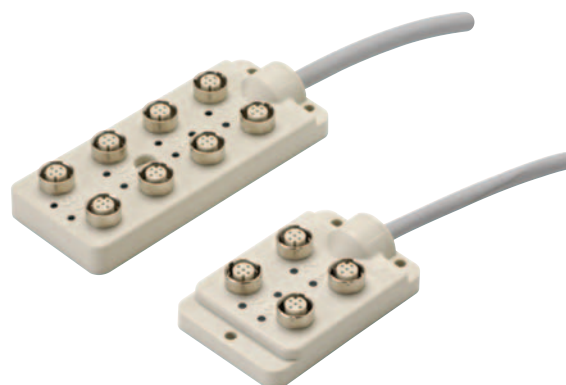


## Simple Wiring of Sensor Actuators

- 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.



## Specifications

<b>Rated current</b>	4 A/port, 12 A/Box (power line)
<b>Rated voltage</b>	10 to 30 VDC
<b>Contact resistance (connector)</b>	40 mΩ max. (20 mV max., 100 mA max.)
<b>Insulation resistance</b>	1,000 MΩ min. (at 500 VDC)
<b>Dielectric strength (connector)</b>	500 VAC for 1 min (leakage current: 1 mA max.)
<b>Degree of protection</b>	IP67 (IEC60529)
<b>Insertion tolerance</b>	50 times min.
<b>Lock strength</b>	Pulling: 100 N/15 s, Twisting: 1 N·m/15 s
<b>Cable holding strength</b>	100 N/15 s
<b>Lock operating force</b>	0.1 to 0.25 N·m
<b>Ambient temperature range</b>	Operating: -25 to 70°C

## Materials and Finish

<b>Item</b>	Materials/finish
<b>Contacts</b>	Brass/nickel base, 0.4-μm gold-plating
<b>Fixtures</b>	Nickel-plated zinc alloy
<b>Case</b>	PBT resin (UL94V-0), light gray
<b>Bushing</b>	Rubber
<b>O-ring</b>	Rubber
<b>PCB</b>	Glass epoxy board
<b>Sealing resin</b>	Urethane resin (UL94V-0)
<b>Cable</b>	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)

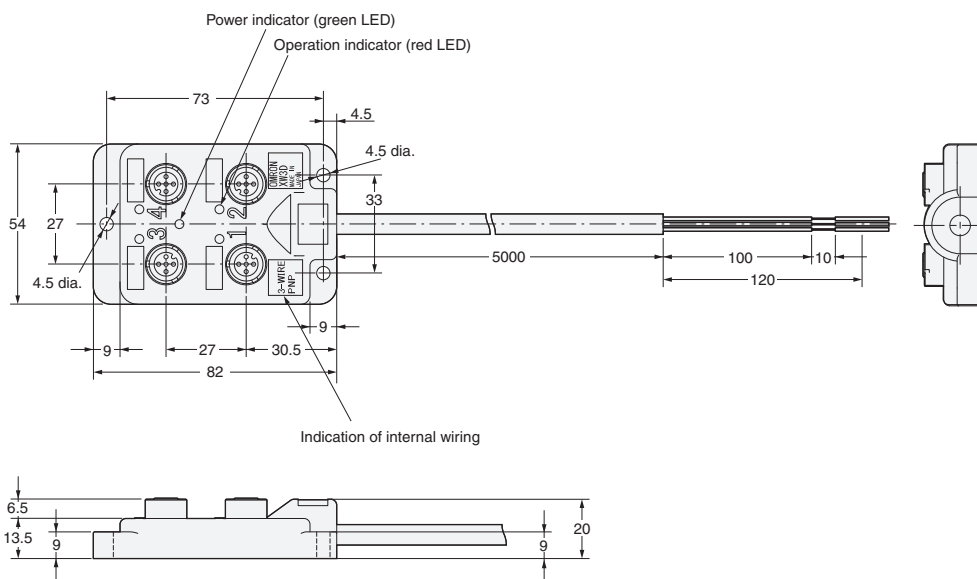
Appearance	Model	No. per box	Material
	XS5Z-11	50	PBT
	XS2Z-22	50	Brass with Ni plating

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.

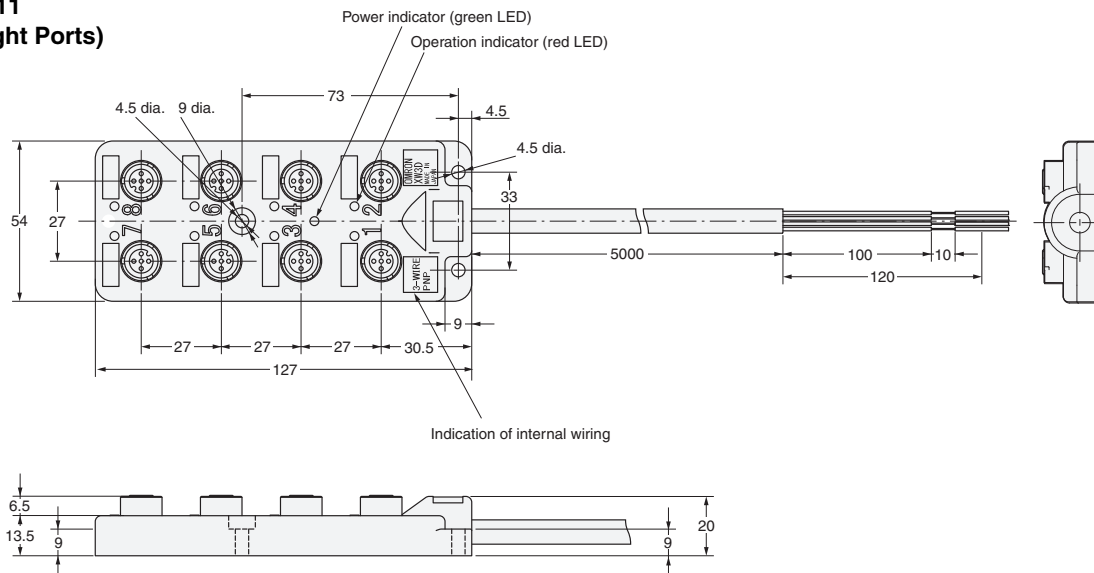
## Dimensions

(Unit: mm)

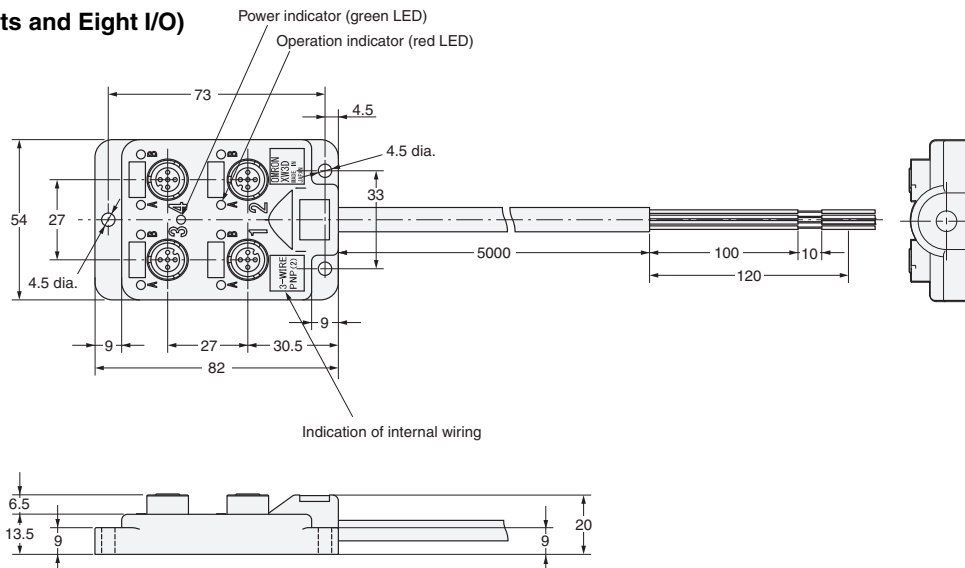
### XW3D-P45□-G11 (Model with Four Ports)



### 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**

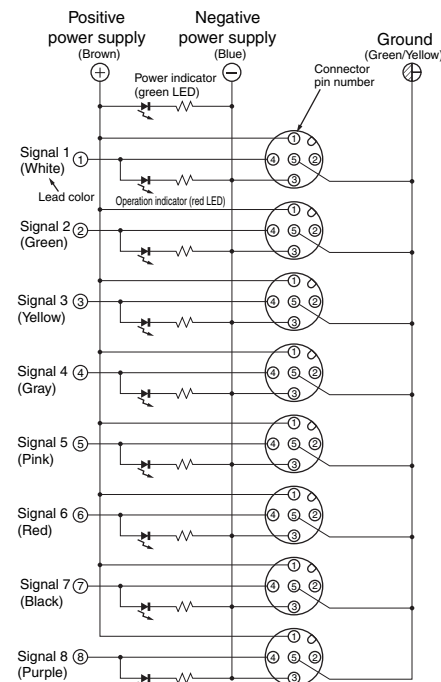
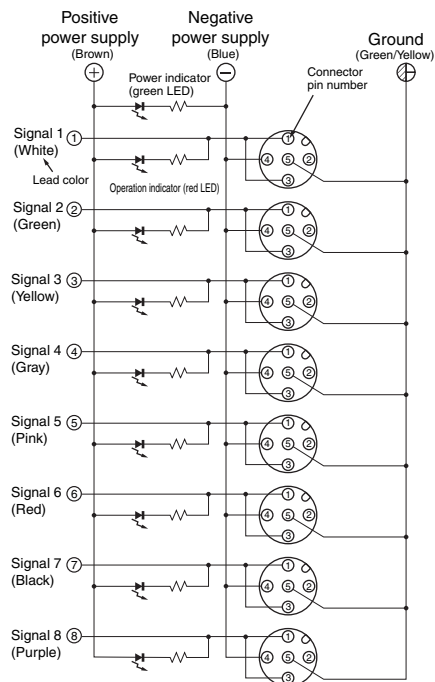
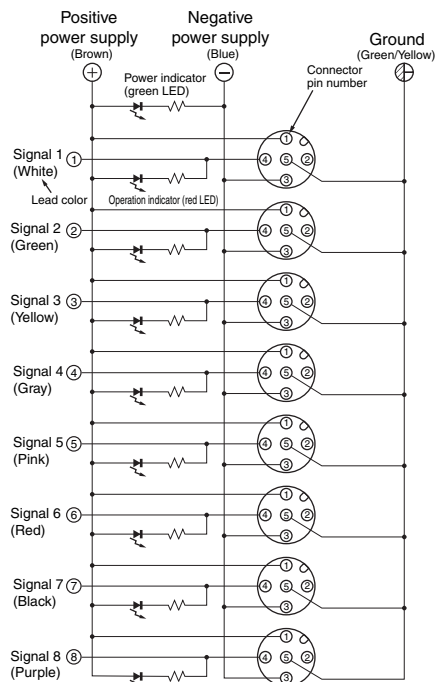
**XW3D-P□52-□11**  
**for 2-wire DC**  
**(polarity 1-4, without polarity 3-4)**

**2-WIRE**

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

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

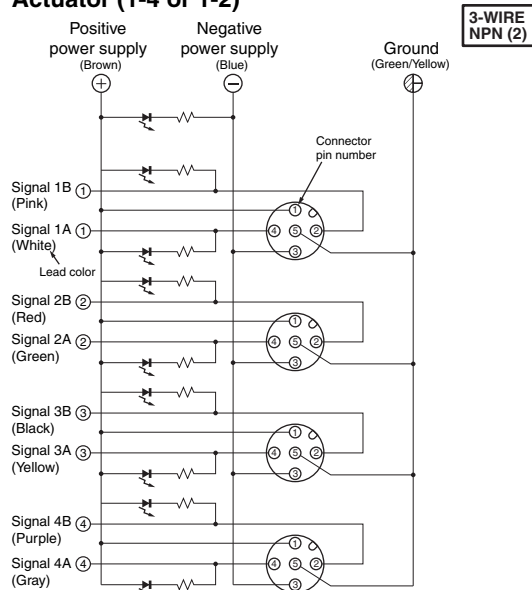
**3-WIRE PNP**



- 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.

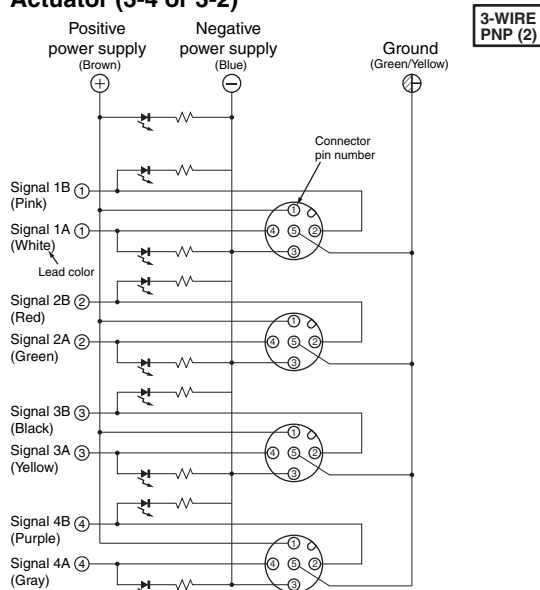
Models with Two I/O and One Port

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



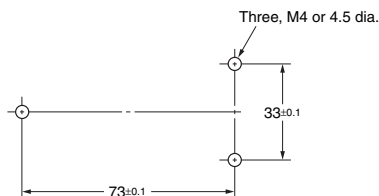
Note: Colors given in the connection diagram are lead colors.

**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.



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