

Sensor I/O Connectors (M12)

XS2

Waterproof FA Connectors Save Wiring and Maintenance Effort

- Compact FA connectors satisfy IP67 requirements and ensure a 94V-0 fire retardant rating.
- A wide array of connectors makes a wiring system more modular, simplifies maintenance, and reduces downtime.
- Connectors with Cables and Connector Assemblies are available.
- Three types of Connector Assembly: Crimping, soldering, and screw-on.
- UL-listed 4-conductor cables.



■ Ratings and Specifications

Rated current	3 A		
Rated voltage	125 VDC, 250 VAC		
Contact resistance (Connector)	40 mΩ max. (20 mV max., 100 mA max.)		
Insulation resistance	1,000 MΩ min. (at 500 VDC)		
Dielectric strength (Connector)	1,500 VAC for 1 min. (leakage current: 1 mA max.)		
Degree of protection	IP67 (IEC529)		
Insertion tolerance	200 times min.		
Assembled fixture strength	Tensile:	98 N/15 s	
	Torsion:	0.98 N-m/15 s	
Cable holding strength	Cable diameter:	6 mm	98 N for 15 s
		4 to 5 mm	49 N for 15 s
		3 mm	29 N for 15 s
Ambient temperature	Operating: -25°C to 70°C		

■ Materials and Finish

Item	Model	XS2F/H/W
Contacts	Materials	Phosphor bronze
	Finish	Nickel base, 0.4-μm gold plating
Fixtures	Materials	Brass *
	Finish	Nickel plated *
Pin Block	Materials	PBT resin (UL94V-0)
	Finish	For DC: light gray; for AC: dark gray
O-ring/rubber bushing		Rubber
Cover		Polyester elastomer
Cap		—
Cable clamp		—
Pin clamp		—
Lock spring		—
Watertight bushing		—
Ring		—

The T-joint of the XS2R is aluminum/white.

■ Socket Appearance

DC type		AC type	
Male contacts	Female contacts	Male contacts	Female contacts

Note: The AC and DC connectors are different as shown here and therefore cannot be connected together.

XS2F Sockets on One Cable End

■ Model Number Legend

XS2F- **2** - **0** -

1 2 3 4 5 6 7 8 9

1. Type

F: Connector connected to cable, socket on one cable end

2. AC/DC (Mating Section Form)

A: For AC

D: For DC

3. Connector Poles

4: 4 poles

5: 5 poles

4. Contact Plating

2: 0.4- μ m gold plating

5. Cable Connection Direction

2: L-shaped

6. Cable Length

A: 0.3 m

B: 0.5 m

C: 1 m

D: 2 m

E: 3 m

F: 4 m

G: 5 m

H: 7 m

J: 10 m

K: 15 m

L: 20 m

Only the 2 m (D) and 5 m (G) cables are available for cables with 5 poles.

7. Connections

Pin No.

	(1)	(2)	(3)	(4)
A: Brown	—	—	—	Blue (for DC)
B: —	—	Brown	—	Blue (for AC)

C: Brown	—	Blue	Black
D: —	—	Blue	Brown

8: Brown	White	Blue	Black (for DC)
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9: Brown	White	Blue	Black (for AC)
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Pin No.

	(1)	(2)	(3)	(4)	(5)
G: Brown	White	Blue	Black	Gray	

8. Connectors on One End/Both Ends

0: One end

9. Cable Specifications

A: Standard cable

Designations for DC Polarity (For Limit Switches and Sensors)

6. Cable Length

3: 2 m

4: 5 m

7. Connections

Terminal No.

(1)	(2)	(3)	(4)
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1: — — Black White

8. Connectors on One End/Both Ends

0: One end

9. Cable Specifications

Not designated.

Note: Model number standards are different for items 6, 7, and 9 for connectors with DC polarity.

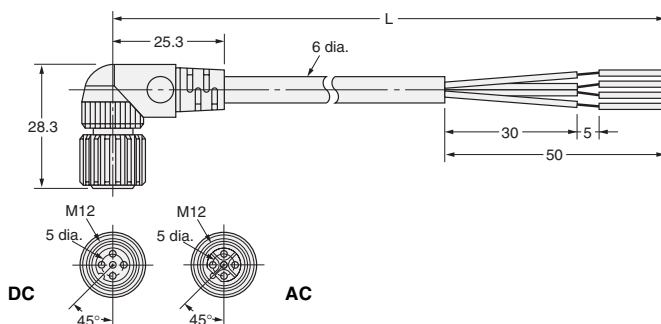
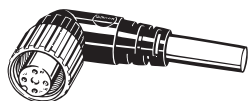
Use this model number legend to identify products from their model number. When ordering, use a model number from the table in Ordering Information.

XS2F Pre-wired Connectors with Socket on One End

■ Dimensions

(Unit: mm)

L-shaped Connectors



CAD Data

■ Wiring Diagram

Name and model		Two-conductor model	Three-conductor model	Four-conductor model
Standard cable	XS2F-□42□ -□□0-A			
Vibration-proof robot cable				

■ Ordering Information

Cable type	Cable connection direction	No. of cable conductors	Cable length (m)	DC	AC	Minimum order	UL-listed	
				Model	Model			
Standard cable	L-shaped	2	1	XS2F-D422-CA0-A	XS2F-A422-CB0-A	10	—	
				XS2F-D422-CC0-A	—		—	
				XS2F-D422-C80-A	—		Yes	
		2	2	2	XS2F-D422-DA0-A	XS2F-A422-DB0-A	5	—
					XS2F-D422-DC0-A	—		—
					XS2F-D422-D80-A	—		Yes
		2	5	5	XS2F-D422-GA0-A	XS2F-A422-GB0-A	5	—
					XS2F-D422-GC0-A	—		—
					XS2F-D422-G80-A	—		Yes
		2	10	10	XS2F-D422-JA0-A	XS2F-A422-JB0-A	5	—
					XS2F-D422-JC0-A	—		—
					XS2F-D422-J80-A	—		Yes

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