



Connection Systems

Safety Connection Systems

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Allen-Bradley HMIs

Connection Systems

Safety Connection Systems

Overview

Introduction

The Allen-Bradley Guardmaster Safety Connection Systems are complete wiring solutions dedicated to machine safety. These quick disconnect-based systems consist of safety wired T-Ports and distribution boxes as well as patchcords and shorting plugs. Specifically intended for use with dry-contact safety switches, Safety Connection Systems provide flexible and reliable connections between safety interlock switches, E-stops, cable pull switches and safety relays. And while this system is ideal for use with these components, it is not suitable for use with light curtains, safety mats or pressure sensitive safety edges.

Allen-Bradley Guardmaster Safety Connection Systems are designed to:

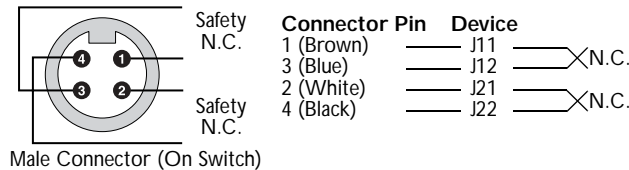
- Reduce installation cost
- Ease system expansion
- Simplify troubleshooting
- Promote system modularity
- Provide for Safety PLC input expansion
- Support systems up to Category 3 (per EN954-1)

Safety Connection Systems layouts are available with or without enunciation capabilities, allowing the user the option of direct feedback for the status of individual switches in the system. Enunciation systems utilize an auxiliary contact as input to tower lights, audible alarms, PLC input cards, etc.

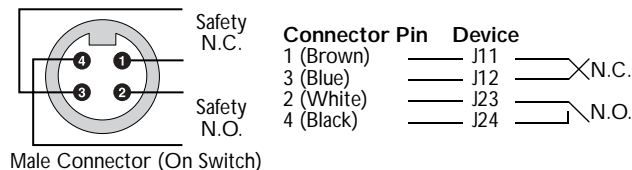
Systems without Enunciation

As illustrated in the example layout on page 15-3, wiring systems for applications not requiring enunciation use a combination of patchcords, shorting plugs, safety wired distribution boxes and T-ports for series wiring of safety circuits. Distribution boxes for such an application are dual channel models with 2 N.C. or 1 N.C. + 1 N.O. contact configurations. See the wiring diagrams below for connector pin assignments.

Dual Channel 2 N.C.



Dual Channel 1 N.C./1 N.O.



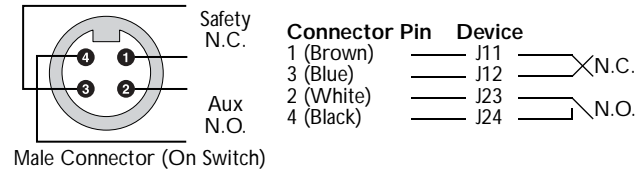
Note: Shorting plugs must be used on all unused ports for the system to operate.

Systems with Enunciation

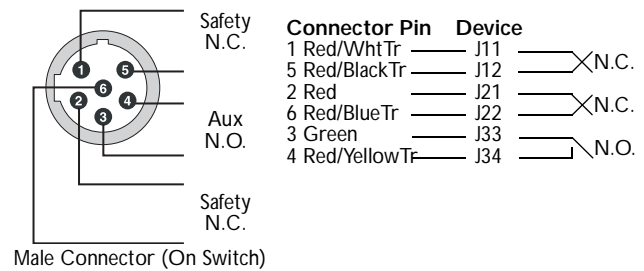
As shown at the bottom of page 15-3, system layouts with enunciation require patchcords, shorting plugs and distribution boxes, which allow for series wiring of the safety circuits while providing a separate circuit for enunciation. Distribution boxes are offered for these applications in two contact configurations: dual channel with 2 N.C. or single channel with 1 N.C. Each type also provides a N.O. auxiliary contact that is interfaced with the enunciation device to provide visual or audible alarm indication. In addition, LEDs on the distribution boxes assist in the

troubleshooting of this system. See the wiring diagrams below for the associated connector pin configurations.

Single Channel 1 N.C./1 N.O.



Dual Channel 2 N.C./1 N.O.



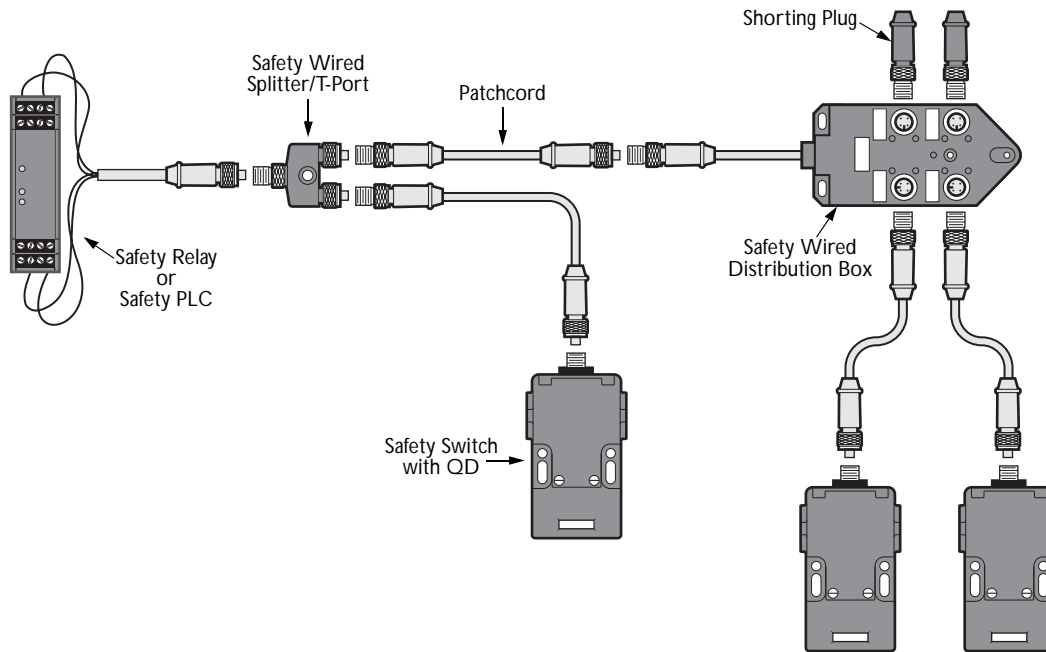
Note: Shorting plugs must be used on all unused ports for the system to operate.

Installation Considerations

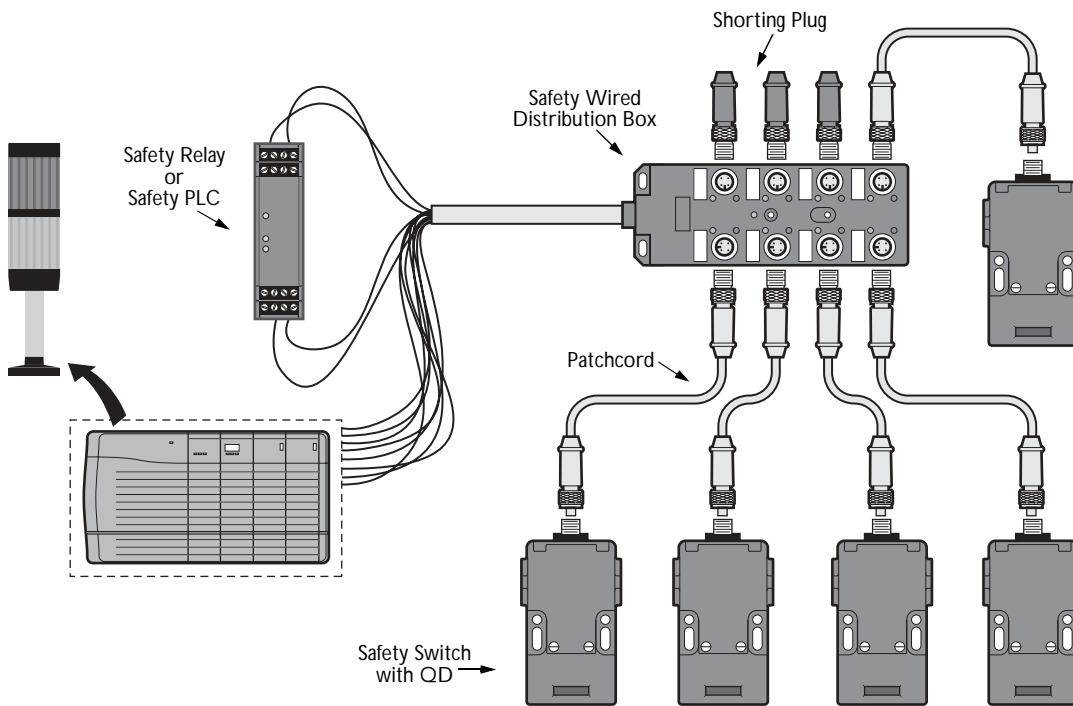
Some important notes regarding Safety Connection Systems:

- To help ensure that only authorized personnel can access the connections, safety distribution boxes should be mounted in the 'guarded' area as defined in the risk assessment for the application.
- The safety connection system is designed to simplify the installation of safety devices—it does *not* control the safety circuit.
- Since the safety circuits are wired in series, shorting plugs must be installed in all unused distribution box ports in order for the system to operate.

Example Layout without Enunciation



Example Layout with Enunciation



Allen-Bradley HMIs

Safety Connection Systems

Safety Wired T-Port, Dual-Channel, No Enunciation



Specifications

Body	Red PUR
Connector Insert	PUR
Receptacle Shell	Epoxy coated zinc
Contacts	Brass, gold over nickel plating
O-Ring	Viton
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +105°C (-13°F to +221°F)

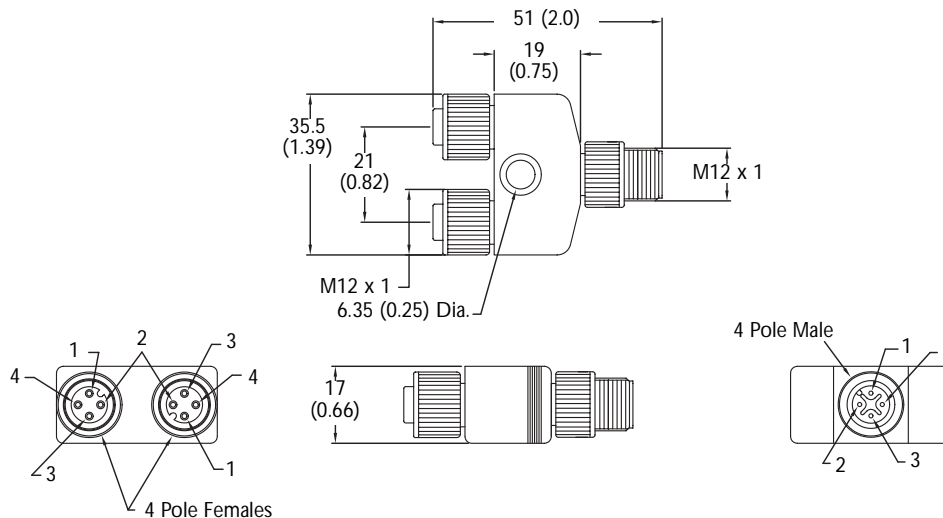
Features

- T-Port/Splitter designed for use with dual-channel safety devices with 4-pin DC micro connector
- PUR body offers good oil and chemical resistance
- Ratcheting coupling nut for vibration resistance
- For use in category 2 or 3 systems per EN 954-1

Product Selection

Face View of Female (2)	Rating	Face View of Male (1)	Configuration	Wiring	Catalogue Number
	10-30V DC 3A		2 Normally Closed		898D-43LY-D4
			1 Normally Open 1 Normally Closed		898D-43KY-D4

Approximate Dimensions—mm (inches)



Dimensions are approximate. Illustrations are not drawn to scale.

Safety Connection Systems

Safety Wired Distribution Box, Dual-Channel N.C., No Enunciation

Specifications



Body	Red PBT
Connector Insert	PBT
Receptacle Shell	Nickel-plated brass
Contacts	Gold-plated palladium/nickel
Cable	Oil-resistant yellow PVC jacket, (3) 18AWG, (16) 22AWG conductors
Cable O.D.	9.8mm (0.39in)
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +105°C (-13°F to +221°F)

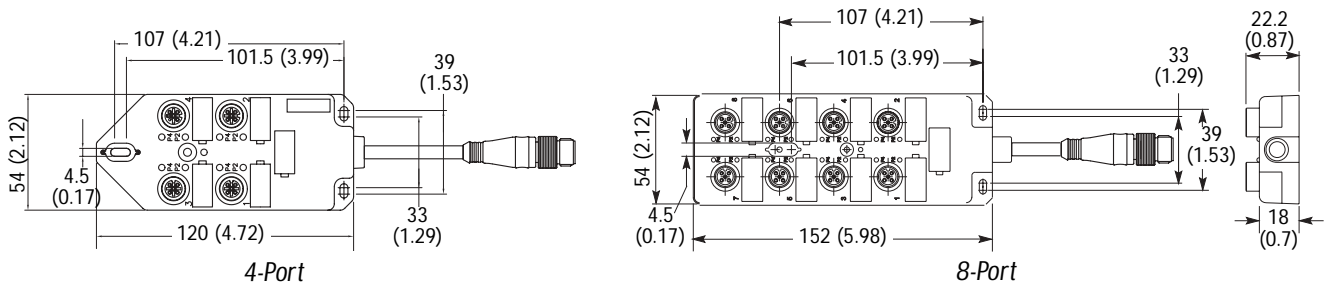
Features

- Prewired for dual-channel N.C. safety
- 4 or 8 safety wired 4-pin DC micro connectors
- 4-pin male DC micro pigtail main connection
- For use in category 2 or 3 systems per EN 954-1

Product Selection

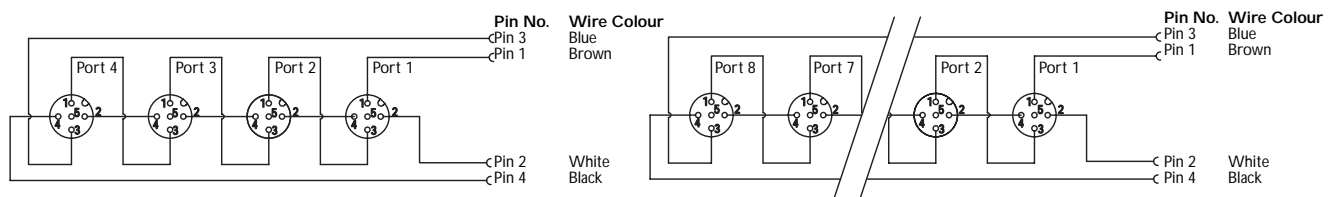
Face View of Female	Number of Ports	Illuminated	Rating	Face View of Male (1)	Cable Length—m (inches)	Catalogue Number
	4	No LED	10-30V DC		0.2 (8)	898D-44LT-DM4
	8					898D-48LT-DM4
Shorting Plug for unused ports						898D-41LU-DM
Patchcord, straight to straight DC Micro, ⊗ = length in meters 1, 2, 3, 5, 10 standard						889D-F4ACDM-⊗

Approximate Dimensions—mm (inches)



Dimensions are approximate. Illustrations are not drawn to scale.

Wiring Diagrams



Allen-Bradley HMIs

Safety Connection Systems

Safety Wired Distribution Box, Dual-Channel N.C./N.O., No Enunciation



Specifications

Body	Red PBT
Connector Insert	PBT
Receptacle Shell	Nickel-plated brass
Contacts	Gold-plated palladium/nickel
Cable	Oil-resistant yellow PVC jacket, (3) 18AWG, (16) 22AWG conductors
Cable O.D.	9.8mm (0.39in)
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +105°C (-13°F to +221°F)

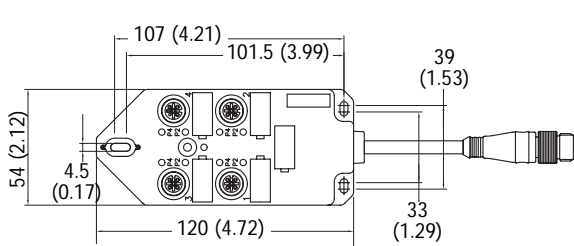
Features

- Prewired for dual-channel (one N.O./one N.C.) safety
- 4 or 8 safety-wired 4-pin DC micro connectors
- 4-pin male DC micro pigtail main connection
- For use in category 2 or 3 systems per EN 954-1

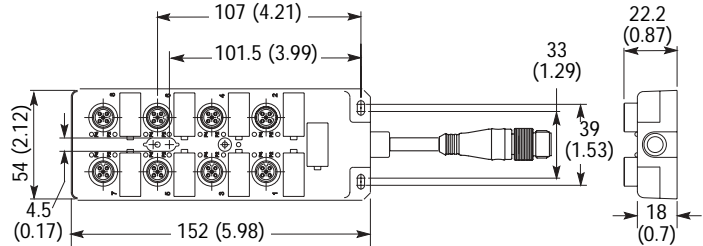
Product Selection

Face View of Female	Number of Ports	Illuminated	Rating	Face View of Male (1)	Cable Length—m (inches)	Catalogue Number
	4	No LED	10-30V DC		0.2 (8)	898D-44KT-DM4
	8					898D-48KT-DM4
Shorting Plug for unused ports						898D-41KU-DM
Patchcord, straight to straight DC Micro, ⊗ = length in meters 1, 2, 3, 5, 10 standard						889D-F4ACDM-⊗

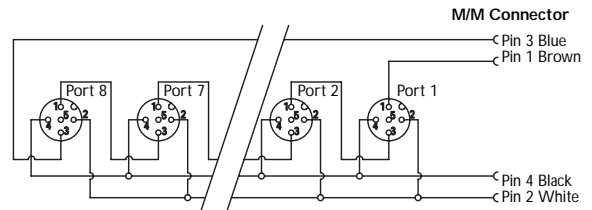
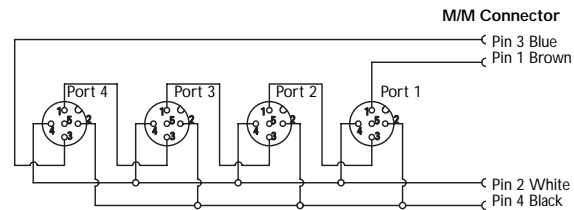
Approximate Dimensions—mm (inches)



Dimensions are approximate. Illustrations are not drawn to scale.



Wiring Diagrams



Safety Connection Systems

Safety Wired Distribution Box, Single-Channel N.C. plus Individual N.O. Enunciation



Specifications

Body	Red PBT
Connector Insert	PBT
Receptacle Shell	Nickel-plated brass
Contacts	Gold-plated palladium/nickel
Cable	Oil-resistant yellow PVC jacket, (12) 18AWG conductors
Cable O.D.	9.8mm (0.39in)
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +105°C (-13°F to +221°F)

Features

- Prewired for single-channel (N.C.) safety with enunciation
- 8 safety-wired 4-pin DC micro connectors
- Individual enunciation output for each port
- For use in category 2 or 3 systems per EN 954-1

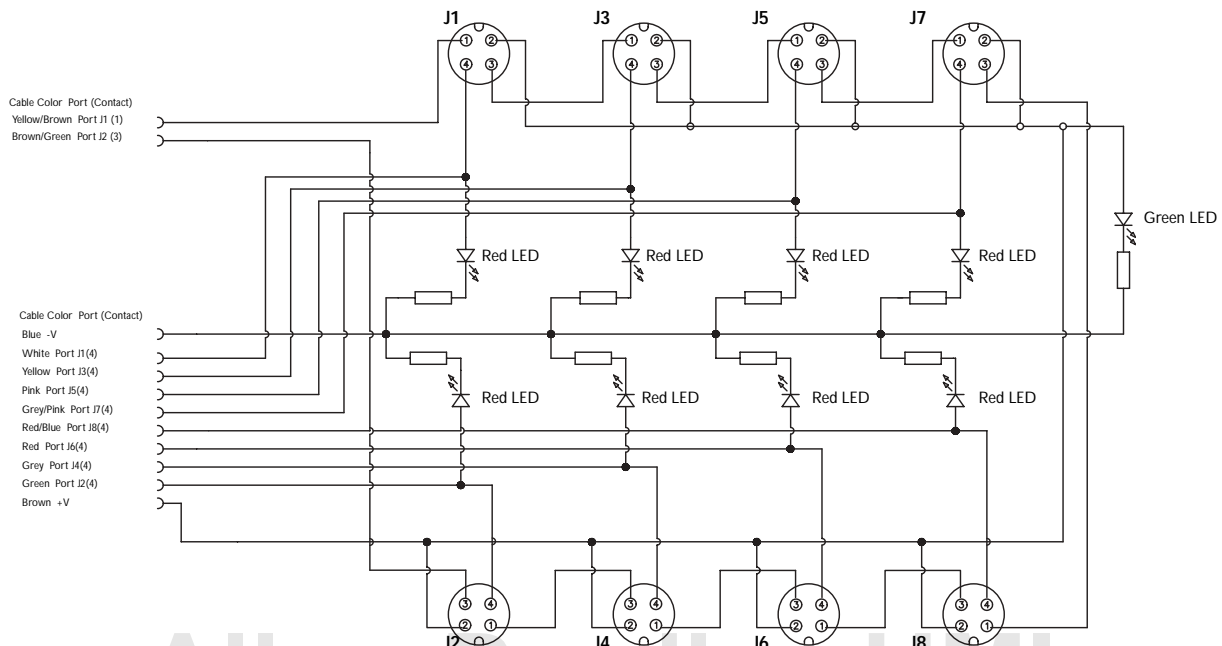
Product Selection

Face View of Female	Number of Ports	Illuminated	Rating	Face View of Male (1)	Cable Length—m (ft)	Catalogue Number
	8	No LED	10-30V DC	Cable	5 (16.4)	898D-P48JT-A5
					10 (32.8)	898D-P48JT-A10
Shorting Plug for unused ports						898D-41KU-DM
Patchcord, straight to straight DC Micro, ⊗ = length in meters 1, 2, 3, 5, 10 standard						889D-F4ACDM-⊗

Approximate Dimensions—mm (inches)

See 8-port dimensions on page 15-5.

Wiring Diagrams



Allen-Bradley HMI

Safety Connection Systems

Safety Wired Distribution Box, 8-Port, Dual-Channel (2 N.C.) plus Individual N.O. Enunciation



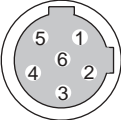
Specifications

Body	Red PBT
Connector Insert	PBT
Receptacle Shell	Nickel-plated brass
Contacts	Gold-plated palladium/nickel
Cable	Oil resistant yellow PVC jacket, (14) 18AWG conductors
Cable O.D.	9.8mm (0.39in)
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +105°C (-13°F to +221°F)

Features

- Prewired for dual-channel N.C. safety plus individual N.O. enunciation
- Eight 6-pin AC micro connectors
- 14-conductor main cable
- Individual enunciation outputs or each port
- For use in category 2 or 3 systems per EN 954-1

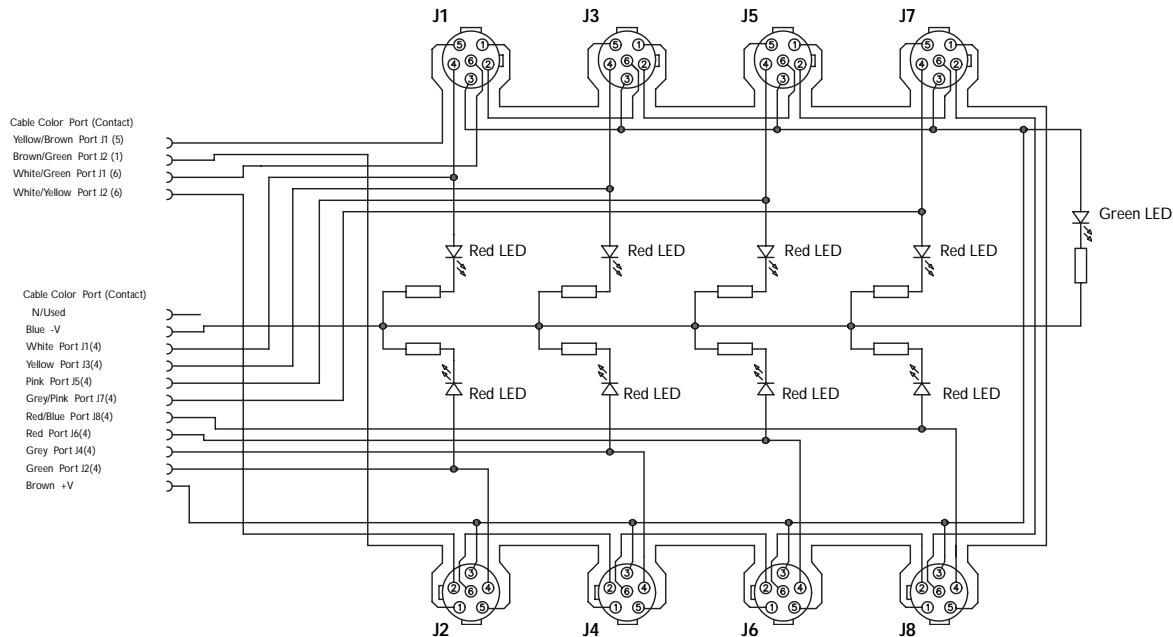
Product Selection

Face View of Female (8)	Number of Ports	Illuminated	Rating	Face View of Male (1)	Cable Length—m (ft)	Catalogue Number
	8	LEDs	10-30V DC	Cable	5 (16.4)	898R-P68MT-A5
					10 (32.8)	898R-P68MT-A10
Shorting Plug for unused ports						898R-61MU-RM
Patchcord, straight to straight DC Micro, ⊗ = length in meters 1, 2, 3, 5, 10 standard						889R-F6ECRM-⊗

Approximate Dimensions—mm (inches)

See 8-port dimensions on page 15-5.

Wiring Diagrams





Specifications

Coupling Nut	4-pin: epoxy-coated zinc 6-pin: nickel-plated brass
Connector	Red PVC
Connector Insert	PUR
Contacts	Brass, gold over nickel plating
O-Ring	Viton
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +105°C (-13°F to +221°F)

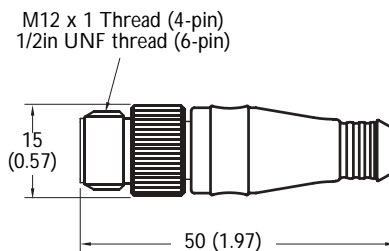
Features

- Shorting plug designed for use with safety-wired distribution boxes
- PVC body offers good oil and chemical resistance
- Ratcheting coupling nut on 4-pin models for vibration resistance

Product Selection

Face View of Male	Rating	Configuration	Wiring	Catalogue Number
	10-30V DC 4A	2 Normally Closed	Pin 1 _____ Pin 2 _____ Pin 3 _____ Pin 4 _____	898D-41LU-DM
		1 Normally Closed, 1 Normally Open	Pin 1 _____ Pin 2 — NA Pin 3 _____ Pin 4 — NA	898D-41KU-DM
		2 Normally Closed, 1 Normally Open	Pin 1 _____ Pin 2 _____ Pin 3 — NA Pin 4 — NA Pin 5 _____ Pin 6 _____	898R-61MU-RM

Approximate Dimensions—mm (inches)



Dimensions are approximate. Illustrations are not drawn to scale.

Cordsets and Patchcords

DC Micro Quick-Disconnect Cordset



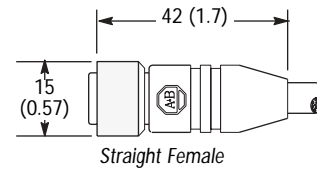
Features

- 4-, 5- or 8-pin configuration
- Overmolded connector construction for application durability
- Ratcheting coupling nut for vibration resistance

Specifications

Coupling Nut	Epoxy-coated zinc
Connector	Molded oil resistant PVC or PUR
Contacts	Gold over nickel-plated brass
Cable O.D.	4/c = 5mm (0.21in) 5/c = 6.5mm (0.25in) 7/c = 7.4mm (0.29in) 8/c = 7.4mm (0.29in)
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +105°C (-4°F to +221°F): PVC -25°C to +125°C (-13°F to +256°F): TPR -20°C to +85°C (-4°F to +185°F): PUR

Approximate Dimensions—mm (inches)



Dimensions are approximate. Illustrations are not drawn to scale.

Product Selection

Female Connector (Sensor End)		Cable				Catalogue Number	
Face View of Female	Connector Style	Wire Colour	Wire Rating	Jacket Material	Length—m (ft)		
	Straight	1 Brown 2 White 3 Blue 4 Black	22AWG 300V 3A	Yellow PVC	2 (6.5)	889D-F4AC-2	
					5 (16.4)	889D-F4AC-5	
					10 (32.8)	889D-F4AC-10	
					15 (49.2)	889D-F4AC-15	
					20 (65.6)	889D-F4AC-20	
30 (98.4)		889D-F4AC-30					
		1 Brown 2 White 3 Blue 4 Black 5 Grey		24AWG 36V DC/ 30V AC 1.5A	Black TPR	2 (6.5)	889D-F5AC-2
						5 (16.4)	889D-F5AC-5
						10 (32.8)	889D-F5AC-10
						15 (49.2)	889D-F5AC-15
	20 (65.6)		889D-F5AC-20				
30 (98.4)	889D-F5AC-30						
	1 Red 2 Blue 3 Green 4 Yellow 5 Black 6 White 7 NA 8 Grey	Black PUR	2 (6.5)	889D-F8AC-2			
			5 (16.4)	889D-F8AC-5			
			10 (32.8)	889D-F8AC-10			
			15 (49.2)	889D-F8AC-15			
	20 (65.6)		889D-F8AC-20				
	30 (98.4)		889D-F8AC-30				
	1 White 2 Brown 3 Green 4 Yellow 5 Grey 6 Pink 7 Blue 8 Red		2 (6.5)	889D-F8AB-2			
			5 (16.4)	889D-F8AB-5			
10 (32.8)		889D-F8AB-10					
15 (49.2)		889D-F8AB-15					
20 (65.6)	889D-F8AB-20						
30 (98.4)	889D-F8AB-30						

Cordsets and Patchcords

AC Micro (Dual Keyway) Style Quick-Disconnect Cordset



Specifications

Coupling Nut	Nickel-plated brass
Connector	Molded oil-resistant PVC
Contacts	Gold-plated palladium/nickel
Cable	Yellow oil-resistant PVC jacket, 22AWG conductors, 300V, UL recognized and CSA certified
Cable O.D.	7.4mm (0.29in)
Enclosure Rating	IP 67, NEMA 6P
Temperature	-20°C to +105°C (-4°F to +221°F)

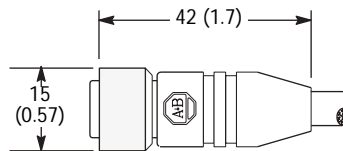
Features

- UL recognized and CSA certified
- Highly visible yellow PVC jacket offers good oil and chemical resistance

Product Selection

Female Connector (Sensor End)		Cable			Catalogue Number
Face View of Female	Connector Style	Wire Colour	Wire Rating	Length—m (ft)	
	Straight	1 Red/White Tr.	22AWG 300V 3A	2 (6.5)	889R-F6ACA-2
		2 Red		5 (16.4)	889R-F6ACA-5
		3 Green		10 (32.8)	889R-F6ACA-10
		4 Red/Yellow Tr.			
		5 Red/Black Tr.			
		6 Red/Blue Tr.			

Approximately Dimensions—mm (inches)



Straight Female

Dimensions are approximate. Illustrations are not drawn to scale.

Allen-Bradley HMIs

Connection Systems

Cordsets and Patchcords

Mini and Mini-Plus Style Quick-Disconnect, 4-pin, 5-pin, 7-pin and 8-pin Cordset



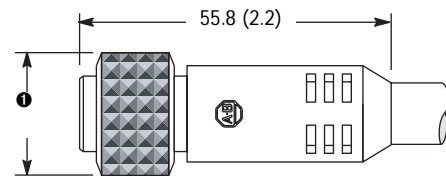
Features

- 4-, 5-, 7- and 8-pin configurations
- One-piece molded body design for application durability
- Highly visible yellow PVC jacket offers good oil and chemical resistance
- Ratcheting coupling nut for vibration resistance

Specifications

Coupling Nut	Epoxy-coated zinc
Connector	Molded oil-resistant PVC
Contacts	Gold-plated palladium/nickel
Approvals	UL recognized and CSA certified
Cable	Oil-resistant, yellow PVC jacket, 300V
Cable O.D.	4/c = 7.4mm (0.29in) 5/c = 7.4mm (0.29in) 7/c = 8.0mm (0.32in) 8/c = 9.0mm (0.35in)
Temperature	-20°C to +105°C (-4°F to +221°F)

Approximate Dimensions—mm (inches)



Straight Female

- 1 Mini: 25.4 (1.0) Dia.
- Mini-Plus: 28.4 (1.12) Dia.

Dimensions are approximate. Illustrations are not drawn to scale.

Product Selection—Mini

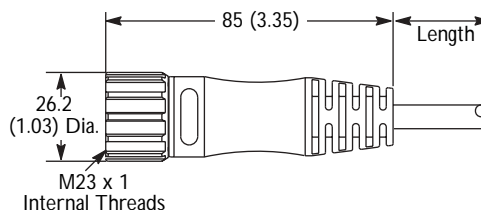
Female Connector (Sensor End)			Cable			Catalogue Number	
Face View of Female	Connector Style	Body Size	Wire Colour	Wire Rating	Length—m (ft)		
	Straight	Mini	1 Black 2 Blue 3 Brown 4 White	18AWG 300V 3A	1.8 (6)	889N-F4AE-6F	
	Right Angle				3.7 (12)	889N-F4AE-12F	
Right Angle					6.1 (20)	889N-F4AE-20F	
	Right Angle				1.8 (6)	889N-R4AE-6F	
Right Angle			3.7 (12)		889N-R4AE-12F		
	Right Angle		6.1 (20)		889N-R4AE-20F		
			Straight		Mini	1 Black 2 Blue 3 Grey 4 Brown 5 White	1.8 (6)
	Right Angle		3.7 (12)				889N-F5AE-12F
Right Angle		6.1 (20)	889N-F5AE-20F				
	Right Angle	1.8 (6)	889N-R5AE-6F				
Right Angle		3.7 (12)	889N-R5AE-12F				
	Right Angle	6.1 (20)	889N-R5AE-20F				
		Straight	Mini-Plus	1 Black 2 White 3 Blue 4 Brown 5 Grey 6 Yellow 7 Green		(5) 18AWG	2 (6.5)
	(2) 20AWG					5 (16.4)	889N-F7AG-5
	300V				10 (32.8)	889N-F7AG-10	
	3A				15 (49.2)	889N-F7AG-15	
					20 (65.6)	889N-F7AG-20	
					30 (98.4)	889N-F7AG-30	
	Straight	Mini-Plus		1 Red 2 White 3 Blue 4 Brown 5 Grey 6 Yellow 7 Green 8 Pink	18AWG 300V 3A	2 (6.5)	889N-F8AE-2
						5 (16.4)	889N-F8AE-5
						10 (32.8)	889N-F8AE-10
						15 (49.2)	889N-F8AE-15
						20 (65.6)	889N-F8AE-20
						30 (98.4)	889N-F8AE-30



Specifications

Coupling Nut	Nickel-plated brass
Connector	Molded oil-resistant PUR
Contacts	Gold-plated palladium/nickel
Cable	Oil resistant yellow PVC jacket, 18AWG conductors, 60V
Cable Approvals	UL recognized and CSA certified
Cable O.D.	9/c: 9.3mm (0.37) 12/c: 10mm (0.41in)
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +80°C (-4°F to +176°F)

Approximate Dimensions—mm (inches)



Dimensions are approximate. Illustrations are not drawn to scale.

Features

- 12-pin configuration for SafeShield light curtains and other applications
- 12 conductor and 9 conductor versions
- Highly visible yellow PVC jacket offers good oil and chemical resistance

Product Selection

Female Connector		Cable			Catalogue Number
Face View of Female	Connector Style	Wire Colour	Wire Rating	Length—m (ft)	
	Straight	1 Brown	18AWG 60V 4A	2 (6.5)	889M-F12AH-2
		2 Blue		5 (16.4)	889M-F12AH-5
		3 Grey		10 (32.8)	889M-F12AH-10
		4 Pink		15 (49.2)	889M-F12AH-15
		5 Red		20 (65.6)	889M-F12AH-20
		6 Yellow		30 (98.4)	889M-F12AH-30
		7 White		2 (6.5)	889M-F12X9AE-2
		8 Red/Blue		5 (16.4)	889M-F12X9AE-5
		9 Black		10 (32.8)	889M-F12X9AE-10
		10 Violet		15 (49.2)	889M-F12X9AE-15
		11 Grey/Pink		20 (65.6)	889M-F12X9AE-20
		12 Green		30 (98.4)	889M-F12X9AE-30

Connection Systems

Cordsets and Patchcords

M23 Style, Male to Female, 12-Pin Patchcord



Specifications

Coupling Nut	Nickel-plated brass
Connector	Molded oil-resistant PUR
Contacts	Gold-plated palladium/nickel
Cable	Oil resistant yellow PVC jacket, 18AWG conductors, 60V
Cable Approvals	UL recognized and CSA certified
Cable O.D.	10mm (0.41in)
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +80°C (-4°F to +176°F)

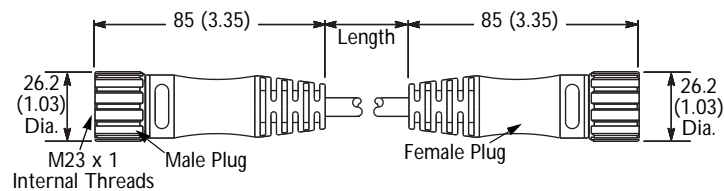
Features

- 12-pin configuration for SafeShield light curtains and other applications
- Highly visible yellow PVC jacket offers good oil and chemical resistance

Product Selection

Female Connector (Sensor End)		Cable		Male Connector		Catalogue Number
Face View of Female	Connector Style	Wire Rating	Length—m (ft)	Face View of Male	Connector Style	
	Straight	18AWG 60V 4A	0.3 (1)		Straight	889M-F12AHMU-0M3
			0.6 (2)			889M-F12AHMU-0M6
			1 (3.3)			889M-F12AHMU-1
			2 (6.5)			889M-F12AHMU-2
			3 (9.8)			889M-F12AHMU-3

Approximate Dimensions—mm (inches)



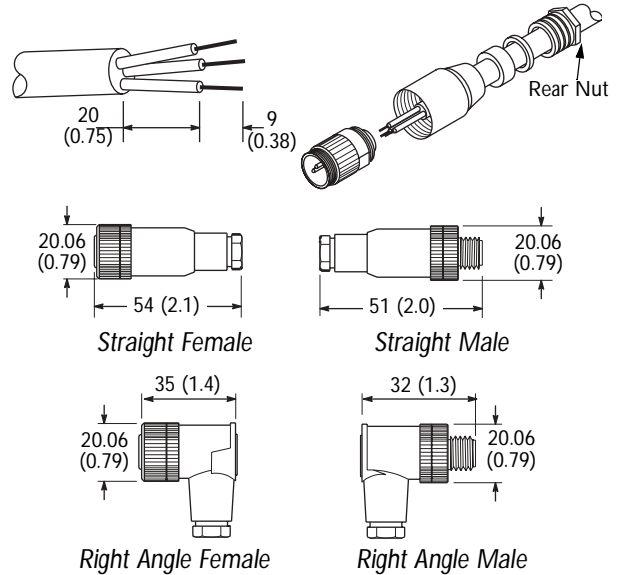
Dimensions are approximate. Illustrations are not drawn to scale.



Specifications

Coupling Nut	Nickel-plated brass
Connector Shell	Nylon
Contacts	Gold-plated palladium nickel
Maximum Wire Size	18AWG (0.75mm ²)
Enclosure	NEMA 6; IP67 (IEC 529)
Temperature	-40°C to 90°C (-40°F to 194°F)

Approximate Dimensions—mm (inches)



Features

- Field installable
- 4- or 5-pin DC micro style
- Straight or right angle versions
- Screw terminals provide simple and secure installation
- Allows easy modification of existing cable installations

Product Selection

Dimensions are approximate. Illustrations are not drawn to scale.

Style	Cable Diameter mm (inches)	Rating	Face View		Catalogue Number	
			Female	Male	Female	Male
Straight	4.0-6.0 (0.16-0.24)	250V 4A			871A-TS4-D	871A-TS4-DM
	6.0-8.0 (0.24-0.32)				871A-TS4-D1	871A-TS4-DM1
Right Angle	4.0-6.0 (0.16-0.24)				871A-TR4-D	871A-TR4-DM
Straight	6.0-8.0 (0.24-0.32)				871A-TS5-D1	871A-TS5-DM1
			Right Angle	871A-TR5-D1	871A-TR5-DM1	

Allen-Bradley HMIs

Connection Systems

Field Attachable Connectors

Insulation Displacement Connector, DC Micro Style



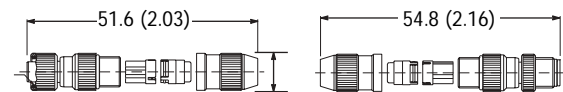
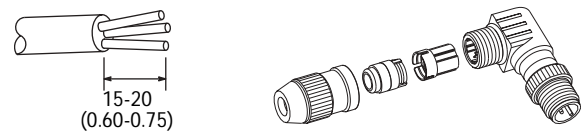
Specifications

Coupling Nut	Nickel-plated brass
Connector Shell	Nickel-plated brass
Connector Body	Hytrel Htr 8068
Field Contacts	Gold-plated palladium nickel
Enclosure	NEMA 6; IP67
Operating Temperature	-25°C to 85°C (-13°F to 185°F)
Installation Temperature	-5°C to 50°C (23°F to 185°F)
Maximum IDC Installations	10
Wire Outside Diameter	1.2mm-1.6mm (0.047in-0.063in)
Wire Size	24AWG-20AWG (min. individual strand size = 38AWG)

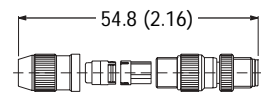
Features

- Field installable with no hand tools required
- 4-pin DC micro style
- Straight or right angle, male or female
- Allows easy modification of existing cable installations
- Insulation displacement technology for secure and reliable installation

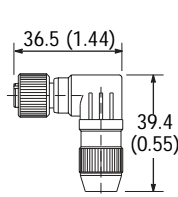
Approximate Dimensions—mm (inches)



Straight Female



Straight Male



Right Angle Female



Right Angle Male

Dimensions are approximate. Illustrations are not drawn to scale.

Product Selection

Style	Cable Diameter— mm (inches)	Rating	Face View		Catalogue Number	
			Female	Male	Female	Male
Straight	4.0 to 5.1 (0.16 to 0.20)	32V 4A			889D-F4DC-H	889D-M4DC-H
Right Angle					889D-R4DC-H	889D-E4DC-H

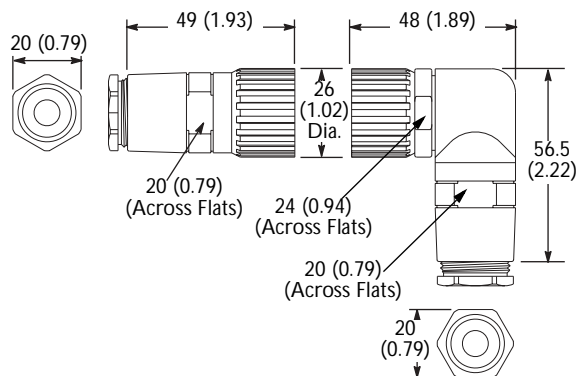
Connection Systems
Field Attachable Connectors
Solder Connector M23 Style



Specifications

Coupling Nut	Nickel-plated brass
Connector Shell	Nickel-plated brass
Contacts	Gold-plated palladium/nickel
Maximum Wire Size	18AWG (1.0mm ²)
Enclosure Rating	IP65
Temperature	-20°C to +105°C (-4°F to +221°F)

Approximate Dimensions—mm (inch)



Dimensions are approximate. Illustrations are not drawn to scale.

Features

- Straight or right angle, male or female
- 12-pin M23 style for standard connectivity
- Allows modification of existing cable installations and field creation of special cable lengths
- Solder connector for secure and reliable installation

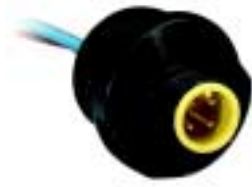
Product Selection

Connector Style	Cable Diameter— mm (inches)	Rating	Face View		Catalogue Number	
			Female	Male	Female	Male
Straight	10 to 14 (0.39 to 0.55)	60V 4A			889M-F12AH-T	889M-M12AH-T
Right Angle			889M-R12AH-T	889M-E12AH-T		

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Receptacles

DC Micro Male, 4-Pin, 5-Pin or 8-Pin



Specifications

Receptacle Shell	Nickel-plated brass
Connector Insert	Nylon
Contacts	Machined brass with gold over nickel plating
Wire insulation	Oil resistant PVC, 22AWG stranded copper, 300V
Temperature	-20°C to +105°C (-4°F to +221°F)

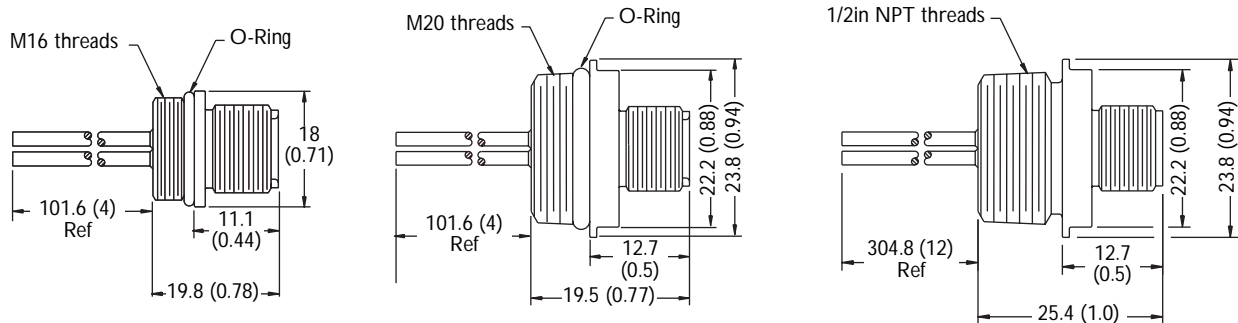
Features

- Male bulkhead receptacles
- 4-, 5- or 8-pin configuration
- M16, M20 or 1/2in -14NPT mounting threads

Product Selection

Face View of Male	Wire Colour	Wire Rating	Length—m (ft)	Panel Mount Threads	Drawing	Catalogue Number
	1 Brown 2 White 3 Blue 4 Black	22AWG 300V 3A	0.1 (0.3)	M16 x 1	A	888D-M4AC9-4N
				M20 x 1.5	B	888D-M4AC8-4N
	1 Brown 2 White 3 Blue 4 Black 5 Grey	22AWG 300V 3A	0.1 (0.3)	M16 x 1	A	888D-M5AC9-4N
				M20 x 1.5	B	888D-M5AC8-4N
	1 Red 2 Blue 3 Green 4 Yellow 5 Black 6 White 7 N/C 8 Grey	24AWG 36V DC/30V AC 1.5A	0.1 (0.3)	M16 x 1	A	888D-M8AC9-4N
				M20 x 1.5	B	888D-M8AC8-4N

Approximate Dimensions—mm (inch)



Dimensions are approximate. Illustrations are not drawn to scale.



Specifications

Receptacle Shell	Nickel-plated brass
Connector Insert	Nylon
Contacts	Machined brass with gold over nickel plating
Wire insulation	Oil resistant PVC, 22AWG stranded copper, 300V
Temperature	-20°C to +105°C (-4°F to +221°F)

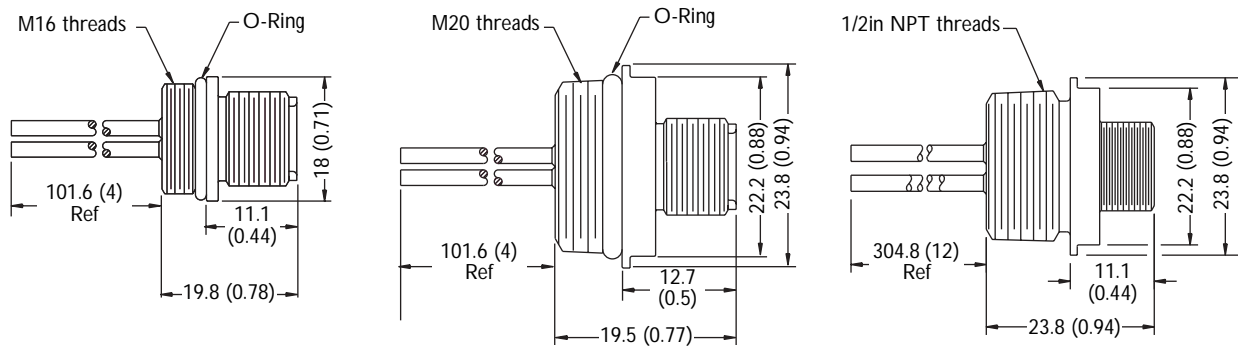
Features

- Male bulkhead receptacles
- 6-pin configuration
- M16, M20 or 1/2in -14NPT mounting threads

Product Selection

Face View of Male	Wire Colour	Wire Rating	Length—m (ft)	Panel Mount Threads	Drawing	Catalogue Number
	1 Red/White Tr	22AWG 300V 3A	0.1 (0.3)	M16 x 1	A	888R-M6AC9-4N
	2 Red			M20 x 1.5	B	888R-M6AC8-4N
	3 Green		1/2in-14NPT	C	888R-M6AC1-1F	
	4 Red/Yellow Tr					
	5 Red/Black Tr					
	6 Red/Blue Tr					

Approximate Dimensions—mm (inch)



Dimensions are approximate. Illustrations are not drawn to scale.

Allen-Bradley HMIs

Connection Systems

Receptacles

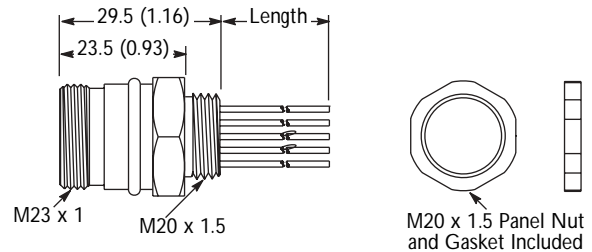
M23 Male, Panel Mount



Specifications

Receptacle Shell	Nickel-plated brass
Connector Insert	Nylon
Contacts	Machine brass with gold over nickel plating
Wire Insulation	Oil resistant PVC, 18AWG stranded copper, 300V
Cable Approvals	UL recognized and CSA certified
Enclosure Rating	IP67, NEMA 6P
Temperature	-20°C to +105°C (-4°F to +221°F)

Dimensions—mm (inches)



Features

- 18AWG conductors for ease of wiring
- 12-pin configuration provides standard connectivity
- M20 x 1.5 threads for convenient mounting to safety switches
- Mounting nut and rubber sealing washer included

Product Selection

Dimensions are approximate. Illustrations are not drawn to scale.

Face View of Male	Cable			Panel Mount Threads	Catalogue Number
	Wire Colour	Wire Rating	Length—m (ft)		
	1 Brown 2 Blue 3 Grey 4 Pink 5 Red 6 Yellow 7 White 8 Red/Blue 9 Black 10 Violet 11 Grey/Pink 12 Green	18AWG 60V 4A	0.15 (0.5)	M20 x 1.5	888M-M12AE-0F5
	1 Brown 2 NA 3 Blue 4 White 5 NA 6 Green 7 Yellow 8 Grey 9 Pink 10 Red 11 NA 12 Green/Yellow				888M-M12X9AE-0F5