


# Small-diameter Proximity Sensor E2E

## Ultra small size, but surprisingly easy installation!

- With the addition of M4, 6.5-dia. size, unshielded, pre-wired connector model, and connector model, a total of 104 model variations are available.
  - Sensing distance is 1.5 times\* longer than that of previous models, for easy sensor positioning adjustment.
  - High-speed response frequency stably detects moving objects: 5 kHz max.
  - Indicator lamps have been increased from the previous one lamp to four lamps, making lamp positioning easier.
  - Special mounting brackets reduce time and efforts for installation.
  - Protective Stainless-steel Spiral Tube against wire breakage is available (M4, M5 only).
- \* When the 4-dia. shielded model is used.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

 Refer to *Safety Precautions* on page 10.

## Features

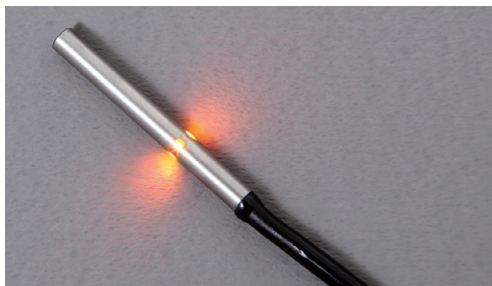
### Lineup of global small-diameter types (3 dia., 4 dia., 6.5 dia., M4, M5)

- A lineup of unshielded models for long distance sensing is also available. Stable long distance sensing performance enables worry-free use even when the work flow is unsteady.



### Bright operation indicators make it easy to check operation status

- Four indicator lamps in a 360 degree layout can be easily seen.



### High-speed response enables sharp detection timing

- 5 kHz response frequency max.

### Protection circuits prevent failures due to wiring mistakes.

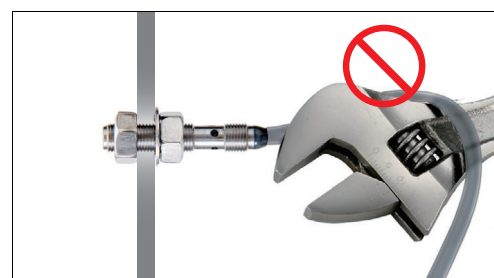
- Load short-circuit protection and output reverse polarity protection circuits are incorporated.

### Environment friendly, low current consumption only 2/3 that of previous models

- All have a current consumption of 10 mA max.

### Protective Stainless-steel Spiral Tube against wire breakage is available

- Lineup of protective tubes for M4 and M5 sizes. Reduces wire breakage due to catching and shock.



## E2E

### E2E (Small Diameter) Model Number Legend

E2E- ① ② ③ ④ - ⑤ - ⑥ ⑦ ⑧

No.	Classification	Code	Meaning
①	Case material and shape	S	SUS, threaded
		C	SUS, cylindrical
②	Size	03	Outer diameter 3 mm
		04	Outer diameter 4 mm
		05	Outer diameter 5 mm
		06	Outer diameter 6.5 mm
③	Shielding	S	Shielded Models
		N	Unshielded Models
④	Sensing distance	Number	R8: 0.8 mm, 12: 1.2 mm, 02: 2 mm, 03: 3 mm, 04: 4 mm
⑤	Connecting method	WC	PVC Pre-wired Model
		MC	M8 Connector, 3-pin
		CJ	M8 Pre-wired Connector, 3-pin
⑥	Output specifications	B	DC 3-wire PNP open-collector output
		C	DC 3-wire NPN open-collector output
⑦	Operation mode	1	Normally open (NO)
		2	Normally closed (NC)
⑧	Cable length	Blank	Connector Models
		Number M	Cable length (Unit: m) (Applicable to Pre-wired Models 2M and Pre-wired Connector Models 0.3M)

**Note:** The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number. Models are not available for all combinations of code numbers.

## Ordering Information

### Sensors

Shielded Models [Refer to Dimensions on page 12.]



Appearance	Sensing distance	Connecting method	Cable specifications	Operation mode	Wire color / pin arrangement	Model	
						NPN output	PNP output
3 dia.	0.8 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-C03SR8-WC-C1 2M	E2E-C03SR8-WC-B1 2M
				NC		E2E-C03SR8-WC-C2 2M	E2E-C03SR8-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-C03SR8-CJ-C1 0.3M	E2E-C03SR8-CJ-B1 0.3M
				NC		E2E-C03SR8-CJ-C2 0.3M	E2E-C03SR8-CJ-B2 0.3M
4 dia.	1.2 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-C04S12-WC-C1 2M	E2E-C04S12-WC-B1 2M
				NC		E2E-C04S12-WC-C2 2M	E2E-C04S12-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-C04S12-CJ-C1 0.3M	E2E-C04S12-CJ-B1 0.3M
				NC		E2E-C04S12-CJ-C2 0.3M	E2E-C04S12-CJ-B2 0.3M
		M8 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	E2E-C04S12-MC-C1	E2E-C04S12-MC-B1
				NC		E2E-C04S12-MC-C2	E2E-C04S12-MC-B2
6.5 dia.	2 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-C06S02-WC-C1 2M	E2E-C06S02-WC-B1 2M
				NC		E2E-C06S02-WC-C2 2M	E2E-C06S02-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-C06S02-CJ-C1 0.3M	E2E-C06S02-CJ-B1 0.3M
				NC		E2E-C06S02-CJ-C2 0.3M	E2E-C06S02-CJ-B2 0.3M
		M8 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	E2E-C06S02-MC-C1	E2E-C06S02-MC-B1
				NC		E2E-C06S02-MC-C2	E2E-C06S02-MC-B2
M4	0.8 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-S04SR8-WC-C1 2M	E2E-S04SR8-WC-B1 2M
				NC		E2E-S04SR8-WC-C2 2M	E2E-S04SR8-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-S04SR8-CJ-C1 0.3M	E2E-S04SR8-CJ-B1 0.3M
				NC		E2E-S04SR8-CJ-C2 0.3M	E2E-S04SR8-CJ-B2 0.3M
M5	1.2 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-S05S12-WC-C1 2M	E2E-S05S12-WC-B1 2M
				NC		E2E-S05S12-WC-C2 2M	E2E-S05S12-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-S05S12-CJ-C1 0.3M	E2E-S05S12-CJ-B1 0.3M
				NC		E2E-S05S12-CJ-C2 0.3M	E2E-S05S12-CJ-B2 0.3M
		M8 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	E2E-S05S12-MC-C1	E2E-S05S12-MC-B1
				NC		E2E-S05S12-MC-C2	E2E-S05S12-MC-B2

Unshielded Models [Refer to Dimensions on page 13.]








Appearance	Sensing distance	Connecting method	Cable specifications	Operation mode	Wire color / pin arrangement	Model	
						NPN output	PNP output
3 dia.	2 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-C03N02-WC-C1 2M	E2E-C03N02-WC-B1 2M
				NC		E2E-C03N02-WC-C2 2M	E2E-C03N02-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-C03N02-CJ-C1 2M	E2E-C03N02-CJ-B1 2M
				NC		E2E-C03N02-CJ-C2 2M	E2E-C03N02-CJ-B2 2M
4 dia.	3 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-C04N03-WC-C1 2M	E2E-C04N03-WC-B1 2M
				NC		E2E-C04N03-WC-C2 2M	E2E-C04N03-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-C04N03-CJ-C1 0.3M	E2E-C04N03-CJ-B1 0.3M
				NC		E2E-C04N03-CJ-C2 0.3M	E2E-C04N03-CJ-B2 0.3M
		M8 Connector Models	---	NO		E2E-C04N03-MC-C1	E2E-C04N03-MC-B1
				NC		E2E-C04N03-MC-C2	E2E-C04N03-MC-B2
6.5 dia.	4 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-C06N04-WC-C1 2M	E2E-C06N04-WC-B1 2M
				NC		E2E-C06N04-WC-C2 2M	E2E-C06N04-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-C06N04-CJ-C1 0.3M	E2E-C06N04-CJ-B1 0.3M
				NC		E2E-C06N04-CJ-C2 0.3M	E2E-C06N04-CJ-B2 0.3M
		M8 Connector Models	---	NO		E2E-C06N04-MC-C1	E2E-C06N04-MC-B1
				NC		E2E-C06N04-MC-C2	E2E-C06N04-MC-B2
M4	2 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-S04N02-WC-C1 2M	E2E-S04N02-WC-B1 2M
				NC		E2E-S04N02-WC-C2 2M	E2E-S04N02-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-S04N02-CJ-C1 2M	E2E-S04N02-CJ-B1 2M
				NC		E2E-S04N02-CJ-C2 2M	E2E-S04N02-CJ-B2 2M
M5	3 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	Brown: +V Black: Output Blue: 0 V	E2E-S05N03-WC-C1 2M	E2E-S05N03-WC-B1 2M
				NC		E2E-S05N03-WC-C2 2M	E2E-S05N03-WC-B2 2M
		M8 Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	NO	1: +V, 3: 0 V, 4: Control output	E2E-S05N03-CJ-C1 0.3M	E2E-S05N03-CJ-B1 0.3M
				NC		E2E-S05N03-CJ-C2 0.3M	E2E-S05N03-CJ-B2 0.3M
		M8 Connector Models	---	NO		E2E-S05N03-MC-C1	E2E-S05N03-MC-B1
				NC		E2E-S05N03-MC-C2	E2E-S05N03-MC-B2

## Accessories (Sold separately)

### Mounting Brackets

A Mounting Bracket is not provided with the Sensor. It must be ordered separately as required.

[Refer to *Dimensions* on page 15.]

Appearance	Model	Quantity	Remarks
 Available soon	Y92E-SC03	1	Mounting block for 3 dia., M3 × P0.5 screws: 2 pieces
 Available soon	Y92E-SC04	1	Mounting block for 4 dia., M3 × P0.5 screws: 2 pieces
 Available soon	Y92E-SC06	1	Mounting block for 6 dia., M3 × P0.5 screws: 2 pieces
 Available soon	Y92E-SS04	1	L-shaped Mounting Bracket for M4 screws
 Available soon	Y92E-SS05	1	L-shaped Mounting Bracket for M5 screws

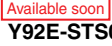

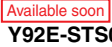
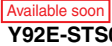
### Nut Set (Sold separately)

Model	Applicable sensor outer diameter	Set contents
Y92E-NWS04	M4	Clamping nuts: 2 pieces, toothed washer: 1 piece
Y92E-NWS05	M5	

### Protective Stainless-steel Spiral Tube against Wire Breakage (Sold separately)

A Spiral Tube is not provided with the Sensor. It must be ordered separately as required.

[Refer to *Dimensions* on page 15.]

Model	Applicable sensor outer diameter	Length
 Available soon Y92E-ST04-05	M4	0.5 m
 Available soon Y92E-ST04-10		1 m
 Available soon Y92E-ST05-05	M5	0.5 m
 Available soon Y92E-ST05-10		1 m

### Sensor I/O Connector (Socket on One Cable End)

A Sensor I/O Connector is not provided with the Sensor. It must be ordered separately as required.

[Refer to *Dimensions* on page 16.]

Size	Cable specifications	Number of cable wires (conductors)	Cable length L (m)	Straight	Right-angle
				Model	
M8	PVC	3	2	XS3F-M8PVC3S2M-EU	XS3F-M8PVC3A2M-EU
			5	XS3F-M8PVC3S5M-EU	XS3F-M8PVC3A5M-EU
	Vibration-proof robot cable		2	XS3F-M321-302-R	XS3F-M322-302-R
			5	XS3F-M321-305-R	XS3F-M322-305-R

# Ratings and Specifications

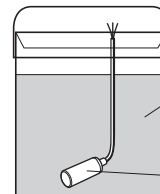
Item	Size Type Model	3 dia.		4 dia.		6.5 dia.		M4		M5		
		Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	
		E2E-C03SR8	E2E-C03N02	E2E-C04S12	E2E-C04N03	E2E-C06S02	E2E-C06N04	E2E-S04SR8	E2E-S04N02	E2E-S05S12	E2E-S05N03	
<b>Sensing distance (at 23°C)</b>		0.8 mm ±10%	2 mm ±10%	1.2 mm ±10%	3 mm ±10%	2 mm ±10%	4 mm ±10%	0.8 mm ±10%	2 mm ±10%	1.2 mm ±10%	3 mm ±10%	
<b>Setting distance *1 (Sensing distance × 0.7)</b>		0 to 0.56 mm	0 to 1.4 mm	0 to 0.84 mm	0 to 2.1 mm	0 to 1.4 mm	0 to 2.8 mm	0 to 0.56 mm	0 to 1.4 mm	0 to 0.84 mm	0 to 2.1 mm	
<b>Differential travel</b>		15% max. of sensing distance										
<b>Detectable object</b>		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to <i>Engineering Data</i> on page 7.)										
<b>Standard sensing object</b>		Iron, 3 × 3 × 1 mm	Iron, 6 × 6 × 1 mm	Iron, 4 × 4 × 1 mm	Iron, 9 × 9 × 1 mm	Iron, 6.5 × 6.5 × 1 mm	Iron, 12 × 12 × 1 mm	Iron, 3 × 3 × 1 mm	Iron, 6 × 6 × 1 mm	Iron, 4 × 4 × 1 mm	Iron, 9 × 9 × 1 mm	
<b>Response frequency</b>		5 kHz	3.5 kHz	4 kHz	2 kHz	3 kHz	3 kHz	5 kHz	3.5 kHz	4 kHz	2 kHz	
<b>Power supply voltage *2</b>		10 to 30 VDC (including 10% ripple (p-p))										
<b>Current consumption</b>		10 mA max.										
<b>Control output *3</b>	<b>Load current</b>	50 mA max.		100 mA max.		200 mA max. (60 to 70°C: 100 mA)		50 mA max.		100 mA max.		
	<b>Residual voltage</b>	2 V max. *5										
<b>Indicators</b>		Operation indicator: Yellow (complies with European standard EN60947-5-2) Lights during output.										
<b>Operation mode (with sensing object approaching)</b>		B1/B2: PNP open collector, C1/C2: NPN open collector B1/C1 models: NO, B2/C2 models: NC										
<b>Protection circuits</b>		Output reverse polarity protection, Power source circuit reverse polarity protection, Surge suppressor, Load short-circuit protection										
<b>Ambient temperature range</b>		Operation and storage: -25 to 70°C (with no icing or condensation)										
<b>Ambient humidity range</b>		Operation and storage: 35% to 95% (with no condensation)										
<b>Temperature influence</b>		±15% max. of sensing distance at 23°C within temperature range of -25 to 70°C										
<b>Voltage influence</b>		±2.5% max. of sensing distance at rated voltage in the rated voltage ±15% range										
<b>Insulation resistance</b>		50 MΩ min. (at 500 VDC) between current-carrying parts and case										
<b>Dielectric strength</b>		500 VAC, 50/60 Hz for 1 minute between current-carrying parts and case										
<b>Vibration resistance</b>		Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions										
<b>Shock resistance</b>		Destruction: 500 m/s <sup>2</sup> 10 times each in X, Y, and Z directions										
<b>Degree of protection</b>		IEC 60529 IP67, in-house standards: oil-resistant *6										
<b>Con-necting method</b>	<b>Pre-wired Models</b>	Yes		Yes		Yes		Yes		Yes		
	<b>M8 Pre-wired Connector Models</b>	Yes		Yes		Yes		Yes		Yes		
	<b>M8 Connector Models</b>	No		Yes		Yes		No		Yes		
<b>Weight (packed state)</b>	<b>Pre-wired Models</b>	Approx. 25 g	Approx. 30 g	Approx. 35 g	Approx. 35 g	Approx. 55 g	Approx. 55 g	Approx. 30 g	Approx. 30 g	Approx. 35 g	Approx. 40 g	
	<b>M8 Pre-wired Connector Models</b>	Approx. 20 g	Approx. 20 g	Approx. 15 g	Approx. 20 g	Approx. 20 g	Approx. 25 g	Approx. 20 g	Approx. 20 g	Approx. 20 g	Approx. 20 g	
	<b>M8 Connector Models</b>	---	---	Approx. 10 g	Approx. 10 g	Approx. 10 g	Approx. 15 g	---	---	Approx. 15 g	Approx. 15 g	
<b>Materials</b>	<b>Case</b>	SUS303 (EN1.4305 *7)										
	<b>Sensing surface</b>	Heat-resistant ABS										
	<b>Clamping nuts *4</b>	No						SUS430 (EN1.4016 *7)				
	<b>Toothed washer *4</b>	No						SUS303 (EN1.4305 *7)				
	<b>Cable</b>	PVC										
<b>Accessories</b>	<b>Instruction manual</b>	Yes										
	<b>Model label</b>	Yes										
	<b>Mounting brackets</b>	Sold separately										

\*1. Using within the set distance enables high-speed responsiveness and a more stable repeat accuracy.  
 \*2. When used at a power of 12 V, the Sensor is less susceptible to the effects of internal self heat generation and therefore a more stable repeat accuracy can be obtained.  
 \*3. When the control output is 20 mA or less, the Sensor is less susceptible to the effects of internal self heat generation and therefore a more stable repeat accuracy can be obtained.  
 \*4. Nuts: 2 pieces, toothed washer: 1 piece  
 \*5. 3 dia., M4: load current 50 mA, cable length 2 m  
 4 dia., M5: load current 100 mA, cable length 2 m  
 6.5 dia.: load current 200 mA, cord length 2 m  
 \*6. Oil resistance in-house standard: Performance with respect to water insoluble oil. (Test at right)  
 \*7. Material name in EN standards.

**Oil resistance test**

After the test time elapses, the characteristics below are checked for problems.

- (1) Visual appearance (no damage that affects product characteristics)
- (2) Operation check (ON/OFF)
- (3) Insulation resistance (50 MΩ min. at 500 VDC)
- (4) Dielectric strength (500 VAC, 1 min.)
- (5) Water resistance (IP67)



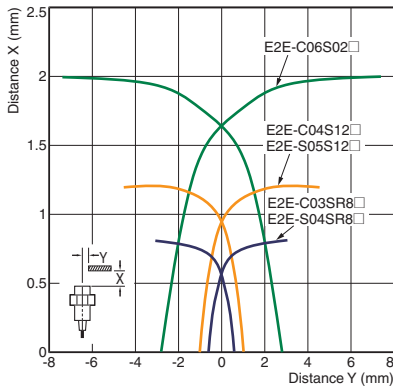
Test oil: Water insoluble oil  
 Velocite No. 3  
 50°C × 250 hours  
 Depth 10 cm

# Engineering Data (Reference Value)

## Sensing Area

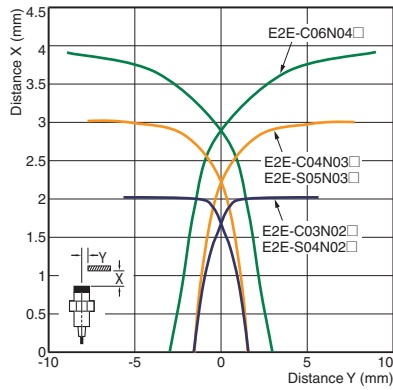
### Shielded Models

E2E-C/S□S□



### Unshielded Models

E2E-C/S□N□

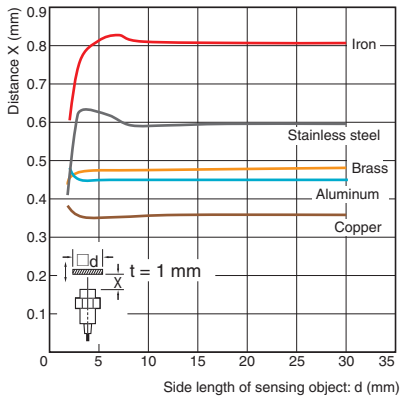


**Note:** The workpiece is a standard sensing object.  
For details, refer to *Ratings and Specifications* on page 6.

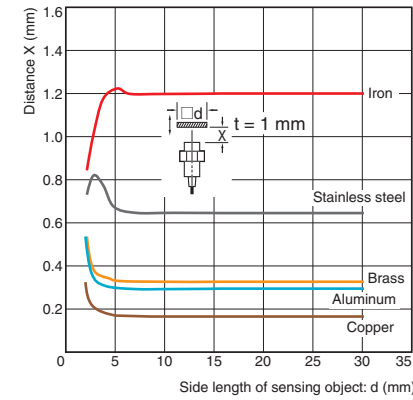
## Influence of Sensing Object Size and Material

### Shielded Models

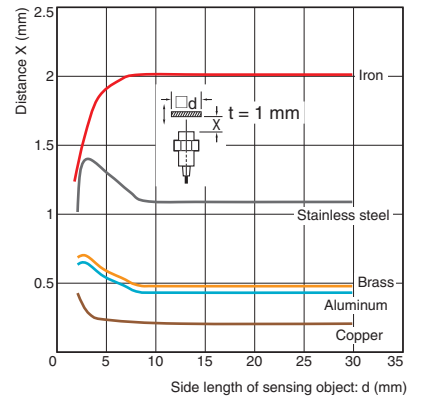
E2E-C03SR8□/E2E-S04SR8□



E2E-C04S12□/E2E-S05S12□

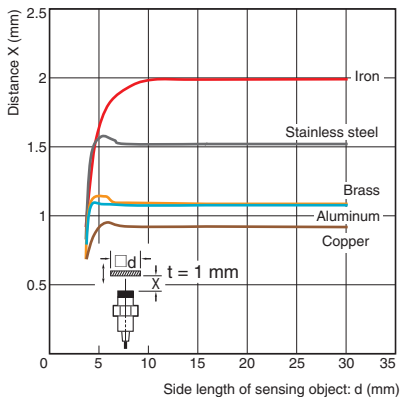


E2E-C06S02□

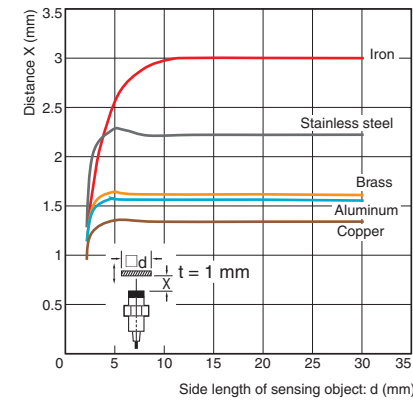


### Unshielded Models

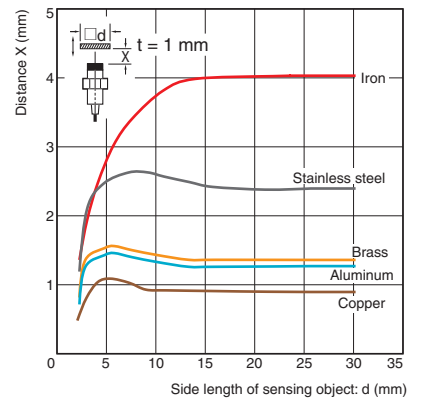
E2E-C03N02□/E2E-S04N02□



E2E-C04N03□/E2E-S05N03□



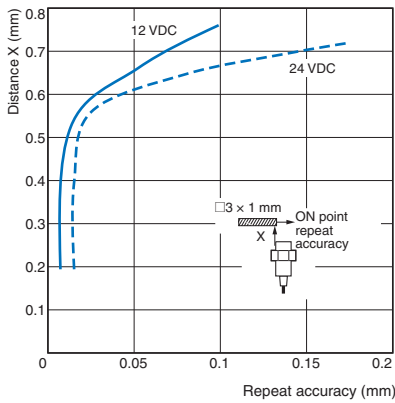
E2E-C06N04□



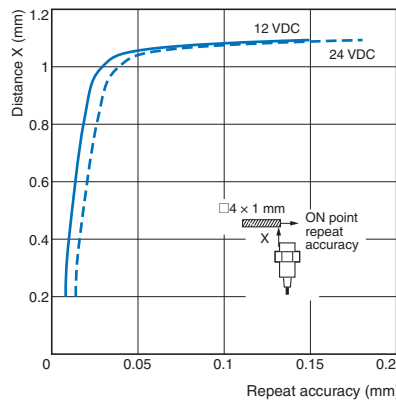
Distance - Horizontal Repeat Accuracy

Shielded Models

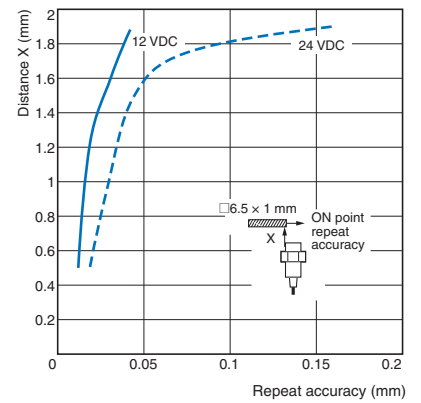
E2E-C03SR8□/E2E-S04SR8□



E2E-C04S12□/E2E-S05S12□

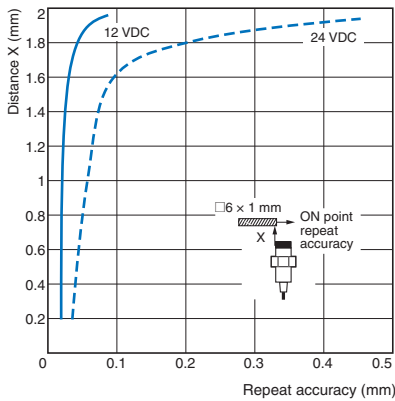


E2E-C06S02□

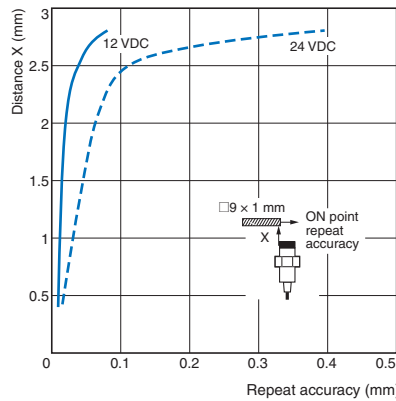


Unshielded Models

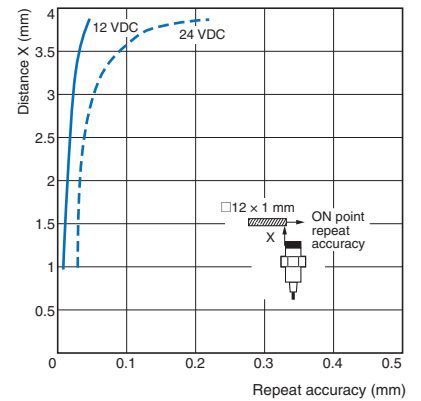
E2E-C03N02□/E2E-S04N02□



E2E-C04N03□/E2E-S05N03□



E2E-C06N04□



Sensing distance vs. repeat accuracy graphs

By using within the sensor installation distance, the repeat accuracy stabilizes.

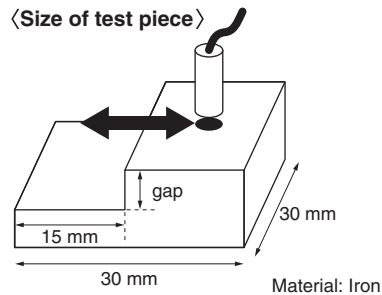
This data is reference data based on a standard sensing object, and is not a guarantee of performance.

The repeat accuracy varies depending on the effects of temperature, the material and surface condition of the sensing object, and other conditions.

Minimum measurement gap

Model	Minimum gap (mm)
E2E-C03S/S04S	0.3
E2E-C03N/S04N	0.6
E2E-C04S/S05S	0.4
E2E-C04N/S05N	0.9
E2E-C06S	0.6
E2E-C06N	1.2

Note: Measured at constant temperature of 23°C using an iron sensing object of size at least as large as standard sensing object (see right).

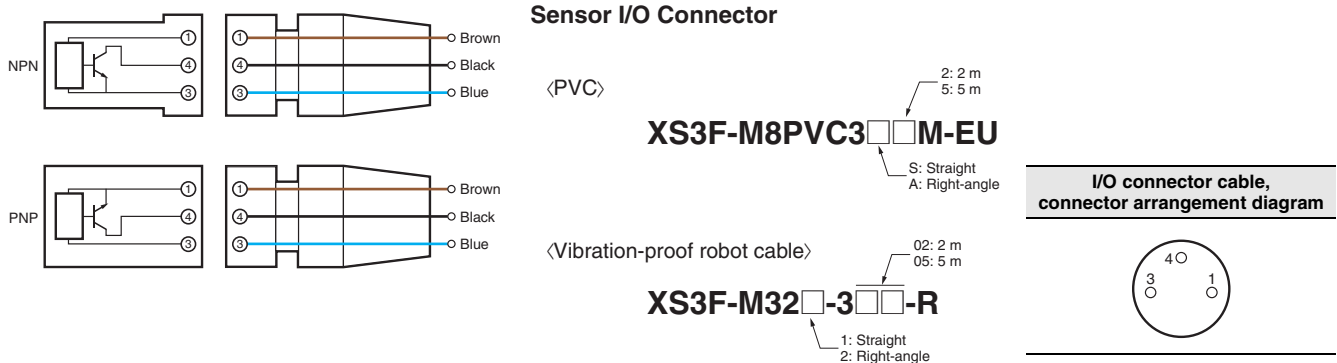




# I/O Circuit Diagrams

Operation mode	Output specifications	Model	Timing chart	Output circuit
NO	NPN open-collector output	E2E-□□□□ -□□- <b>C1</b>		
		E2E-□□□□ -□□- <b>C2</b>		<p>Connector pin arrangement</p>
NO	PNP open-collector output	E2E-□□□□ -□□- <b>B1</b>		
		E2E-□□□□ -□□- <b>B2</b>		<p>Connector pin arrangement</p>

## Connection to I/O Connector (Connector Models, Pre-wired Connector Models)



# Safety Precautions

Refer to *Warranty and Limitations of Liability*.

**⚠ WARNING**

This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.



**⚠ CAUTION**

- Do not short the load. Explosion or burning may result.
- Do not supply power to the Sensor with no load, otherwise Sensor may be damaged.



**Precautions for Correct Use**

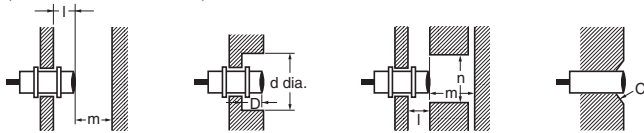
Do not use this product under ambient conditions that exceed the ratings.

● Design

**Influence of Surrounding Metal**

When mounting the Sensor within a metal panel, ensure that the clearances given in the following table are maintained. Failure to maintain these distances may cause deterioration in the performance of the Sensor.

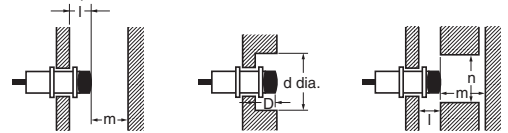
**(Shielded Models)**



(Unit: mm)

Item	Size	3 dia.	4 dia.	6.5 dia.	M4	M5
L		0	0	0	0	0
m		3	5	6	3	5
d		3	4	6.5	4	5
D		0	0	0	0	0
n		8	10	12	8	10
c		0	0	2	0	0

**(Unshielded Models)**



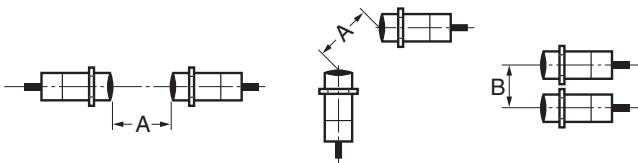
(Unit: mm)

Item	Size	3 dia.	4 dia.	6.5 dia.	M4	M5
L		6	6	12	6	6
m		6	9	8	6	9
d		9	12	24	9	12
D		6	6	12	6	6
n		16	20	24	16	20

If mounted in a surrounding non-magnetic metal such as aluminum or copper, the sensing distance may shorten by about 40 to 50%. If used in a recessed installation, take into consideration the effects of the material on the sensing distance.

**Mutual Interference**

When installing Sensors face-to-face or side-by-side, ensure that the minimum distances given in the following table are maintained.



**Mutual Interference**

(Unit: mm)

Item	Size	3 dia.		4 dia.		6.5 dia.		M4		M5	
		Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
A		20	80	20	80	20	80	20	80	20	80
B *		15	60	15	60	15	60	15	60	15	60

\* Values when the connector size is not taken into consideration.

● **Mounting**

**Tightening Force**

〈Mounting threaded models (E2E-S□)〉

Do not tighten the nut with excessive force.  
A washer must be used with the nut.

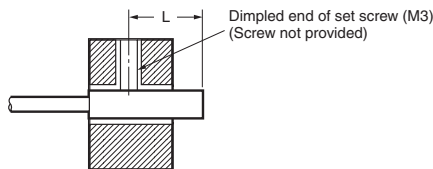


- Note:** 1. Only use the provided nut and toothed washer.  
Risk of changes in the sensing distance and damage if a different material is used. If you lose the nut or washer, purchase an optional nut set.  
2. The following strengths assume washers are being used.

Item	M4		M5	
	Shielded	Unshielded	Shielded	Unshielded
Tr	0.8 N·m		1 N·m	

**Note:** Only use the provided nut.

〈Mounting unthreaded cylindrical models (E2E-C□)〉



Item	3 dia.		4 dia.		6.5 dia.	
	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
L *	9 to 21 mm	15 to 27 mm	8 to 21 mm	14 to 27 mm	12 to 26 mm	
Torque	0.2 N·m max.				0.4 N·m max.	

\* Excluding the operation indicator area.

When using a set screw, tighten it to the torque indicated in the table above.

● **Oil resistance**

In accordance with our oil resistance standard, we test oil resistance based on water insoluble oil (complies with test oil based on JIS C0920, Appendix 1).

When water soluble cutting oil is used, durability varies due to the dilution ratio and other factors.

Please test oil resistance using the actual oil that will be used.

● **High-speed responsiveness**

To obtain a better high-speed response, it is recommended that you use the sensor at about 50% of the possible sensing distance. A high-speed response may not be obtained with some sensing object surfaces, materials, and shapes, or when the sensing distance is greater than the set distance. For the effects of materials, refer to *Engineering Data* on page 7.

● **Repeated cable bending tolerance**

If you require repeated bending tolerance, use the Connector Model together with a connector cable that is specified for bending tolerance. (Example: XS3F-M321-□□□-R) Refer to *Sensor I/O Connector* on page 5.

● **Protective Stainless-steel Spiral Tube**

The spiral tube is in a fixed state and is intended to provide protection against wire breakage due to shock from tools or other objects. If you require repeated bending tolerance, use the Connector Model together with a connector cable that is specified for bending tolerance. (Example: XS3F-M321-□□□-R) Refer to *Sensor I/O Connector* on page 5.

● **Block type mounting accessories**

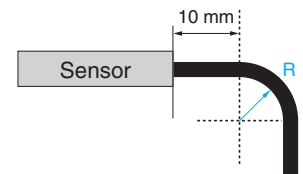
Due to differences in dimensional tolerances, these cannot be used with older small diameter proximity sensors. (E2E-CR6, E2E-CR8)

● **Bending radius for mounting**

If the cable is bent from its base, the resin on the surface of the cable may peel off, however, this will not affect the protective structure or sensing performance.

Avoid bending the cable at less than 10 mm from its base. When bending the cable, refer to the table below.

Cable diameter	Bending radius
3 dia., M4	7 mm
4 dia., M5	9 mm
6.5 dia.	12 mm



# E2E

## Dimensions

(Unit: mm)  
Tolerance class IT16 applies to dimensions in this data sheet unless otherwise specified.

### Sensors

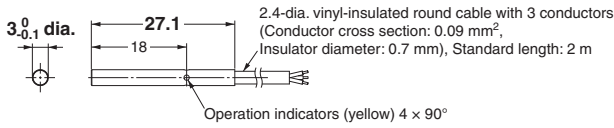
#### Pre-wired Models (Shielded)

#### Mounting Hole Dimensions

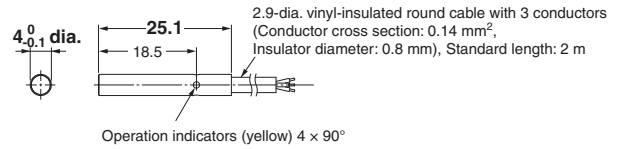


Dimension	3 dia.	4 dia.	6.5 dia.	M4	M5
F (mm)	$3.3^{+0.5}_0$	$4.2^{+0.5}_0$	$7^{+0.5}_0$	$4.5^{+0.5}_0$	$5.5^{+0.5}_0$

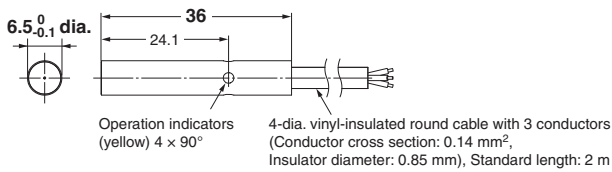
#### E2E-C03SR8-WC-□□



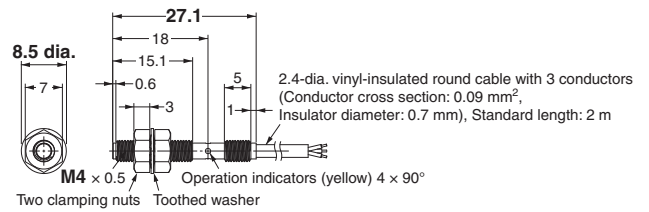
#### E2E-C04S12-WC-□□



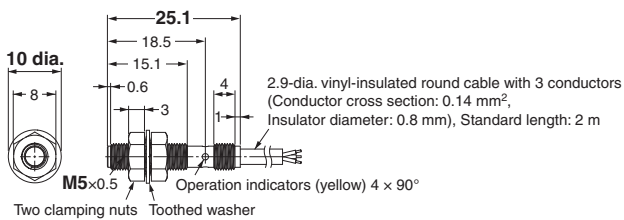
#### E2E-C06S02-WC-□□



#### E2E-S04SR8-WC-□□



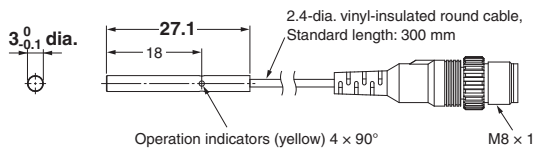
#### E2E-S05S12-WC-□□



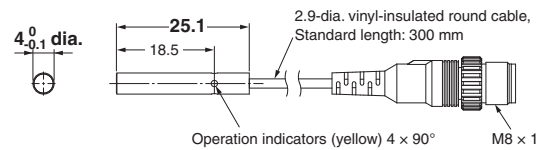
#### M8 Pre-wired Connector Models (0.3 m) (Shielded)



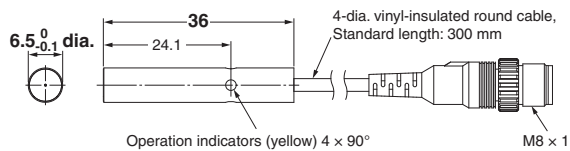
#### E2E-C03SR8-CJ-□□



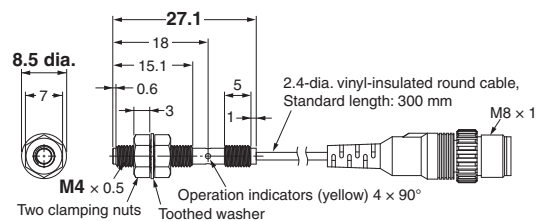
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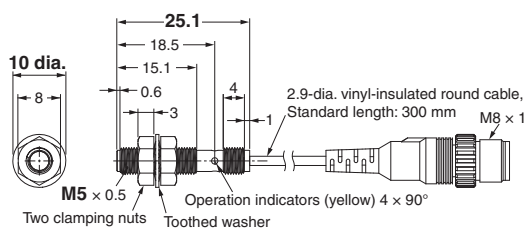
#### E2E-C06S02-CJ-□□



#### E2E-S04SR8-CJ-□□



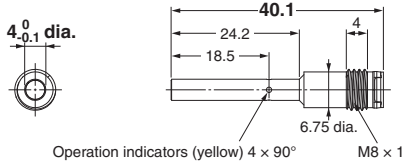
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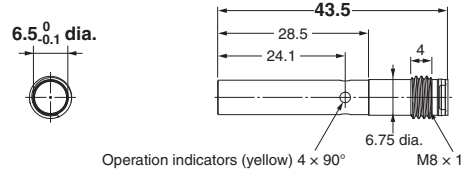
M8 Connector Models (Shielded)



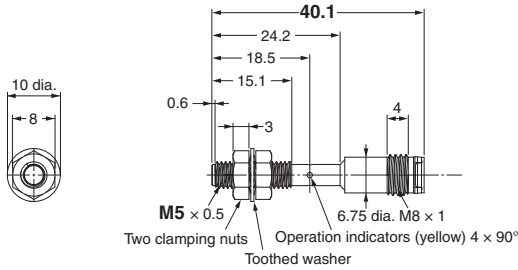
E2E-C04S12-MC-□□



E2E-C06S02-MC-□□



E2E-S05S12-MC-□□



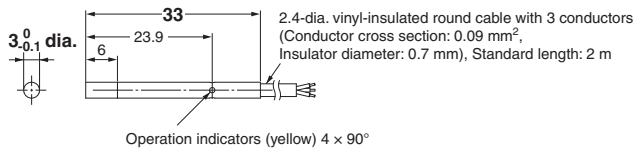
Pre-wired Models (Unshielded)

Mounting Hole Dimensions

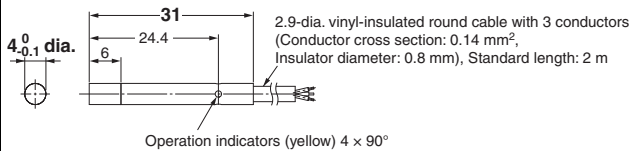


Dimension	3 dia.	4 dia.	6.5 dia.	M4	M5
F (mm)	3.3 <sup>+0.5</sup> <sub>0</sub>	4.2 <sup>+0.5</sup> <sub>0</sub>	7 <sup>+0.5</sup> <sub>0</sub>	4.5 <sup>+0.5</sup> <sub>0</sub>	5.5 <sup>+0.5</sup> <sub>0</sub>

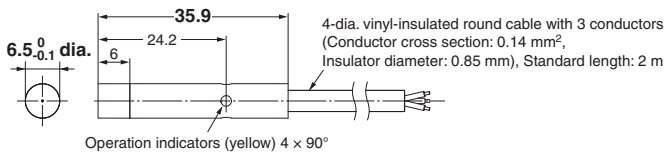
E2E-C03N02-WC-□□



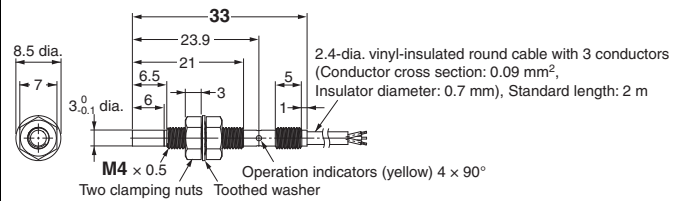
E2E-C04N03-WC-□□



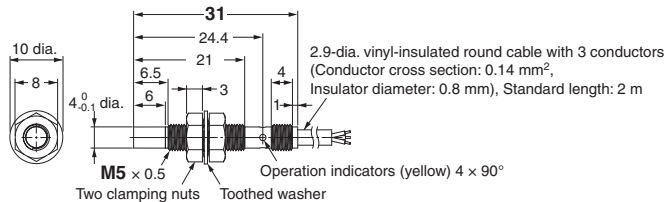
E2E-C06N04-WC-□□



E2E-S04N02-WC-□□



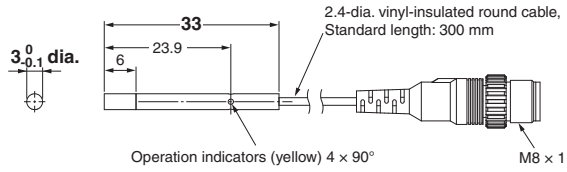
E2E-S05N03-WC-□□



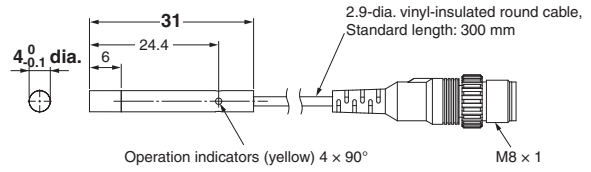
M8 Pre-wired Connector Models (0.3 mm) (Unshielded)



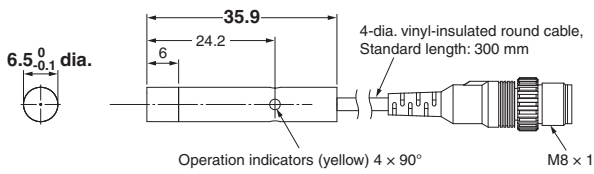
E2E-C03N02-CJ-□□



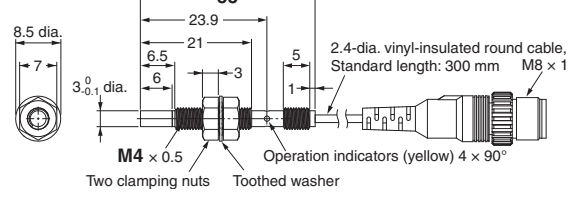
E2E-C04N03-CJ-□□



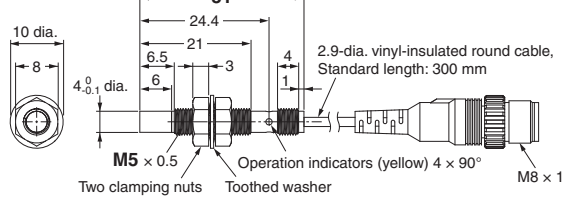
E2E-C06N04-CJ-□□



E2E-S04N02-CJ-□□



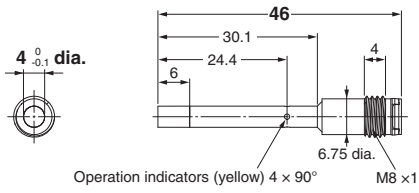
E2E-S05N03-CJ-□□



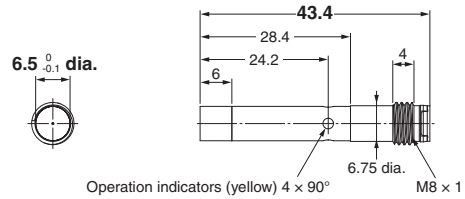
M8 Connector Models (Unshielded)



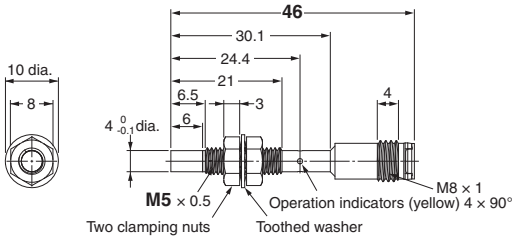
E2E-C04N03-MC-□□



E2E-C06N04-MC-□□



E2E-S05N03-MC-□□



## Accessories

### Mounting Brackets

**Y92E-SC03 (3-dia. block)**



Available soon

Material: Iron

**Y92E-SC04 (4-dia. block)**



Available soon

Material: Iron

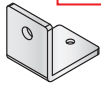
**Y92E-SC06 (6.5-dia. block)**



Available soon

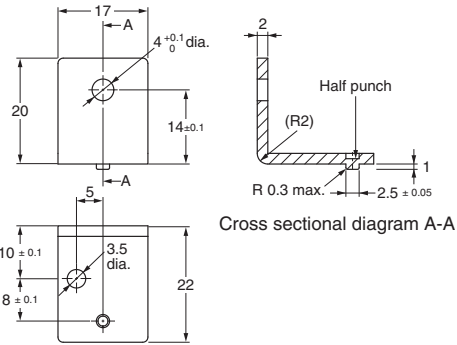
Material: Iron

**Y92E-SS04 (for M4 screw)**

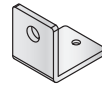


Available soon

Material: Iron

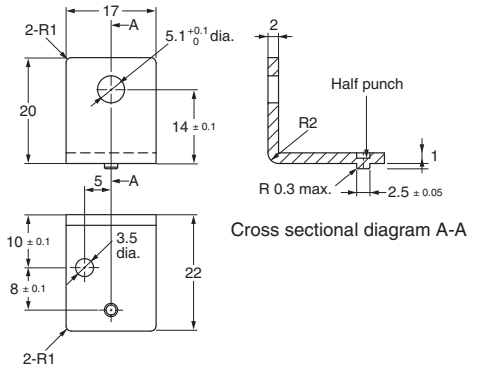


**Y92E-SS05 (for M5 screw)**



Available soon

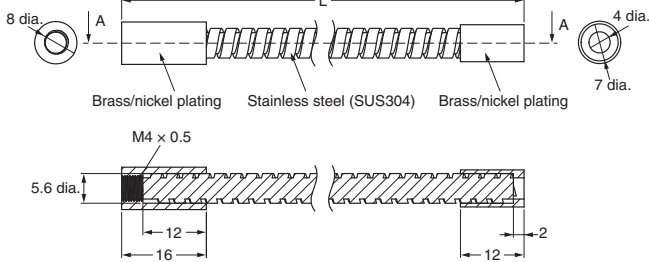
Material: Iron



### Protective Stainless-steel Spiral Tubes against Wire Breakage (Sold Separately)

**Y92E-STS04-□**

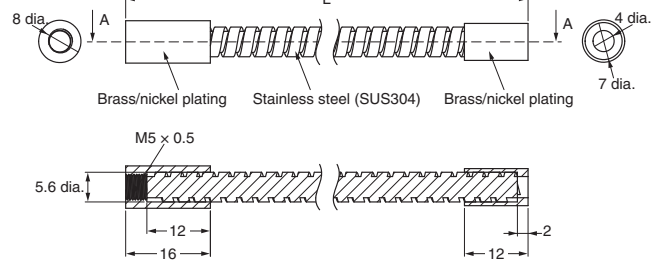
Available soon



L = 0.5 m (Y92E-STS04-05), 1 m (Y92E-STS04-10)

**Y92E-STS05-□**

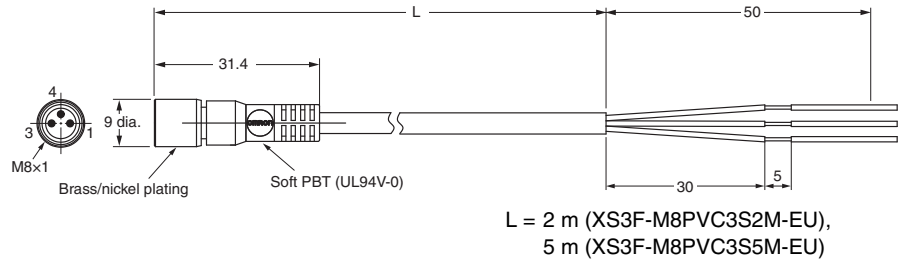
Available soon



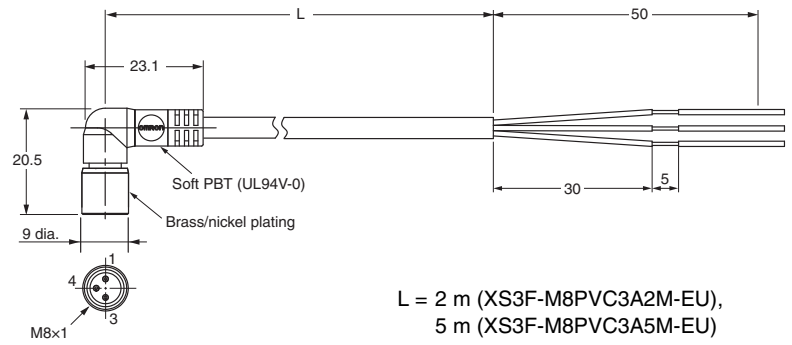
L = 0.5 m (Y92E-STS05-05), 1 m (Y92E-STS05-10)

Sensor I/O Connectors

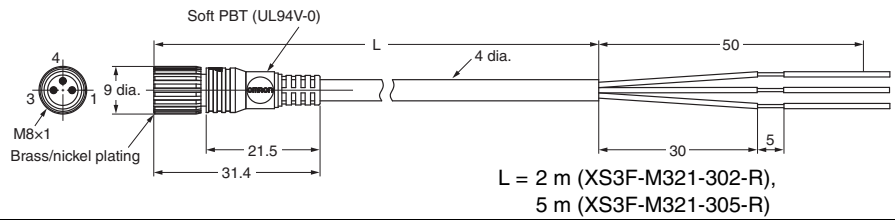
**XS3F-M8PVC3□□M-EU**  
Straight



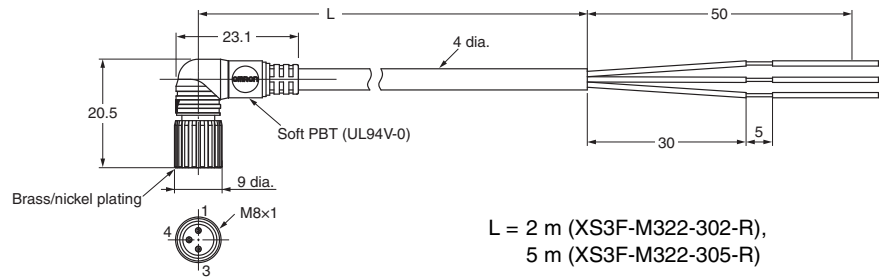
**Right-angle**



**XS3F-M32□-3□□-R**  
Straight



**Right-angle**









# Terms and Conditions Agreement

## Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

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- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
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