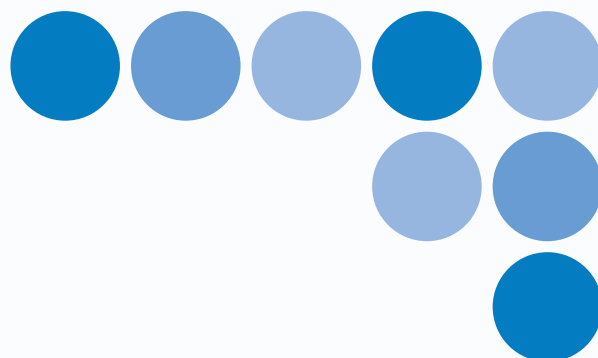




Industrial Connectors Catalog



realizing

OMRON Provides Industrial Connector Solution

- A Wide Range of Models for Serial (Network) Communications and Parallel Connections
- Connections through Connector Units for Fewer Cables and Less Wiring Work on FA Sites
 - ▶ 1 Fewer Cables
 - ▶ 2 Less Wiring Work and Greater Work Procedure Standardization
 - ▶ 3 Easier Maintenance

Industrial Ethernet: EtherNet/IP™ EtherCAT®

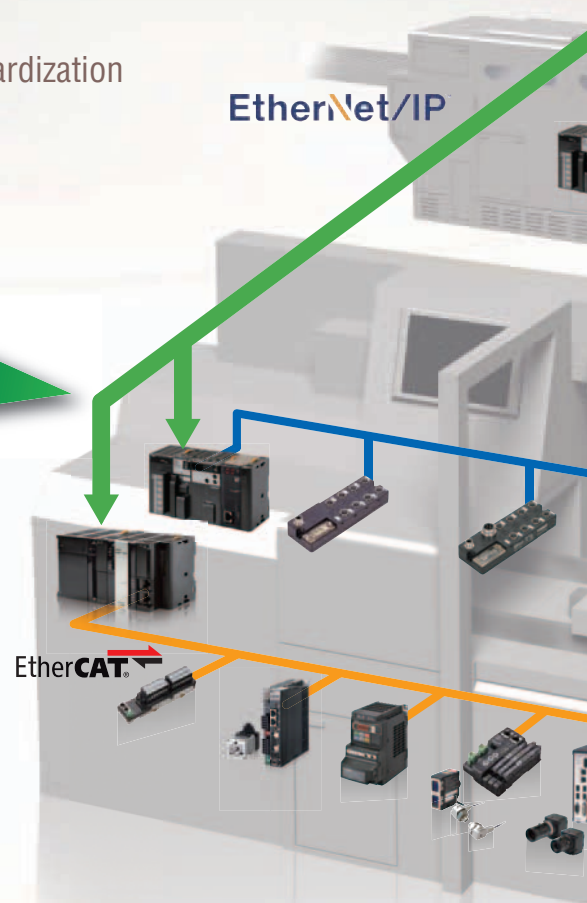
Page 14

EtherCAT®

EtherNet/IP™

XS5 **Water Resistant (IP67)**

Not Water Resistant XS5/6



Parallel Connections Page 30

Input Device Examples

Sensors with Built-in Connectors

E2E E3Z D4CC

Prewired Sensors

E2E E3Z WL-N D4C

Prewired Sensors + Assembly Connectors

E2E XS□G

Sensors + Embedded Screw Connectors XS□M

Panel-mounting Connectors XS□M

Relay Cables with Connectors

Connectors with Cables, Sockets/Plugs at the Ends

XS□W

Connectors with Cables, Socket at One End + Assembly Connector Plugs

XS□F XS□G

Assembly Connector Sockets + Connector Plugs with Cables

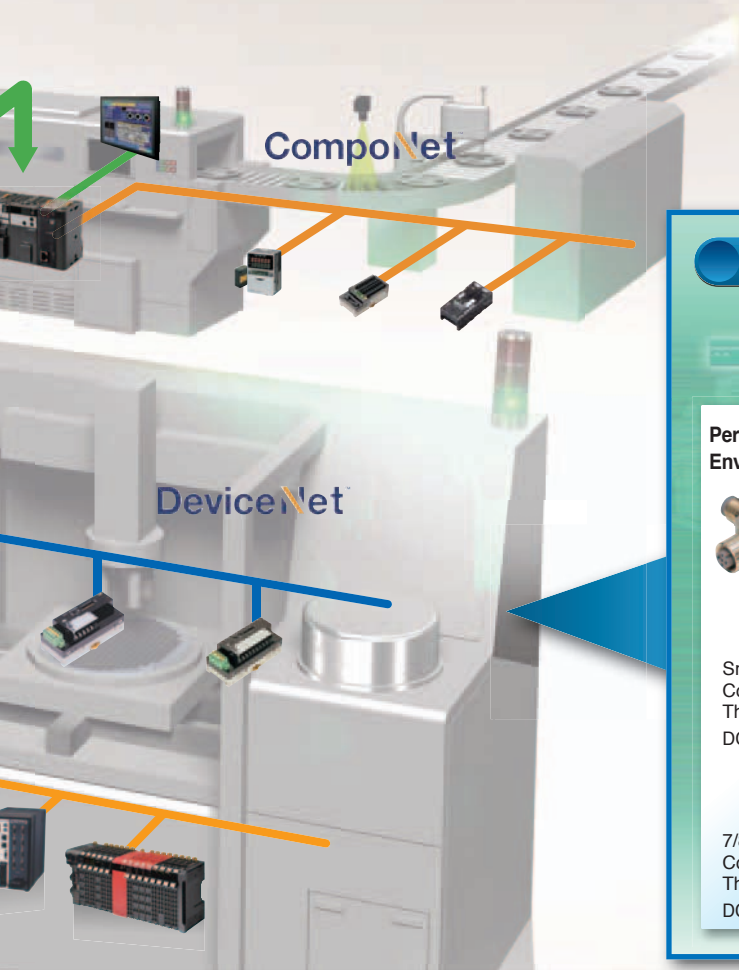
XS□C XS□H

Y-Joint Plugs/Sockets + Connectors with Cables, Sockets/Plugs at the Ends

XS□R XS□W

Water Resistant (IP67)

ns for FA Equipment



Multivendor Network:

DeviceNet™

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Peripherals for Environment-resistive Slaves (IP67)

Smartclick Micro Connectors for Thin Cables DCN2

Smartclick Micro Connectors for Thin Cables DCA1

7/8-16UN Mini Connectors for Thick Cables DCA2

Peripherals for Standard Slaves

Parallel Connectors with Screws DCN1

Parallel Connectors with Screws XW4B

Thin Cable DCN1

Thick Cable DCA2

Parallel I/O connector

Terminal Box

Connector Terminal Box

XW3□

Panel-mounting Connectors

XS□P

Not Water Resistant

Connections to Various FA Devices

Cable Relay Connections

Connections to Original Control Boards

Connections to FA Devices with Terminal Blocks

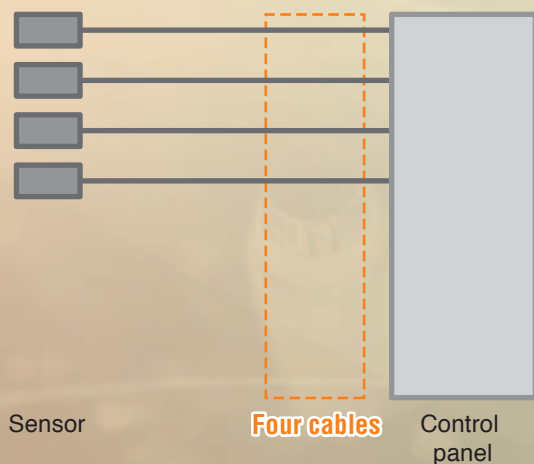
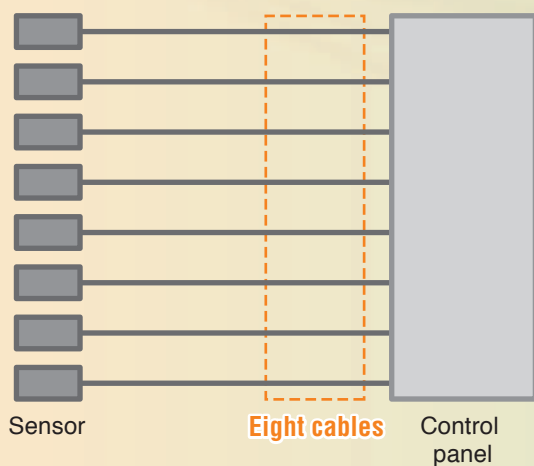
Note: The connections shown above are conceptual only.

1 Fewer Cables

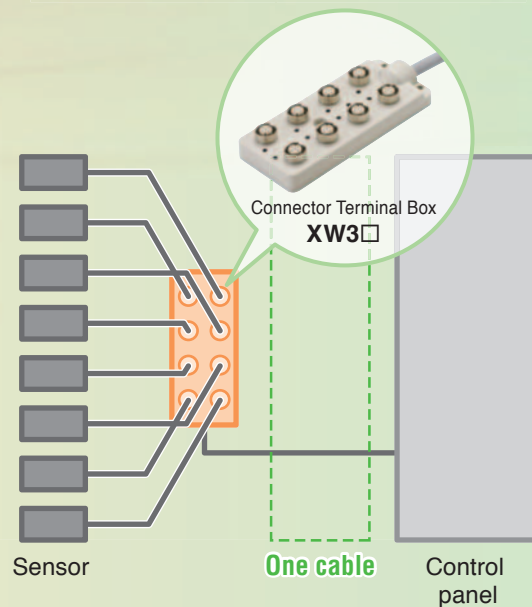
Reducing the Number of Cables by Using Connector Terminal Box, T-Joint Plugs/Sockets, and Y-Joint Plugs/Sockets

You can use Connector Terminal Box, T-Joint Plugs/Sockets, and Y-Joint Plugs/Sockets to reduce the number of cables connected to the control panel.

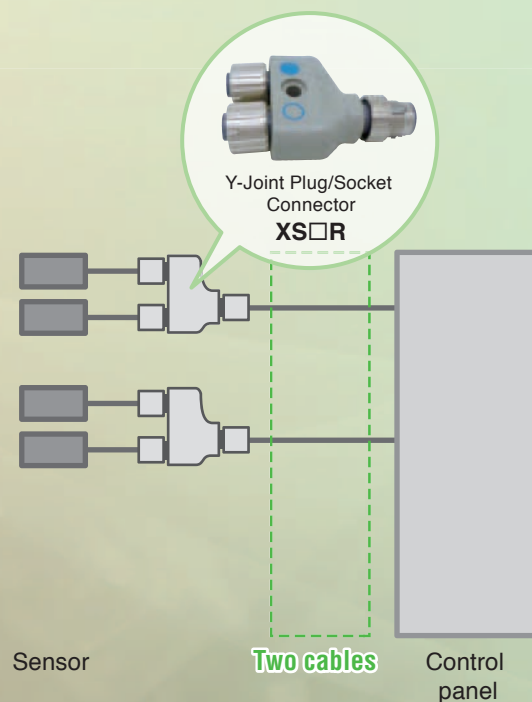
From



To

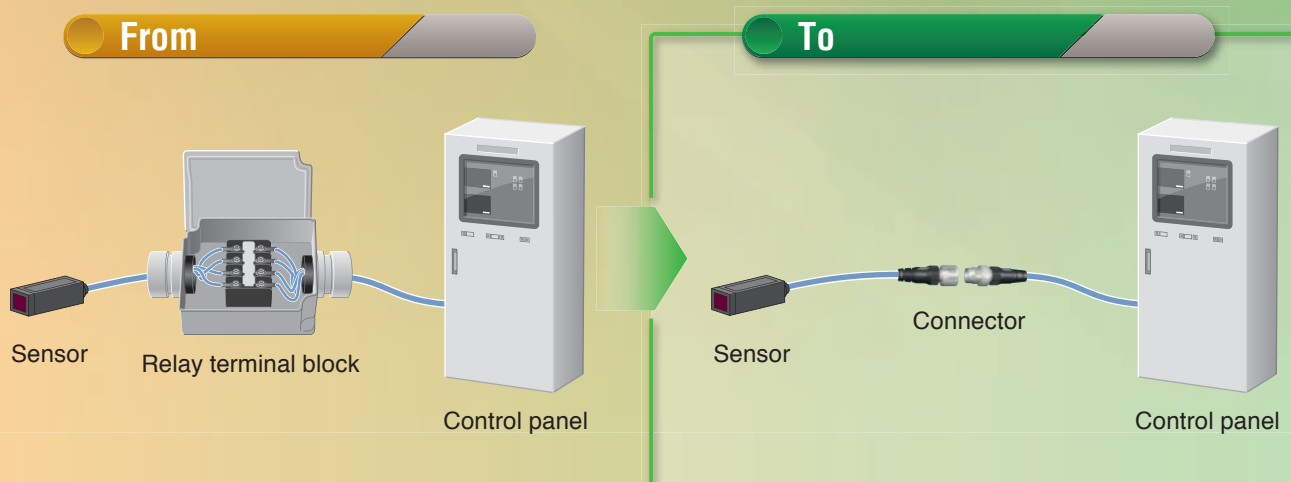


Number of Cables Reduced by Using a Common Cable



2 Less Wiring Work and Greater Work Procedure Standardization

Wiring Work and Mistakes Reduced by Using a Connector between a Sensor and the Control Panel



1 Reduced Work

Reduced Wiring Work

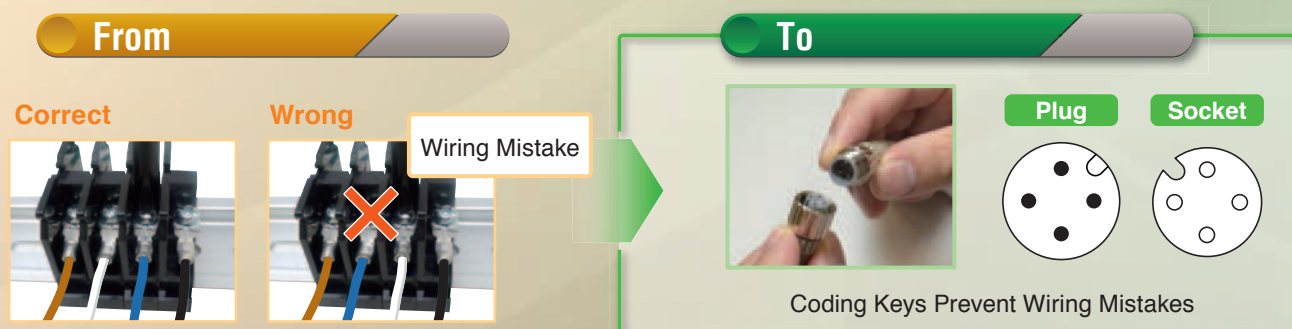


★ The above estimates are for connecting a 4-conductor cable to an 8-terminal relay terminal box. The required time depends on the worker. The above values are reference values from an OMRON survey.



2 Work Procedure Standardization

Preventing Wiring Mistakes

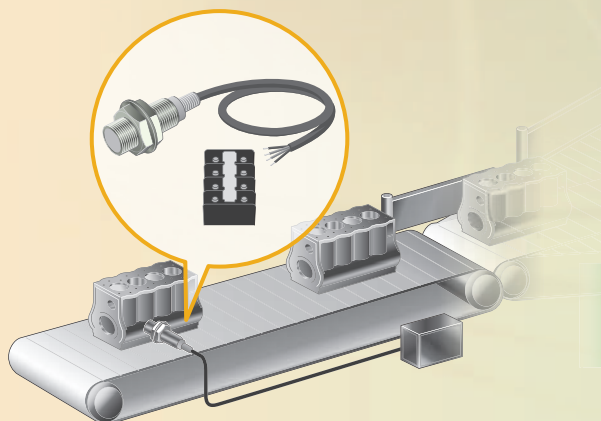


Examples of the Benefits of Connector Units: Less Wiring Work and Fewer Cables

3 Easier Maintenance

1 Reduced Work for Sensor Replacement

From



Sensor Replacement Time

Sensor Replacement Procedure

5 min

Removing wires: 100 s Preparing wires: 45 s Attaching terminals: 95 s Connecting wires: 60 s



★ The above estimates are for replacing a Prewired Sensor with a 4-conductor cable.
The required time depends on the worker.
The above values are reference values from an OMRON survey.

To



Sensor Replacement Time

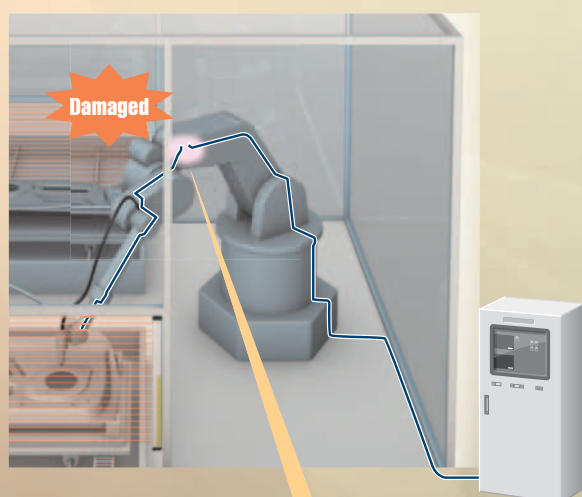
8 s

Smartclick XS5

Work
reduced by
approx. 97%!

2 Reduced Work for Cable Replacement

From

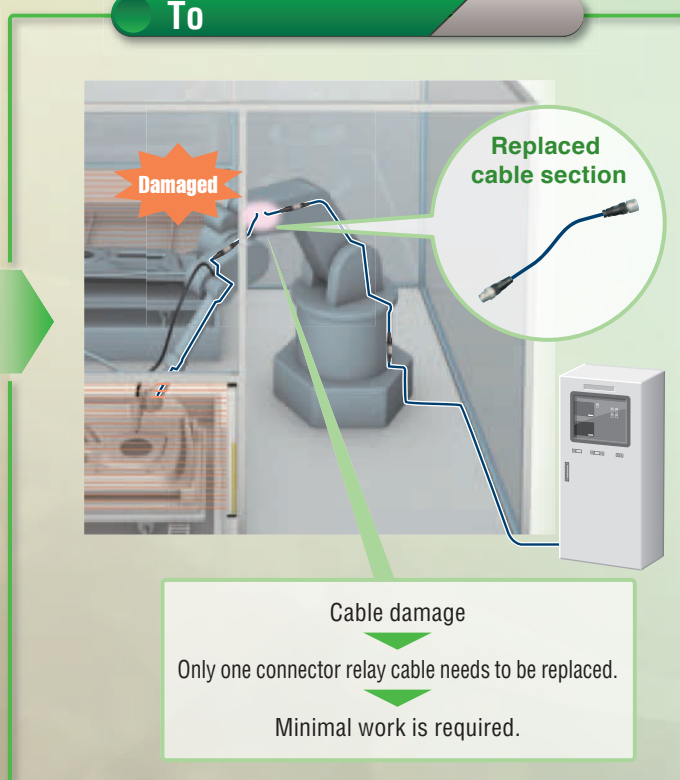


Cable damage

Entire cable must be replaced.

Extensive work is required.

To



Replaced
cable section

Cable damage

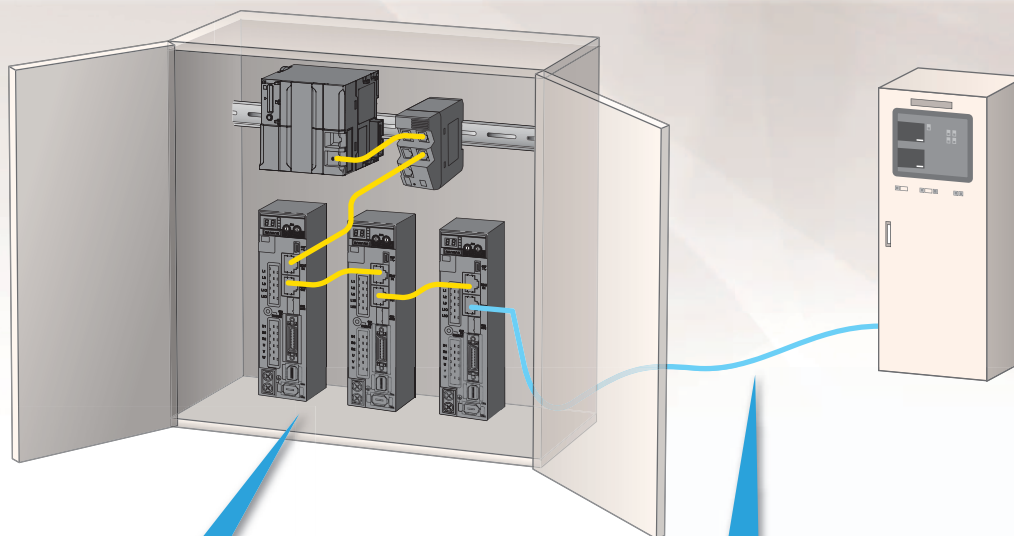
Only one connector relay cable needs to be replaced.

Minimal work is required.

Industrial Ethernet Connectors

Connectors for Increasingly Common Industrial Networks Based on Ethernet, such as EtherCAT®

Application Example



Ideal for in-cabinet

XS6W-6LSZH



Standard Connectors

Ideal for out-of-cabinet

XS6W-5PUR



Standard Connectors

XS5



Rugged Connectors



M12 Connectors

XS6



Rugged Assembly Connectors

Cables with Standard RJ45 Connectors

RJ45 Connector Shape



Double Shielding (LSZH Cables)



Overall braiding and individual foil shield on each wire pair

Cables with Rugged RJ45 Connectors

RJ45 Connector Shape



Strong latch

Double Shielding (PVC Cables)



Overall braiding and individual foil shield

Cables with M12 Connectors

M12 Connector Shape



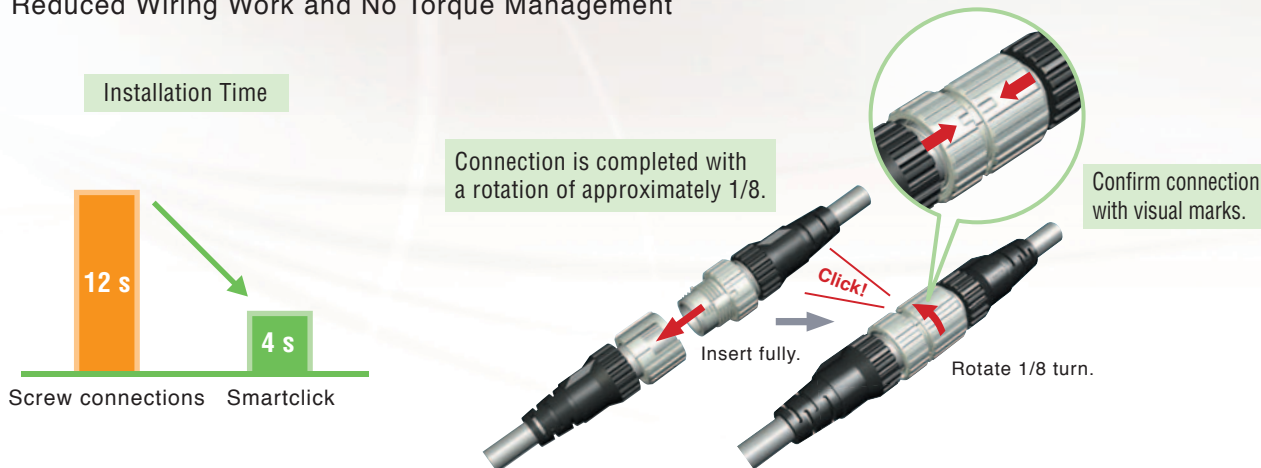
Shielded structure

M12 Smartclick Connectors: XS5 and XW3D

One-step **S**martclick Connectors Eliminate the Problems of Screw Connectors

1 One-step Connection

Reduced Wiring Work and No Torque Management



2 Bayonet Lock Mechanism

No Loosening Due to Machine Vibration and No Need for Periodic Screw Tightening



★ Enlargement of Bayonet Lock Mechanism

3 Connections with a Distinct Clicking Sensation

Prevents Insufficient Tightening and Standardizes Work Procedures



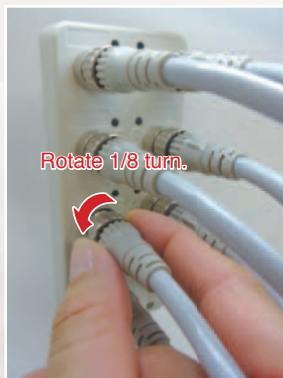
4 Compatible with M12 Threaded Connectors

Applicable to Existing Equipment with M12 Threaded Connectors

	XS5 Smartclick Plug Connector	M12 Threaded Plug Connector
XS5 Smartclick Socket Connector	One-step connection	Thread connection
M12 Threaded Socket Connector	Thread connection	Thread connection

All combinations can be connected.
The Connector is screwed on to make the connection when a Smartclick Connector is connected to a Threaded Connector.

Only with Smartclick!



Even ports in the middle can be easily connected and removed with a 1/8th turn.

XW3D M12 Connector Terminal Box

Smartclick XS5C/G-D418 M12 Round Water-resistant Pressure-welded Assembly Connectors

- Assembly Connectors enable easy connections with standard tools.
- Convenient to adjust cable lengths, to add connectors to Prewired Sensors, and for many other FA site applications.

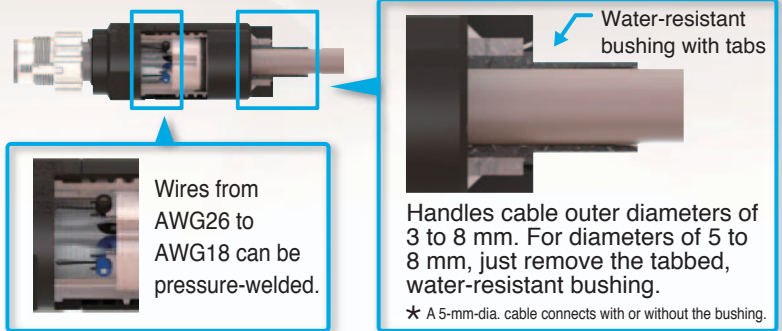
No Torque Management



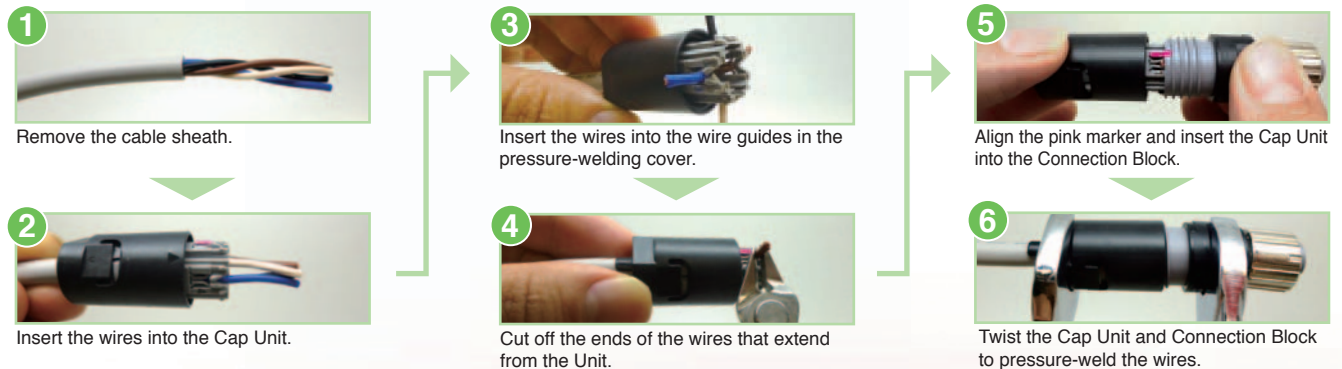
Tightened Position Is Clear

Easy Stock Management

Previously, a different connector was required for each cable diameter. With Pressure-welding Connectors, only one Connector is required for cable outer diameters of 3 to 8 mm.



No Special Tools Required Just Six Steps to Complete Wiring with No Special Tools!



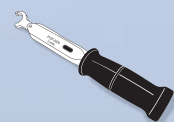
XS3W M8 to M12 Conversion Cables

You can use these Cables to connect Sensors with M8 Connectors to equipment with M12 connectors.



Tool for M12 Threaded Connectors

Use this tool to tighten locks on M12 Threaded Connectors to the specified torque.



XY2F-0004

Accessories for M12 Connectors

Accessories are available for many different applications.

Water-resistant Covers



XS5Z-11

XS2Z-11

XS2Z-22

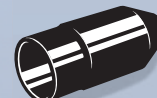
Dust Covers



XS2Z-13

XS2Z-15/XS2Z-14

Sputter Protective Cover



XS2Z-31

Loosening-preventing C Ring



XS2Z-18

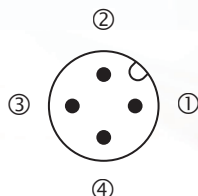
M12: IEC 61076-2-101 Standard

The specifications and mating dimensions of M12 Round Connectors comply with IEC 61076-2-101. OMRON provides M12 Round Connectors with mating shapes that match many applications.

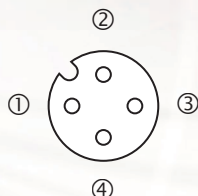
Coding Keys

A-coding

Plug

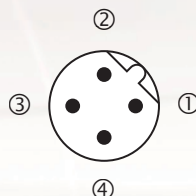


Socket

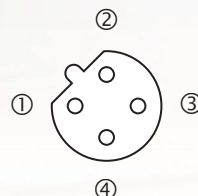


B-coding

Plug

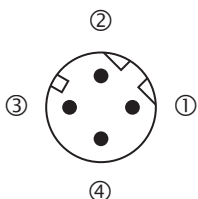


Socket

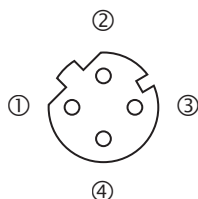


D-coding

Plug



Socket



Model Example

A-coding

XS5F-D421-C80-F

A-coding: For DC Sensors

B-coding

XS2F-A421-B90-F

B-coding: For AC Sensors

D-coding

XS5H-T421-CM0-K

D-coding: For industrial Ethernet

M8: IEC61076-2-104 Standard

The specifications and mating dimensions of M8 Round Connectors comply with IEC 61076-2-104. OMRON provides M8 Round Connectors with mating shapes that match many applications.

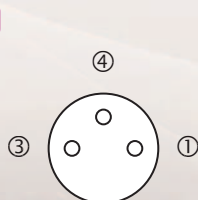
Coding Keys

A-coding (3, 4 poles)

Plug



Socket



3 poles

Plug



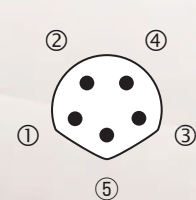
Socket



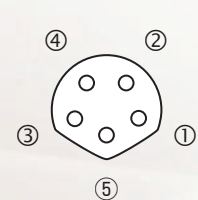
4 poles

B-coding (5 poles)

Plug



Socket



Model Example

A-coding

XS3F-M321-302-A

A-coding: 3 poles

XS3F-M421-402-A

A-coding: 4 poles

B-coding

XS3F-M521-502-A

B-coding: 5 poles

IP67 Degree of Protection

Note: IP-□□ degrees of protection given in this document were confirmed by OMRON with the following specified testing methods. Confirm seal performance in the actual application environment and under actual operating conditions.

IEC (International Electrotechnical Commission) Standard (IEC 60529)

IP-□□

Degree of Protection Symbol (International Protection)
First Symbol: Protection against Solid Objects

Code	Degree of protection
0	 No protection
1	 Full penetration of 50-mm diameter of sphere not allowed. Contact with hazardous parts not permitted.
2	 Full penetration of 12.5-mm diameter of sphere not allowed. The jointed test finger shall have adequate clearance from hazardous parts.
3	 The access probe of 2.5-mm diameter shall not penetrate.
4	 The access probe of 1.0-mm diameter shall not penetrate.
5	 Limited ingress of dust permitted (no harmful deposit).
6	 Totally protected against ingress of dust.

Oil Resistance

Degree of protection
Oilproof
No harmful effects when subjected to oil drops or oil spray from any direction.
Oil-resistant
No penetration into internal parts when subjected to oil drops or oil spray from any direction.

Note: Oil resistance is confirmed using oils and cutting oils stipulated by OMRON (equivalent to previous JEM standards).

★ 1. OMRON Test Methods

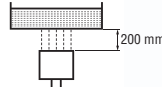
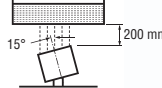
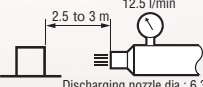
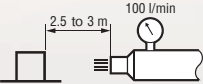
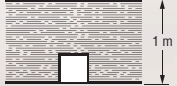
The Proximity Sensor's IP67 degree of protection was confirmed by performing the tests described in the table below and making sure that the sensing distance and installation resistance satisfied the performance specifications after repeating a heat shock cycle 5 times, consisting of immersing the Sensor in cold water at 0°C for 1 hour followed by hot water at 70°C for 1 hour.

★ 2. Precautions on OMRON Testing

Operating conditions for E2F Proximity Sensors: Underwater within 10 m.

- (1) No penetration of water when immersed in water for 1 hour at two atmospheric pressures.
- (2) Satisfies sensing distance and insulation resistance performance specifications after the heat shock cycle described in *1 is repeated 20 times

Second Symbol: Degree of Protection Against Water

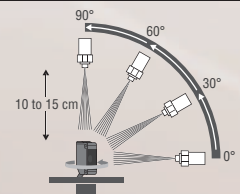
Code	Degree of protection		Examination method	
0	No particular protection	No protection	No test	
1	Rain 	Protected against vertically falling drops of water.	Spray water downwards in vertical direction for 10 minutes using a water-dripping test device.	
2	Rain 	Protected against vertically falling drops of water with enclosure tilted 15° from the vertical.	Tilt by 15° and spray water for 10 minutes (2.5 minutes in each direction) using a water-dripping test device.	
3	Rain 	Protected against sprays to 60° from the vertical.	Spray water up to 60° in both directions from the vertical axis for 10 minutes using the test device shown below.	
4	Water splash from all directions 	Protected against water splashed from all directions; limited ingress permitted.	Spray water from all directions for 10 minutes using the test device shown below.	
5	Housing jets from all directions 	Protected against low-pressure jets of water from all directions; limited ingress permitted.	Spray water from all directions for one minute per m² of external surface area and for a total time of no less than 3 minutes using the test device shown below.	
6	Strong hosing jets from all directions 	Protected against strong jets of water, e.g. for use on ship decks; limited ingress permitted.	Spray water from all directions for one minute per m² of external surface area and for a total time of no less than 3 minutes using the test device shown below.	
7	Temporary immersion 	★ 1 Protected against the effects of immersion between 15 cm and 1 m.	Submerge for 30 minutes at the depth of 1 m (if the device is located lower than 850 mm).	
8	Continuous immersion 	★ 2 Protected against long periods of immersion under pressure.	Test according to the conditions agreed upon between the manufacturer and user.	

IP69K Degree of Protection

IP69K is a standard for protection against ingress of high-temperature, high-pressure water defined in the German standard DIN 40050 Part 9.

The test piece is sprayed with water at 80° at 80 to 100 bars with a nozzle of the specified shape. The test piece is separated from the nozzle by 10 to 15 cm and water is sprayed for 30 s each at 0°, 30°, 60°, and 90° while the test piece is rotated on a horizontal plane.

Note: The degree of protection given in Connector ratings and performance specifications may not be met if the Connectors are not connected correctly or if connectors (including e-CON connectors) that have no protection are used.



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The trademark is managed by the CC-Link Partner Association. is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

MEMO

Cables and Connectors for EtherCAT® and Other Industrial Ethernet Networks

CAT6a Ethernet patch cables

- For in-cabinet use
- LSZH with standard RJ45 plugs

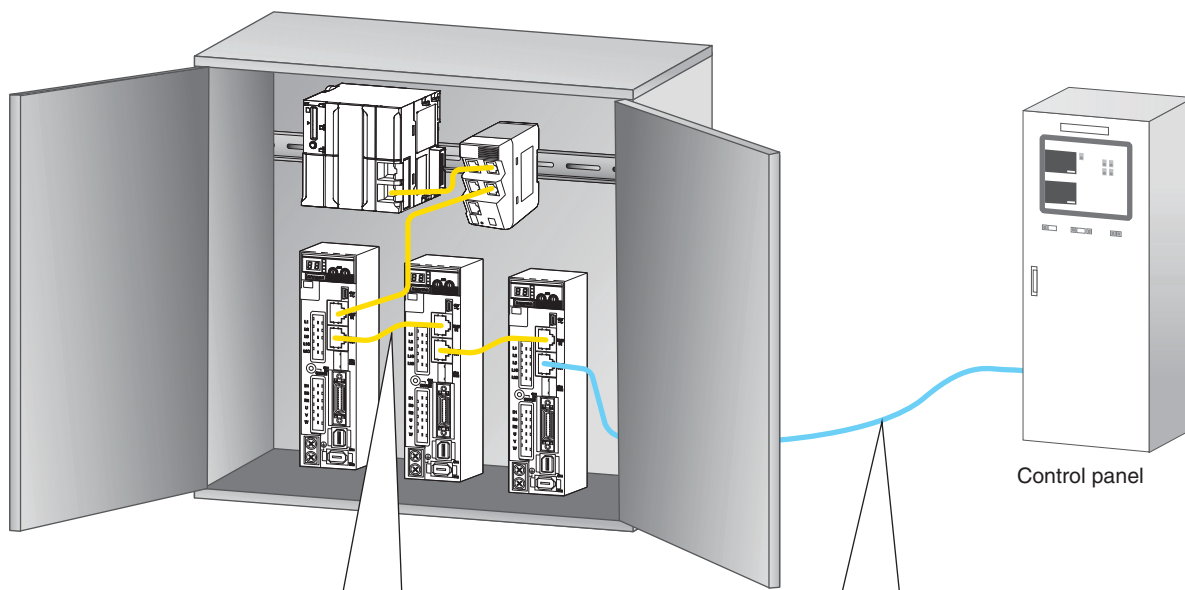
CAT5e Ethernet patch cables

- For out-of-cabinet use
- PUR with standard RJ45 plugs
- PVC with rugged RJ45 plugs
- PVC with M12 SmartClick plugs



Smartclick

Connection Examples



Ideal for in-cabinet XS6W-6LSZH



Standard Connectors

Ideal for out-of-cabinet XS6W-5PUR



Standard Connectors



Rugged Connectors



Rugged Assembly Connectors

XS5



M12 Connectors

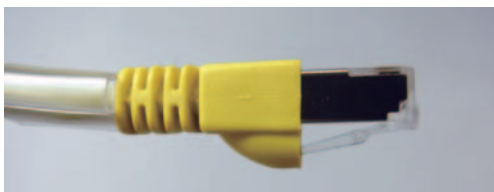
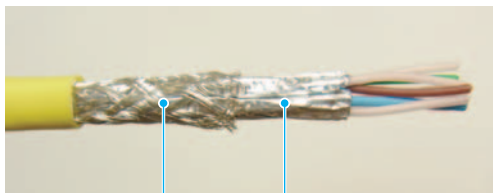
Features

Cables with Standard RJ45 Connectors

Refer to page 17 for details.

- The lineup features LSZH cables* for in-panel wiring and PUR cables for wiring outside of panels.
- The Standard RJ45 Connectors reduce cable routing space.
 - Outer diameter: 5.8 mm
 - 4-pair AWG27 (LSZH) or AWG26 (PUR)
- Cable colors include blue, yellow, or green.
- LSZH cables are available in 12 lengths from 0.2 to 20 m and PUR cables are available in 10 lengths from 0.5 to 20 m.
- Double-shielded cables with overall braiding and individual foil shield on each wire pair to reduce EMC interference in industrial environments.

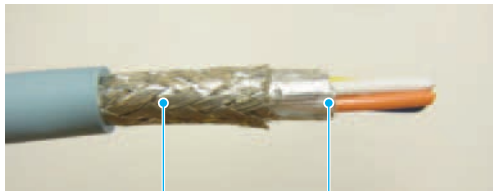
* Low-smoke zero-halogen cables.

Shape of RJ45 Connector	LSZH Cable with Double Shield
	 Overall braiding and individual foil shield on each wire pair

Cables with Rugged RJ45 Connectors

Refer to page 20 for details.

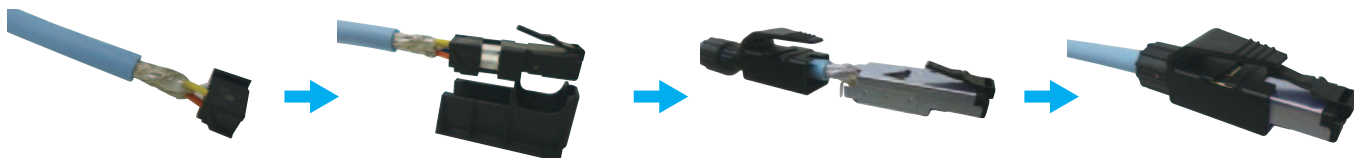
- Tough latches and RJ45 connectors with strong cable holding strength are used to enable connections outside of control panels.
- Quad AWG22 cable with PVC cover of 6.5 mm outer diameter.
- Double-shielded cables with overall braiding and individual foil shield to reduce EMC interference in industrial environments.

Shape of RJ45 Connector	PVC Cable with Double Shield
 Tough latch	 Overall braiding and individual foil shield

Assembly Connectors

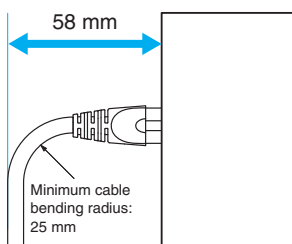
You can easily assemble Ethernet cables onsite without crimping tools or other special tools.

Refer to page 27 for the assembly procedure.

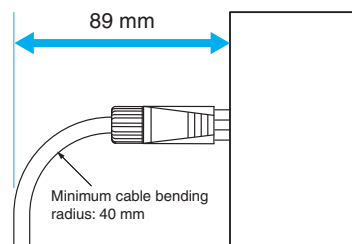


● Cable Extension Length

Standard Connectors (RJ45 Connectors)



Rugged Connectors (RJ45 Connectors)

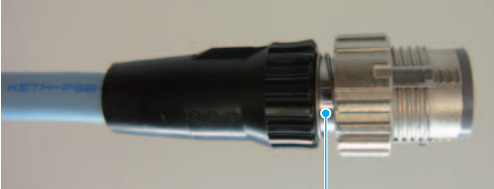
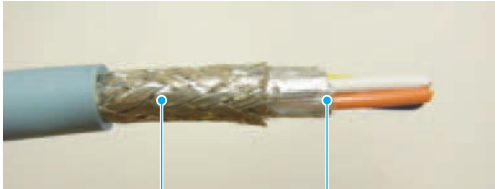


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XW3D
XS2
XW3B
XS3
XN2
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Communications Peripherals for Standard Slaves
I/O Peripherals for Standard Slaves
Communications Peripherals for Environmentally Resistant Slaves
I/O Peripherals for Environmentally Resistant Slaves
Power Supply Peripherals for Environmentally Resistant Slaves
Standard-compliant Models
Model Index

Cables with M12 Connectors

Refer to page 20 for details.

- Resistance to harsh environments with IP67 protection.
- SmartClick Connectors that provide one-step (1/8th turn) connection are used (compatible with standard M12 screw connectors).
- A wide range of variations, such as cables with right-angle connectors and PCB connectors.
- Cables with sockets and robot cables were added to the series.

Shape of M12 Connector	PVC Cable with Double Shield
 Shield structure	 Overall braiding and individual foil shield

Shield Effectiveness Data for Rugged RJ45 Connectors and Waterproof M12 Connectors

The following data is the results of OMRON testing. Shield effectiveness may vary for your environment and application conditions.

● Comparison of Shield Effectiveness with Product without a Double Shield

The following table shows the differences with a structure without a double shield. Higher numeric values show greater shield effectiveness.

Shield structure	Frequency (MHz)				
	0.5	1	5	10	30
Product with single shield	53 dB	49 dB	35 dB	25 dB	17 dB
Product with a double shield (XS5□-T, Category 5E)	61 dB	58 dB	43 dB	31 dB	27 dB

• SmartClick is registered trademark of OMRON Corporation.

• EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

Cables with Standard RJ45 Connectors

■ Model Number Legend

Use this legend when determining the product specifications from the model number. Choose from the model numbers listed in *Ordering Information* when ordering.

XS6W- **8 SS** **CM-**
 ① ② ③ ④ ⑤ ⑥

① Transmission Characteristics

- 5: Category 5
- 6: Category 6A

② Sheath Material

- LSZH: LSZH
- PUR: PUR

③ Number of Pins

- 8: 8 pins

④ Cable Attachment Direction

- SS: Straight/Straight

⑤ Cable Length*

- 20: 0.2 m
- 30: 0.3 m
- 50: 0.5 m
- 100: 1 m
- 150: 1.5 m
- 200: 2 m
- 300: 3 m
- 500: 5 m
- 750: 7.5 m
- 1000: 10 m
- 1500: 15 m
- 2000: 20 m

⑥ Sheath Color

- B: Blue
- Y: Yellow
- G: Green

* PUR cables are not available for 0.2-m and 0.3-m cables.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

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Appearance	Type	Category	Cable sheath material	Cable color	Cable length (m)	Model
	Cable with Connectors on Both Ends (RJ45/RJ45)	Cat.6a	LSZH	Blue	0.2	XS6W-6LSZH8SS20CM-B
					0.3	XS6W-6LSZH8SS30CM-B
					0.5	XS6W-6LSZH8SS50CM-B
					1	XS6W-6LSZH8SS100CM-B
					1.5	XS6W-6LSZH8SS150CM-B
					2	XS6W-6LSZH8SS200CM-B
					3	XS6W-6LSZH8SS300CM-B
					5	XS6W-6LSZH8SS500CM-B
					7.5	XS6W-6LSZH8SS750CM-B
					10	XS6W-6LSZH8SS1000CM-B
					15	XS6W-6LSZH8SS1500CM-B
					20	XS6W-6LSZH8SS2000CM-B
Yellow				0.2	XS6W-6LSZH8SS20CM-Y	
				0.3	XS6W-6LSZH8SS30CM-Y	
				0.5	XS6W-6LSZH8SS50CM-Y	
				1	XS6W-6LSZH8SS100CM-Y	
				1.5	XS6W-6LSZH8SS150CM-Y	
				2	XS6W-6LSZH8SS200CM-Y	
				3	XS6W-6LSZH8SS300CM-Y	
				5	XS6W-6LSZH8SS500CM-Y	
				7.5	XS6W-6LSZH8SS750CM-Y	
				10	XS6W-6LSZH8SS1000CM-Y	
				15	XS6W-6LSZH8SS1500CM-Y	
				20	XS6W-6LSZH8SS2000CM-Y	
Green				0.2	XS6W-6LSZH8SS20CM-G	
				0.3	XS6W-6LSZH8SS30CM-G	
				0.5	XS6W-6LSZH8SS50CM-G	
				1	XS6W-6LSZH8SS100CM-G	
				1.5	XS6W-6LSZH8SS150CM-G	
				2	XS6W-6LSZH8SS200CM-G	
		3	XS6W-6LSZH8SS300CM-G			
		5	XS6W-6LSZH8SS500CM-G			
		7.5	XS6W-6LSZH8SS750CM-G			
		10	XS6W-6LSZH8SS1000CM-G			
		15	XS6W-6LSZH8SS1500CM-G			
		20	XS6W-6LSZH8SS2000CM-G			
	Cat.5	PUR	Green	0.5	XS6W-5PUR8SS50CM-G	
				1	XS6W-5PUR8SS100CM-G	
				1.5	XS6W-5PUR8SS150CM-G	
				2	XS6W-5PUR8SS200CM-G	
				3	XS6W-5PUR8SS300CM-G	
				5	XS6W-5PUR8SS500CM-G	
				7.5	XS6W-5PUR8SS750CM-G	
				10	XS6W-5PUR8SS1000CM-G	
				15	XS6W-5PUR8SS1500CM-G	
				20	XS6W-5PUR8SS2000CM-G	

Specifications

Type	Cable with Connectors on Both Ends (RJ45/RJ45)/LSZH	Cable with Connectors on Both Ends (RJ45/RJ45)/PUR
Item Model	XS6W-6LSZH8SS□□□□CM-□	XS6W-5PUR8SS□□□□CM-G
Rated current	1 A (at 50°C)	
Withstand voltage	1,000 VDC for 60 s (leakage current: 1 mA max.)	
Ambient operating temperature	-20 to 60°C	-40 to 85°C
Ambient storage temperature	-20 to 60°C	-40 to 85°C
Ambient installation temperature	0 to 50°C	-10 to 60°C
Protective structure	IP20	

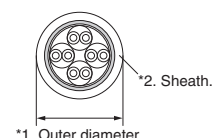
Materials and Finish

Connectors

Type	Cable with Connectors on Both Ends (RJ45/RJ45)/LSZH	Cable with Connectors on Both Ends (RJ45/RJ45)/PUR
Item Model	XS6W-6LSZH8SS□□□□CM-□	XS6W-5PUR8SS□□□□CM-G
Connector housing	PC resin (UL94V-0)/transparent	
Contacts	Phosphor bronze/nickel base, gold plated (0.8 μm)	
Shield	Brass/nickel plated	
Cover (structured to prevent the tab from breaking)	LSZH: Blue, yellow, or green	PUR: Green
Marking tube	PVC resin (UL94V-0)/transparent	

Cables

Type	Cable with Connectors on Both Ends (RJ45/RJ45)/LSZH	Cable with Connectors on Both Ends (RJ45/RJ45)/PUR
Item Model	XS6W-6LSZH8SS□□□□CM-□	XS6W-5PUR8SS□□□□CM-G
Compliant standard	IEC 60332-1 /UL1581 FT2	IEC 60332-1 /UL1581 FT2
Number of cores/gauge	4 × 2 × AWG27 0.1 mm ²	4 × 2 × AWG26 0.13 mm ²
Outer diameter*1	5.8 mm	
Sheath color*2	Blue, yellow, or green	Green
Sheath material	LSZH	PUR
Shield structure	Double shield S/FTP	Double shield SF/UTP



Dimensions

(Unit: mm)

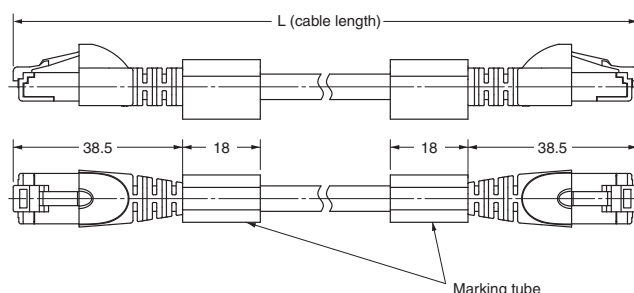
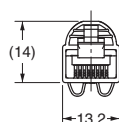
Cable with Connectors on Both Ends (RJ45/RJ45)

XS6W-6LSZH8SS□□□□CM-□

XS6W-5PUR8SS□□□□CM-G

Wiring

RJ45	RJ45
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
Shield	Shield



Note. External dimensions are the same for all cable materials.

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Cables with Rugged RJ45 Connectors and Cables with M12 Connectors

Model Number Legend

Use this legend when determining the product specifications from the model number. Choose from the model numbers listed in *Ordering Information* when ordering.

● Cable with Connectors

XS5-T 4 2 -M -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① **Connector Shape**
H: Cable with plug on one end
W: Cable with connectors on both ends
- ② **Typ**
T: Ethernet (mating part: M12 D coding)
- ③ **Number of Pins**
4: 4 pins
- ④ **Contact Plating Specification**
2: Gold plating, 0.4 μm
- ⑤ **Cable Attachment Direction (M12 Connectors)**
1: Straight
2: Right angle
- ⑥ **Cable Length**
A: 0.3 m
B: 0.5 m
C: 1 m
D: 2 m
E: 3 m
G: 5 m
J: 10 m
K: 15 m
- ⑦ **Connector Shape**
0: M12 plug on one end
1: Connectors on both ends: M12 socket/M12 plug
2: Connectors on both ends: M12 plug/M12 plug
C: Connectors on both ends: M12 plug/RJ45 plug
D: Connectors on both ends: RJ45 plug/RJ45 plug
E: Connectors on both ends: M12 socket/RJ45 plug
- ⑧ **Cable Specification**
K: Standard cable
KR: Robot cable

● RJ45 Assembly Connectors

XS6G-T 4 2 1-1

① ② ③ ④ ⑤

- ① **Type**
T: Ethernet
- ② **Number of Pins**
4: 4 pins
- ③ **Contact Plating Specification**
2: Gold plating, 0.4 μm
- ④ **Cable Attachment Direction**
1: Straight
- ⑤ **Degree of Protection**
1: IP20

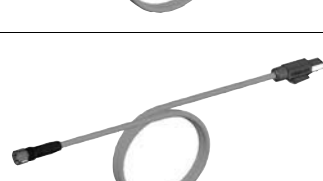
● M12 Connectors for Panel Mounting

XS5P-T 4 2 -

① ② ③ ④ ⑤

- ① **Type**
T: Ethernet (mating part: M12 D coding)
- ② **Number of Pins**
4: 4 pins
- ③ **Plating Specification**
2: Gold plating, 0.4 μm
- ④ **Mounting Method**
6: Rear locking
7: Front locking
- ⑤ **Terminal Shape**
1: DIP terminals
5: Cable with loose wires (0.5 m)

Ordering Information

Appearance	Cable type	Type	Cable length (m)	Model
	Standard Cables	Cable with Plug on One End (M12 Straight)	0.5	XS5H-T421-BM0-K
			1	XS5H-T421-CM0-K
			2	XS5H-T421-DM0-K
			3	XS5H-T421-EM0-K
			5	XS5H-T421-GM0-K
			10	XS5H-T421-JM0-K
		15	XS5H-T421-KM0-K	
		Cable with Plugs on Both Ends (M12 Straight/M12 Straight)	0.5	XS5W-T421-BM2-K
			1	XS5W-T421-CM2-K
			2	XS5W-T421-DM2-K
			3	XS5W-T421-EM2-K
			5	XS5W-T421-GM2-K
			10	XS5W-T421-JM2-K
		15	XS5W-T421-KM2-K	
		Cable with Plugs on Both Ends (M12 Straight/RJ45)	0.3	XS5W-T421-AMC-K
			0.5	XS5W-T421-BMC-K
			1	XS5W-T421-CMC-K
			2	XS5W-T421-DMC-K
			3	XS5W-T421-EMC-K
			5	XS5W-T421-GMC-K
		10	XS5W-T421-JMC-K	
		15	XS5W-T421-KMC-K	
		Cable with Plug on One End (M12 Right-angle)	0.5	XS5H-T422-BM0-K
			1	XS5H-T422-CM0-K
			2	XS5H-T422-DM0-K
			3	XS5H-T422-EM0-K
			5	XS5H-T422-GM0-K
			10	XS5H-T422-JM0-K
		15	XS5H-T422-KM0-K	
		Cable with Plugs on Both Ends (M12 Right-angle/M12 Right-angle)	0.5	XS5W-T422-BM2-K
			1	XS5W-T422-CM2-K
			2	XS5W-T422-DM2-K
			3	XS5W-T422-EM2-K
			5	XS5W-T422-GM2-K
			10	XS5W-T422-JM2-K
		15	XS5W-T422-KM2-K	
		Cable with Plugs on Both Ends (M12 Right-angle/RJ45)	0.3	XS5W-T422-AMC-K
			0.5	XS5W-T422-BMC-K
			1	XS5W-T422-CMC-K
			2	XS5W-T422-DMC-K
			3	XS5W-T422-EMC-K
			5	XS5W-T422-GMC-K
	10	XS5W-T422-JMC-K		
	15	XS5W-T422-KMC-K		
	Cable with Plugs on Both Ends (RJ45/RJ45)	0.3	XS5W-T421-AMD-K	
		0.5	XS5W-T421-BMD-K	
		1	XS5W-T421-CMD-K	
		2	XS5W-T421-DMD-K	
		3	XS5W-T421-EMD-K	
		5	XS5W-T421-GMD-K	
	10	XS5W-T421-JMD-K		
	15	XS5W-T421-KMD-K		
	Cable with Plug on One End and Socket on Other End (M12 Straight/M12 Straight)	0.5	XS5W-T421-BM1-K	
		1	XS5W-T421-CM1-K	
		2	XS5W-T421-DM1-K	
		3	XS5W-T421-EM1-K	
		5	XS5W-T421-GM1-K	
		10	XS5W-T421-JM1-K	
	15	XS5W-T421-KM1-K		
	Cable with Plug on One End and Socket on Other End (M12 Straight/RJ45)	0.5	XS5W-T421-BME-K	
		1	XS5W-T421-CME-K	
		2	XS5W-T421-DME-K	
		3	XS5W-T421-EME-K	
		5	XS5W-T421-GME-K	
		10	XS5W-T421-JME-K	
	15	XS5W-T421-KME-K		

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

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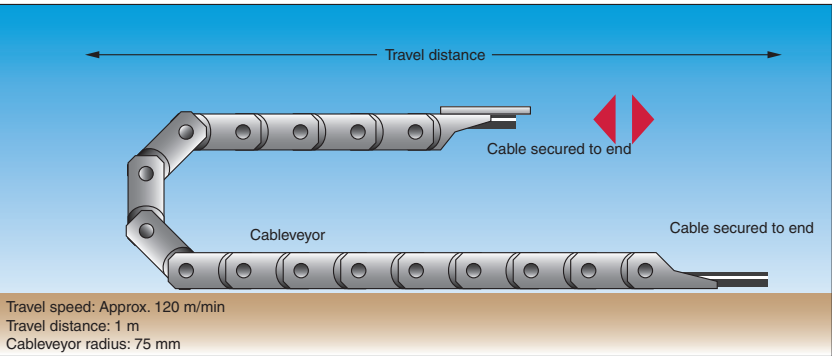
Appearance	Cable type	Type		Cable length (m)	Model	
	Robot Cables	Cable with Plug on One End and Socket on Other End (M12 Straight/M12 Straight)		0.5	XS5W-T421-BM1-KR	
				1	XS5W-T421-CM1-KR	
				2	XS5W-T421-DM1-KR	
				3	XS5W-T421-EM1-KR	
				5	XS5W-T421-GM1-KR	
				10	XS5W-T421-JM1-KR	
			15	XS5W-T421-KM1-KR		
			Cable with Plugs on Both Ends (M12 Straight/M12 Straight)		0.5	XS5W-T421-BM2-KR
		1			XS5W-T421-CM2-KR	
		2			XS5W-T421-DM2-KR	
		3			XS5W-T421-EM2-KR	
		5			XS5W-T421-GM2-KR	
		10			XS5W-T421-JM2-KR	
			15	XS5W-T421-KM2-KR		
			Cable with Plugs on Both Ends (M12 Straight/RJ45)		0.5	XS5W-T421-BMC-KR
		1			XS5W-T421-CMC-KR	
		2			XS5W-T421-DMC-KR	
		3			XS5W-T421-EMC-KR	
		5			XS5W-T421-GMC-KR	
		10			XS5W-T421-JMC-KR	
			15	XS5W-T421-KMC-KR		
			Cable with Plugs on Both Ends (RJ45/RJ45)		0.5	XS5W-T421-BMD-KR
		1			XS5W-T421-CMD-KR	
		2			XS5W-T421-DMD-KR	
	3	XS5W-T421-EMD-KR				
	5	XS5W-T421-GMD-KR				
	10	XS5W-T421-JMD-KR				
		15	XS5W-T421-KMD-KR			
	Standard Cables	RJ45 Assembly Connector		---	XS6G-T421-1	
		M12 Connector for Panel Mounting	Rear locking	0.5	XS5P-T426-5	
			Front locking	0.5	XS5P-T427-5	
		M12 Panel-mounting PCB Straight Terminals		---	XS5P-T426-1	

● Cable Bending Data for Robot Cables (XS5W-T421-□M□-KR)

The following data is the results of OMRON testing for cable bending test conditions. The number of bends may vary for your environment and application conditions.

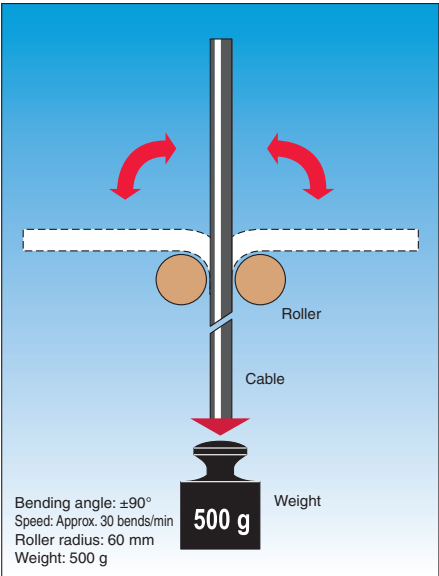
Cableveyor Test

Number of bends: 20 million min.



90° Bending Test

Number of bends: 6 million min.



Specifications

Type	Cable with Plug on One End (M12)	Cable with Plugs on Both Ends (M12/M12)	Cable with Plug on One End and Socket on Other End (M12/M12)	Cable with Plugs on Both Ends (M12/RJ45)	Cable with Plug on One End and Socket on Other End (M12/RJ45)	Cable with Plugs on Both Ends (RJ45/RJ45)	RJ45 Assembly Connector	M12 Connector for Panel Mounting	M12 Panel-mounting PCB Straight Terminals
Item Model	XS5H -T42□-□M0-K	XS5W -T42□-□M2-K, -KR	XS5W -T42□-□M1-K, -KR	XS5W -T42□-□MC-K, -KR	XS5W -T421-□ME-K	XS5W -T421-□MD-K, -KR	XS6G -T421-1	XS5P-T42□-5	XS5P -T426-1
Rated current	3 A			2.5 A				4 A	
Rated voltage	30 V							125 VDC	
Contact resistance	40 mΩ max.								
Insulation resistance	1,000 MΩ min.			500 MΩ min.				1,000 MΩ min.	
Withstand voltage	1,000 VAC for 60 s (leakage current: 1 mA max.)							1,500 VAC for 60 s (leakage current: 1 mA max.)	
Ambient operating temperature	-25 to 70°C								
Ambient storage temperature	-25 to 70°C								
Protective structure	M12: IEC IP67, RJ45: IEC IP20								

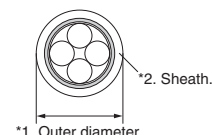
Materials and Finish

Connectors

Item Model	M12			RJ45
	XS5H and XS5W	XS5P-T42□-5	XS5P-T426-1	XS5W and XS6G
Contact blocks	PBT resin (UL94V-0)/light gray		PA resin (UL94V-0)/black	PA resin (UL94V-0)/black
Contacts	Phosphor bronze/nickel base, gold plated (0.4 μm)		Brass/nickel base, gold plated (0.4 μm)	Phosphor bronze/nickel base, gold plated (1.4 μm)
Anchors	Zinc diecast/nickel plating			---
Anchors (tabs)	SUS	---		
Cover	Straight connector: Soft PBT resin (UL94V-0)/black Right-angle connector: TPC resin/black	---		
Sealing resin	---	Epoxy resin	---	
O-rings	Rubber			---
Grounding fixture	---		Phosphor bronze/nickel base, tin plated (2.0 μm)	---
Anchor cover	---		SUS	---
Nuts	---		Brass/nickel plated	---

Cables

Item Model	Standard Cables	Robot Cables
Compliant standard	UL CM	
Category	Category 5e	
Number of cores/gauge	4 × AWG22 0.3 mm ² (7/0.26)	4 × AWG22 0.3 mm ² (7/24/0.05)
Outer diameter*1	6.5 dia.	
Sheath color*2	Light blue	
Sheath material	PVC	
Shield structure	Double shield SF/UTP	



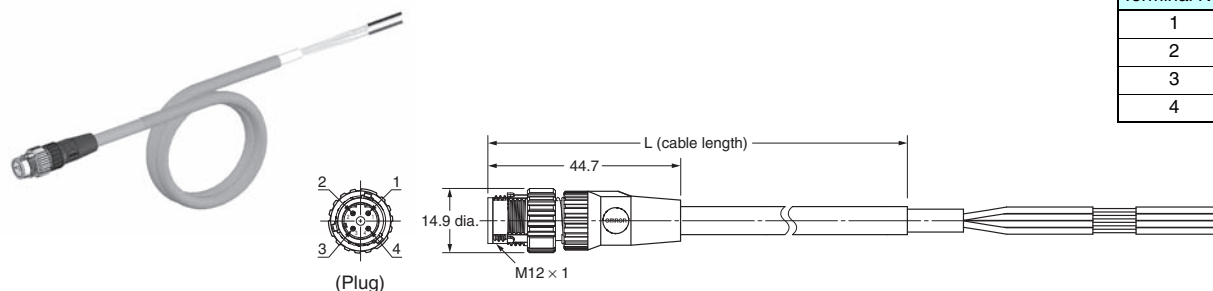
Note. For the XS5H and XS5W, cables are available only with connectors attached.

● Cable with Plug on One End (M12 Straight)

XS5H-T421-□M0-K

Wiring

Terminal No.	Color
1	Yellow
2	White
3	Orange
4	Blue

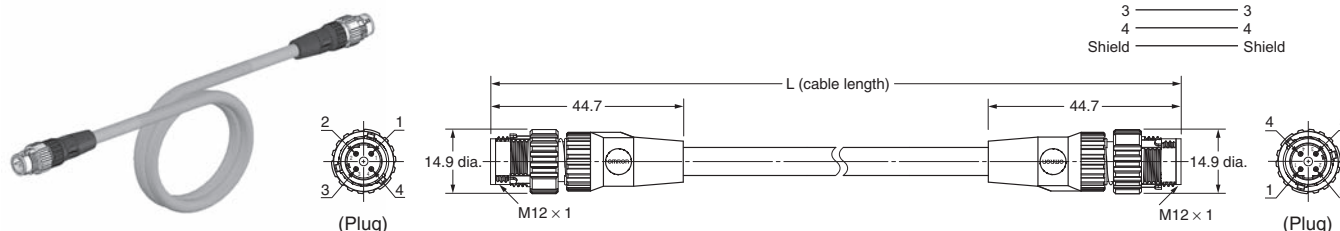


● Cable with Plugs on Both End (M12 Straight/M12 Straight)

XS5W-T421-□M2-K
XS5W-T421-□M2-KR

Wiring

M12 straight	M12 straight
1	1
2	2
3	3
4	4
Shield	Shield

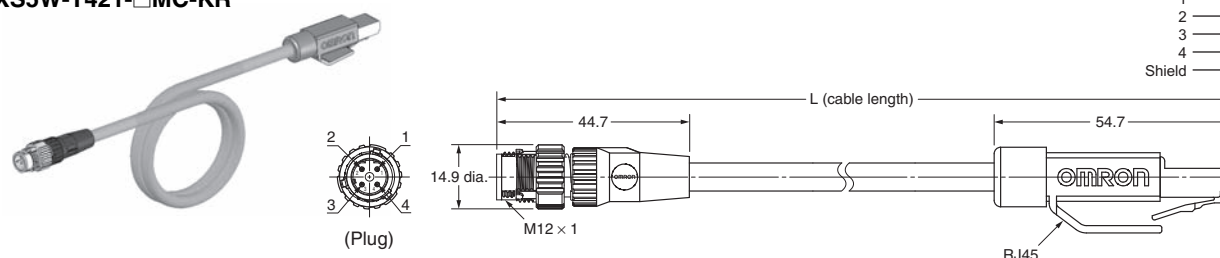


● Cable with Plugs on Both Ends (M12 Straight/RJ45)

XS5W-T421-□MC-K
XS5W-T421-□MC-KR

Wiring

M12 straight	RJ45
1	1
2	3
3	2
4	6
Shield	Shield

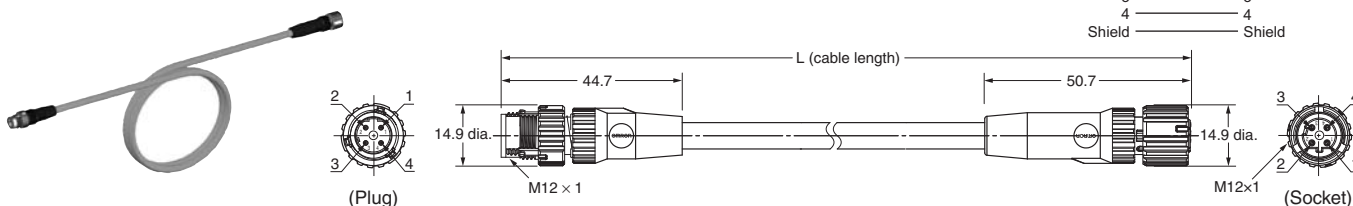


● Cable with Plug on One End and Socket on Other End (M12 Straight/M12 Straight)

XS5W-T421-□M1-K
XS5W-T421-□M1-KR

Wiring

M12 straight	M12 straight
1	1
2	2
3	3
4	4
Shield	Shield

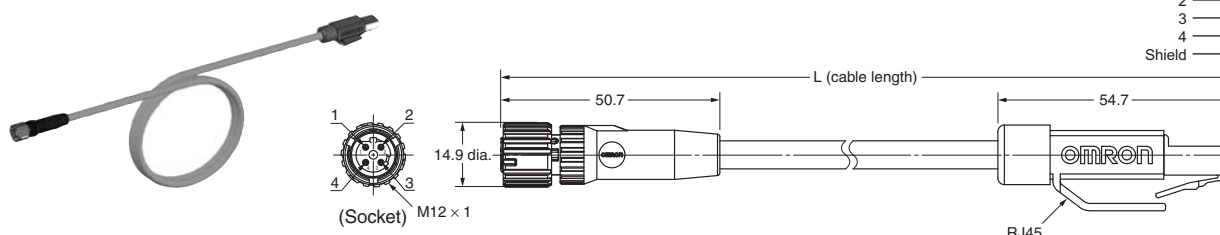


● Cable with Plug on One End and Socket on Other End (M12 Straight/RJ45)

XS5W-T421-□ME-K

Wiring

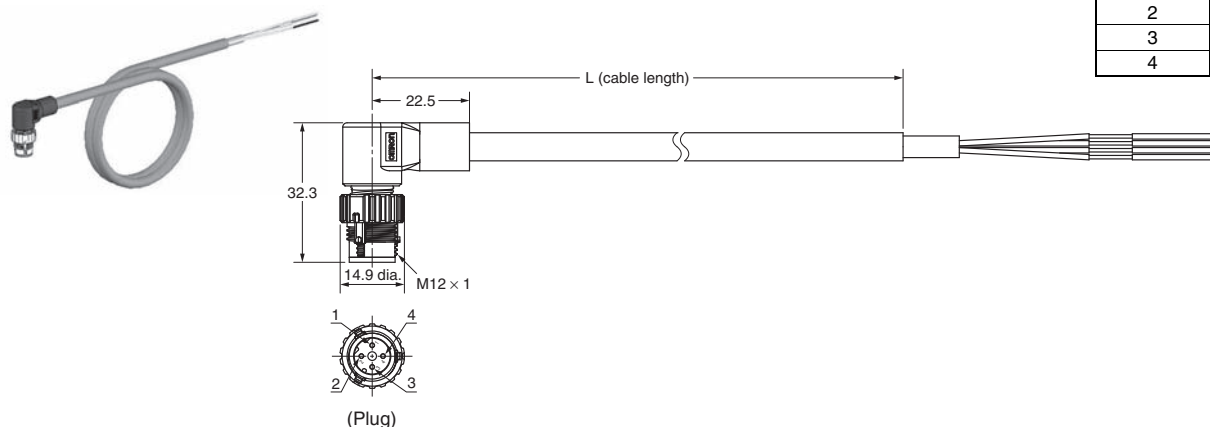
M12 straight	RJ45
1	1
2	3
3	2
4	6
Shield	Shield



● Cable with Plug One End (M12 Right-angle)
XS5H-T422-□M0-K

Wiring

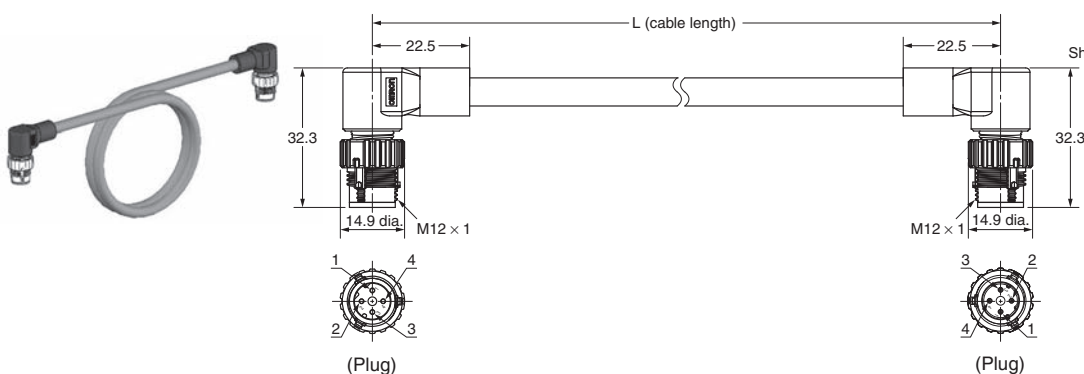
Terminal No.	Color
1	Yellow
2	White
3	Orange
4	Blue



● Cable with Plugs on Both Ends (M12 Right-angle/M12 Right-angle)
XS5W-T422-□M2-K

Wiring

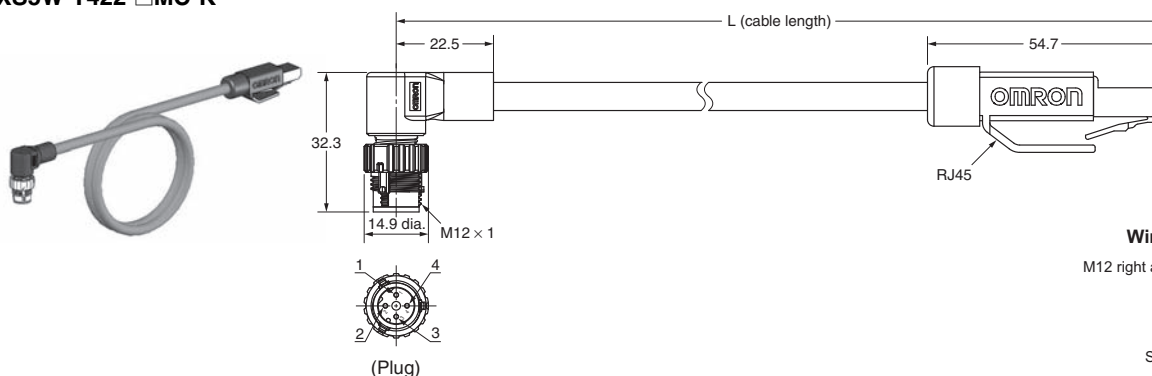
M12 right angle	M12 right angle
1	1
2	2
3	3
4	4
Shield	Shield



● Cable with Plugs on Both Ends (M12 Right-angle/RJ45)
XS5W-T422-□MC-K

Wiring

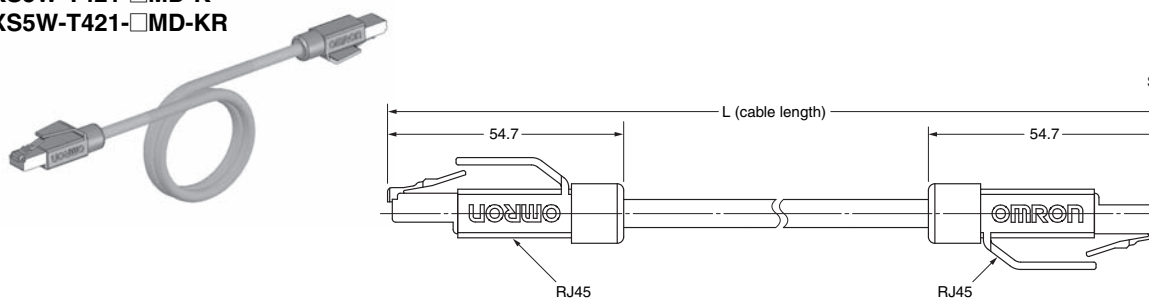
M12 right angle	RJ45
1	1
2	3
3	2
4	6
Shield	Shield



● Cable with Plugs on Both Ends (RJ45/RJ45)
XS5W-T421-□MD-K
XS5W-T421-□MD-KR

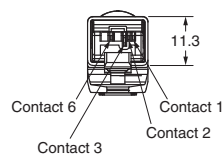
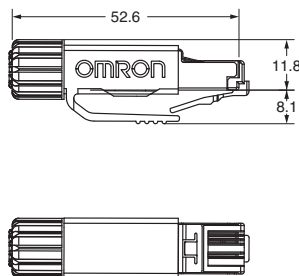
Wiring

RJ45	RJ45
1	1
2	2
3	3
6	6
Shield	Shield



Industrial Ethernet Connectors
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● RJ45 Assembly Connector
XS6G-T421-1



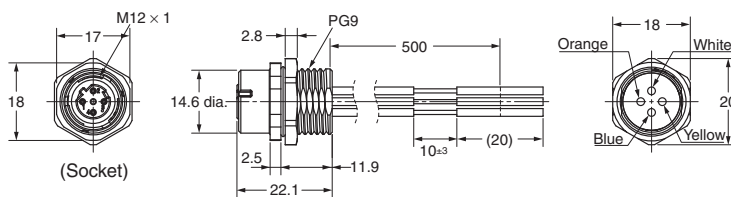
Applicable wires

Sheath outer diameter: 6.1 to 6.9 mm
Core size: AWG22 to AWG24 (stranded wires)
AWG22 to AWG23 (solid wires)
Insulation outer diameter: 1.6 mm max.

● M12 Connector for Panel Mounting
XS5P-T42-5



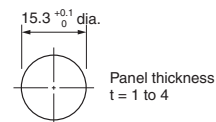
XS5P-T426-5 (Rear Locking)



Wiring

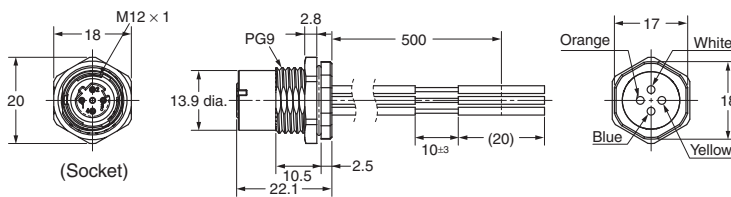
Terminal No.	Color
1	Yellow
2	White
3	Orange
4	Blue

Panel Cutout Dimension

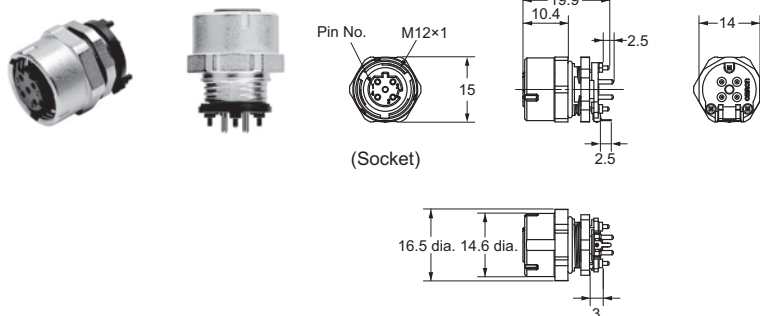


Note 1: The panel cutout dimension is the same for Front-locking and Rear-locking Connectors.
Note 2: Rotational positioning is not possible for connector rotation.

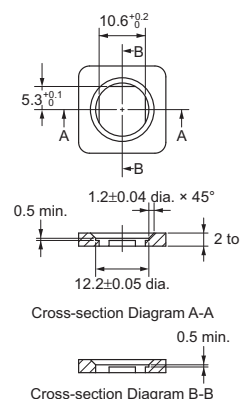
XS5P-T427-5 (Front Locking)



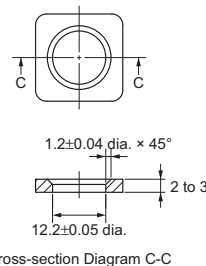
● M12 Panel-mounting PCB Straight Terminals
XS5P-T426-1



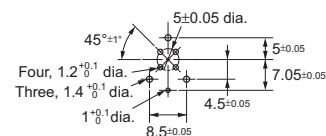
Mounting Hole Dimensions (D Cut Structure)



Mounting Hole Dimensions



Panel Processing Dimensions



Assembly Procedure

● RJ45 Assembly Connectors

XS6G-T421-1

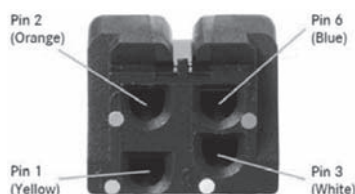
1. Pass the cable through the cable clamp and the connector housing
2. Strip the cable sheath and ground braiding to the correct lengths.
3. Follow the color codes and prepare to insert the wires into the splice piece.
4. Insert the wires into the splice piece for the length of the splice piece.
5. Place the splice piece into the RJ45 data module and engage it.
6. Place the data module and the splice piece on the IDC assembly housing.
7. Press the data module and the IDC assembly housing together and use pliers or a similar device to make the insulation displacement contact.
8. Remove the data module from the IDC assembly housing.
9. Place the upper screen plate on the data module and press it over the ground braiding of the cable.
10. Place the lower screen plate on the bottom of the data module, align it with the upper screen place, and latch it until you hear it click into place.
11. Slide the housing that you placed around the cable in step 1 up to the data module and latch it until you hear it click into place.
12. Tighten the cable clamp.



Pin Assignments

Pin Assignments for Fast Ethernet 10/100 Mbps

Function/Signal	Wire color			Pin No.
	Industrial Ethernet	EIA/TIA 568A	EIA/TIA 568B	
Transmission Data+/TD+	YE	WH/GN	WH/OG	1
Transmission Data-/TD-	OG	GN	OG	2
Receiver Data/RD+	WH	WH/OG	WH	3
Receiver Data/RD-	BU	OG	GN	6



● M12 Panel-mounting PCB Straight Terminals

XS5P-T426-1

Confirming the Number of Parts

The following four parts are included in the package when it is delivered.

Panel-mounting Parts

1. Anchor

2. O-Ring

3. Nut

PCB-mounting Part

4. Connector



Assembly Procedure

1. Mount the connector to the PCB.
2. Attach the anchor to the panel with the nut.

Mounting the Connector to the PCB

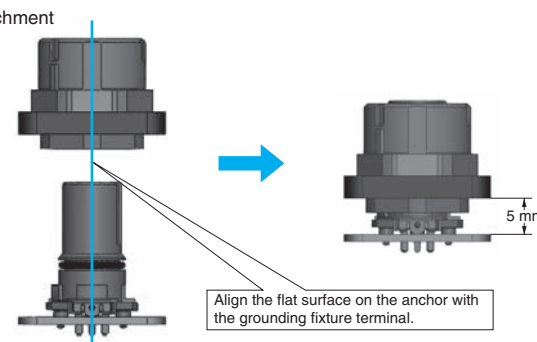
Mounting the Anchor to the Panel



3. Attach the connector that you mounted to the PCB to the panel.

* Make sure that the connector and anchor are oriented correctly.

Attachment



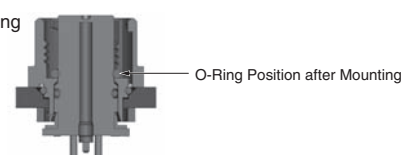
4. Temporarily mount the O-ring to the top of the connector at the mating surface.

Temporary Mounting of the O-Ring



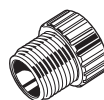
5. Mate the Connector Waterproof Cover (XS2Z-22, sold separately) or the Partner Connector Plug (XS5H-T42□-□M0-K, sold separately) and press the O-ring to the O-ring position after mounting.

Mounting the O-Ring



● Connector Waterproof Cover (Sold Separately)

XS2Z-22



* Tightening torque: 0.39 to 0.49 N·m

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

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Precautions for Correct Use

Do not use the Connectors in an atmosphere or environment that exceeds the specifications.

● Connector Connection and Disconnection

- When connecting or disconnecting Connectors, be sure to hold the Connectors.
- Do not hold the cable when disconnecting Connectors.
- When joining Connectors, be sure to insert the plug all the way to the back of the socket before attempting to lock the Connectors.
- Do not use tools of any sort to join the Connectors. Always use your hands. Pliers or other tools may damage the Connectors.

● Wiring

Lay the cables so that external force is not applied to the Connectors. Otherwise, the degree of protection (IP67) may not be achieved.

● Degree of Protection for M12/Smartclick Connectors

- The degree of protection of Connectors (IP67) is not for a fully watertight structure. Do not use the Connectors underwater.
- Do not step on or place any objects on the Connectors. Doing so may damage the Connectors.

● Handling Precautions

- Do not pull on the Connectors or cables with excessive force.
Do not install the Connectors with a load placed directly on the joint or at the point where the wires connect to the Connector. The Connector may be damaged or the wires in the cable may be disconnected.
- Lay the cable where it will not be stepped on to prevent the wires in the cable from being disconnected and to protect the Connectors from being damaged. If the cable must be placed where it will be stepped on, install a protective cover.
- When bending cables, do not exceed the cable specifications.

This image shows a full page of a blank sheet of white paper designed for writing. It features horizontal ruling lines spaced evenly down the page. A single vertical margin line runs parallel to the left edge, creating a narrow column for notes or a header. The word "MEMO" is printed at the top center of the page.

Model Index

Introduction to Sensor I/O Connectors

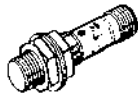
XS5/XS2/XW3 FA Connectors

Wiring System Configuration

Sensor End

Using Limit Switches and Sensors with Connectors

Proximity Sensor (Direct Connection Type)



E2E

(Connector-Terminal Connection Type)



E2E

Compact Limit Switch

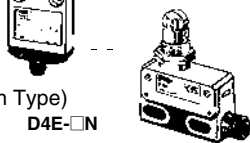
(Connector-Terminal Connection Type)



D4CC

Compact Enclosed Switch

(Connector-Terminal Connection Type)

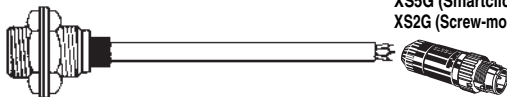


D4E-□N

Enabling Connectors to Be Used with Sensors

Connector Assembly (IDC,Crimping, Soldering, Screw-mounting)

XS5G (Smartclick)
XS2G (Screw-mounting)



Used to enable connectors (Connector-Terminal connection types) to be used with pre-wired Sensors.

Making Sensors with Cables (Sensor Manufacturers)

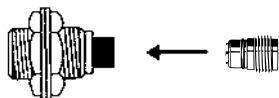
Connector with Cable

XS5H,XS2H

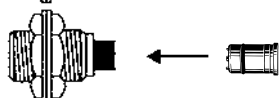


Used to enable connectors (Connector-Terminal connection types) to be integrated with the Sensor body.

Sensor-embedded Connector



XS2M
(Embedded Plug with
Screw Threads)

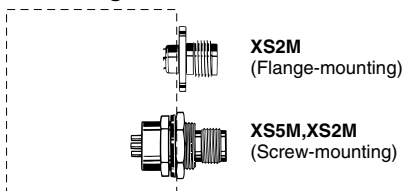


XS2M
(Embedded Plug without
Screw Threads)

Used to enable connectors (direct connection types) to be integrated with the Sensor body.

Mounting to Panels

Panel-mounting Connector



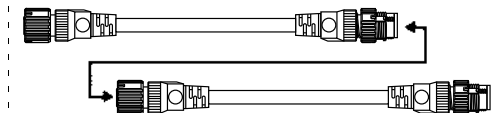
XS2M
(Flange-mounting)

XS5M,XS2M
(Screw-mounting)

Relay Cable

Connector with Cable

XS5W (Smartclick)
XS2W (Screw-mounting)



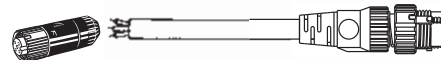
(Multiple XS5W,XS2W can be used to extend the cable.)

Connector Assembly

(IDC,Crimping, Soldering, Screw-mounting)
+ Connector with Cable

XS5C (Smartclick)
XS2C (Screw-mounting)

XS5H (Smartclick)
XS2H (Screw-mounting)



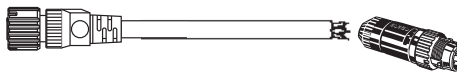
Connector with Cable

+ Connector Assembly

(IDC,Crimping, Soldering, Screw-mounting)

XS5F (Smartclick)
XS2F (Screw-mounting)

XS5G (Smartclick)
XS2G (Screw-mounting)

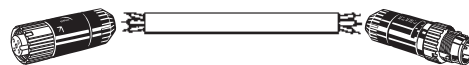


Connector Assembly

(Crimping, Soldering, Screw-mounting)

XS5C (Smartclick)
XS2C (Screw-mounting)

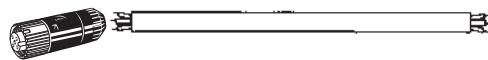
XS5G (Smartclick)
XS2G (Screw-mounting)



Connector Assembly

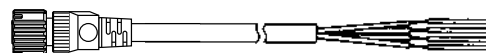
(IDC,Crimping, Soldering, Screw-mounting)

XS5C (Smartclick)
XS2C (Screw-mounting)



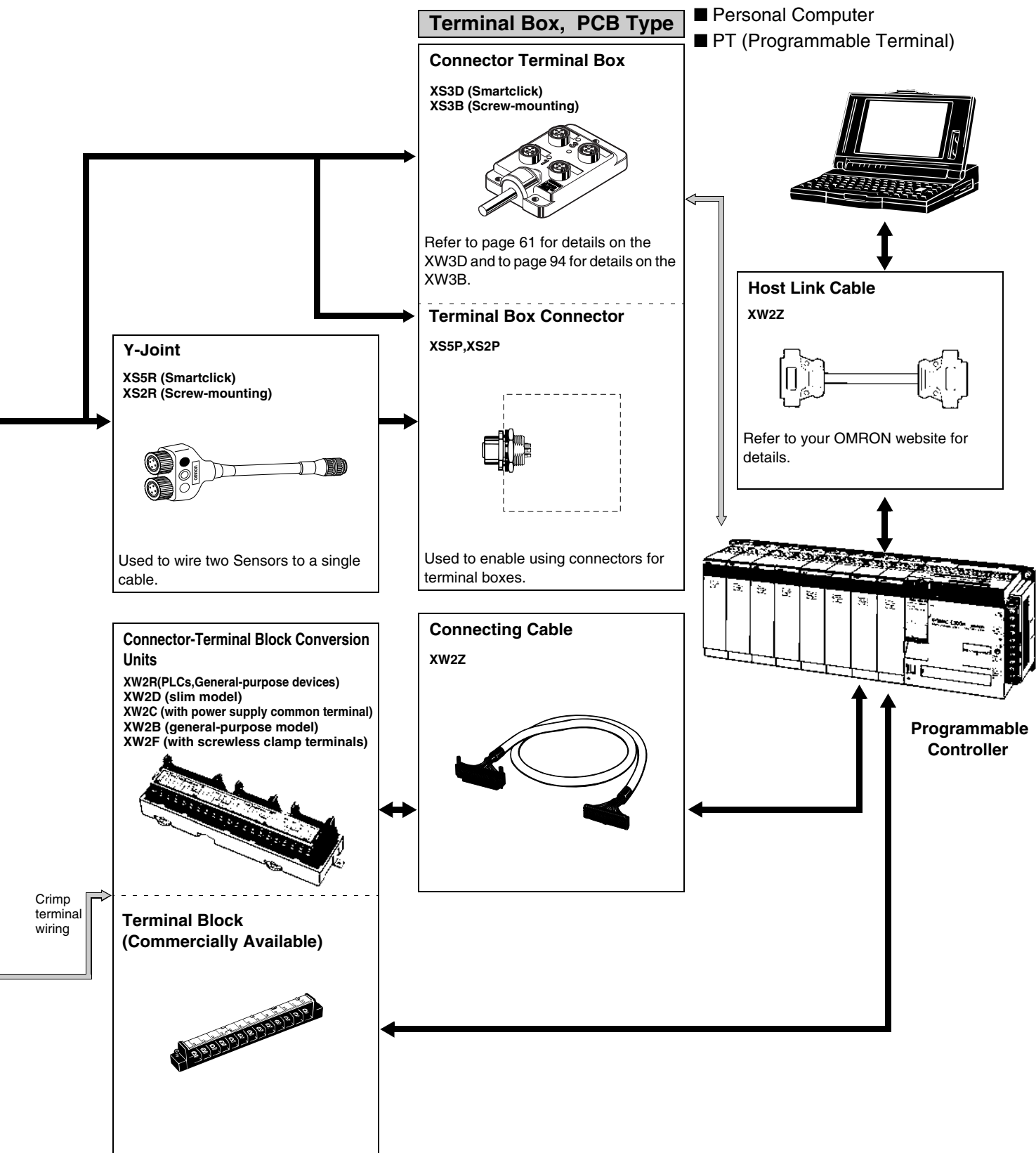
Connector with Cable

XS5F (Smartclick)
XS2F (Screw-mounting)



Introduction to Sensor I/O Connectors

( indicates mating connectors, and  indicates wiring connections.)



Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

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Round Water-resistive Smartclick Connectors That Reduce Installation Work

- A newly developed lock mechanism that is compatible with round M12 connectors.
- Simply insert the Connectors, then turn them approximately 1/8 of a turn to lock.
- A positive click indicates locking.
- Features the same degree of protection (IP67) as M12 connectors.
- A full line-up of models is planned.
- Connectors with Cables are UL approved.



Refer to *Safety Precautions* on page 55.

Ratings and Specifications

Rated current	4 A
Rated voltage	250 VDC
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 (IEC60529)
Insertion tolerance	50 times min.
Lock strength	Tensile: 100 N/15 s, Torsion: 1 N·m/15 s
Cable holding strength	Tensile: 100 N/15 s, Torsion: 1 N·m/15 s (for cable diameter of 6 mm) *2
Lock operating force	0.1 to 0.25 N·m
Ambient operating temperature range	-25 to 70°C
Ambient humidity range	20% to 85%
Number of pressure-weld repairs *1	10 times max. (Limited to the same external diameter and wire diameter.)

*1. Only XS5C/G (IDC models)

*2. Refer to product specifications for details.

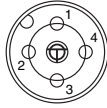
Industrial Ethernet Connectors
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Materials and Finishes

Model		XS5F/H/W	XS5R	XS5M/P	XS5C/G (Crimping, Soldering)	XS5C/G (Screw-on)	XS5C/G (IDC models)
Contacts	Material	Phosphor bronze	Phosphor bronze or Brass	Phosphor bronze	Brass	Phosphor bronze or Brass	Phosphor bronze
	Finish	Nickel base, 0.4-μm gold plating					Nickel base, 0.15-μm gold plating
Fixtures		Nickel-plated zinc alloy					
Fixtures (Lock) *		Stainless					
Pin block		PBT resin (UL94V-0)					
O-ring		Rubber					
Overmolding/Cover		Soft PBT resin (UL94V-0)		---	PBT resin (UL94V-0)		
Cable	Fire-retardant, Robot cable	UL AWM2464 CL3, 6 mm dia., AWG20 (0.5mm ²) Structure: 0.08 mm/110 wires		---			
	Oil-resistant polyurethane cable	6 mm dia. AWG20 (0.5mm ²) Structure: 0.12 mm/45 wires		---			
	Spatter-resistant Cable	6.6 mm dia. AWG20 (0.5mm ²) Structure: 0.08 mm/100 wires		---			
Seal resin		---		Epoxy resin (UL94V-0)	---		
Power supply wires		---		UL1007 AWG20	---		

*Only plug

Connector Pinout Diagram (from Mating Side)

Item	No. of poles	4 poles
DC type	Male (plug) contacts	
	Female (socket) contacts	

Connection Combinations

OMRON model No.		Smartclick Plug Connectors	M12 Plug Connectors
		XS5H, XS5G, XS5W (plug side), XS5R (plug side), XS5M	XS2H, XS2G, XS2W (plug side), XS2R (plug side), XS2M
Smartclick Socket Connectors	XS5F, XS5C, XS5W (socket side), XS5R (socket side), XS5P	⊗	○
M12 Socket Connectors	XS2F, XS2C, XS2W (socket side), XS2R (socket side), XS2P	○	○

 Smartclick is a registered trademark of the OMRON Corporation.

⊗ : Connected by twisting.

○ : Connected by screwing.

Note: The XS□M and XS□P cannot mate with each other.

XS5W

Connectors Connected to Cable, Socket and Plug on Cable Ends

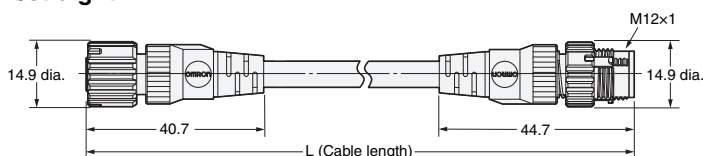
- Fire-retardant, Robot cable
- Oil-resistant Polyurethane Cable
- Spatter-resistant Cable

XS5W-D42□-□81-F
 XS5W-D42□-□81-P
 XS5W-D421-□81-SA

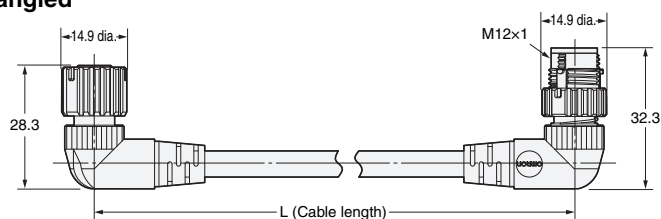
Dimensions

(Unit: mm)

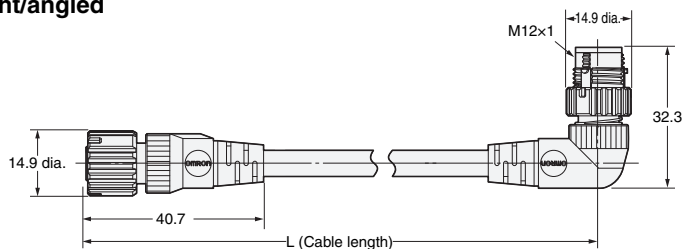
Straight/straight



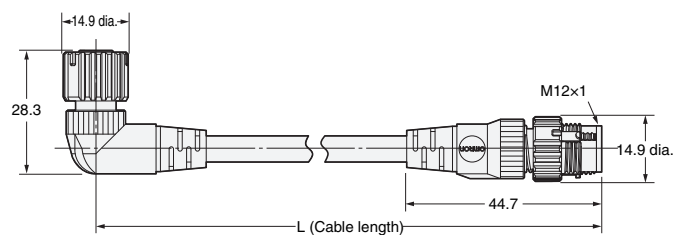
Angled/angled



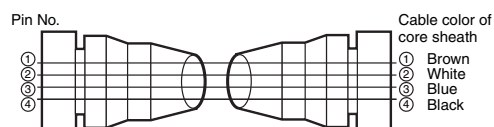
Straight/angled



Angled/straight



Wiring Diagram for 4 Cores



Note: Oil-resistant Polyurethane Cables (XS5W-D42□-□81-P) and Spatter-resistant Cable (XS5W-D421-□81-SA) have black covers. Fire-retardant, Robot cable (XS5W-D42□-□81-F) have warm gray covers.

Model Number Legend

XS5W-D42 **81**

1 2 3 4 5 6 7 8 9

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

1. Type

W: Connectors connected to cable, socket and plug on cable ends

2. Mating Section Form

D: DC

3. Connector Poles

4: 4 poles

4. Contact Plating

2: 0.4-μm gold plating

5. Cable Connection Direction

- 1: Straight/straight
- 2: Angled/angled
- 3: Straight (Socket)/angled (Plug)
- 4: Angled (Socket)/straight (Plug)

6. Cable Length

C: 1 m D: 2 m E: 3 m
G: 5 m J: 10m

7. Connections

8: A Brown, B White, C Blue, D Black (Numbers inside circles are terminal numbers)

8. Connectors on One End/Both Ends

1: Both ends

9. Cable Specifications

F: Fire-retardant, Robot cable
P: Oil-resistant Polyurethane Cable
SA: Spatter-resistant Cable

Ordering Information

Cable specifications	Cable length L (m)	Cable outer diameter (mm)	Straight/straight	Angled/angled	Minimum order	UL
			Model			
Fire-retardant, Robot cable	1	6	XS5W-D421-C81-F	---	10	Yes
	2		XS5W-D421-D81-F	XS5W-D422-D81-F	5	
	3		XS5W-D421-E81-F	---		
	5		XS5W-D421-G81-F	XS5W-D422-G81-F		
	10		XS5W-D421-J81-F	---	1	
Oil-resistant Polyurethane Cable	2	6	XS5W-D421-D81-P	---	5	---
	5		XS5W-D421-G81-P	---		
	10		XS5W-D421-J81-P	---	1	
Spatter-resistant Cable	2	6.6	XS5W-D421-D81-SA	---	5	---
	5		XS5W-D421-G81-SA	---		

Cable specifications	Cable length L (m)	Cable outer diameter (mm)	Straight (Socket)/ angled (Plug)	Angled (Socket)/ straight (Plug)	Minimum order	UL
			Model			
Fire-retardant, Robot cable	2	6	XS5W-D423-D81-F	XS5W-D424-D81-F	5	Yes
	5		XS5W-D423-G81-F	XS5W-D424-G81-F		

Industrial Ethernet Connectors

XS5/XS6

Sensor/I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

Model Index

XS5F

Connector Connected to Cable, Socket on One Cable End

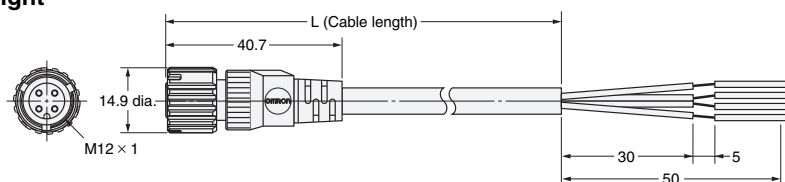
- Fire-retardant, Robot cable
- Oil-resistant Polyurethane Cable
- Spatter-resistant Cable

XS5F-D42□-□80-F
XS5F-D42□-□80-P
XS5F-D421-□80-SA

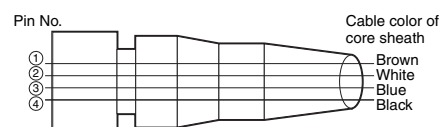
Dimensions

(Unit: mm)

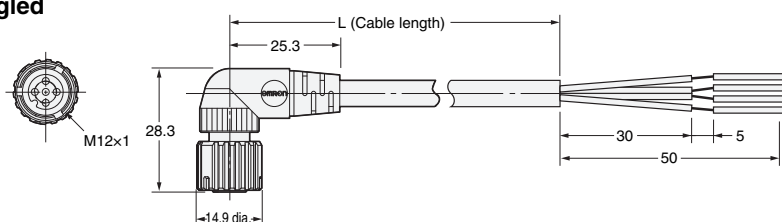
Straight



Wiring Diagram for 4 Cores



Angled



Note: Oil-resistant Polyurethane Cables (XS5F-D42□-□80-P) and Spatter-resistant Cable (XS5F-D421-□80-SA) have black covers. Fire-retardant, Robot cable (XS5F-D42□-□80-F) have warm gray covers.

Model Number Legend

XS5F-D42□-□80-□□

1 2 3 4 5 6 7 8 9

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

1. Type

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

2. Mating Section Form

D: DC

3. Connector Poles

4: 4 poles

4. Contact Plating

2: 0.4-μm gold plating

5. Cable Connection Direction

1: Straight
2: Angled

6. Cable Length

C: 1 m D: 2 m E: 3 m
G: 5 m J: 10 m

7. Connections

8: A Brown, B White, C Blue, D Black (Numbers inside circles are terminal numbers.)

8. Connectors on One End/Both Ends

0: One end

9. Cable Specification

F: Fire-retardant, Robot cable
P: Oil-resistant Polyurethane Cable
SA: Spatter-resistant Cable

Ordering Information

Cable specifications	Cable length L (m)	Cable outer diameter (mm)	Straight Connectors	Angled Connectors	Minimum order	UL
			Model			
Fire-retardant, Robot cable	1	6	XS5F-D421-C80-F	XS5F-D422-C80-F	10	Yes
	2		XS5F-D421-D80-F	XS5F-D422-D80-F	5	
	3		XS5F-D421-E80-F	XS5F-D422-E80-F		
	5		XS5F-D421-G80-F	XS5F-D422-G80-F		
	10		XS5F-D421-J80-F	XS5F-D422-J80-F	1	
Oil-resistant Polyurethane Cable	2	6.6	XS5F-D421-D80-P	XS5F-D422-D80-P	5	---
	5		XS5F-D421-G80-P	XS5F-D422-G80-P		
	10		XS5F-D421-J80-P	XS5F-D422-J80-P	1	
Spatter-resistant Cable	2	6.6	XS5F-D421-D80-SA	---	5	---
	5		XS5F-D421-G80-SA	---		

XS5H

Connector Connected to Cable, Plug on One Cable End

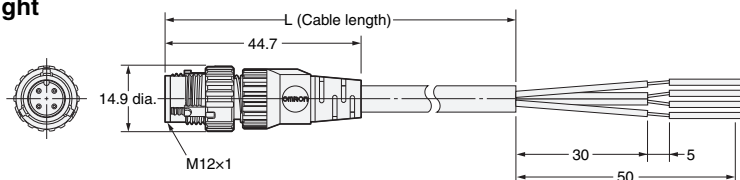
- Fire-retardant, Robot cable
- Oil-resistant Polyurethane Cable
- Spatter-resistant Cable

XS5H-D42□-□80-F
XS5H-D42□-□80-P
XS5H-D421-□80-SA

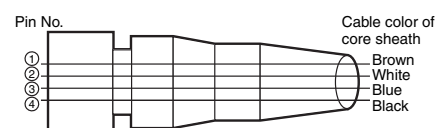
Dimensions

(Unit: mm)

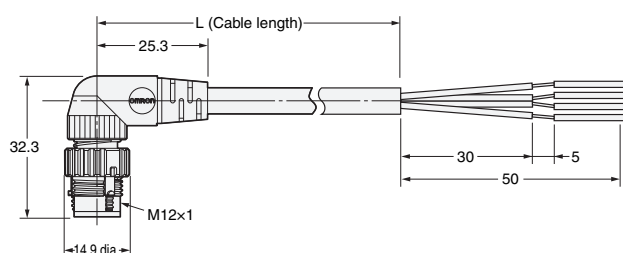
Straight



Wiring Diagram for 4 Cores



Angled



Note: Oil-resistant Polyurethane Cables (XS5H-D42□-□80-P) and Spatter-resistant Cable (XS5H-D421-□80-SA) have black covers. Fire-retardant, Robot cable (XS5H-D42□-□80-F) have warm gray covers.

Model Number Legend

XS5H-D42□-□80-□□

1 2 3 4 5 6 7 8 9

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

1. Type

H: Connector connected to cable, plug on one cable end

2. Mating Section Form

D: DC

3. Connector Poles

4: 4 poles

4. Contact Plating

2: 0.4-μm gold plating

5. Cable Connection Direction

1: Straight
2: Angled

6. Cable Length

A: 0.3 m C: 1 m D: 2 m
G: 5 m

7. Connections

8: A Brown, B White, C Blue,
D Black (Numbers inside circles are terminal numbers)

8. Connectors on One End/Both Ends

0: One end

9. Cable Specifications

F: Fire-retardant, Robot cable
P: Oil-resistant Polyurethane Cable
SA: Spatter-resistant Cable

Ordering Information

Cable specifications	Cable length L (m)	Cable outer diameter (mm)	Straight Connectors	Angled Connectors	Minimum order	UL
			Model			
Fire-retardant, Robot cable	0.3	6	XS5H-D421-A80-F	XS5H-D422-A80-F	10	Yes
	1		XS5H-D421-C80-F	XS5H-D422-C80-F		
	2		XS5H-D421-D80-F	XS5H-D422-D80-F	5	
	5		XS5H-D421-G80-F	XS5H-D422-G80-F		
Oil-resistant Polyurethane Cable	0.3	6.6	XS5H-D421-A80-P	XS5H-D422-A80-P	10	---
	2		XS5H-D421-D80-P	XS5H-D422-D80-P	5	
	5		XS5H-D421-G80-P	XS5H-D422-G80-P		
Spatter-resistant Cable	0.3	6.6	XS5H-D421-A80-SA	---	10	---
	1		XS5H-D421-C80-SA	---		

XS5 Eight-pole Connectors with Cables

Ordering Information

Type	Cable specification	Cable connection direction	No. of cable cores	Cable length L (m)	Applicable wire gauge	Model
Connector Connected to Cable, Socket on One End	6.3 mm dia., AWG23 (0.25 mm ²) Structure: 0.08 mm/60 wires	Straight	10	2	---	XS5F-D821-DH0-R
				5		XS5F-D821-GH0-R
				10		XS5F-D821-JH0-R
Panel-mounting Plug	---	---	---	---	AWG22 to AWG28	XS5M-D827-4

Pins and Cable Lead Colors

XS5F cable lead colors	Pin No.							
	A	B	C	D	E	F	G	H
	White	Brown	Green	Yellow	Gray	Pink	Blue	Red

Ratings and Specifications

Rated current	1.5 A
Rated voltage	36 VDC
Contact resistance	40 mΩ max. (at 20 mV DC max., 100 mA max.)
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength	1,000 VAC for 1 min (leakage current: 1 mA max.)
Degree of protection	IP67 (IEC 60529)
Insertion tolerance	50 times
Ambient operating temperature range	-25 to 70°C
Ambient operating humidity range	20% to 85%

Materials and Finishes

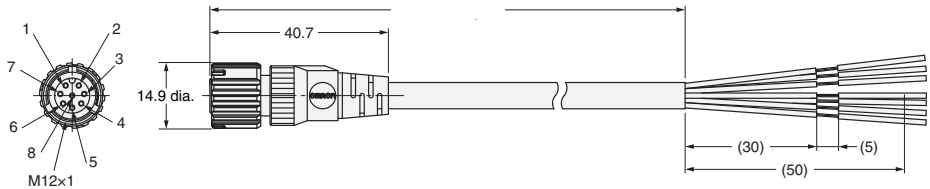
Contacts	Brass/nickel base, 0.4-μm gold plating
Fixtures	Nickel-plated zinc alloy *1
Body	Nickel-plated zinc alloy *2
Nuts	Nickel-plated brass *2
Fixtures (lock)	Stainless *2
Contact block	PBT resin (UL94V-0), light gray
Cover *1	Soft PBT resin (UL94V-0)
Seal resin *2	Rubber
O-ring*1	

*1. XS5F only.
*2. XS5M only.

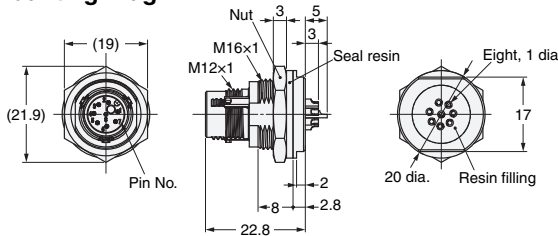
Dimensions

(Unit: mm)

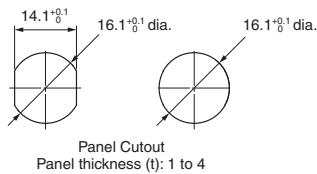
XS5F-D821-H0-R Connector Connected to Cable, Socket on One End



XS5M-D827-4 Front-locking, Panel-mounting Plug



Panel Cutout

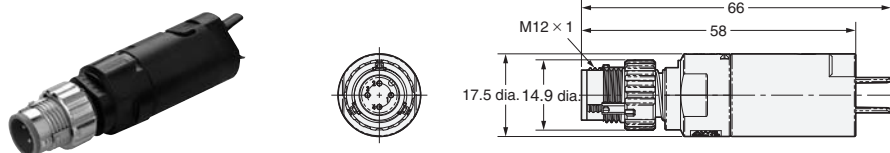


XS5G Assembly Connector Plugs

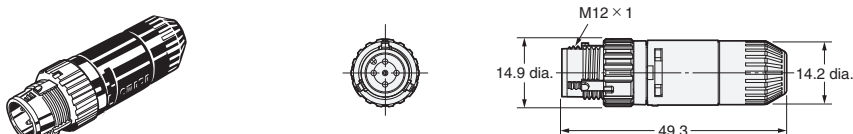
Dimensions

(Unit: mm)

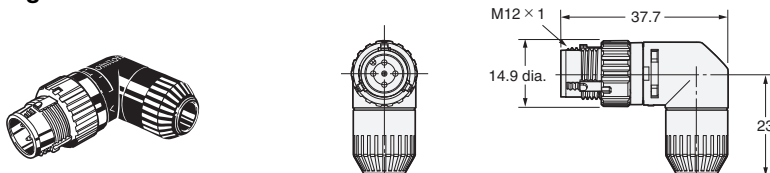
XS5G-D418 (IDC Model) Straight Connectors



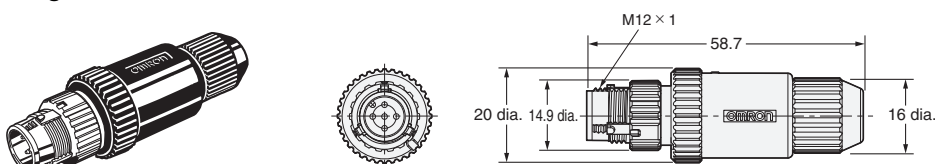
XS5G-D4C□ (Crimping Model) XS5G-D42□ (Soldering Model) Straight Connectors



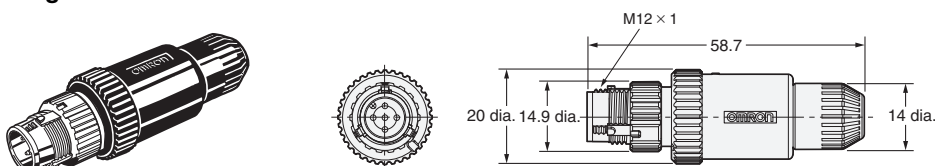
XS5G-D42□ (Soldering Model) Angled Connectors



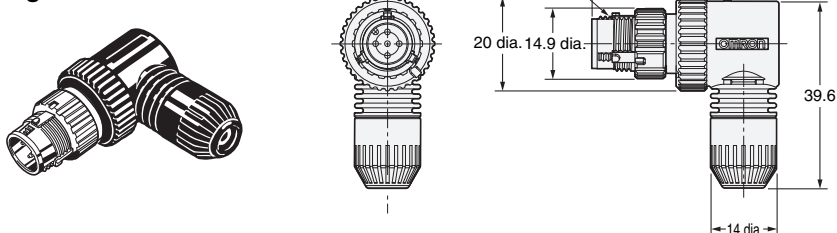
XS5G-D□S□ (Screw-on Connectors, Applicable Cable Outer Diameter: 7 or 8 mm) Straight Connectors



XS5G-D□S□ (Screw-on Connectors, Applicable Cable Outer Diameter: 3, 4, or 6 mm) Straight Connectors



XS5G-D□S□ (Screw-on Connectors) Angled Connectors

Industrial
Ethernet
Connectors

XS5/XS6

Sensor I/O
ConnectorIntroduction to
Sensor I/O
Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet
PeripheralsCommunications
Peripherals for
Standard SlavesI/O Peripherals
for Standard
SlavesCommunications
Peripherals for
Environment-
resistive SlavesI/O Peripherals
for Environment-
resistive SlavesPower Supply
Peripherals for
Environment-
resistive SlavesStandard-
compliant
Models

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XS5

Ordering Information

Industrial Ethernet Connectors	No. of poles	Connection method	Suitable cable dia. (mm)	Core conductor size (mm²)	Suitable sheath material	Straight Connectors	Angled Connectors	Minimum order
						Model		
XS5/XS6	4	IDC	3 to 8 mm	0.14 to 0.75 *1	PVC, PE, PUR	XS5G-D418	---	50
			Crimping	6 mm (5 to 6)		0.18 to 0.3 0.5 to 0.75 *2	XS5G-D4C1	
		4 mm (4 to 5)		XS5G-D4C3			---	
		3 mm (3 to 4)		XS5G-D4C5			---	
Soldering		6 mm (5 to 6)	0.5 max.	XS5G-D421		XS5G-D422		
		4 mm (4 to 5)		XS5G-D423		XS5G-D424		
		3 mm (3 to 4)		XS5G-D425		XS5G-D426		
Sensor I/O Connector		Screw-on	6 mm (5 to 6)	0.18 to 0.75		XS5G-D4S1	XS5G-D4S2	
	4 mm (4 to 5)		XS5G-D4S3			XS5G-D4S4		
	3 mm (3 to 4)		XS5G-D4S5			XS5G-D4S6		
	8 mm (7 to 8)		XS5G-D4S7			---		
Introduction to Sensor I/O Connectors	5	Screw-on	7 mm (6 to 7)			XS5G-D4S9	---	
			6 mm (5 to 6)			XS5G-D5S1	---	
			4 mm (4 to 5)			XS5G-D5S3	---	
			3 mm (3 to 4)			XS5G-D5S5	---	
XS5			8 mm (7 to 8)			XS5G-D5S7	---	
			7 mm (6 to 7)			XS5G-D5S9	---	

*1. Minimum wire diameter: 0.08 mm, Outer diameter of wire covering: 0.7 to 2.6 mm, Material of wire covering: PVC and PE

*2. There are two types of contacts.

Note: XS5G Screw-on Plugs cannot be connected to side by side to the CN1 and CN2 connectors of XS2R or XS5R Y-Joint Sockets/Plugs. Use one of the above cables. If you do not use one of these cables, there is a possibility that the performance can't be met. Ask your OMRON representative about selecting a cable of other than above.

XS2
XW3B
XS3
XN2
DeviceNet Peripherals
Communications Peripherals for Standard Slaves
I/O Peripherals for Standard Slaves
Communications Peripherals for Environment-Resistive Slaves
I/O Peripherals for Environment-Resistive Slaves
Power Supply Peripherals for Environment-Resistive Slaves
Standard-compliant Models
Model Index



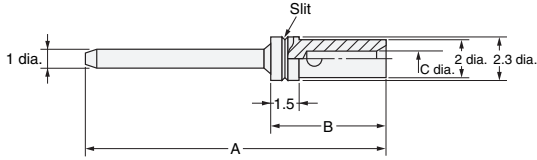
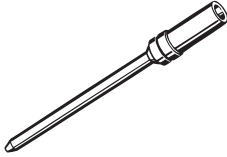
XS5U (Crimping Pin for XS5G)

Dimensions

(Unit: mm)

XS5U-312□
Plug Pin

* A special tool must be used for crimping. For details, refer to page 49.



Dimensions					
Model	Suitable core size (mm ²)	Dimension (mm)			No. of slits
		A	B	C	
XS5U-3121	0.18 to 0.3	22.6	6.1	0.8	1
XS5U-3122	0.5 to 0.75	22.7	6.2	1.3	0

Ordering Information

Suitable core size (mm ²)	Model	Minimum order
0.18 to 0.3	XS5U-3121	100
0.5 to 0.75	XS5U-3122	

Note: Orders are accepted in multiples of the minimum order.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

Model Index

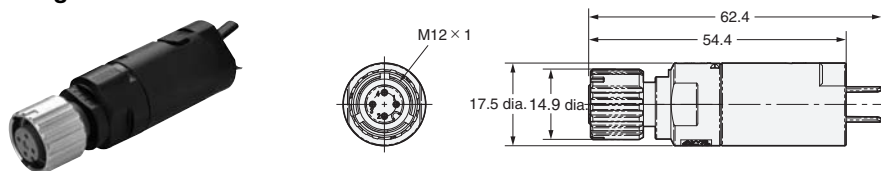
XS5C Assembly Connector Sockets

Dimensions

(Unit: mm)

XS5C-D418 (IDC Model)

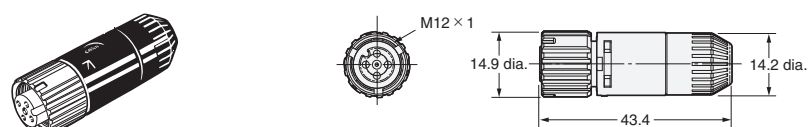
Straight Connectors



XS5C-D4C (Crimping Model)

XS5C-D42 (Soldering Model)

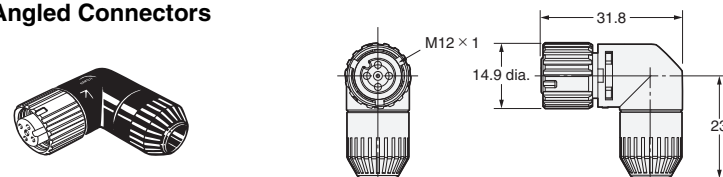
Straight Connectors



XS5C-D4C (Crimping Model)

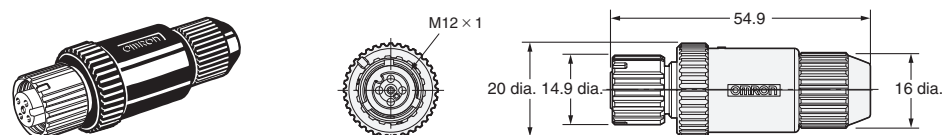
XS5C-D42 (Soldering Model)

Angled Connectors



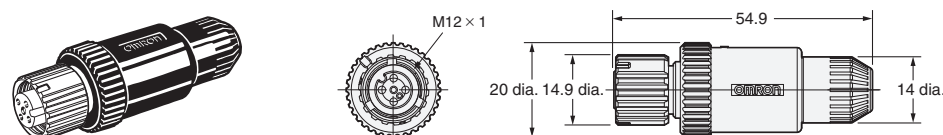
XS5C-D S (Screw-on Connectors, Applicable Cable Outer Diameter: 7 or 8 mm)

Straight Connectors



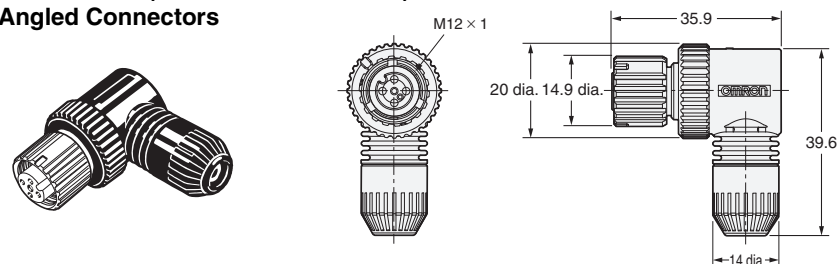
XS5C-D S (Screw-on Connectors, Applicable Cable Outer Diameter: 3, 4, or 6 mm)

Straight Connectors



XS5C-D S (Screw-on Connectors)

Angled Connectors



Ordering Information

No. of poles	Connection method	Suitable cable dia. (mm)	Core conductor size (mm²)	Suitable sheath material	Straight Connectors	Angled Connectors	Minimum order
					Model		
4	IDC	3 to 8 mm	0.14 to 0.75 *1	PVC, PE, PUR	XS5C-D418	---	50
	Crimping	6 mm (5 to 6)	0.18 to 0.3 0.5 to 0.75² *2		XS5C-D4C1	XS5C-D4C2	
		4 mm (4 to 5)			XS5C-D4C3	XS5C-D4C4	
		3 mm (3 to 4)			XS5C-D4C5	XS5C-D4C6	
	Soldering	6 mm (5 to 6)	0.5 max.		XS5C-D421	XS5C-D422	
		4 mm (4 to 5)			XS5C-D423	XS5C-D424	
		3 mm (3 to 4)			XS5C-D425	XS5C-D426	
	Screw-on	6 mm (5 to 6)	0.18 to 0.75		XS5C-D4S1	XS5C-D4S2	
		4 mm (4 to 5)			XS5C-D4S3	XS5C-D4S4	
		3 mm (3 to 4)			XS5C-D4S5	XS5C-D4S6	
		8 mm (7 to 8)			XS5C-D4S7	---	
		7 mm (6 to 7)			XS5C-D4S9	---	
	5	Screw-on			6 mm (5 to 6)	XS5C-D5S1	
4 mm (4 to 5)				XS5C-D5S3	---		
3 mm (3 to 4)				XS5C-D5S5	---		
8 mm (7 to 8)				XS5C-D5S7	---		
7 mm (6 to 7)				XS5C-D5S9	---		

*1. Minimum wire diameter: 0.08 mm, Outer diameter of wire covering: 0.7 to 2.6 mm, Material of wire covering: PVC and PE

*2. There are two types of contacts.

Note: Use one of the above cables. If you do not use one of these cables, there is a possibility that the performance can't be met. Ask your OMRON representative about selecting a cable of other than above.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

Model Index

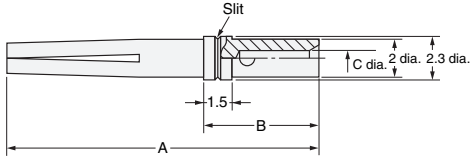
XS5U (Crimping Pin for XS5C)

Dimensions

(Unit: mm)

XS5U-222□
Socket Pin

* A special tool must be used for crimping. For details, refer to page 49.



Dimensions					
Model	Suitable core size (mm ²)	Dimension (mm)			No. of slits
		A	B	C	
XS5U-2221	0.18 to 0.3	16.7	6.1	0.8	1
XS5U-2222	0.5 to 0.75	16.8	6.2	1.3	0

Ordering Information

Suitable core size (mm ²)	Model	Minimum order
0.18 to 0.3	XS5U-2221	100
0.5 to 0.75	XS5U-2222	

Orders are accepted in multiples of the minimum order.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environmentally Resistant Slaves

I/O Peripherals for Environmentally Resistant Slaves

Power Supply Peripherals for Environmentally Resistant Slaves

Standard-compliant Models

Model Index

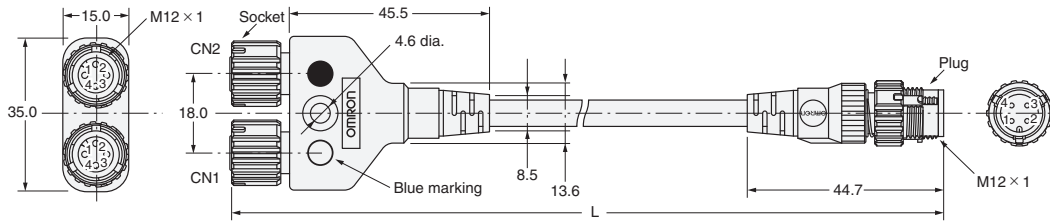
XS5R Y-Joint Plug/Socket Connectors

Dimensions

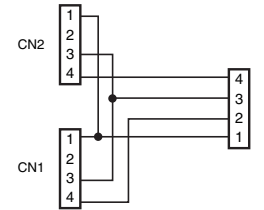
(Unit: mm)

XS5R-D426-□11-F

Connectors on Both Ends (Y-Joint Plug/Socket)

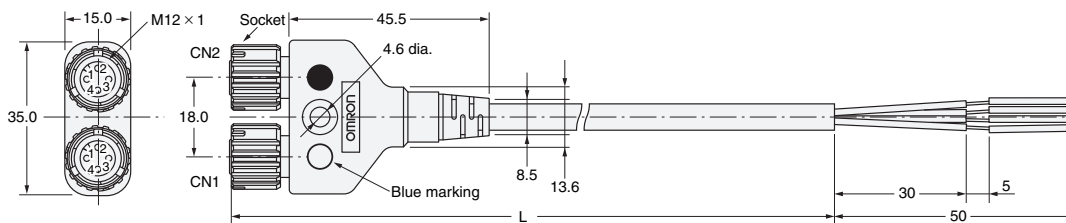


Wiring Diagram

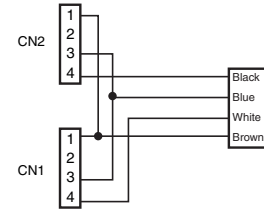


XS5R-D426-□10-F

Connectors on One Cable End (Y-Joint Socket)

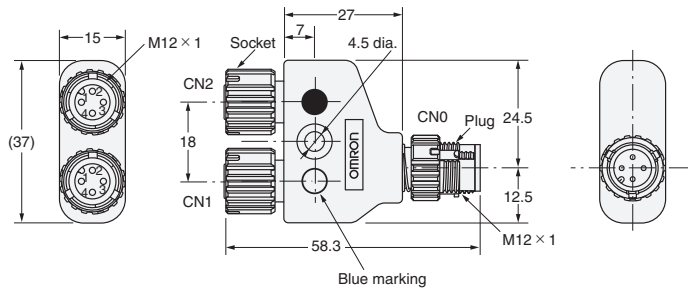


Wiring Diagram



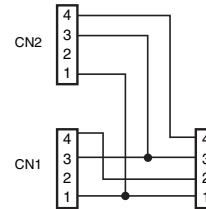
XS5R-D426-□

Y-Joint Plug/Socket without Cable

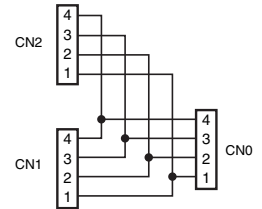


Wiring Diagram

XS5R-D426-1



XS5R-D426-5



Ordering Information

Cable	Connector	Cable length (m)	Model	Minimum order
With cable	Connectors on both cable ends	0.5	XS5R-D426-B11-F	10
		1	XS5R-D426-C11-F	
		2	XS5R-D426-D11-F	
		3	XS5R-D426-E11-F	
	Connector on one cable end	2	XS5R-D426-D10-F	5
		5	XS5R-D426-G10-F	
Cable	Connector	Cable length (m)	Model	Minimum order
With no cable	Y-Joint Plug/Socket	—	XS5R-D426-1	10
			XS5R-D426-5	

Note 1. Ask your OMRON representative about other specifications.

2. XS2G/XS5G Assembled Connectors with screw connections cannot be connected to both CN1 and CN2 at the same time.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-Resistive Slaves

I/O Peripherals for Environment-Resistive Slaves

Power Supply Peripherals for Environment-Resistive Slaves

Standard-compliant Models

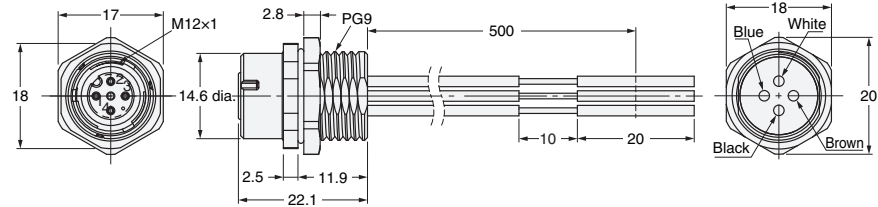
Model Index

XS5P Panel-mounting Sockets



Dimensions

XS5P-D426-5 Rear-locking Socket Connected to Wires



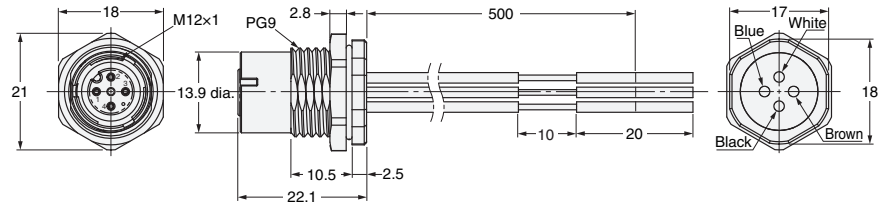
Wiring

Pin number	Color
1	Brown
2	White
3	Blue
4	Black

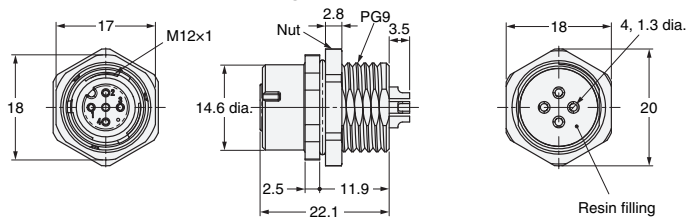
Wire Specifications

Item		Specification
Specification		UL1007
Nominal size		AWG20
Configuration	Number of wires	21
	Wire diameter	0.18
	Standard outer diameter	1.8

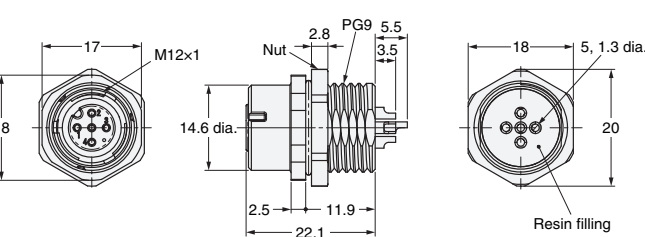
XS5P-D427-5 Front-locking Socket Connected to Wires



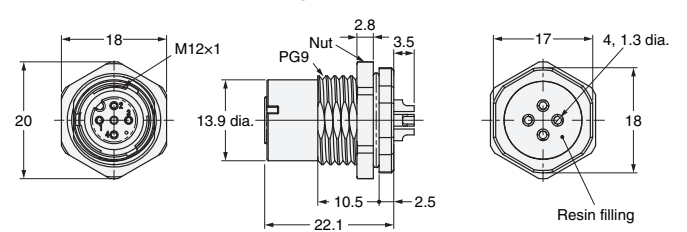
XS5P-D426-4 Rear-locking Socket with Solder Cup Pins



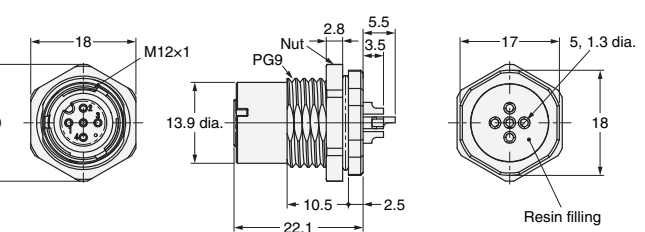
XS5P-D526-4 Rear-locking Socket with Solder Cup Pins



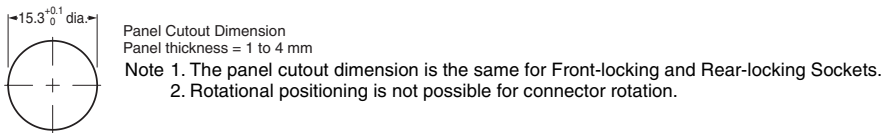
XS5P-D427-4 Front-locking Socket with Solder Cup Pins



XS5P-D527-4 Front-locking Socket with Solder Cup Pins



Panel Cutout



Ordering Information

Type	No. of poles	Lock	Cable length (m)	Model	Minimum order
With cable	4	Rear lock	0.5	XS5P-D426-5	10
		Front lock		XS5P-D427-5	
Type	No. of poles	Lock	Applicable wires	Model	Minimum order
Solder cup pins	4	Rear lock	AWG20 to AWG28	XS5P-D426-4	50
		Front lock		XS5P-D427-4	
	5	Rear lock		XS5P-D526-4	
		Front lock		XS5P-D527-4	

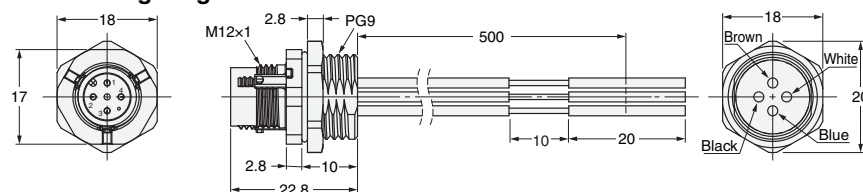
XS5M Panel-mounting Plugs

Dimensions



XS5M-D426-5

Rear-locking Plug Connected to Wires

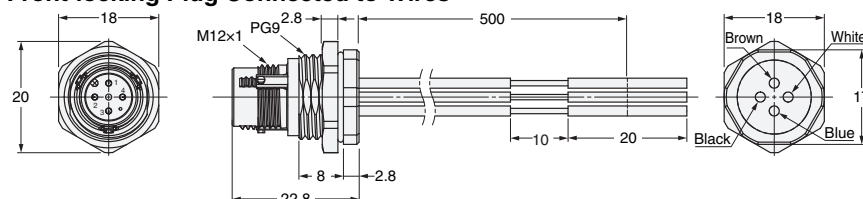


Wiring

Pin number	Color
1	Brown
2	White
3	Blue
4	Black

XS5M-D427-5

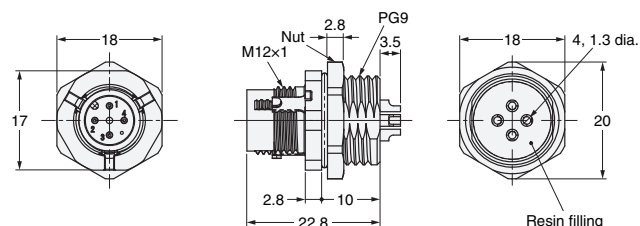
Front-locking Plug Connected to Wires



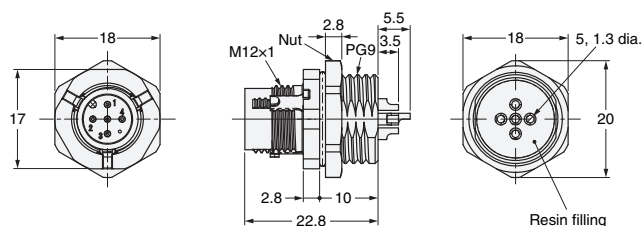
Wire Specifications

Item		Specification
Specification		UL1007
Nominal size		AWG20
Configuration	Number of wires	21
	Wire diameter	0.18
	Standard outer diameter	1.8

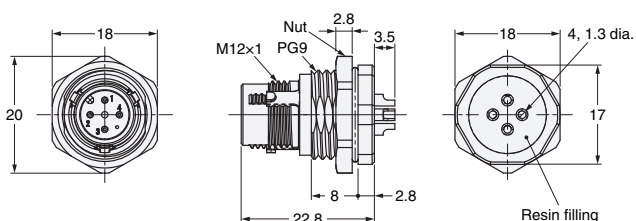
XS5M-D426-4 Rear-locking Plug with Solder Cup Pins



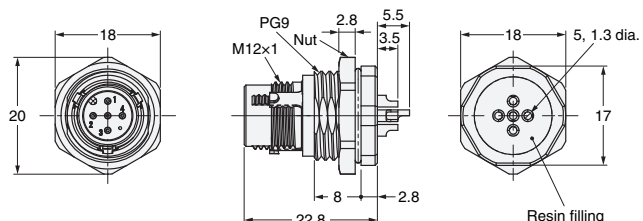
XS5M-D526-4 Rear-locking Plug with Solder Cup Pins



XS5M-D427-4 Front-locking Plug with Solder Cup Pins



XS5M-D527-4 Front-locking Plug with Solder Cup Pins



Panel Cutout



Panel Cutout Dimension
Panel thickness = 1 to 4 mm

- Note 1. The panel cutout dimension is the same for Front-locking and Rear-locking Sockets.
2. Rotational positioning is not possible for connector rotation.

Ordering Information

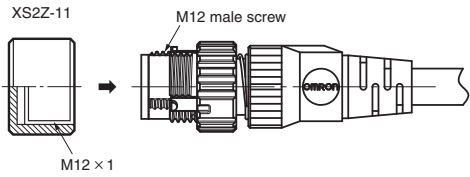
Type	No. of poles	Lock	Cable length (m)	Model	Minimum order
With cable	4	Rear lock	0.5	XS5M-D426-5	10
		Front lock		XS5M-D427-5	
Type	No. of poles	Lock	Applicable wires	Model	Minimum order
Solder cup pins	4	Rear lock	AWG20 to AWG28	XS5M-D426-4	50
		Front lock		XS5M-D427-4	
	5	Rear lock		XS5M-D526-4	
		Front lock		XS5M-D527-4	

XS5

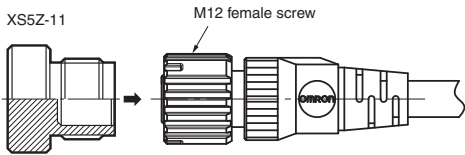
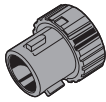
Connector Covers

Water-resistive Covers

XS2Z-11



XS5Z-11

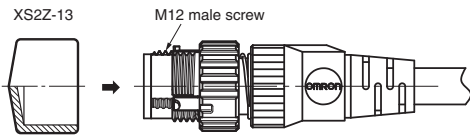


The Water-resistive Cover ensures IP67. When mounting the Water-resistive Cover to a Connector, be sure to apply a torque range between 0.39 and 0.49 N·m to tighten the Water-resistive Cover. XS5Z-11 is Smart click mechanism. There's no need to keep track of locking torque.

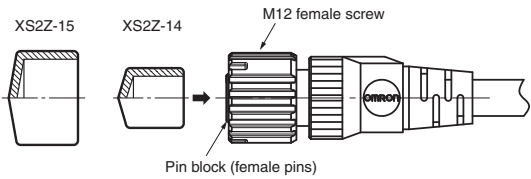
Model	Minimum order	Material	Suitable connector	
			Model	Mounting portion
XS2Z-11	50	Brass/nickel plated	XS5G/XS5H/XS5M/XS5R/XS5W/XS2G/XS2H/XS2M/XS2R/XS2W	M12 male screw
XS5Z-11		PBT	XS5C/XS5F/XS5P/XS5R/XS5W/XW3D	M12 female screw

Dust Covers

XS2Z-13



XS2Z-15/XS2Z-14

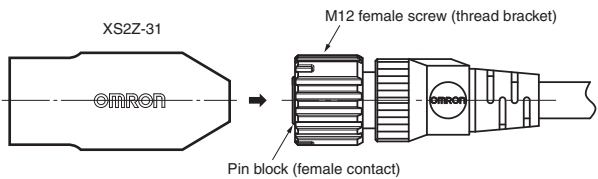
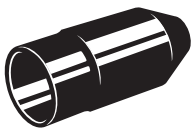


The Dust Cover is for dust prevention and does not ensure IP67 degree of protection. When mounting the Dust Cover to a connector, be sure to press the Dust Cover onto the Connector until the Connector is fully inserted into the Dust Cover.

Model	Minimum order	Material	Suitable connector	
			Model	Mounting portion
XS2Z-13	50	Rubber/black	XS5G/XS5H/XS5M/XS5R/XS5W/XS2G/XS2H/XS2M/XS2R	M12 male screw
XS2Z-14			XS5C/XS5F/XS5P/XS5R/XS5W/XS2C/XS2F/XS2P/XS2R/XS2W/XW3B/XW3D	Pin block (female pins)
XS2Z-15				M12 female screw

Sputter Protective Cover

XS2Z-31

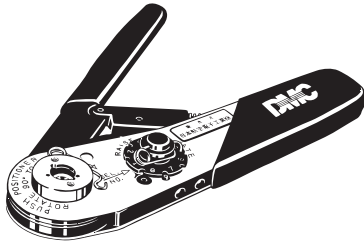


The Sputter Protective Cover protects the connector from weld sputter. Make sure it covers the entire connector.

Model	Material	Applicable connector
XS2Z-31	Silicone rubber/black	XS5F/XS5H/XS5W/XS2F/XS2H/XS2W

Tools

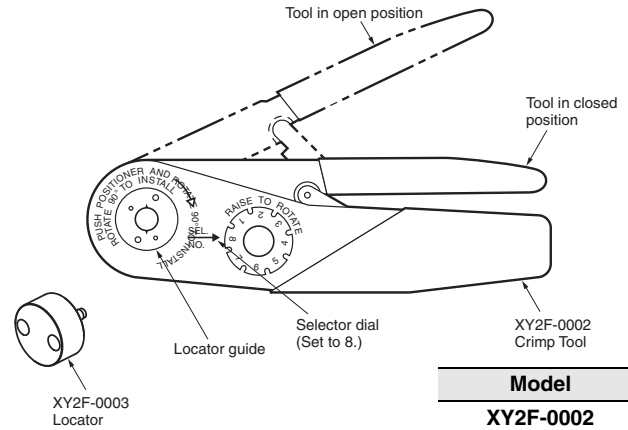
Crimp Tool XY2F-0002



Use the Crimp Tool to crimp a cable core to the XS5U or XS2U Crimping Pin used with the XS□C or XS□G Crimping Connector.

- The XY2F-0002 Crimp Tool is DMC's AFM8 (M2520/2-01).
- Mount the XY2F-0003 Locator (sold separately) to the locator guide of the Crimp Tool with a screw provided with the XY2F-0003 Locator.

Locator XY2F-0003



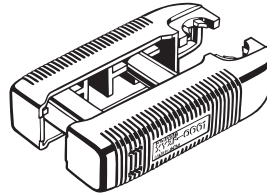
Model

XY2F-0002

XY2F-0003

Pin-block Extraction Tool XY2F-0001

Use this tool to extract a Pin Block from the covers in order to make wiring changes or corrections after the cover has been mounted to the pin block for Connector Assemblies (XS□C/XS□G, soldering/crimping).



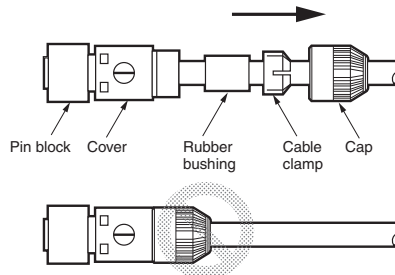
Model

XY2F-0001

Extraction Procedure

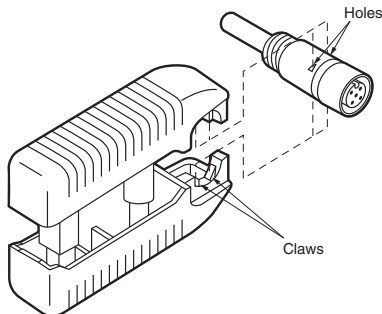
(1) Disconnecting Components

- Disconnect all components on the cap side from the cover.

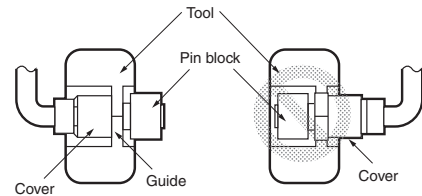


(2) Extracting Pin Block

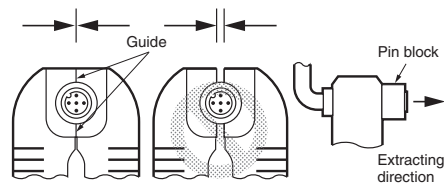
- Insert the claws of the Tool into the four holes of the cover.



- Make sure that the pin block is outside the Tool.



- Press the Tool so that the guides of the Tool are in close contact. Then pull the pin block straight.



Precaution for Safe Use

- The pin block must not be extracted from the same Connector more than 3 times, otherwise the proper degree of protection of the pin block or Connector will not be maintained.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

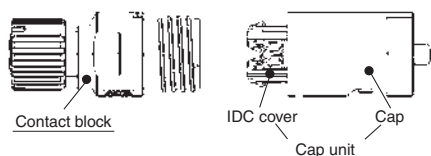
Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

Model Index

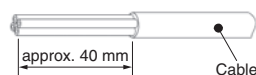
Assembly Procedure for XS5C/XS5G (IDC models) Connector Assemblies

(1) Preparations (Make sure they are all at hand.)



(2) Dressing the cable end

- Peel covering of a cable.



External diameter of applicable cable	Conductor cross section
3 to 8 mm	0.14 to 0.75mm ² / AWG26 to 18

(3) Choose the waterproof bushing

- Choose the waterproof bushing type according to the cable size.

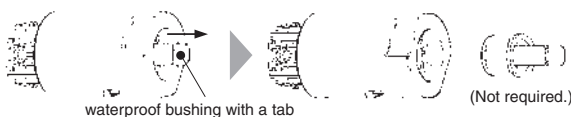
<External diameter of cable: In case of 3 to 5 mm>

Use the cap unit in the delivery state.



<External diameter of cable: In case of 5 to 8 mm>

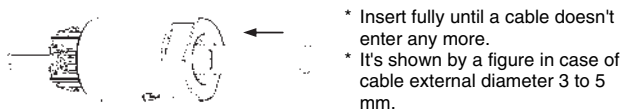
When using, pick tab both sides of the waterproof bushing with a tab and pull it out in the direction of an arrow.



Note: When it isn't necessary to pull out bushing, do not pull a tab or pull out bushing carelessly. Do not insert the pulled-out bushing again.

(4) Cable insertion

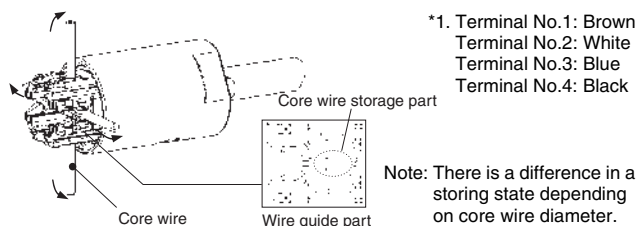
- Insert a cable in the cap unit.



- * Insert fully until a cable doesn't enter any more.
- * It's shown by a figure in case of cable external diameter 3 to 5 mm.

(5) Wiring

- Confirm the terminal number indication*1 of a IDC (Insulation Displacement Contact) cover, insert a core wire in each wire guide according to the terminal number and push in to the lowermost part of a core wire storage part.

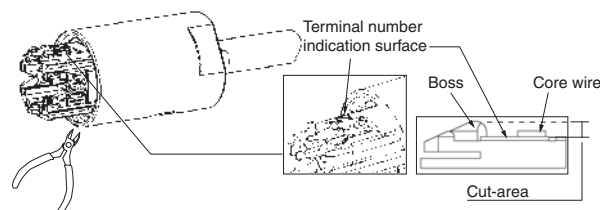


- *1. Terminal No.1: Brown
- Terminal No.2: White
- Terminal No.3: Blue
- Terminal No.4: Black

Note: There is a difference in a storing state depending on core wire diameter.

(6) Processing the core wire end

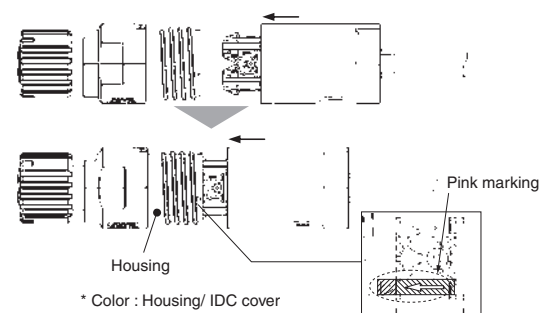
- Cut the end part of each core wire with nippers. Cutting the core wire end in the range of cut-area of figure.



Note: Please be careful not to cut the boss.

(7) Assembling the Contact block

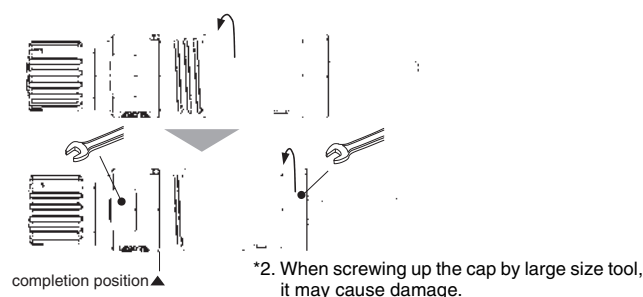
- Insert the cap unit core wire end processing has completed in a contact block.
- Use a $\triangle$ mark of a housing and an arrow of a IDC cover, as a guideline of alignment. The location of the arrow is the side of the terminal No.1.



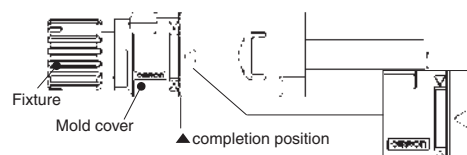
Note: Confirm that the color of the housing and the IDC cover is same before insertion.

(8) Tightening up the cap

- After inserting the cap unit and tightening a screw up lightly by hand, screw up the cap by a tool of a spanner or wrench (size 15 mm).*2



- When a gap between a mold cover of contact block and a cap disappeared assembly and wire connection has completed.



Note 1. When the operation has completed, $\triangle$ mark of cap comes into the square of the indicator formed into a mold cover ($\triangleright \square \triangleleft$), so also use it as guideline to know to complete.

2. Avoid tightening a cap up beyond the completion position. It may cause damage.

(9) Final checking

- When the connector has been assembled, make sure the line insulation is as specified.

Repair work procedure

Cap unit removal

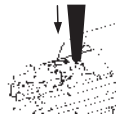
- When releasing wire connection, remove the cap unit in the opposite procedure of assembly work. [from (8) to (7)]

Note 1. The core wire remain connected to the IDC connection part rarely. In that case, remove core wire end part to the vertical direction by tweezers etc. Do not touch the IDC contact directly at that time.

2. When IDC cover was left on the housing side, remove it by pulling a cable. In case IDC cover has been removed by holding strongly and pulling, it may cause damage.

Cable removal

- When removing the cable from the cap unit, pull the cable to the opposite direction of assembly work procedure (4). When tip of the core wire end has been pushed lightly into the IDC cover by tweezers etc, cable removal becomes easy.



Repair work

- When connecting the wire again, do assembly (repair work) according to assembling procedure from (1) to (8).

Note 1. In case of repair, use a cable of the same diameter and a core wire of the same diameter. The number of times of repair wire connection is maximum 10 times.

2. When doing a repair, work after enough removing the foreign substance and moisture adhering to a connector. Be careful so that the foreign substance and moisture do not enter the wire connection part. It may cause short-circuit etc.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

Model Index

Assembly Procedure for XS5C/XS5G (Crimping/Soldering/Screw-on models) Connector Assemblies

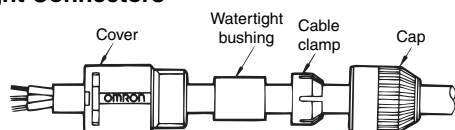
(1) Connector and Cable External Diameters

- Connectors for 8, 7, 6, 4, and 3 mm diameter Cables (i.e., Cables that are 7 to 8, 6 to 7, 5 to 6, 4 to 5, and 3 to 4 mm in diameter respectively) are available. When assembling a Connector used with a cable, make sure that the external diameter of the Connector is suited to that of the cable.
- A watertight bushing for 6/7 mm diameter Cable has no stripe, that for 8/4 mm diameter Cable has a single stripe, and that for 3 mm diameter Cable has two stripes.

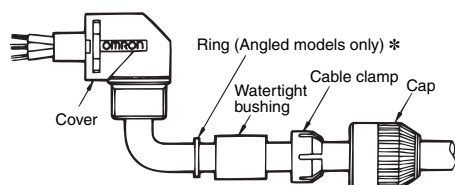
(2) Component Insertion

Crimping/Soldering Connectors

Straight Connectors



Angled Connectors

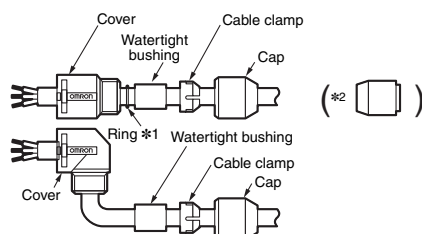


* A ring is not required for Screw-on Connectors.

- As shown in the above illustration, connect the above components to the Cable with its end processed.

Screw-on Connectors

Confirm that you have all of the required parts.

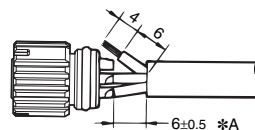


Insulation caps and insulation tubes are included with five-pole Connectors (XS2C-D5S□ and XS2G-D5S□).

- *1. Rings are not required with 7-mm and 8-mm cables.
- *2. Insert the waterproof bushing for 7-mm and 8-mm cables in the direction shown in the diagram.

(3) Wiring (Processing Cable Ends)

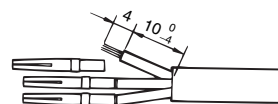
Soldering Connectors



- Strip 10 mm of the Cable sheath and 4 mm of each core.
- Before soldering cores and solder cup pins together, solder-coat each of them.
- The following conditions are recommended for soldering each solder cup pin.
Soldering temperature: 350±5°C
Soldering period: 3±1 s
- The length marked *A should be 6.5 mm max., otherwise the proper degree of protection of the connector will not be maintained.

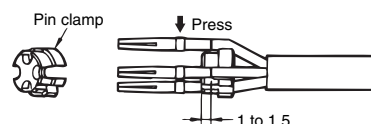
Crimping Connectors

Crimping



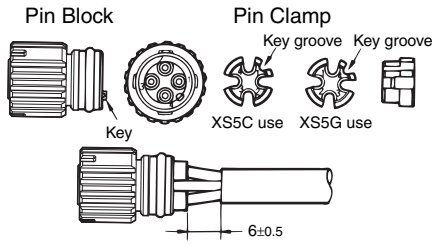
- Strip 14 mm of the Cable sheath and 4 mm of each core.
- Make sure that each core is not damaged and its end strands are not spread out.
- Mount the XY2F-0003 Locator to XY2F-0002 Crimping Tool, both of which are sold separately, and set the selector dial of the Crimping Tool to 8.
- After mounting the crimping pins to the Locator, fully insert the cores to the crimping pins.
- Squeeze the handle of the Crimp Tool to press-fit the cores to the crimping pins.
(Squeeze the handle firmly until the handle automatically returns to the release position.)

Wiring



- After press-fitting the cores to the pins, insert the pins into the pin clamp as shown in the illustration. Then make sure that the lead colors correspond to the pin clamp numbers that are identical to the connector pin numbers.

Insertion

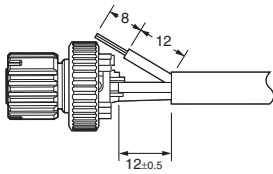


- Tentatively insert the pins to the pin block holes so that the key on the pin block will coincide with the key groove on the pin clamp. Then insert the cable along with the pin clamp.

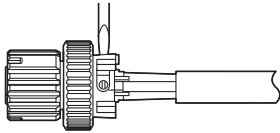
Screw-on Connectors

Cable End Processing

• Four-pole Connectors



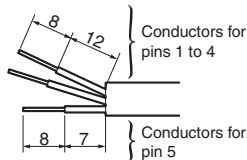
- Loosen the screws on pins 1 to 4 and insert the cores according to the pin numbers.



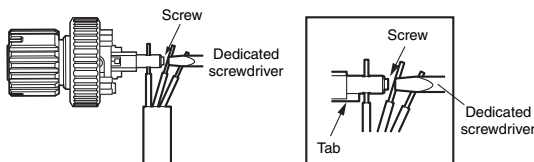
- Use the dedicated Screwdriver (XW4Z-00B)* and tighten the screws securely so that the cores do not pull out (tightening torque: 0.15 to 0.2 N·m).

• Five-pole Connectors

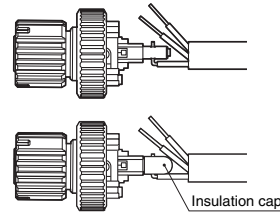
- Strip the cable sheath for a total of 15 mm and strip the core covering for 8 mm for the core to connect to pin 5.



- Connect the core to pin 5 (in the center) first.
- Insert the core from the side of the hold with the tab and tighten the screw securely (tightening torque: Pins1 to 4: 0.15 to 0.2 N·m, Pins5: 0.03 to 0.05 N·m), and then cut off the excess wire with wire cutters.



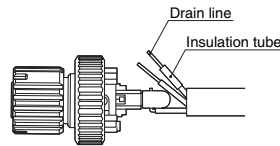
- Bend the cable as shown below, attached the enclosed insulation cap, and then strip the other cores.



- Connect the cores to pins 1 to 4.

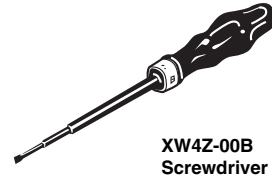
Connecting Shielded Cables to Five-pole Connectors

- Place the insulation tub on the drain line of the shield and connect it to the terminal.
- Tighten the screw and then check visually to see if there is insulation between the cores.



- Connect the cores to pins 1 to 4.

* When tightening the screws, use the dedicated XW4Z-00B Screwdriver that matches with the screw-slot dimensions.

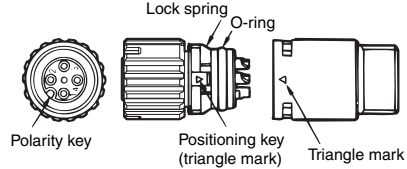


XW4Z-00B
Screwdriver

(4) Inserting Pin Block

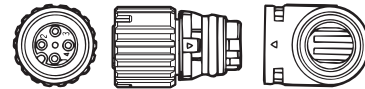
Pin Block (Soldering Model)

Cover (Straight Model)



(Crimping Model)

(Angled Model)

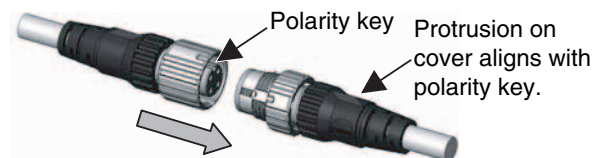


- Mount the cover to the pin block so that the triangle mark on the pin block will coincide with the triangle mark on the cover.
- If the cover is used for an Angled model, the relationship between the position of the polarity key on the engaged side and cable connection direction will be determined by the direction in which the positioning key is inserted into the cover, which can be rotated by 90°.
- Fully insert the positioning key until the positioning key is hidden by the casing.

Connecting the XS5

1. Connecting the XS5 Plug and Socket

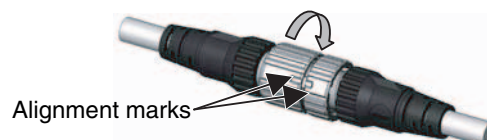
- Align the projection on the plug cover with the polarity key on the socket, then insert the plug all the way in.



- Hold the knurled socket grip, then insert the projection on the plug into the groove of the socket.



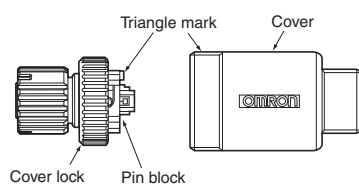
- Turn the knurled grips of the socket clockwise approximately 45 degrees in respect to the plug. A click will indicate that the Connectors are locked. The locking condition can also be confirmed by the alignment marks on the plug and socket.



2. Connecting the XS5 and XS2

- Align the projection on the plug cover with the polarity key on the socket, then insert the plug all the way in.
- In the same way as when connecting two XS2 Connectors, screw the knurled grip in the clockwise direction.
- Use your fingers to tighten the Connectors sufficiently.

Pin Block (Screw-on Connectors)

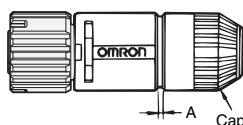


- Align the triangular marks on the pin block and cover and insert the pin block into the cover.
- Press them together firmly (0.39 to 0.49 N·m) until the pin block does not come out of the cover.

(5) Mounting Cap

- After mounting the cover to the pin block and the cover snaps into place, tighten the cap securely by hand within a torque of 0.39 and 0.49 N·m.

Note: If the cap is not tighten securely enough, the degree of protection (IP67) may not be maintained or vibration may cause the cap to become loose. Do not tighten the cap with pliers or similar tools; they may damage the cap.



- After fully tightening the cap, length A should be approximately one of the following according to the cable external diameter and the Connector model.

Connector	Cable external diameter (mm)			
	6 mm	5 mm	4 mm	3 mm
For 6-mm-dia. cable	1	0	---	---
For 4-mm-dia. cable	---	2	1	---
For 3-mm-dia. cable	---	---	2	1

(6) After Assembly

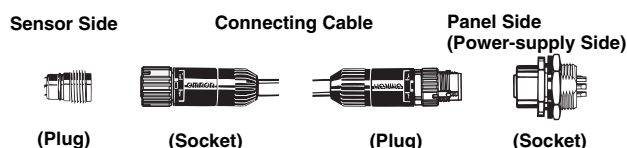
- Confirm the insulation between cores after completing assembly.

Recommended Cables

When connecting a commercially available cable to a connector assembly, use a cable with an outside diameter of 3 to 6 mm and core sizes of 0.18 to 0.75 mm² for crimping connectors and 0.5 mm² maximum for soldering connectors.

Connector Arrangement

For safety, when constructing a connection system between a Sensor and panel with a connector, make sure that the connector plug is on the Sensor side and the connector socket is on the panel side (i.e., the female pins are located on the power-supply side).



Safety Precautions

Precautions for Correct Use

Do not use the Connectors in an atmosphere or environment that exceeds the specifications.

Connector Connection and Disconnection

- When connecting or disconnecting Connectors, be sure to hold the Connectors by hand.
- Do not hold the cable when disconnecting Connectors.
- When mating Connectors, be sure to insert the plug all the way to the back of the socket before attempting to lock the Connectors.
- Do not use tools of any sort to mate the Connectors. Always use your hands. Pliers or other tools may damage the Connectors.
- When mating the Connectors to XS2 or other M12 Connectors, tighten the lock by hand to a torque of 0.39 to 0.49 N·m.

Wiring

- Always confirm wiring diagrams before wiring sensors, limit switches, or other devices.
- Lay the cables so that external force is not applied to the Connectors. Otherwise, the degree of protection (IP67) may not be achieved.

Degree of Protection

- The degree of protection of Connectors (IP67) is not for a fully watertight structure. Do not the Connectors underwater.
- Do not step on or place any objects on the Connectors. Doing so may damage the Connectors.

General Precautions

- Do not pull excessively on the Connectors or cables. Do not install the Connectors or cables in any way that would place a load directly on the mating section or cable connections. Doing so can damage the Connectors or break the wires inside the cables.
- Install the Connectors and cables where they will not be stepped on to prevent the wires inside the cables from being broken and to prevent the Connectors from being damaged. If the Connectors or cables must be installed where they might be stepped on, protect them with covers.
- Refer to the specifications for your cables before bending the cables and do not bend them past their minimum bending radius.
- If sensors or switches are not attached during installation, protect the mating surface of the Connector with a XS5Z-11 Waterproof Cover or XS2Z-14/15 Dust Cover.

Setup

- Do not make any cable bends near the base of the Unit.
- Any bends made must have a minimum radius of 40 mm.

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Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

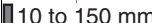
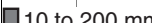
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XS5-compatible Products

Photoelectric Sensors

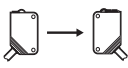
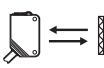
E3ZM-C Oil-resistant, Robust, Compact Photoelectric Sensor (Stainless Housing and Built-in Amplifier)

 Orange light
  Red light
  Infrared light

Sensing method	Appearance		Sensing distance	Model	
				NPN output	PNP output
Through-beam			 15 m	E3ZM-CT61-M1TJ 0.3M	E3ZM-CT81-M1TJ 0.3M
			 20 m	E3ZM-CT62B-M1TJ 0.3M	E3ZM-CT82B-M1TJ 0.3M
Retro-reflective			 4 m [100 mm]* (Using E39-R1S)	E3ZM-CR61-M1TJ 0.3M	E3ZM-CR81-M1TJ 0.3M
Diffuse reflective			 1 m	E3ZM-CD62-M1TJ 0.3M	E3ZM-CD82-M1TJ 0.3M
BGS reflective			 10 to 100 mm	E3ZM-CL61H-M1TJ 0.3M	E3ZM-CL81H-M1TJ 0.3M
			 10 to 150 mm	E3ZM-CL62H-M1TJ 0.3M	E3ZM-CL82H-M1TJ 0.3M
			 10 to 200 mm	E3ZM-CL64H-M1TJ 0.3M	E3ZM-CL84H-M1TJ 0.3M

*Separate the Sensor and Reflector by at least the distance given in parentheses.

E3Z Compact Photoelectric Sensor with Built-in Amplifier

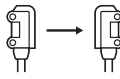
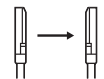
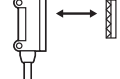
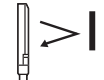
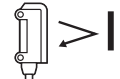
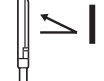
Sensing method	Appearance		Sensing distance	Model	
				NPN output	PNP output
Through-beam			 15 m	E3Z-T61-M1TJ 0.3M	E3Z-T81-M1TJ 0.3M
Retro-reflective with MSR function		 *1	 4 m *2 [100 mm]	E3Z-R61-M1TJ 0.3M	E3Z-R81-M1TJ 0.3M
Diffuse reflective			 5 to 100 mm (wide view)	---	E3Z-D81-M1TJ 0.3M
			 1 m	E3Z-D62-M1TJ 0.3M	E3Z-D82-M1TJ 0.3M
Narrow-beam reflective			 90±30 mm	E3Z-L61-M1TJ 0.3M	E3Z-L81-M1TJ 0.3M

*1 The Reflector is sold separately. Select the Reflector model most suited to the application.

*2 The sensing distance specified is possible when the E39-R1S is used. Values in parentheses indicate the minimum required distance between the Sensor and Reflector.

E3T "Mini" Photoelectric Sensor with Built-in Amplifier

 Infrared light

Sensing method	Appearance		Sensing distance	Operating mode	Model	
					NPN output	PNP output
Through-beam		Side-view 	1 m	Light-ON	E3T-ST11-M1TJ 0.3M	E3T-ST13-M1TJ 0.3M
				Dark-ON	E3T-ST12-M1TJ 0.3M	E3T-ST14-M1TJ 0.3M
			300 mm	Light-ON	E3T-ST21-M1TJ 0.3M	E3T-ST23-M1TJ 0.3M
				Dark-ON	E3T-ST22-M1TJ 0.3M	E3T-ST24-M1TJ 0.3M
		Flat 	500 mm	Light-ON	E3T-FT11-M1TJ 0.3M	E3T-FT13-M1TJ 0.3M
				Dark-ON	E3T-FT12-M1TJ 0.3M	E3T-FT14-M1TJ 0.3M
			300 mm	Light-ON	E3T-FT21-M1TJ 0.3M	E3T-FT23-M1TJ 0.3M
				Dark-ON	E3T-FT22-M1TJ 0.3M	E3T-FT24-M1TJ 0.3M
Retro-reflec-		Side-view 	Using the E39-R4 Reflector provided 200 mm (30mm)*2 Using E39-R37-CA 100mm (10mm)*1	Light-ON	E3T-SR41-M1TJ 0.3M*2	E3T-SR43-M1TJ 0.3M*2
				Dark-ON	E3T-SR42-M1TJ 0.3M*2	E3T-SR44-M1TJ 0.3M*2
Diffuse reflective		Flat 	5 to 30 mm	Light-ON	E3T-FD11-M1TJ 0.3M	E3T-FD13-M1TJ 0.3M
				Dark-ON	E3T-FD12-M1TJ 0.3M	E3T-FD14-M1TJ 0.3M
Convergent reflective		Side-view 	5 to 15 mm	Light-ON	E3T-SL11-M1TJ 0.3M	E3T-SL13-M1TJ 0.3M
				Dark-ON	E3T-SL12-M1TJ 0.3M	E3T-SL14-M1TJ 0.3M
			5 to 30 mm	Light-ON	E3T-SL21-M1TJ 0.3M	E3T-SL23-M1TJ 0.3M
				Dark-ON	E3T-SL22-M1TJ 0.3M	E3T-SL24-M1TJ 0.3M
BGS reflective		Flat 	1 to 15 mm	Light-ON	E3T-FL11-M1TJ 0.3M	E3T-FL13-M1TJ 0.3M
				Dark-ON	E3T-FL12-M1TJ 0.3M	E3T-FL14-M1TJ 0.3M
			1 to 30 mm	Light-ON	E3T-FL21-M1TJ 0.3M	E3T-FL23-M1TJ 0.3M
				Dark-ON	E3T-FL22-M1TJ 0.3M	E3T-FL24-M1TJ 0.3M

*1.Values in parentheses indicate the minimum required distance between the Sensor and Reflector.

*2.Models are available with the E39-R37-CA Reflector included.

Models with E39-R37-CA Reflector: E3T-SR4□-S

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Proximity Sensors

Standard Models (Completely stainless-steel housing)

Connection method	Appearance		Sensing distance	Output	Operation mode	Model
Pre-wired Smartclick Connector Models (M12)		M8	 2mm	DC 2-Wire (polarity)	NO	E2EF-X2D1-M1TGJ 0.3M
		M12	 3mm			E2EF-X3D1-M1TGJ 0.3M
		M18	 7mm			E2EF-X7D1-M1TGJ 0.3M
		M30	 12mm			E2EF-X12D1-M1TGJ 0.3M

Spatter-resistant Models (Completely stainless-steel housing with fluororesin coating)

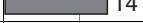
Connection method	Appearance		Sensing distance	Output	Operation mode	Model
Pre-wired Smartclick Connector Models (M12)		M8	 2mm	DC 2-Wire (polarity)	NO	E2EF-QX2D1-M1TGJ 0.3M
		M12	 3mm			E2EF-QX3D1-M1TGJ 0.3M
		M18	 7mm			E2EF-QX7D1-M1TGJ 0.3M
		M30	 12mm			E2EF-QX12D1-M1TGJ 0.3M

Note: Vinyl chloride is used for the cable material, and separate protection is required.

Proximity Sensors with Oil-resistant Cables (PUR Cables)

Appearance		Sensing distance	Output configuration	Operating mode	Model
	M8	 2 mm	2-Wire DC Polarity 1,4 Pin Specifications	NO	E2E-X2D1-M1TGJ-U 0.3M
	M12	 3 mm			E2E-X3D1-M1TGJ-U 0.3M
	M18	 7 mm			E2E-X7D1-M1TGJ-U 0.3M
	M30	 10 mm			E2E-X10D1-M1TGJ-U 0.3M
	M8	 2 mm	2-Wire DC Polarity 1,2 Pin Specifications	NC	E2E-X2D2-M1TGJ-U 0.3M
	M12	 3 mm			E2E-X3D2-M1TGJ-U 0.3M
	M18	 7 mm			E2E-X7D2-M1TGJ-U 0.3M
	M30	 10 mm			E2E-X10D2-M1TGJ-U 0.3M

Standard Proximity Sensor (PVC Cable)

Appearance		Sensing distance	Output configuration	Operating mode	Model
	M8	 2 mm	2-Wire DC Polarity 1,4 Pin Specifications	NO	E2E-X2D1-M1TGJ 0.3M
	M12	 3 mm			E2E-X3D1-M1TGJ 0.3M
	M18	 7 mm			E2E-X7D1-M1TGJ 0.3M
	M30	 10 mm			E2E-X10D1-M1TGJ 0.3M
	M12	 8 mm	2-Wire DC Polarity 1,4 Pin Specifications	NO	E2E-X8MD1-M1TGJ 0.3M
	M18	 14 mm			E2E-X14MD1-M1TGJ 0.3M
	M30	 20 mm			E2E-X20MD1-M1TGJ 0.3M

Spatter-Immune Proximity Sensor (Fire-retardant PVC Cable)

Appearance		Sensing distance	Output configuration	Operating mode	Model
	M12	 3 mm	2-Wire DC Polarity 1,4 Pin Specifications	NO	E2EQ-X3D1-M1TGJ 0.3M
	M18	 7 mm			E2EQ-X7D1-M1TGJ 0.3M
	M30	 10 mm			E2EQ-X10D1-M1TGJ 0.3M
	M12	 4 mm	2-Wire DC Polarity 3,4 Pin Specifications	NO	E2EQ-X4X1-M1TJ 0.3M
	M18	 8 mm			E2EQ-X8X1-M1TJ 0.3M
	M30	 15 mm			E2EQ-X15X1-M1TJ 0.3M

Proximity Sensor with All-stainless Housing (Fire-retardant PVC Cable)

Appearance	Sensing distance			Output configuration	Operating mode	Model
 Shielded	M8		1.5 mm	2-Wire DC Polarity 1,4 Pin Specifications	NO	E2FM-X1R5D1-M1TGJ 0.3M
	M12		2 mm			E2FM-X2D1-M1TGJ 0.3M
	M18		5 mm			E2FM-X5D1-M1TGJ 0.3M
	M30		10 mm			E2FM-X10D1-M1TGJ 0.3M

Chip-Immune Inductive Proximity Sensor (PVC Cable)

Appearance	Sensing distance			Output configuration	Operating mode	Model
 Shielded	M12		2 mm	2-Wire DC Polarity 1,4 Pin Specifications	NO	E2EZ-X2D1-M1TGJ 0.3M
	M18		4 mm			E2EZ-X4D1-M1TGJ 0.3M
	M30		8 mm			E2EZ-X8D1-M1TGJ 0.3M
	M12		2 mm	2-Wire DC Polarity 3,4 Pin Specifications	NO	E2EZ-X2D1-M1TJ 0.3M
	M18		4 mm			E2EZ-X4D1-M1TJ 0.3M
	M30		8 mm			E2EZ-X8D1-M1TJ 0.3M

All-metal, Long-distance Proximity Sensors

Appearance	Sensing distance			Output configuration	Operating mode	Model
 Shielded	M12		4 mm	3-Wire DC PNP 1, 4, 3 Pin Specifications	NO	E2V-X4B1-M1TJ 0.3M
	M18		8 mm			E2V-X8B1-M1TJ 0.3M
	M30		15 mm			E2V-X15B1-M1TJ 0.3M
	M12		4 mm	3-Wire DC NPN 1, 4, 3 Pin Specifications	NO	E2V-X4C1-M1TJ 0.3M
	M18		8 mm			E2V-X8C1-M1TJ 0.3M
	M30		15 mm			E2V-X15C1-M1TJ 0.3M

Cable Amplifier Proximity Sensor

Appearance	Sensing distance			Output configuration	Operating mode	Model
 Shielded	3 dia.		0.8 mm	2-Wire DC Polarity 1,4 Pin Specifications	NO	E2EC-CR8D1-M1TGJ 0.5M
	5.4 dia.		1.5 mm			E2EC-C1R5D1-M1TGJ 0.5M
	8 dia.		3 mm			E2EC-C3D1-M1TGJ 0.5M
	8 dia.		2 mm	2-Wire DC No polarity 3, 4 Pin Specifications	NO	E2EC-QC2D1-M1TGJ-T 0.3M

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Limit Switches with Prewired DC Connectors

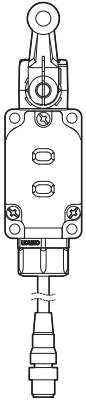
General-Purpose Limit Switches

Actuator	Operating characteristics		Cable length	Pin connections	With LED operation indicator
	Pretravel (PT)	Total travel (TT)			Model
	Standard models 15°	90°	0.3m	NO: ③ ④ NC: ① ②	WLCA2-LD-DTGJ-N
	High sensitivity 10°	90°	0.3m	NO: ③ ④ NC: ① ②	WLG2-LD-DTGJ-N
			0.3m	NO: ③ ④ NC: ②	WLG2-LD-DTK1EJ-N
			0.3m	NO: ③ ④	WLG2-LD-M1TJ-N
			0.3m	NO: ① ④	WLG2-LD-M1TGJ-N
			0.3m	NC: ② ③	WLG2-LD-M1TJB-N

Models with Spatter Countermeasures

Actuator		Operating characteristics		Cable length	Pin connections	With LED operation indicator
		Pretravel (PT)	Total travel (TT)			Model
Roller lever 	With Allen head bolt	Standard models 15°	90°	0.3m	NO: ③ ④ NC: ① ②	WLCA2-LDS-DTGJS-N
		High sensitivity 10°	90°	0.3m	NO: ③ ④ NC: ① ②	WLG2-LDS-DTGJS-N
	With Double nut	High sensitivity 10°	90°	0.3m	NO: ③ ④ NC: ① ②	WLG2-LDAS-DTGJS-N
		With Allen head bolt providing hexagonal head	High sensitivity 10°	90°	0.3m	NO: ③ ④ NC: ① ②
						

Models with Prewired Connectors



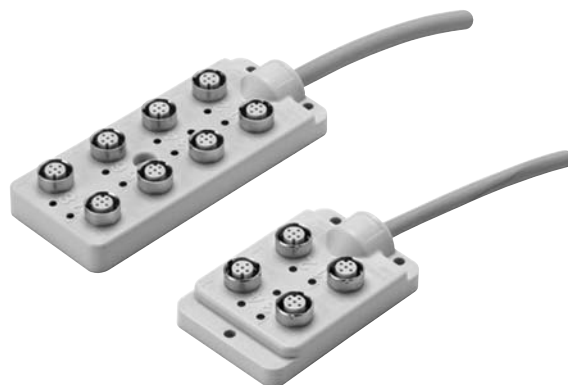
Operation Indicator Lighting Specifications and Internal Wiring

Wiring specification code	Operation indicator lighting specification	Operation indicator connection pins
DTGJ	Lit when not operating (connected to NO side)	③ ④
DTGJS		
DTK1EJ		
M1TJ	Lit when not operating (connected to NO side)	③ ④
M1TGJ	Lit when not operating (connected to NO side)	① ④
M1TJB	Lit when operating (connected to NC side)	② ③

*Certified standards : UL, CCC,and EN.

Simple Wiring of Sensor Actuators

- Greatly reduce wiring in combination with the Smartclick XS5.
- Insert the connector and turn 1/8 of a turn to lock the connectors.
- Higher rated current to enable output applications.
- Use previous M12 screw connectors.



Smartclick



Refer to *Safety Precautions* on page 64.

Specifications

Rated current	4 A/port, 12 A/Box (power line)
Rated voltage	10 to 30 VDC
Contact resistance (connector)	40 mΩ max. (20 mV max., 100 mA max.)
Insulation resistance	100 MΩ min. (at 500 VDC)
Dielectric strength (connector)	500 VAC for 1 min (leakage current: 1 mA max.)
Degree of protection	IP67 (IEC60529)
Insertion tolerance	50 times.
Lock strength	Pulling: 100 N/15 s, Twisting: 1 N·m/15 s
Cable holding strength	100 N/15 s
Lock operating force	0.1 to 0.25 N·m
Ambient temperature range	Operating: -25 to 70°C

Materials and Finish

Item	Materials/finish
Contacts	Brass/nickel base, 0.4-μm gold-plating
Fixtures	Nickel-plated zinc alloy
Case	PBT resin (UL94V-O), light gray
Bushing	Rubber
O-ring	Rubber
PCB	Glass epoxy board
Sealing resin	Urethane resin (UL94V-0)
Cable	UL AWM2464 Signal lines: AWG22 Power and ground lines: AWG18

Connection Combinations

OMRON model no.		Twist-and-Click Plug Connectors	M12 Plug Connectors
		XS5H, XS5G, XS5W (plug end), XS5R (plug end)	XS2H, XS2G, XS2W (plug end), XS2R (plug end)
Connector Terminal Box	XW3D	◎	○

◎: Connected by Smartclick.
○: Connected by screwing.

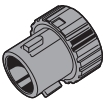
Smartclick is a registered trademark of the OMRON Corporation.

Ordering Information

Sensor type and wiring		3-wire DC NPN/2-wire DC ③ - ④	2-wire DC ① - ④ /without polarity ③ - ④	3-wire DC PNP/2-wire DC ① - ④
Actuator wiring		Actuator wiring ① - ④	—	Actuator wiring ③ - ④
No. of ports	No. of I/O	Model		
4	4	XW3D-P455-G11	XW3D-P452-G11	XW3D-P453-G11
8	8	XW3D-P855-G11	XW3D-P852-G11	XW3D-P853-G11
4	8	XW3D-P458-G11	—	XW3D-P457-G11

Note 1. " ① - ④ " and " ③ - ④ " are the connector pin numbers that are wired.
2. All cables are 5 m long.

Waterproof Cover (Sold Separately)

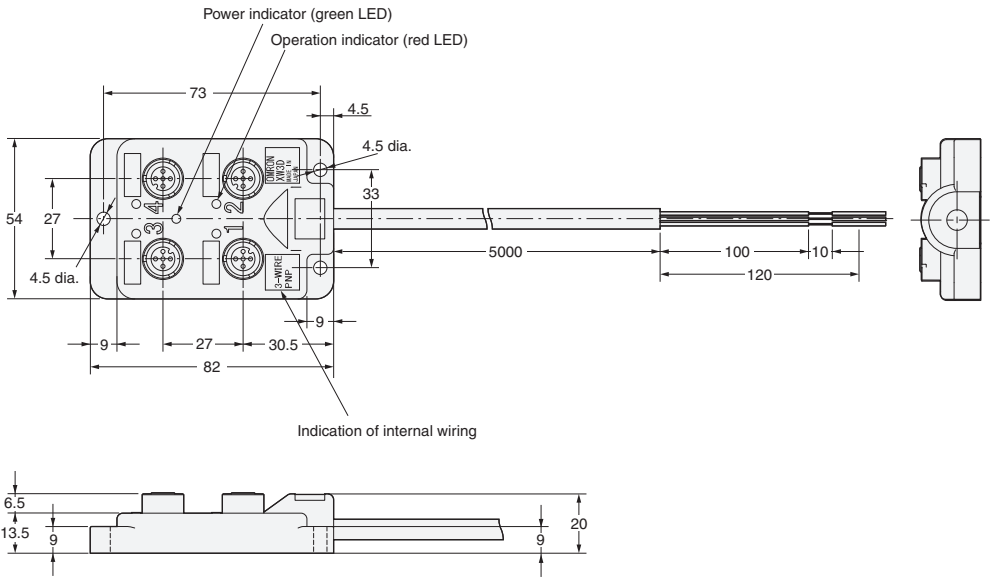
Appearance	Model	No. per box	Material
	XS5Z-11	50	PBT
	XS2Z-22	50	Brass with Ni plating

Note 1. The XW3D/XW3B/XW3A comes with a dust cover. If IP67 degree of protection is required, use the XS5Z-11 or XS2Z-22 (sold separately).
2. The XS2Z-22 connection is threaded.

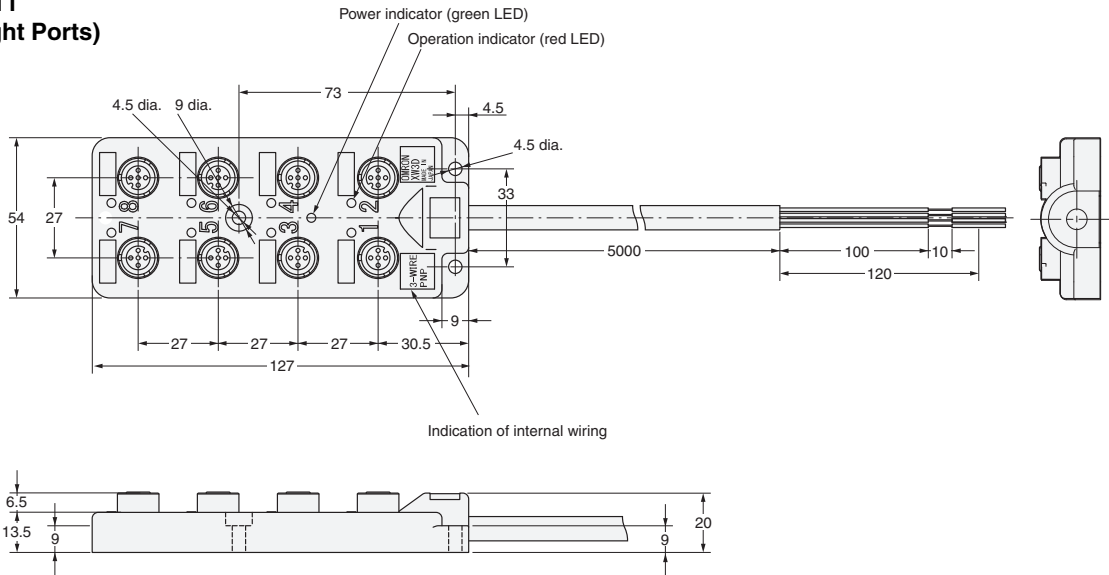
Dimensions

(Unit: mm)

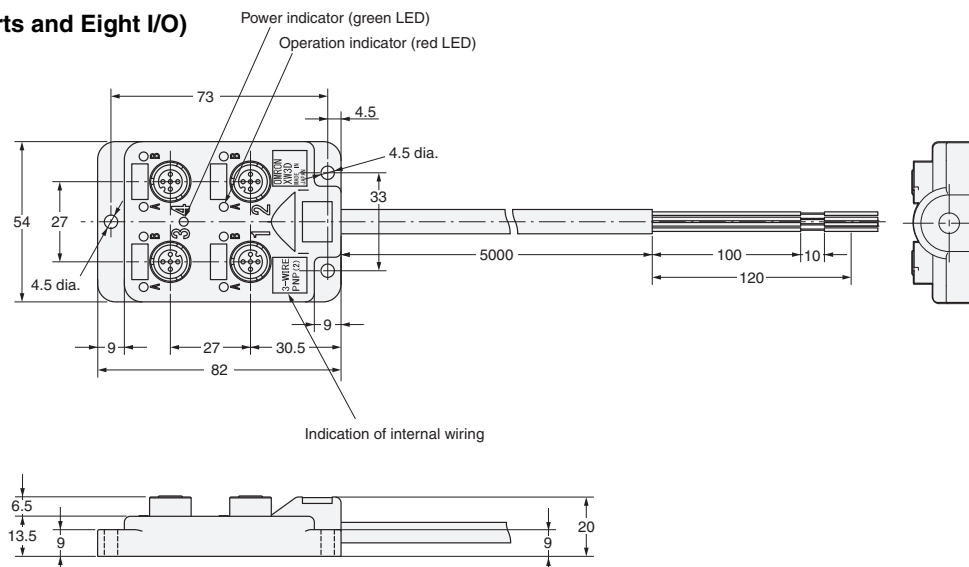
XW3D-P45□-G11
(Model with Four Ports)



XW3D-P85□-G11
(Model with Eight Ports)



XW3D-P457-G11 (Model with Four Ports and Eight I/O)



Wiring Diagrams

Models with One I/O and One Port

XW3D-P□55-□11
for 3-wire NPN,
2-wire DC (without polarity ③-④),
and Actuator (①-④)

3-WIRE
NPN

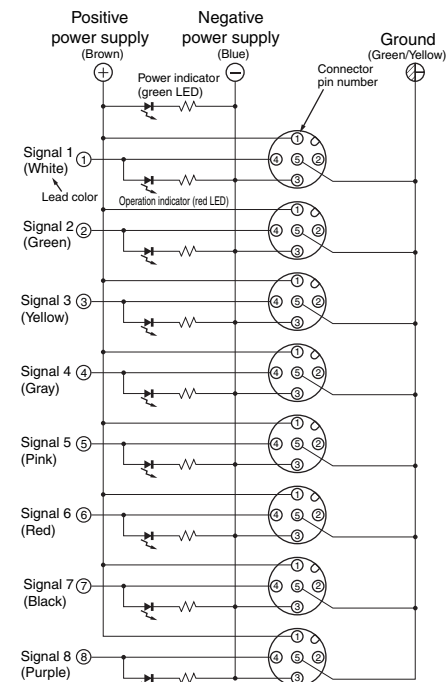
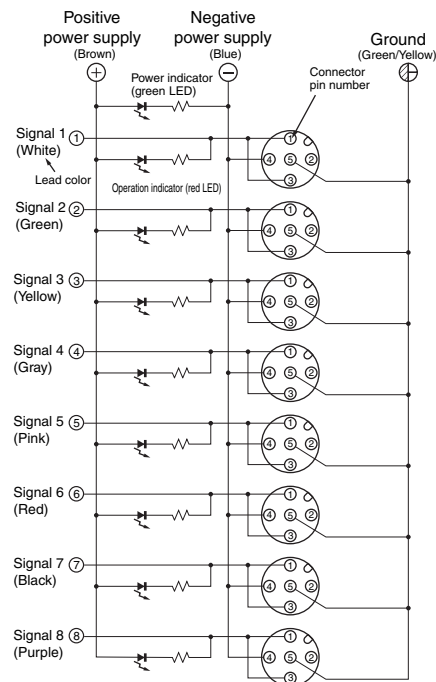
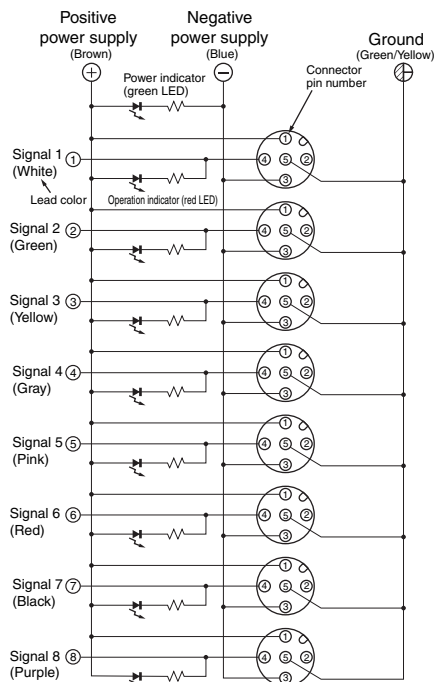
XW3D-P□52-□11
for 2-wire DC
(polarity ①-④, without polarity ③-④)

2-WIRE

Note: Cannot be used with Proximity Sensors of conventional connector pin with polarity ③-④.

XW3D-P□53-□11
for 3-wire PNP,
2-wire DC (with polarity ①-④),
and Actuator (③-④)

3-WIRE
PNP



Note 1. The above wiring diagrams are for eight-port use.

2. Figures in parentheses indicate lead colors.

3. The expression "white/red" means white and red stripes.

4. Here, "①-④" and "③-④" are pin numbers.

5. Contact numbers 5 through 8 in the above diagrams do not exist on Terminal Boxes with four ports. The lead colors for signals 1 through 4, power supply, and ground are the same.

Industrial
Ethernet
Connectors

XS5/XS6

Sensor I/O
Connector

Introduction to
Sensor I/O
Connectors

XS5

XW3D

XS2

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XS3

XN2

DeviceNet
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Communications
Peripherals for
Standard Slaves

I/O Peripherals
for Standard
Slaves

Communications
Peripherals for
Environment-
resistive Slaves

I/O Peripherals
for Environment-
resistive Slaves

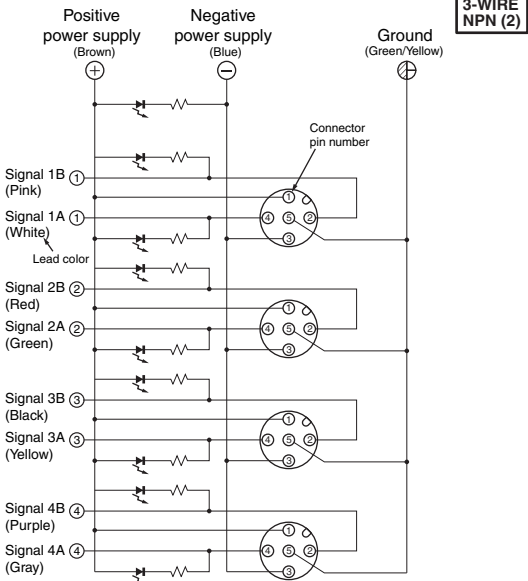
Power Supply
Peripherals for
Environment-
resistive Slaves

Standard-
compliant
Models

Model Index

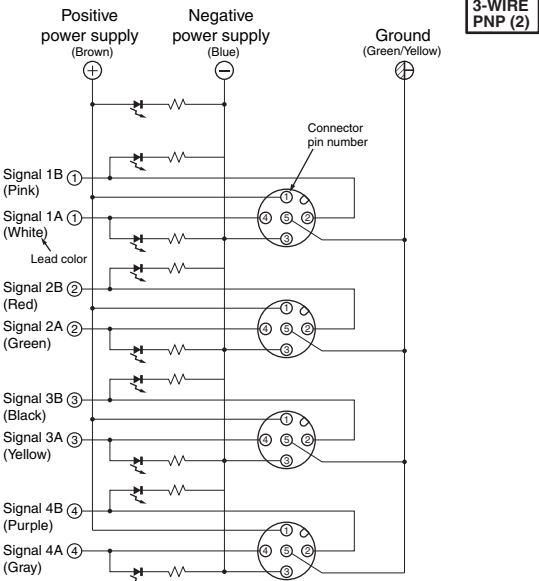
Models with Two I/O and One Port

XW3D-P458-G11
for 3-wire NPN and
Actuator (①-④ or ①-②)



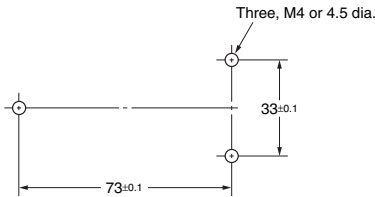
Note: Colors given in the connection diagram are lead colors.

XW3D-P457-G11
for 3-wire PNP and
Actuator (③-④ or ③-②)



Mounting Dimensions

(Unit: mm)



Note: The mounting dimensions are the same regardless of the number of ports.

Safety Precautions

Precautions for Correct Use

Do not use the Connectors in an atmosphere or environment that exceeds the specifications.

- **Connector Connection and Disconnection**
 - Mate the connectors according to the procedure.
 - When mating Connectors, be sure to insert the plug all the way to the back of the socket before attempting to lock the Connectors.
 - Do not use tools of any sort to mate the Connectors. Always use your hands. Pliers or other tools may damage the Connectors.
 - When mating the Connectors to XS2 or other M12 Connectors, tighten the lock by hand to a torque of 0.39 to 0.49 N·m.
 - Confirm in the catalog that sensors and actuators are applicable before using them.
 - Always turn OFF the power supply before connecting or disconnecting connectors.
 - Do not touch the mating surface of the connectors with wet hands.
 - Wipe away any water around the connectors.
 - Do not allow metal scraps or dust to enter the mating section.

- **Cable Lead Polarity**
 - Connect the cables leads using the correct polarity (Blue: Negative power supply, Brown: Positive power supply).
 - If the polarity is not correct, the load may not operate or the operation indicator may not light.
 - Always connect a load to the signal lines to operate a sensor or actuator.
- **Applicable Connectors**
 - Always mount a Waterproof Cover (XS2Z-22) or Dust Cover (XS2Z-15) to any unused connector on the Connector Terminal Box.
- **Power Supply and Operation Indicators**
 - The power supply indicator will be lit green while power is being supplied. The operation indicator will be lit red while the sensor or actuator is operating.
 - The XW3D is for a DC sensor or actuator. Do not use it for an AC sensor or actuator.
 - Connector Terminal Boxes are available with either 2-wire or 3-wire internal connections, as indicated on the case.



Water- and Environment-resistive FA Connectors Save Wiring and Maintenance Effort

- Compact FA connectors meet 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.
- Connectors with Cables are UL certified.
- Based on IEC61076-2-101 (IEC60947-5-2) and NECA 4202.



Refer to *Safety Precautions* on page 86.

Ratings and Specifications

Rated current	4A
Rated voltage	250 VAC/VDC
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 (IEC60529)
Insertion tolerance	200 times
Cable holding strength	Cable diameter: 6 mm 98 N/15 s 4 to 5 mm 49 N/15 s 3 mm 29 N/15 s
Ambient operating temperature range	Operating: – 25°C to 70°C
Ambient humidity range	20% to 85%



Materials and Finish

Item		XS2F/H/W	XS2M/R/P	XS2C/G
Contacts	Materials	Phosphor bronze		
	Finish	Brass		
Thread bracket	Materials	Brass *		
	Finish	Nickel plated *		
Pin block	Materials	PBT resin (UL94V-0)	PA resin (UL94V-0)	PBT resin (UL94V-0)
	Finish	For DC: light gray; for AC: dark gray		
O-ring/rubber bushing		Rubber		
Cover		Soft PBT resin (UL94V-0)	---	PBT resin (UL94V-0)
Cable	Fire-retardant, Robot cable	UL AWM2464 CL3, 6 mm dia. AWG20 (0.5mm ²) Structure: 0.08 mm/110 wires	---	---
	Non-polar DC Connectors with Standard Cable	6 mm dia. AWG20 (0.5mm ²) Structure: 0.12 mm/45 wires	---	---
	E2E models with conventional connector pin with Fire-retardant, Robot cable	UL AWM2464 CL3, 6 mm dia. AWG20 (0.5mm ²) Structure: 0.08 mm/110 wires	---	---
	Heat-resistant cable up to 105°C	6 mm dia. AWG20 (0.5mm ²) Structure: 0.12 mm/45 wires	---	---
	Spatter-resistant Cables	6.6 mm dia. AWG20 (0.5mm ²) Structure: 0.08 mm/110 wires	---	---

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

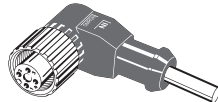
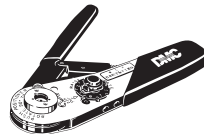
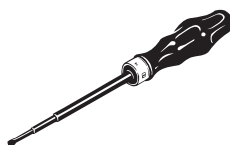
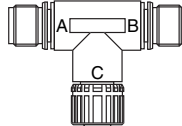
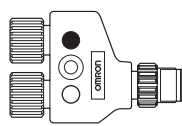
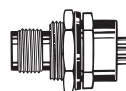
Socket Appearance

DC type		AC type	
Male (plug) contacts	Female (socket) contacts	Male (plug) contacts	Female (socket) contacts

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

XS2

List of Products

Name		Model		Appearance		
1. Connectors attached to Cable	XS2W Sockets and Plugs on Cable Ends					
	XS2F Sockets on One Cable End					
	XS2F Sockets on One Cable End with Indicator					
	XS2H Plugs on One Cable End					
2. Connector Assemblies (Crimping, Soldering, or Screw-on) Used to enable using connectors for sensor cables and relay cables.	XS2G Plug Assemblies					
	XS2C Socket Assemblies					
	XY2F Crimp Tool (for Crimping Connectors)					
	XW4Z Screwdriver (for Screw-on Connectors)					
3. Terminal Box Connectors Used to enable using connectors for terminal boxes.		XS2P Panel-mounting Sockets				
4. T-Joints and Y-Joints Used for branching and for daisy-chain connections.	XS2R T-Joint/Y-Joint Plug/Socket Connectors	T-Joints				
		Y-Joints				
5. Sensor Connector Assemblies Used to enable using connectors in sensors.	XS2M Plugs	Embedded Plugs with Screw Threads				
		Embedded Plugs with No Screw Threads				
6. Panel-mounting Connectors Used to enable using I/O box connectors mounted to panels.	XS2M Plugs	Flange-mounting Plugs				
		Screw-mounting Plugs				

XS2W Sockets and Plugs on Cable Ends

Model Number Legend

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

XS2W-D **2** - **1** -

1 2 3 4 5 6 7 8 9

1. Type

W: Connectors connected to cable, socket and plug on cable ends

2. AC/DC (Mating Section Form)

D: For DC

3. Connector Poles

4: 4 poles

5: 5 poles

4. Contact Plating

2: 0.4-μm gold plating

5. Cable Connection Direction

1: Straight/straight

2: Right-angle/Right-angle

3: Straight (Socket)/Right-angle (Plug)

4: Right-angle (Socket)/straight (Plug)

6. Cable Length

A: 0.3 m (straight/straight only)

B: 0.5 m (straight/straight only)

C: 1 m (straight/straight only)

D: 2 m

E: 3 m (straight/straight only)

F: 4 m (straight/straight only)

G: 5 m

H: 7 m (straight/straight only)

J: 10 m (straight/straight only)

K: 15 m (straight/straight only)

L: 20 m (straight/straight only)

7. Connections

Pin No.

① ② ③ ④

8: Brown White Blue Black (for DC)

Terminal No.

① ② ③ ④ ⑤

G: Brown White Blue Black Gray

8. Connectors on One End/Both Ends

1: Both ends

9. Cable Specifications

A: Standard cable

F: Fire-retardant, Robot cable

SA: Spatter-resistant Cable

Industrial
Ethernet
Connectors

XS5/XS6

Sensor I/O
Connector

Introduction to
Sensor I/O
Connectors

XS5

XW3D

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DeviceNet
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Communications
Peripherals for
Standard Slaves

I/O Peripherals
for Standard
Slaves

Communications
Peripherals for
Environment-
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I/O Peripherals
for Environment-
resistive Slaves

Power Supply
Peripherals for
Environment-
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Standard-
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Models

Model Index

XS2

XS2W Sockets and Plugs on Cable Ends

● Connectors with Fire-retardant, Robot cable

XS2W-D421-□-□81-F

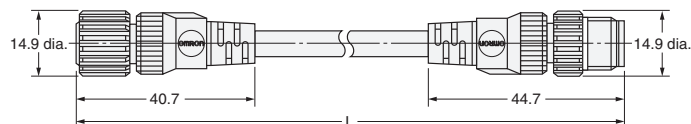
● Spatter-resistant Cable

XS2W-D421-□81-SA

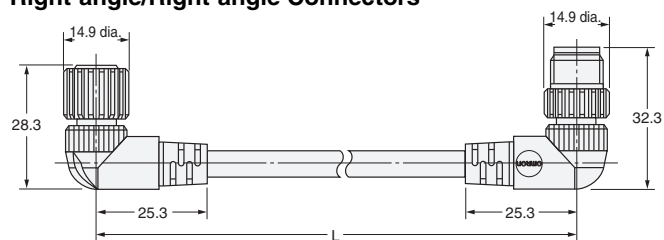
Dimensions

(Unit: mm)

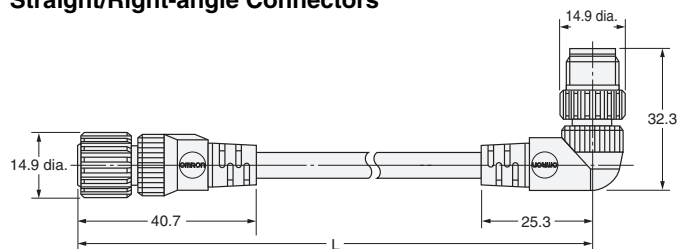
Straight/Straight Connectors



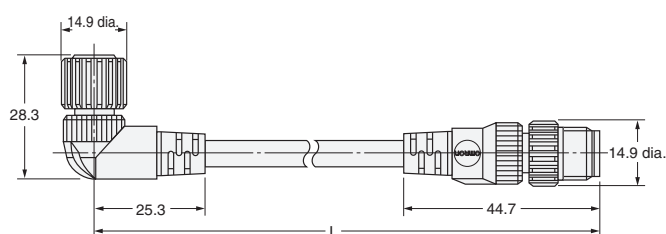
Right-angle/Right-angle Connectors



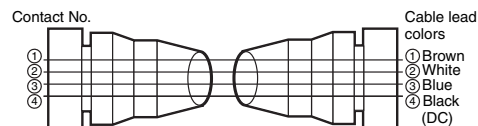
Straight/Right-angle Connectors



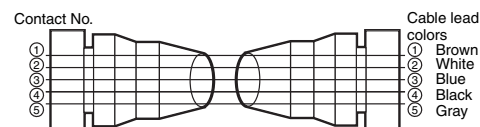
Right-angle/Straight Connectors



Wiring Diagram for 4 Cores



Wiring Diagram for 5 Cores



Ordering Information

Cable Specifications	Cable connection direction	Cable diameter (mm)	No. of cable cores	Cable core cross-sectional area (mm²)	Cable length (m)	DC		UL-listed
						Model	Minimum order	
Fire-retardant, Robot cable	Straight/Straight	6.0 mm dia.	4	0.5	1	XS2W-D421-C81-F	10	Yes
					2	XS2W-D421-D81-F	5	
					5	XS2W-D421-G81-F	1	
					10	XS2W-D421-J81-F	1	
	Right-angle/ Right-angle				2	XS2W-D422-D81-F	5	
					5	XS2W-D422-G81-F		
					2	XS2W-D423-D81-F		
					5	XS2W-D423-G81-F		
					2	XS2W-D424-D81-F		
					5	XS2W-D424-G81-F		
Straight (Socket)/ Right-angle (Plug)	2	XS2W-D421-D81-SA	5	---				
	5	XS2W-D421-G81-SA						
Spatter-resistant Cables	Straight/Straight	6.6 mm dia.			2	XS2W-D421-D81-SA	5	---
					5	XS2W-D421-G81-SA		

Note: Ask your OMRON representative about other cable lengths, and about 5-core cables.

XS2F Socket on One Cable End

Model Number Legend

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-

--	--	--	--	--	--	--	--	--

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
E: For DC, stainless steel lock

3. Connector Poles

4: 4 poles
5: 5 poles

4. Contact Plating

2: 0.4-μm gold plating

5. Cable Connection Direction

1: Straight
2: Right-angle

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

Terminal No.

①	②	③	④
A: Brown	---	---	Blue (for DC)
B: ---	---	Brown	Blue (for DC)
C: Brown	---	Blue	Black
D: ---	---	Blue	Brown
8: Brown	White	Blue	Black (for DC)
9: Brown	White	Blue	Black (for AC)

8. Connectors on One End/Both Ends

0: One end

9. Cable Specifications

A: Standard cable
F: Fire-retardant, Robot cable
E: Heat-resistant cable up to 105°C
SA: Spatter-resistant Cable
E type and SA type is a 4-core cable.

Designations for DC Polarity (For Limit Switches and Sensors)

6. Cable Length

3: 2 m
4: 5 m

7. Connections

Pin No.

①	②	③	④
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 non-polar connectors.

Terminal No.

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

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

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XS2

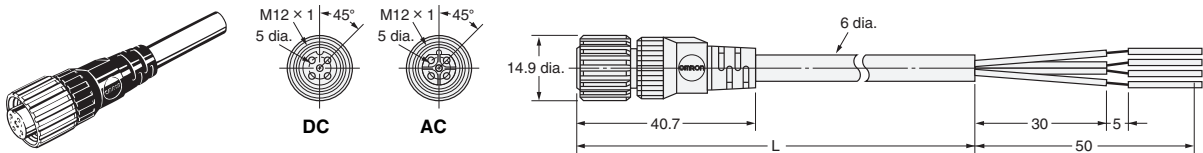
XS2F Sockets on One Cable End

- Connectors with Fire-retardant, Robot Cable XS2F-□42□-□□0-F
- Non-polar DC Connectors with Standard Cable XS2F-□42□-□□0
- E2E models with conventional connector pin with Fire-retardant, Robot Cable XS2F-D42□-□D0
- Heat-resistant Cable up to 105°C XS2F-E42□-□80-E
- Spatter-resistant Cables XS2F-D421-□80-SA

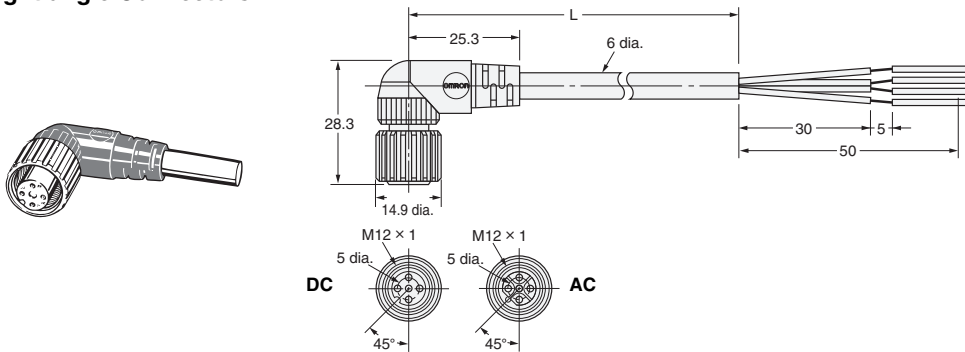
Dimensions

(Unit: mm)

Straight Connectors



Right-angle Connectors



Wiring Diagram

		Two-core model	Three-core model	Four-core model
Fire-retardant, Robot cable	XS2F-□42□-□□0-F			
Spatter-resistant Cables*	XS2F-D421-□80-SA			
Heat-resistant Cables up to 105°C *	XS2F-E42□-□80-E			
Standard cable (non-polar DC)	XS2F-□42□-□□0		---	---
Fire-retardant, Robot cable (E2E models with conventional connector pin)	XS2F-D42□-□D0		---	---

*Spatter-resistant Cables and Heat-resistant Cables (105°C) are available only for four cores and DC.

Ordering Information

Cable Specifications	Cable connection direction	No. of cable cores	Cable outer diameter (mm)	Cable core cross-sectional area (mm ²)	Cable length (m)	DC	AC	Minimum order	UL-listed
						Model	Model		
Fire-retardant, Robot cable	Straight	2	6.0 mm dia.	0.5	1	XS2F-D421-CA0-F	XS2F-A421-CB0-F	10	Yes
		3				XS2F-D421-CC0-F	---		
		4				XS2F-D421-C80-F	XS2F-A421-C90-F		
		2			2	XS2F-D421-DA0-F	XS2F-A421-DB0-F	5	
		3				XS2F-D421-DC0-F	---		
		4				XS2F-D421-D80-F	XS2F-A421-D90-F		
		2			5	XS2F-D421-GA0-F	XS2F-A421-GB0-F		
		3				XS2F-D421-GC0-F	---		
		4				XS2F-D421-G80-F	XS2F-A421-G90-F		
		2			10	XS2F-D421-JA0-F	XS2F-A421-JB0-F	1	
		3				XS2F-D421-JC0-F	---		
		4				XS2F-D421-J80-F	XS2F-A421-J90-F		
	Right-angle	2			1	XS2F-D422-CA0-F	XS2F-A422-CB0-F	10	
		3				XS2F-D422-CC0-F	---		
		4				XS2F-D422-C80-F	---		
		2			2	XS2F-D422-DA0-F	XS2F-A422-DB0-F	5	
		3				XS2F-D422-DC0-F	---		
		4				XS2F-D422-D80-F	---		
		2			5	XS2F-D422-GA0-F	XS2F-A422-GB0-F		
		3				XS2F-D422-GC0-F	---		
		4				XS2F-D422-G80-F	---		
		2			10	XS2F-D422-JA0-F	XS2F-A422-JB0-F	1	
		3				XS2F-D422-JC0-F	---		
		4				XS2F-D422-J80-F	---		
Standard cable (non-polar)	Straight	2	2	XS2F-D421-310	XS2F-A421-310	5	---		
		2	5	XS2F-D421-410	XS2F-A421-410				
	Right-angle	2	2	XS2F-D422-310	XS2F-A422-310				
		2	5	XS2F-D422-410	XS2F-A422-410				
Fire-retardant, Robot cable (E2E models with conventional connector pin)	Straight	2	2	XS2F-D421-DD0	---		5	---	
		2	5	XS2F-D421-GD0	---				
	Right-angle	2	2	XS2F-D422-DD0	---				
		2	5	XS2F-D422-GD0	---				
Heat-resistant cable up to 105°C *	Straight	4	2	XS2F-E421-D80-E	---	5		---	
			5	XS2F-E421-G80-E	---				
	Right-angle		2	XS2F-E422-D80-E	---				
			5	XS2F-E422-G80-E	---				
Spatter-resistant Cables	Straight	4	6.6 mm dia.	2	XS2F-D421-D80-SA		---	5	---
				5	XS2F-D421-G80-SA		---		

Note: Ask your OMRON representative about other cable lengths.

*The heat-resistant fixture material is SUS316L stainless steel without surface treatment.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environmentally Resistant Slaves

I/O Peripherals for Environmentally Resistant Slaves

Power Supply Peripherals for Environmentally Resistant Slaves

Standard-compliant Models

Model Index

XS2

Applicable Proximity Sensors

Refer to page the *E2E Datasheet* for information on connecting to E2E Proximity Sensors

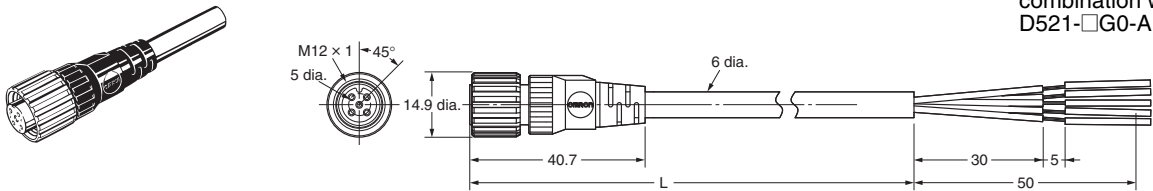
● 5-pole Connectors for DC XS2F-D521-□G0-A

Dimensions

(Unit: mm)

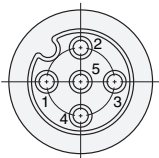
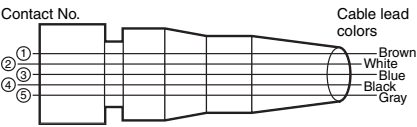
Straight Connectors

Note: Use the XS2H-D521-□G0-A in combination with the XS2F-D521-□G0-A.



Wiring Diagram

Pin Arrangements (Engagement Side)



Ordering Information

No. of cable cores	Cable core cross-sectional area (mm ²)	Cable length (m)	DC	
			Model	Minimum order
5	0.3	2	XS2F-D521-DG0-A	5
		5	XS2F-D521-GG0-A	5

Note: Ask your OMRON representative about other cable lengths.

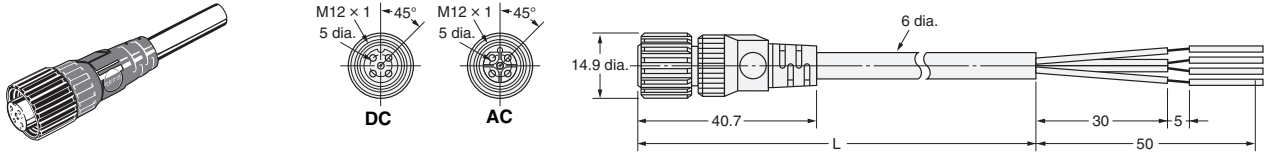
XS2F Sockets on One Cable End

● Screw Loosening-preventing Structure XS2F-G/H

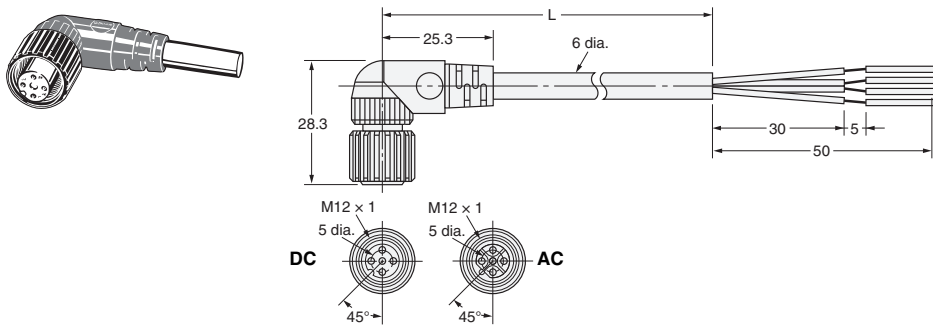
Dimensions

(Unit: mm)

Straight Connectors



Right-angle



Ordering Information

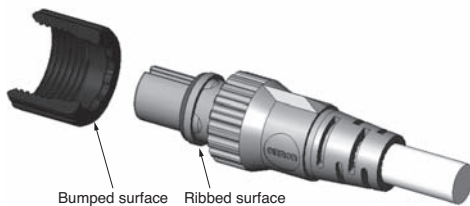
Cable connection direction	No. of cable cores	Cable length (m)	DC	AC	Minimum order
			Model	Model	
Straight	4	5	XS2F-G421-G80-F	XS2F-H421-G90-F	5
		10	XS2F-G421-J80-F	XS2F-H421-J90-F	1
Right-angle		5	XS2F-G422-G80-F	XS2F-H422-G90-F	5
		10	XS2F-G422-J80-F	XS2F-H422-J90-F	1

Screw Loosening-preventing Structure

Appearance



Structure



With the above structure, the bumps every 45° on the lock mechanism engage with the ribs on the housing to prevent the connector from coming loose when it is mated.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

Model Index

XS2F Sockets on One Cable End with Indicator

Model Number Legend

XS2F-M12 PVC **A** **M** **LED**

1 2 3 4 5 6 7 8

1. Type

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

2. Mating Section Form

M12: M12

3. Cable material

PVC: PVC

4. Connector Poles

3: 3 poles

4: 4 poles

5. Cable Connection Direction

A: Right-angle

6. Cable Length

2: 2 m

5: 5 m

10: 10 m

7. Applicable Sensors

P: PNP

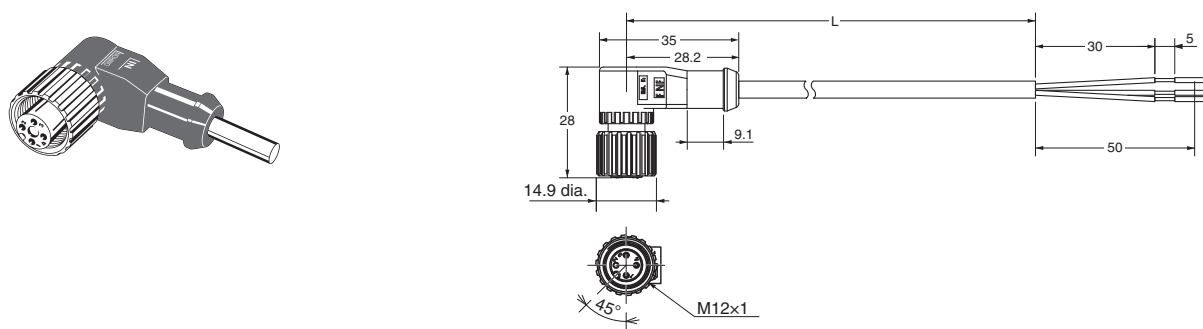
N: NPN

8. With indicator

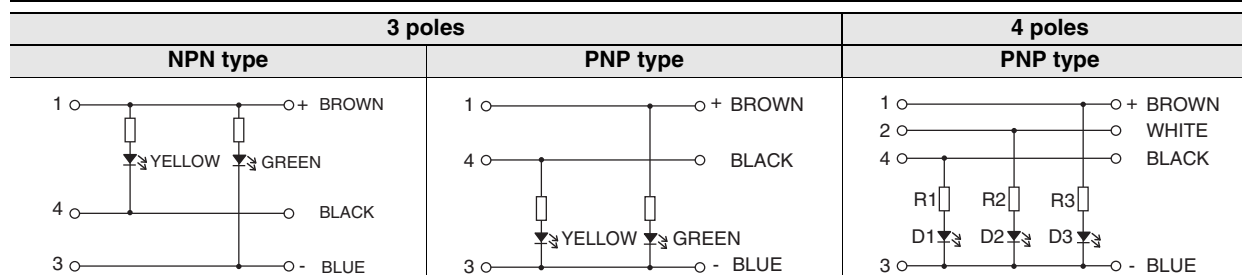
LED: With indicator

Dimensions

(Unit: mm)



Wiring Diagram



Ordering Information

Cable Specifications	Cable connection direction	Cable outer diameter (mm)	No. of cable cores	Cable core cross-sectional area (mm²)	Cable length (m)	LED	Model	Minimum order	UL-listed
PVC	Right-angle	5 mm dia.	3	0.34	2	PNP	XS2F-M12PVC3A2MPLED	1	Yes
					5		XS2F-M12PVC3A5MPLED		
					10		XS2F-M12PVC3A10MPLED		
					2	NPN	XS2F-M12PVC3A2MNLED		
					5		XS2F-M12PVC3A5MNLED		
					10		XS2F-M12PVC3A10MNLED		
		5.4 mm dia.	4		2	PNP	XS2F-M12PVC4A2MPLED		
					5		XS2F-M12PVC4A5MPLED		
					10		XS2F-M12PVC4A10MPLED		

XS2H Plugs on One Cable End

Model Number Legend

XS2H- 21- 0-

1 2 3 4 5 6 7 8 9

1. Type

H: Connector connected to cable, plug on one cable end

2. AC/DC

A: For AC
D: For DC

3. Connector Poles

4: 4 poles
5: 5 poles

4. Contact Plating

2: 0.4-μm gold plating

5. Cable Connection Direction

1: Straight

6. Cable Length

A: 0.3 m
B: 0.5 m
C: 1 m
D: 2 m
G: 5 m

7. Connections

Terminal No.				Terminal No.				Terminal No.				
①	②	③	④	①	②	③	④	①	②	③	④	⑤
8: Brown	White	Blue	Black (for DC)	A: Brown	---	---	Blue (for DC)	G: Brown	White	Blue	Black	Gray
9: Brown	White	Blue	Black (for AC)	B: ---	---	Brown	Blue (for AC)					
				C: Brown	---	Blue	Black (for DC)					

8. Connectors on One End/Both Ends

0: One end

9. Cable Specifications

A: Standard cable
F: Fire-retardant, Robot cable
SA: Spatter-resistant Cable

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

Industrial
Ethernet
Connectors

XS5/XS6

Sensor I/O
Connector

Introduction to
Sensor I/O
Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet
Peripherals

Communications
Peripherals for
Standard Slaves

I/O Peripherals
for Standard
Slaves

Communications
Peripherals for
Environment-
resistive Slaves

I/O Peripherals
for Environment-
resistive Slaves

Power Supply
Peripherals for
Environment-
resistive Slaves

Standard-
compliant
Models

Model Index

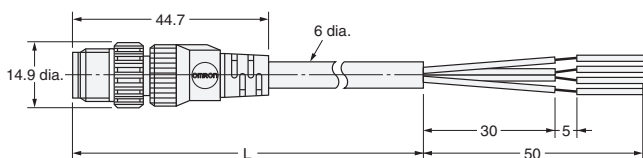
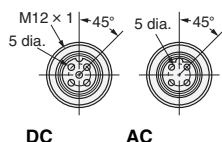
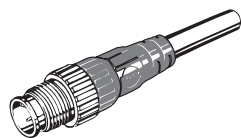
XS2H Plugs on One Cable End

- Connectors with Fire-retardant, Robot Cable XS2H-□421-□□0-F
- Spatter-resistant Cable XS2H-D421-□80-SA

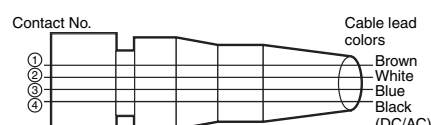
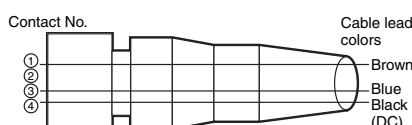
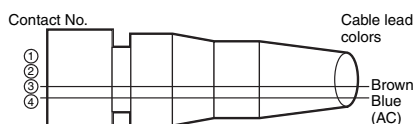
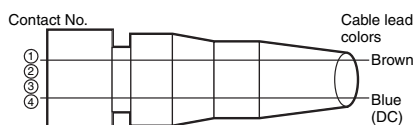
Dimensions

(Unit: mm)

Straight Connectors



Wiring Diagram



Two-core Model

Three-core Model

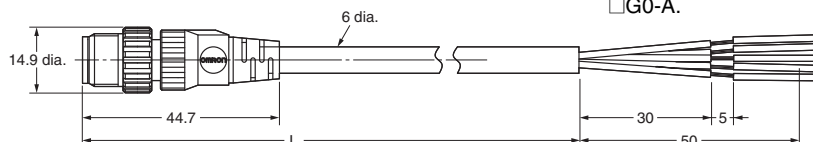
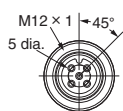
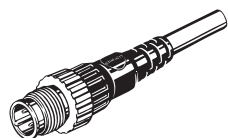
Four-core Model

- Connectors on DC Cable (Five Poles) XS2H-D521-□G0-A (for DC)

Dimensions

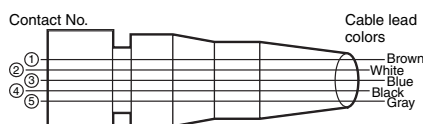
(Unit: mm)

Straight Connectors

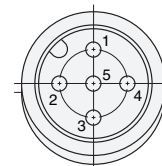


Note: Use the XS2F-D521-□G0-A in combination with the XS2H-D521-□G0-A.

Wiring diagram



Pin Arrangements (Engagement Side)



Ordering Information

Cable Specifications	No. of connector poles	Cable connection direction	No. of cable cores	Cable outer diameter (mm)	Cable core cross-sectional area (mm ²)	Cable length (m)	DC	AC	Minimum order	UL-listed
							Model	Model		
Fire-retardant, Robot cable	4	Straight	2	6.0 mm dia.	0.5	0.3	XS2H-D421-AA0-F	XS2H-A421-AB0-F	10	Yes
			3				XS2H-D421-AC0-F	---		
			4				XS2H-D421-A80-F	XS2H-A421-A90-F		
			2			1	XS2H-D421-CA0-F	XS2H-A421-CB0-F		
			3				XS2H-D421-CC0-F	---		
Spatter-resistant Cables	4	Straight	4	6.6 mm dia.	0.3	0.3	XS2H-D421-A80-SA	---	10	---
			4			1	XS2H-D421-C80-SA	---		
			5			0.3	XS2H-D521-AG0-A	---		
Standard cable	5	Straight	5	6.0 mm dia.	0.3	0.3	XS2H-D521-AG0-A	---	10	---
			5			1	XS2H-D521-CG0-A	---		

XS2 Sensor I/O Connectors on Cables (8-pole)

Ordering Information

Connector type	Cable connection direction	Applicable wire diameter	Number of cores	Cable length (m)	Model
Panel-mounting socket	---	AWG22 to 28	---	---	XS2P-D821-2
					XS2P-D822-2
Panel-mounting plug					XS2M-D824-4
Plug on one cable end	Straight	---	8	0.3	XS2H-D821-AH0-C
				1	XS2H-D821-CH0-C
				2	XS2F-D821-DH0-C
Socket on one cable end				5	XS2F-D821-GH0-C
				2	XS2W-D821-DH1-C
Plug and socket on cable ends				5	XS2W-D821-GH1-C

Pin Numbers and Cable Lead Colors

XS2F/XS2H/XS2W cable lead colors	Pin number							
	1	2	3	4	5	6	7	8
	White	Brown	Green	Yellow	Gray	Pink	Blue	Shield

Ratings and Characteristics

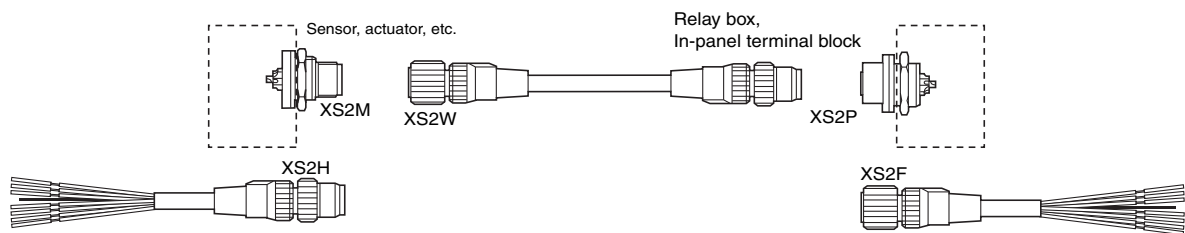
Rated current	1.5 A
Rated voltage	36 VDC
Contact resistance	40 mΩ max. (at 20 mVDC max. and 100 mA max.)
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength	1,000 VAC for 1 min (leakage current: 1 mA max.)
Degree of protection	IP67
Insertion durability	200 times min.
Operating temperature	-25 to 70°C

Materials and Finish

Contacts	Brass/nickel base, 0.4-μm goldplating
Bracket, body, M16 nuts	Brass/nickel plated
Pin block	PBT resin (UL94V-0)/light gray
Cover *1	PBT resin (UL94V-0)
Seal rubber and O-ring *2	Rubber

*1. XS2F/XS2H/XS2W only.
*2. O-rings are on sockets only.

Wiring Example

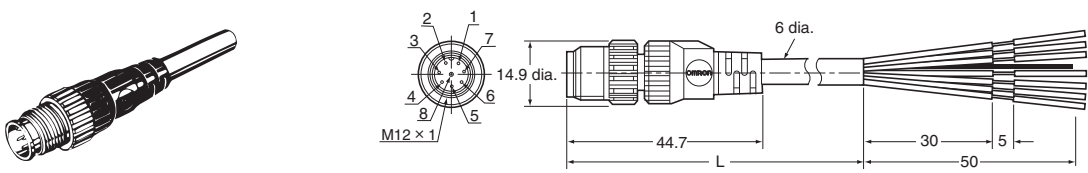


XS2

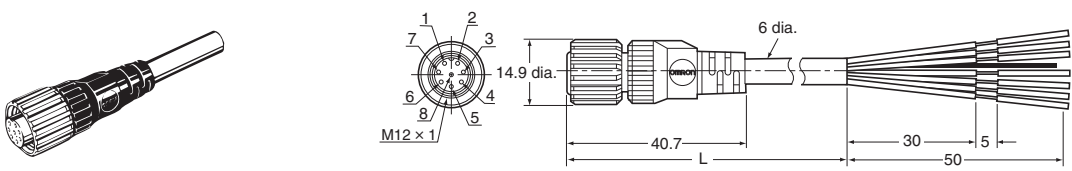
Dimensions

(Unit: mm)

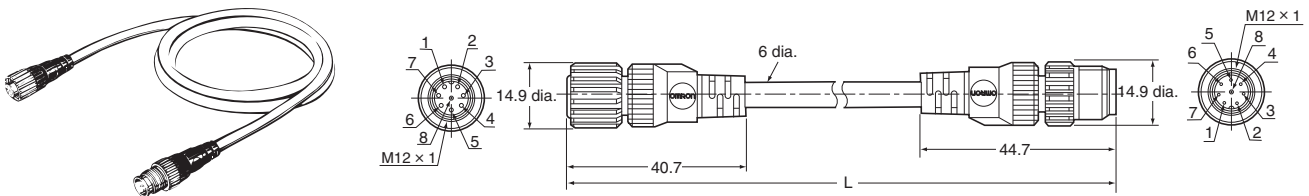
XS2H Plug on One Cable End (M12)



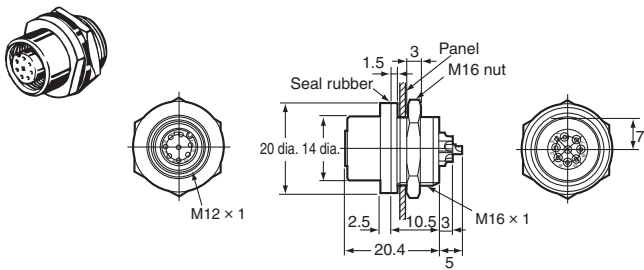
XS2F Socket on One Cable End (M12)



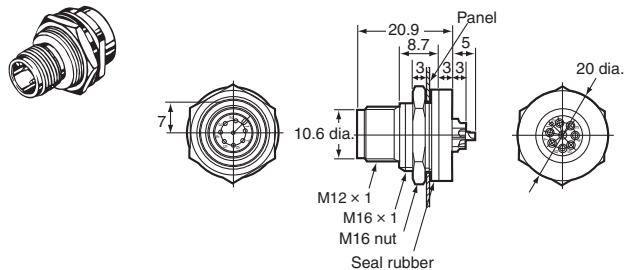
XS2W Plug and Socket on Cable Ends (M12)



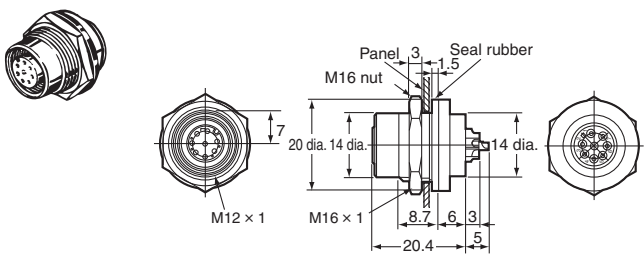
XS2P-D821-2 Panel-mounting Socket (M12) with Solder Cup Pins and Rear Lock



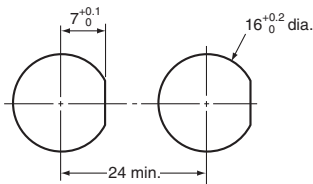
XS2M-D824-4 Panel-mounting Plug (M12) with Solder Cup Pins and Front Lock



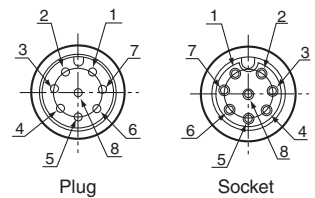
XS2P-D822-2 Panel-mounting Socket (M12) with Solder Cup Pins and Front Lock



Panel Cutouts



Connector Pin Numbers (from Mating Side)



- Note 1. Mounting panel thickness: 1 to 4 mm.
2. Applicable core wire size for solder cup pins: 0.5 mm² max.
3. The M16 nut and seal rubber are included.

XS2G Crimping/Soldering Plug Assemblies

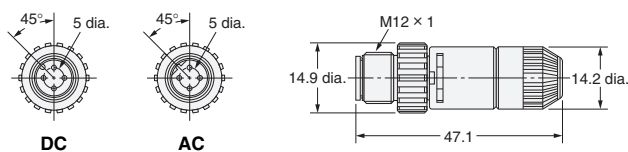
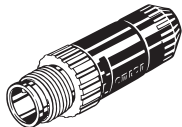
Dimensions

(Unit: mm)

XS2G-□4C□ (Crimping Model)

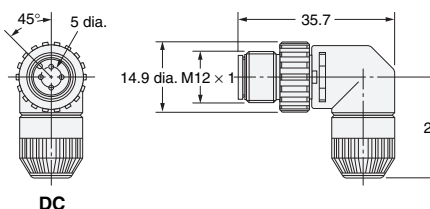
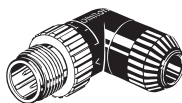
XS2G-□42□ (Soldering Model)

Straight Connectors



XS2G-D42□ (Soldering Model)

Right-angle Connectors



Ordering Information

Suitable cable dia. (mm)	Suitable core size (mm ²)	Suitable Sheath material	Cable connection direction	Connection method	DC	AC	Minimum order
					Model	Model	
6 mm dia. model (5 to 6 mm dia.)	0.18 to 0.3 0.5 to 0.75 *	PVC, PE, PUR	Straight	Crimping	XS2G-D4C1	XS2G-A4C1	50
	Soldering			XS2G-D421	XS2G-A421		
	0.5 max.		Right-angle	Soldering	XS2G-D422	---	
4 mm dia. model (4 to 5 mm dia.)			0.18 to 0.3 0.5 to 0.75 *	Straight	Crimping	XS2G-D4C3	
	Soldering				XS2G-D423	XS2G-A423	
	0.5 max.		Right-angle	Soldering	XS2G-D424	---	
3 mm dia. model (3 to 4 mm dia.)			0.18 to 0.3 0.5 to 0.75 *	Straight	Crimping	XS2G-D4C5	
	Soldering				XS2G-D425	XS2G-A425	
	0.5 max.		Right-angle	Soldering	XS2G-D426	---	

*There are two types of contacts.

Note: Crimping plug contacts are sold separately.

Use one of the above cables. If you do not use one of these cables, there is a possibility that the performance can't be met.

Ask your OMRON representative about selecting a cable of other than above.

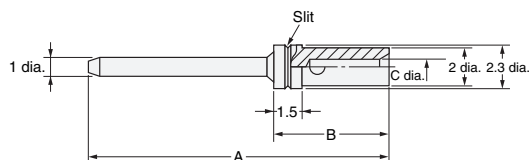
XS2U Crimping Pin for XS2G

Dimensions

(Unit: mm)

XS2U-312□ (Plug Pin)

Note: A special tool must be used for crimping. For details, refer to page 89.



Dimensions

Model	Suitable core size (mm ²)	Dimension (mm)			No. of slits
		A	B	C	
XS2U-3121	0.18 to 0.3	20.0	6.1	0.8	1
XS2U-3122	0.5 to 0.75	20.1	6.2	1.3	0

Ordering Information

Suitable core size (mm ²)	Model	Minimum order
0.18 to 0.3	XS2U-3121	100
0.5 to 0.75	XS2U-3122	

Note: Orders are accepted in multiples of the minimum order.

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

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Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

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XS2

XS2C Crimping/Soldering Socket Assemblies

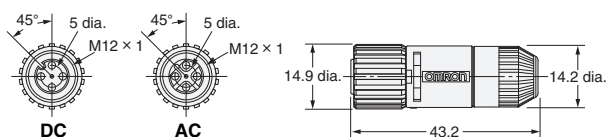
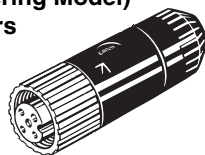
Dimensions

(Unit: mm)

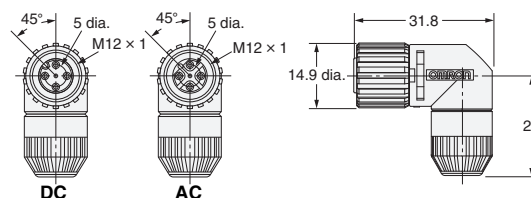
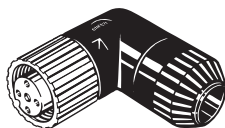
XS2C-□4C□ (Crimping Model)

XS2C-□42□ (Soldering Model)

Straight Connectors



Right-angle Connectors



Ordering Information

Suitable cable dia. (mm)	Suitable core size (mm ²)	Suitable Sheath material	Cable connection direction	Connection method	DC	AC	Minimum order
					Model	Model	
6 mm dia. model (5 to 6 mm dia.)	0.18 to 0.3	PVC, PE, PUR	Straight	Crimping	XS2C-D4C1	XS2C-A4C1	50
	0.5 to 0.75 *			Soldering	XS2C-D421	XS2C-A421	
	0.5 max.		Right-angle	Crimping	XS2C-D4C2	XS2C-A4C2	
				Soldering	XS2C-D422	XS2C-A422	
4 mm dia. model (4 to 5 mm dia.)	0.18 to 0.3		Straight	Crimping	XS2C-D4C3	XS2C-A4C3	
	0.5 to 0.75 *			Soldering	XS2C-D423	XS2C-A423	
	0.5 max.		Right-angle	Crimping	XS2C-D4C4	XS2C-A4C4	
				Soldering	XS2C-D424	XS2C-A424	
3 mm dia. model (3 to 4 mm dia.)	0.18 to 0.3		Straight	Crimping	XS2C-D4C5	XS2C-A4C5	
	0.5 to 0.75 *			Soldering	XS2C-D425	XS2C-A425	
	0.5 max.		Right-angle	Crimping	XS2C-D4C6	XS2C-A4C6	
				Soldering	XS2C-D426	XS2C-A426	

*There are two types of contacts.

Note: Crimping plug contacts are sold separately.

Use one of the above cables. If you do not use one of these cables, there is a possibility that the performance can't be met.

Ask your OMRON representative about selecting a cable of other than above.

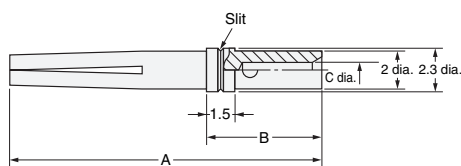
XS2U Crimping Pin for XS2C

Dimensions

(Unit: mm)

XS2U-222□ (Socket Pin)

Note: A special tool must be used for crimping. For details, refer to page 89.



Dimensions

Model	Suitable core size (mm ²)	Dimension (mm)			No. of slits
		A	B	C	
XS2U-2221	0.18 to 0.3	16.7	6.1	0.8	1
XS2U-2222	0.5 to 0.75	16.8	6.2	1.3	0

Ordering Information

Suitable core size (mm ²)	Model	Minimum order
0.18 to 0.3	XS2U-2221	100
0.5 to 0.75	XS2U-2222	

Note: Orders are accepted in multiples of the minimum order.

XS2G Screw-on Plug Assemblies

Dimensions

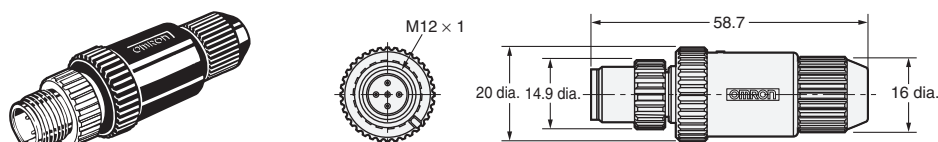
(Unit: mm)

XS2G-D5S7 (5-pole, Straight, Applicable Cable Outer Diameter: 8 mm)

XS2G-D5S9 (5-pole, Straight, Applicable Cable Outer Diameter: 7 mm)

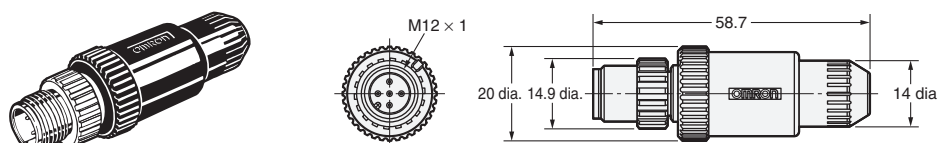
XS2G-D4S7 (4-pole, Straight, Applicable Cable Outer Diameter: 8 mm)

XS2G-D4S9 (4-pole, Straight, Applicable Cable Outer Diameter: 7 mm)



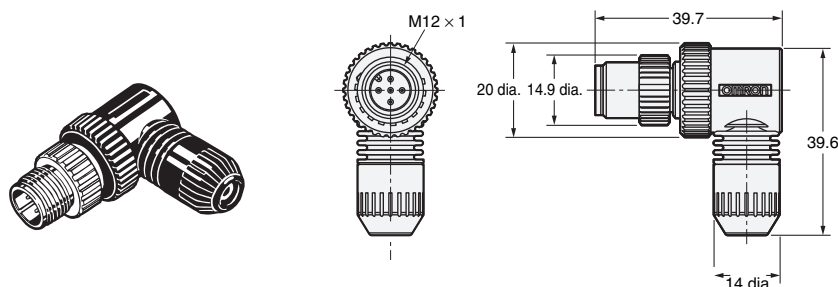
XS2G-D5S1 (5-pole, Straight, Applicable Cable Outer Diameter: 6 mm)

XS2G-D4S□ (4-pole, Straight, Applicable Cable Outer Diameter: 3, 4, or 6 mm)



XS2G-D5S2 (5-pole, Right-angle, Applicable Cable Outer Diameter: 6 mm)

XS2G-D4S□ (4-pole, Right-angle, Applicable Cable Outer Diameter: 3, 4, or 6 mm)



Ordering Information

No. of poles	Suitable cable dia. (mm)	Suitable core size (mm ²)	Suitable Sheath material	Straight connectors (for DC)	Right-angle connectors (for DC)	Minimum order
				Model	Model	
5	8 mm dia. model (7 to 8 mm dia.)	0.18 to 0.75	PVC, PE, PUR	XS2G-D5S7	---	50
	7 mm dia. model (6 to 7 mm dia.)			XS2G-D5S9	---	
	6 mm dia. model (5 to 6 mm dia.)			XS2G-D5S1	XS2G-D5S2	
4	8 mm dia. model (7 to 8 mm dia.)			XS2G-D4S7	---	
	7 mm dia. model (6 to 7 mm dia.)			XS2G-D4S9	---	
	6 mm dia. model (5 to 6 mm dia.)			XS2G-D4S1	XS2G-D4S2	
	4 mm dia. model (4 to 5 mm dia.)			XS2G-D4S3	XS2G-D4S4	
	3 mm dia. model (3 to 4 mm dia.)			XS2G-D4S5	XS2G-D4S6	

Note: XS2G Screw-on Plugs cannot be connected to side by side to the CN1 and CN2 connectors of XS2R Y-Joint Sockets/Plugs.

Use one of the above cables. If you do not use one of these cables, there is a possibility that the performance can't be met.

Ask your OMRON representative about selecting a cable of other than above.

Industrial Ethernet Connectors

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Sensor I/O Connector

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DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environmentally Resistant Slaves

I/O Peripherals for Environmentally Resistant Slaves

Power Supply Peripherals for Environmentally Resistant Slaves

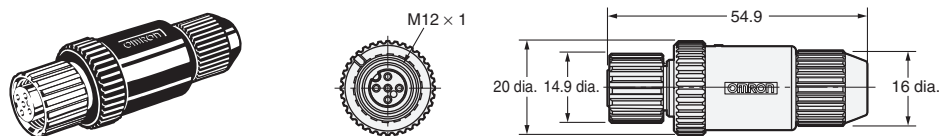
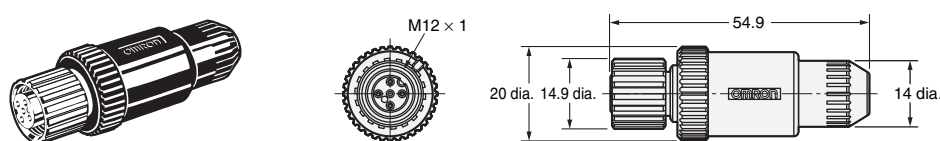
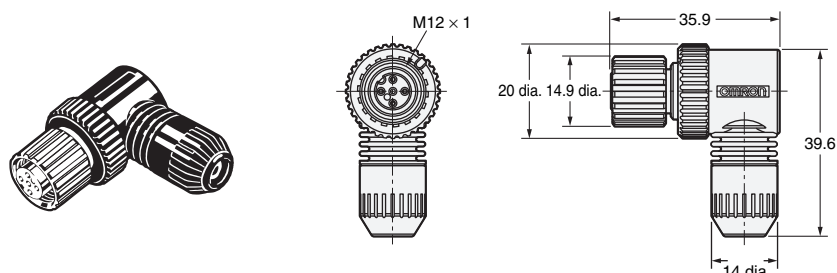
Standard-compliant Models

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XS2C Screw-on Socket Assemblies

Dimensions

(Unit: mm)

XS2C-D5S7 (5-pole, Straight, Applicable Cable Outer Diameter: 8 mm)**XS2C-D5S9 (5-pole, Straight, Applicable Cable Outer Diameter: 7 mm)****XS2C-D4S7 (4-pole, Straight, Applicable Cable Outer Diameter: 8 mm)****XS2C-D4S9 (4-pole, Straight, Applicable Cable Outer Diameter: 7 mm)****XS2C-D5S1 (5-pole, Straight, Applicable Cable Outer Diameter: 6 mm)****XS2C-D4S□ (4-pole, Straight, Applicable Cable Outer Diameter: 3, 4, or 6 mm)****XS2C-D5S2 (5-pole, Right-angle, Applicable Cable Outer Diameter: 6 mm)****XS2C-D4S□ (4-pole, Right-angle, Applicable Cable Outer Diameter: 3, 4, or 6 mm)**

Ordering Information

No. of poles	Suitable cable dia. (mm)	Suitable core size (mm ²)	Suitable Sheath material	Straight connectors (for DC)	Right-angle connectors (for DC)	Minimum order
				Model	Model	
5	8 mm dia. model (7 to 8 mm dia.)	0.18 to 0.75	PVC, PE, PUR	XS2C-D5S7	---	50
	7 mm dia. model (6 to 7 mm dia.)			XS2C-D5S9	---	
	6 mm dia. model (5 to 6 mm dia.)			XS2C-D5S1	XS2C-D5S2	
4	8 mm dia. model (7 to 8 mm dia.)			XS2C-D4S7	---	
	7 mm dia. model (6 to 7 mm dia.)			XS2C-D4S9	---	
	6 mm dia. model (5 to 6 mm dia.)			XS2C-D4S1	XS2C-D4S2	
	4 mm dia. model (4 to 5 mm dia.)			XS2C-D4S3	XS2C-D4S4	
	3 mm dia. model (3 to 4 mm dia.)			XS2C-D4S5	XS2C-D4S6	

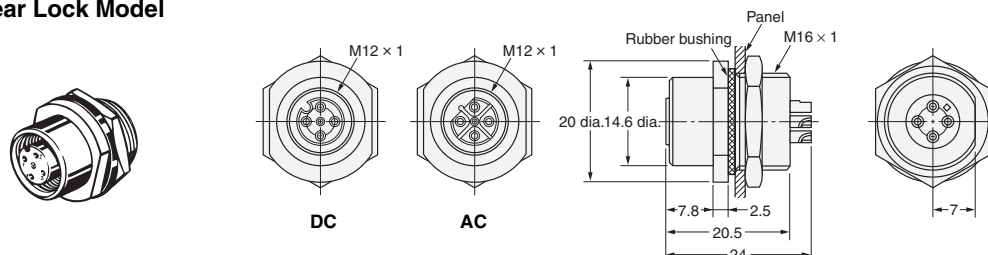
Note: Use one of the above cables. If you do not use one of these cables, there is a possibility that the performance can't be met.
Ask your OMRON representative about selecting a cable of other than above.

XS2P Panel-mounting Sockets for Terminal Boxes

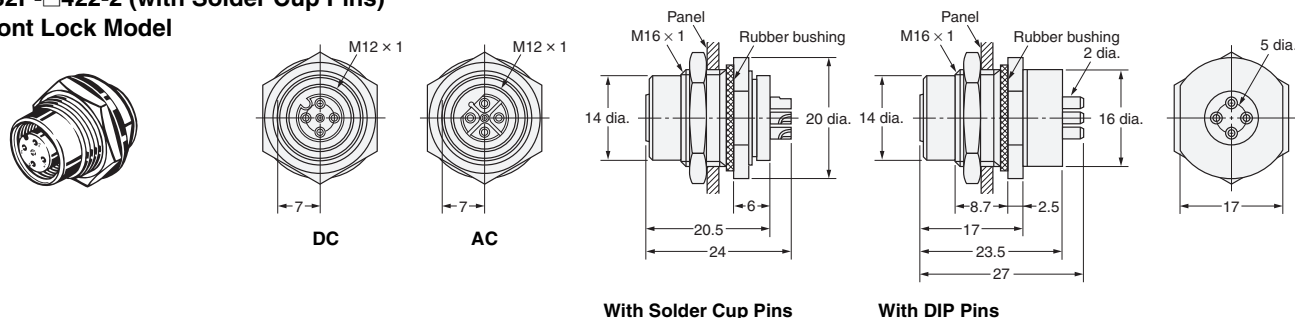
Dimensions

(Unit: mm)

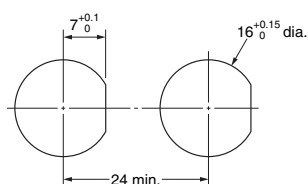
XS2P-□421-2 (with Solder Cup Pins) Rear Lock Model



XS2P-□422-1 (with DIP Pins) XS2P-□422-2 (with Solder Cup Pins) Front Lock Model

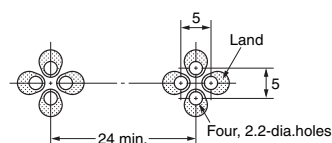


Panel Cutout



Note: The panel thickness is 1 to 4 mm.

PCB-mounting Dimensions



Ordering Information

Lock method	Pin shape	Applicable wire diameter	DC	AC	Minimum order
			Model	Model	
Rear lock	Solder cup pin	AWG20 to 28	XS2P-D421-2	XS2P-A421-2	50
Front lock	Solder cup pin		XS2P-D422-2	XS2P-A422-2	
	DIP pin		XS2P-D422-1	XS2P-A422-1	

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for Environment-
resistive SlavesPower Supply
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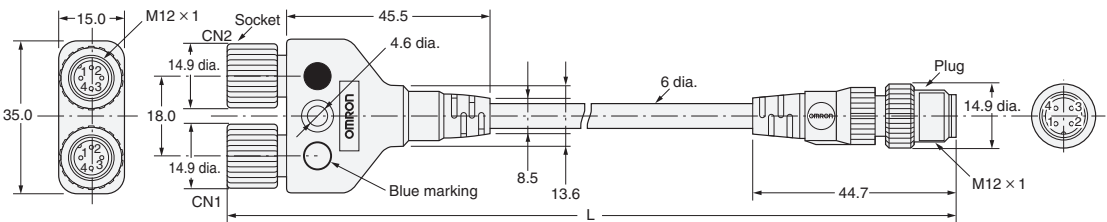
XS2R

Y-Joint Plug/Socket Connectors

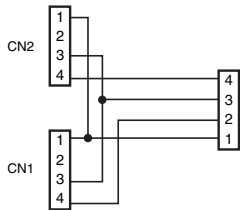
Dimensions

(Unit: mm)

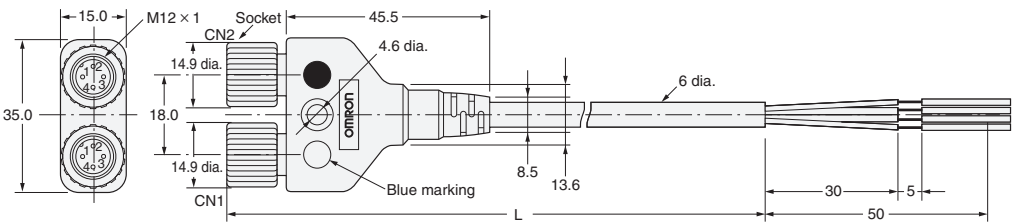
XS2R-D426-□11-F
Connectors on Both Cable Ends (Y-Joint Plug/Socket)



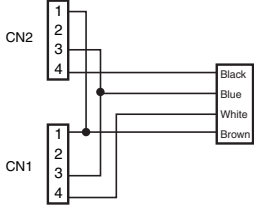
Wiring Diagram



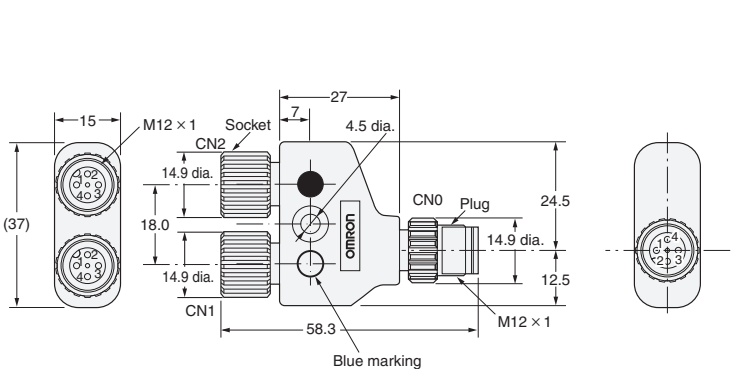
XS2R-D426-□10-F
Connectors on One Cable End (Y-Joint Plug/Socket)



Wiring Diagram

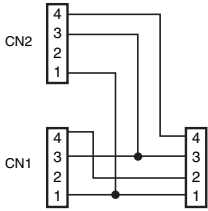


XS2R-D426-1
Y-Joint Plug/Socket without Cable

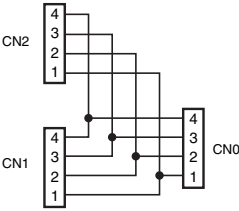


Wiring Diagram

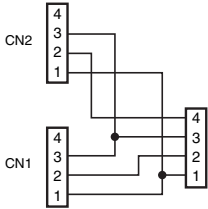
XS2R-D426-1



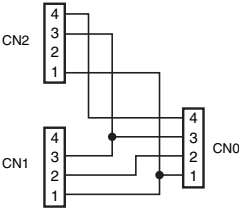
XS2R-D426-5



XS2R-D426-81



XS2R-D426-82



Ordering Information

Type	Connector	DC		
		Cable length L (m)	Model	Minimum order
With cable	Connectors on both cable ends	0.5	XS2R-D426-B11-F	5
		1	XS2R-D426-C11-F	
		2	XS2R-D426-D11-F	
		3	XS2R-D426-E11-F	
	Connector on one cable end	2	XS2R-D426-D10-F	5
		5	XS2R-D426-G10-F	
Without cable	Y-Joint plug/socket	---	XS2R-D426-1	10
			XS2R-D426-5	
			XS2R-D426-81	
			XS2R-D426-82	

Note: XS2G Screw-on Plugs cannot be connected side-by-side to the CN1 and CN2 connectors.
Consider using a crimping or soldering model instead. Refer to page 79 for details.

XS2R T-Joint Plug/Socket Connectors

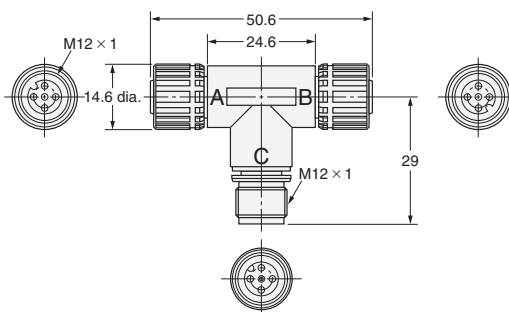
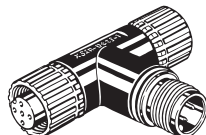
Dimensions

(Unit: mm)

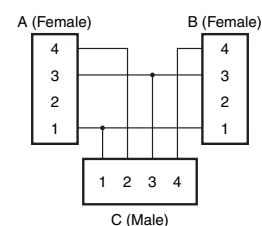
XS2R-D422-1

XS2R-D422-5

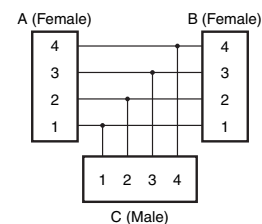
Aggregate Models



Wiring Diagram
XS2R-D422-1

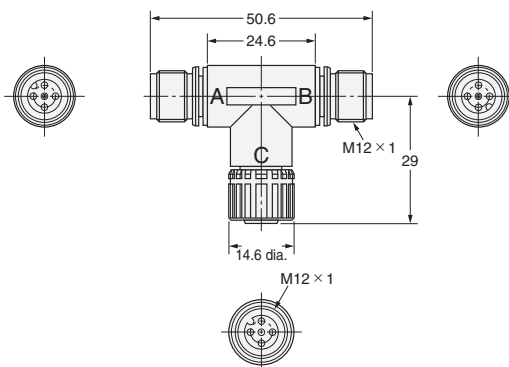
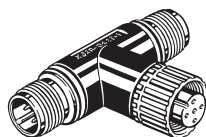


XS2R-D422-5

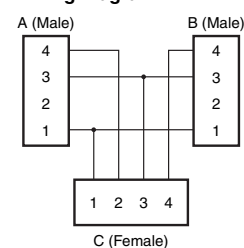


XS2R-D423-1

Bifurcated Model

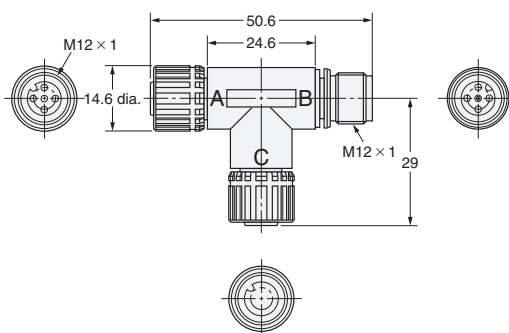
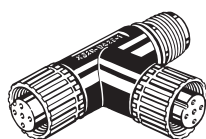


Wiring Diagram

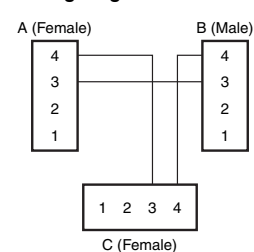


XS2R-D424-1

Daisy-chain Model



Wiring Diagram



Ordering Information

Type	DC	
	Model	Minimum order
Aggregate model	XS2R-D422-1	20
	XS2R-D422-5	
Bifurcated model	XS2R-D423-1	
Daisy-chain model	XS2R-D424-1	

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XW3D

XS2

XW3B

XS3

XN2

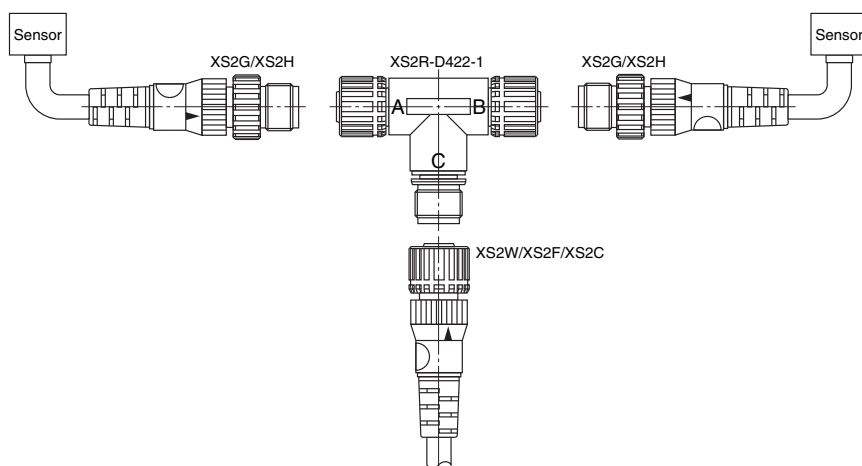
DeviceNet
PeripheralsCommunications
Peripherals for
Standard SlavesI/O Peripherals
for Standard
SlavesCommunications
Peripherals for
Environment-
resistive SlavesI/O Peripherals
for Environment-
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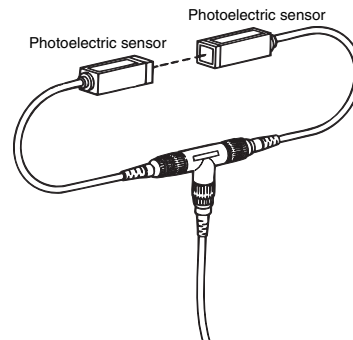
XS2

XS2R Application Examples

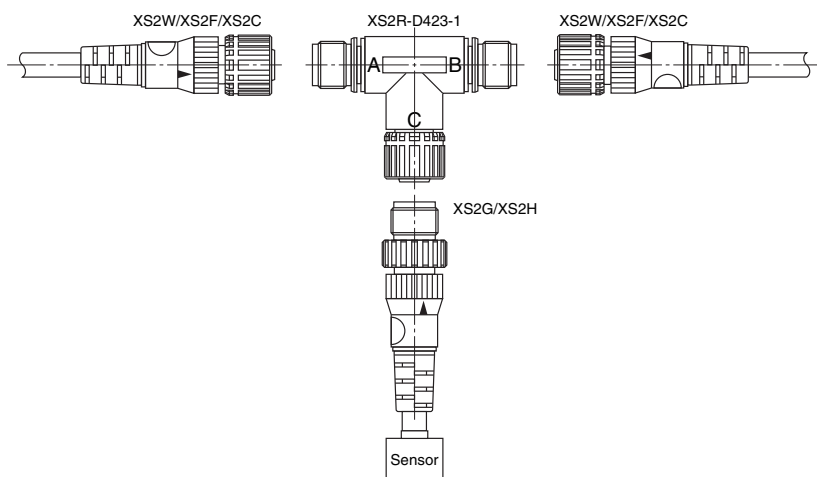
XS2R-D422-1 (Aggregate Model)



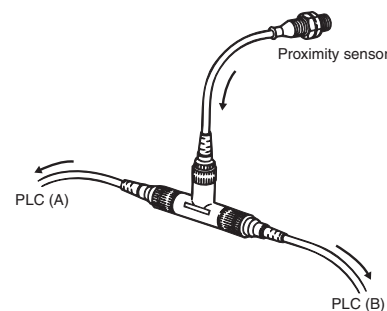
- A pair of Two-wire Sensors or Three-wire Sensors can be connected as shown in the illustration.
- The XS2R-D422-5 has feedthrough connections, thus working as a connector for the extension cable.



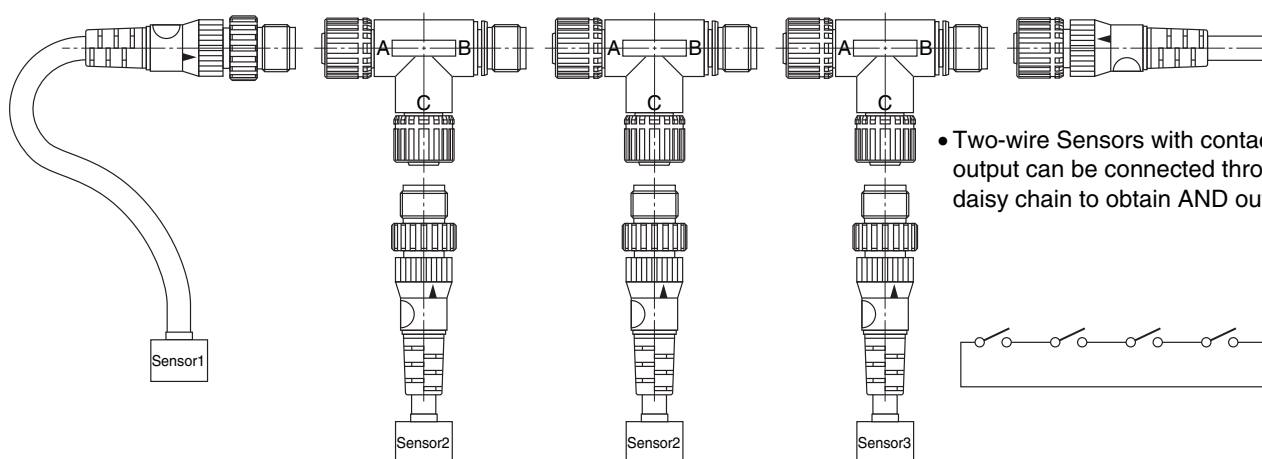
XS2R-D423-1 (Bifurcated Model)



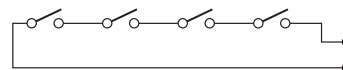
- Two or Three-wire Sensor signals can be bifurcated.



XS2R-D424-1 (Daisy Chain Model)



- Two-wire Sensors with contact output can be connected through a daisy chain to obtain AND output.



Safety Precautions

Precautions for Correct Use

Do not use this product under ambient conditions that exceed the ratings.

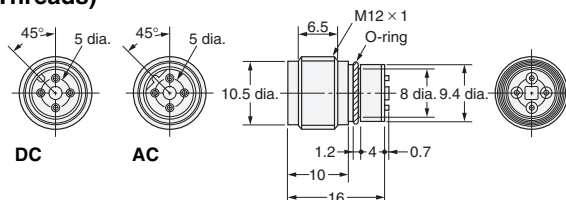
Before using the XS2R for Sensors, make sure that the wiring of the Sensors and the internal connections of the XS2R are correct.

XS2M Sensor-embedded Plugs

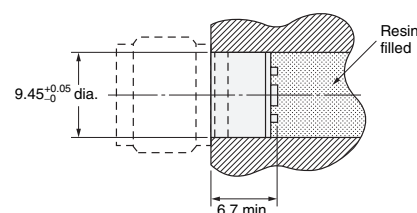
Dimensions

(Unit: mm)

XS2M-D421 (DC)
XS2M-A421 (AC)
 (Embedded Plug with Screw Threads)

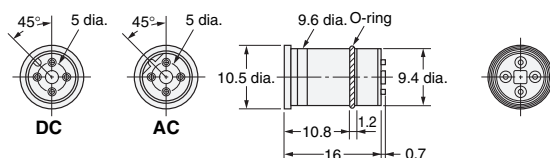


Mounted Dimensions

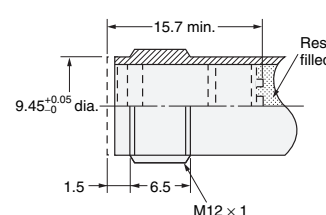


Note: After mounting, anchor the solder cups by injecting resin.

XS2M-D422 (DC)
XS2M-A422 (AC)
 (Embedded Plug without Screw Threads)



Mounted Dimensions



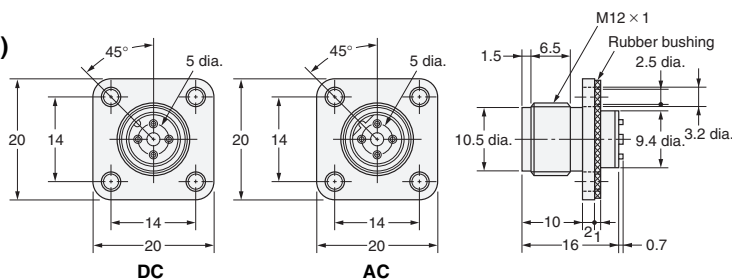
Note: After mounting, anchor the solder cups by injecting resin.

XS2M Panel-mounting Plugs

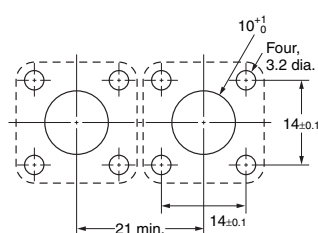
Dimensions

(Unit: mm)

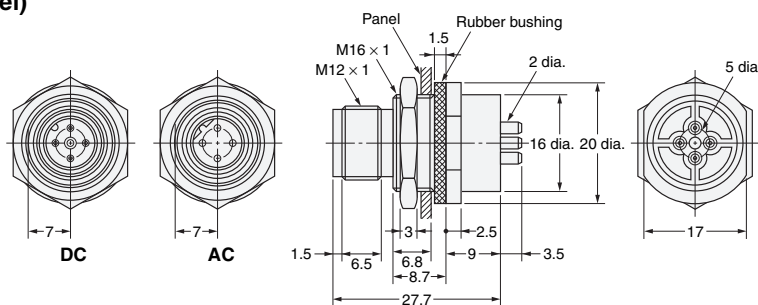
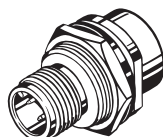
XS2M-D423 (For DC)
XS2M-A423 (For AC)
 (Flange-mounting Model)



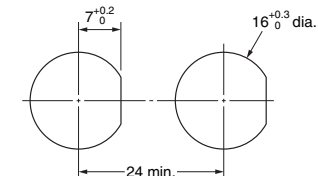
Panel Cutouts



XS2M-□424-1 (With DIP Pins)
XS2M-□424-2 (With Solder Cup Pins)
 (Screw-mounting Model)

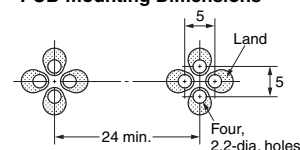


Panel Cutouts



Note: The panel thickness is 1 to 4 mm.

PCB-mounting Dimensions



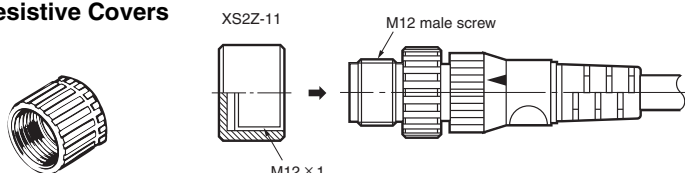
Ordering Information

Mounting method	Pin shape	Applicable wire diameter	DC	AC	Minimum order
			Model	Model	
Embedded with screw threads	Solder cup pin	AWG22 to 28	XS2M-D421	XS2M-A421	50
Embedded with no screw threads			XS2M-D422	XS2M-A422	
Flange-mounting			XS2M-D423	XS2M-A423	
Screw-mounting	DIP pin	---	XS2M-D424-1	XS2M-A424-1	
	Solder cup pin	AWG20 to 28	XS2M-D424-2	XS2M-A424-2	

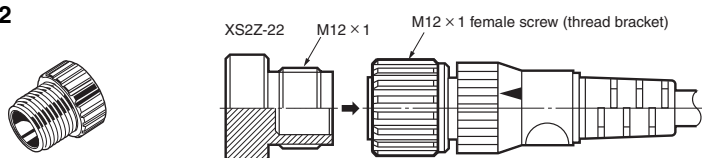
Connector Covers

Water-resistant Covers

XS2Z-11



XS2Z-22

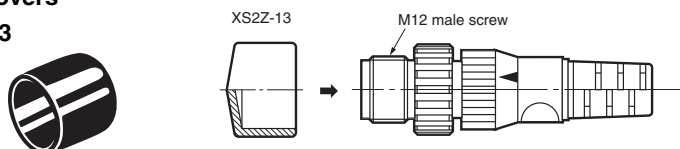


You can use the Water-resistant Cover when the connector is not connected to ensure an IP67 degree of protection. When mounting the Water-resistant Cover to a Connector, be sure to apply a torque range between 0.39 and 0.49 N·m to tighten the Water-resistant Cover.

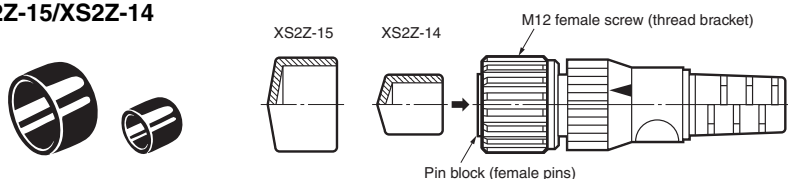
Model	Minimum order	Material	Suitable connector	
			Model	Mounting portion
XS2Z-11	50	Brass/nickel plated	XS2G/XS2H/XS2M/XS2R/XS2W/XS5H/XS5M/XS5W	M12 male screw
XS2Z-22			XS2C/XS2R/XS2F/XS2P/XS2W/XW3B/XS5F/XS5W/XS5R/XS5P/XW3D	M12 female screw (thread bracket)

Dust Covers

XS2Z-13



XS2Z-15/XS2Z-14

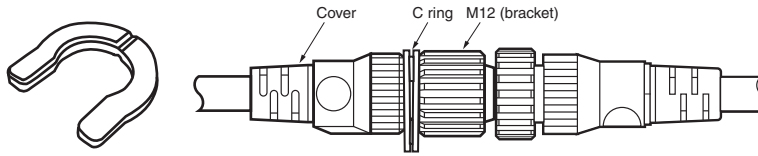


The Dust Cover is for dust prevention and does not ensure IP67 degree of protection. When mounting the Dust Cover to a connector, be sure to press the Dust Cover onto the Connector until the Connector is fully inserted into the Dust Cover.

Model	Minimum order	Material	Suitable connector	
			Model	Mounting portion
XS2Z-13	50	Rubber/black	XS2G/XS2H/XS2M/XS2R	M12 male screw
XS2Z-14			XS2C/XS2R/XS2F/XS2P/XW3A/XW3B	Pin block (female pins)
XS2Z-15				M12 female screw (thread bracket)

Loosening-preventing C Ring

XS2Z-18

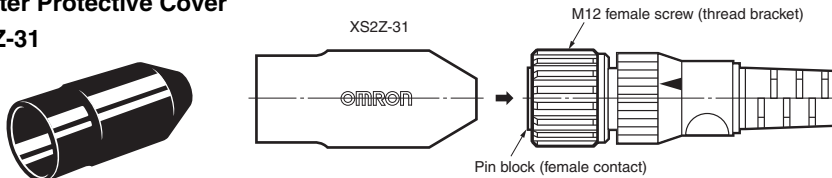


This C ring prevents the M12 connector from becoming loose. When you attach the C ring, press it securely between the bracket and cover.

Model	Material	Applicable connector
XS2Z-18	POM	XS2F/H/W

Sputter Protective Cover

XS2Z-31



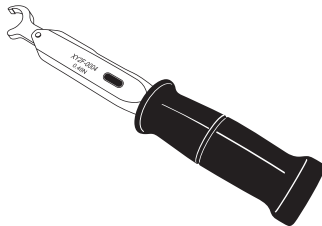
The Sputter Protective Cover protects the connector from weld sputter. Make sure it covers the entire connector.

Model	Material	Applicable connector
XS2Z-31	Silicone rubber/black	XS2F/XS2H/XS2W

Tools

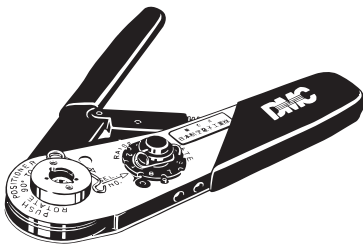
Torque Wrench

XY2F-0004



Crimp Tool

XY2F-0002

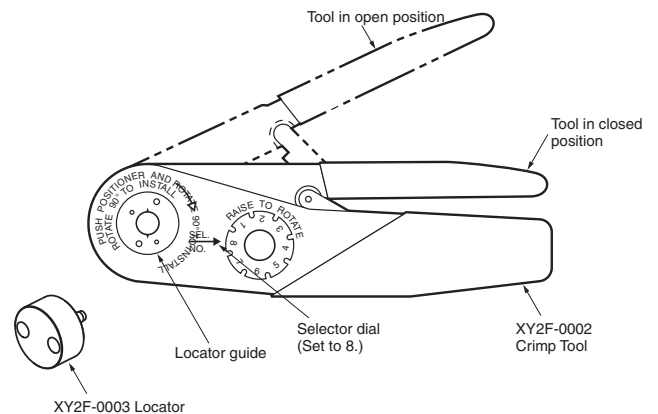


Use the Crimp Tool to crimp a cable core to the XS2U Crimping Pin used with the XS2C or XS2G Crimping Connector.

- The XY2F-0002 Crimp Tool is DMC's AFM8 (M22520/2-01).
- Mount the XY2F-0003 Locator (sold separately) to the locator guide of the Crimp Tool with a screw provided with the XY2F-0003 Locator.

Locator

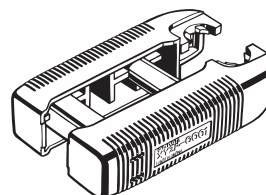
XY2F-0003



Pin-block Extraction Tool

XY2F-0001

Use this tool to extract a Pin Block from the covers in order to make wiring changes or corrections after the cover has been mounted to the pin block for Connector Assemblies (XS2C/ XS2G, soldering/crimping).



Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environmentally Resistant Slaves

I/O Peripherals for Environmentally Resistant Slaves

Power Supply Peripherals for Environmentally Resistant Slaves

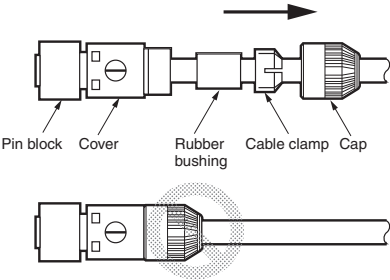
Standard-compliant Models

Model Index

Extraction Procedure

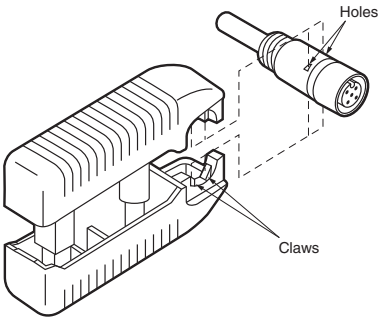
(1) Disconnecting Components

- Disconnect all components on the cap side from the cover.

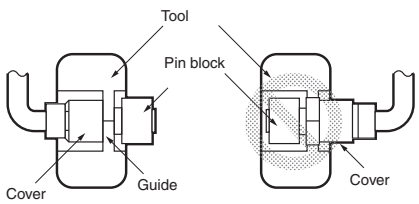


(2) Extracting Pin Block

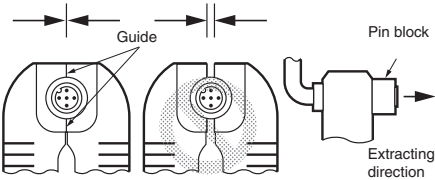
- Insert the claws of the Tool into the four holes of the cover.



- Make sure that the pin block is outside the Tool.



- Press the Tool so that the guides of the Tool are in close contact. Then pull the pin block straight.



Precaution

- The pin block must not be extracted from the same Connector more than 3 times, otherwise the proper degree of protection of the pin block or Connector will not be maintained.

Industrial Ethernet Connectors
XS5/XS6
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Introduction to Sensor I/O Connectors
XS5
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I/O Peripherals for Environmentally Resistant Slaves
Power Supply Peripherals for Environmentally Resistant Slaves
Standard-compliant Models
Model Index

Assembly Procedure for XS2C/XS2G Connector Assemblies

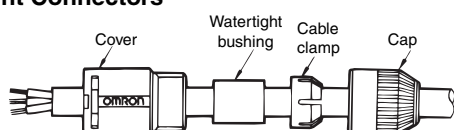
(1) Connector and Cable External Diameters

- Connectors for 8, 7, 6, 4, and 3 mm diameter Cables (i.e., Cables that are 7 to 8, 6 to 7, 5 to 6, 4 to 5, and 3 to 4 mm in diameter respectively) are available. When assembling a Connector used with a cable, make sure that the external diameter of the Connector is suited to that of the cable.
- A watertight bushing for 6/7 mm diameter Cable has no stripe, that for 8/4 mm-diameter Cable has a single stripe, and that for 3 mm diameter Cable has two stripes.

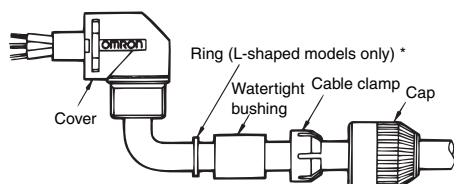
(2) Component Insertion

Crimping/Soldering Connectors

Straight Connectors



Right-angle Connectors

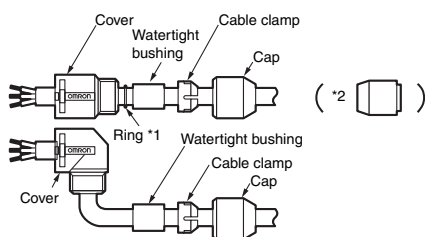


*A ring is not required for Screw-on Connectors.

- As shown in the above illustration, connect the above components to the Cable with its end processed.

Screw-on Connectors

Confirm that you have all of the required parts.



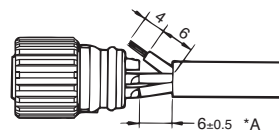
Insulation caps and insulation tubes are included with 5-pole Connectors (XS2C-D5S□ and XS2G-D5S□).

*1. Rings are not required with 7-mm and 8-mm cables.

*2. Insert the waterproof bushing for 7-mm and 8-mm cables in the direction shown in the diagram.

(3) Wiring (Processing Cable Ends)

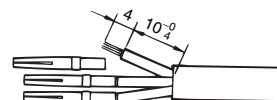
Soldering Connectors



- Strip 10 mm of the Cable sheath and 4 mm of each core.
- Before soldering cores and solder cup pins together, solder-coat each of them.
- The following conditions are recommended for soldering each solder cup pin.
Soldering temperature: $350 \pm 5^\circ\text{C}$
Soldering period: 3 ± 1 s
- The length marked *A should be 6.5 mm max., otherwise the proper degree of protection of the connector will not be maintained.

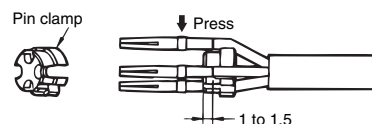
Crimping Connectors

Crimping



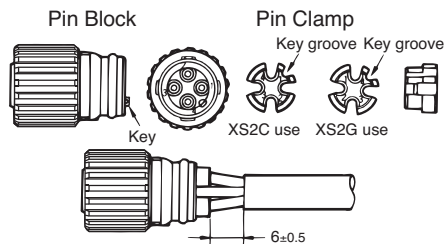
- Strip 14 mm of the Cable sheath and 4 mm of each core.
- Make sure that each core is not damaged and its end strands are not spread out.
- Mount the XY2F-0003 Locator to XY2F-0002 Crimping Tool, both of which are sold separately, and set the selector dial of the Crimping Tool to 8.
- After mounting the crimping pins to the Locator, fully insert the cores to the crimping pins.
- Squeeze the handle of the Crimp Tool to press-fit the cores to the crimping pins.
(Squeeze the handle firmly until the handle automatically returns to the release position.)

Wiring



- After press-fitting the cores to the pins, insert the pins into the pin clamp as shown in the illustration. Then make sure that the lead colors correspond to the pin clamp numbers that are identical to the connector pin numbers.

Insertion

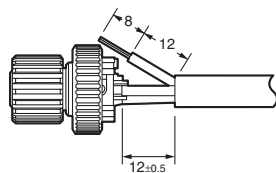


- Tentatively insert the pins to the pin block holes so that the key on the pin block will coincide with the key groove on the pin clamp. Then insert the cable along with the pin clamp.

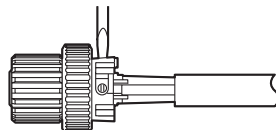
Screw-on Connectors

Cable End Processing

• Four-pole Connectors



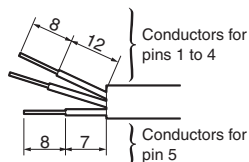
- Loosen the screws on pins 1 to 4 and insert the cores according to the pin numbers.



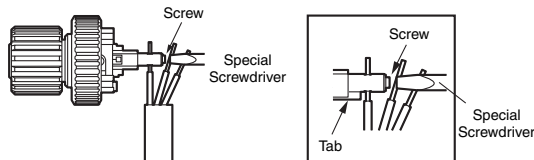
- Use the special Screwdriver (XW4Z-00B) * and tighten the screws securely so that the cores do not pull out (tightening torque: 0.15 to 0.2 N·m).

• Five-pole Connectors

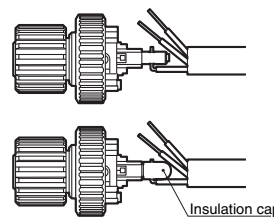
- Strip the cable sheath for a total of 15 mm and strip the core covering for 8 mm for the core to connect to pin 5.



- Connect the core to pin 5 (in the center) first.
- Insert the core from the side of the hold with the tab and tighten the screw securely (tightening torque: Pins 1 to 4: 0.15 to 0.2 N·m, Pins 5: 0.03 to 0.05 N·m), and then cut off the excess wire with wire cutters.



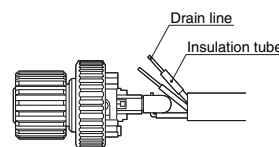
- Bend the cable as shown below, attached the enclosed insulation cap, and then strip the other cores.



- Connect the cores to pins 1 to 4.

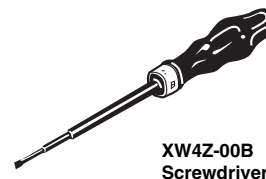
Connecting Shielded Cables to Five-pole Connectors

- Place the insulation tub on the drain line of the shield and connect it to the terminal.
- Tighten the screw and then check visually to see if there is insulation between the cores.



- Connect the cores to pins 1 to 4.

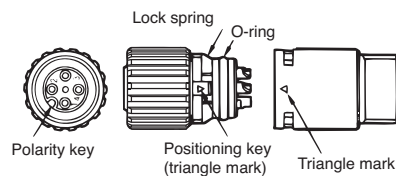
*When tightening the screws, use the dedicated XW4Z-00B Screwdriver that matches with the screw-slot dimensions.



(4) Inserting Pin Block

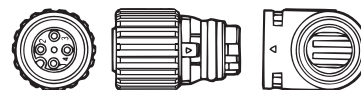
Pin Block (Soldering Model)

Cover (Straight Model)



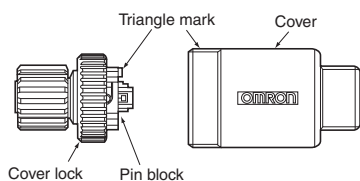
(Crimping Model)

(Right-angle Model)



- Mount the cover to the pin block so that the triangle mark on the pin block will coincide with the triangle mark on the cover.
- If the cover is used for an Right-angle model, the relationship between the position of the polarity key on the engaged side and cable connection direction will be determined by the direction in which the positioning key is inserted into the cover, which can be rotated by 90°.
- Fully insert the positioning key until the positioning key is hidden by the casing.

Pin Block (Screw-mounting Connectors)

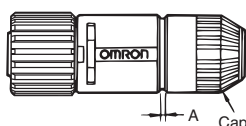


- Align the triangular marks on the pin block and cover and insert the pin block into the cover.
- Press them together firmly (0.39 to 0.49 N·m) until the pin block does not come out of the cover.

(5) Mounting Cap

- After mounting the cover to the pin block and the cover snaps into place, tighten the cap securely by hand within a torque of 0.39 and 0.49 N·m.

Note: If the cap is not tighten securely enough, the degree of protection (IP67) may not be maintained or vibration may cause the cap to become loose. Do not tighten the cap with pliers or similar tools; they may damage the cap.



- After fully tightening the cap, length A should be approximately one of the following according to the cable external diameter and the Connector model.

Connector	Cable external diameter (mm)			
	6 mm	5 mm	4 mm	3 mm
For 6-mm-dia. cable	1	0	---	---
For 4-mm-dia. cable	---	2	1	---
For 3-mm-dia. cable	---	---	2	1

(6) After Assembly

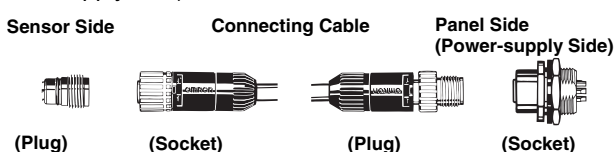
- Confirm the insulation between cores after completing assembly.

Recommended Cables

When connecting a commercially available cable to a connector assembly, use a cable with an outside diameter of 3 to 6 mm and core sizes of 0.18 to 0.75 mm² for crimping connectors and 0.5 mm² maximum for soldering connectors.

Connector Arrangement

For safety, when constructing a connection system between a Sensor and panel with a connector, make sure that the connector plug is on the Sensor side and the connector socket is on the panel side (i.e., the female pins are located on the power-supply side).



Safety Precautions

Precautions for Correct Use

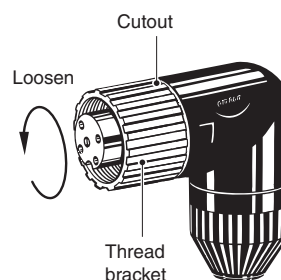
Do not use the product in atmospheres or environments that exceed product ratings.

Tightening Cap (Connector Assemblies)

1. Do not use pliers to tighten caps, otherwise the caps may be damaged. Be sure to tighten each cap by hand within a torque range between 0.39 and 0.49 N·m.
2. If caps are not tightened securely, the Connectors may not maintain their proper degree of protection (i.e., IP67) or the caps may become loose due to vibration.

Connector Connection and Disconnection

- When connecting or disconnecting Connectors, be sure to hold the Connectors by hand.
- Do not hold the cable part when disconnecting Connectors.
- Connectors mating with sockets must be fully inserted into the sockets. Tighten the thread bracket carefully so that the threads will not be damaged.
- Fully tighten thread bracket within a torque range between 0.39 and 0.49 N·m and be sure that the threads of the opposite parts are hidden by the thread bracket.
- When disconnecting Connectors, be sure to loosen the thread brackets first. Do not loosen the caps.
- Thread brackets must be loosened in the cutout direction.



Degree of Protection

- Do not impose external force continuously on the joints of pin blocks and covers, otherwise the Connectors may not keep its proper degree of protection (i.e., IP67).
- The degree of protection of connectors (IP67) is not for a fully watertight structure. Do not use them underwater.
- Connectors are of resin mold construction. Do not impose excessive force on them.

Setup

- Do not make any cable bends near the base of the Unit.
- Any bends made must have a minimum radius of 40 mm.

XW3B

Series Includes New Lightweight, Low-profile Connector Terminal Boxes for Use Outside of Control Boxes to Centralize Sensor I/O Connectors with Reduced Labor and Greater Environmental Resistance.

- Tough model with a significantly lower profile satisfies IP67.
- Available for Photoelectric Sensors, Proximity Sensors, and Limit Switches with Sensor I/O Connectors (M12). In addition, the rated current has been increased, a ground terminal added, and now supports connections to valves and solenoid.
- Incorporates power and operation indicators.
- Uses a single mounting method regardless of the number of ports, which ensures easy system expansion.



Refer to *Safety Precautions* on page 97.

Ratings and Specifications

Rated current	4 A/port (signal lines) 12 A/box (power lines)
Rated voltage	10 to 30 VDC
Contact resistance	40 mΩ max. (with 100 mA max., 20 mV max.) *1
Insulation resistance	100 MΩ min. (at 500 VDC)
Dielectric strength	500 VAC for 1 min (leakage current: 1 mA max.) *2
Degree of protection	IP67 (IEC529)
Cable retention force	98 N/15 s
Insertion tolerance	200 times
Ambient operating temperature range	-25 to 70°C

*1.The contact resistance of the Connector.

*2.The dielectric strength of the Connector.

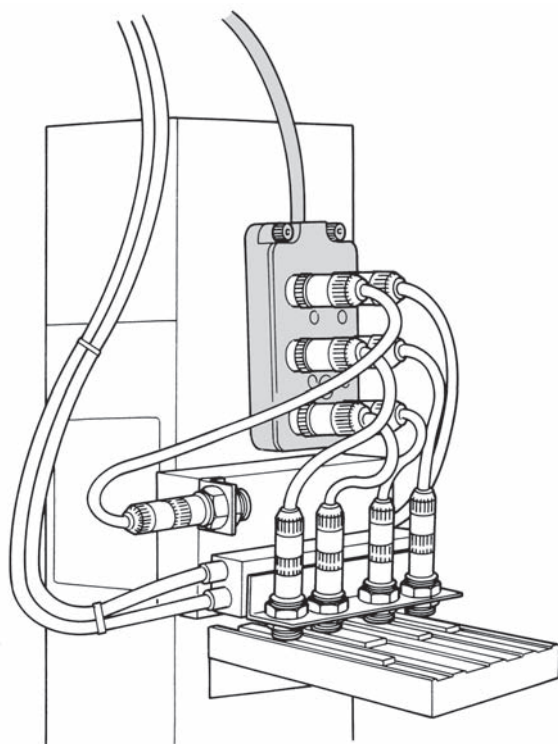
Compatible Connectors

XS2G	Connector Plug Assemblies (crimping, soldering, or screw-on)
XS2W	Connectors on cable ends (Sockets or Plugs)
XS2H	Connectors on one cable end (Plugs)

Materials and Finish

Item	Part name	Materials and finish
Connectors	Lock	Brass/nickel plated
	Contacts	Brass/nickel base, 0.4-μm gold plating
Cable	Cable	Sheath color: gray Core size: AWG18/AWG22 *
	Case	PBT resin (UL94V-0)/light gray
Case	Bushing	Rubber
	PCB	Glass-epoxy board
	Seal resin	Urethane resin

*The positive power supply, negative power supply, and ground lines are AWG18. Signal lines are AWG22.

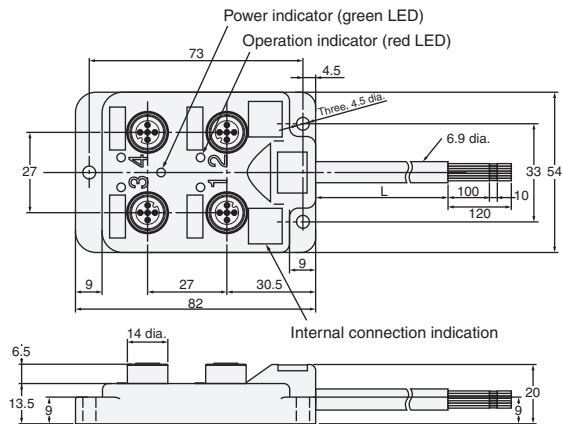
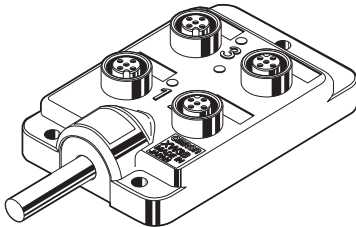


XW3B Connector Terminal Boxes

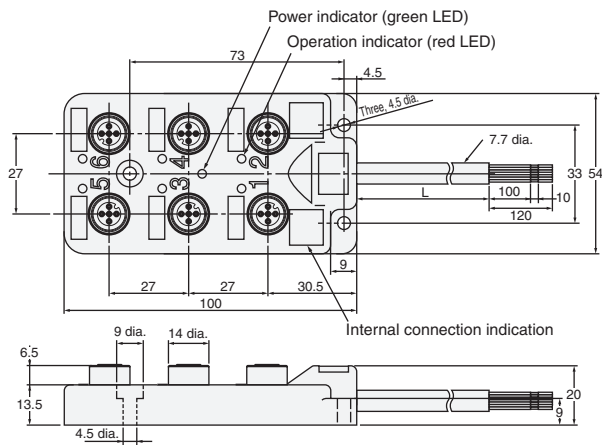
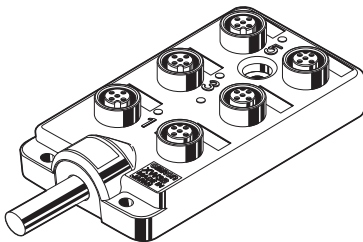
Dimensions

(Unit: mm)

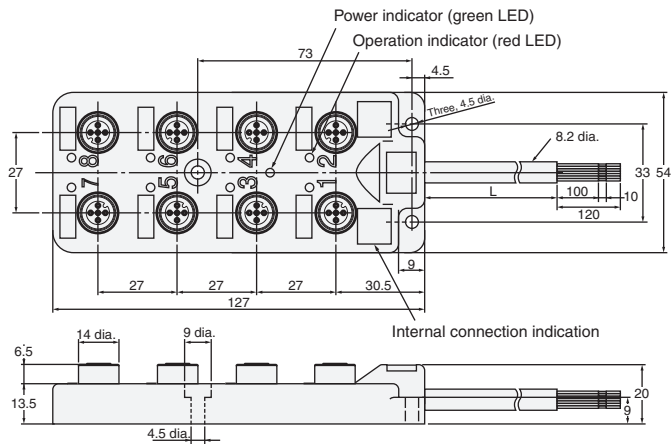
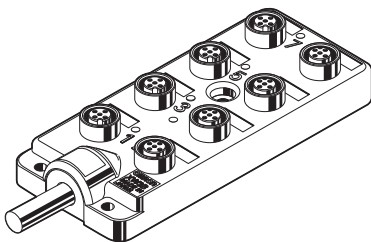
XW3B-P45□-□11 (Four Input Ports)



XW3B-P65□-□11 (Six Input Ports)



XW3B-P85□-□11 (Eight Input Ports)



Industrial Ethernet Connectors

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DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

Model Index

XW3B

Ordering Information

Sensor type and connections		3-wire DC NPN/2-wire ③ - ④	2-wire DC ① - ④ / without polarity ③ - ④	3-wire DC PNP/2-wire DC ① - ④
		Actuator connections ① - ④	—	Actuator connections ③ - ④
No. of ports	Cable length (m)	Model	Model	Model
4	5	XW3B-P455-G11	XW3B-P452-G11	XW3B-P453-G11
6	5	XW3B-P655-G11	XW3B-P652-G11	XW3B-P653-G11
8	5	XW3B-P855-G11	XW3B-P852-G11	XW3B-P853-G11

Note: Here ① - ④ and ③ - ④ are connector pin numbers.

Waterproof Cover (Sold Separately)

XS2Z-22



Model	Minimum order	Materials
XS2Z-22	50	Brass/nickel plated

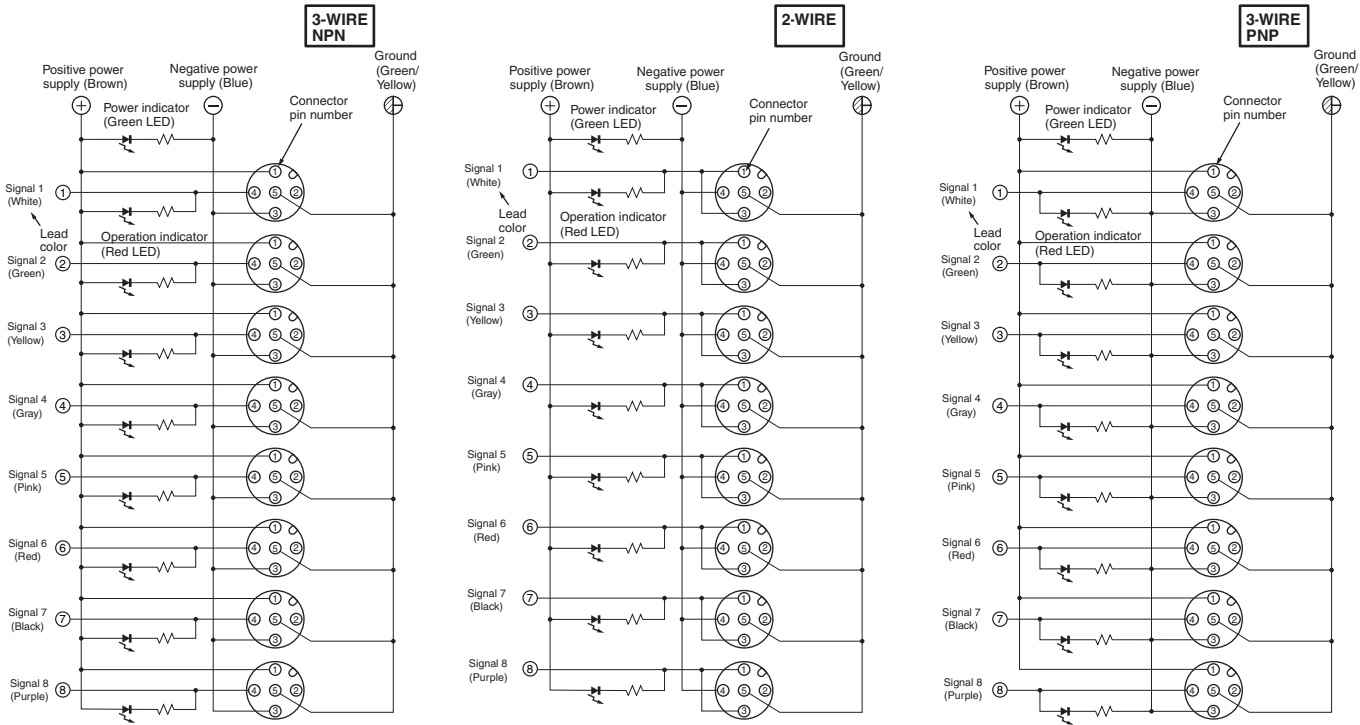
Note 1. The XW3B/XW3A comes with a dust cover. Use the optional XS2Z-22 Waterproof Cover when an IP67 degree of protection is required.
2. The XS2Z-22 is mounted by screwing it in place

Connection Diagram

XW3B-P□55-□11 for 3-wire DC NPN, 2-wire DC (without polarity ③ - ④), and Actuator (① - ④)

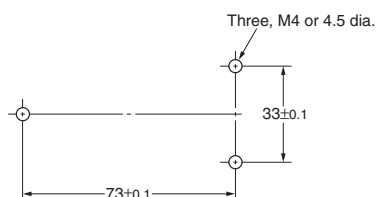
XW3B-P□52-□11 for 2-wire DC (with polarity ① - ④, without polarity ③ - ④)
Note: Cannot be used with Proximity Sensors of conventional connector pin with polarity ③ - ④ .

XW3B-P□53-□11 for 3-wire DC PNP, 2-wire DC (with polarity ① - ④), and Actuator (③ - ④)



Note 1. The above wiring diagrams are for eight-port use.
2. Figures in parentheses indicate lead colors.
3. The expression "white/red" means white and red stripes.
4. Here ① - ④ and ③ - ④ are pin numbers.
5. Contact numbers 5 through 8 in the above diagrams do not exist on Terminal Boxes with four inputs. The lead colors for signals 1 through 4, power supply, and ground are the same.
6. Contact numbers 7 and 8 in the above diagrams do not exist on Terminal Boxes with six inputs. The lead colors for signals 1 through 6, power supply, and ground are the same.

Mounting holes



Note: Mounting hole dimensions are always the same regardless of the number of ports.

XW3B Model Compatibility Chart

No. of ports	Cable length (m)	NPN Sensor specifications	2-wire Sensor specifications	PNP Sensor specifications
4	5	XW3B-P455-G11	XW3B-P452-G11	XW3B-P453-G11
6	5	XW3B-P655-G11	XW3B-P652-G11	XW3B-P653-G11
8	5	XW3B-P855-G11	XW3B-P852-G11	XW3B-P853-G11

Note: Consult your OMRON representative for details on alternatives other than the models shown above.

Safety Precautions

Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings.

●Connector Connection or Disconnection

- Before using a Sensor or Limit Switch, check this catalog and be sure that the Sensor or Limit Switch can be connected.
- Be sure to turn OFF the power supplied to the XW3B before Connector connection or disconnection.
- Do not touch the engaged side of any Connector with a wet hand.
- If a Connector is wet with water, wipe the Connector and be sure that the connector is completely dry.
- Be sure that there is no metal plate or power on the engaged side of any Connector.

●Wiring Polarity Mistakes

- Be sure to wire the cable correctly according to the wiring diagram so that the blue wire will be connected to the negative power supply terminal and the brown wire will be connected to the positive power supply terminal.
- If there is any wiring mistake, the load will not operate or the operation indicator will not light.
- Be sure to connect a load to the signal lines to operate the Sensor or actuator.

●Applicable Connectors

- Applicable Connectors are the XS2G (assembly type), XS2H (monoblock type), and XS2W (monoblock type).
- After a Connector is engaged, tighten the Connector securely with a mounting bracket.
- Be sure to put the XS2Z-22 Waterproof Cover or XS2Z-15 Dust Cover on any Connector that is not used.

●Power Supply and Operation Indicators

- When power is supplied, the green power indicator will be lit. When the Sensors and Actuators are operating, the corresponding red operation indicators will be lit.
- Only DC Sensors and Actuators can be connected to the XW3B. Do not connect AC Sensors or Actuators.
- Connector Terminal Boxes are internally wired with 2 or 3 wires. The type is marked on the case.

3-WIRE
NPN

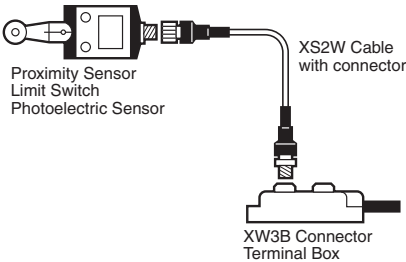
3-WIRE
PNP

2-WIRE

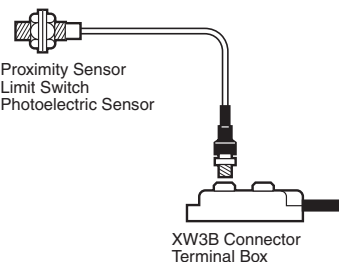
Industrial Ethernet Connectors
XS5/XS6
Sensor I/O Connector
Introduction to Sensor I/O Connectors
XS5
XW3D
XS2
XW3B
XS3
XN2
DeviceNet Peripherals
Communications Peripherals for Standard Slaves
I/O Peripherals for Standard Slaves
Communications Peripherals for Environmentally Resistant Slaves
I/O Peripherals for Environmentally Resistant Slaves
Power Supply Peripherals for Environmentally Resistant Slaves
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Input Device Connections Using Sensor I/O Connectors

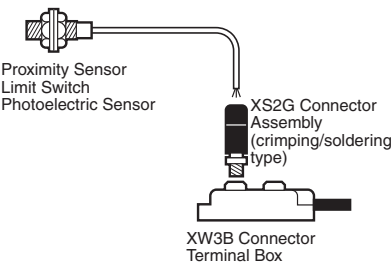
Direct Connection Type



Connector-Terminal Connection Type



Pre-wired Type



Input Devices Using Sensor I/O Connectors

Connector Terminal Box	Input devices using Sensor I/O Connectors		
XW3B-P□55-G11	2-wire DC Proximity Sensor	Connector-Terminal connection type	E2E-X3D1-M1J-T, E2E-X7D1-M1J-T, E2E-X10D1-M1J-T
		Direct connection type	E2E-X□D1-M1
	3-wire DC Proximity Sensor (NPN)	Direct connection type	E2E-X2E1-M1, E2E-X5E1-M1, E2E-X10E1-M1 E2E-X5ME1-M1, E2E-X10ME1-M1, E2E-X18ME1-M1
		Connector-Terminal connection type	WL□-□DK1EJ□ *1, WL□-□-M1GJ *1, D4C-□0□□-DK1EJ□ *2
	Limit Switch	Direct connection type	WL□-□K13 *1, D4E-□□10N *2
		Connector-Terminal connection type	E2E-X2F1-M1, E2E-X5F1-M1, E2E-X10F1-M1 E2E-X5MF1-M1, E2E-X10MF1-M1, E2E-X18MF1-M1
XW3B-P□53-G11	3-wire DC Proximity Sensor (PNP)	Direct connection type	E2E-X2F1-M1, E2E-X5F1-M1, E2E-X10F1-M1 E2E-X5MF1-M1, E2E-X10MF1-M1, E2E-X18MF1-M1
		Connector-Terminal connection type	E2E-X3D1-M1GJ, E2E-X3D1-M1J-T, E2E-X7D1-M1GJ, E2E-X7D1-M1J-T, E2E-X10D1-M1GJ, E2E-X10D1-M1J-T E2E-X8MD1-M1GJ, E2E-X14MD1-M1GJ, E2E-X20MD1-M1GJ E2EQ-X3D1-M1GJ, E2EQ-X7D1-M1GJ, E2EQ-X10D1-M1GJ
	2-wire DC Proximity Sensor	Direct connection type	E2E-X3D1-M1G, E2E-X7D1-M1G, E2E-X10D1-M1G E2E-X8MD1-M1G, E2E-X14MD1-M1G, E2E-X20MD1-M1G
		Connector-Terminal connection type	WL□-□DK1EJ□ *1, WL□-□-M1GJ *1, D4C-□0□□-DK1EJ□ *2
	Limit Switch	Direct connection type	WL□-□K13 *1, D4E-□□10N *2 D4CC-□□□□ *2
		Connector-Terminal connection type	WL□-□DK1EJ□ *1, WL□-□-M1GJ *1, D4C-□0□□-DK1EJ□ *2

Note: Use the XS2G Connector assembly in combination with a pre-wired input device.
*1. Any of these models is available provided that only its SPST-NO contacts are used.
*2. Any of these models is available provided that it uses an NO connection.

Attaching the XS2G Connector to Pre-wired Input Device

Connector Terminal Box	Input devices and connector pin number					
	3-wire DC (NPN) 1: +, 3: −, 4: output	2-wire DC (with polarity) 1: +, 4: −	2-wire DC (with polarity) 3: −, 4: +	2-wire DC (with no polarity) 3, 4	Limit Switch	3-wire DC (PNP) 1: +, 3: −, 4: output
XW3B-P□55-G11	Yes	No	Yes	Yes	Yes	No
XW3B-P□53-G11	No	Yes	No	No	No	Yes
XW3B-P□52-G11	No	Yes	No	Yes	Yes	No

Connector Terminal Boxes for Input Devices with Sensor I/O Connectors

Input device				Connector Terminal Box	
Type		Connection method	Model		
Proximity Sensors	2-wire DC		Connector-Terminal connection type	E2E-X□D1-M1J-T	XW3B-P□55-G11
				E2E-X□D1-M1GJ	XW3B-P□52-G11
				E2E-X□D1-M1J-T	
				E2E-X□MD1-M1GJ	
				E2EQ-X□D1-M1GJ	
			Direct connection type	E2E-X□D1-M1G	XW3B-P□55-G11
				E2E-X□MD1-M1G	
				E2E-X□D1-M1	
	3-wire DC	NPN		E2E-X□E1-M1	XW3B-P□55-G11
				E2E-X□ME1-M1	
		PNP		E2E-X□F1-M1	XW3B-P□53-G11
				E2E-X□MF1-M1	
Limit Switches			Connector-Terminal connection type	WL□-□DK1EJ□ *1	XW3B-P□52-G11 XW3B-P□55-G11
				WL□-□-M1J *1	
				D4C-□0□□-DK1EJ□ *2	
			Direct connection type	WL□-□K13 *1	XW3B-P□52-G11
				D4E-□□10N *2	
				D4CC-□□□□ *2	XW3B-P□52-G11

*1. Any of these models is available provided that only its SPST-NO contacts are used.

*2. Any of these models is available provided that it uses an NO connection.

For components that are compatible with Sensor I/O Connectors, refer to the above model numbers.

[illegible]

Small Round Water-resistive Connectors

- Water-resistive, compact connector meets IP67 requirements.
- Conventional M8 screw-mounting models are available along with S8 snap-in models that connect and disconnect with one touch.
- Ideal for a wide variety of FA and OA applications.
- Connectors on both cable ends require no harness work.
- Some new M8 models with 3 or 5 poles.



Refer to *Safety Precautions* on page 121.



Ratings and Specifications

Item	Model	XS3F/H/W/P/M	XS3F-M52□-5□□-A	XS3M-M524-1□	XS3R
Rated current		1 ADC	3 ADC		1 ADC
Rated voltage		125 VDC *2	30 VDC		125 VDC
Contact resistance (connector)		40 mΩ max. (20 mV max., 100 mA max.)			60 mΩ max. (20 mVDC max., 100 mA max.)
Insulation resistance		1,000 MΩ min. (at 500 VDC)			
Dielectric strength (connector)		1,000 VAC for 1 min (leakage current: 1 mA max.)	650 VAC for 1 min (leakage current: 1 mA max.)		1,000 VAC for 1 min (leakage current: 1 mA max.)
Degree of protection		IP67 (IEC60529)			
Insertion tolerance		200 times			
Cable tensile strength *1		49 N/15 s			
Ambient operating temperature range		-25 to 70°C	-25 to 85°C		-25 to 70°C
Ambient humidity range		20 to 85%RH			

*1. Models with cable only

*2. Except 5poles

Materials and Finish

Connector

Item	Type Model	M8			S8		
		XS3F/H/W/R	XS3P/M *	XS3M-M524-1□	XS3F/W (Socket side)	XS3H/W (Plug side)	XS3P
Contact block		PBT resin (UL94 V-0) light gray or black					
Contacts		Phosphor bronze/ nickel base, 0.4- μm gold plating	Brass/nickel base, 0.4-mm gold plating		Phosphor bronze/ nickel base, 0.4- μm gold plating	Brass/nickel base, 0.4-μm gold plating	
Thread bracket		Brass/nickel plating or SUS316L		—		Brass/nickel plating	—
Body		—	Brass/nickel plating	Nickel-plated zinc alloy	—		
Shell		—					TPEE
C-Ring		—		Phosphor bronze/tin plating	—		
Grounding fixture		—		Phosphor bronze/tin plating	—		
Nut		—	Brass/nickel plating		—		Brass/nickel plating
Cover		Soft PBT resin (UL94 V-0)	—		TPEE		—
O-ring		Rubber					

*Except 5poles

Note: The XS3M is for both M8 and S8.

Cables

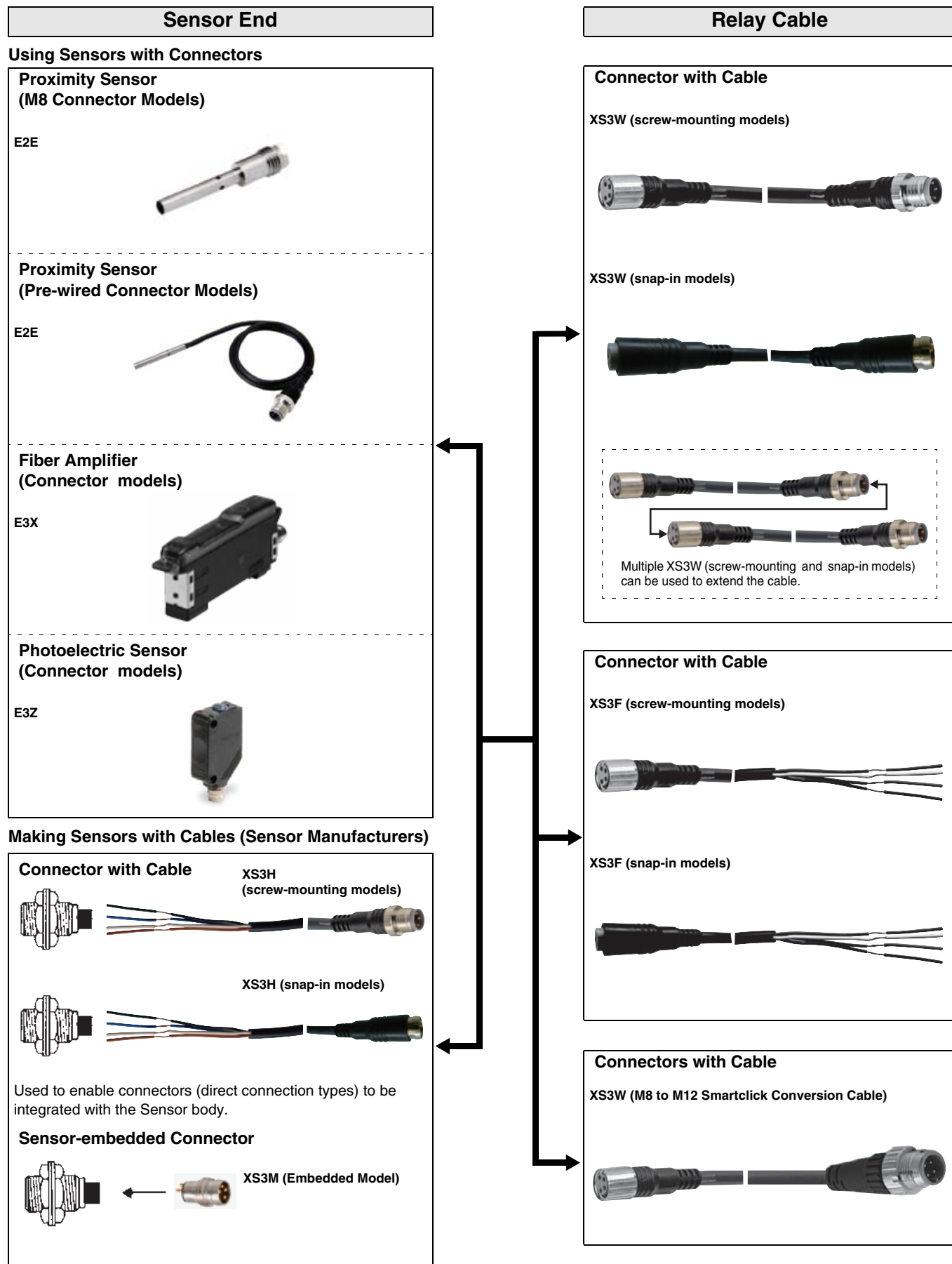
Item	Poles	3 poles	4 poles	5 poles
Standard cable		4 mm dia, AWG24 (0.2 mm ²) Structure: 0.12 mm/18	4.7 mm dia, AWG24 (0.2 mm ²) Structure: 0.16 mm/11	
Robot cable		4 mm dia, AWG24 (0.2 mm ²) Structure: 0.08 mm/40	—	

Note: Only the XS3F (socket) is available with 5 pins.

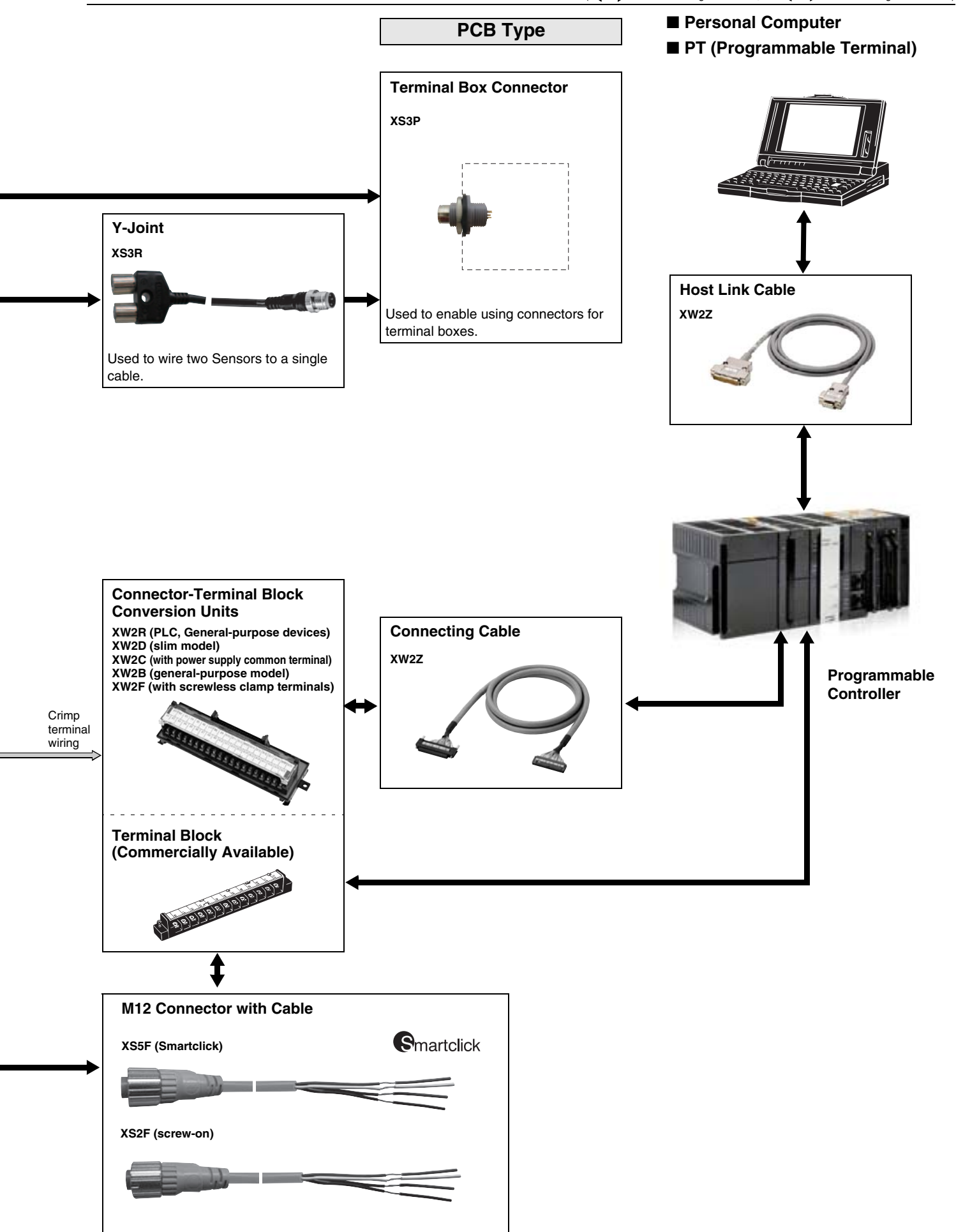
Pin Arrangement (Engaged Side)

Item	Poles	3 poles	4 poles	5 poles
DC	Male (plug) contacts			
	Female (socket) contacts			

Industrial Ethernet Connectors
XS5/XS6
Sensor I/O Connector
Introduction to Sensor I/O Connectors
XS5
XW3D
XS2
XW3B
XS3
XN2
DeviceNet Peripherals
Communications Peripherals for Standard Slaves
I/O Peripherals for Standard Slaves
Communications Peripherals for Environmentally Resistant Slaves
Power Supply Peripherals for Environmentally Resistant Slaves
Standard-compliant Models
Model Index



( indicates mating connectors, and  indicates wiring connections.)



Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

Model Index

Refer to your OMRON website for details on M12 Connectors with Cables.

XS3W Connectors with Cables, Connectors on Both Ends (Socket/Plug)

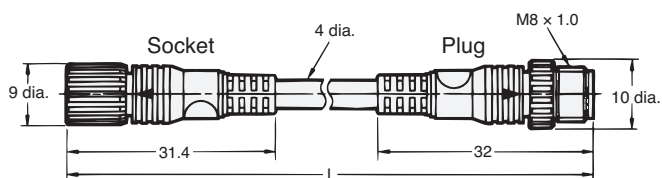
● M8 Screw-mounting Connectors with Vibration-proof Robot Cable

XS3W-M□2□-□□□-R

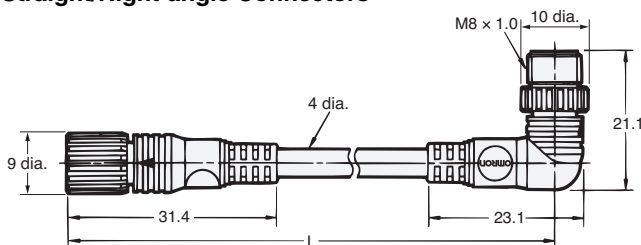
Dimensions

(Unit: mm)

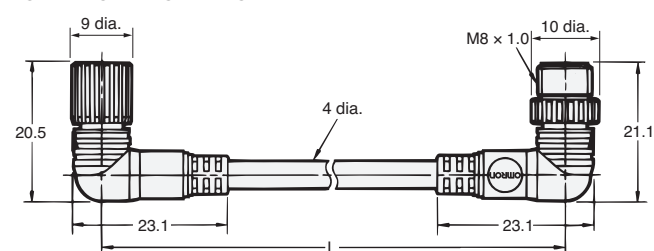
Straight/Straight Connectors



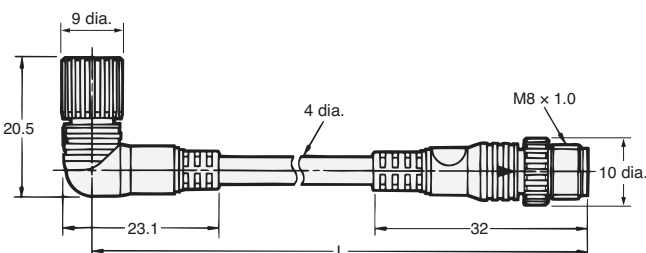
Straight/Right-angle Connectors



Right-angle/Right-angle Connectors



Right-angle/Straight Connectors



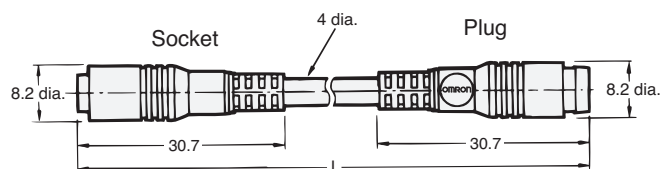
● S8 Snap-in Connectors with Vibration-proof Robot Cable

XS3W-S42□-4□□-R

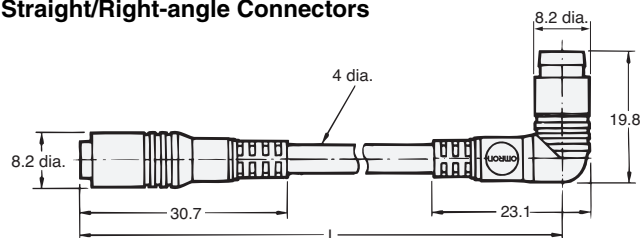
Dimensions

(Unit: mm)

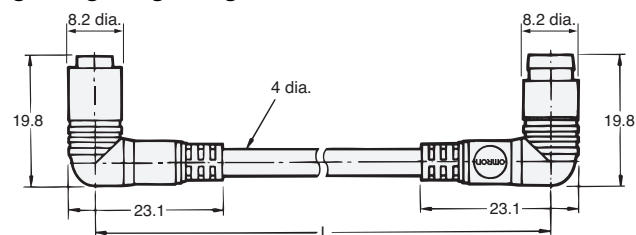
Straight/Straight Connectors



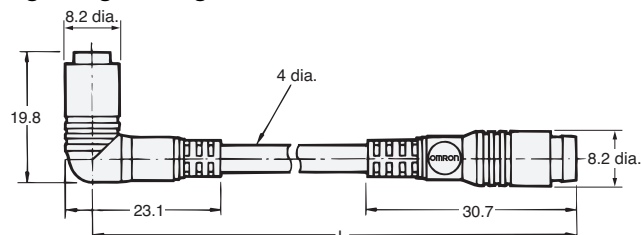
Straight/Right-angle Connectors



Right-angle/Right-angle Connectors



Right-angle/Straight Connectors



Model Number Legend

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

XS3W- **2** **-R**

1 2 3 4 5 6

1. Fastening Method

M: M8
S: S8

2. Connector Poles

3: 3 poles
4: 4 poles

3. Cable Connection Direction

1: Straight/
Straight
2: Right-angle/
Right-angle
3: Straight (socket)/
Right-angle (plug)
4: Right-angle (socket)/
Straight (plug)

4. Connections

Pin No.
① ③ ④
3: Brown Blue Black
Pin No.
① ② ③ ④
4: Brown White Blue Black

5. Cable Length

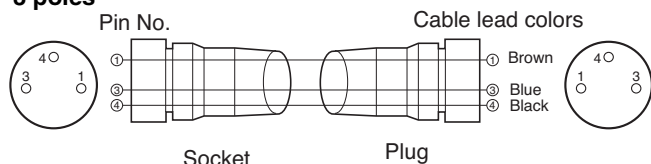
01: 1 m
02: 2 m
05: 5 m

6. Cable Specifications

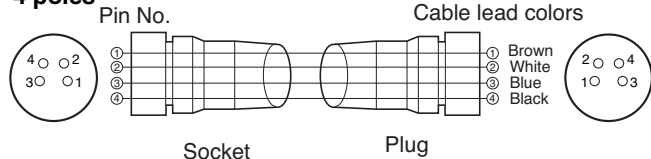
R: Vibration-proof
robot cable

Wiring Diagram/Engaged Side

3 poles



4 poles



Mating Connectors

Item	Socket side	Plug side
XS3W (M8)	XS3M (M8/S8) XS3H (M8)	XS3F (M8) XS3W (M8) XS3P (M8)
XS3W (S8)	XS3M (M8/S8) XS3H (M8)	XS3F (S8) XS3W (S8) XS3P (S8)

Note 1. Cables can be extended with more than one XS3W.

2. M8 screw models and S8 snap-in models cannot be connected to each other.

Ordering Information

M8 Screw-mounting Connectors

No. of cable cores	Cable connection direction	Cable length L (m)	Model
3	Straight/Straight	1	XS3W-M321-301-R
		2	XS3W-M321-302-R
		5	XS3W-M321-305-R
4	Straight/Straight	1	XS3W-M421-401-R
		2	XS3W-M421-402-R
		5	XS3W-M421-405-R
	Right-angle/Right-angle	2	XS3W-M422-402-R
		5	XS3W-M422-405-R
		5	XS3W-M422-405-R
	Straight (socket)/ Right-angle (plug)	2	XS3W-M423-402-R
		5	XS3W-M423-405-R
		5	XS3W-M423-405-R
	Right-angle (socket)/ Straight (plug)	2	XS3W-M424-402-R
		5	XS3W-M424-405-R
		5	XS3W-M424-405-R
		2	XS3W-M424-402-R
		5	XS3W-M424-405-R

S8 Snap-in Connectors

No. of cable cores	Cable connection direction	Cable length L (m)	Model
4	Straight/Straight	1	XS3W-S421-401-R
		2	XS3W-S421-402-R
		5	XS3W-S421-405-R
	Right-angle/Right-angle	2	XS3W-S422-402-R
		5	XS3W-S422-405-R
		5	XS3W-S422-405-R
	Straight (socket)/ Right-angle (plug)	2	XS3W-S423-402-R
		5	XS3W-S423-405-R
		5	XS3W-S423-405-R
	Right-angle (socket)/ Straight (plug)	2	XS3W-S424-402-R
		5	XS3W-S424-405-R

Connectors with Cables, Connectors on Both Ends (M8 Socket/M12 Plug or M8 Plug/M12 Socket)

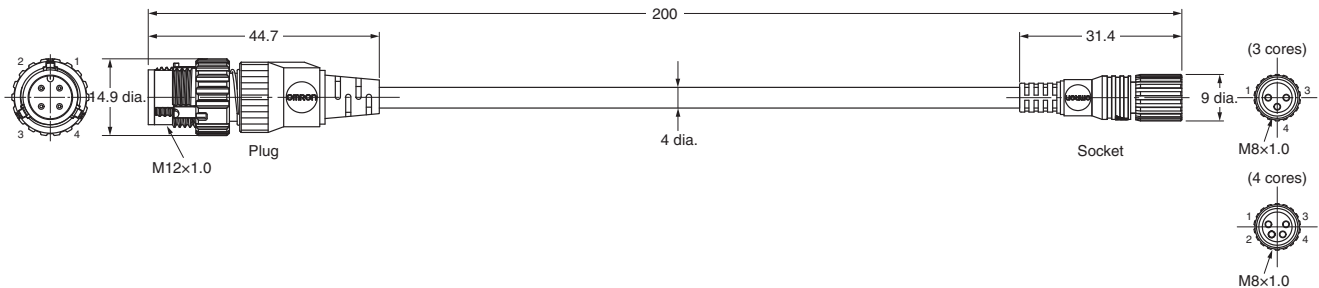
● Screw-on Connectors (M8 to M12)

XS3W-M□2□-□C2-A

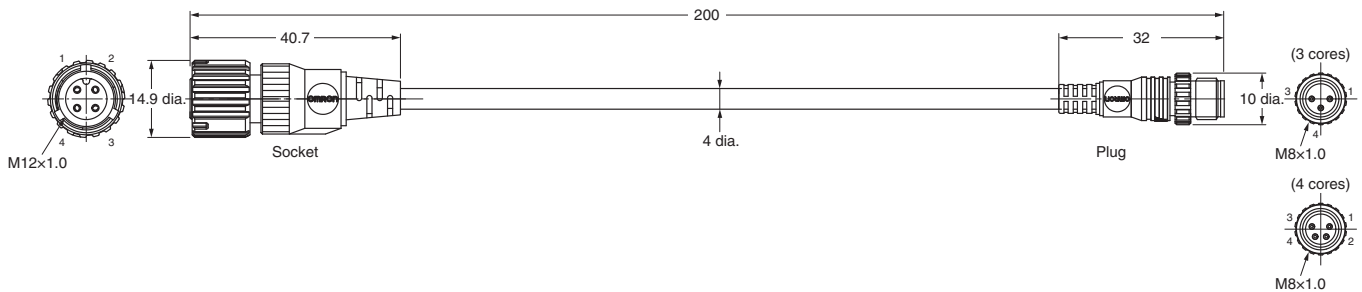
Dimensions

(Unit: mm)

XS3W-M32C-3C2-A, XS3W-M42C-4C2-A



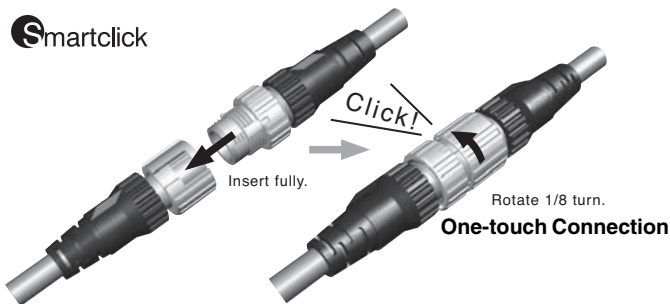
XS3W-M32D-3C2-A, XS3W-M42D-4C2-A



Note: For 3-core, M12 connectors, pin 2 is not connected internally.

For the M12 connectors, one-touch (Smartclick) connectors that are compatible with previous screw-on M12 connectors are used. Refer to your OMRON website for details.

XS5 Series



 Smartclick is a registered trademark of the OMRON Corporation.

Model Number Legend

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

XS3W-M **2** **-** **C2-A**

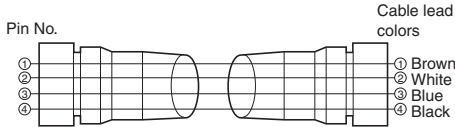
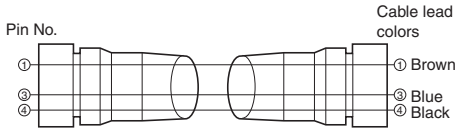
123456

1. Fastening Method M: M8	3. Cable Connection Direction C: M8 (screw-on) socket: Straight, M12 (Smartclick) plug: Straight D: M8 (screw-on) plug: Straight, M12 (Smartclick) socket: Straight	4. Connections Pin No. ① ③ ④ 3: Brown Blue Black Pin No. ① ② ③ ④ 4: Brown White Blue Black	5. Cable Length C2: 20 cm	6. Cable Specifications A: Standard cable
-------------------------------------	--	--	-------------------------------------	---

Wiring Diagram

3 poles

4 poles



Ordering Information

No. of cable cores	Connectors	Cable length L (m)	Model
3	M8 socket/M12 plug	0.2	XS3W-M32C-3C2-A
	M8 plug/M12 socket		XS3W-M32D-3C2-A
4	M8 socket/M12 plug		XS3W-M42C-4C2-A
	M8 plug/M12 socket		XS3W-M42D-4C2-A

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Connector

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Environment-
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compliant
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XS3

XS3F Sockets on One Cable End

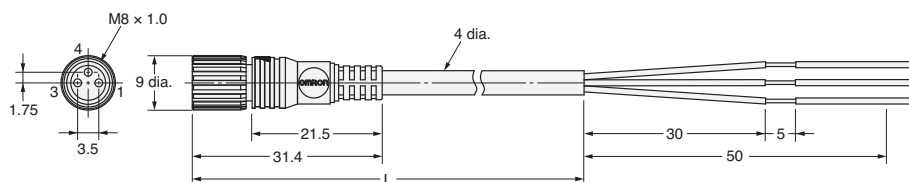
● M8 3 pin Screw-on Cables with Vibration-proof Robot Cable/Standard Cable

XS3F-M32-3- - -

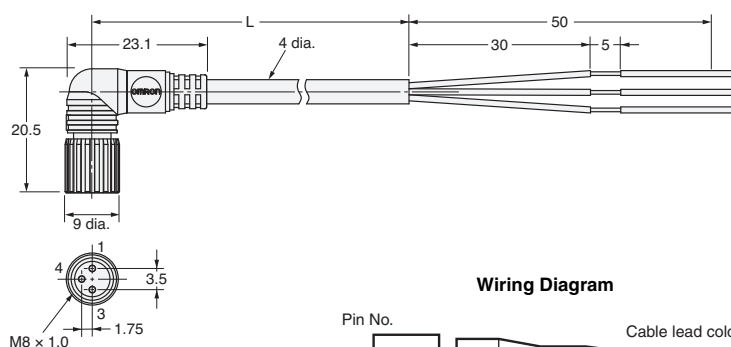
Dimensions

(Unit: mm)

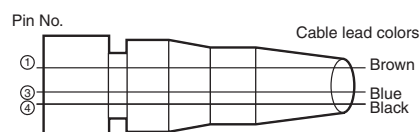
Straight Connectors



Right-angle Connectors



Wiring Diagram



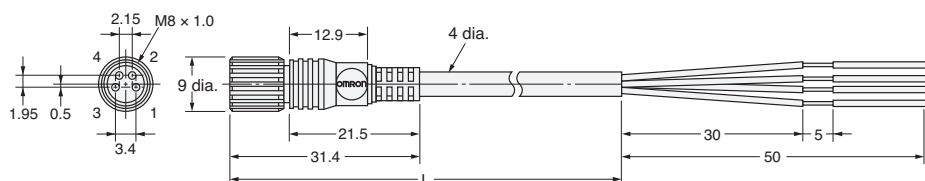
● M8 4 pin Screw-on Cables with Vibration-proof Robot Cable/Standard Cable

XS3F-42-4- - -

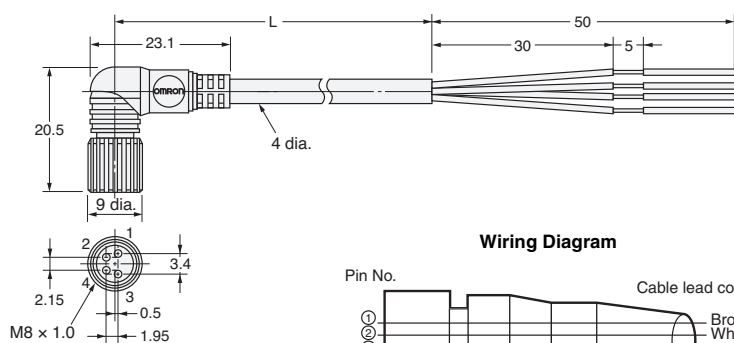
Dimensions

(Unit: mm)

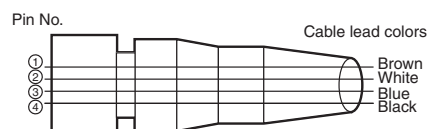
Straight Connectors



Right-angle Connectors



Wiring Diagram



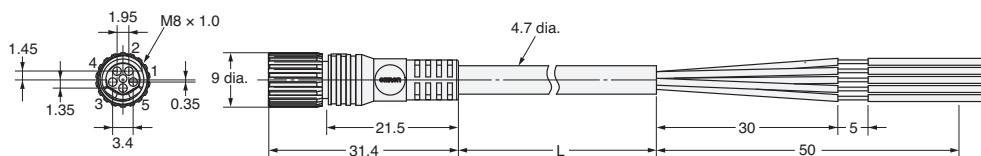
● **M8 5 pin Screw-on Cables with Standard Cable**

XS3F-M52 -5 -A

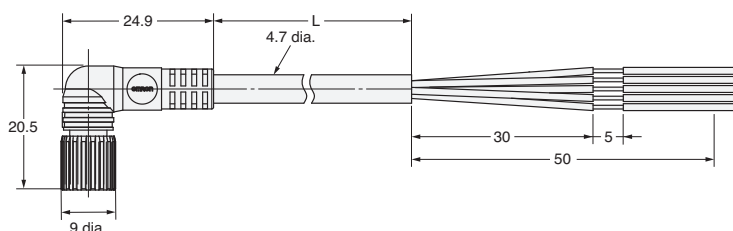
Dimensions

(Unit: mm)

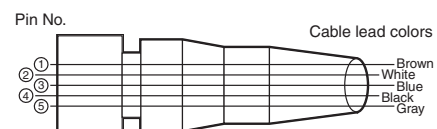
Straight Connectors



Right-angle Connectors



Wiring Diagram



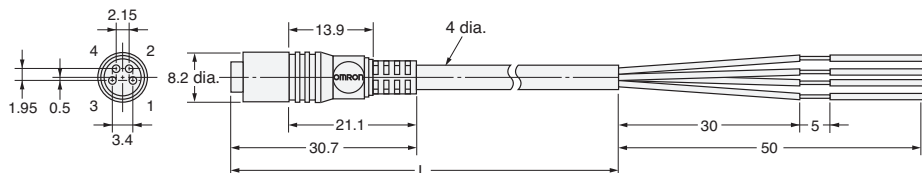
● S8 Snap-in Connectors with Vibration-proof Robot Cable

XS3F-S42-4-R

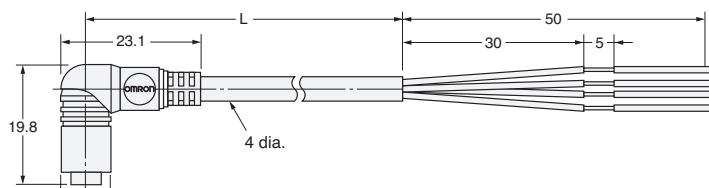
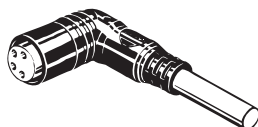
Dimensions

(Unit: mm)

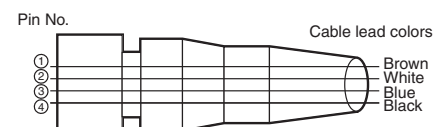
Straight Connectors



Right-angle Connectors



Wiring Diagram



XS3

Model Number Legend

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

XS3F-□□2□-□□□□-□

1 2 3 4 5 6

1. Fastening Method

- M: M8
- S: S8
- E: M8
- SUS316L Lock

2. Connector Poles

- 3: 3 poles
- 4: 4 poles
- 5: 5 poles

3. Cable Connection Direction

- 1: Straight
- 2: Right-angle

4. Connections

- Pin No.
- ① ③ ④
- 3: Brown Blue Black
- Pin No.
- ① ② ③ ④
- 4: Brown White Blue Black
- Pin No.
- ① ② ③ ④ ⑤
- 5: Brown White Blue Black Gray

5. Cable Length

- 01: 1 m
- 02: 2 m
- 05: 5 m
- 10: 10 m

6. Cable Specifications

- A: Standard cable
- R: Vibration-proof robot cable

Mating Connectors

Item	Model
XS3F(M8)	XS3M (M8/S8), XS3H (M8), XS3W (M8)
XS3F(S8)	XS3M (M8/S8), XS3H (M8), XS3W (M8)

Note: M8 screw models and S8 snap-in models cannot be connected to each other.

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Sensor I/O Connector
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XW3D
XS2
XW3B
XS3
XN2
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Communications Peripherals for Standard Slaves
I/O Peripherals for Standard Slaves
Communications Peripherals for Environmentally Resistant Slaves
I/O Peripherals for Environmentally Resistant Slaves
Power Supply Peripherals for Environmentally Resistant Slaves
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Model Index

Ordering Information

M8 Screw-on Cables

No. of cable cores	Item	Cable connection direction	Cable length L (m)	Model
3	Standard cable	Straight	2	XS3F-M321-302-A
			5	XS3F-M321-305-A
		Right-angle	2	XS3F-M322-302-A
			5	XS3F-M322-305-A
	Vibration-proof robot cable	Straight	2	XS3F-M321-302-R
			5	XS3F-M321-305-R
		Right-angle	2	XS3F-M322-302-R
			5	XS3F-M322-305-R
4	Standard cable	Straight	2	XS3F-M421-402-A
			5	XS3F-M421-405-A
		Right-angle	2	XS3F-M422-402-A
			5	XS3F-M422-405-A
	Vibration-proof robot cable	Straight	1	XS3F-M421-401-R
			2	XS3F-M421-402-R
			5	XS3F-M421-405-R
		Right-angle	1	XS3F-M422-401-R
			2	XS3F-M422-402-R
			5	XS3F-M422-405-R
	Standard SUS316L cable lock	Straight	2	XS3F-E421-402-A
			5	XS3F-E421-405-A
		Right-angle	2	XS3F-E422-402-A
			5	XS3F-E422-405-A
5	Standard cable	Straight	2	XS3F-M521-502-A
			5	XS3F-M521-505-A
			10	XS3F-M521-510-A
		Right-angle	2	XS3F-M522-502-A
			5	XS3F-M522-505-A
			10	XS3F-M522-510-A

S8 Snap-in Connectors

No. of cable cores	Item	Cable connection direction	Cable length L (m)	Model
4	Vibration-proof robot cable	Straight	1	XS3F-S421-401-R
			2	XS3F-S421-402-R
			5	XS3F-S421-405-R
		Right-angle	1	XS3F-S422-401-R
			2	XS3F-S422-402-R
			5	XS3F-S422-405-R

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Ethernet
ConnectorsXS6
XS5/XS6Sensor I/O
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Sensor I/O
Connectors

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XW3D

XS2

XW3B

XS3

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PeripheralsCommunications
Peripherals for
Standard SlavesI/O Peripherals
for Standard
SlavesCommunications
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resistive SlavesI/O Peripherals
for Environment-
resistive SlavesPower Supply
Peripherals for
Environment-
resistive SlavesStandard-
compliant
Models

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XS3

XS3H

Plugs on One Cable End

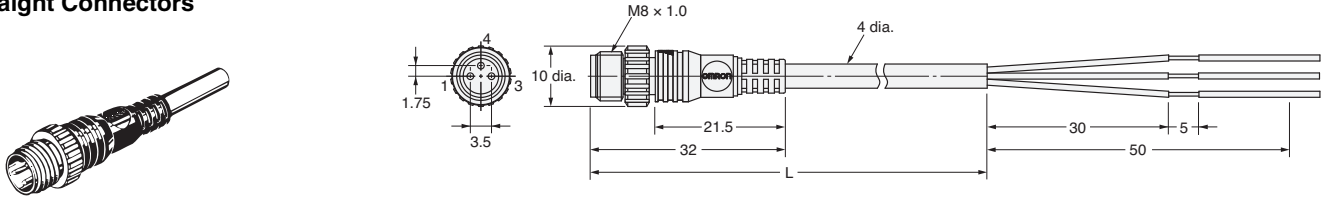
● M8 3 pin Screw-on Connectors with Vibration-proof Robot Cable

XS3H-M321-3□□-R

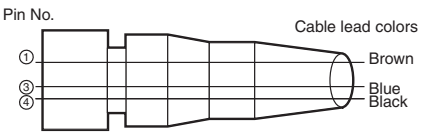
Dimensions

(Unit: mm)

Straight Connectors



Wiring Diagram



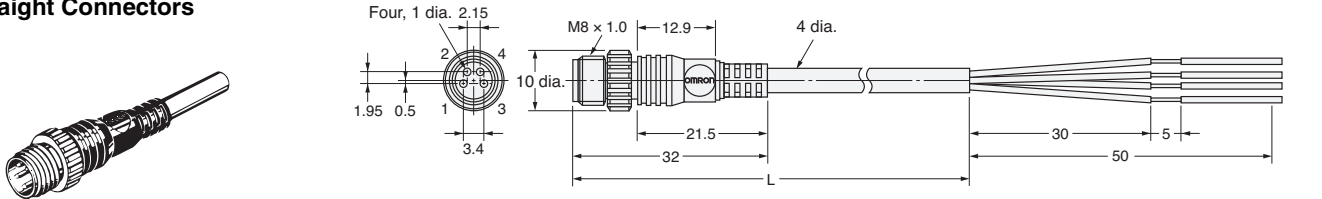
● M8 4 pin Screw-on Connectors with Vibration-proof Robot Cable

XS3H-M42□-4□□-R

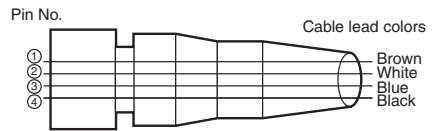
Dimensions

(Unit: mm)

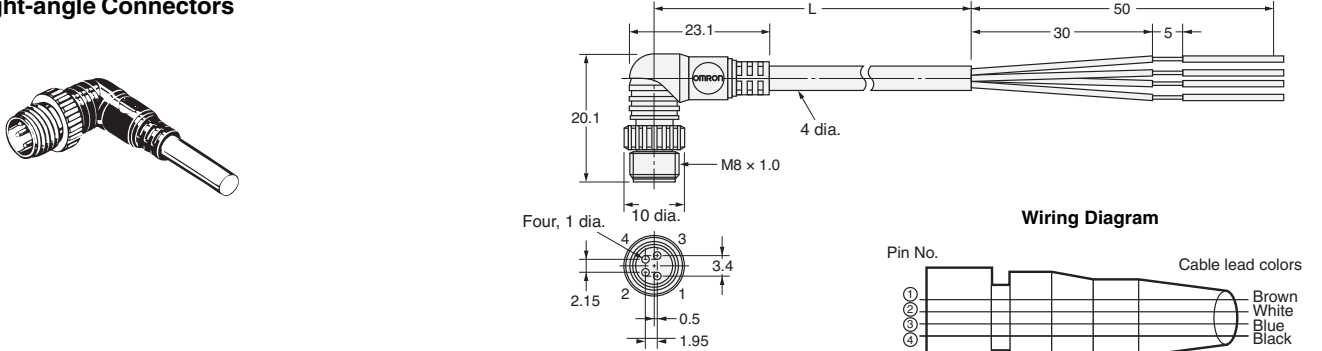
Straight Connectors



Wiring Diagram



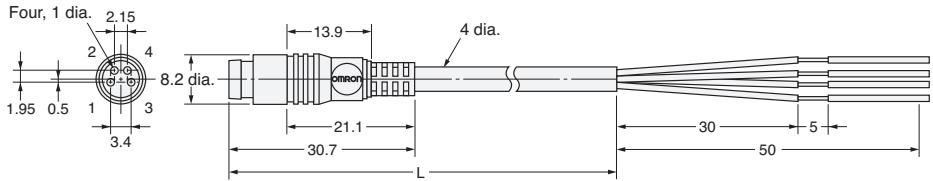
Right-angle Connectors



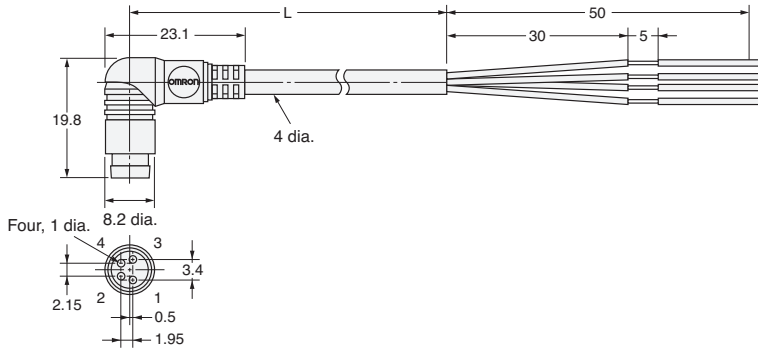
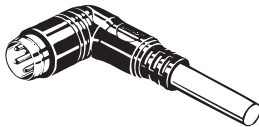
Dimensions

(Unit: mm)

Straight Connectors



Right-angle Connectors



Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

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XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

Power Supply Peripherals for Environment-resistant Slaves

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Model Index

Model Number Legend

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

XS3H-□□2□-□□□-R

1 2 3 4 5 6

1. Fastening Method

M: M8
S: S8

3. Cable Connection Direction

1: Straight
2: Right-angle

5. Cable Length

C3: 0.3 m
01: 1 m

2. Connector Poles

3: 3 poles
4: 4 poles

4. Connections

Pin No.
① ③ ④
3: Brown Blue Black
Pin No.
① ② ③ ④
4: Brown White Blue Black

6. Cable Specifications

R: Vibration-proof robot cable

Mating Connectors

Item	Model
XS3H(M8)	XS3F (M8), XS3W (M8), XS3P (M8)
XS3H(S8)	XS3F (S8), XS3W (S8), XS3P (S8)

Note: M8 screw models and S8 snap-in models cannot be connected to each other.

Ordering Information

M8 Screw-on Connectors

No. of cable cores	Cable connection direction	Cable length L (m)	Model
3	Straight	0.3	XS3H-M321-3C3-R
		1	XS3H-M321-301-R
4	Straight	0.3	XS3H-M421-4C3-R
		1	XS3H-M421-401-R
	Right-angle	0.3	XS3H-M422-4C3-R
		1	XS3H-M422-401-R

S8 Snap-in Connectors

No. of cable cores	Cable connection direction	Cable length L (m)	Model
4	Straight	0.3	XS3H-S421-4C3-R
		1	XS3H-S421-401-R
	Right-angle	0.3	XS3H-S422-4C3-R
		1	XS3H-S422-401-R

XS3P Panel-mounting Sockets for Terminal Boxes

- M8 Screw-mounting Sockets with DIP Pins
- M8 Screw-mounting Sockets with Solder Cup Pins
- M8 Screw-mounting Sockets with Solder Cup Pins

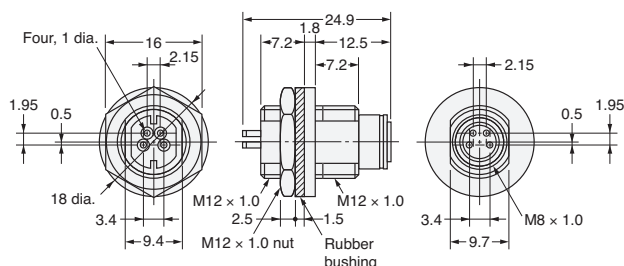
XS3P-M421-1
XS3P-M421-2
XS3P-M422-2

Dimensions

(Unit: mm)

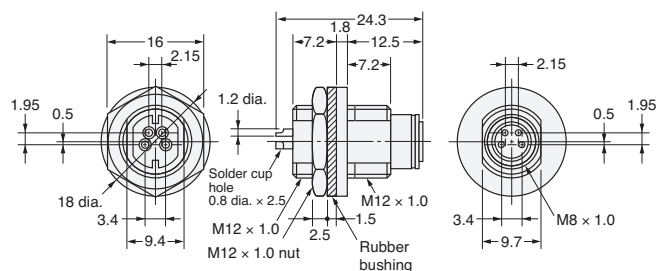
XS3P-M421-1 (DIP Pins)

Front lock or rear lock

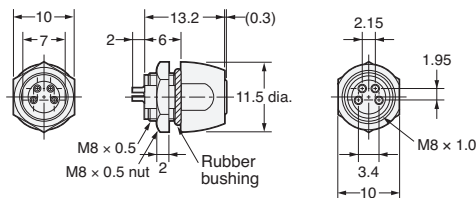


XS3P-M421-2 (Solder Cup Pins)

Front lock or rear lock



XS3P-M422-2 (Solder Cup Pins), Rear Lock Slim Models



- S8 Snap-in Sockets with DIP Pins
- S8 Snap-in Sockets with Solder Cup Pins

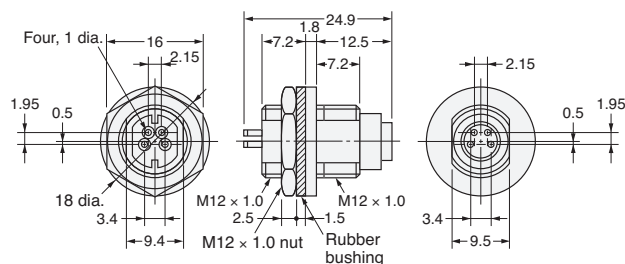
XS3P-S421-1
XS3P-S421-2

Dimensions

(Unit: mm)

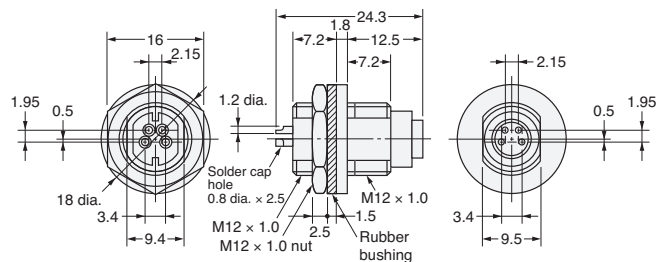
XS3P-S421-1 (DIP Pins)

Front lock or rear lock



XS3P-S421-2 (Solder Cup Pins)

Front lock or rear lock

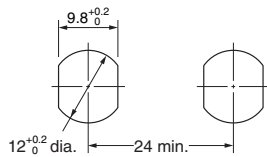


Mounting Dimensions for XS3P Screw-on Models and Snap-in Models

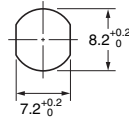
(Unit: mm)

Panel Cutouts

XS3P-□421-□

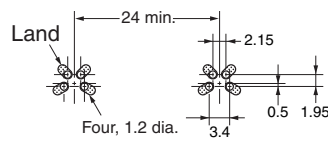


XS3P-M422-2



Note: The panel thickness is 1 to 3 mm.

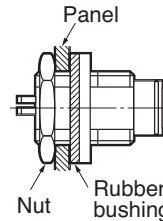
PCB-mounting Dimensions



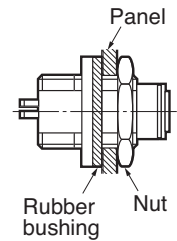
Note: The panel thickness is 2.4 mm maximum.

Panel-mounting Dimensions

Rear Lock



Front Lock



Mating Connectors

Item	Model
XS3P(M8)	XS3H (M8), XS3W (M8)
XS3P(S8)	XS3H (S8), XS3W (S8)

Note: M8 screw models and S8 snap-in models cannot be connected to each other.

Ordering Information

Connection method	Panel mounting	Pin shape	Applicable wires	Model	Minimum order
M8 screw-mounting	Front lock or rear lock	DIP pins	---	XS3P-M421-1	50
		Solder cup pins	AWG24 max.	XS3P-M421-2	
	Rear lock	Solder cup pins	AWG24 max.	XS3P-M422-2	
S8 snap-in	Front lock or rear lock	DIP pins	---	XS3P-S421-1	
		Solder cup pins	AWG24 max.	XS3P-S421-2	

Note: Orders are accepted in multiples of the minimum order.

Safety Precautions

In addition to the following information, also refer to *Safety Precautions* on page 121

Precautions for Correct Use

Panel Mounting

- When mounting XS3P Panel-mounting Connectors to panels, refer to *Panel-mounting Dimensions* and provide rubber bushings and nuts for the Connectors. Apply a tightening torque of between 0.4 and 0.6 N·m to mount the Connectors.

XS3M Sensor Embedded Plugs

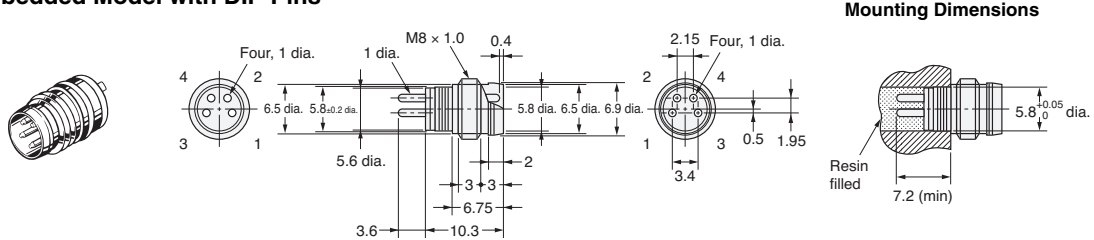
- Embedded Plugs with Screw Threads and DIP Pins
- Embedded Plugs with Screw Threads and Solder Cup Pins

XS3M-K421-1
XS3M-K421-2

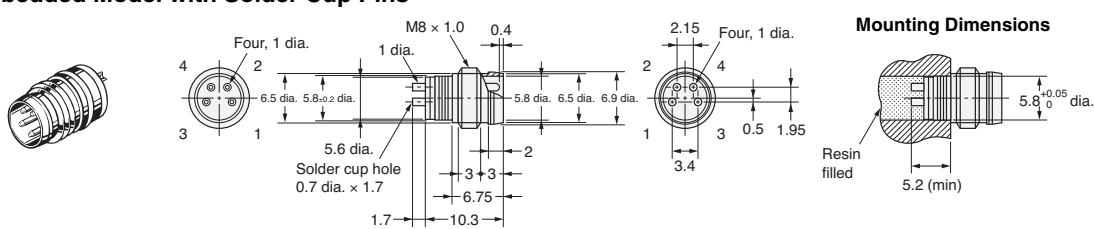
Dimensions

(Unit: mm)

XS3M-K421-1 Embedded Model with DIP Pins



XS3M-K421-2 Embedded Model with Solder Cup Pins



Mating Connectors

Item	Model
XS3M	XS3F (M8/S8), XS3W (M8/S8)

Note: The plug can be connected to both M8 screw and S8 snap-in models.

Ordering Information

Connection method	Pin shape	Applicable wires	Model	Minimum order
Embedded model	DIP pins	---	XS3M-K421-1	200
	Solder cup pins	AWG26 max.	XS3M-K421-2	

Note: Orders are accepted in multiples of the minimum order.

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XS3M Panel-mounting Plugs

● Front lock DIP pins (5 pins)

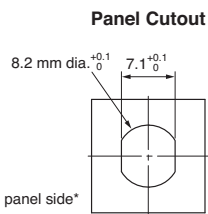
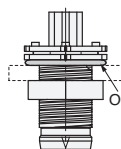
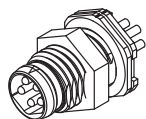
XS3M-M524-□□

Dimensions

(Unit: mm)

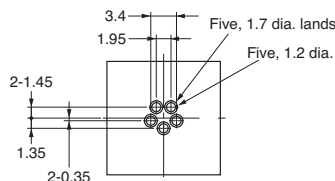
XS3M-M524-10

Front Lock with DIP Pins 4.5 mm (for Either Round Holes or Solder Cups), Without Shield Pin

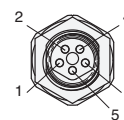


Note: The panel thickness is 0.8 to 2 mm.

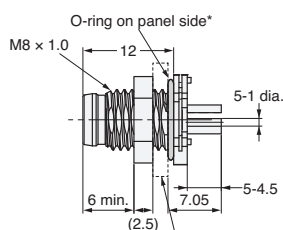
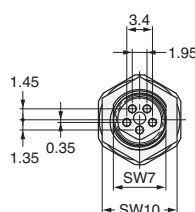
PCB-mounting Dimensions



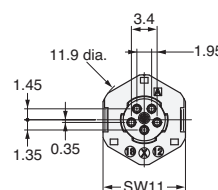
Note: The panel thickness is 2.4 mm maximum.



Pin Numbers



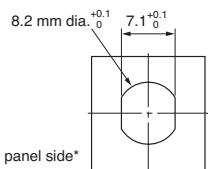
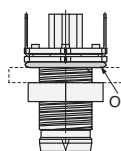
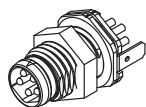
Panel location (example for t = 2.0)



*The O-ring on the panel side maintains a waterproof structure (IP67) between the panel and Connector.

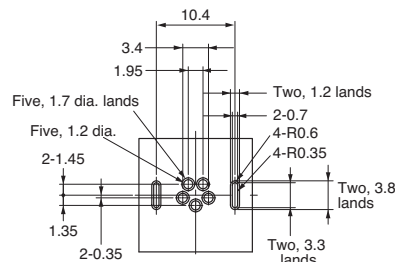
XS3M-M524-11

Front Lock with DIP Pins 4.5 mm (for Either Round Holes or Solder Cups), With Shield Pin

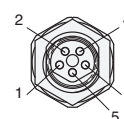


Note: The panel thickness is 0.8 to 2 mm.

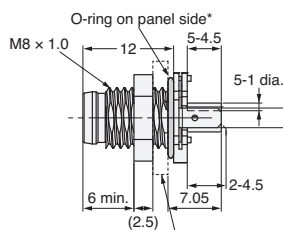
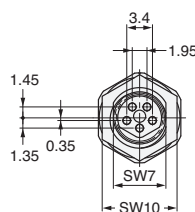
PCB-mounting Dimensions



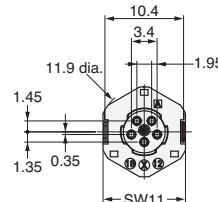
Note: The panel thickness is 2.4 mm maximum.



Pin Numbers



Panel location (example for t = 2.0)



*The O-ring on the panel side maintains a waterproof structure (IP67) between the panel and Connector.

Mating Connectors

Item	Model
XS3M-M524-1□	XS3F-M52□-5□□-A

Ordering Information

Lock method	Pin shape	Shield pin	Applicable wires	Model
Front lock	DIP pins 4.5 mm (for either round holes or solder cups)	No	AWG26 max.	XS3M-M524-10
		Yes		XS3M-M524-11

Note: Orders are accepted in multiples of the minimum order.

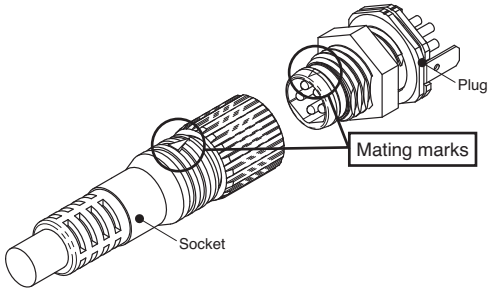
Safety Precautions

In addition to the following information, also refer to *Safety Precautions* on page 121

Precautions for Correct Use

XS3M-M524-□□ Mating

To mate the Connectors, align the mating marks on the Plug and Socket (see following figure), insert the Connectors completely, and tighten the lock nut, being careful not to damage the threads.



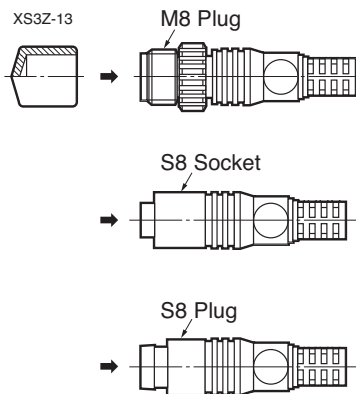
XS3M-M524-□□ Panel Mounting

After you mount the Connector to the panel, attach the nut and tighten it to a suitable torque (0.4 N·m).

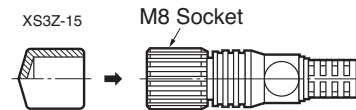
XS3 M8/S8 Connector Cover

Dust Cover

XS3Z-13



XS3Z-15



The Dust Cover is for dust prevention and does not ensure IP67. When mounting the Dust Cover to a Connector, be sure to press the Dust Cover onto the Connector until the Connector is fully inserted into the Dust Cover.

Model	Material	Suitable connector	
		Model	Mounting portion
XS3Z-13	PVC resin/red	XS3H/XS3W/XS3R	M8 plug
		XS3F/XS3W	S8 socket
		XS3H/XS3W	S8 plug
		XS3M	M8/S8 plug
XS3Z-15		XS3F/XS3W/XS3R	M8 socket

XS3

XS3R

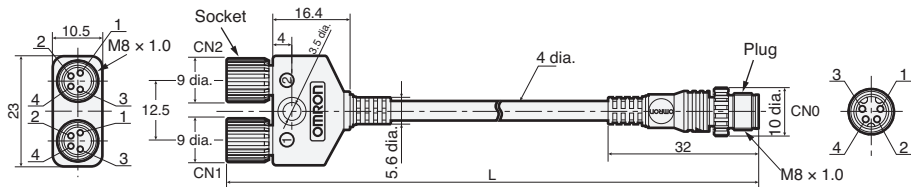
Y-Joint Plug/Socket Connectors

● Screw-on Models (M8)	With Standard Cable:	XS3R-M426-1□□□-A
	Without Cable:	XS3R-M426-□

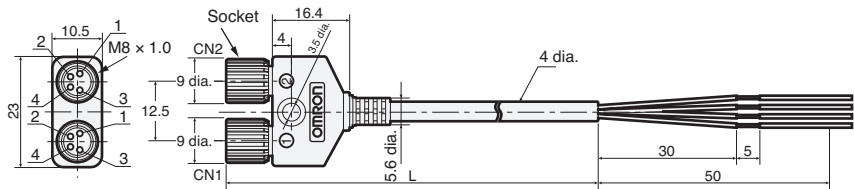
Dimensions

(Unit: mm)

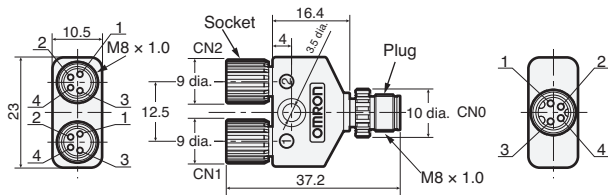
XS3R-M426-1□□□1-A
Connectors on Both Cable Ends (Y-Joint Plug/Socket)



XS3R-M426-1□□□0-A

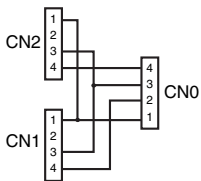


XS3R-M426-□
Connector on Both Ends (Y-Joint Plug/Socket) without Cable

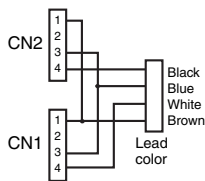


Wiring Diagram

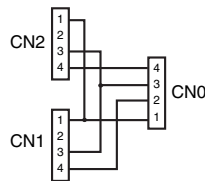
XS3R-M426-1□□□1-A



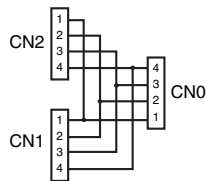
XS3R-M426-1□□□0-A



XS3R-M426-1



XS3R-M426-5



Mating Connectors

Item	Model
XS3R(M8)	XS3F(M8)
	XS3H(M8)
	XS3W(M8)
	XS3P(M8)

Ordering Information

For M8 Connectors

Cable	Connector	Cable length L (m)	Model	Minimum order
With cable	Connectors on both cable ends	0.5	XS3R-M426-1C51-A	5
		1	XS3R-M426-1011-A	
		2	XS3R-M426-1021-A	
		3	XS3R-M426-1031-A	
	Connector on one cable end	2	XS3R-M426-1020-A	10
	Connectors on both cable ends	5	XS3R-M426-1050-A	
		---	XS3R-M426-1	
Without cable	Connectors on both cable ends	---	XS3R-M426-5	10
			XS3R-M426-5	

Safety Precautions

Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings.

Connections

- The XS3 and XS2 Sensor I/O Connectors cannot be connected to each other.
- You cannot mate Connectors that have a different number of poles.
- When using Sensors with Connectors or Limit Switches, use the Sensor I/O Connectors specified in the catalog.
- Do not connect M8 screw models and S8 snap-in models together, otherwise the proper degree of protection of the Connectors will not be maintained.

Connector Connection and Disconnection

- Before connecting or disconnecting Connectors, make sure that no power is being supplied to the Connectors.
- When connecting or disconnecting Connectors, be sure to hold the Connectors by hand. Do not disconnect the Connectors by pulling the cable.
- Do not touch the engagement side of any Connector with wet hands. If there is any water on the Connector or near the Connector, be sure to wipe off the water before connecting or disconnecting the Connector, otherwise the Connector may short-circuit internally or not ensure good insulation.
- Make sure that engagement side of any Connector is free of metal dust or power.
- Do not use pliers to tighten mounting the thread bracket, otherwise the thread bracket may be damaged. Be sure to tighten each thread bracket by hand within a torque of 0.2 N·m. If the thread bracket is not tightened securely, the Connector may not maintain its proper degree of protection or the thread bracket may fall off due to vibration.
- When you tighten or loosen a lock nut, hold onto only the lock nut.
If you hold onto the cover or cable, excessive rotational force will be applied to the Connector and may damage it.
- Fully insert S8 snap-in models until the Connectors are hidden by the metal casing of the opposite parts, otherwise the Connectors will not maintain their proper degree of protection or the thread brackets may become loose due to vibration.

Degree of Protection

- Do not impose external force continuously on the joints of pin blocks and covers, otherwise the Connectors may not keep its proper degree of protection (i.e., IP67).
- Connectors are not fully watertight. Do not use them underwater.
- The Connectors are not oil-resistant. Do not use them where they would be subject to oil.
- If Connectors are used in places with vibration or shock, secure the engaged side of each Connector, otherwise the Connectors may be disconnected or fail to maintain their proper degree of protection.
- Connectors are of resin mold construction. Do not impose excessive force on them.

Storage

Do not store Connectors for long periods of time in the following locations

- Locations subject to dust or high humidity
- Locations subject to ammonia gas or sulfide gas

Installation

- Do not make any cable bends near the base of the Unit.
- Any bends made must have a minimum radius of 36 mm.

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Easy-wire Connectors with *e-CON** Specifications; Ideal for Connecting Sensors.

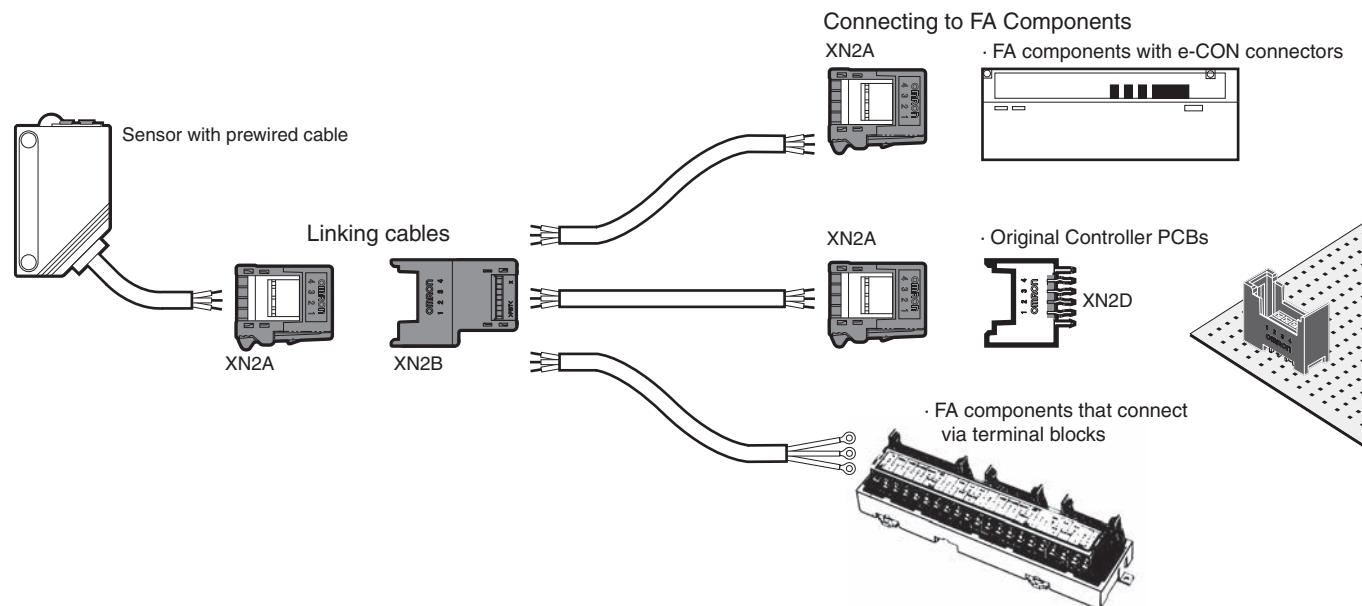
- Use industry-proven spring clamps for wiring.
- No special tools required for easy wiring.
- Rewiring (repairing) is possible.
- Each Connector accepts any wire size from AWG28 (0.08 mm²) to AWG20 (0.5 mm²).
(External sheath diameter: 1.5 mm max.)

Note: *E-con specifications are currently being promoted for standardization by manufacturers of FA components and connectors. Connector specifications are disclosed only for the mating portions.

RoHS Compliant



Wiring Configuration Example



Ordering Information

Type	Cable Plug Connector	Cable Socket Connector	Single-socket PCB Socket Connector	Four-socket PCB Socket Connector
Appearance				
No. of contacts	Model			
3	XN2A-1370	—	XN2D-1371	—
4	XN2A-1470	XN2B-1470	XN2D-1471	XN2D-4471
5	XN2A-1570	—	XN2D-1571	—
6	XN2A-1670	—	XN2D-1671	—
8	XN2A-1870	—	XN2D-1871	—

Ratings and Specifications

Rated current	3 A/pole (Using AWG20 wire) 2 A/pole (Using AWG22 wire) 1 A/pole (Using AWG24 wire) 0.5 A/pole (Using AWG26 or 28 wire)
Rated voltage	32 VDC
Contact resistance *1	30 mΩ max. (20 mVDC max., 100 mA max.)
Insulation resistance	1000 MΩ min. (at 500 VDC)
Dielectric strength	1,000 VAC for 60 s (leakage current: 1 mA max.)
Insertion tolerance	50 times
Ambient temperature *2	Operating: -30°C to 75°C
Applicable wires *3	0.08 mm ² (AWG28) to 0.5mm ² (AWG20) The external diameter of the cable sheath is 1.5 mm max.

*1. This value is the contact resistance of the connector.

*2. The temperature is limited, however, to the maximum operating temperature for the cables.

*3. When using cables with a wire diameter of 0.16 mm or smaller, contact your OMRON sales representative.

Materials and Finish

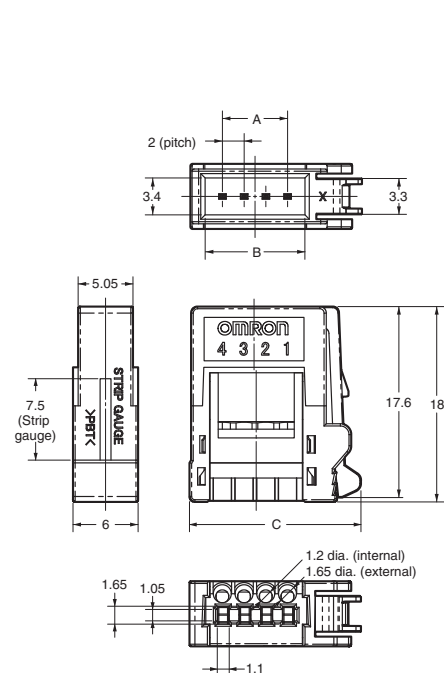
Item	Cable type	PCB type
Case	Black PBT resin (UL94V-0)	
Cover	Black PBT resin (UL94V-0)	—
Base	Transparent PC resin (UL94V-0)	—
Lever	PA resin (UL94V-0)/ natural (white)	—
Contact	Phosphor bronze/Underplating: Nickel (1.5 to 3.0 μm) Contacts: Gold (0.2 μm min.) Terminals: Tin plating (1.0 μm min.)	
Spring	Stainless steel	—
Pin clamp	—	Copper alloy/nickel base with tin-alloy plating

Dimensions

(Unit: mm)

●Cable Plug Connector

XN2A-1□70

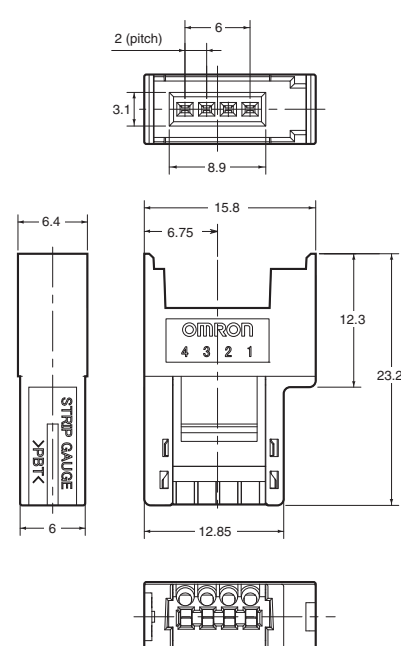


Dimensions

Dimension (mm) No. of contacts	A	B	C
3	4.0	7.2	13.8
4	6.0	9.2	15.8
5	8.0	11.2	17.8
6	10.0	13.2	19.8
8	14.0	17.2	23.8

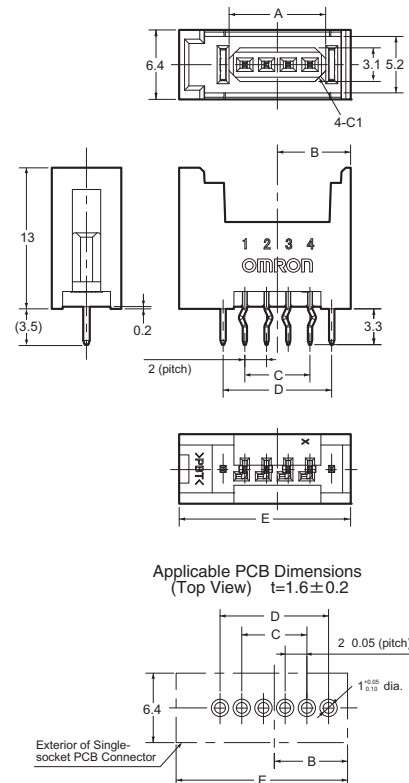
●Cable Socket Connector

XN2B-1470



●Single-socket PCB Socket Connector

XN2D-1□71



Applicable PCB Dimensions
(Top View) $t=1.6 \pm 0.2$

Dimensions

Dimension (mm) No. of contacts	A	B	C	D	E
3	6.9	5.8	4.0	8.0	13.8
4	8.9	6.8	6.0	10.0	15.8
5	10.9	7.8	8.0	12.0	17.8
6	12.9	8.8	10.0	14.0	19.8
8	16.9	10.8	14.0	18.0	23.8

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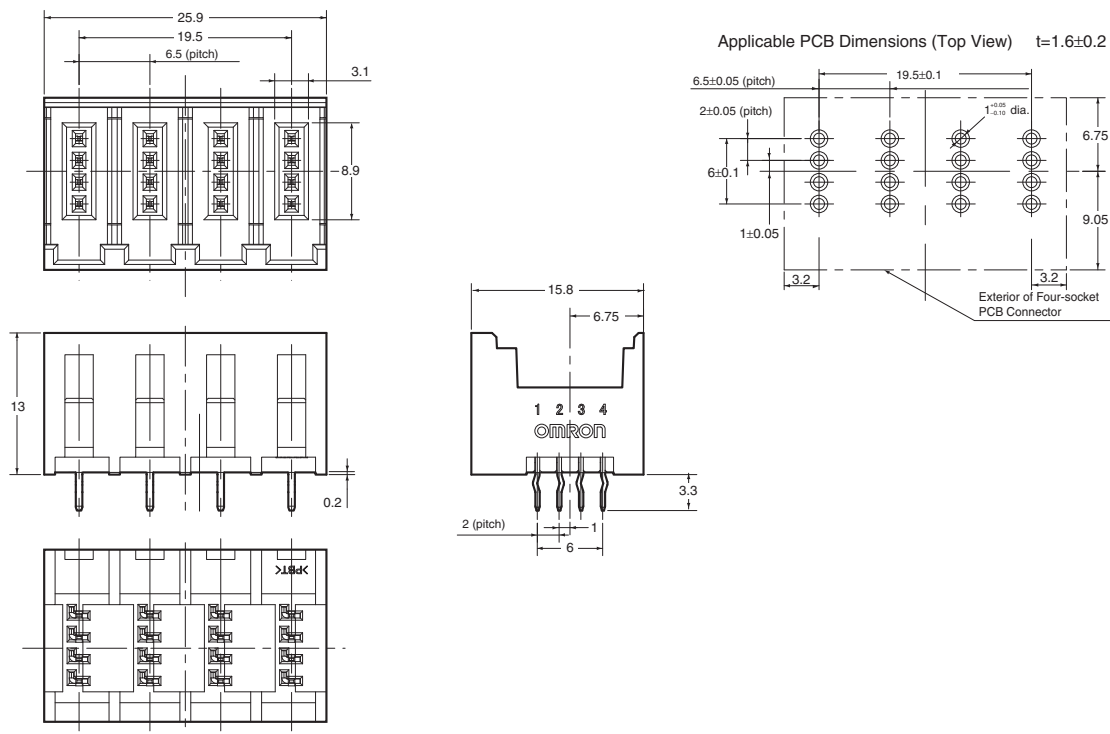
I/O Peripherals
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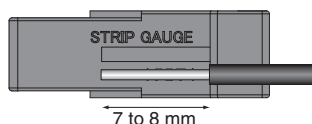
●Four-socket PCB Socket Connector XN2D-4471



Assembly Instructions

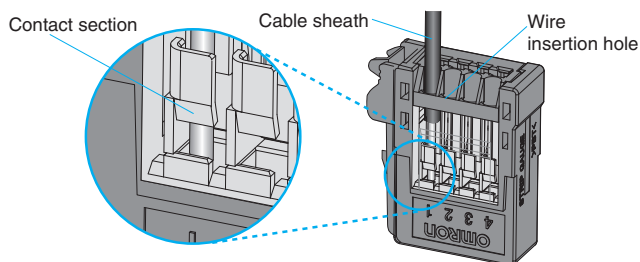
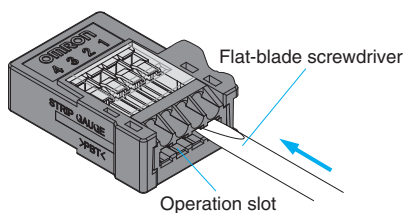
●Preparing the Cable

Align the cable with the guide marked STRIP GAUGE on the side of the Connector, strip 7 to 8 mm of the cable sheath, and then twist the wires several times.

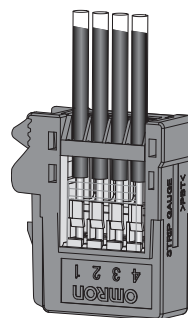
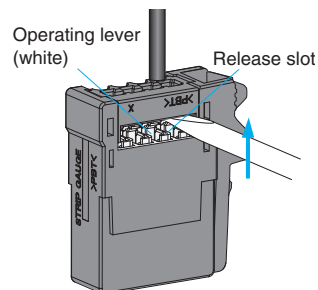


●Connecting the Cable to the Connector

- (1) Use a flat-blade screw-driver to push down the operating lever inside the operation slot until it locks.
- (2) Insert the wire fully to the back of the wire insertion hole. Make sure that the cable sheath is inserted into the hole, and that the end of the wire has passed through the contact section.



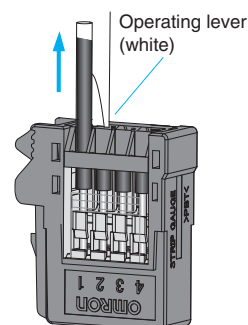
- (3) Insert the screwdriver into the release slot, and gently pull back the lever until a click is heard by resetting the lever.



- (4) Make sure that the following operations have been performed.
 - Check that the operating lever is reset.
 - Check that the procedure in step 2 has been followed. (Pull gently on the cable to make sure that there is resistance, indicating that the Connectors are wired correctly.)

●Removing Cables from the Connector

- (1) Press down on the operating lever to lock the lever before removing the cable.
- (2) After removing the cable from the Connector, always reset the operating lever, except when rewiring the Connector. The Connector can be rewired without resetting the operating lever.



Safety Precautions

Precautions for Safe Use

- Do not pull on the Connectors or cables. Doing so may cause damage to the Connectors or cause the cables to disconnect.
- Install the Connectors in a location where they will not be stepped on, to prevent disconnection of the cables or damage to the Connectors. If the Connectors have to be installed in such a location, use a protective cover.
- Make sure that the Connectors are mated in the correct direction. Mating the Connectors incorrectly will damage to the Connectors.
- Do not use the Connectors if the lock lever is bent or broken. Doing so may cause the Connector to become loose or the device to malfunction.
- Before mounting Connectors to a PCB, make sure that the Connectors are positioned in the correct direction.
- Before bending a cable to connect it to a Connector, check the bending specifications of the cable to be used.
- Do not exceed the rated current of the cable. Always check the rated current of each cable to be used.
- Do not use pliers or other tools to remove the Connectors.
- Hold the Connectors firmly by hand when handling them. Do not use excessive force to push the Connectors. Forcing the Connectors may result in injury.
- These Connectors do not resist water. Do not use Connectors in places where water or oil may be sprayed onto the Connectors.

Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings.

●Wiring

- Insert one wire into each insertion hole. Inserting two or more wires into a single hole may cause unexpected problems.
- Make sure that no power is being supplied to a Connector before wiring, inserting, or removing the Connector. Doing so may result in electric shock.
- Follow the wiring diagrams for the device being used when wiring the cables.
- Strip the cables according to the instructions in the applicable operation manual, making sure not to damage the wires.
- Do not use a screwdriver with a tip larger than the specified width when wiring the Connectors.
- Make sure short-circuits are not created, e.g., by protruding wires.

●Inserting and Removing Connectors

- When connecting or disconnecting Connectors, always hold the case of the Connector.
- When mating Connectors, insert the Connector fully into the back of the socket, and then make sure that the Connector will not become loose by lightly pulling it in the opposite direction.

●Recommended Screwdriver

- Use a flat-blade screwdriver with a tip of 2 mm max. Do not use screwdrivers that gradually widen towards the base of the screwdriver.
- Using other screwdrivers may cause damage to the adjacent poles.

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Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

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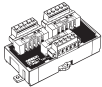
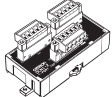
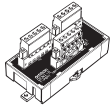
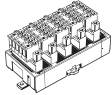
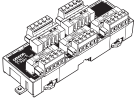
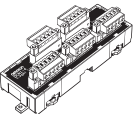
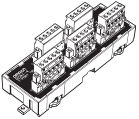
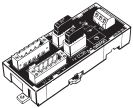
Peripheral Devices

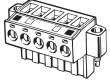
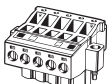
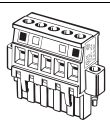
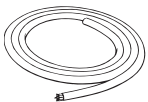
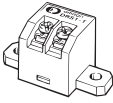
General-purpose Peripheral Devices

Peripheral Devices for DeviceNet Communications

Ordering Information

● General-purpose Models

Product	Appearance	Model	Specifications	
T-branch Tap for 1 branch line		DCN1-1NC	Cable wiring direction: Toward top Cable lock direction: From top Connector screw direction: From top	Provided with 3 parallel connectors with clamps (XW4G-05C1-H1-D), standard terminating resistor
		DCN1-1C	Cable wiring direction: Toward side Cable screw direction: From top Connector screw direction: From side	Provided with 3 parallel connectors with screws (XW4B-05C1-H1-D), standard terminating resistor
		DCN1-2C	Cable wiring direction: Toward top Cable screw direction: From side Connector screw direction: From top	
		DCN1-2R	Cable wiring direction: Toward side Cable screw direction: From top Connector screw direction: From top	Provided with 3 orthogonal connectors with screws (XW4B-05C1-V1R-D), standard terminating resistor
T-branch Tap for 3 branch lines		DCN1-3NC	Cable wiring direction: Toward top Cable lock direction: From top Connector screw direction: From top	Provided with 5 parallel clamp connectors with screws (XW4G-05C1-H1-D), standard terminating resistor
		DCN1-3C	Cable wiring direction: Toward side Cable screw direction: From top Connector screw direction: From side	Provided with 5 parallel connectors with screws (XW4B-05C1-H1-D), standard terminating resistor
		DCN1-4C	Cable wiring direction: Toward top Cable screw direction: From side Connector screw direction: From top	
		DCN1-4R	Cable wiring direction: Toward side Cable screw direction: From top Connector screw direction: From top	Provided with 5 orthogonal clamp connectors with screws (XW4B-05C1-V1R-D), standard terminating resistor
Power Supply Tap		DCN1-1P	Tap provided with 2 connectors, standard terminating resistor, and fuse	

Product		Appearance	Model	Specifications
Connectors			XW4G-05C1-H1-D	Parallel clamp connector with screws Connector insertion and wiring both performed horizontally.
			XW4G-05C4-TF-D	Parallel multi-branching clamp connector with screws Connector insertion and wiring performed in same direction.
			XW4B-05C1-H1-D	Parallel connector with screws Connector insertion and wiring performed in same direction.
			XW4B-05C4-T-D	Parallel, screw-less, multi-branching connector Connector insertion and wiring performed in same direction.
			XW4B-05C4-TF-D	Parallel, multi-branching connector with screws Connector insertion and wiring performed in same direction.
			XW4B-05C1-V1R-D	Orthogonal connector with screws Connector insertion and wiring performed at a right angle.
DeviceNet Standard Cables	Thin Cables		DCA1-5C10(-B)	Outer diameter: 7.00 mm Length: 100 m DCA1-5C10-B: Cable color: Blue DCA1-5C10: Cable color: Gray
	Thick Cables		DCA2-5C10(-B)	Outer diameter: 11.6 mm Length: 100 m DCA2-5C10-B: Cable color: Blue DCA2-5C10: Cable color: Gray
Terminal-block Terminator			DRS1-T	Resistance of 121 Ω

Industrial
Ethernet
Connectors

XS5/XS6

Sensor I/O
Connector

Introduction to
Sensor I/O
Connectors

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XW3D

XS2

XW3B

XS3

XN2

DeviceNet
Peripherals

Communications
Peripherals for
Standard Slaves

I/O Peripherals
for Standard
Slaves

Communications
Peripherals for
Environment-
resistive Slaves

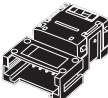
I/O Peripherals
for Environment-
resistive Slaves

Power Supply
Peripherals for
Environment-
resistive Slaves

Standard-
compliant
Models

Model Index

Peripheral Devices

Industrial Ethernet Connectors	● Peripheral Devices for Flat Cables			
XS5/XS6	Product	Appearance	Model	Specifications
	Connector for Flat Cable		DCN4-SF4D	Connector with lock screws for crimping flat cable
Sensor I/O Connector	Conversion Connector for Standard Thin Cable and Flat Cable		DCN4-BR4D	Used as a set with a DCN4-TR4 when Thin Cable is branched on a branch line.
	Power Supply Terminal Block with Terminating Resistance for Flat Cable		DCN4-TP4D	Can be used to supply communications power from terminals when Flat Cable is used.
Introduction to Sensor I/O Connectors	Flat Connector Socket		DCN4-TR4	Used as a set with a DCN4-BR4 Flat Connector Plug in the following applications. • Extending the trunk line • T-branching the trunk line into branch lines
XS5				Used alone in the following applications. • Connecting a DCN4-TM4 Terminating Resistor to the trunk line
XW3D	Flat Connector Plug		DCN4-BR4	Used as a set with a DCN4-TR4 Flat Connector Socket in the following applications. • Extending the trunk line • T-branching the trunk line into branch lines
XS2				
XW3B	Terminating Resistor		DCN4-TM4	Connector terminating resistor for flat cable. Attached to the DCN4-TR4 Flat Connector Socket at the end of the trunk line.
XS3	Flat Cable		DCA4-4F10	Four-core flat cable (UL 2555) Length: 100 m Conductor diameters: 0.75 mm ² x 2, 0.5 mm ² x 2
XN2	Simple Manual Crimp Tool		DWT-A01	Crimping tool for DCN4-TR4 Flat Connector Socket or DCN4-BR4 Flat Connector Plug.

Specifications

● General-purpose Models (T-branch Taps)

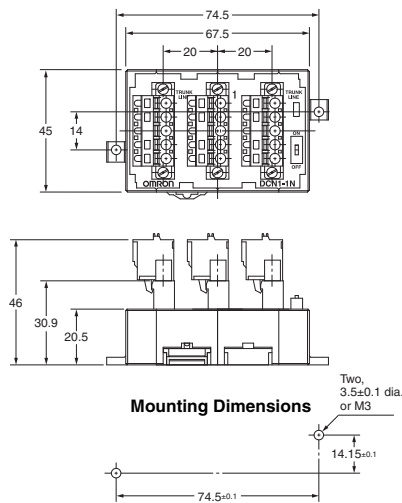
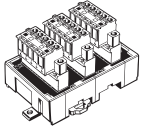
Communications Peripherals for Standard Slaves	Rated current	Between main lines: 8 A (power supply line) and 2 A (signal line)
		Between main and branch lines: 3 A (power supply line) and 1 A (signal line)
I/O Peripherals for Standard Slaves	Insulation resistance	100 MΩ min. (at 500 VDC)
Communications Peripherals for Environment-resistant Slaves	Dielectric strength	500 VAC for 1 min, leakage current: 1 mA max.
	Ambient operating temperature	0°C to 55°C

DeviceNet Peripherals
Communications Peripherals for Standard Slaves
I/O Peripherals for Standard Slaves
Communications Peripherals for Environment-resistant Slaves
I/O Peripherals for Environment-resistant Slaves
Power Supply Peripherals for Environment-resistant Slaves
Standard-compliant Models
Model Index

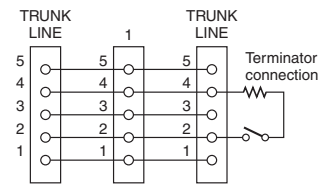
Dimensions

● General-purpose Models

T-branch Tap for 1 branch line DCN1-1NC (With Three Branching Connectors)

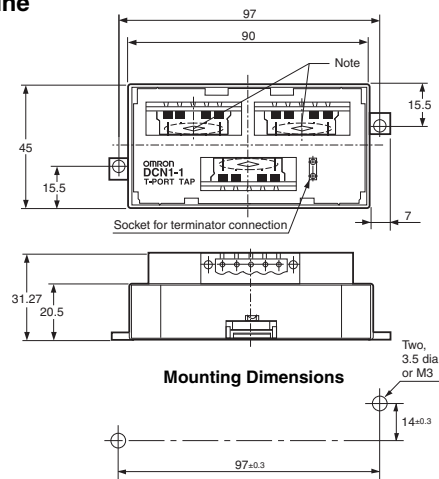
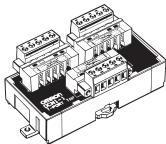


Internal Circuit

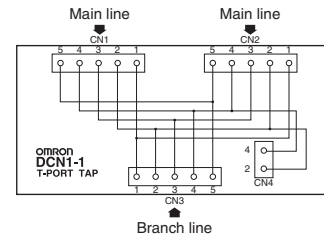


Terminal No.	Name
1	V-
2	CAN L
3	DRAIN
4	CAN H
5	V+

T-branch Tap for 1 branch line DCN1-1C (With Three Branching Connectors)



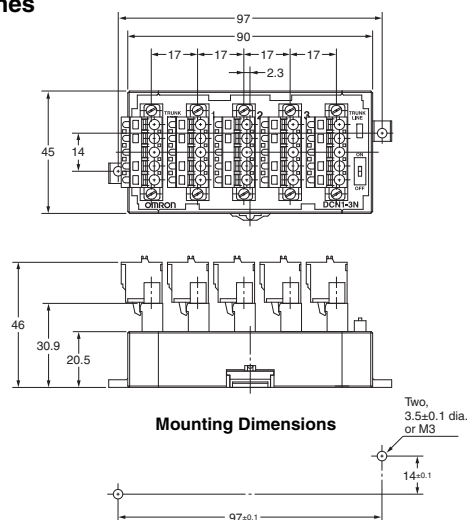
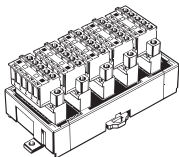
Internal Circuit



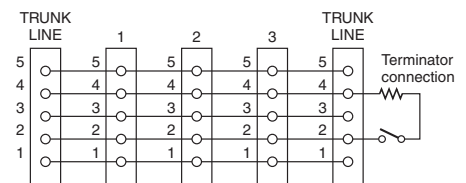
Terminal No.	Name
1	V-
2	CAN L
3	DRAIN
4	CAN H
5	V+

Note: When connecting a branch line to the main line, connect the main line to the connector marked with an asterisk because the resistance between the asterisks is minimal.

T-branch Tap for 3 branch lines DCN1-3NC (With Five Branching Connectors)



Internal Circuit



Terminal No.	Name
1	V-
2	CAN L
3	DRAIN
4	CAN H
5	V+

Peripheral Devices

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Sensor I/O Connector

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XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

IO Peripherals for Standard Slaves

Communications Peripherals for Environmentally Resistant Slaves

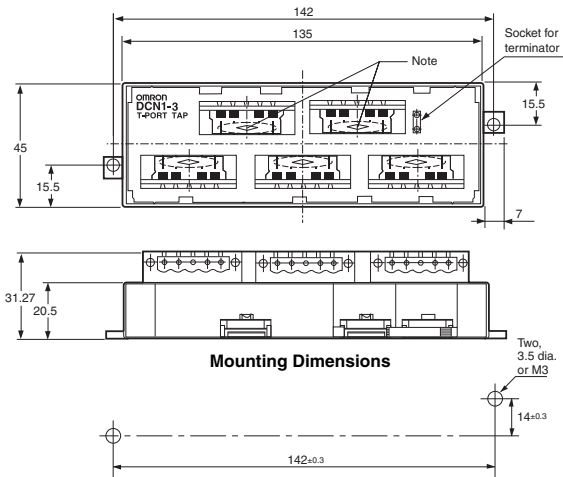
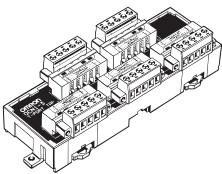
IO Peripherals for Environmentally Resistant Slaves

Power Supply Peripherals for Environmentally Resistant Slaves

Standard-compliant Models

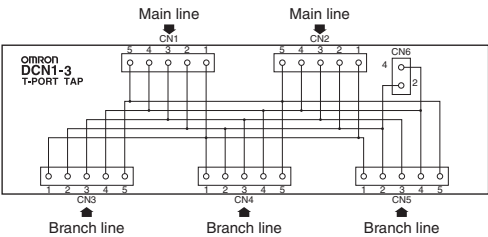
Model Index

T-branch Tap for 3 branch lines
DCN1-3C
(With Five Branching Connectors)



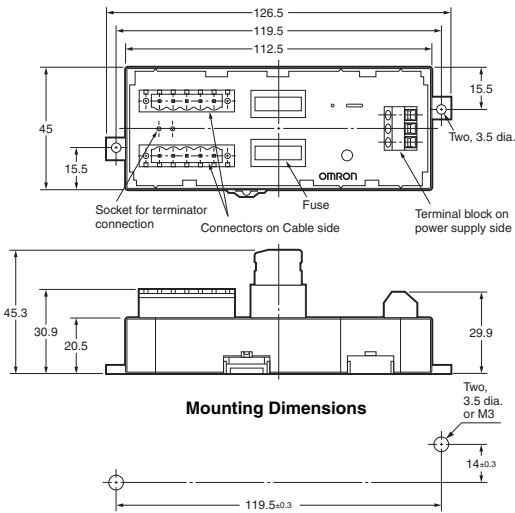
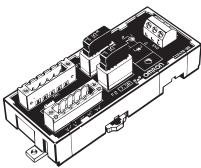
Note: When connecting a branch line to the main line, connect the main line to the connector marked with an asterisk because the resistance between the asterisked portion is minimal.

Internal Circuit

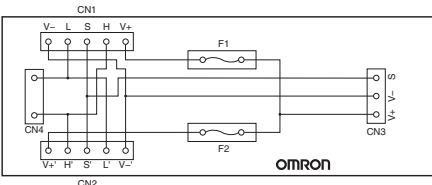


Terminal No.	Name
1	V-
2	CAN L
3	DRAIN
4	CAN H
5	V+

Power Supply Tap
DCN1-1P
(With Two Branching Connectors)

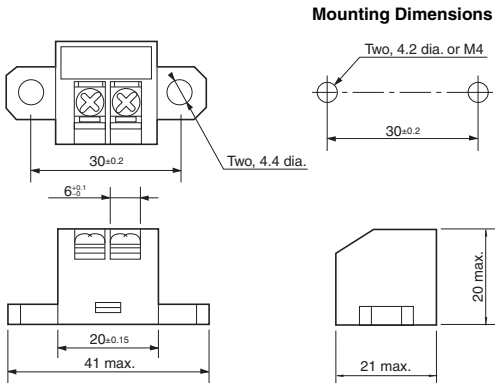
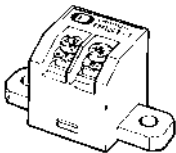


Internal Circuit



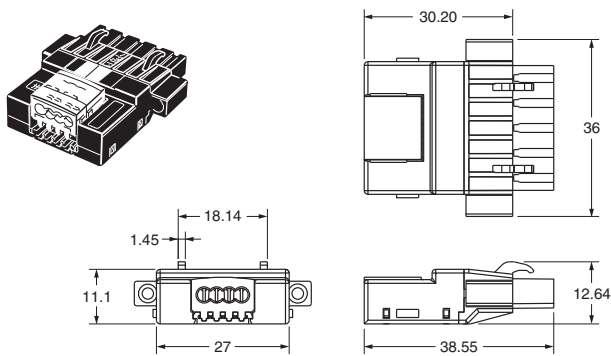
Terminal No.	Name
V-	V-
L	CAN L
S	DRAIN
H	CAN H
V+	V+

DRS1-T
(Terminal-block Terminator)

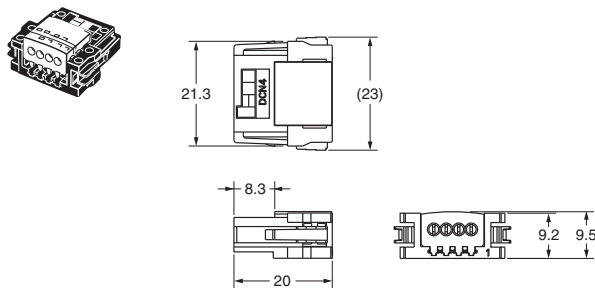


● Flat Cable

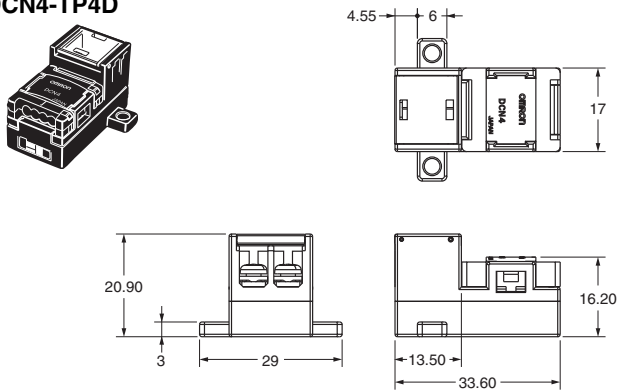
Connector for Flat Cable
DCN4-SF4D



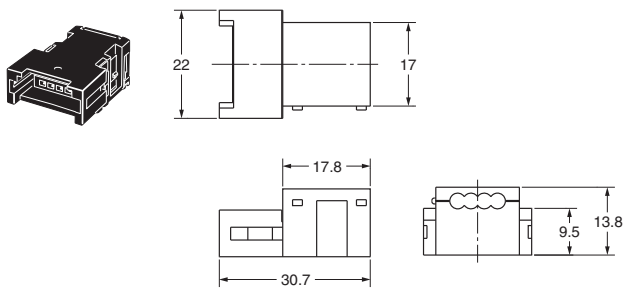
Conversion Connector for Standard Thin Cable and
Flat Cable
DCN4-BR4D



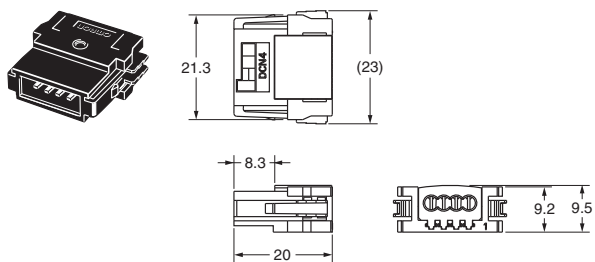
Power Supply Terminal Block with Terminating Resistance
for Flat Cable
DCN4-TP4D



Flat Connector Socket
DCN4-TR4



Flat Connector Plug
DCN4-BR4



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Sensor I/O
Connector

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I/O Peripherals
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I/O Peripheral Devices

I/O Connectors for Connector Terminals

MIL Connectors
Applicable Connectors

Type	Model	Remarks
Flat Cable Pressure-welded Connectors	XG4M-4030-T	
Pressure-welded Connectors with Loose Wires	Socket	XG5M-4032-N
		XG5M-4035-N
	Semicover	XG5S-2001
	Hood Cover *	XG5S-4022

* DeviceNet connectors for multi-drop wiring cannot be used with the Hood Cover.

Cable Models

Type	Model	Connected device	Applicable models
Cable with Connectors (1:2)	G79-□□-□□-D1	G7TC/G70D/G70A	DRT2-ID32ML
	G79-M□□-□□-D1		DRT2-MD32ML
	G79-O□□-□□-D1		DRT2-OD32ML/DRT1-OD32ML-1
	G79-□□-□□-D2		DRT2-ID32ML-1
	G79-M□□-□□-D2		DRT2-MD32ML-1
Cable with Connector (1:1)	XW2Z-C□□K	--	All models
Cable with Loose Wires with Crimp Terminals	G79-Y□00C-D1		
Cable with Loose Wires	G79-A□00C-D1		

Applicable Cables with Connectors

Cables with Connectors (1-to-2 Connection)/G79-□□-□□-D□

Appearance	Cable length (mm)	Cable length (mm)		Model
		(A)	(B)	
		500	250	G79-I50-25-D1
		750	500	G79-I75-50-D1
		500	250	G79-O50-25-D1
		750	500	G79-O75-50-D1
		500	250	G79-M50-25-D1
		750	500	G79-M75-50-D1
		500	250	G79-I50-25-D2
		750	500	G79-I75-50-D2
		500	250	G79-M50-25-D2
		750	500	G79-M75-50-D2

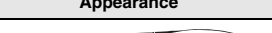
Cables with Connectors (1-to-1 Connection)/XW2Z-C□□K

Appearance	Cable length (mm)	Model
	250	XW2Z-C25K
	500	XW2Z-C50K

Cables with Crimp Terminals (at the End of Loose Wires)/G79-Y□C-D1

Appearance	Cable length (mm)		Model
	Terminal A Connected to device 	1,000	G79-Y100C-D1
		2,000	G79-Y200C-D1
		5,000	G79-Y500C-D1

Cables with Loose Wires/G79-A□C

Appearance	Cable length (mm)		Model
	Terminal A Connected to device 	2,000	G79-A200C-D1
		5,000	G79-A500C-D1

■ I/O Connectors for MULTIPLE I/O TERMINALS

Applicable Connectors

Type		Model	Remark	Connectable model
Molex connector	Crimped terminals	Housing	50-57-9403	Digital I/O Units GT1-ID16MX(-1)/GT1-OD16MX(-1) Analog I/O Units GT1-AD08MX/GT1-DA04MX
		Chain terminal	16-02-0069	
			16-02-0086	
		Loose terminal	16-02-0096	
			16-02-0102	
		Press-fit tool	57036-5000	
Fujitsu connector (16 points)	Soldered terminals		FCN361J024-AU	
	Pressure-welded terminals		FCN367J024-AU/F	
	Crimped terminals		FCN363J024-AU	
Fujitsu connector (32 points)	Soldered terminals		FCN361J040-AU	Digital I/O Units GT1-ID32ML(-1)/GT1-OD32ML(-1)
	Pressure-welded terminals		FCN367J040-AU/F	
	Crimped terminals		FCN363J040-AU	
OMRON D-sub connector	Pulg		XM3A-2521	Digital I/O Units GT1-ID16DS(-1)/GT1-OD16DS(-1)
	Hood		XM2S-2513	

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Peripheral Devices

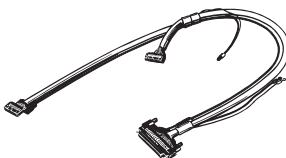
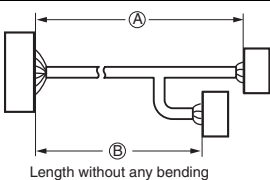
Applicable Cables with Connectors (Fujitsu Connectors)

Industrial Ethernet Connectors	I/O classification	Model	Connectable model
XS5/XS6	Digital input, 16 points	XW2Z-□□□A G79-□C	Digital I/O Units GT1-ID16ML(-1)
	Digital output, 16 points	XW2Z-□□□A G79-□C	Digital I/O Units GT1-OD16ML(-1)
Sensor I/O Connector	Digital input, 32 points	XW2Z-□□□B G79-□C□	Digital I/O Units GT1-ID32ML(-1)
	Digital output, 32 points	XW2Z-□□□B G79-□C□	Digital I/O Units GT1-OD32ML(-1)

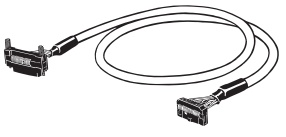
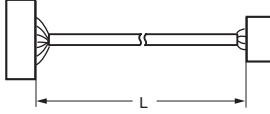
● Cables with Connectors (1-to1 Connection)/G79-□C For Digital Input/Output (16 Points)

Introduction to Sensor I/O Connectors		Appearance		Cable length (mm)		Model	
						1,000	G79-100C
						1,500	G79-150C
						2,000	G79-200C
						3,000	G79-300C
XS5						5,000	G79-500C

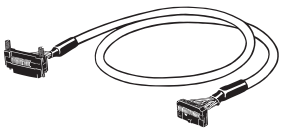
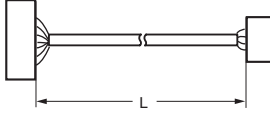
● Cables with Connectors (1-to-2 Connection)/G79-□C-□, G79-□C-□ For Digital Input/Output (32 Points)

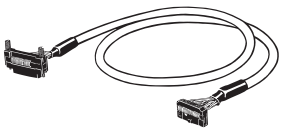
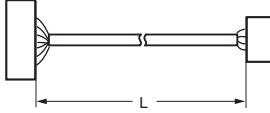
Model	Appearance	Cable length (mm)		Model		
		(A)	(B)	Input	Output	
XS2		 Length without any bending	1,000	750	G79-I100C-75	G79-O100C-75
			1,500	1,250	G79-I150C-125	G79-O150C-125
2,000			1,750	G79-I200C-175	G79-O200C-175	
3,000			2,750	G79-I300C-275	G79-O300C-275	
5,000			4,750	G79-I500C-475	G79-O500C-475	
XW3B						

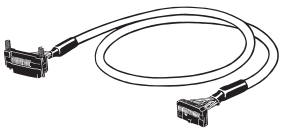
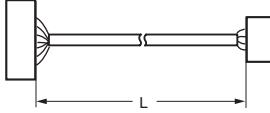
For Digital Input/Output (16 Points)

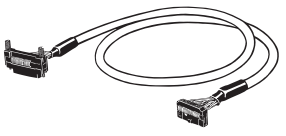
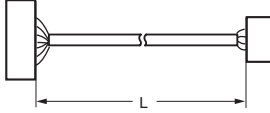
DeviceNet Peripherals	Appearance	Cable length (mm)	Model
XN2			500 XW2Z-050A
			1,000 XW2Z-100A
			1,500 XW2Z-150A
			2,000 XW2Z-200A
			3,000 XW2Z-300A

For Digital Input/Output (32 Points)

Communications Peripherals for Standard Slaves	Appearance	Cable length (mm)	Model
I/O Peripherals for Standard Slaves			500 XW2Z-050B
			1,000 XW2Z-100B
			1,500 XW2Z-150B
			2,000 XW2Z-200B
			3,000 XW2Z-300B

Communications Peripherals for Environment-resistant Slaves	Appearance	Cable length (mm)	Model
I/O Peripherals for Environment-resistant Slaves			500 XW2Z-050B
			1,000 XW2Z-100B
			1,500 XW2Z-150B
			2,000 XW2Z-200B
			3,000 XW2Z-300B

Power Supply Peripherals for Environment-resistant Slaves	Appearance	Cable length (mm)	Model
I/O Peripherals for Environment-resistant Slaves			500 XW2Z-050B
			1,000 XW2Z-100B
			1,500 XW2Z-150B
			2,000 XW2Z-200B
			3,000 XW2Z-300B

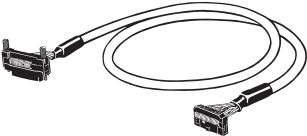
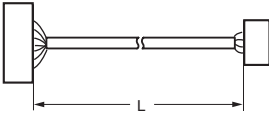
Standard-compliant Models	Appearance	Cable length (mm)	Model
Power Supply Peripherals for Environment-resistant Slaves			500 XW2Z-050B
			1,000 XW2Z-100B
			1,500 XW2Z-150B
			2,000 XW2Z-200B
			3,000 XW2Z-300B

I/O Connector for Programmable Slaves
Applicable Connector Terminal Conversion Units

Applicable cable	Connected product	Remarks
XW2Z-□□□A	XW2D-20G6	Slim type (with M3 screw terminals)
	XW2B-20G4	Flat cable connectors (with M3 terminal screws for flat-blade screwdriver)

Applicable Cables with Connectors

● Cables with Connectors/XW2Z
For Digital Input/Output (16 Points)

Appearance	Cable length (mm)		Model
		500	XW2Z-050A
		1,000	XW2Z-100A
		1,500	XW2Z-150A
		2,000	XW2Z-200A
		3,000	XW2Z-300A
		5,000	XW2Z-500A

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Sensor I/O
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Peripheral Devices for Environment-resistive Slaves

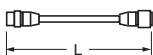
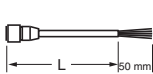
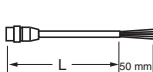
Peripheral Devices for DeviceNet Communications

Ordering Information

● Environment-resistive Connection Products (for Thin Cable, M12 Micro Connectors)

Product	Appearance	Model	Specifications
Sealed Assembling-type Connector (male)		XS2G-D5S7	For communications (plug)
Sealed Assembling-type Connector (female)		XS2C-D5S7	For communications (socket)
Sealed T-branch Connector		DCN2-1	For 1 branch line
Sealed Connector with Terminating Resistor		DRS2-1	Plug
		DRS2-2	Socket
Cables with Sealed Connectors		DCA1-5CNC5W1	Length (L): 0.5 m
		DCA1-5CN01W1	Length (L): 1 m
		DCA1-5CN02W1	Length (L): 2 m
		DCA1-5CN03W1	Length (L): 3 m
		DCA1-5CN05W1	Length (L): 5 m
		DCA1-5CN10W1	Length (L): 10 m
		DCA1-5CNC5F1	Length (L): 0.5 m
		DCA1-5CN01F1	Length (L): 1 m
		DCA1-5CN02F1	Length (L): 2 m
		DCA1-5CN03F1	Length (L): 3 m
		DCA1-5CN05F1	Length (L): 5 m
		DCA1-5CN10F1	Length (L): 10 m
		DCA1-5CNC5H1	Length (L): 0.5 m
		DCA1-5CN01H1	Length (L): 1 m
		DCA1-5CN02H1	Length (L): 2 m
		DCA1-5CN03H1	Length (L): 3 m
		DCA1-5CN05H1	Length (L): 5 m
		DCA1-5CN10H1	Length (L): 10 m
Shielded Panel-mounting Connectors (female)		DCA1-5CNC5P1	Panel-mounting connector (socket) with 0.5-m cable
		XS2P-D522-2	Panel-mounting connector socket
Shielded Panel-mounting Connectors (male)		DCA1-5CNC5M1	Panel-mounting connector (plug) with 0.5-m cable
		XS2M-D524-4	Panel-mounting connector (plug) with solder-cup terminals
Waterproof cover (for socket)		XS2Z-22	Used to cover an unused connector section
Dust cover (for socket)		XS2Z-15	

● Environment-resistive Models (for Thin Wires and M12 Micro Connectors) Smartclick

Product	Appearance		Model	Specifications	
Sealed T-branch Connector			DCN2-1S	For 1 branch line	
Sealed Assembling type Connector (female)			DRS2-1S	Plug	
			DRS2-2S	Socket	
Connectors with Shielded Cables			DCA1-5CSC5W1	Length (L): 0.5 m	Cable with connectors on both ends
			DCA1-5CS01W1	Length (L): 1 m	
			DCA1-5CS02W1	Length (L): 2 m	
			DCA1-5CS03W1	Length (L): 3 m	
			DCA1-5CS05W1	Length (L): 5 m	
			DCA1-5CS10W1	Length (L): 10 m	
			DCA1-5CSC5F1	Length (L): 0.5 m	Cable with connector on one end (socket)
			DCA1-5CS01F1	Length (L): 1 m	
			DCA1-5CS02F1	Length (L): 2 m	
			DCA1-5CS03F1	Length (L): 3 m	
			DCA1-5CS05F1	Length (L): 5 m	
			DCA1-5CS10F1	Length (L): 10 m	
			DCA1-5CSC5H1	Length (L): 0.5 m	Cable with connector on one end (plug)
			DCA1-5CS01H1	Length (L): 1 m	
			DCA1-5CS02H1	Length (L): 2 m	
			DCA1-5CS03H1	Length (L): 3 m	
			DCA1-5CS05H1	Length (L): 5 m	
			DCA1-5CS10H1	Length (L): 10 m	
Shielded Branch Relay Box			DCN2-S4C5H1	4 ports, 0.5-m cable	
			DCN2-S8C5H1	8 ports, 0.5-m cable	

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistive Slaves

I/O Peripherals for Environment-resistive Slaves

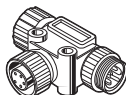
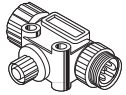
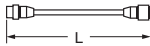
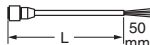
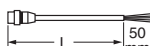
Power Supply Peripherals for Environment-resistive Slaves

Standard-compliant Models

Model Index

Peripheral Devices

● Environment-resistive Models for Thick Wires with 7/8-16UN Mini Connectors

Product	Appearance		Model	Specifications	
Sealed T-branch Connector			DCN3-11	T-branch Connector	
			DCN3-12	T-branch Connector (Branch connector is M12.)	
Sealed Connector with Terminating Resistor			DRS3-1	Plug	
Cables with Sealed Connectors			DCA2-5CN01W1	Length (L): 1 m	Cable with connectors on both ends
			DCA2-5CN02W1	Length (L): 2 m	
			DCA2-5CN05W1	Length (L): 5 m	
			DCA2-5CN10W1	Length (L): 10 m	
			DCA2-5CN01F1	Length (L): 1 m	Cable with connector on one end (socket)
			DCA2-5CN02F1	Length (L): 2 m	
			DCA2-5CN05F1	Length (L): 5 m	
			DCA2-5CN10F1	Length (L): 10 m	
			DCA2-5CN01H1	Length (L): 1 m	Cable with connector on one end (plug)
			DCA2-5CN02H1	Length (L): 2 m	
			DCA2-5CN05H1	Length (L): 5 m	
			DCA2-5CN10H1	Length (L): 10 m	
			DCA1-5CN01W5	Length (L): 1 m	Cable with connectors on both ends Thin cable M12 socket
			DCA1-5CN02W5	Length (L): 2 m	
			DCA1-5CN05W5	Length (L): 5 m	
			DCA1-5CN10W5	Length (L): 10 m	
Panel-mounting Connector (female)			DCA2-5CNC5P1	Panel-mounting connector (socket) with 0.5-m cable	
Panel-mounting Connector (male)			DCA2-5CNC5M1	Panel-mounting connector (plug) with 0.5-m cable	
Panel-mounting Connector (male)			XS4M-D521-1	Panel-mounting connector (plug) DIP terminals	
Waterproof Cap (for Plug)	-		XS4Z-11	Used to cover an unused connector section.	
Waterproof Cap (for Socket)	-		XS4Z-12		

Specifications

● Environment-resistive Connection Products (for Thin Cable, M12 Micro Connectors)

Type	Connectors with Cables DCA1-5CN□□□1	T-branch Connector DCN2-1	Assembling-type Connector XS2□-D5S7	Connectors with Terminating Resistor DRS2-□
Item				
Rated current	3 A			
Rated voltage	125 VDC			
Contact resistance (connector)	40 mΩ max. (at 20 mVDC max. and 100 mA max.)			
Insulation resistance	1,000 MΩ min. (at 500 VDC)			
Dielectric strength (connector)	1,500 VAC for 60 seconds (leakage current: 1 mA max.)			
Ambient operating temperature	-20°C to 65°C			
Storage temperature range	-25°C to 70°C			
Degree of protection	IEC IP67			
Insertion durability	200 times			
Cable strength	98 N for 15 s	--		
Vibration resistance	No current interruptions of more than 1 μs while performing simple vibrations at either 10 to 500 Hz with 1.52-mm full amplitude or at acceleration 100 m/s², whichever is smaller			

● Environment-resistive Models (for Thin Wires and M12 Micro Connectors)

Type	Connectors with Cables DCA1-5CS□□□1	T-branch Connector DCN2-1S	Connectors with Terminating Resistor DRS2-□S	Branch Relay Box DCN2-S□C5H
Item				
Rated current	3 A			
Rated voltage	125 VDC			
Contact resistance (connector)	40 mΩ max. (at 20 mVDC max. and 100 mA max.)			
Insulation resistance	1,000 MΩ min. (at 500 VDC)			
Dielectric strength (connector)	1,500 VAC for 60 seconds (leakage current: 1 mA max.)			1,000 VAC for 60 seconds
Ambient operating temperature	-20°C to 65°C			
Storage temperature range	-25°C to 70°C			
Degree of protection	IEC IP67			
Insertion durability	200 times			
Cable strength	98 N for 15 s	--		
Vibration resistance	No current interruptions of more than 1 μs while performing simple vibrations at either 10 to 500 Hz with 1.52-mm full amplitude or at acceleration 100 m/s², whichever is smaller			
Lock strength	Pulling: 100 N/15 s, Rotating: 1 N·m/15 s			
Lock force	0.1 to 0.25 N·m			

● Environment-resistive Models for Thick Wires with 7/8-16UN Mini Connectors

Type	Connectors with Thick Cables DCA2-5CN□□□1	Connectors with Thin Cables DCA1-5CN□□□W5	T-branch Connector DCN3-11	T-branch Connector DCN3-12	Connectors with Terminating Resistor DRS3-1	Panel Mounting Connector DCA2-5CNC5P1	Panel Mounting Connector XS4M-D521-1
Item							
Rated current	8 A	3 A	8 A	3 A *	8 A		
Rated voltage	125 VDC						
Contact resistance (connector)	30 mΩ max. (at 20 mVDC max. and 100 mA max.)						
Insulation resistance	1,000 MΩ min. (at 500 VDC)						
Dielectric strength (connector)	1,500 VAC for 60 seconds (leakage current: 1 mA max.)						
Ambient operating temperature	-20°C to 65°C						
Storage temperature range	-25°C to 70°C						
Degree of protection	IEC IP67						
Insertion durability	200 times						
Cable strength	98 N for 15 s			--		98 N for 15 s	--
Vibration resistance	No current interruptions of more than 1 μs while performing simple vibrations at either 10 to 500 Hz with 1.52-mm full amplitude or at acceleration 100 m/s ² , whichever is smaller						

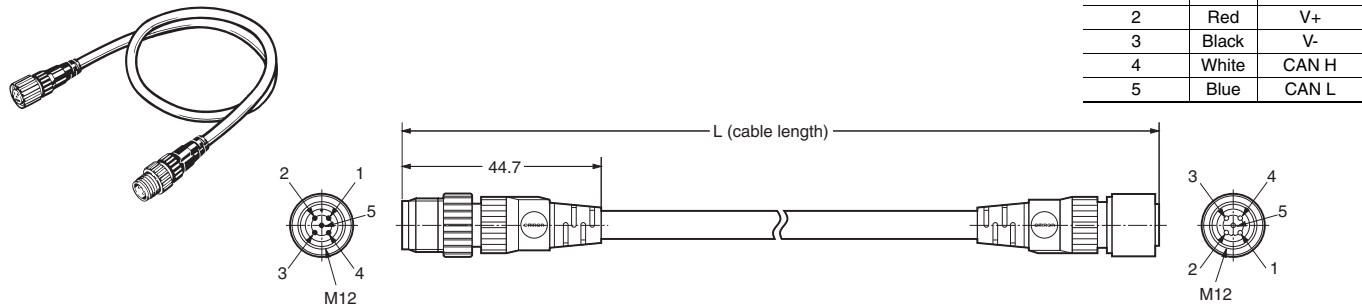
* The rated current between thick wires is 8 A.

Peripheral Devices

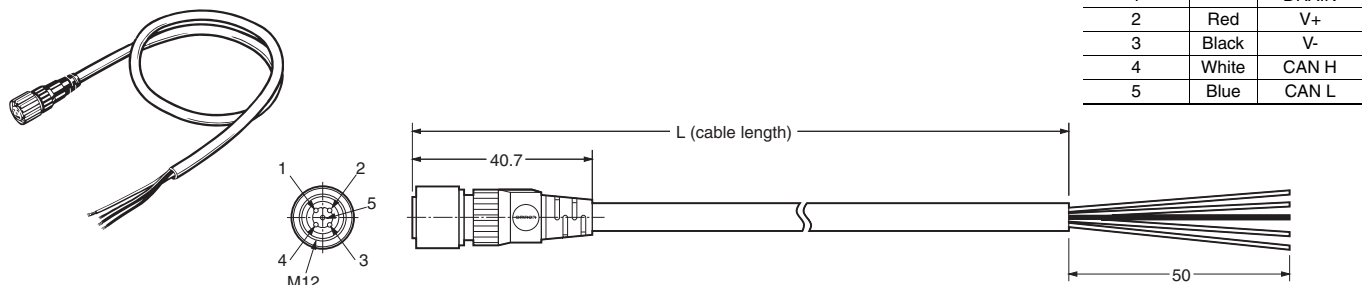
Dimensions

● Environment-resistive Connection Products (for Thin Cable, M12 Micro Connectors)

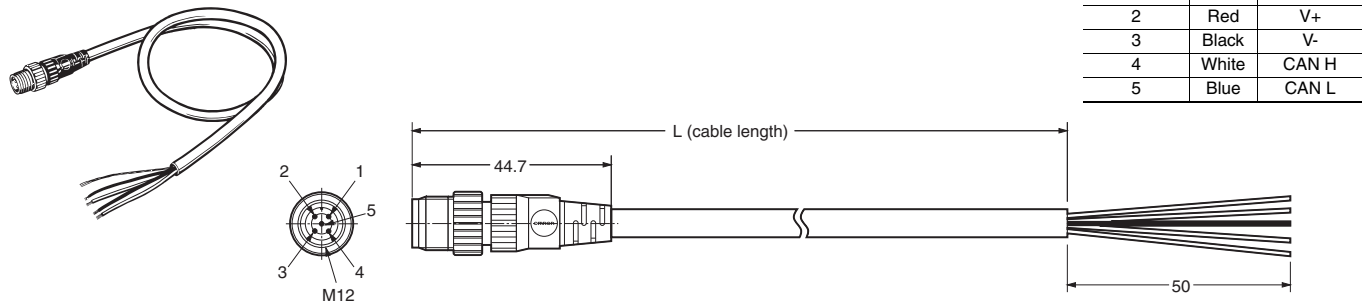
Cables with Connectors on Both Ends
DCA1-5CN□□W1



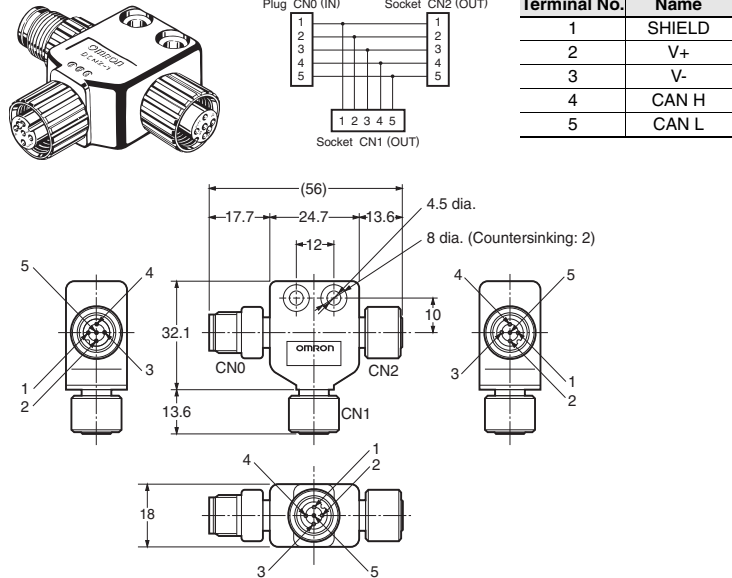
Cables with Connector on Single End (Socket)
DCA1-5CN□□F1



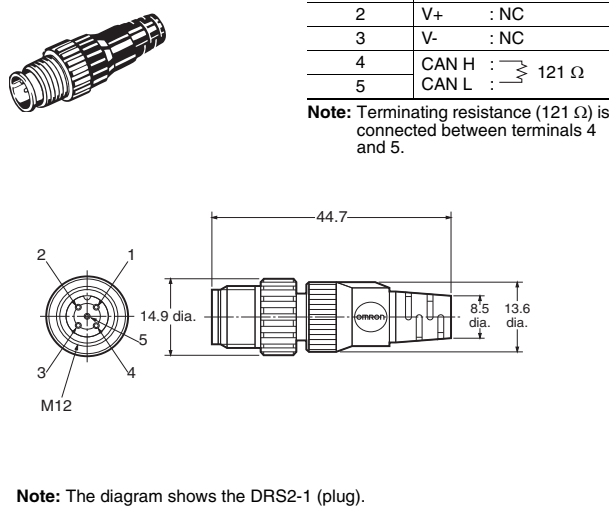
Cables with Connector on Single End (Plug)
DCA1-5CN□□H1



T-branch Connector
DCN2-1

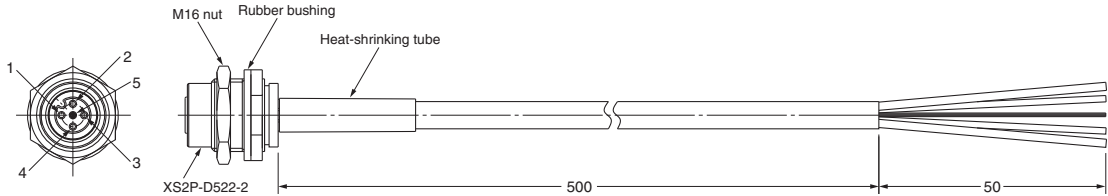
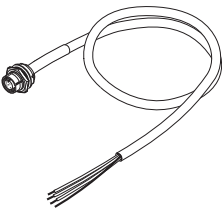


Connectors with Terminating Resistance
DRS2-1 (Plug)
DRS2-2 (Socket)



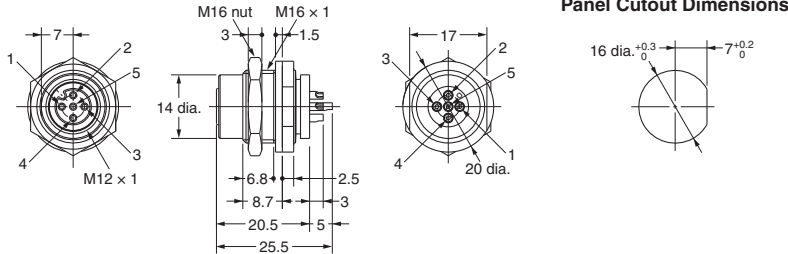
Note: The diagram shows the DRS2-1 (plug).

Panel-mounting Connector (Socket) with 0.5 m Cable
DCA1-5CNC5P1

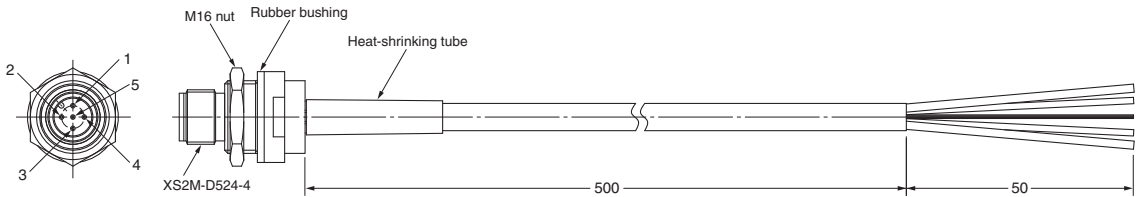
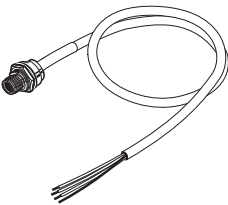


Wiring		
Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

Panel-mounting Connector (Socket), Solder-cup Terminals
XS2P-D522-2

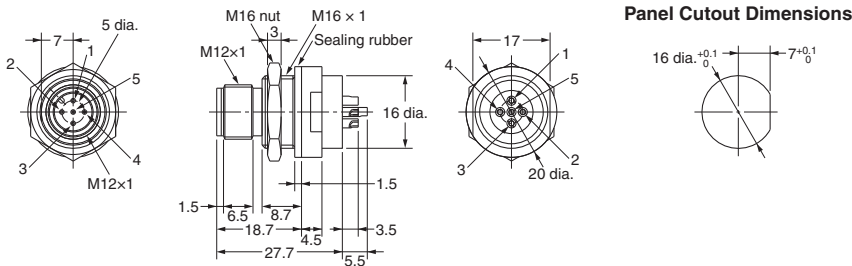


Panel-mounting Connector (Plug) with 0.5 m Cable
DCA1-5CNC5M1



Wiring		
Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

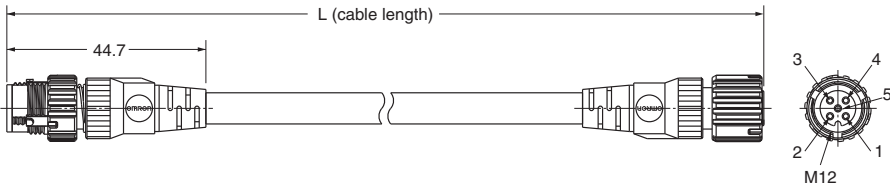
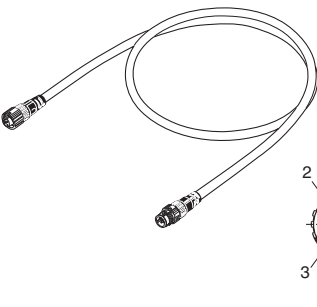
Panel-mounting Connector (Socket), Solder-cup Terminals
XS2M-D524-4



Peripheral Devices

● Environment-resistive Models (for Thin Wires and M12 Micro Connectors)

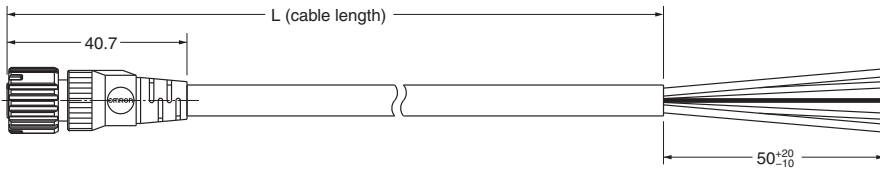
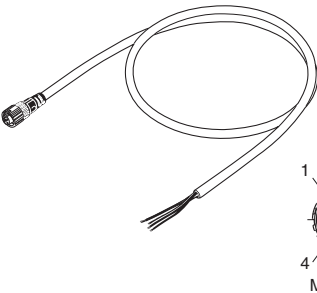
Cables with Connectors on Both Ends
DCA1-5CS□□W1



Wiring

Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

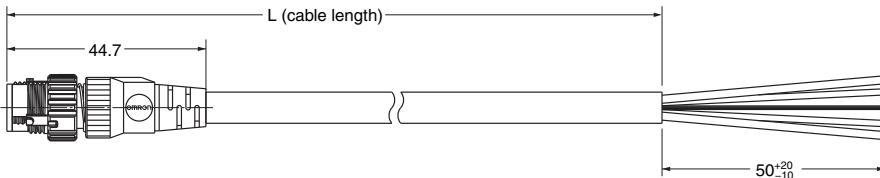
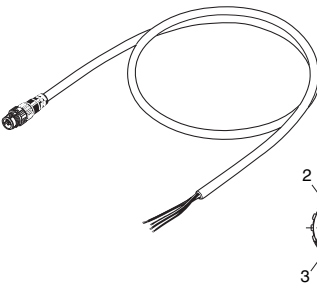
Cables with Connector on Single End (Socket)
DCA1-5CS□□F1



Wiring

Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

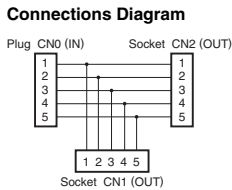
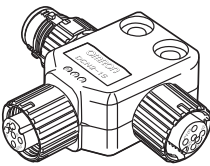
Cables with Connector on Single End (Plug)
DCA1-5CS□□H1



Wiring

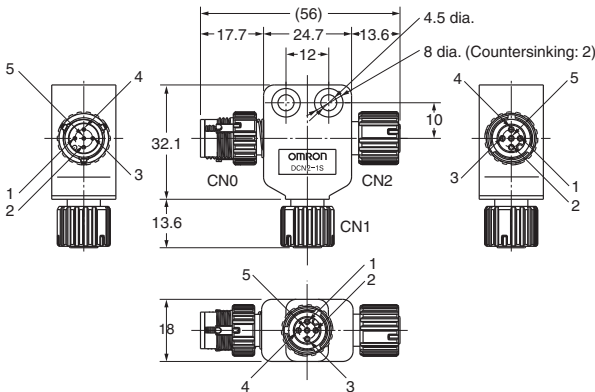
Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

T-branch Connector
DCN2-1S

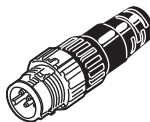


Wiring

Terminal No.	Name
1	SHIELD
2	V+
3	V-
4	CAN H
5	CAN L



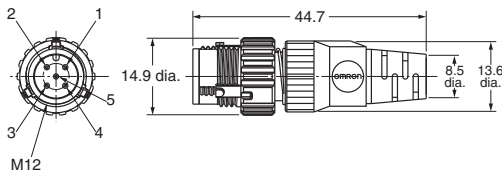
Connectors with Terminating Resistance
DRS2-1S (Plug)
DRS2-2S (Socket)



Wiring

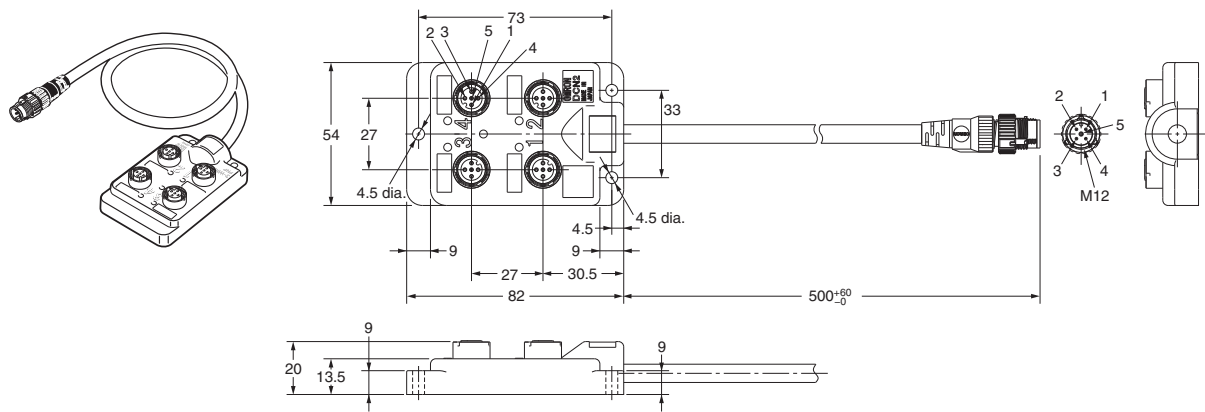
Terminal No.	Name
1	DRAIN : NC
2	V+ : NC
3	V- : NC
4	CAN H : 121 Ω
5	CAN L : 121 Ω

Note: Terminating resistance (121 Ω) is connected between terminals 4 and 5.

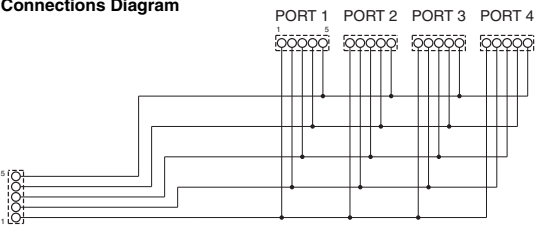


Note: The diagram shows the DRS2-1 (plug).

Shielded Branch Relay Box with Four Ports
DCN2-S4C5H1



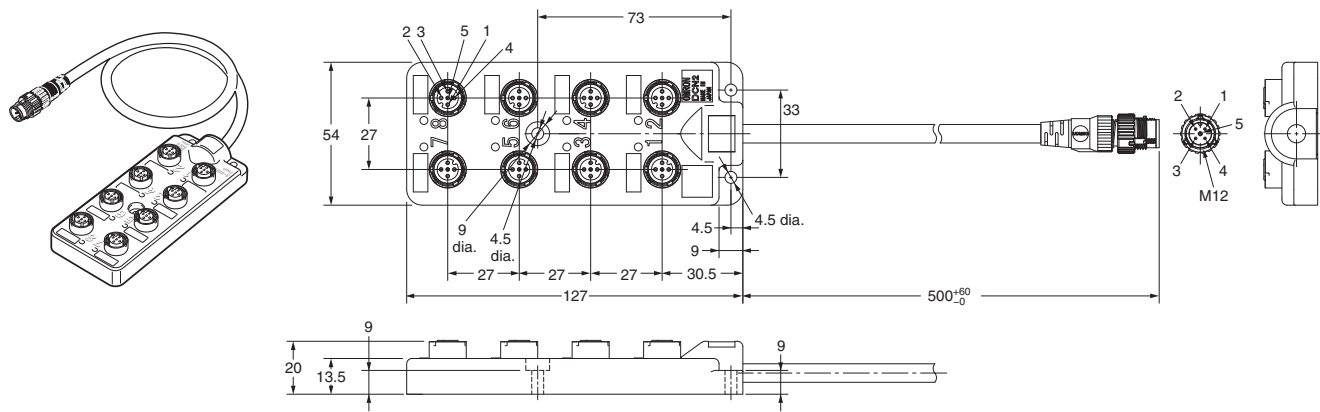
Connections Diagram



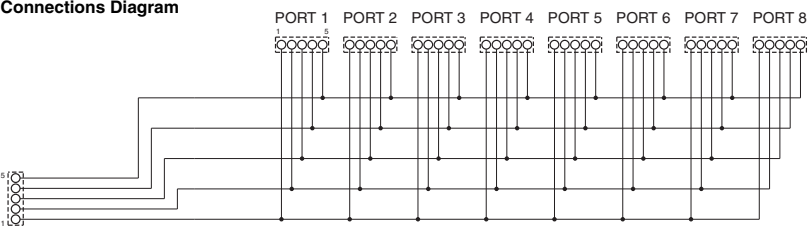
Wiring

Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

Shielded Branch Relay Box with Eight Ports
DCN2-S8C5H1



Connections Diagram



Wiring

Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

XW3B

XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environmentally Resistant Slaves

I/O Peripherals for Environmentally Resistant Slaves

Power Supply Peripherals for Environmentally Resistant Slaves

Standard-compliant Models

Model Index

● Environment-resistive Models for Thick Wires with 7/8-16UN Mini Connectors

DCA2-5CN□□W1



Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

DCA2-5CN□□F1



Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

DCA2-5CN□□H1



Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

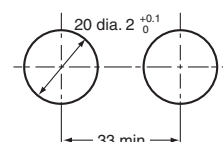
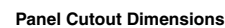
DCA1-5CN□□W5



Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

(5 Conductors for Communications)

DCA2-5CNC5P1

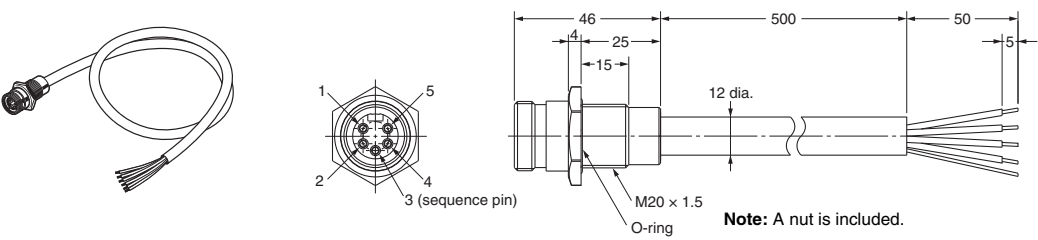


Wiring

Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

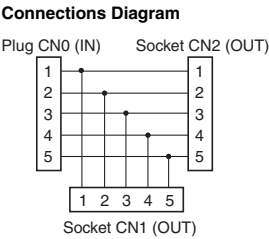
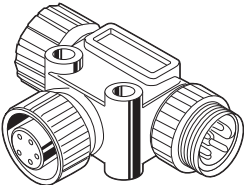
Note: A rubber seal and nut for panel mounting are included.

Panel-mounting Connector (Plug) with 0.5 m Cable
DCA2-5CNC5M1

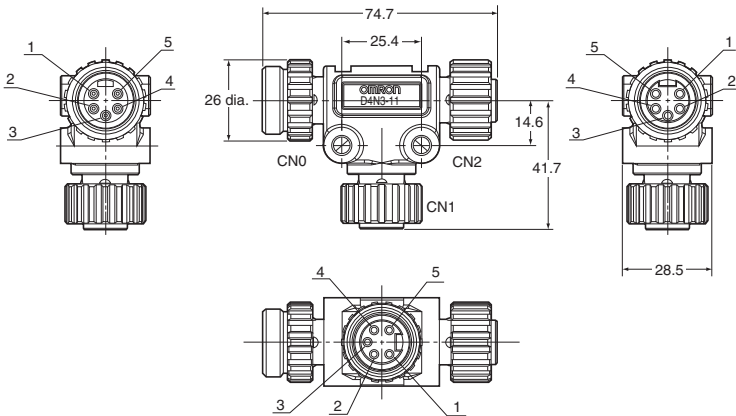


Wiring		
Terminal No.	Color	Name
1	-	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

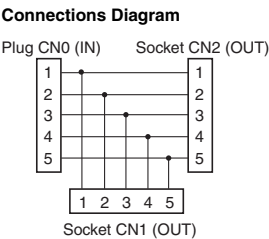
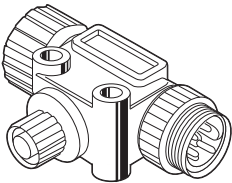
T-branch Connector (5 Conductors for Communications,
Thick Wire Branch Line)
DCN3-11



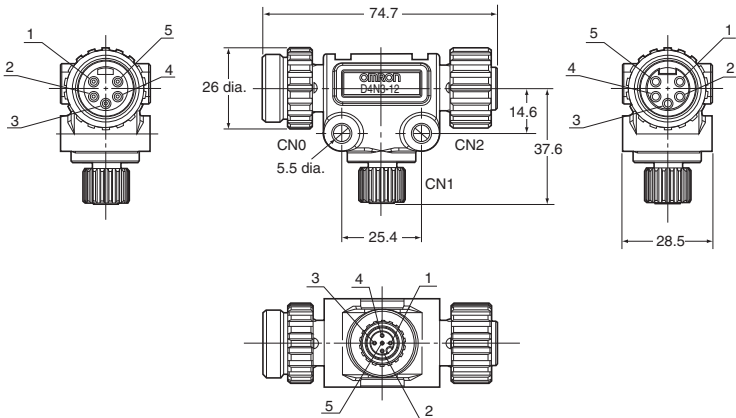
Terminal No.	Name
1	DRAIN
2	V+
3	V-
4	CAN H
5	CAN L



T-branch Connector (5 Conductors for Communications,
Thin Wire Branch Line)
DCN3-12



Terminal No.	Name
1	DRAIN
2	V+
3	V-
4	CAN H
5	CAN L



Industrial Ethernet Connectors

XS5/XS6

Sensor I/O Connector

Introduction to Sensor I/O Connectors

XS5

XW3D

XS2

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XS3

XN2

DeviceNet Peripherals

Communications Peripherals for Standard Slaves

I/O Peripherals for Standard Slaves

Communications Peripherals for Environment-resistant Slaves

I/O Peripherals for Environment-resistant Slaves

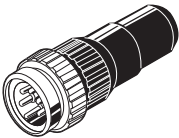
Power Supply Peripherals for Environment-resistant Slaves

Standard-compliant Models

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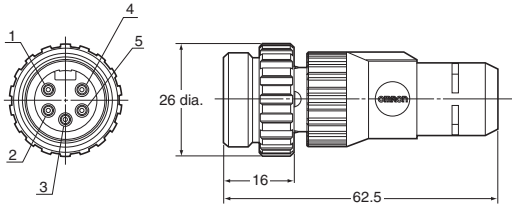
Connector (Plug) with Terminating Resistance
DRS3-1



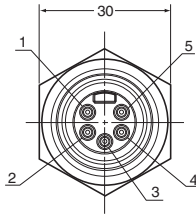
Wiring

Terminal No.	Name
1	DRAIN : NC
2	V+ : NC
3	V- : NC
4	CAN H :  121 Ω
5	CAN L :  121 Ω

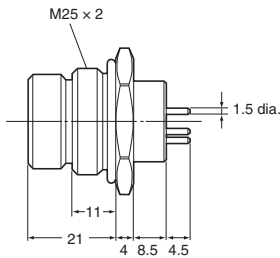
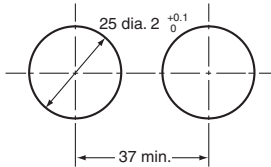
Note: Terminating resistance (121 Ω) is connected between terminals 4 and 5.



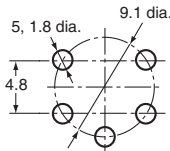
Panel-mounting Connector (5 Pins for Communications)
XS4M-D521-1



Panel Cutout Dimensions



PCB Processing Dimensions

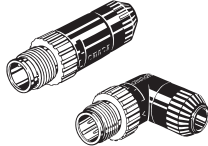


Note: A rubber seal and nut for panel mounting are included.

I/O Peripheral Devices

Applicable Connectors

● Assembly Connector Plugs for M12 Microconnectors

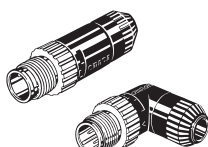
Appearance	Applicable cable diameter (mm)	Cable direction	Number of poles	Connection method		
				Crimping	Soldering	Screws
	For 6 dia. (5 to 6 dia.)	Straight	4	XS2G-D4C1	XS2G-D421	XS2G-D4S1
		Right-angle		--	XS2G-D422	XS2G-D4S2
	For 4 dia. (4 to 5 dia.)	Straight		XS2G-D4C3	XS2G-D423	XS2G-D4S3
		Right-angle		--	XS2G-D424	XS2G-D4S4
	For 3 dia. (3 to 4 dia.)	Straight		XS2G-D4C5	XS2G-D425	XS2G-D4S5
		Right-angle		--	XS2G-D426	XS2G-D4S6
	For 7 dia. (6 to 7 dia.)	Straight		--	--	XS2G-D4S9
	For 8 dia. (7 to 8 dia.)					XS2G-D4S7

Industrial
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Sensor I/O
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● Smart click Assembly Connector Plugs for M12 Microconnectors

Appearance	Applicable cable diameter (mm)	Cable direction	Number of poles	Connection method		
				Crimping	Soldering	Screws
	For 6 dia. (5 to 6 dia.)	Straight	4	XS5G-D4C1	XS5G-D421	XS5G-D4S1
		Right-angle		--	XS5G-D422	XS5G-D4S2
	For 4 dia. (4 to 5 dia.)	Straight		XS5G-D4C3	XS5G-D423	XS5G-D4S3
		Right-angle		--	XS5G-D424	XS5G-D4S4
	For 3 dia. (3 to 4 dia.)	Straight		XS5G-D4C5	XS5G-D425	XS5G-D4S5
		Right-angle		--	XS5G-D426	XS5G-D4S6
	For 7 dia. (6 to 7 dia.)	Straight		--	--	XS5G-D4S9
	For 8 dia. (7 to 8 dia.)					XS5G-D4S7

XS5

XW3D

XS2

XW3B

Applicable Cables with Connectors

● Cables with Connector (Socket/Plug) on Both Ends (M12 Microconnectors for Power Supply and I/O)

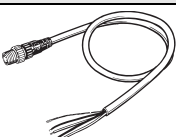
Appearance	Cable direction	Number of core wires	Cable length (m)	Screw-type Connectors	Smart click Connectors
	Straight/Straight	4	1	XS2W-D421-C81-F	XS5W-D421-C81-F
			2	XS2W-D421-D81-F	XS5W-D421-D81-F
			5	XS2W-D421-G81-F	XS5W-D421-G81-F
	Right-angle/Right-angle		2	XS2W-D422-D81-F	XS5W-D422-D81-F
			5	XS2W-D422-G81-F	XS5W-D422-G81-F
	Straight/Right-angle		2	XS2W-D423-D81-F	XS5W-D423-D81-F
			5	XS2W-D423-G81-F	XS5W-D423-G81-F
	Right-angle/Straight		2	XS2W-D424-D81-F	XS5W-D424-D81-F
			5	XS2W-D424-G81-F	XS5W-D424-G81-F

XS3

XN2

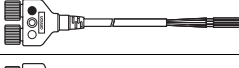
DeviceNet
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● Cables with connector plug on One End (M12 Microconnectors for I/O)

Appearance	Cable direction	Number of core wires	Cable length (m)	Screw-type Connectors	Smart click Connectors
	Straight	3	0.3	XS2H-D421-AC0-F	--
		4		XS2H-D421-A80-F	XS5H-D421-A80-F
		3	1	XS2H-D421-CC0-F	--
		4		XS2H-D421-C80-F	XS5H-D421-C80-F

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Peripherals for
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resistive SlavesI/O Peripherals
for Environment-
resistive Slaves

● Plugs and Sockets on Y-shaped Joints (M12 Microconnectors for I/O)

Appearance	Cable	Connector	DC models		
			Cable length (m)	Screw-type Connectors	Smart click Connectors
	With cable	Connectors on both ends	0.5	XS2R-D426-B11-F	XS5R-D426-B11-F
			1	XS2R-D426-C11-F	XS5R-D426-C11-F
			2	XS2R-D426-D11-F	XS5R-D426-D11-F
			3	XS2R-D426-E11-F	XS5R-D426-E11-F
		Connector on one end	2	XS2R-D426-D10-F	XS5R-D426-D10-F
			5	XS2R-D426-G10-F	XS5R-D426-G10-F
	Without cable	Connectors on both ends	--	XS2R-D426-1	XS5R-D426-1

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Note: Use is supported only for Environment-resistive Terminals (DRT2-□D16C(L)(-1)).

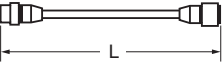
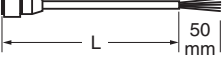
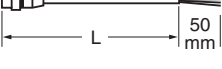
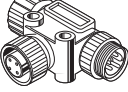
● Connector Cover for M12 Microconnectors

Appearance	Product	Model	Application
	Waterproof cover (socket)	XS2Z-22	For covering unused I/O connectors

Power Supply Peripheral Devices

Applicable Cables with Connectors

● Power Supply Connectors (7/8-16UN Miniconnectors)

Appearance	Product	Cable length L (mm)	Model
		1	XS4W-D421-101-A
		2	XS4W-D421-102-A
		5	XS4W-D421-105-A
		10	XS4W-D421-110-A
		1	XS4F-D421-101-A
		2	XS4F-D421-102-A
		5	XS4F-D421-105-A
		10	XS4F-D421-110-A
		1	XS4H-D421-101-A
		2	XS4H-D421-102-A
		5	XS4H-D421-105-A
		10	XS4H-D421-110-A
	T-branch Connector	--	XS4R-D424-5
	Panel mounting connector socket Cable: 50 cm	--	XS4P-D421-1C5-A
	Panel mounting connector plug DIP terminals	--	XS4M-D421-1
-	Waterproofing Cap for Plug	--	XS4Z-11
-	Waterproofing Cap for Socket	--	XS4Z-12

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International Standards

International standards consist of the IEC standards related to electricity and the ISO standards related to other areas (e.g., machines and management.)

IEC (International Electrotechnical Commission)

- The IEC is a standardization commission founded in 1906 to promote unification and coordination of international standards relating to electricity. It is headquartered in Geneva, Switzerland.
- Based on reports from member nations on the latest science technologies in those nations, IEC standards are issued as technological standards relating to electricity. Established international safety standards provided by various countries and accepted worldwide are based on IEC standards.
- The IEC standards committees includes the CISPR (International Special Committee on Radio Interference) that makes standards for EMC (Electromagnetic Compatibility).
- To simplify certification procedures for electrical devices and promote smooth international trade, there is an international scheme called CB Scheme (Certification Body Scheme), which is authorized by IEC standards. Based on the CB Scheme, safety tests on electrical devices are conducted and certificates are issued if the devices are proved to meet IEC standards.

ISO (International Organization for Standardization)

- ISO is a standardization organization that started official activities in 1947 to promote international standards in all areas (e.g., machines and management) except for electricity, which is covered by the IEC, by issuing ISO standards. It is headquartered in Geneva, Switzerland.

Descriptions of Certification Marks

UL (Underwriters Laboratories Inc.)



- A nonprofit organization established in 1894 by the American association of fire insurance companies. Underwriters Laboratories (abbreviated to UL hereafter) conducts certification testing on all kinds of electrical products. In many U.S. cities and states, UL certification is equally required on all electrical items sold. To obtain UL certification on an electrical product, all major internal components also require UL certification.



- UL offers two classifications of certification, the listing mark and the recognition mark. A Listing Mark constitutes the entire certification of a product. Products display the Listing Mark shown below. The Recognition Mark applies to the components used in a product, and therefore constitutes a more conditional approval of a product. Recognized products display the Recognition Mark shown at the left. Use of the Recognition Mark is required only for specified parts (such as basic switches). (From 2013, the UL Listing Mark shown in the middle on the left was changed to the Enhanced UL Mark shown at the top left with a new design and name. The use of either mark will be recognized for a period of ten years.)



- The other mark is the recognition mark. Recognition certification is provided conditionally for parts built into other devices. Products with a recognition certification bear the mark shown at the bottom on the left. Except for basic miniature switches and other specific products, displaying this mark is optional.



- Starting from 2013, products that are certified for listing display the UL badge shown on the left in catalogs, in product documents, and on packages. (Either the UL badge or the UL listing mark can be used for a period of 10 years.)



- Since October 1992, UL has been recognized as a CO (council organization) and TO (test organization) by the SCC (Standard Council of Canada). This authorizes UL to conduct safety tests and certify products conforming to Canadian standards. The above marks are UL marks for products certifying that the products meet Canadian standards.

	Marks for US	Marks for Canada	Marks for US and Canada
LISTING MARKS	 	 	  
RECOGNITION MARKS			 

CSA (Canadian Standards Association)



- This association descended from a nonprofit, non-government standardization organization established in 1919. In addition to industrial standardization, the association now carries out safety testing on electrical products. Standard development: The Canadian Standards Association Product testing and certification: CSA International

- This process is known as "certification," and consequently, CSA-certified equipment displays the mark shown below.

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XS2 M12 connector (screw connectins)

Type	Model	UL certification			page
		UL	cUL	File No.	
Sokets/Plugs Connectors on Both End	XS2W-D421-C81-F	○	○	E207683	68
	XS2W-D421-D81-F	○	○	E207683	68
	XS2W-D421-G81-F	○	○	E207683	68
	XS2W-D421-J81-F	○	○	E207683	68
	XS2W-D422-D81-F	○	○	E207683	68
	XS2W-D422-G81-F	○	○	E207683	68
	XS2W-D423-D81-F	○	○	E207683	68
	XS2W-D423-G81-F	○	○	E207683	68
	XS2W-D424-D81-F	○	○	E207683	68
	XS2W-D424-G81-F	○	○	E207683	68
Sokets Plugs on One End	XS2F-D421-CA0-F	○	○	E207683	71
	XS2F-D421-CC0-F	○	○	E207683	71
	XS2F-D421-C80-F	○	○	E207683	71
	XS2F-D421-DA0-F	○	○	E207683	71
	XS2F-D421-DC0-F	○	○	E207683	71
	XS2F-D421-D80-F	○	○	E207683	71
	XS2F-D421-GA0-F	○	○	E207683	71
	XS2F-D421-GA0-F	○	○	E207683	71
	XS2F-D421-GC0-F	○	○	E207683	71
	XS2F-D421-G80-F	○	○	E207683	71
	XS2F-D421-JA0-F	○	○	E207683	71
	XS2F-D421-JC0-F	○	○	E207683	71
	XS2F-D421-J80-F	○	○	E207683	71
	XS2F-D422-CA0-F	○	○	E207683	71
	XS2F-D422-CC0-F	○	○	E207683	71
	XS2F-D422-C80-F	○	○	E207683	71
	XS2F-D422-DA0-F	○	○	E207683	71
	XS2F-D422-DC0-F	○	○	E207683	71
	XS2F-D422-D80-F	○	○	E207683	71
	XS2F-D422-GA0-F	○	○	E207683	71
	XS2F-D422-GC0-F	○	○	E207683	71
	XS2F-D422-G80-F	○	○	E207683	71
	XS2F-D422-JA0-F	○	○	E207683	71
	XS2F-D422-JC0-F	○	○	E207683	71
	XS2F-D422-J80-F	○	○	E207683	71
	XS2F-A421-CB0-F	○	○	E207683	71
	XS2F-A421-C90-F	○	○	E207683	71
	XS2F-A421-DB0-F	○	○	E207683	71
	XS2F-A421-D90-F	○	○	E207683	71
	XS2F-A421-GB0-F	○	○	E207683	71
	XS2F-A421-G90-F	○	○	E207683	71
	XS2F-A421-JB0-F	○	○	E207683	71
	XS2F-A421-J90-F	○	○	E207683	71
	XS2F-A422-CB0-F	○	○	E207683	71
	XS2F-A422-DB0-F	○	○	E207683	71
	XS2F-A422-GB0-F	○	○	E207683	71
	XS2F-A422-JB0-F	○	○	E207683	71
	XS2H-D821-AH0-C	○	○	E207683	77
	XS2H-D821-CH0-C	○	○	E207683	77
	XS2F-D821-DH0-C	○	○	E207683	77
	XS2F-D821-GH0-C	○	○	E207683	77
	XS2W-D821-DH1-C	○	○	E207683	77
	XS2W-D821-GH1-C	○	○	E207683	77
Sokets on One Cable End with Indicator	XS2F-M12PVC3A2MPLED	○	○	E207683	74
	XS2F-M12PVC3A5MPLED	○	○	E207683	74
	XS2F-M12PVC3A10MPLED	○	○	E207683	74
	XS2F-M12PVC3A2MNLED	○	○	E207683	74
	XS2F-M12PVC3A5MNLED	○	○	E207683	74
	XS2F-M12PVC3A10MNLED	○	○	E207683	74
	XS2F-M12PVC4A2MPLED	○	○	E207683	74
	XS2F-M12PVC4A5MPLED	○	○	E207683	74
	XS2F-M12PVC4A10MPLED	○	○	E207683	74

Note: Only products that are certified for standards are listed here.

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			UL	cUL	File No.	
XS5/XS6	Plug on One End	XS2H-D421-AA0-F	○	○	E207683	76
		XS2H-D421-AC0-F	○	○	E207683	76
		XS2H-D421-A80-F	○	○	E207683	76
		XS2H-D421-CA0-F	○	○	E207683	76
		XS2H-D421-CC0-F	○	○	E207683	76
		XS2H-D421-C80-F	○	○	E207683	76
		XS2H-A421-AB0-F	○	○	E207683	76
		XS2H-A421-A90-F	○	○	E207683	76
		XS2H-A421-CB0-F	○	○	E207683	76
XS5	Crimping Plug Assemblies	XS2H-A421-C90-F	○	○	E207683	76
		XS2G-D4C1	○	○	E207683	79
		XS2G-D4C3	○	○	E207683	79
		XS2G-D4C5	○	○	E207683	79
		XS2G-A4C1	○	○	E207683	79
		XS2G-A4C3	○	○	E207683	79
XS2	Soldering Plug Assemblies	XS2G-A4C5	○	○	E207683	79
		XS2G-D421	○	○	E207683	79
		XS2G-D422	○	○	E207683	79
		XS2G-D423	○	○	E207683	79
		XS2G-D424	○	○	E207683	79
		XS2G-D425	○	○	E207683	79
		XS2G-D426	○	○	E207683	79
		XS2G-A421	○	○	E207683	79
		XS2G-A423	○	○	E207683	79
XS3	Crimping Socket Assemblies	XS2G-A425	○	○	E207683	79
		XS2C-D4C1	○	○	E207683	80
		XS2C-D4C2	○	○	E207683	80
		XS2C-D4C3	○	○	E207683	80
		XS2C-D4C4	○	○	E207683	80
		XS2C-D4C5	○	○	E207683	80
		XS2C-D4C6	○	○	E207683	80
		XS2C-A4C1	○	○	E207683	80
		XS2C-A4C2	○	○	E207683	80
		XS2C-A4C3	○	○	E207683	80
		XS2C-A4C4	○	○	E207683	80
		XS2C-A4C5	○	○	E207683	80
XS2	Soldering Socket Assemblies	XS2C-A4C6	○	○	E207683	80
		XS2C-D421	○	○	E207683	80
		XS2C-D422	○	○	E207683	80
		XS2C-D423	○	○	E207683	80
		XS2C-D424	○	○	E207683	80
		XS2C-D425	○	○	E207683	80
		XS2C-D426	○	○	E207683	80
		XS2C-A421	○	○	E207683	80
		XS2C-A422	○	○	E207683	80
		XS2C-A423	○	○	E207683	80
		XS2C-A424	○	○	E207683	80
		XS2C-A425	○	○	E207683	80
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		XS2R-D426-B11-F	○	○	E207683	84
		XS2R-D426-C11-F	○	○	E207683	84
		XS2R-D426-D11-F	○	○	E207683	84
		XS2R-D426-E11-F	○	○	E207683	84
		XS2R-D426-D10-F	○	○	E207683	84
		XS2R-D426-G10-F	○	○	E207683	84
		XS2R-D426-1	○	○	E207683	84
		XS2R-D426-5	○	○	E207683	84
		XS2R-D426-81	○	○	E207683	84
		XS2R-D426-82	○	○	E207683	84

Note: Only products that are certified for standards are listed here.

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XS5 M12 Connectors (Smartclick)

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Plug on One End and Socket on Other End	XS5W-D421-C81-F	○	○	E207683	35
	XS5W-D421-D81-F	○	○	E207683	35
	XS5W-D421-E81-F	○	○	E207683	35
	XS5W-D421-G81-F	○	○	E207683	35
	XS5W-D421-J81-F	○	○	E207683	35
	XS5W-D422-D81-F	○	○	E207683	35
	XS5W-D422-G81-F	○	○	E207683	35
	XS5W-D423-D81-F	○	○	E207683	35
	XS5W-D423-G81-F	○	○	E207683	35
	XS5W-D424-D81-F	○	○	E207683	35
	XS5W-D424-G81-F	○	○	E207683	35
Socket on One End	XS5F-D421-C80-F	○	○	E207683	36
	XS5F-D421-D80-F	○	○	E207683	36
	XS5F-D421-E80-F	○	○	E207683	36
	XS5F-D421-G80-F	○	○	E207683	36
	XS5F-D421-J80-F	○	○	E207683	36
	XS5F-D422-C80-F	○	○	E207683	36
	XS5F-D422-D80-F	○	○	E207683	36
	XS5F-D422-E80-F	○	○	E207683	36
	XS5F-D422-G80-F	○	○	E207683	36
	XS5F-D422-J80-F	○	○	E207683	36
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	XS5H-D421-C80-F	○	○	E207683	37
	XS5H-D421-D80-F	○	○	E207683	37
	XS5H-D421-G80-F	○	○	E207683	37
	XS5H-D422-A80-F	○	○	E207683	37
	XS5H-D422-C80-F	○	○	E207683	37
	XS5H-D422-D80-F	○	○	E207683	37
	XS5H-D422-G80-F	○	○	E207683	37
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	XS5G-D4C3	○	○	E207683	40
	XS5G-D4C5	○	○	E207683	40
Soldering Plug Assemblies	XS5G-D421	○	○	E207683	40
	XS5G-D422	○	○	E207683	40
	XS5G-D423	○	○	E207683	40
	XS5G-D424	○	○	E207683	40
	XS5G-D425	○	○	E207683	40
	XS5G-D426	○	○	E207683	40
Screw-on Plug Assemblies	XS5G-D4S1	○	○	E207683	40
	XS5G-D4S2	○	○	E207683	40
	XS5G-D4S3	○	○	E207683	40
	XS5G-D4S4	○	○	E207683	40
	XS5G-D4S5	○	○	E207683	40
	XS5G-D4S6	○	○	E207683	40
	XS5G-D4S7	○	○	E207683	40
	XS5G-D4S9	○	○	E207683	40
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	XS5C-D4C2	○	○	E207683	43
	XS5C-D4C3	○	○	E207683	43
	XS5C-D4C4	○	○	E207683	43
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	XS5C-D423	○	○	E207683	43
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	XS5C-D425	○	○	E207683	43
	XS5C-D426	○	○	E207683	43

Note: Only products that are certified for standards are listed here.

Industrial
Ethernet
Connectors

XS5/XS6

Sensor I/O
Connector

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XS2

XW3B

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		XS5C-D4S2	○	○	E207683	43
		XS5C-D4S3	○	○	E207683	43
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		XS5C-D4S7	○	○	E207683	43
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		XS5R-D426-C11-F	○	○	E207683	45
		XS5R-D426-D11-F	○	○	E207683	45
		XS5R-D426-E11-F	○	○	E207683	45
		XS5R-D426-D10-F	○	○	E207683	45
		XS5R-D426-G10-F	○	○	E207683	45
		XS5R-D426-1	○	○	E207683	45
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Note: Only products that are certified for standards are listed here.

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			UL	cUL	File No.	
XN2	Cable with Plug on One End (M12 Straight)	XS5H-T421-BM0-K	○	○	E207683	21
		XS5H-T421-CM0-K	○	○	E207683	21
		XS5H-T421-DM0-K	○	○	E207683	21
		XS5H-T421-EM0-K	○	○	E207683	21
		XS5H-T421-GM0-K	○	○	E207683	21
		XS5H-T421-JM0-K	○	○	E207683	21
		XS5H-T421-KM0-K	○	○	E207683	21
DeviceNet Peripherals	Cable with Plug on One End and Socket on Other End (M12 Straight/RJ45)	XS5W-T421-BME-K	○	○	E207683	21
		XS5W-T421-CME-K	○	○	E207683	21
		XS5W-T421-DME-K	○	○	E207683	21
		XS5W-T421-EME-K	○	○	E207683	21
		XS5W-T421-GME-K	○	○	E207683	21
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		XS5W-T421-KME-K	○	○	E207683	21
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Note: Only products that are certified for standards are listed here.

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DeviceNet

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		UL	cUL	File No.	
Connectors	XW4G-05C1-H1-D	○	○	E245101	127
	XW4B-05C1-H1-D	○	○	E245101	127
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Sealed Connector with Terminating Resistor	DRS2-1	○		E207683	136
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	DCA1-5CN02W1	○		E207683	136
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	DCA1-5CN01F1	○		E207683	136
	DCA1-5CN02F1	○		E207683	136
	DCA1-5CN03F1	○		E207683	136
	DCA1-5CN05F1	○		E207683	136
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Note: Only products that are certified for standards are listed here.

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