

**NEW**

**OMRON**

## Waterproof Sensor I/O Connectors

XS5  Smartclick

## Connector Terminal Boxes

XW3D  Smartclick

Simple Twist-and-Click Connection  
Reduces Installation Work  
Meet the Next-generation  
M12  Smartclick Connector!



**NEW**  
XS5M

**NEW**  
XS5P

XW3D

XS5R

XS5

# The simple, Smartclick XS5 Connector is completely compatible with conventional screw-type M12 connectors.

Patent Pending

A simple twist is all it takes to connect the Smartclick XS5, making it an ideal next-generation M12 connector. It's also easy to introduce to existing facilities because it takes only 1/4 the time of ordinary wiring processes, and it's compatible with other conventional, screw-type connectors.

# XS5

## The Smartclick connector solves the problems of previous screw-type connectors.

1

**Problem** It's difficult screwing the connectors together.

**Solution** It's a twist-and-click connection.

An innovative new locking mechanism makes connection extremely simple. The lock mechanism is internal, so it will not become jammed by sputtered fluids or dust. Also, the use of a movable lock bolt allows the Smartclick XS5 to connect to a screw-type M12 connector.

All combinations are connectable.

	XS5 Smartclick Plug Connector	M12 plug connector
XS5 Smartclick Socket Connector	Twist-and-click connection	Screw connection
M12 socket connector	Screw connection	Screw connection

2

**Problem** There's nothing to tell you that it's connected.

**Solution** The Smartclick XS5 "clicks" to tell you it's connected.

An audible "click" and tactile response tells you that the Connector is securely locked.



3

**Problem** It's difficult to know how much torque is required.

**Solution** Locking is done with approximately 1/8th of a turn.

The Smartclick XS5 has the industry's shortest locking rotation of 1/8th of a turn. There's no need to keep track of locking torque, and this greatly reduces time and effort when wiring.

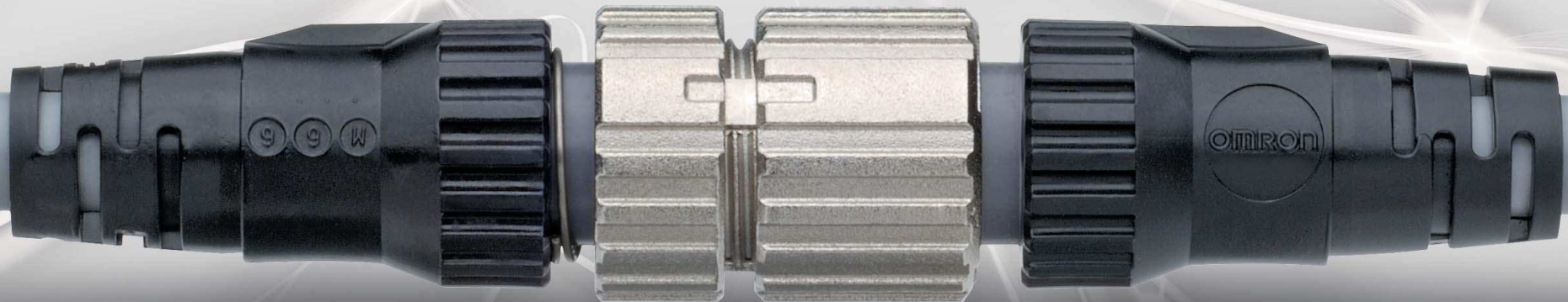
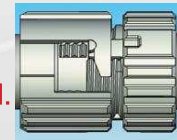


4

**Problem** The connection sometimes vibrates loose.

**Solution** A bayonet locking mechanism is used.

By using a bayonet locking mechanism, the Smartclick XS5 eliminates any concerns about loosening.



## M12 Smartclick Connectors That Reduce Installation Work

- A newly developed locking mechanism that is compatible with other M12 connectors.
- Simply insert the Connectors, then turn them approximately 1/8 of a turn to lock.
- An audible and tactile click indicates locking.
- Degree of protection : IP67 (IEC60529).
- UL approval pending.



 Smartclick

## 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	100 N/15 s (for cable diameter of 6 mm)
Lock operating force	0.1 N-m to 0.25 N-m
Ambient operating temperature range	-25 to 70°C

## Materials and Finish

Item	Model	XS5F/H/W/R	XS5M/P
Contacts		Phosphor bronze/nickel base, 0.4-μm gold plating	
Fixtures		Nickel-plated zinc alloy	
Pin block		PBT resin (UL94V-0)	
Cover		Polyester elastomer (UL94V-0)	---
Seal resin		---	Epoxy resin (UL94V-0)
O-ring		Rubber	
Cable	Standard cable	UL AWM2464, 6-mm dia. 4 cores × AWG20 (0.12/49)	---
	Vibration-proof robot cable	UL AWM2464, 6-mm dia. 4 cores × AWG20 (0.08/110)	---
	Oil-resistant polyurethane cable	6 dia. 4 cores × 0.5 mm <sup>2</sup> (0.12/45)	---
Power supply wires		---	UL1007 AWG20

## Connection Combinations

OMRON Model No.		Smartclick Plug Connectors	M12 Plug Connectors
		XS5H, XS5W (plug side), XS5R (plug side), XS5M	XS2H, XS2G, XS2W (plug side), XS2R (plug side), XS2M
Smartclick Socket Connectors	XS5F, 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 Smartclick twisting.  
○: Connected by screwing.



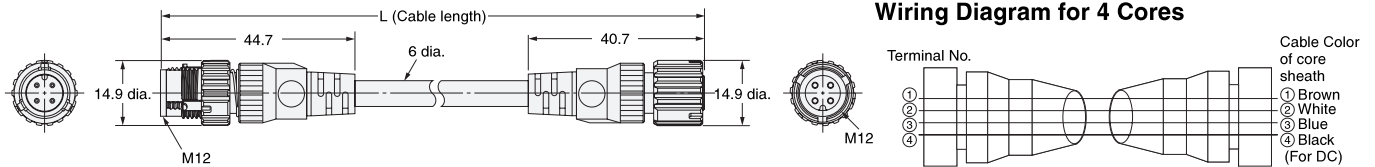
# XS5W

Connectors Connected to Cable, Socket and Plug on Cable Ends

<ul style="list-style-type: none"> <li>● XS5W-D421-□81-A</li> <li>● XS5W-D421-□81-F</li> <li>● XS5W-D421-□81-P</li> </ul>	<p><b>Standard Cable</b></p> <p><b>Vibration-proof Robot Cable</b></p> <p><b>Oil-resistant Polyurethane Cable</b></p>
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## Dimensions

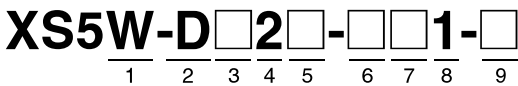
(Unit: mm)



**Note:** The cover of the Standard Cable (XS5W-D421-□81-A) and the Oil-resistant Polyurethane Cable (XS5W-D421-□81-P) is black, and the cover of the Vibration-proof Robot Cable (XS5W-D421-□81-F) is warm gray.

## Part 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*.



### 1. Type

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

### 2. AC/DC (Mating Section Form)

D: DC

### 3. Connector Poles

4: 4 poles

### 4. Contact Plating

2: 0.4-μm gold plating

### 5. Cable Connection Directions

1: Straight/straight

### 6. Cable Length

A: 0.3 m    E: 3 m    J: 10 m  
 B: 0.5 m    F: 4 m    K: 15 m  
 C: 1 m    G: 5 m    L: 20 m  
 D: 2 m    H: 7 m

### 7. Connections

8: ① Brown, ② White, ③ Blue, ④ Black  
 (Numbers inside circles are terminal numbers.)

### 8. Connectors on One End/Both Ends

1: Both ends

### 9. Cable Specifications

A: Standard cable  
 F: Vibration-proof robot cable  
 P: Oil-resistant polyurethane cable

## Ordering Information

Cable type	Cable connection direction	No. of cable cores	Cable length (m)	Model	Minimum order
Standard cable	Straight	4	1	XS5W-D421-C81-A	10
			2	XS5W-D421-D81-A	
			3	XS5W-D421-E81-A	
			5	XS5W-D421-G81-A	
			10	XS5W-D421-J81-A	
Vibration-proof robot cable			1	XS5W-D421-C81-F	10
			2	XS5W-D421-D81-F	
			3	XS5W-D421-E81-F	
			5	XS5W-D421-G81-F	
			10	XS5W-D421-J81-F	
Oil-resistant polyurethane cable	2	XS5W-D421-D81-P	10		
	5	XS5W-D421-G81-P			
	10	XS5W-D421-J81-P			

**Note:** Ask your OMRON representative about other models and additional data.

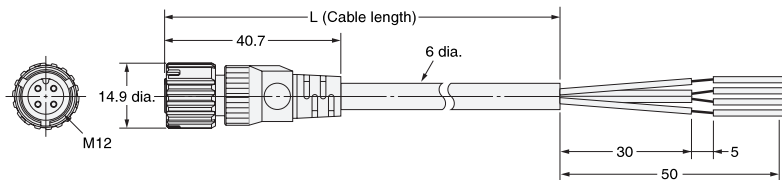
# XS5F Connector Connected to Cable, Socket on One Cable End

- XS5F-D421-□80-A
- XS5F-D421-□80-F
- XS5F-D421-□80-P

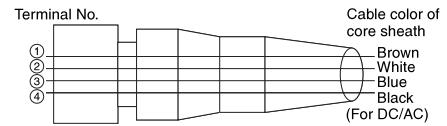
- Standard Cable
- Vibration-proof Robot Cable
- Oil-resistant Polyurethane Cable

## Dimensions

(Unit: mm)



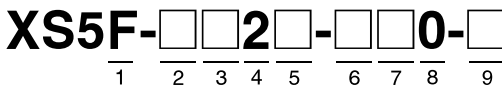
### Wiring Diagram for 4 Cores



**Note:** The cover of the Standard Cable (XS5F-D421-□81-A) and the Oil-resistant Polyurethane Cable (XS5F-D421-□81-P) is black, and the cover of the Vibration-proof Robot Cable (XS5F-D421-□81-F) is warm gray.

## Part 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*.



### 1. Type

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

### 2. AC/DC (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

### 6. Cable Length

- |          |        |         |
|----------|--------|---------|
| A: 0.3 m | E: 3 m | J: 10 m |
| B: 0.5 m | F: 4 m | K: 15 m |
| C: 1 m   | G: 5 m | L: 20 m |
| D: 2 m   | H: 7 m |         |

### 7. Connections

8: ① Brown, ② White, ③ Blue, ④ Black  
(Numbers inside circles are terminal numbers.)

### 8. Connectors on One End/Both Ends

0: One end

### 9. Cable Specification

- A: Standard cable
- F: Vibration-proof robot cable
- P: Oil-resistant polyurethane cable

## Ordering Information

Cable type	Cable connection direction	No. of cable cores	Cable length (m)	Model	Minimum order
Standard cable	Straight	4	1	XS5F-D421-C80-A	10
			2	XS5F-D421-D80-A	
			3	XS5F-D421-E80-A	
			5	XS5F-D421-G80-A	5
			10	XS5F-D421-J80-A	
Vibration-proof robot cable			1	XS5F-D421-C80-F	10
			2	XS5F-D421-D80-F	
			3	XS5F-D421-E80-F	
			5	XS5F-D421-G80-F	5
			10	XS5F-D421-J80-F	
Oil-resistant polyurethane cable	2	XS5F-D421-D80-P	10		
	5	XS5F-D421-G80-P	5		
	10	XS5F-D421-J80-P			

**Note:** Ask your OMRON representative about other models and additional data.

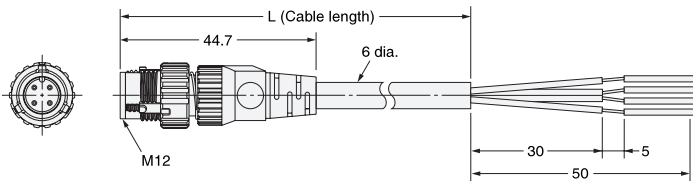


# XS5H Connector Connected to Cable, Plug on One Cable End

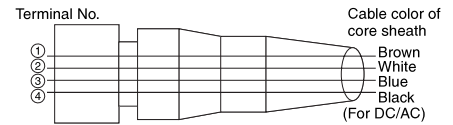
<ul style="list-style-type: none"> <li>● XS5H-D421-□80-A</li> <li>● XS5H-D421-□80-F</li> <li>● XS5H-D421-□80-P</li> </ul>	<p><b>Standard Cable</b></p> <p><b>Vibration-proof Robot Cable</b></p> <p><b>Oil-resistant Polyurethane Cable</b></p>
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## Dimensions

(Unit: mm)



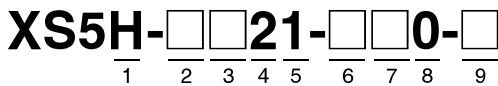
Wiring Diagram for 4 Cores



**Note:** The cover of the Standard Cable (XS5H-D421-□81-A) and the Oil-resistant Polyurethane Cable (XS5H-D421-□81-P) is black, and the cover of the Vibration-proof Robot Cable (XS5H-D421-□81-F) is warm gray.

## Part 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*.



### 1. Type

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

### 2. AC/DC (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

### 6. Cable Length

A: 0.3 m    E: 3 m    J: 10 m  
 B: 0.5 m    F: 4 m    K: 15 m  
 C: 1 m      G: 5 m    L: 20 m  
 D: 2 m      H: 7 m

### 7. Connections

8: ① Brown, ② White, ③ Blue, ④ Black  
 (Numbers inside circles are terminal numbers)

### 8. Connectors on One End/Both Ends

0: One end

### 9. Cable Specifications

A: Standard cable  
 F: Vibration-proof robot cable  
 P: Oil-resistant polyurethane cable

## Ordering Information

Cable type	Cable connection direction	No. of cable cores	Cable length (m)	Model	Minimum order
Standard cable	Straight	4	0.3	XS5H-D421-A80-A	10
			1	XS5H-D421-C80-A	
			2	XS5H-D421-D80-A	
			5	XS5H-D421-G80-A	
Vibration-proof robot cable			0.3	XS5H-D421-A80-F	10
			1	XS5H-D421-C80-F	
			2	XS5H-D421-D80-F	
Oil-resistant polyurethane cable			5	XS5H-D421-G80-F	5
	0.3	XS5H-D421-A80-P	10		
	2	XS5H-D421-D80-P			
5	XS5H-D421-G80-P	5			

**Note:** Ask your OMRON representative about other models and additional data.

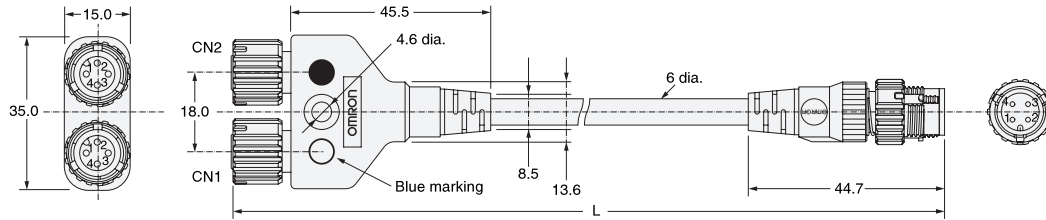
# XS5R Y-Joint Plug/Socket Connectors

## Dimensions

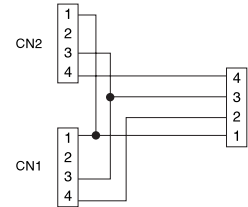
(Unit: mm)

### XS5R-D426-□11-F

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

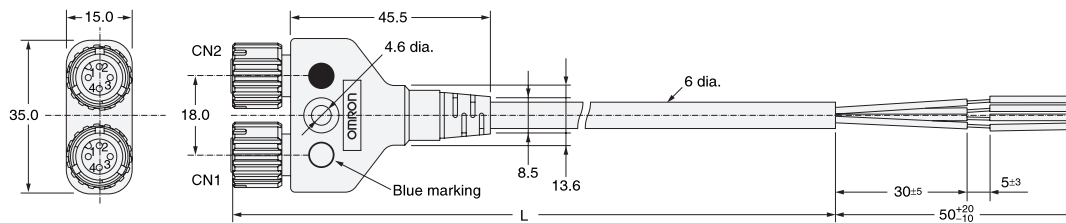


### Wiring Diagram

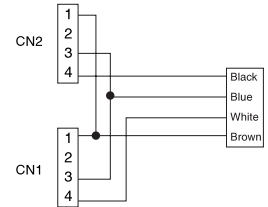


### XS5R-D426-□10-F

Connectors on One Cable End (Y-Joint Socket)

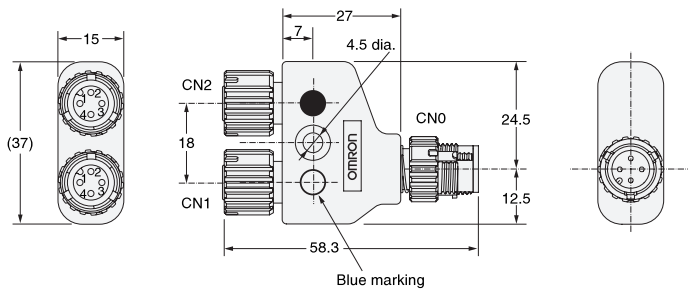


### Wiring Diagram



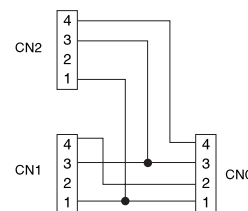
### XS5R-D426-□

Y-Joint Plug/Socket without Cable

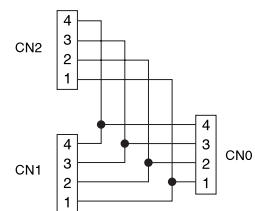


### Wiring Diagram

#### 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	5
		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	XS5R-D426-G10-F	
With no cable	Y-Joint Plug/Socket	---	XS5R-D426-1	10
			XS5R-D426-5 To Be Released Soon	

**Note:** 1. Ask your OMRON representative about other models and additional data.

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

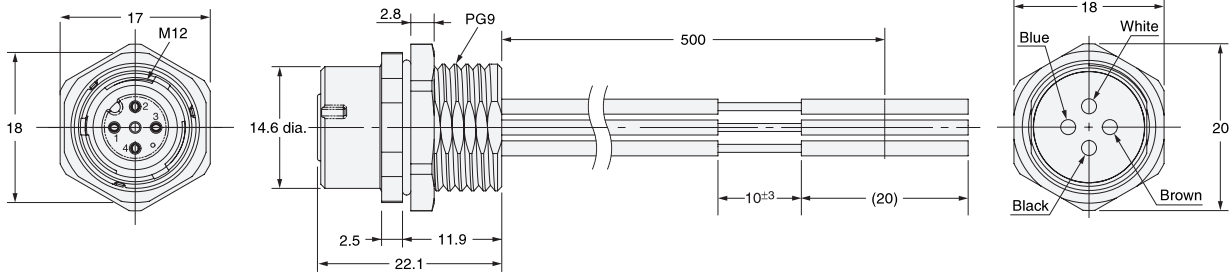
# XS5P NEW Panel-mounting Sockets

## Dimensions

(Unit: mm)

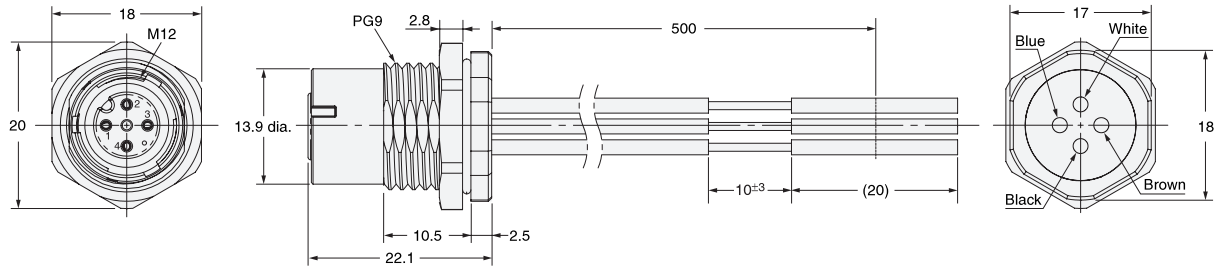
### XS5P-D426-5

#### Panel-mounting Sockets with Rear Locks

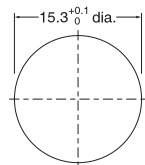


### XS5P-D427-5

#### Panel-mounting Sockets with Front Locks



## 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.

## Wiring and Wire Specifications

### 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

## Ordering Information

Type	Lock	Cable length (m)	Model	Minimum order
With cable	Rear lock	0.5	XS5P-D426-5	10
	Front lock		XS5P-D427-5 <span style="border: 1px solid black; padding: 2px;">To Be Released Soon</span>	



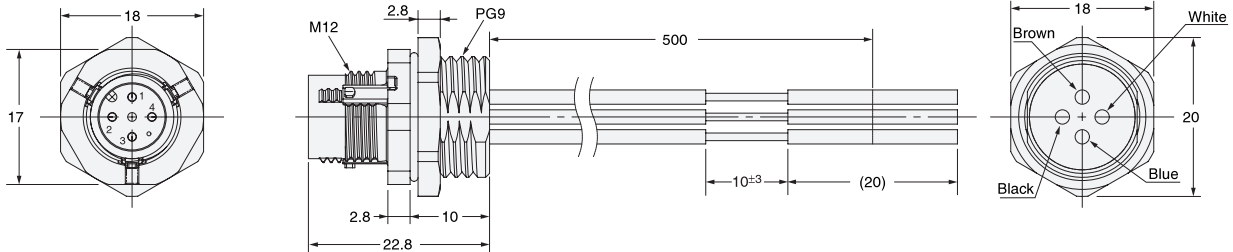
# XS5M NEW Panel-mounting Plugs

## Dimensions

(Unit: mm)

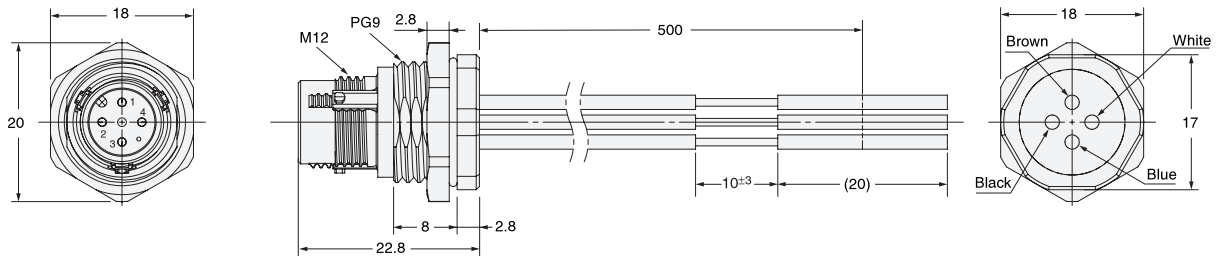
### XS5M-D426-5

#### Panel-mounting Plugs with Rear Locks

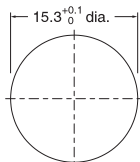


### XS5M-D427-5

#### Panel-mounting Plugs with Front Locks



## Panel Cutout



Panel Cutout Dimension  
Panel thickness = 1 to 4 mm

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

## Wiring and Wire Specifications

### 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

## Ordering Information

Type	Lock	Cable length (m)	Model	Minimum order
With cable	Rear lock	0.5	XS5M-D426-5	10
	Front lock		XS5M-D427-5 <span style="border: 1px solid black; padding: 2px;">To Be Released Soon</span>	

## 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.

## 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 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.
- When joining 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

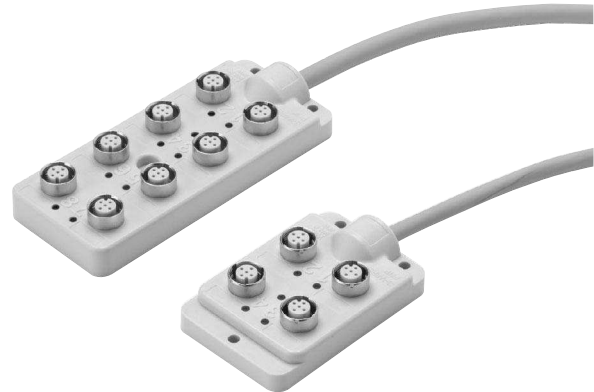
- The degree of protection of Connectors (IP67) is not for a fully watertight structure. Do not the Connectors underwater.
- Do not step on or place any objects on the Connectors. Doing so may damage the Connectors.

# Connector Terminal Boxes

# XW3D

## Simple Wiring of Sensor Actuators

- Greatly reduces wiring work in combination with the XS5 Smartclick.
- Insert the connector and turn 1/8 of a turn to lock the connectors.
- Higher rated current to enable output applications.
- Compatible with other M12 screw connectors.
- Degree of protection : IP67 (IEC60529)



## Ratings and 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 min.
Lock strength	Tensile: 100 N/15 s, Torsion: 1 N·m/15 s
Cable holding strength	100 N/15 s
Lock operating force	0.1 N·m to 0.25 N·m
Ambient operating temperature range	-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-0), 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, XS5W (plug end), XS5R (plug end)	XS2H, XS2G, XS2W (plug end), XS2R (plug end)
Connector Terminal Box	XW3D	⊗	○

⊗: Connected by Smartclick twisting.  
○: 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	Model	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)

XS2Z-22



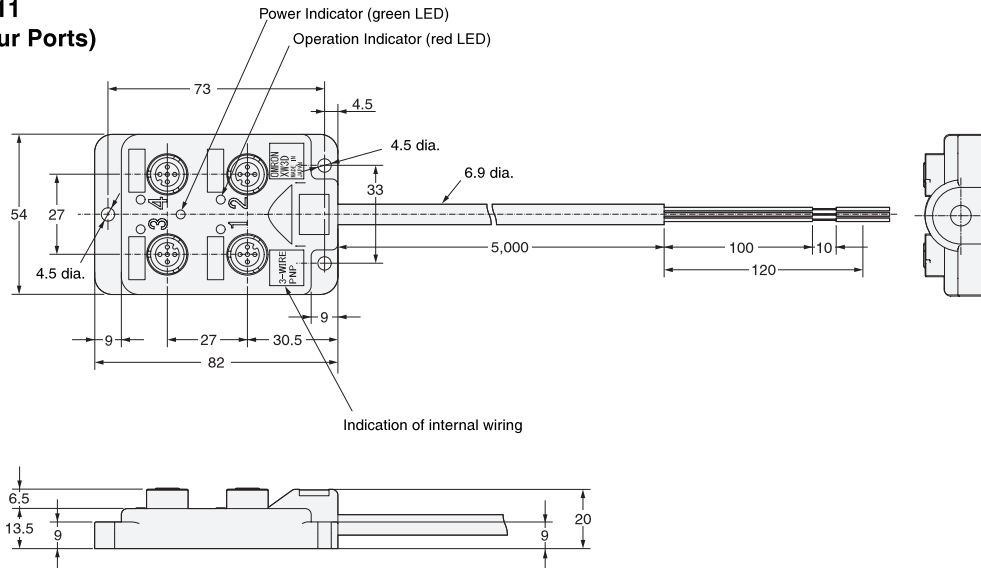
Model	No. per box	Material
XS2Z-22	50	Brass with Ni plating

**Note:** 1. The XW3D/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-12 connection is threaded.

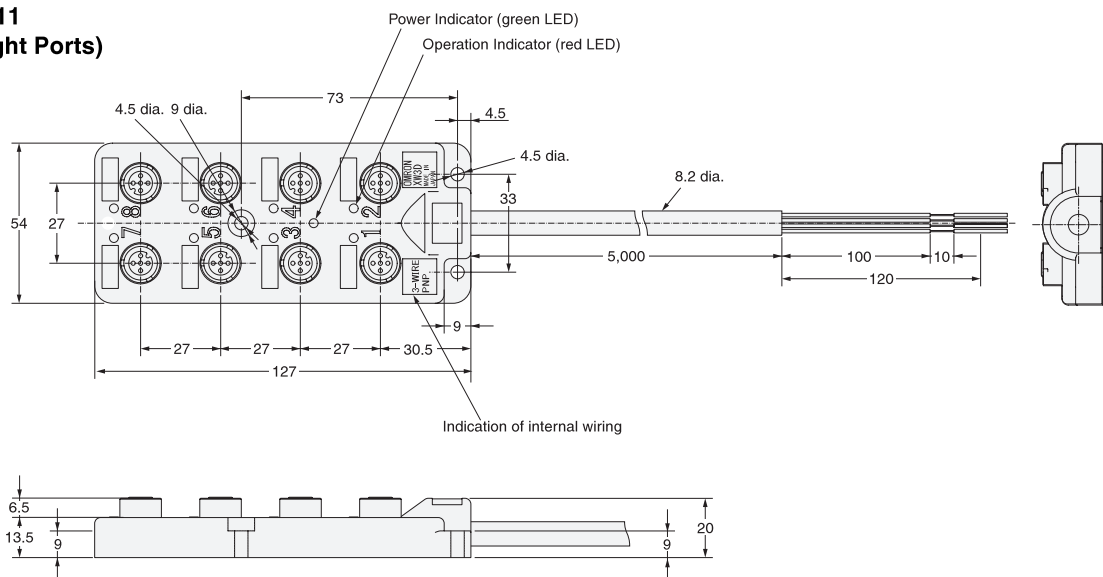
## Dimensions

(Unit : mm)

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

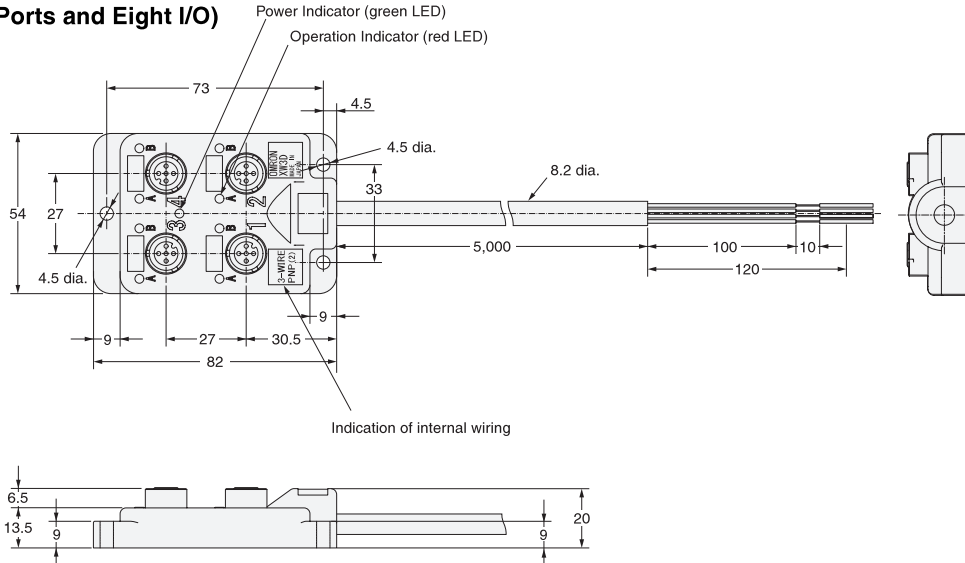


### XW3D-P85□-G11 (Model with Eight Ports)



## XW3D-P457-G11

(Model with Four Ports and Eight I/O)



## Wiring Diagrams

### Models with One I/O and One Port

#### NPN Sensor Specifications

XW3D-P□55-□11

for 3-Wire DC NPN,  
2-Wire DC (Without polarity 3-4), and  
Actuator (1-4)

#### 2-Wire Sensor Specifications

XW3D-P□52-□11

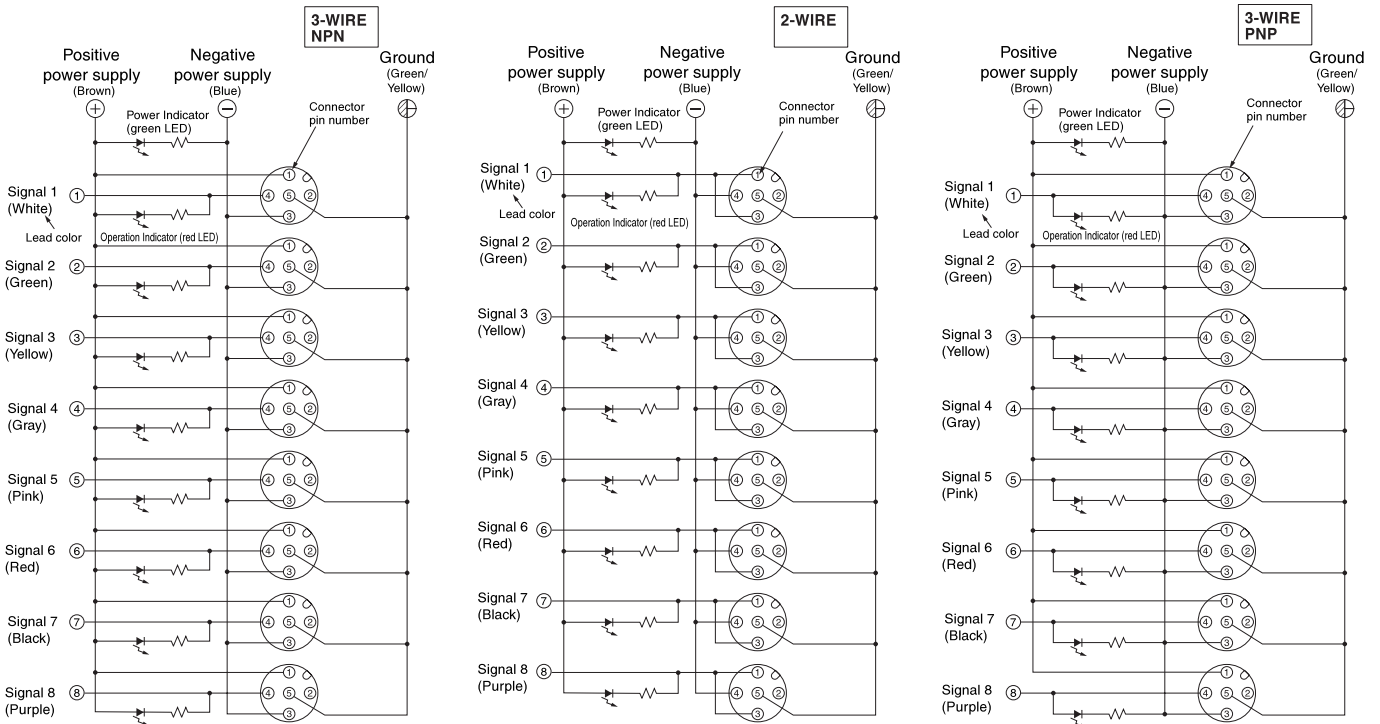
for 2-Wire DC (polarity 1-4, without  
polarity 3-4)

**Note:** Cannot be used with NPN-type  
Photoelectric and Proximity Sensors.  
Cannot be used with Proximity Sensors  
with polarity 3-4.

#### PNP Sensor Specifications

XW3D-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.

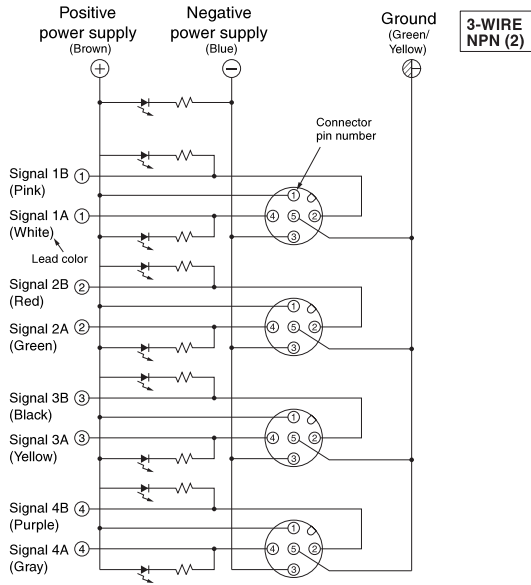
4. Here, "1-4" and "3-4" are pin numbers.

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

**Models with Two I/O and One Port**

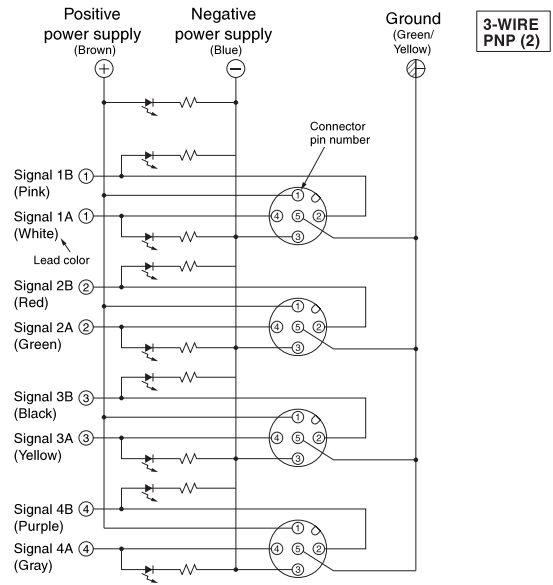
**XW3D-P458-G11**

**for 3-Wire DC NPN and Actuator (1-4 or 1-2)**



**XW3D-P457-G11**

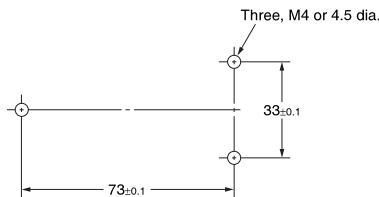
**for 3-Wire PNP and Actuator (3-4 or 3-2)**



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

**Mounting Dimensions**

(Unit: mm)



**Note:** Mounting dimensions are the same for any models.

**Safety Precautions**

**Precautions for Correct Use**

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

**Connector Connection and Disconnection**

- Join the connectors according to the procedure given on page 11.
- 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.
- When joining 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.




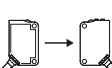
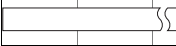
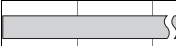

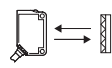


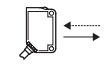


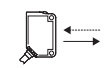
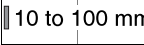
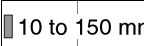
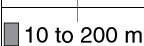
XS5-Smartclick compatible Products

Photoelectric Sensors

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

E3ZM-C

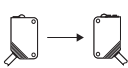

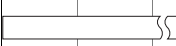
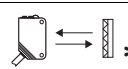
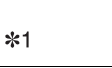

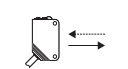

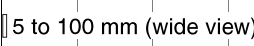

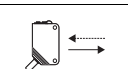

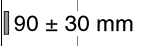
 Orange light  Red light  Infrared light

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

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

Compact Photoelectric Sensor (Built-in Amplifier)

E3Z


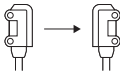



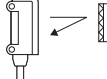

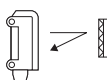



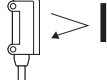


Sensing method	Appearance		Sensing distance	Model	
				NPN output	PNP output
Through-beam			 15 m	E3Z-T61-M1TJ	E3Z-T81-M1TJ
Retro-reflective with MSR function		 *1	 4 m *2 [100 mm]	E3Z-R61-M1TJ	E3Z-R81-M1TJ
Diffuse reflective			 5 to 100 mm (wide view)	---	E3Z-D81-M1TJ
			 1 m	E3Z-D62-M1TJ	E3Z-D82-M1TJ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

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

"Mini" Photoelectric Sensor with Built-in Amplifier  
E3T

 Red light


Sensing method	Appearance		Sensing distance	Operating mode	Model	
					NPN output	PNP output
Through-beam		Side-view 	1 m	Light-ON	E3T-ST11-M1TJ	E3T-ST13-M1TJ
				Dark-ON	E3T-ST12-M1TJ	E3T-ST14-M1TJ
			300 mm	Light-ON	E3T-ST21-M1TJ	E3T-ST23-M1TJ
				Dark-ON	E3T-ST22-M1TJ	E3T-ST24-M1TJ
		Flat 	500 mm	Light-ON	E3T-FT11-M1TJ	E3T-FT13-M1TJ
				Dark-ON	E3T-FT12-M1TJ	E3T-FT14-M1TJ
			300 mm	Light-ON	E3T-FT21-M1TJ	E3T-FT23-M1TJ
				Dark-ON	E3T-FT22-M1TJ	E3T-FT24-M1TJ
Retro-reflective		Side-view 	200 mm [10 mm] *	Light-ON	E3T-SR21-M1TJ	E3T-SR23-M1TJ
				Dark-ON	E3T-SR22-M1TJ	E3T-SR24-M1TJ
		Side-view 	100 mm [10 mm] *	Light-ON	E3T-SR31-M1TJ	E3T-SR33-M1TJ
				Dark-ON	E3T-SR32-M1TJ	E3T-SR34-M1TJ
Diffuse reflective		Flat 	5 to 30 mm	Light-ON	E3T-FD11-M1TJ	E3T-FD13-M1TJ
				Dark-ON	E3T-FD12-M1TJ	E3T-FD14-M1TJ
Convergent reflective		Side-view 	5 to 15 mm	Light-ON	E3T-SL11-M1TJ	E3T-SL13-M1TJ
				Dark-ON	E3T-SL12-M1TJ	E3T-SL14-M1TJ
			5 to 30 mm	Light-ON	E3T-SL21-M1TJ	E3T-SL23-M1TJ
				Dark-ON	E3T-SL22-M1TJ	E3T-SL24-M1TJ
BGS reflective		Flat 	1 to 15 mm	Light-ON	E3T-FL11-M1TJ	E3T-FL13-M1TJ
				Dark-ON	E3T-FL12-M1TJ	E3T-FL14-M1TJ
			1 to 30 mm	Light-ON	E3T-FL21-M1TJ	E3T-FL23-M1TJ
				Dark-ON	E3T-FL22-M1TJ	E3T-FL24-M1TJ

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





## Proximity Sensors

### Proximity Sensors with Oil-resistant Cables (PUR Cables)

Appearance	Sensing distance	Output configuration	Operating mode	Model	
 Shielded	M8	2 mm	2-wire DC with polarity Uses pins 1 and 4	NO	E2E-X2D1-M1TGJ-U
	M12	3 mm			E2E-X3D1-M1TGJ-U
	M18	7 mm			E2E-X7D1-M1TGJ-U
	M30	10 mm			E2E-X10D1-M1TGJ-U
	M8	2 mm	2-wire DC with polarity Uses pins 1 and 2	NC	E2E-X2D2-M1TGJ-U
	M12	3 mm			E2E-X3D2-M1TGJ-U
	M18	7 mm			E2E-X7D2-M1TGJ-U
	M30	10 mm			E2E-X10D2-M1TGJ-U


**Note:** Other models are also available that can be used with the Twist-and-Click Connectors. Ask your OMRON representative for details.

### Standard Proximity Sensor (PVC Cable)

Appearance	Sensing distance	Output configuration	Operating mode	Model	
 Shielded	M8	2 mm	2-wire DC with polarity Uses pins 1 and 4	NO	E2E-X2D1-M1TGJ
	M12	3 mm			E2E-X3D1-M1TGJ
	M18	7 mm			E2E-X7D1-M1TGJ
	M30	10 mm			E2E-X10D1-M1TGJ
 Non-shielded	M12	8 mm	2-wire DC with polarity Uses pins 1 and 4	NO	E2E-X8MD1-M1TGJ
	M18	14 mm			E2E-X14MD1-M1TGJ
	M30	20 mm			E2E-X20MD1-M1TGJ


**Note:** Other models are also available that can be used with the Twist-and-Click Connectors. Ask your OMRON representative for details.

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

Appearance	Sensing distance	Output configuration	Operating mode	Model	
 Shielded	M12	3 mm	2-wire DC with polarity Uses pins 1 and 4	NO	E2EQ-X3D1-M1TGJ
	M18	7 mm			E2EQ-X7D1-M1TGJ
	M30	10 mm			E2EQ-X10D1-M1TGJ
	M12	4 mm	2-wire DC with polarity Uses pins 3 and 4	NO	E2EQ-X4X1-M1TJ
	M18	8 mm			E2EQ-X8X1-M1TJ
	M30	15 mm			E2EQ-X15X1-M1TJ


**Note:** Other models are also available that can be used with the Twist-and-Click Connectors. Ask your OMRON representative for details.

### 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 with polarity Uses pins 1 and 4	NO	E2FM-X1R5D1-M1TGJ
	M12	2 mm			E2FM-X2D1-M1TGJ
	M18	5 mm			E2FM-X5D1-M1TGJ
	M30	10 mm			E2FM-X10D1-M1TGJ


**Note:** Other models are also available that can be used with the Twist-and-Click Connectors. Ask your OMRON representative for details.

**Chip-Immune Inductive Proximity Sensor (PVC Cable)**

Appearance	Sensing distance	Output configuration	Operating mode	Model	
Shielded 	M12	2 mm	2-wire DC with polarity Uses pins 1 and 4	NO	E2EZ-X2D1-M1TGJ
	M18	4 mm			E2EZ-X4D1-M1TGJ
	M30	8 mm			E2EZ-X8D1-M1TGJ
	M12	2 mm	2-wire DC with polarity Uses pins 3 and 4	NO	E2EZ-X2D1-M1TJ
	M18	4 mm			E2EZ-X4D1-M1TJ
	M30	8 mm			E2EZ-X8D1-M1TJ


**Note:** Other models are also available that can be used with the Twist-and-Click Connectors. Ask your OMRON representative for details.

**Proximity Sensors with Pulse Response**

Appearance	Sensing distance	Output configuration	Operating mode	Model	
Shielded 	M12	4 mm	3-wire DC with PNP output Uses pins 1, 4, and 3	NO	E2V-X4B1-M1TJ
	M18	8 mm			E2V-X8B1-M1TJ
	M30	15 mm			E2V-X15B1-M1TJ
	M12	4 mm	3-wire DC with NPN output Uses pins 1, 4, and 3	NO	E2V-X4C1-M1TJ
	M18	8 mm			E2V-X8C1-M1TJ
	M30	15 mm			E2V-X15C1-M1TJ

**Note:** Other models are also available that can be used with the Twist-and-Click Connectors. Ask your OMRON representative for details.

**Cable Amplifier Proximity Sensor**

Appearance	Sensing distance	Output configuration	Operating mode	Model	
Shielded 	3 dia.	0.8 mm	2-wire DC with polarity Uses pins 1 and 4	NO	E2EC-CR8D1-M1TGJ
	5.4 dia.	1.5 mm			E2EC-C1R5D1-M1TGJ
	8 dia.	3 mm			E2EC-C3D1-M1TGJ
	8 dia.	2 mm	2-wire DC without polarity Uses pins 3 and 4	NO	E2EC-QC2D1-M1TGJ-T

**Note:** Other models are also available that can be used with the Twist-and-Click Connectors. Ask your OMRON representative for details.

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. G016-E1-02 **In the interest of product improvement, specifications are subject to change without notice.**

## **OMRON Corporation**

### **Electronic Components Company**

#### **Connector Division**

Sakado 3-2-1, Takatsu-ku, Kawasaki-city,  
Kanagawa, 213-0012 Japan  
Tel: (81)44-812-3432/Fax: (81)44-812-3447

#### **Regional Headquarters**

##### **OMRON EUROPE B.V.**

##### **Sensor Business Unit**

Carl-Benz-Str. 4, D-71154 Nufringen,  
Germany  
Tel: (49)7032-811-0/Fax: (49)7032-811-199

##### **OMRON ELECTRONIC COMPONENTS**

##### **EUROPE B.V.**

##### **Head Office**

Wegalaan 57 2132 JD Hoofddorp  
The Netherlands  
Tel: (31)23-568-1200/Fax: (31)23-568-1222

##### **OMRON ELECTRONICS LLC**

One Commerce Drive Schaumburg,  
IL 60173-5302 U.S.A.

Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

##### **OMRON ASIA PACIFIC PTE. LTD.**

No. 438A Alexandra Road # 05-05/08 (Lobby 2),  
Alexandra Technopark, Singapore 119967  
Tel: (65) 6835-3011/Fax: (65) 6835-2711

##### **OMRON (CHINA) CO., LTD.**

Room 2211, Bank of China Tower,  
200 Yin Cheng Zhong Road,  
Pu Dong New Area, Shanghai, 200120, China  
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200