

Safety Connection Systems

Bulletin Numbers 888D, 888R, 898D, 898R

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Summary of Changes

This publication contains updated pinout information in the [8-Pin, Two OSSD Signals Per Port, M23 Main Connector](#) section on [page 6](#).



Safety Wired T-port



Dual-Channel, No Enunciation

Specifications

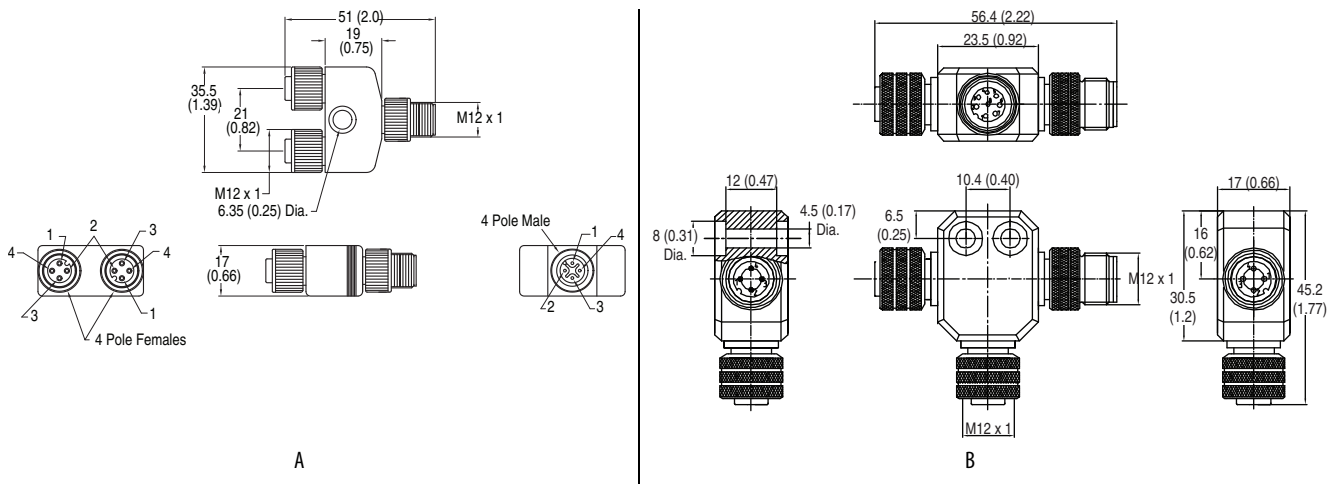
Attribute	Value
Connector Shell Material	Epoxy-coated zinc
Contact Material	Brass, gold over nickel plating
O-ring Material	Fluoroelastomer
Enclosure Type Rating	IP67, NEMA 6P
Operating Temperature	-20...+105 °C (-13...+221 °F)

Product Selection

Face View of Female	Rating	Face View of Male	Configuration	Wiring	Dimensions	Housing Material	Connector Insert Material	Cat. No.
	10...30V DC 3 A		2 N.C.		A	Red PUR	PUR	898D-43LY-D4
			1 N.O. & 1 N.C.		A	Red PUR	PUR	898D-43KY-D4
			For use with SensaGuard™ switches only		B	Black PVC	Polyamide	898D-438Y-D8

Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Safety Wired Distribution Boxes

Dual-channel, N.C., No Enunciation



Specifications

Attribute	Value
Housing Material	Red PBT
Connector Insert Material	PBT
Connector Shell Material	Nickel-plated brass
Contact Material	Gold-plated palladium/nickel
Cable Outer Diameter	9.8 mm (0.39 in.)
Cable Type	Oil-resistant yellow PVC jacket, 22 AWG conductors
Enclosure Type Rating	IP67
Operating Temperature	-20...+105 °C (-13...+221 °F)

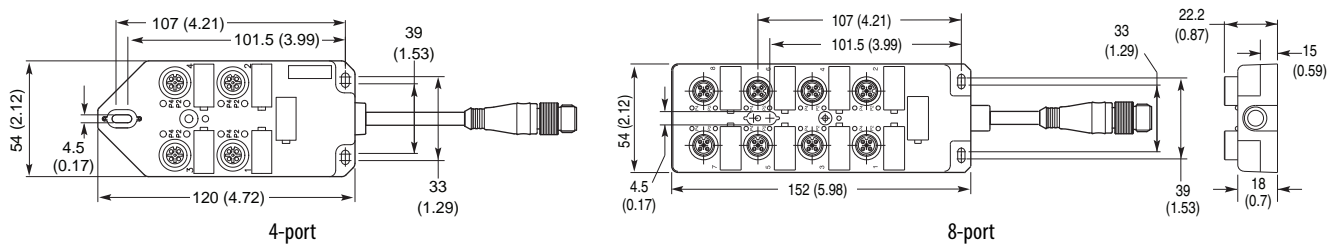
Product Selection

Face View of Female	Ports	Illuminated	Rating	Face View of Male	Cable Length	Cat. No.
	4	No status indicator	10...30V DC		0.2 m (8 in.)	898D-44LT-DM4
	8					8 898D-48LT-DM4
Shorting plug for unused ports						898D-41LU-DM
Patchcord, straight to straight DC Micro						889D-F4ACDM-x ⁽¹⁾

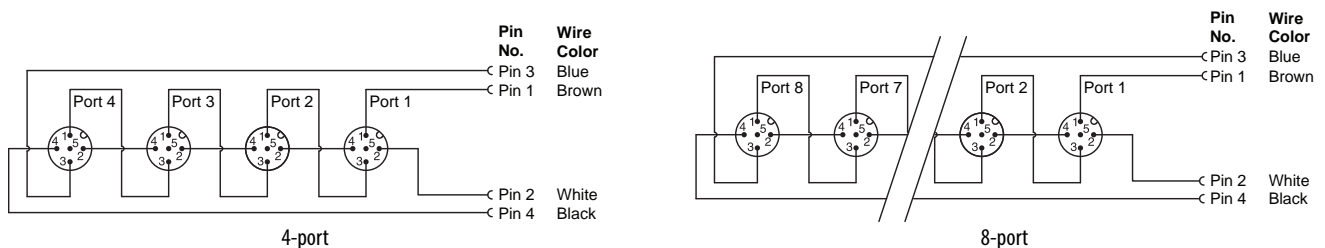
(1) The x represents the length in meters (1, 2, 3, 5, 10 standard).

Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Wiring Diagrams



Dual-channel, N.C./N.O., No Enunciation



Specifications

Attribute	Value
Housing Material	Red PBT
Connector Insert Material	PBT
Connector Shell Material	Nickel-plated brass
Contact Material	Gold-plated palladium/nickel
Cable Outer Diameter	9.8 mm (0.39 in.)
Cable Type	Oil-resistant yellow PVC jacket, 22 AWG conductors
Enclosure Type Rating	IP67
Operating Temperature	-20...+105 °C (-13...+221 °F)

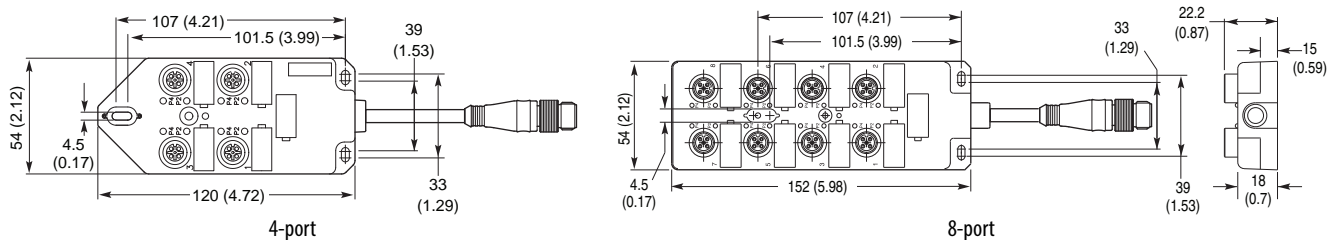
Product Selection

Face View of Female	Ports	Illuminated	Rating	Face View of Male	Cable Length	Cat. No.
	4	No status indicator	10...30V DC		0.2 m (8 in.)	898D-44LT-DM4
	8					898D-48LT-DM4
Shorting plug for unused ports						898D-41LU-DM
Patchcord, straight to straight DC Micro						889D-F4ACDM-x ⁽¹⁾

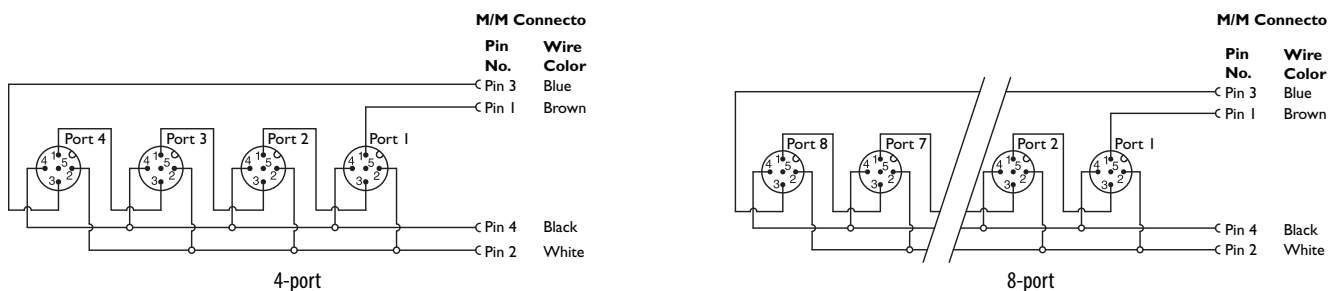
(1) The x represents the length in meters (1, 2, 3, 5, 10 standard).

Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Wiring Diagrams



Single-channel, N.C. plus Individual N.O. Enunciation



Specifications

Attribute	Value
Housing Material	Red PBT
Connector Insert Material	PBT
Connector Shell Material	Nickel-plated brass
Contact Material	Gold-plated palladium/nickel
Cable Outer Diameter	9.8 mm (0.39 in.)
Cable Type	Oil-resistant yellow PVC jacket, (12) 18 AWG conductors
Enclosure Type Rating	IP67
Operating Temperature	-20...+105 °C (-13...+221 °F)

Product Selection

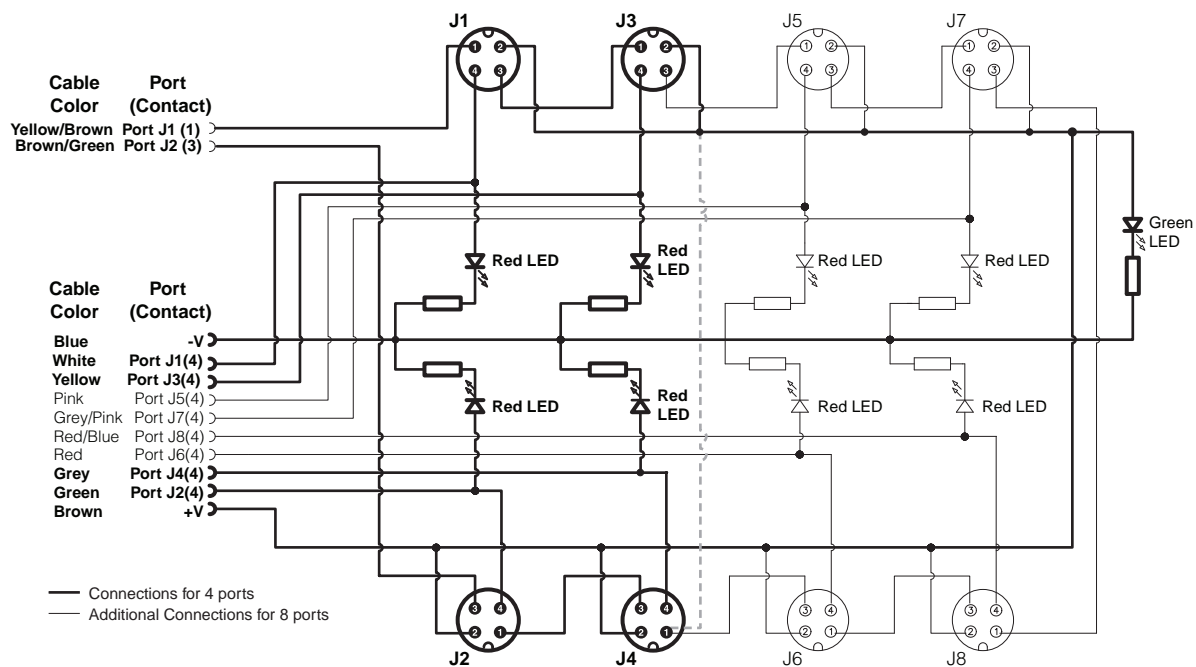
Face View of Female	Ports	Illuminated	Rating	Face View of Male	Cable Length	Cat. No.
	4	Status indicators	10...30V DC	Cable	5 m (16.4 ft)	898D-P44JT-A5
					10 m (32.8 ft)	898D-P44JT-A10
	8				5 m (16.4 ft)	898D-P48JT-A5
					10 m (32.8 ft)	898D-P48JT-A10
Shorting plug for unused ports						898D-41KU-DM
Patchcord, straight to straight DC Micro						889D-F4ACDM-x ⁽¹⁾

(1) The x represents the length in meters (1, 2, 3, 5, 10 standard).

Approximate Dimensions

See 8-port dimensions on [page 3](#).

Wiring Diagrams



8-Pin, Two OSSD Signals Per Port, M23 Main Connector



Specifications

Attribute	Value
Certifications	UL Recognized and CSA Certified
Material	Red Pocan
Connector Insert Material	PBT
Receptacle Shell Material	Zinc die-cast with nickel plating
Contact Material	Gold-plated palladium/nickel
Main Connector Style	19-pin M23
Enclosure Type Rating	IP67; 1200 psi washdown
Operating Temperature	-20...+90 °C (-4...+194 °F)

Product Selection

Face View of Female	Ports	Illuminated	Rating	Face View of Male	Cat. No.
	4	PNP status indicator	10...30V DC		898D-P84RT-M19
	8				898D-P88RT-M19
8-pin shorting plug					898D-81RU-DM
8-pin field attachable connector-straight					871A-TS8-DM1
Sealing caps					1485A-M12
Labels					1492-MS9X20
Device patchcords (straight to straight)					889D-F8ABDM-x ⁽¹⁾
Homerun patchcord for 4- or 8-port (right-angle female to straight male)					889M-R19RMMU-x ⁽¹⁾
Homerun cordset for 4- or 8-port (right-angle female to flying leads)					889M-R19RM-x ⁽¹⁾

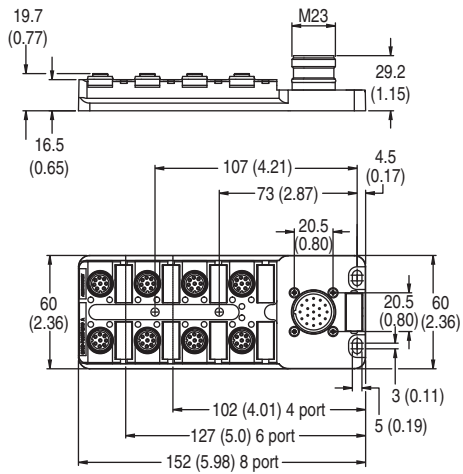
(1) The x represents the length in meters (1, 2, 3, 5, 10 standard).

Pinout

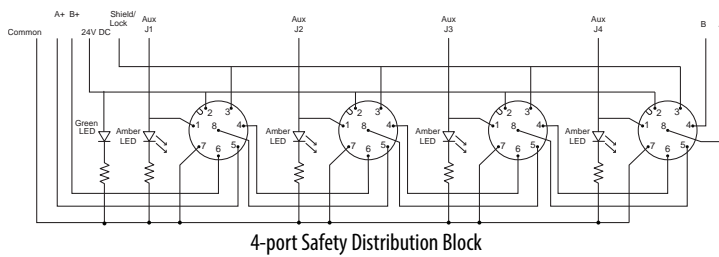
Device Connection		Main Connection		
4-port (2 OSSD)	8-port (2 OSSD)	Description	Color	M23 Connector (Male 19-pin)
(+) All Ports Pin 2	(+) All Ports Pin 2	+24V DC	Brown	19
(-) All Ports Pin 7	(-) All Ports Pin 7	Common	Blue	6
Ground	Ground	Ground	Green/Yellow	12
Pin 5	Pin 5	Safety A (OSSD)	Gray	17
Pin 8	Pin 8	Safety A+ (OSSD)	Red	2
Pin 6	Pin 6	Safety B (OSSD)	Pink	3
Pin 4	Pin 4	Safety B+ (OSSD)	Yellow	16
Port 1 Pin 1	Port 1 Pin 1	Aux J1	Gray/Pink	7
Port 2 Pin 1	Port 2 Pin 1	Aux J2	Red/Blue	4
Port 3 Pin 1	Port 3 Pin 1	Aux J3	White/Green	8
Port 4 Pin 1	Port 4 Pin 1	Aux J4	Brown/Green	14
—	Port 5 Pin 1	Aux J5	White/Yellow	9
—	Port 6 Pin 1	Aux J6	Yellow/Brown	13
—	Port 7 Pin 1	Aux J7	White/Gray	10
—	Port 8 Pin 1	Aux J8	Gray/Brown	18
Pin 3	Pin 3	Lock Command	Black	11

Approximate Dimensions

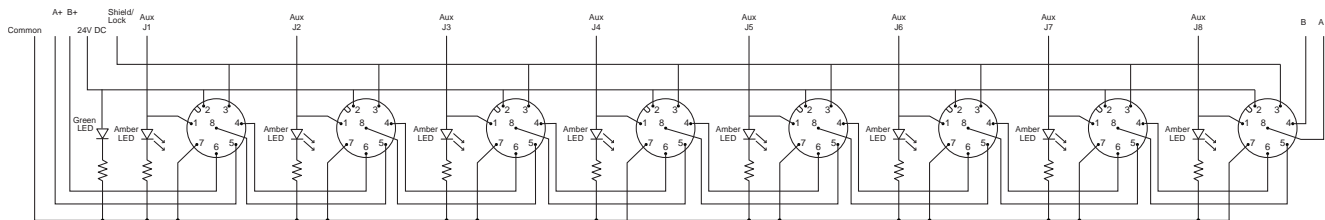
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Wiring Diagrams



4-port Safety Distribution Block



8-port Safety Distribution Block

- TIP**
- When light curtain is used, connect the receiver to J1 connector only.
 - Do not connect 24V DC to “A+” (pin 2) and “B+” (pin 16) on the M23 cordset when using a light curtain.
 - Check system response time when using a light curtain.

8-Port, Dual-channel, (2 N.C.) plus Individual N.O. Enunciation



Specifications

Attribute	Value
Housing Material	Red PBT
Connector Insert Material	PBT
Connector Shell Material	Nickel-plated brass
Contact Material	Gold-plated palladium/nickel
Cable Outer Diameter	9.8 mm (0.39 in.)
Cable Type	Oil-resistant yellow PVC jacket, (6) 19 AWG conductors, and (8) 22 AWG conductors
Enclosure Type Rating	IP67
Operating Temperature	-20...+105 °C (-13...+221 °F)

Product Selection

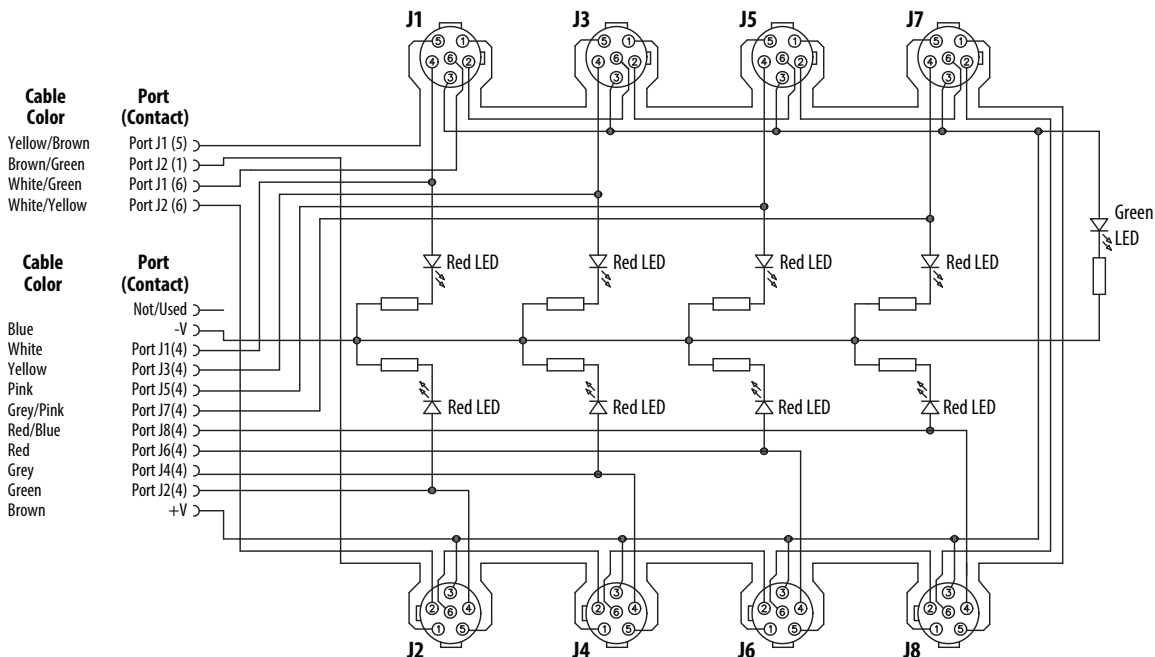
Face View of Female	Ports	Illuminated	Rating	Face View of Male	Cable Length	Cat. No.
	8	Status indicators	10...30V DC	Cable	5 m (16.4 ft)	898R-P68MT-A5
					10 m (32.8 ft)	898R-P68MT-A10
Shorting plug for unused ports						898R-61MU-RM
Patchcord, straight to straight DC Micro						889R-F6ECRM-x ⁽¹⁾

(1) The x represents the length in meters (1, 2, 3, 5, 10 standard).

Approximate Dimensions

See 8-port dimensions on [page 3](#).

Wiring Diagrams



Safety DC Micro and M12 Cordset



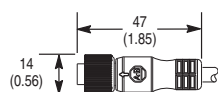
4-Pin DC Micro Cordset
18 and 22 AWG, Red PVC

Specifications

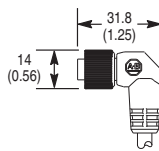
Attribute	Value
Certifications	UL Recognized and CSA Certified
Coupling Nut Material	Epoxy-coated zinc
Material	Molded oil-resistant PUR
Contact Material	Gold over nickel-plated brass
Cable Type	Oil-resistant PVC jacket, 18 & 22 AWG or 24 AWG conductors, 300V
Bend Radius	10x diameter
Cable Diameter	<ul style="list-style-type: none"> 4/c: 0.18 ± 0.01 mm (4.75 ± 0.25 in.) 5/c: 0.230 ± 0.02 mm (5.84 ± 0.25 in.) 8/c: 0.256 ± 0.01 mm (6.5 ± 0.25 in.) 19/c: 0.475 ± 0.10 mm (12.06 ± 0.25 in.)
Cable Rating	<ul style="list-style-type: none"> 4 & 5/c (PUR): UL AWM style 20866 VW-1 80C 300V, CSA AWM A/B I/II 80C 300V FT1, UV oil and water-resistant 8/c (PUR): UL AWM style 20866 90C 300V, CSA II A 90C 300V TPE: UL AWM style 20327 VW-1 105C 300V, CSA AWM A/B I/II 105C 300V FT1, UV oil- and water-resistant
Enclosure Type Rating	IP67, NEMA 6P, 1200 psi (8270 kPa) washdown, IP69K
Temperature Rating	-20...+105 °C (-4...+221 °F)

Approximate Dimensions

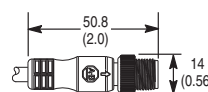
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



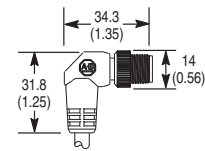
Straight female



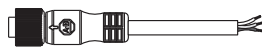
Right-angle female



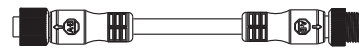
Straight male



Right-angle male



Cordset example



Patchcord example

Pinout and Color Code

Face View Pinout			
4-pin	5-pin	8-pin	19-pin
Female	Male	Female	Male
1 Brown 2 White 3 Blue 4 Black 5 —	1 Brown 2 White 3 Blue 4 Black 5 Gray	1 White 2 Brown 3 Green 4 Yellow 5 Gray 6 Pink 7 Blue 8 Red	1 Violet 2 Red 3 Gray 4 Red/Blue 5 Green ⁽¹⁾ 6 Blue ⁽¹⁾ 7 Gray/Pink 8 White/Green 9 White/Yellow 10 White/Gray 11 Black 12 Green/Yellow 13 Yellow/Brown 14 Brown/Green 15 White 16 Yellow 17 Pink 18 Gray/Brown 19 Brown ⁽¹⁾

(1) 18 AWG

Safety Wired Shorting Plug



Specifications

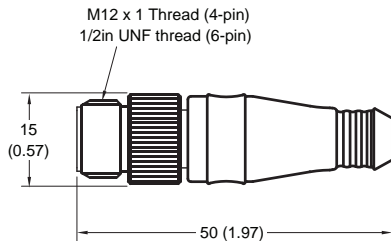
Attribute	Value
Connector Insert Material	PUR
Connector Shell Material	RED PVC
Contact Material	Brass, gold over nickel plating
O-ring Material	Fluoroelastomer
Enclosure Type Rating	IP67, NEMA 6P
Operating Temperature	-20...+105 °C (-13...+221 °F)

Product Selection

Face View of Male	Rating	Configuration	Wiring	Coupling Nut Material	Cat. No.
	10...30V DC 4 A	2 N.C.	Pin 1 — Pin 2 — Pin 3 — Pin 4 —	Epoxy-coated zinc	898D-41LU-DM
		1 N.O. & 1 N.C.	Pin 1 — Pin 2 —NA Pin 3 — Pin 4 —NA	Epoxy-coated zinc	898D-41KU-DM
		2 N.C. & 1 N.O.	Pin 1 — Pin 2 — Pin 3 —NA Pin 4 —NA Pin 5 — Pin 6 —	Nickel-plated brass	898D-61MU-RM
		For use with SensaGuard- compatible T-ports only	Pin 1 PWR Pin 2 QSSD 1+ Pin 3 NA Pin 4 QSSD 2+	Nickel-plated brass	898D-418U-DM
		2 OSSD	Pin 1 — Pin 2 — Pin 3 — Pin 4 — Pin 5 — Pin 6 — Pin 7 — Pin 8 —	Nickel-plated brass	898D-81RU-DM2

Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Receptacles, DC Micro



4-, 5-, 6-, or 8-pin

Specifications

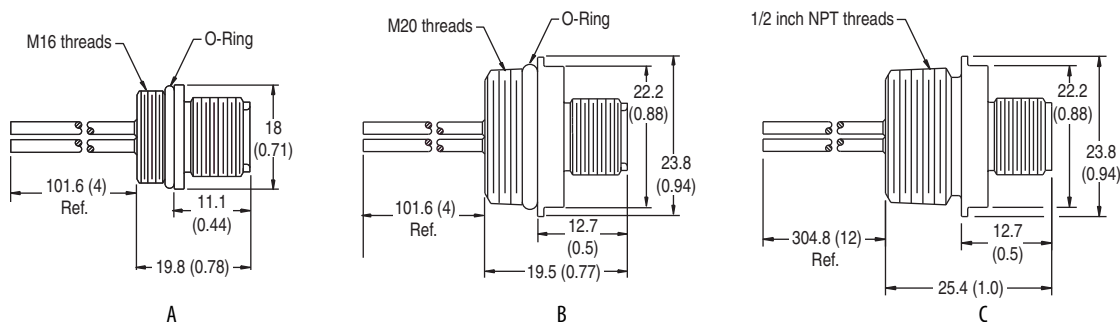
Attribute	Value
Connector Shell Material	Nickel-plated brass
Connector Insert Material	Nylon
Contact Type	Machined brass with gold over nickel plating
Wire Insulation	Oil-resistant PVC, 22 AWG stranded copper, 250V
Operating Temperature	-40...+105 °C (-40...+221 °F)
Enclosure Type Rating	NEMA 1, 3, 4, 6P and IEC IP68

Product Selection

Face View of Male	Wire Color	Wire Rating	Length [m (ft)]	Panel Mount Thread Size	Dimensions	Cat. No.
	1 Brown 2 White 3 Blue 4 Black	22 AWG 300V 3 A	0.1 (0.3)	M16 x 1	A	888D-M4AC9-4N
				M20 x 1.5	B	888D-M4AC8-4N
			0.3 (1)	1/2 inch-14 NPT	C	888D-M4AC1-0M3
			0.1 (0.3)	M16 x 1	A	888D-M5AC9-4N
	1 Brown 2 White 3 Blue 4 Black 5 Gray	22 AWG 300V 3 A	0.1 (0.3)	M16 x 1	A	888D-M5AC8-4N
				M20 x 1.5	B	888D-M5AC1-0M3
			0.3 (1)	1/2 inch-14 NPT	C	888D-M5AC1-0M3
			0.1 (0.3)	M16 x 1	A	888R-M6AC9-4N
	1 Red/White Tr 2 Red 3 Green 4 Red/Yellow Tr 5 Red/Black Tr 6 Red/Blue Tr	22 AWG 300V 3 A	0.3 (1)	M20 x 1.5	B	888R-M6AC8-4N
				1/2 inch-14 NPT	C	888R-M6AC1-0M3
	1 White 2 Brown 3 Green 4 Yellow 5 Gray 6 Pink 7 Blue 8 Red	24 AWG 36V DC/30V AC 1.5 A	0.1 (0.3)	M16 x 1	A	888D-M8AC9-4N
				M20 x 1.5	B	888D-M8AC8

Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Receptacles, AC Micro



Specifications

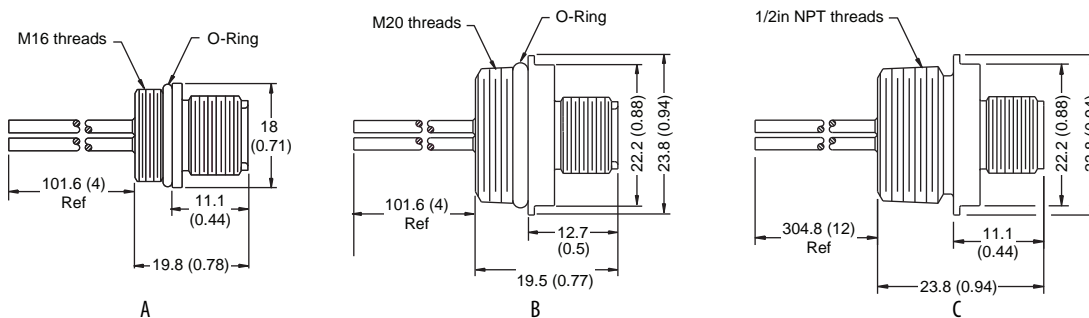
Attribute	Value
Certifications	UL Recognized and CSA Certified
Connector Shell Material	Nickel-plated brass
Connector Insert Material	Nylon
Contact Material	Gold-plated brass
Wire Insulation	Oil-resistant PVC, 22 AWG stranded copper, 300V
Operating Temperature	-40...+105 °C (-22...+221 °F)

Product Selection

Face View of Male	Wire Color	Wire Rating	Length [m (ft)]	Panel Mount Thread Size	Dimensions	Cat. No.
	1 Red/White Tr	22 AWG 300V 3 A	0.1 (0.3)	M16 x 1	A	888R-M6AC9-4N
	2 Red			M20 x 1.5	B	888R-M6AC8-4N
	3 Green		1/2 inch-14 NPT	C	888R-M6AC1-1F	
	4 Red/Yellow Tr					
	5 Red/Black Tr					
	6 Red/Blue Tr					

Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.rockwellautomation.com/global/certification/overview.page	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/global/literature-library/overview.page>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Rockwell Automation Support

Use the following resources to access support information.

Technical Support Center	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	www.rockwellautomation.com/knowledgebase
Local Technical Support Phone Numbers	Locate the phone number for your country.	www.rockwellautomation.com/global/support/get-support-now.page
Direct Dial Codes	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	www.rockwellautomation.com/global/support/direct-dial.page
Literature Library	Installation Instructions, Manuals, Brochures, and Technical Data.	www.rockwellautomation.com/literature
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	www.rockwellautomation.com/global/support/pcdc.page

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