


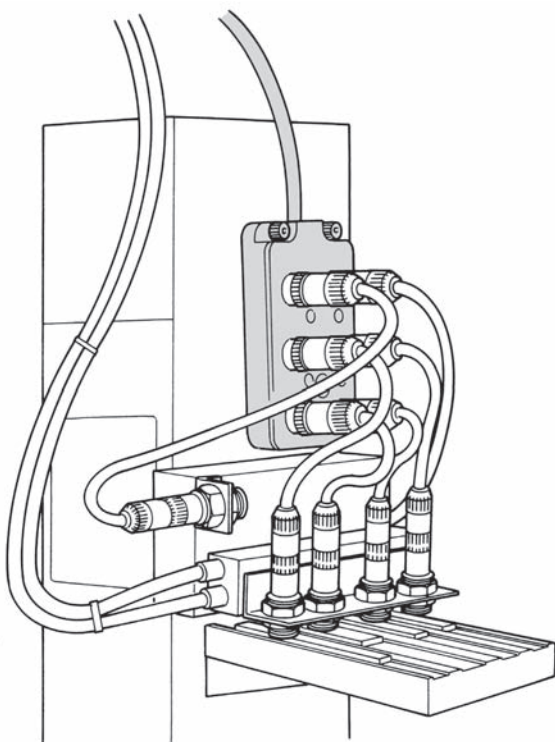
# XW3B

## 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 4.



## Ratings and Specifications

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

\*1.The contact resistance of the Connector.

\*2.The dielectric strength of the Connector.

## Compatible Connectors

<b>XS2G</b>	Connector Plug Assemblies (crimping, soldering, or screw-on)
<b>XS2W</b>	Connectors on cable ends (Sockets or Plugs)
<b>XS2H</b>	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

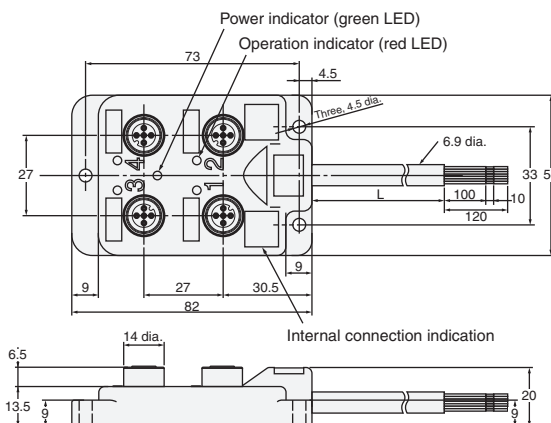
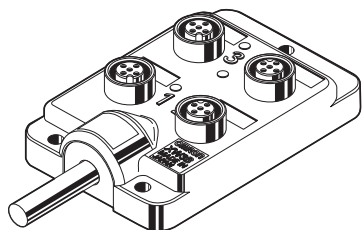
\*The positive power supply, negative power supply, and ground lines are AWG18. Signal lines are AWG22.

# XW3B Connector Terminal Boxes

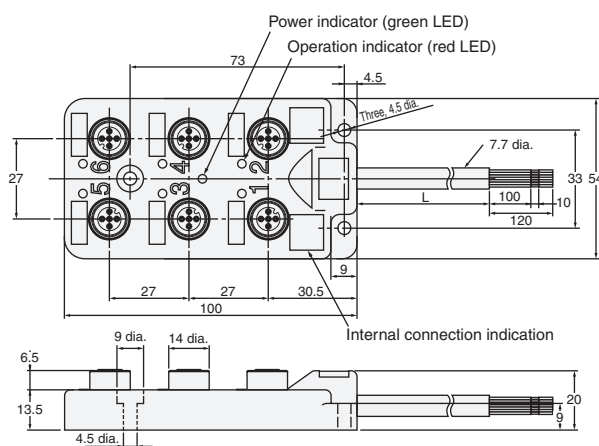
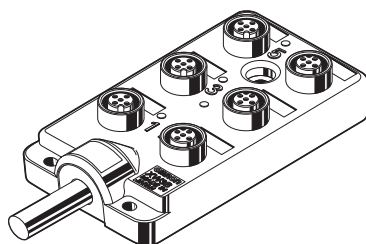
## Dimensions

(Unit: mm)

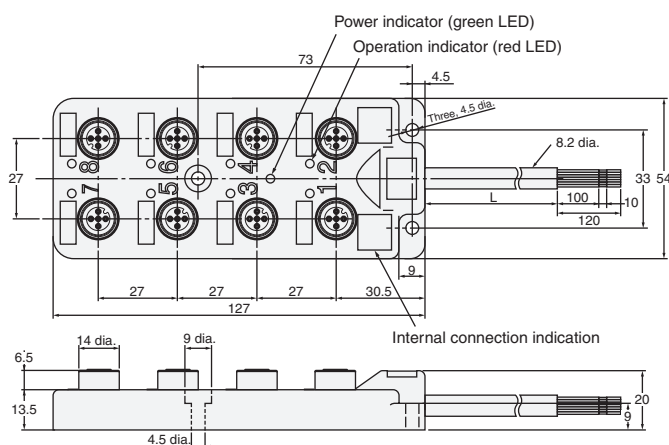
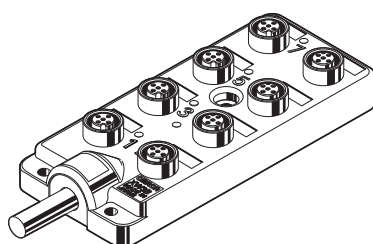
### XW3B-P45□-□11 (Four Input Ports)



### XW3B-P65□-□11 (Six Input Ports)



### XW3B-P85□-□11 (Eight Input Ports)



## Ordering Information

Sensor type and connections		3-wire DC NPN/2-wire ③-④	2-wire DC1-4/without polarity ③-④	3-wire DC PNP/2-wire DC ①-④
Actuator connections		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 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

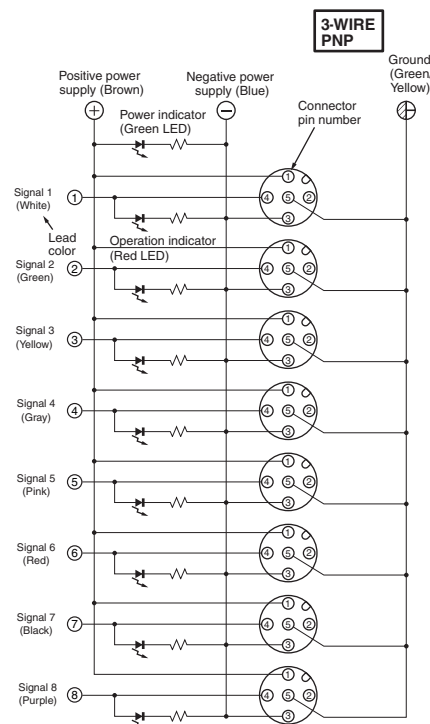
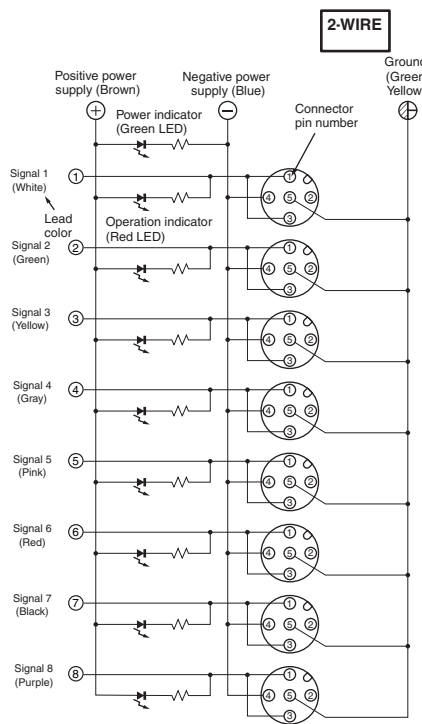
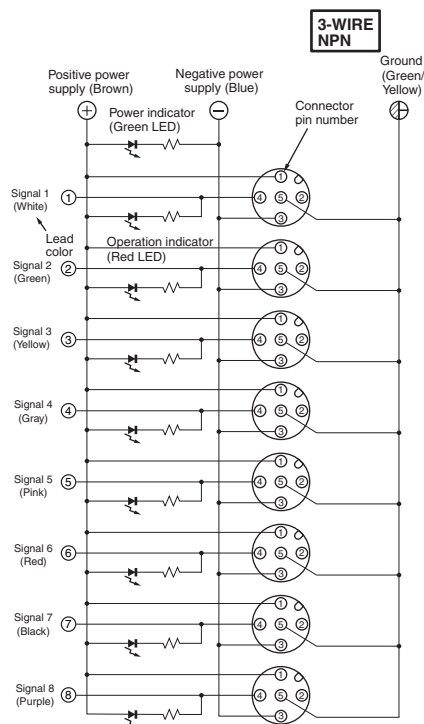
## Connection Diagram

**XW3B-P□55-□11 for 3-wire DC NPN, 2-wire DC (with polarity ③-④, 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 NPN-type Photoelectric and Proximity Sensors.  
Cannot be used with Proximity Sensors 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.

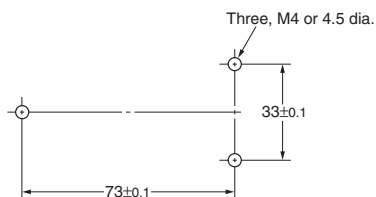
3. The expression "white/red" means white and red stripes.

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.

## 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.

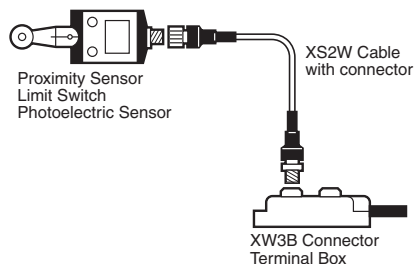
3-WIRE  
NPN

3-WIRE  
PNP

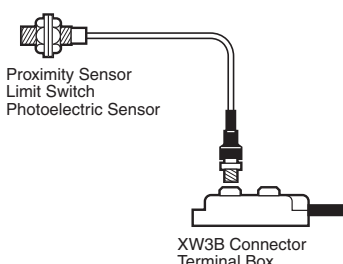
2-WIRE

Input Device Connections Using Sensor I/O Connectors

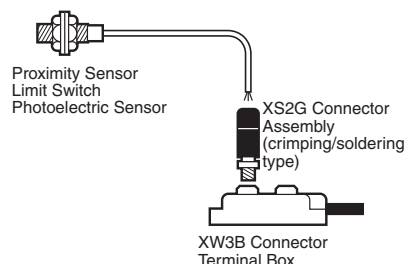
Direct Connection Type



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
			Limit Switch
	Limit Switch	Connector-Terminal connection type	WL□-□DK1EJ□ *1, WL□-□-M1GJ *1, D4C-□0□□-DK1EJ□ *2
Direct connection type		WL□-□K13 *1, D4E-□□10N *2	
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
XW3B-P□52-G11	2-wire DC Proximity Sensor	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
		Direct connection type	E2E-X3D1-M1G, E2E-X7D1-M1G, E2E-X10D1-M1G
			E2E-X8MD1-M1G, E2E-X14MD1-M1G, E2E-X20MD1-M1G
	Limit Switch	Connector-Terminal connection type	WL□-□DK1EJ□ *1, WL□-□-M1GJ *1, D4C-□0□□-DK1EJ□ *2
		Direct connection type	WL□-□K13 *1, D4E-□□10N *2 D4CC-□□□□ *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.

## List of Input Device (Connector-Type Sensors) and Terminal Box Connection Combinations

Connector Terminal Box	Input device and connector terminal number					
	3-wire NPN ① +, ③ -, ④ Output	2-wire DC (with polarity) ① +, ④ -	2-wire DC (with polarity) ③ -, ④ +	2-wire DC (without polarity) ③, ④	Limit switch	3-wire PNP ① +, ③ -, ④ Output
XW3B-P□55-G11	○	×	○	○	○	×
XW3B-P□52-G11	×	○	×	○	○	×
XW3B-P□53-G11	×	○	×	×	×	○

Note: Because connector pin No. 2 on the terminal box is empty, connection of NC-type input devices is not possible.

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

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

\*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.

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