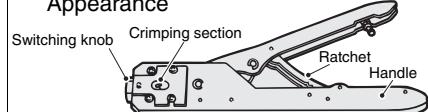


## Accessories (Order Separately)

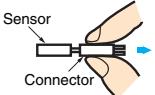
### Ordering Information

#### 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	
Connector with Cable	1 m	EE-1006 1M	
		EE-1010 1M *1	
	2 m	EE-1006 2M	4 conductors
		EE-1006D	3 conductors
		EE-1006L	2 conductors
Connector with Robot Cable	1 m	EE-1010-R 1M *1	
	2 m	EE-1010-R 1M *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	

\*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-SX97□-C1, EE-SX97□P-C1			
Item	Cable length	Model	Remarks
Connector with Cable	1 m	EE-1017 1M	
	3 m	EE-1017 3M	
Connector with Robot Cable	1 m	EE-1017-R 1M	
	3 m	EE-1017-R 3M	

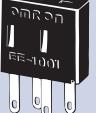
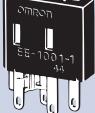
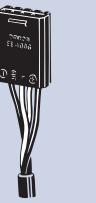
Applicable Sensor models EE-SX91□□-C1J-R (Pre-wired Connector)			
Item	Cable length	Model	Remarks
Connector with Cable	2 m	EE-1016-R	The robot cable is standard for all models.

Applicable Sensor models EE-SX67□□-C1J-R (Pre-wired Connector)			
Item	Cable length	Model	Remarks
Connector with Cable	2 m	EE-1016-R-1	The robot cable is standard for all models.

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

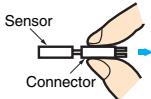
Product	Connector *1	Connector with Cable *1	Connector with Robot Cable *1	Connector	Connector (short-circuited between positive (+) and L terminals) *2	Connector with Cable
	EE-1009	EE-1010	EE-1010-R	EE-1001	EE-1001-1	EE-1006
Appearance						
Item						
Contact resistance	20 mΩ max. (at 20 mV max., 100 mA max.)			15 mΩ max. (at 100 VDC max.)		10 mΩ max. (100 VDC max.)
Insertion/removal durability *3	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	---	1 m, 2 m		---		1 m, 2 m
Lock strength *3	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					

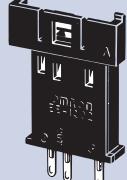
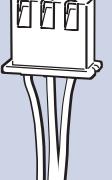
\*1. The Connector has a built-in locking mechanism. To remove the Connector from the Sensor, grip the top and bottom of the Connector housing, as shown in the following diagram, and then pull out the Connector.

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

\*3. The insertion/removal durability and lock strength apply only to the lock mechanism.

They do not apply to the EE-1001, EE-1001-1, and EE-1006, which do not have lock mechanisms.

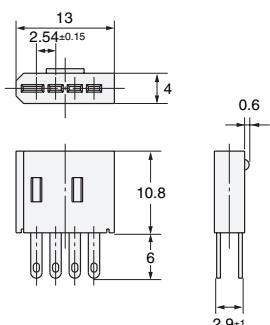
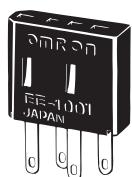
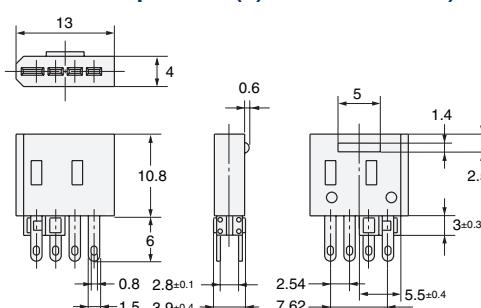
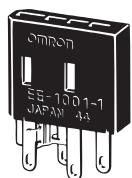
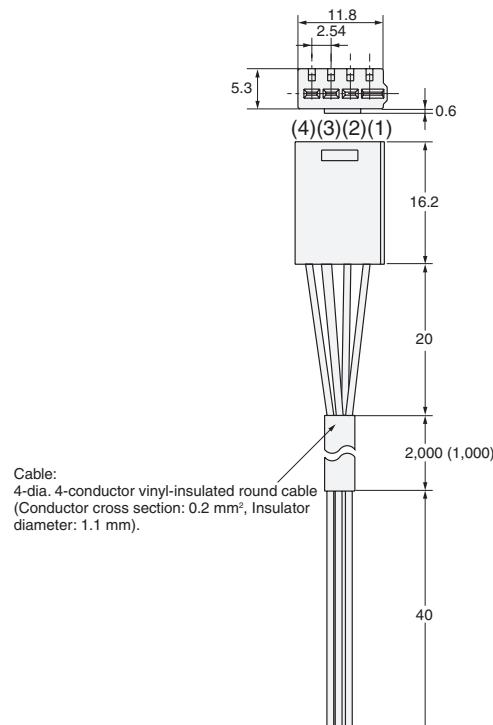


Product	Connector	Connector with Cable	Connector with Cable	Connector with Cable	Connector with Robot Cable	Connector with Robot Cable	
	EE-1002	EE-1003	EE-1013	EE-1017	EE-1017-R	EE-1016-R	EE-1016-R-1
Appearance							
Item							
Contact resistance	10 mΩ max. (at 10 mAADC and 1 ADC)	20 mΩ max. (at minute current of 1 kHz and 500 VDC)		25 mΩ max. (at 10 mA DC and 20 mV max.)			
Insertion strength	20 N max.	23.5 N max.	40 N max.	20 N max.			
Surplus strength (housing holding strength)	15 N min. (initial) 10 N min. (ten times)	3.5 N min.	10 N min.	1.5 N min.		15 N min.	
Cable length	---	1 m		1 m, 3 m		2 m	
Ambient humidity	−10 to +75°C	−10 to +60°C	−10 to +55°C	−10 to +60°C		−25 to +85°C	
Material	Housing	Nylon					
	Contact	Phosphor bronze (solder plating)					
Applicable Photomicrosensors	EE-SPX301/401, EE-SPY30□/40□, EE-SPZ301□/401□	EE-SPX74□/84□	EE-SX97□C1, EE-SX97□P-C1	EE-SX91□-C1J-R (Pre-wired Connector)	EE-SX67□-C1J-R (Pre-wired Connector)		

(Unit: mm)

**Dimensions**

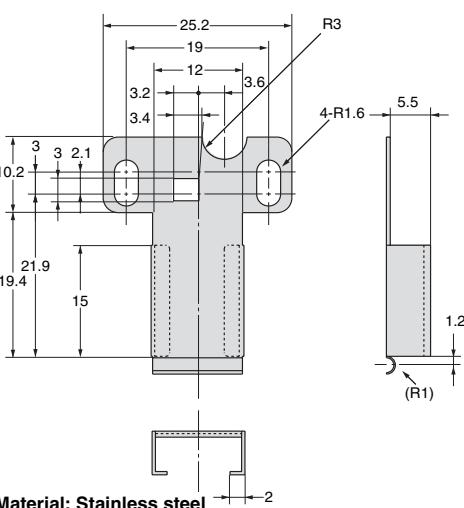
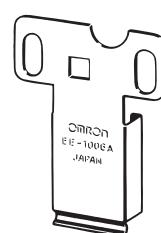
Tolerance class IT16 applies to dimensions in this datasheet unless otherwise specified.

**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 2M (EE-1006 1M)****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.)

**Applicable Photomicrosensors**

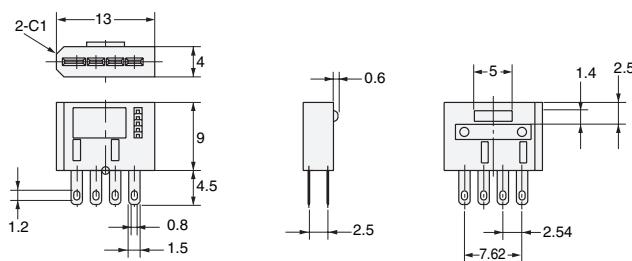
EE-SX67□ (A,P,R) (Connector Models only), EE-SX47□, EE-SY67□, EE-SPY31□/41□, EE-SPX303N/403N, EE-SPW311/411

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

## Photomicrosensor Connectors

### Connectors

#### EE-1009

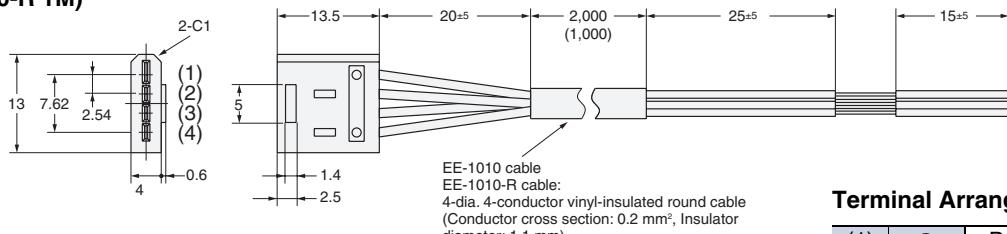


### Connector with Cable

#### EE-1010 2M (EE-1010 1M)

### Connector with Robot Cable

#### EE-1010-R 2M (EE-1010-R 1M)



EE-1010 cable  
EE-1010-R 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

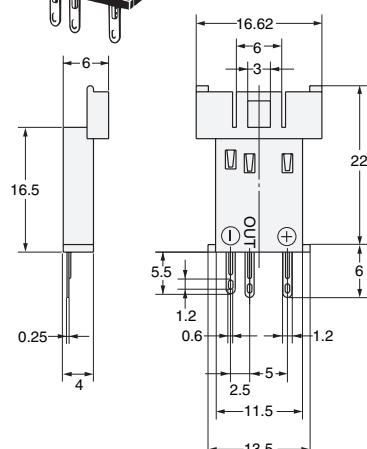
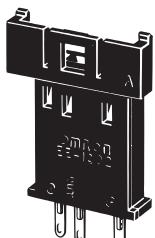
### Applicable Photomicrosensors

EE-SX67□ (A,P,R) (Connector Models only), EE-SX47□, EE-SY67□, EE-SPY31□/41□  
EE-SPX303N/403N, EE-SPW311/411

## Photomicrosensor Connectors and Connector Hold-down Clips

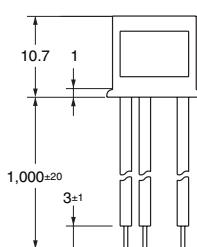
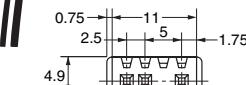
### Connector

EE-1002



### Connector with Cable

EE-1003

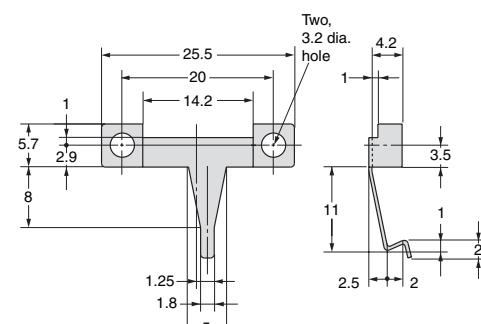


Cable:  
1.61-dia. 1-conductor vinyl-insulated round cable  
(Conductor cross section: 0.33 mm<sup>2</sup>).

### Connector Hold-down Clips

(For EE-1003 only)

EE-1003A

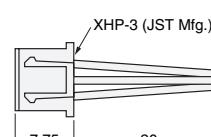
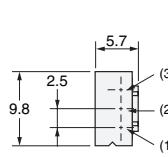
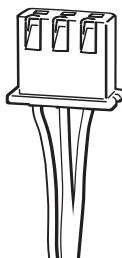


Applicable Photomicrosensors

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

### Connector with Cable

EE-1013



2.9-dia. 3-conductor vinyl-insulated round cable  
(Conductor cross section: 0.15 mm<sup>2</sup>, Insulator diameter: 0.9 mm),  
Standard length: 1 m.

### Terminal Arrangement

(1)	Blue	GND(0V)
(2)	Black	OUTPUT
(3)	Brown	Vcc

Applicable Photomicrosensors

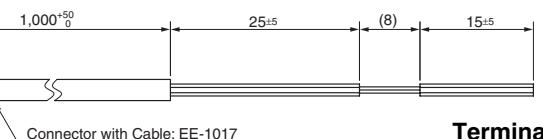
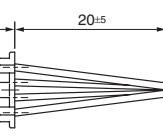
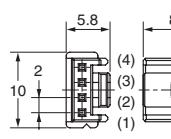
EE-SPX74□/84□

### Connector with Cable

EE-1017

### Connector with Robot Cable

EE-1017-R



Connector with Robot Cable: EE-1017-R  
Robot instrumentation cord: 4 dia., 4 cores,  
(Cross section area of conductor: 0.2 mm<sup>2</sup>/  
insulator: 1.1 mm dia.)

Connector with Cable: EE-1017  
Vinyl insulated round cord: 4 dia., 4 cores,  
(Cross section area of conductor: 0.2 mm<sup>2</sup>/  
insulator: 1.1 mm dia.)

### Terminal Arrangement

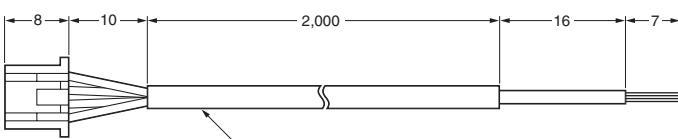
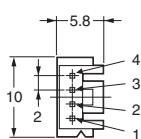
(1)	⊕	Brown
(2)	1	Black
(3)	2	White
(4)	⊖	Blue

Applicable Photomicrosensors

EE-SX97□-C1, EE-SX97□P-C1

## Connector with Robot Cable

EE-1016-R



2.8-dia. 4-conductors robot cable (Conductor cross section: 0.15 mm<sup>2</sup>, Insulation diameter: 0.8 mm), Standard length: 2 m.

### Terminal Arrangement

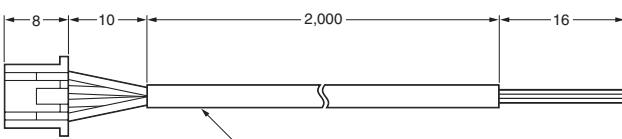
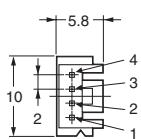
(1)	⊕	Brown
(2)	OUT2	White
(3)	⊖	Blue
(4)	OUT1	Black

Applicable Photomicrosensors

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

## Connector with Cable (Connection with Robot Cable)

EE-1016-R-1



2.8-dia. 4-conductors robot cable (conductor cross-section: 0.15 mm<sup>2</sup>, insulator diameter: 0.8 mm). Standard length: 2 m.

### Terminal Arrangement

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

Applicable Photomicrosensors

EE-SX67□-C1J-R  
EE-SX67□P-C1J-R

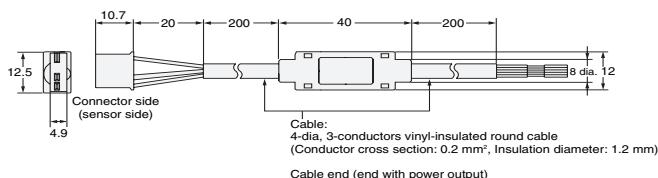
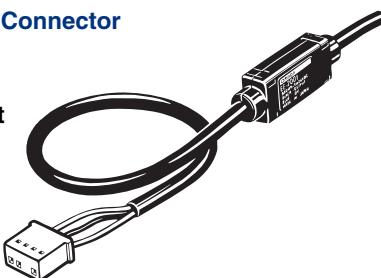
## NPN to PNP Transistor Output Conversion Connectors

### NPN/PNP Conversion Connector

EE-2001

#### Terminal Arrangement

(1)	⊕	Brown
(2)	OUT	Black
(3)	⊖	Blue

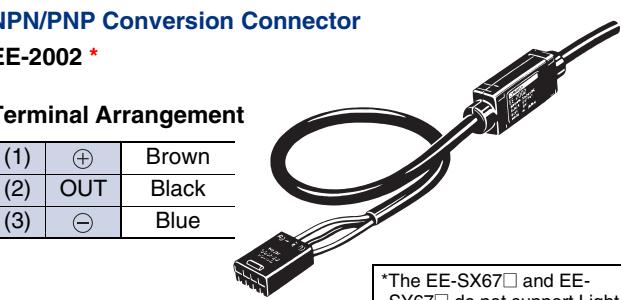


### NPN/PNP Conversion Connector

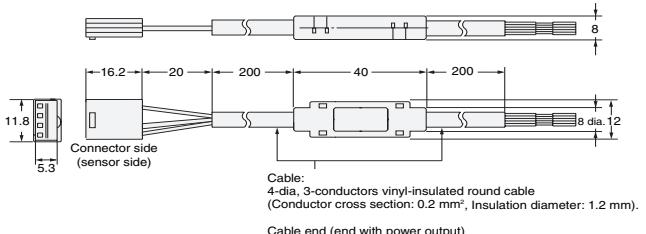
EE-2002 \*

#### Terminal Arrangement

(1)	⊕	Brown
(2)	OUT	Black
(3)	⊖	Blue



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



Applicable Photomicrosensors

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

EE-SX67□ (A,P,R) (Connector Models only), EE-SX47□,  
EE-SY67□, EE-SPY31□/41□,  
EE-SPX303N/403N, EE-SPW311/411

## Read and Understand This Catalog

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- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

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It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

### DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

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2011.12

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Industrial Automation Company

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