Style	Description	A	B	C
CAR12	M12	Round Conduit Adapter	M12 x 1	0.69 (17.5)	1.97 (50)
CAH12	M12	Hex Conduit Adapter	M12 x 1	0.99 (25.1)	1.97 (50)
CAR18	M18	Round Conduit Adapter	M18 x 1	0.84 (21.3)	2.18 (55.4)
CAH18	M18	Hex Conduit Adapter	M18 x 1	0.99 (25.1)	2.18 (55.4)
CAR30	M30	Round Conduit Adapter	M30 x 1.5	1.31 (33.3)	2.68 (68.1)
CAH30	M30	Hex Conduit Adapter	M30 x 1.5	1.37 (34.9)	2.68 (68.1)



Hose and Cable Protection Systems
CableTrak® Hose and Cable Carrier System
Features and Benefits



Hubbell Wiring Device-Kellems CableTrak® flexible hose and cable carrier system is designed to provide guidance and protection for hose and cables on moving machinery. CableTrak keeps hose and cable from getting caught in moving machine parts and minimizes friction between cable and hose components resulting in reduced downtime and maintenance costs. These carriers are able to perform at high speeds, have excellent chemical and corrosion resistance, require little maintenance and are easy to assemble.

Hose and Cable Protection Systems

CableTrak® Hose and Cable Carrier System

Assembly and Installation

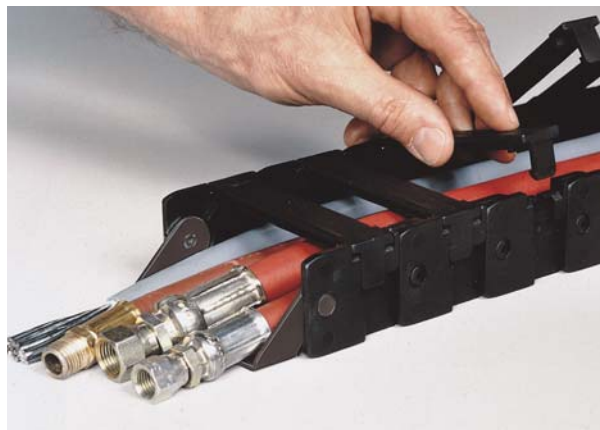
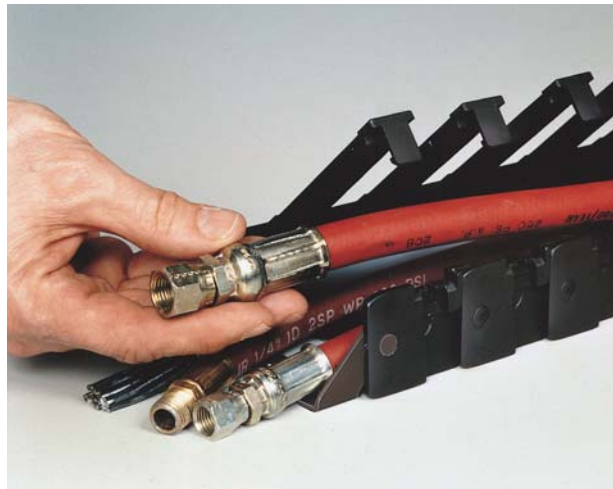
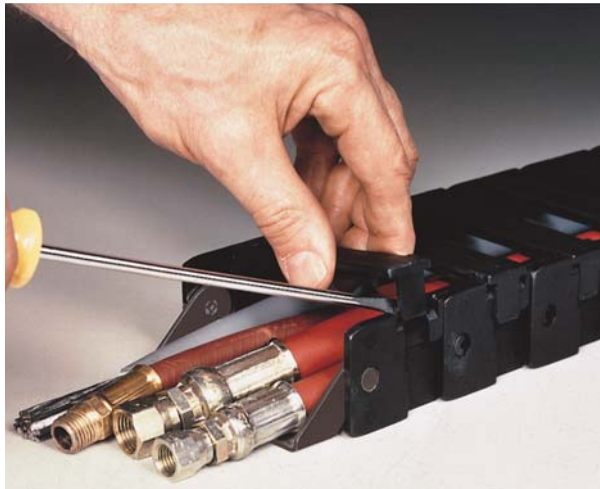
The design of CableTrak carriers provides easy access to components during installation and repair. The track's flip top design allows the installer to lay cable and hose components directly into the track instead of pulling them through the length of the track. Hubbell CableTrak carriers can be ordered 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 & Hoses

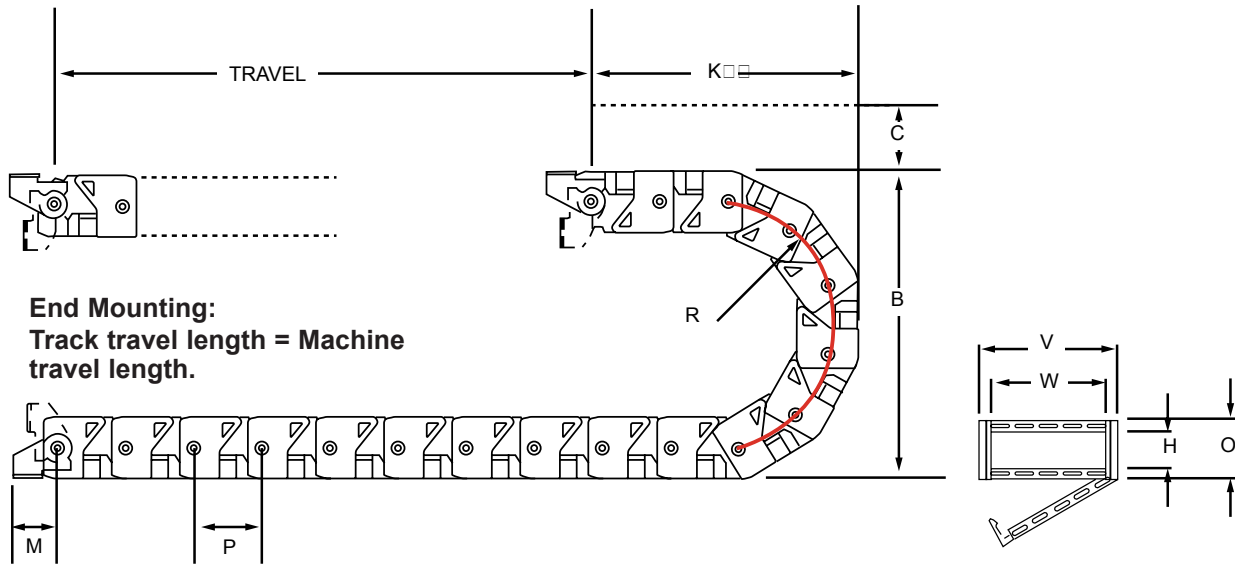
3. Easy access is important, especially for pre-assembled cable/hose sets involving large O.D. plugs, receptacles, and couplings.
4. Lock Tab...
5. To re-secure retaining bars, engage the hinge and snap the locking tab into place.



Hose and Cable Protection Systems

CableTrak® Hose and Cable Carrier System

Ordering Information



Catalog Numbers	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'

Catalog Numbers	Track Length (ft)	W Inner Width	H Inner Height	Max Hose/Cab O.D.	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'

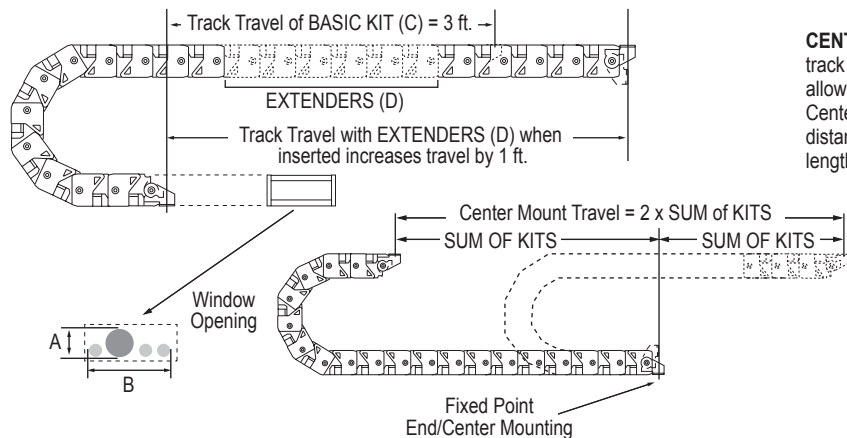
*L = Minimum length in feet to form CableTrak® curve.

** These models do not have a flip top design and do not accept separators due to their small size.

Hose and Cable Protection Systems

CableTrak® Hose and Cable Carrier System

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 Physical Track Length

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

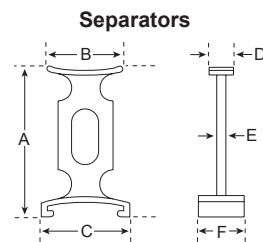
MT = Total machine travel distance in feet
 L = Length of track taken up by the bend radius

Customizing Track Length

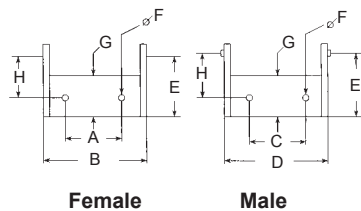
Hubbell CableTrak is easily customized by adding or subtracting links to the track. CableTrak kits provide 4 to 5 feet of track with brackets pre-installed. Track length can be increased by installing the required number of extenders to reach the required length. To further tune the length of track, 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

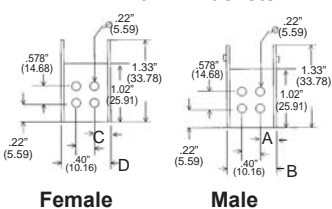
Bracket Kits	For Use With	A	B	C	D	E	F	G	H
HCTBK101	HCT101 Series	.40" (10.16)	.81" (20.57)	.47" (11.94)	.94" (23.88)	-	-	-	-
HCTBK102	HCT102 Series	.44" (11.18)	1.22" (30.99)	.44" (11.18)	1.35" (34.29)	-	-	-	-
HCTBK161	HCT161 Series	.99" (25.15)	1.97" (50.05)	.87" (22.10)	1.84" (46.74)	1.19" (30.23)	.281" (7.14)	.75" (19.05)	.81" (20.57)
HCTBK162	HCT162 Series	1.78" (45.21)	2.75" (69.85)	1.65" (41.91)	2.63" (66.80)	1.19" (30.23)	.281" (7.14)	.75" (19.05)	.81" (20.57)
HCTBK163	HCT163 Series	2.57" (65.28)	3.55" (90.17)	2.44" (61.98)	3.42" (86.87)	1.19" (30.23)	.281" (7.14)	.75" (19.05)	.81" (20.57)
HCTBK164	HCT164 Series	3.56" (90.42)	4.53" (115.06)	3.47" (88.14)	4.41" (112.01)	1.19" (30.23)	.281" (7.14)	.75" (19.05)	.81" (20.57)
HCTBK251	HCT251 Series	2.08" (52.83)	3.21" (81.53)	1.80" (45.72)	3.03" (76.96)	1.75" (44.45)	.344" (8.74)	1.00" (25.40)	1.25" (31.75)
HCTBK252	HCT252 Series	3.74" (95.00)	4.87" (123.70)	3.46" (87.88)	4.69" (119.13)	1.75" (44.45)	.344" (8.74)	1.00" (25.40)	1.25" (31.75)
HCTBK253	HCT253 Series	6.08" (154.43)	7.21" (183.13)	5.80" (147.32)	7.03" (178.56)	1.75" (44.45)	.344" (8.74)	1.00" (25.40)	1.25" (31.75)
Separators	For Use With	A	B	C	D	E	F		
HCTSP16PK12	HCT16_ Series	1.24" (31.50)	.82" (20.83)	.94" (23.88)	.27" (6.86)	.14" (3.56)	.50" (12.70)		
HCTSP25PK12	HCT25_ Series	2.03" (51.56)	1.00" (25.40)	1.19" (30.23)	.35" (8.89)	.15" (3.81)	.62" (15.75)		



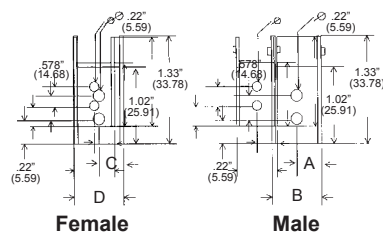
HCTBK161 – HCTGK253 Brackets



HCTBK102 – Brackets



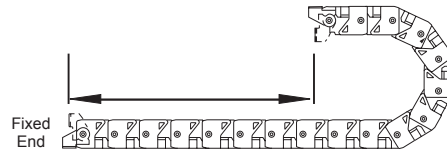
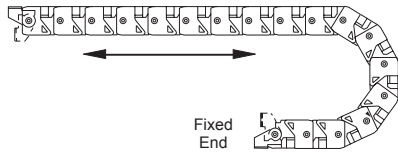
HCTBK101 – Brackets



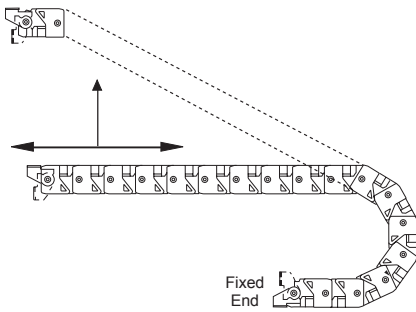
Hose and Cable Protection Systems CableTrak® Hose and Cable Carrier System

Mounting Options and Specifications

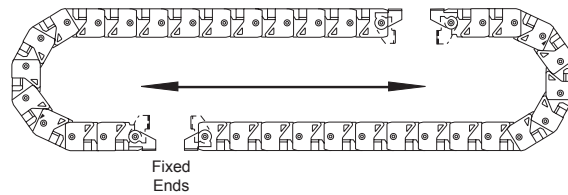
Horizontal Travel



Combination Horizontal & Vertical Travel

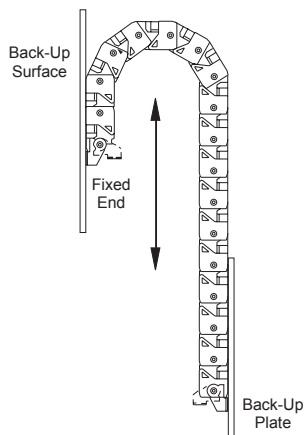


Opposed Travel

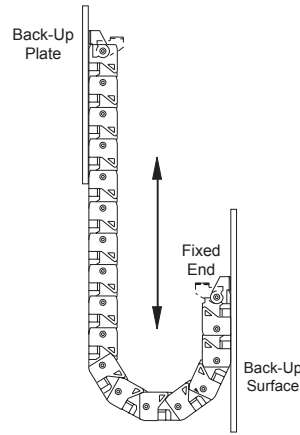


Vertical Travel

Curve Up



Curve Down



Specifications

Material	Fiberglass reinforced nylon
Operating Temperature	Continuous +20°F – +100°F (-7°C – 38°C). *Intermittent -40°F – +220°F (-40°C – 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. (2.75m) With sag 10.5 ft. (3.2m). HCT25 Series without sag 13.5 ft. (4.1m) With sag 17 ft. (5.18m).
Applications	Machine tool, robotic automation, material handling.

*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

15 and 20 Ampere

Complete Units and Component Parts

Hubbell's DIN Rail Utility Box offers a labor saving way to provide utility power to any control cabinet. Installing the 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 need is now at your disposal. 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 are available in gray and 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.



DRUB15



DRUBGF15AC



DRUBTVSS15



DRUBIG15



NEMA 5-15R
15A 125V
UL CSA
0.5 HP



NEMA 5-20R
20A 125V
UL CSA
1 HP

Duplex Receptacles

Description	Color	Catalog Numbers
Complete Unit	Gray	DRUB15 DRUB20
Complete Unit- Horizontal Mount	Gray	DRUB15H -
Complete Unit w/5A Circuit Breaker	Gray	DRUB15CB5 -
Complete Unit w/5A Circuit Breaker- Horizontal	Gray	DRUB15HCB5 -
Complete Unit w/Aux	Gray	- DRUB20AC
Complete Unit w/Aux and 5A Circuit Breaker	Gray	- DRUB20ACCB5
Complete Unit w/ 6-15R Duplex	Gray	DRUB5462*

NOTE: * DRUB5462 configuration not pictured

GFCI Duplex Receptacles

Description	Color	Catalog Numbers
Complete Unit	Gray	DRUBGF15 DRUBGF20
Complete Unit- Horizontal	Gray	DRUBGF15H -
Complete Unit w/ 5A Circuit Breaker	Gray	DRUBGF15CB5 -
Complete Unit- w/5A Circuit Breaker- Horizontal	Gray	DRUBGF15HCB5 -
Complete Unit- with Aux GFCI Contacts	Gray	DRUBGF15AC DRUBGF20AC
Complete Unit-Faceless w/Aux GFCI Contacts	Gray	DRUBGF20FBAC -

TVSS Duplex Receptacles

Description	Color	Catalog Numbers
Complete Unit	Gray	DRUBTVSS15 -

Isolated Ground Duplex Receptacles

Description	Color	Catalog Numbers
Complete Unit	Gray	DRUBIG15 -

Toggle Switch Unit

Description	Color	Catalog Numbers
HBL1221 in Complete Unit w/Aux	Gray	DRUB1221AC -
Complete unit with SW/REC	Gray	DRUB6404 -

DIN Rail Utility Box Components

Description	Color	Catalog Numbers
Prewired Kit Without Circuit Breaker	Gray	DRUBKIT
Prewired Kit With Circuit Breaker	Gray	DRUBKITCB5
Prewired Kit With Aux	Gray	DRUBKITAC
Prewired Kit With Circuit Breaker and Aux	Gray	DRUBKITACCB5
Switch Plate Only	Gray	KP1GY
Rectangular Opening Plate Only	Gray	KP26GY
1.60" Opening Plate Only	Gray	KP720GY
1.40" Opening Plate Only	Gray	KP7GY
Duplex Receptacle Plate Only	Gray	KP8GY

OEM Surge Protection

DIN Rail and Terminal Mounted
40,000 & 65,000 Peak Amperage Capacity

OEM/Specialty Surge Protection

The SpikeShield® offering includes a selection of hard-wired surge suppressors that can be internally mounted inside equipment cabinets. The DR series are DIN Rail mounted, provide 65,000 peak amp capacity and are parallel wired. The TDR series come with an integral DIN Rail mounting system and a set of attachable mounting feet that allows the device to be flange mounted. The TDR models provide 40,000 peak amp capacity, up to -75dB of noise filtration and are series wired. Load ratings of 5, 15, and 20 amps are available in the 120-volt model and may be ordered with or without a set of dry contacts for remote signaling capability. Both products are ideal for panel builders, manufacturers and integrators of control or instrumentation cabinets for industrial, medical or commercial applications.



HBL1DR65

TDR Features	Benefits
• -75dB Noise filtration.	Protects sensitive electronics from electrical noise that is prevalent in most manufacturing facilities.
• 40kA peak current rating.	Prevents transients from destroying or degrading electronics on the plant floor.
• Optional dry contacts.	All models may be ordered with a set of dry contacts for remote signaling capability.
• Installation flexibility.	The TDR products may be DIN Rail mounted to any standard 35mm DIN Rail or flange mounted by attaching the four mounting feet that come with each unit.

Notes: DIN rail and terminal mounted products are UL recognized in accordance with Standard 1449.

DIN Rail Mounted, Parallel-Wired (DR Series)

Voltage	Catalog Numbers
Single Phase 120V AC	HBL1DR65
Single Phase 240V AC	HBL2DR65*

Notes: *For international applications.
 For technical information, see page J-18.



HBL1TDR755

DIN Rail/Flange Mounted, Series Wired (TDR Series)

	Catalog Numbers Rating Without Dry Relay Contact	Catalog Numbers With Dry Relay Contact
5A, 120V AC	HBL1TDR755	HBL1TDR755DC
15A, 120V AC	HBL1TDR7515	HBL1TDR7515DC
20A, 120V AC	HBL1TDR7520	HBL1TDR7520DC
20A, 230V AC	-	HBL2TDR7520DC*

Note: *For international applications.

Industrial Ethernet and Harsh Environment Connectors

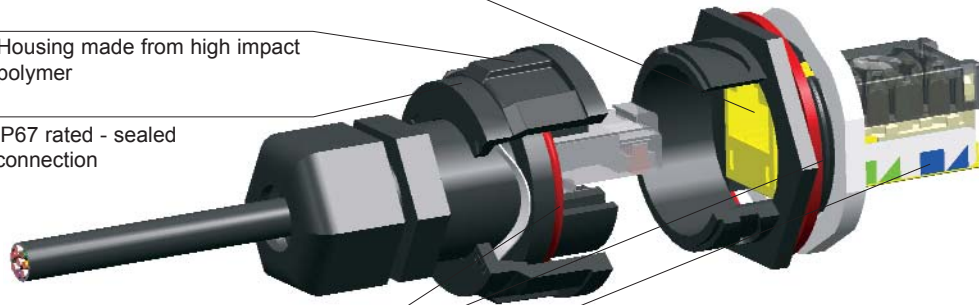
Category 6 and 5e component connectors

Housing made from high impact polymer

IP67 rated - sealed connection

O-Rings for moisture protection

Standard Hubbell Keystone Latching System



Industrial/Manufacturing



Medical



Harsh Environment



Oil/Mining

Industrial Ethernet and Harsh Environment 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.

Industrial Ethernet Connectors



Description	Catalog No.
Cat 5e Connector	HBLIE5E



Description	Catalog No.
Cat 5e Shielded Connector	HBLIE5ESC



Description	Catalog No.
Cat 5e Inline Coupler Connector	HBLIE5EC



Description	Catalog No.
Cat 6 Connector	HBLIE6

Environmental Specifications

Moisture Protection	UL Type 4X, IP67
Temperature Range	ANSI/TIA/EIA: 60°C (140°F) to -10°C (14°F)

Materials

Nose Contacts: Beryllium Copper base metal with a minimum of 50 micro-inch gold plating over nickel underplating
 IDC 110 Contacts: Phosphorus bronze base metal with 100 micro-inch tin lead 60/40 plating over nickel underplating

Listings and Verifications

ANSI/TIA/EIA-568-B.2-1
 UL Listed, CSA Certified

Materials

Connector Housing	Noryl (UL 94V-0)
Termination Towers	UL 94V-0
Termination/Stuffer Cap	Lexan (UL 94V-0)

Performance Specifications

Confirmed contact performance over full range of (FCC Specification) deflection limits
 1000+ mating cycles
 100 grams minimum normal force per contact, using FCC-approved plug
 IDC accommodates 22 to 26 AWG/Solid
 10X IDC terminations for same size AWG

Industrial Ethernet and Harsh Environment Connectors

Plugs, Patch Cords and Enclosures

Industrial Ethernet Patch Cords and Plugs



Description	Length	Catalog No.	Catalog No.	Catalog No.
IE 5e Patch Cord	5'	HBLIE5E05EE	HBLIE5E05AE	HBLIE5E05AA
IE 5e Patch Cord	10'	HBLIE5E10EE	HBLIE5E10AE	HBLIE5E10AA
IE 5e Patch Cord	15'	HBLIE5E15EE	HBLIE5E15AE	HBLIE5E15AA
IE 5e Patch Cord	20'	HBLIE5E20EE	HBLIE5E20AE	HBLIE5E20AA
IE 5e Field Termination Plug	-	HBL5EFA		

Contact Customer Service for specialized cords and connectors - lead times may apply.

Industrial Ethernet Wall Plates and Accessories

Description	Gang	Openings	Catalog No.
Wall plate, stainless steel	1	1	HBLIE11
Wall plate, stainless steel	1	2	HBLIE12
Wall plate, stainless steel	2	2	HBLIE22
Wall plate, stainless steel	2	4	HBLIE24
Connector Cap	-	-	HBLIEC



Industrial Ethernet REBOX Enclosure

Use the unloaded REBOX® in harsh applications such as a manufacturing floor. The modular design of this cabinet is very versatile, allowing the installer to configure the cabinet with a wide variety of accessories to mount any type of components.

Use the pre-configured REBOX® as a small remote data center in an industrial environment. Each cabinet includes dedicated mounting for hubs and other active equipment and another dedicated mounting area for patch panels.

Delivery: 1 enclosure

Pre-Configured versions include:

REK19 - Bottom Hinged Patch Panel Bracket, 4U

REKZ - Equipment Mounting Bracket, 5U

Rack Units	Height	Width	Depth	Version	Color	Catalog No.
13	24" (610)	24" (610)	12" (305)	Unloaded	Gray	HBLIR2UG
20	36" (914.4)	24" (610)	12" (305)	Unloaded	Gray	HBLIR3UG
27	48" (1219.2)	24" (610)	12" (305)	Unloaded	Gray	HBLIR4UG
20	36" (914.4)	24" (610)	12" (305)	Pre-Configured	Gray	HBLIR3PG
27	48" (1219.2)	24" (610)	12" (305)	Pre-Configured	Gray	HBLIR4PG



Industrial Connectivity and Control Products

Accessories

Accessories

Hubbell offers the broadest line and widest choice of cord connectors to complete your installation of Mini-Quick Control Connectors. Hubbell Cord Connectors feature our patented GOTCHA® Ring technology to prevent friction and provide superior strain relief. Our Cord Connectors are IP66 and come in a variety of materials to meet your environmental needs.



IP 66*
Suitability

Machined Zinc Plated Steel



Machined Aluminum



Nylon



Cord Connectors- Straight Male

Cord Range	NPT Hub Size	Form Size	Zinc Plated Steel	Machined Aluminum	Nylon Gray	Nylon Black	Metal Clad O-Ring
.19" - .25"	1/2"	F2	SHC1021ZP	SHC1021	SHC1021CR	SHC2021CR	20509001
.25" - .38"	1/2"	F2	SHC1022ZP	SHC1022	SHC1022CR	SHC2022CR	20509001
.38" - .50"	1/2"	F2	SHC1023ZP	SHC1023	SHC1023CR	SHC2023CR	20509001
.50" - .63"	1/2"	F2	SHC1024ZP	SHC1024	SHC1024CR	SHC2024CR	20509001
.63" - .75"	1/2"	F2	SHC1027ZP	SHC1027	-	-	20509001



Low Profile Cord Connectors

Cord Range	NPT Hub Size	(mm)	Gray Nylon	Black Nylon	Natural Nylon Locknuts
.18" - .31"	3/8"	(4.6-7.9)	SEC38GA	SEC38BA	31622002LPK50
.17" - .45"	1/2"	(4.3-11.4)	SEC50GA	SEC50BA	31622003LPK50
.45" - .71"	3/4"	(11.4-18.0)	SEC75GA	SEC75BA	31622007LPK50
.59" - 1.00"	1"	(15.0-25.4)	SEC100GA	SEC100BA	31622008LPK50

Notes: See Section T for the full line of Hubbell premium cord connectors. Catalog numbers with PK50 suffix are packed 50 per carton.