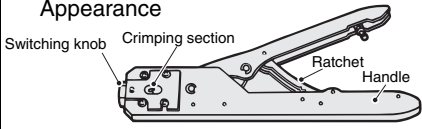


## Accessories (Order Separately)

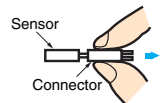
### Ordering Information

#### Connectors and Connector Hold-down Clips

Applicable Sensor models EE-SX67□ (A, P, R), EE-SX47□, EE-SY67□, EE-SPY31□/41□, EE-SPX303N/403N, EE-SPW311/411			
Type	Cable length	Model	Remarks
Connector		EE-1001	
		EE-1001-1	L terminal and positive (+) terminal are already short-circuited.
		EE-1009 *1	
	1 m	EE-1006	4 conductors
		EE-1010 *1	
		EE-1006	4 conductors
		EE-1006D	3 conductors
		EE-1006L	2 conductors
		EE-1010 *1	
	2 m	EE-1006	4 conductors
		EE-1006D	3 conductors
Connector with Cable	1 m	EE-1010-R *1	
	2 m	EE-1010-R *1	
NPN/PNP Conversion Connector		0.46 m (total length)	EE-2002
Connector Hold-down Clip		EE-1006A	For EE-1006, EE-SX670□, 470, EE-SY671, and 672 only.
Connector Parts *2	Case (housing)	EE-1006H	100 per carton
	Dispersion Pins	EE-1006C	500 per carton
	Special Crimping Tool	EE-1006T	Appearance 

\*1. EE-1009- or EE-1010-series Connectors have a builtin locking mechanism to prevent cable disconnection when only the cable is pulled. To remove the Connector from the Sensor, grip the top and bottom of the Connector firmly and push into the Sensor once before pulling out. The locking mechanism prevents the Connector from being removed by pulling on the cable only and enables removal only when the Connector (housing) is pulled.

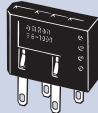



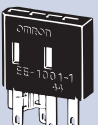

\*2. The case (housing) and dispersion pins (for hand-crimping) for EE-1006 Connectors can be ordered separately. Use the EE-1006T Special Crimping Tool to prepare the Connector.



Applicable Sensor models EE-SPX74□/84□			
Item	Cable length	Model	Remarks
Connector with Cable	1 m	EE-1013	

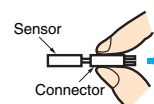
Applicable Sensor models EE-SPX301/401, EE-SPY30□/40□, EE-SPZ301□/401□			
Item	Cable length	Model	Remarks
Connector		EE-1002	
Connector with Cable	1 m	EE-1003	
NPN/PNP Conversion Connector		0.46 m (total length)	EE-2001
Connector Hold-down Clip		EE-1003A	For EE-1003 only.

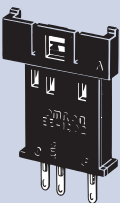


## Ratings and Specifications

Item	Product	Connector *1	Connector with Cable *1	Connector with Robot Cable *1	Connector	Connector (short-circuited between positive (+) and L terminals) *2	Connector with Cable
	Model	EE-1009	EE-1010	EE-1010-R	EE-1001	EE-1001-1	EE-1006
	Appearance						
Contact resistance		20 mΩ max. (at 20 mV max., 100 mA max.)			15 mΩ max. (at 100 VDC max.)		10 mΩ max. (100 VDC max.)
Insertion/removal durability		50 times min.			---		
Insertion strength		No. of poles × 6 N max.			50 N max.		
Surplus strength (housing holding strength)		No. of poles × 0.4 N max.			---		20 N max.
Standard cable length		---	2 m		---		2 m
Lock strength		No. of poles × 29 N min.			---		
Ambient humidity		-10 to +60°C			-10 to +75°C		-10 to 60°C
Material	Housing	Polybutylene phthalate (PBT)					
	Contact	Phosphor bronze (solder plating)					
Applicable Photomicrosensors		EE-SX67□ (A,P,R) (Connector Models only), EE-SX47□, EE-SY67□, EE-SPY31□/41□, EE-SPX303N/403N, EE-SPW311/411					

\*1. The Connector has a built-in locking mechanism. To remove the Connector from the Sensor, grip the top and bottom of the Connector housing, as shown in the following diagram, and then pull out the Connector.

\*2. EE-SX67□ and EE-SY67□ are the best used in the light-ON state.

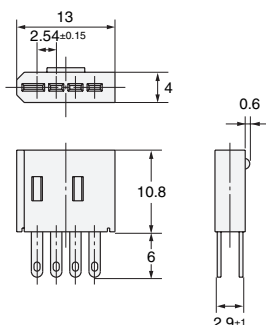
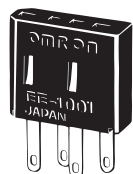
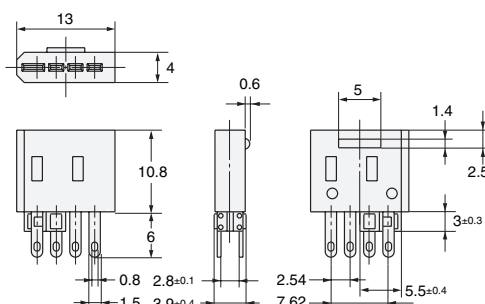
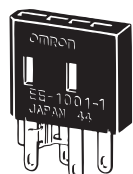
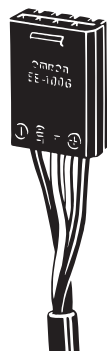


Item	Product		Connector	Connector with Cable	Connector with Cable
	Model		EE-1002	EE-1003	EE-1013
	Appearance				
Contact resistance		10 mΩ max. (at 10 mADC and 1 ADC)		20 mΩ max. (at minute current of 1 kHz and 500 VDC)	
Insertion strength		20 N max.		23.5 N max.	40 N max.
Surplus strength (housing holding strength)		15 N max. (initial) 10 N max. (ten times)		3.5 N max.	10 N max.
Cable length		---		1 m	
Ambient humidity		-10 to +75°C		-10 to +60°C	-10 to +55°C
Material	Housing	Nylon			
	Contact	Phosphor bronze (solder plating)			
Applicable Photomicrosensors		EE-SPX301/401, EE-SPY30□/40□, EE-SPZ301□/401□			EE-SPX74□/84□

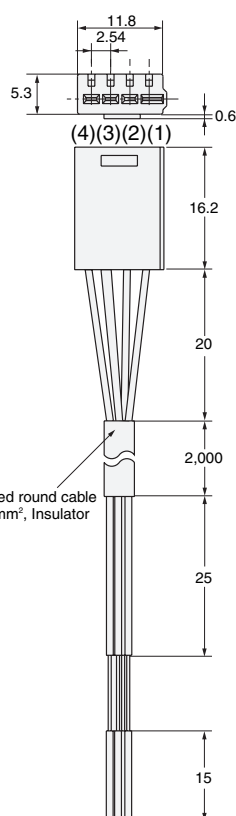
(Unit: mm)

**Dimensions**

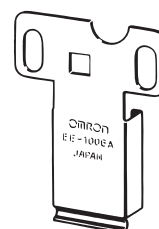
Tolerance class IT16 applies to dimensions in this datasheet unless otherwise specified.

**Photomicrosensor Connectors and Connector Hold-down Clips****Connector****EE-1001****Connector (short-circuited between positive (+) and L terminals)****EE-1001-1****Connector with Cable****EE-1006**

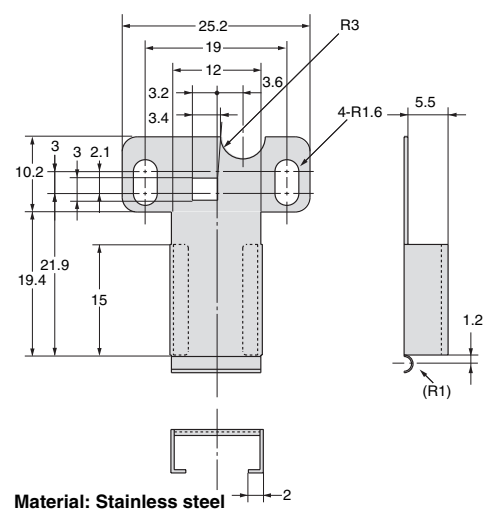
Cable:  
4-dia. 4-conductor vinyl-insulated round cable  
(Conductor cross section: 0.2 mm<sup>2</sup>, Insulator  
diameter: 1.1 mm).

**Terminal  
Arrangement**

(1)	⊕	Brown
(2)	L	Pink
(3)	OUT	Black
(4)	⊖	Blue

**Connector Hold-down Clip****EE-1006A**

(Can be used only with EE-1006  
Connectors for the  
Photomicrosensors listed  
below.)



Material: Stainless steel

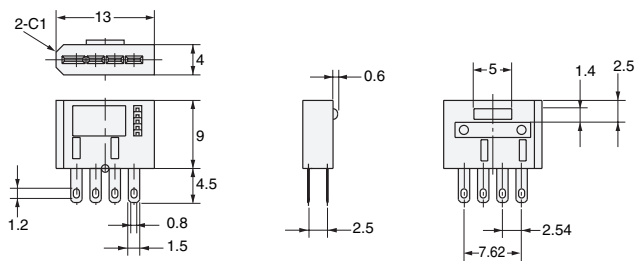
**Applicable Photomicrosensors** EE-SX67□ (A,P,R) (Connector Models only), EE-SX47□, EE-SY67□, EE-SPY31□/41□, EE-SPX303/403, EE-SPW311/411

For EE-SX670□, 470□, EE-SY671, and 672 only.

Photomicrosensor Connectors

Connectors

EE-1009

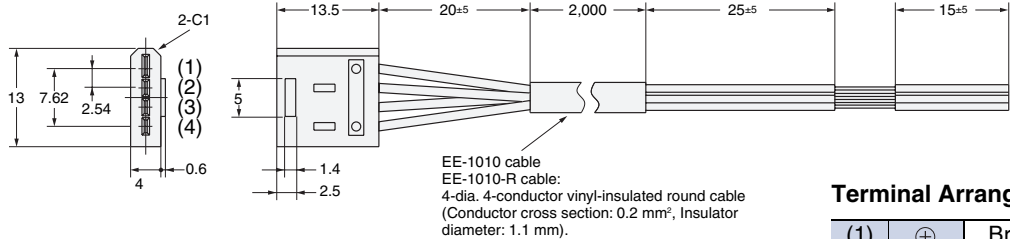


Connector with Cable

EE-1010

Connector with Robot Cable

EE-1010-R



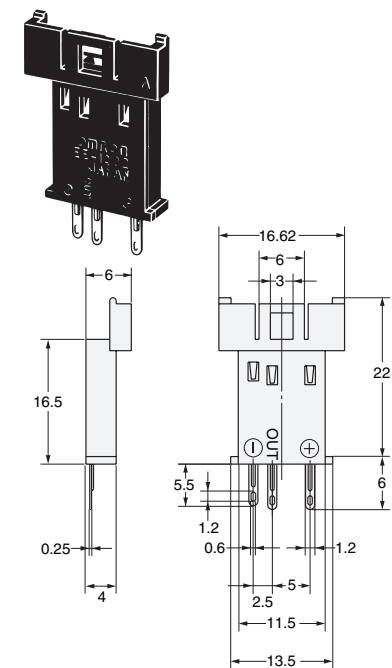
Terminal Arrangement

(1)	⊕	Brown
(2)	L	Pink
(3)	OUT	Black
(4)	⊖	Blue

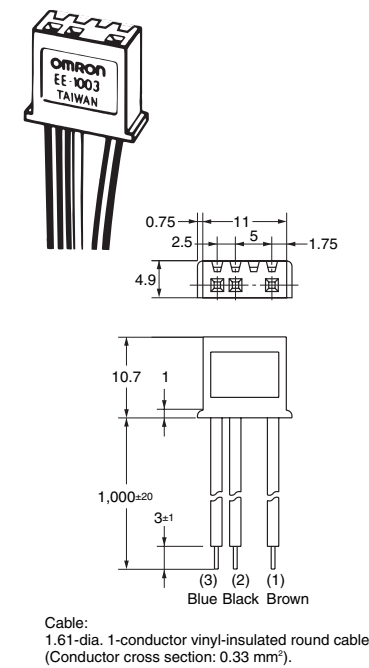
Applicable Photomicrosensors	EE-SX67□ (A,P,R) (Connector Models only), EE-SX47□, EE-SY67□, EE-SPY31□/41□ EE-SPX303/403, EE-SPW311/411
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Photomicrosensor Connectors and Connector Hold-down Clips

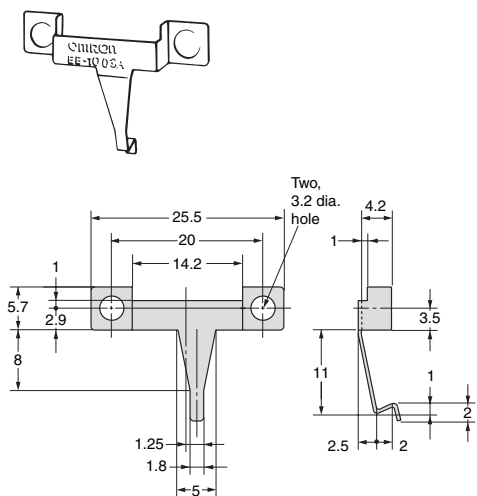
Connector  
EE-1002



Connector with Cable  
EE-1003

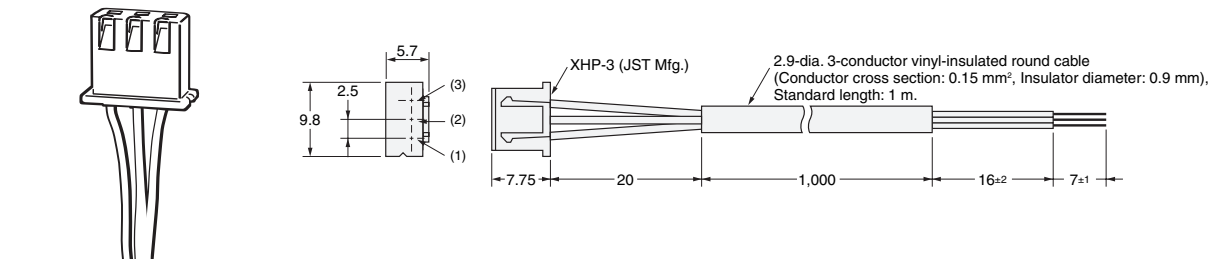


Connector Hold-down Clips  
(For EE-1003 only)  
EE-1003A



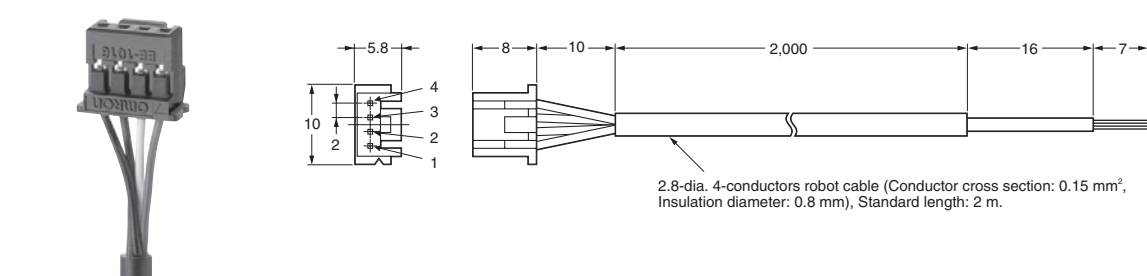
Applicable Photomicrosensors EE-SPX301/401, EE-SPY30□/40□, EE-SPZ301□/401□

Connector with Cable  
EE-1013



Applicable Photomicrosensors EE-SPX74□/84□

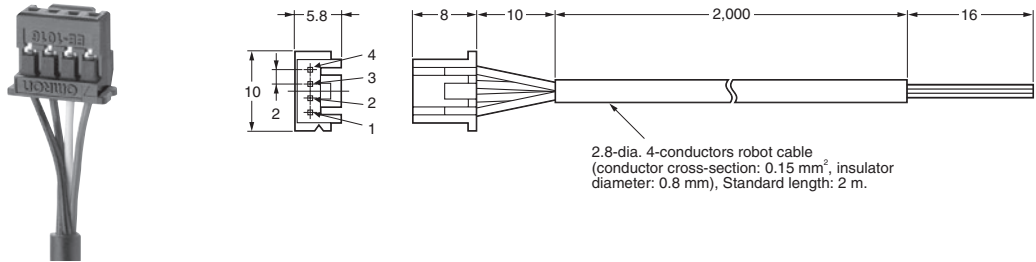
Connector with Robot Cable  
EE-1016-R



Applicable Photomicrosensors EE-SX91□-C1J-R (Models with Junction Connectors)

Connector with Cable (Connection with Robot Cable)

EE-1016-R-1



Applicable Photo-microsensors	EE-SX67□-C1J-R EE-SX67□P-C1J-R
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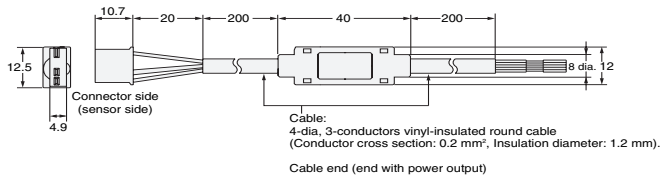
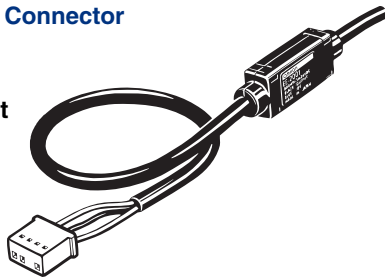
NPN to PNP Transistor Output Conversion Connectors

NPN/PNP Conversion Connector

EE-2001

Terminal Arrangement

(1)	+	Brown
(2)	OUT	Black
(3)	-	Blue



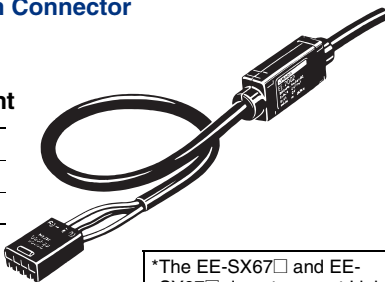
Applicable Photomicrosensors	EE-SPX301/401, EE-SPY30□/40□, EE-SPZ301□/401□
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NPN/PNP Conversion Connector

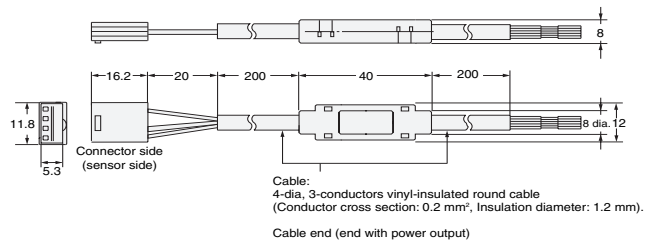
EE-2002 \*

Terminal Arrangement

(1)	+	Brown
(2)	OUT	Black
(3)	-	Blue



\*The EE-SX67□ and EE-SY67□ do not support Light-ON mode.



Applicable Photomicrosensors	EE-SX67□ (A,P,R) (Connector Models only), EE-SX47□, EE-SY67□, EE-SPY31□/41□, EE-SPX303/403, EE-SPW311/411
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