N E W

Proximity Sensors

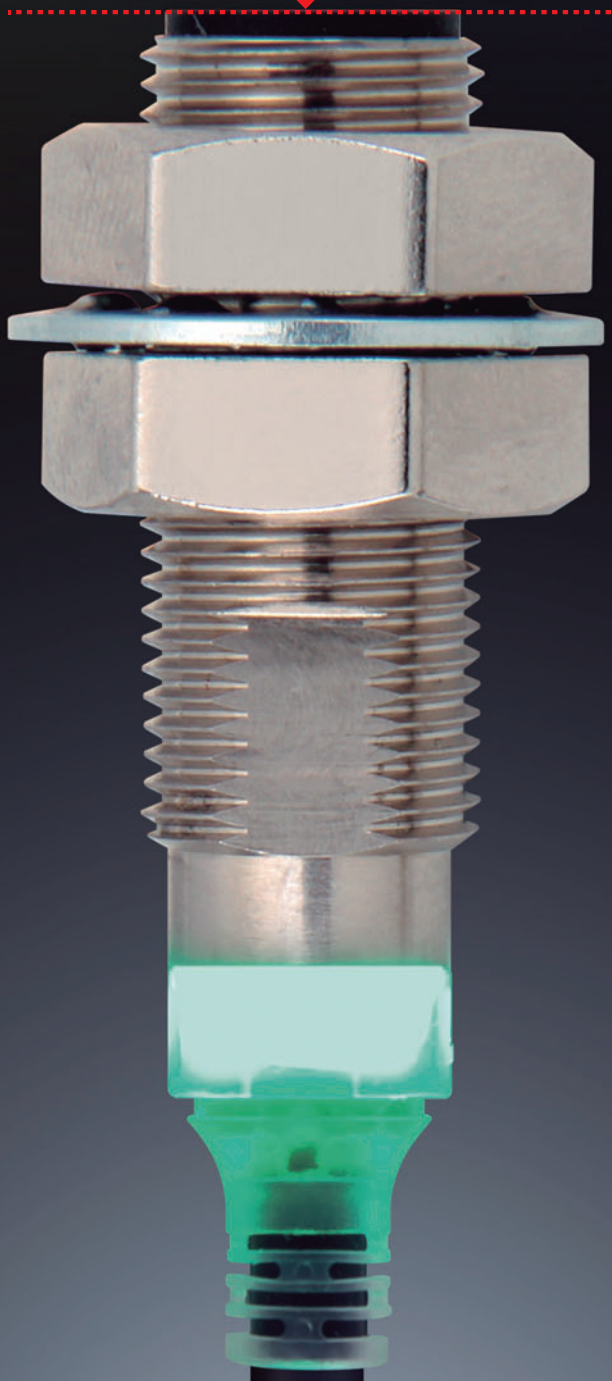
DC 2-Wire Models

E2E NEXT Series

OMRON

7 mm ⟨M12⟩

More than double the sensing distance of previous models



The World's Longest-distance* Detection

Reduces Malfunctions and Collisions

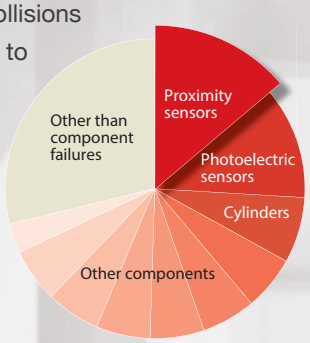
* Based on September 2017 OMRON investigation.

Unexpected Production Facility Stoppages: 70 % Are Caused by Component Failures.

Proximity sensors account for the most.

Many proximity sensors are used for production facilities due to its environment resistance. The short sensing distance, however, causes collisions with sensing objects, leading to a major cause of facility stoppages.

■ **Causes of unexpected production facility stoppages**



(Based on September 2017 OMRON investigation.)

With New Proximity Sensors,

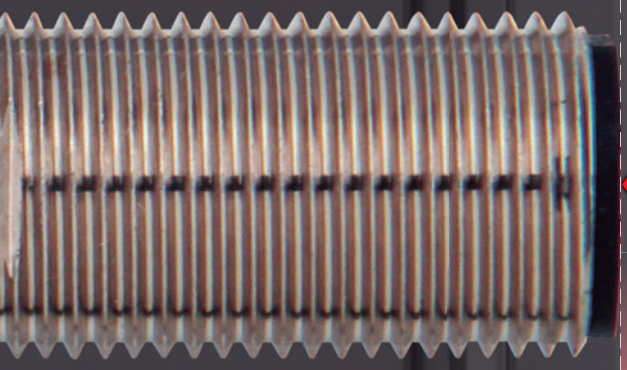
NEW

The world's longest* sensing distance

7 mm

for M12

* Based on September 2017 OMRON investigation.



Even when the distance from a sensing object changes due to equipment deterioration and vibration,

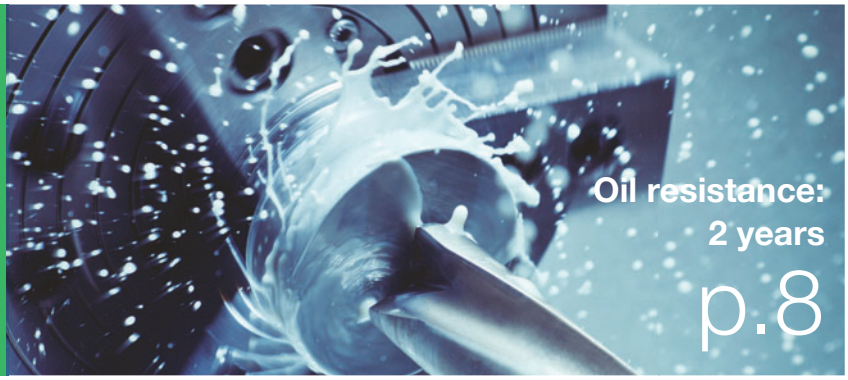
a Proximity Sensor does not hit equipment and facilities work stably!

Contributes to Better Facility "Operation Rates".

Stable operation

Quick recovery

Less failures



Also Contributes to Facility's Greater "Design Flexibility".

Greater Flexibility

Stable operation | Quick recovery | Less failures

Long-distance Detection
Prevents Unexpected Facility Stoppages

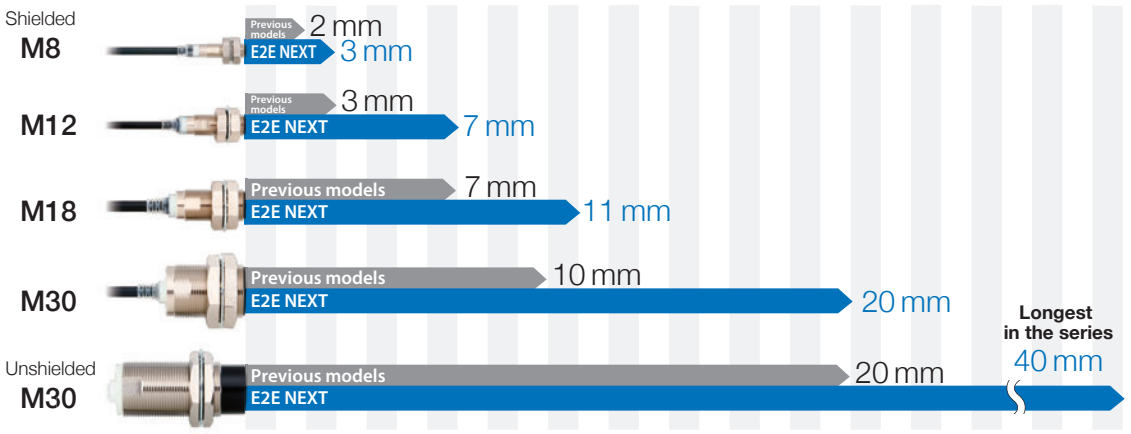
New Proximity Sensors reduce unexpected facility stoppages due to false detection, failures, and damage caused by previous proximity sensors.

Nearly double the sensing distance of previous models

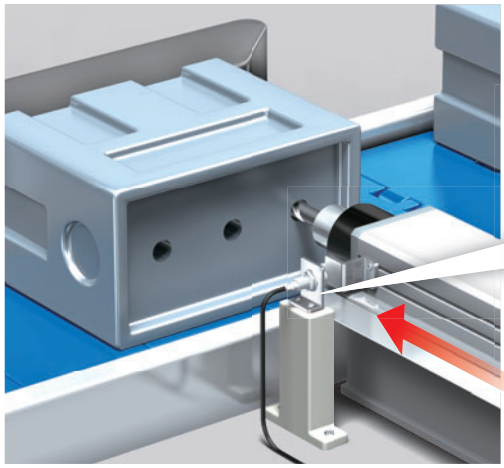
The world's longest sensing distance *

Sensing distance comparison

* Based on September 2017 OMRON investigation.

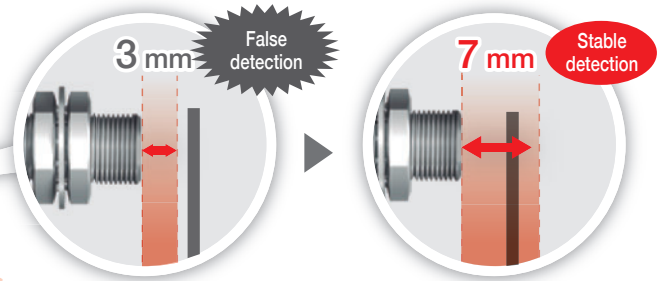


Less False Detection Even When a Stationary Gets Away From the Sensor Due to Equipment Vibration.



Presence detection of spindles

Previously The equipment vibration widens the distance between a stationary and a sensor to cause false detection and facility stoppages.

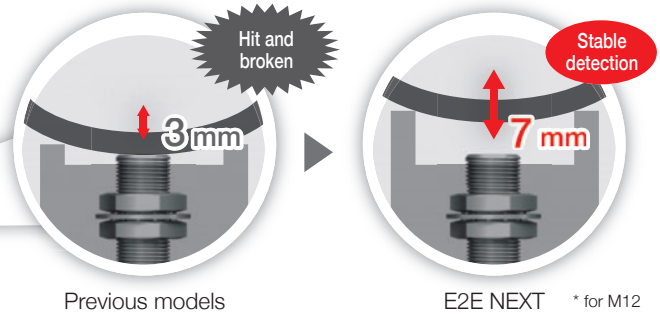


E2E NEXT **Long-distance detection enhances the degree of the detection margin.**
Stable detection even when a stationary gets away.

When Workpiece Sitting Position Varies Collisions Are Unlikely to Happen.

Sitting position confirmation of metal plates to weld

Previously Workpiece slides and gets closer to the Sensor to cause failures and damage due to collisions, and facility stoppages.



E2E NEXT **Long-distance detection keeps enough space from the workpiece.**
Less collision risks.

Long-distance and Stable Detection Technology "Thermal Distance Control" and Industry's First Analog Digital Hybrid IC "PROX2"

Proximity sensors with longer sensing distance require increased sensitivity. However, with the increased sensitivity, temperature changes will have bigger influence in sensing distance. E2E NEXT Proximity Sensors use "Thermal Distance Control": long-distance and stable detection technology, newly developed by OMRON. "Thermal Distance Control" with "PROX2" write temperature correction values externally when shipped and minimize the sensing distance changes due to temperature changes, which could not be done by the conventional analog IC. It is industry's first for 2-wire proximity sensors to use analog digital hybrid IC "PROX2".

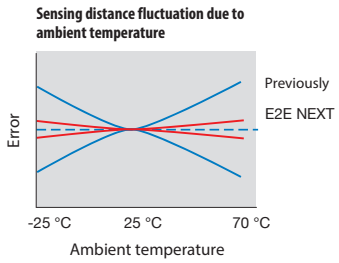
When compared with M12 at the ambient temperature of 50 °C.

Previously Error when the sensing distance is extended to 7 mm.

E2E NEXT Error when the sensing distance is 7 mm.

Patent Pending

"Thermal Distance Control" technology suppresses the error.



Stable operation | Quick recovery | Less failures

Enhanced Usability Enables Facilities that Can Recover in a Short Time Without Skill Requirements

Less time required from failure to recovery (MTTR: Mean Time To Recovery).

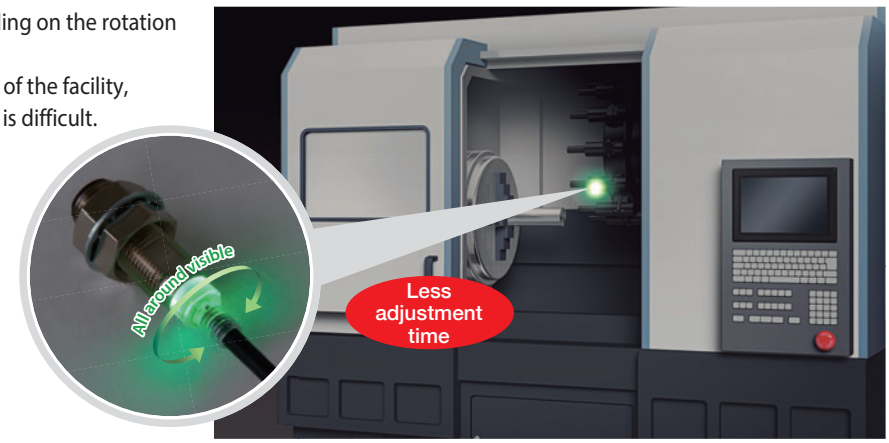
Indicator can be installed without regard to the orientation.

Previously

Indicators are invisible depending on the rotation stop position when installing.
When it is installed at the back of the facility, confirming accurate detection is difficult.

E2E NEXT

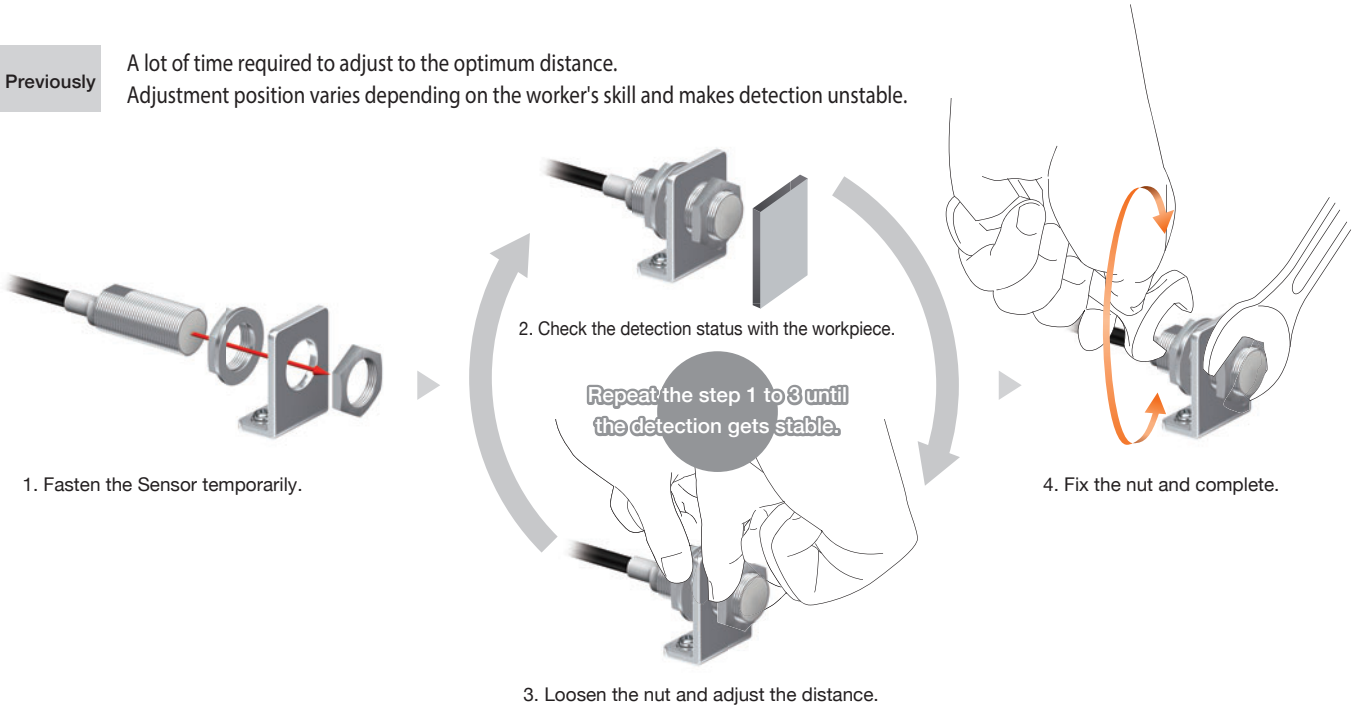
With high-brightness LED,the indicator is visible anywhere from 360° and it is easy to confirm the detection status.



Only 10 Seconds* to Replace a Proximity Sensor with "e-jig".

Previously

A lot of time required to adjust to the optimum distance.
Adjustment position varies depending on the worker's skill and makes detection unstable.



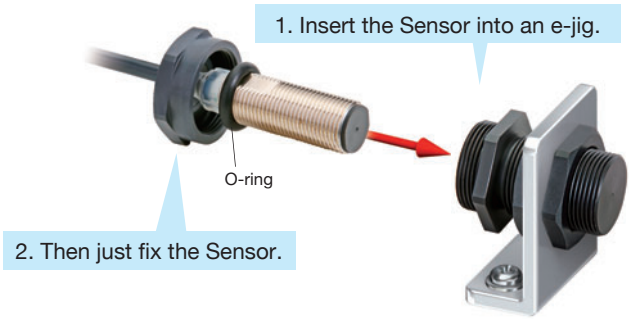
1. Fasten the Sensor temporarily.

3. Loosen the nut and adjust the distance.

4. Fix the nut and complete.

E2E NEXT

Reducing the replacement time significantly down to approx. 10 sec.*
Eliminating the need for adjustment allows for installation in the same position by any worker.

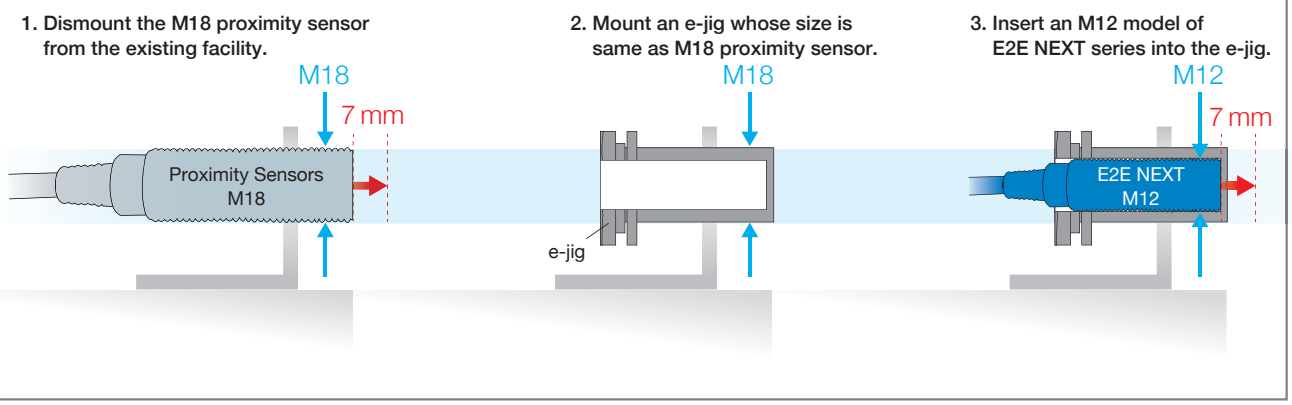


Patent Pending

The O-ring blocks the ingress of foreign matter, including cutting oil, into the e-jig and ensures positioning precision (IP67G).

Easily upgrade existing facilities to the one that needs "only 10 seconds* to replace" a proximity sensor

The sensing distance of E2E-NEXT is nearly double the conventional one. The sensing distance of the M12 models is 7 mm, which is same as conventional M18 models. When you use an e-jig together, you can easily upgrade existing facilities to the ones that need only 10 seconds* to replace a proximity sensor.



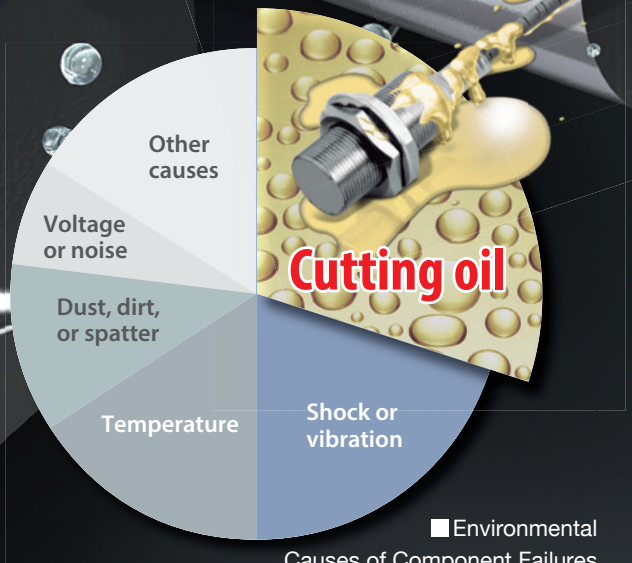
* Time required to adjust the diistance when installing a Sensor. Based on OMRON investigation.

Stable operation | Quick recovery | Less failures

Components with Oil Resistance of 2 Years*1 Further Reduce Unexpected Facility Stoppages

The Sensor reduces further unexpected failures in environments requiring oil resistance in addition to damage caused by collisions.

Unexpected component failures:
Approx. 30 % are caused by cutting oil.



■Environmental Causes of Component Failures
(Based on June 2016 OMRON investigation.)

Cables with enhanced oil resistance enabled 2-year oil resistance*1.

Previously Cable deterioration due to cutting oil

PUR cables get cracks under an environment where water-soluble cutting oil is used.

E2E NEXT **Verification of 2-Year Oil Resistance*1 Based on IP67G*2 and OMRON's Oil-resistant Component Evaluation Standards.**

OMRON's E2E NEXT series Proximity Sensors use PVC cables with enhanced oil resistance, and have been evaluated according to IP67G*2 of JIS C 0920 as well as according to the strict evaluation standard for OMRON's oil-resistant components.

Oil resistance: **2 years**

IP67G	
Oil type	N3 (water-insoluble cutting oil)
Evaluation time	48 hours
Evaluation temperature	Room temperature
Dilution concentration	——
Criteria	Appearance and performance

(Illustration)

OMRON's Oil-resistant Component Evaluation Standards	
Oil type	A1 (water-soluble cutting oil)
Evaluation time	1,000 hours of machining
Evaluation temperature	55 °C
Dilution concentration	Undiluted
Criteria	Appearance, performance, and no label text loss

(Illustration)

Eight representative types of oil which had oil resistance testing

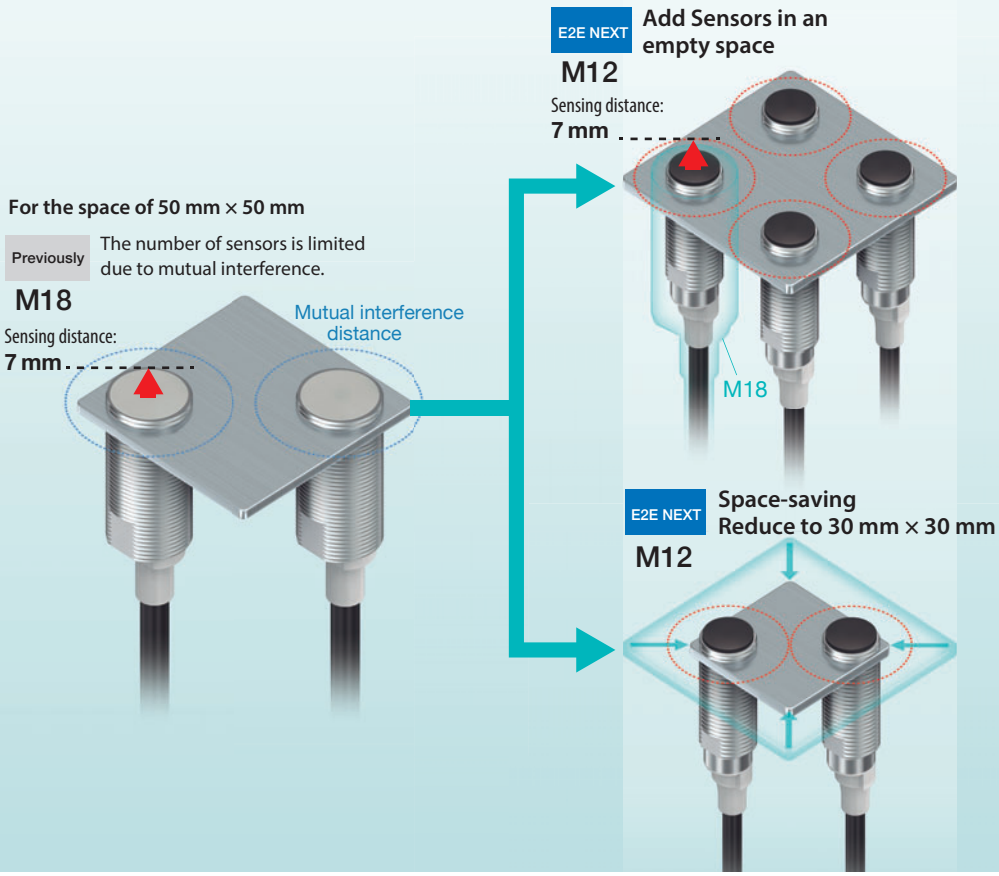
Test oil type	Oil	JIS classification	Kinetic viscosity (mm^2/s, 40 °C)	pH*3
Water-soluble cutting oil	Yushiroken EC50T-3 (YUSHIRO CHEMICAL INDUSTRY CO., LTD.)	A1	—	10.2
	Yushiroken FGE366 (YUSHIRO CHEMICAL INDUSTRY CO., LTD.)	A1	—	9.3
	Yushiroken FX90 (YUSHIRO CHEMICAL INDUSTRY CO., LTD.)	A1	—	9.6
	Yushiroken FGM427 (YUSHIRO CHEMICAL INDUSTRY CO., LTD.)	A2	—	10.2
	Yushiroken FGS700 (YUSHIRO CHEMICAL INDUSTRY CO., LTD.)	A2	—	9.9
	Yushiroken FGC950PR (YUSHIRO CHEMICAL INDUSTRY CO., LTD.)	A3	—	10.1
Water-insoluble cutting oil	Yushiron Cut Abas BZ224K (YUSHIRO CHEMICAL INDUSTRY CO., LTD.)	N3	10	—
	Yushiron Cut Abas KZ440 (YUSHIRO CHEMICAL INDUSTRY CO., LTD.)	N4	19	—

*1. · Applicable oil types: specified in JIS K 2241:2000
2-year oil resistance indicates the median value of the product design and the oil-resistance performance criterion result (=Typical value).
Products to be shipped will have around 2 years of oil resistance, but will very depending on the product.
· 2-year oil resistance is verified by Pre-wired models (2 m/5 m).
*2. The IP67G is the degree of protection which is defined according to the JIS (Japanese Industrial Standards).
The IP67 indicates the same level of protection as defined by the IEC, and the G indicates that a device has resistance to oil.
*3. pH values recommended by the cutting oil manufacturer are listed.

Greater Flexibility

Downsized Sensor Enhances Flexibility in Facility Design

Longer sensing distance enables one size smaller sensor with the same sensing distance, so we can add more sensors to an empty space and save space for the installation.

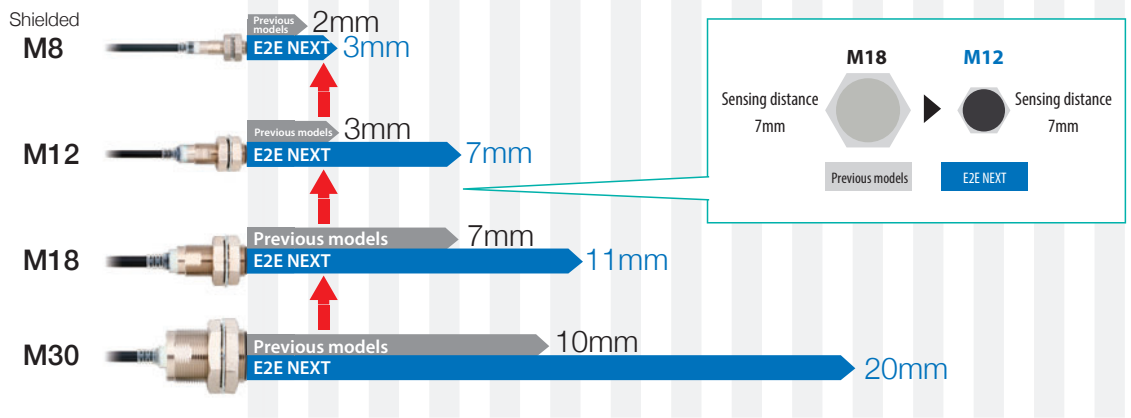


"Double distance" downsizes the sensors

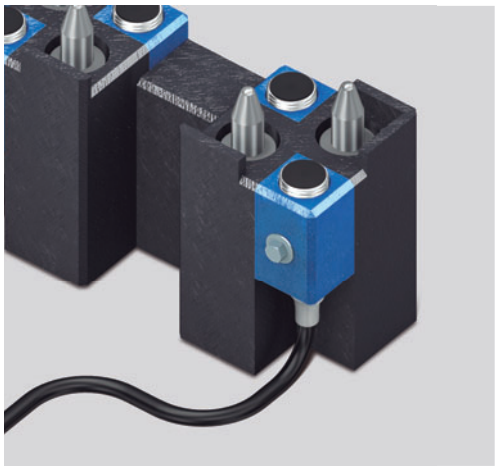
The world's longest sensing distance *

Sensing distance comparison

* Based on September 2017 OMRON investigation.

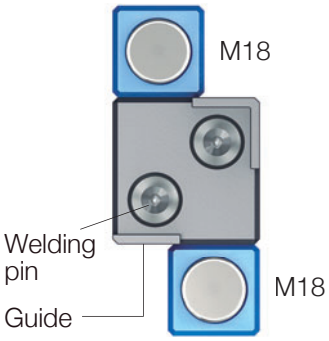


Easy to install in a welding jig



Previously

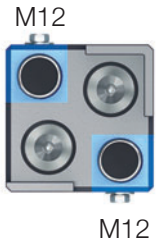
Due to the guide surrounding the welding pin, it is difficult to install a sensor near the pin to check the sitting position.



E2E NEXT

Proximity sensor can be installed in a small space around the welding pin.

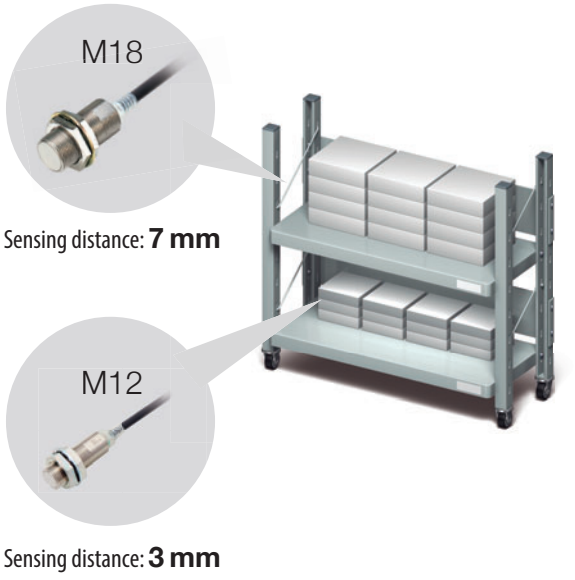
With the shorter mutual interference distance, you can install a proximity sensor near the welding pin.



Integrating the number of model types to unify models kept in stock.

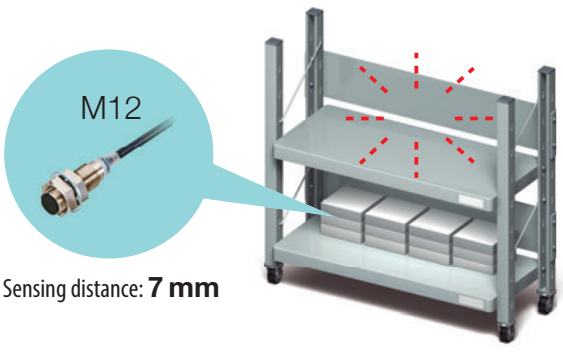
Previously

Two types of M12 and M18 models are kept in stock.



E2E NEXT

M12 models can cover the conventional M18 models and unify the stock into one model type.



Proximity Sensor

E2E/E2EQ NEXT Series

Long-distance Detection Prevents Unexpected Facility Stoppages

- The world's longest sensing distance*1
  Nearly double the sensing distance of previous
- With high-brightness LED, the indicator is visible anywhere from 360°.
- Only 10 Seconds*2 to Replace a Proximity Sensor with the "e-jig" (Mounting Sleeve).
- Cables with enhanced oil resistance enabled 2-year oil resistance*3.

*1. Based on July 2017 OMRON investigation.
*2. Time required to adjust the distance when installing a Sensor. Based on OMRON investigation.
*3. Refer to page 16 for details.

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

Be sure to read *Safety Precautions* on page 24.

E2E/E2EQ NEXT Series Model Number Legend

E2E (1) - X (2) (3) (4) (5) (6) (7) - (8) - (9) (10) - (11) (12)

No.	Classification	Code	Meaning
(1)	Case	Blank	Without spatter-resistant coating
		Q	With spatter-resistant coating
(2)	Sensing distance	Number	Long-distance type, Spatter-resistant Long-distance type 3: 3 mm, 6: 6 mm, 7: 7 mm, 10: 10 mm, 11: 11 mm, 20: 20 mm, 40: 40 mm, Standard-distance type 1R5: 1.5 mm, 2R5: 2.5 mm, 5: 5 mm
(3)	Shielding	Blank	Shielded Models
		M	Unshielded Models
(4)	Output specifications	D	DC 2-wire
(5)	Operation mode	1	Normally open (NO)
		2	Normally closed (NC)
(6)	Body size	Blank	Standard
		L	Long Body
(7)	Size (Omitted for the Standard-distance type.)	8	M8
		12	M12
		18	M18
		30	M30
(8)	Connecting method	Blank	Pre-wired Models
		M1TGJ	M12 Pre-wired Smartclick Connector Models
(9)	Polarity	Blank	Polarity
		T	No polarity
(10)	Cable specifications	Blank	Standard PVC cable
		R	Robot (bending-resistant) PVC cable
(11)	New model	Blank	Other than Standard-distance type (Pre-wired Models)
		N	Standard-distance type (Applicable only to Pre-wired Models)
(12)	Cable length	Number M	Number M Cable length (Unit: m) (Applicable to Pre-wired Models and Pre-wired Connector Models)

Note: 1. 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.
2. Size description of the number 7 is not included in the Standard-distance type.

Ordering Information

Sensors

E2E NEXT Series (Long-distance type)

DC 2-wire [Refer to *Dimensions* on page 26.]

Appearance		Sensing distance	Connection method	Cable specifications	Polarity	Model	
						Operation mode: NO	Operation mode: NC
Shielded *1	M8	3 mm	Pre-wired Models (2 m) *2 *3 *4	Vinyl chloride (PVC) (oil-resistant reinforced)	Yes	E2E-X3D18 2M	E2E-X3D28 2M
					No	E2E-X3D18-T 2M	E2E-X3D28-T 2M
			M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X3D18-M1TGJ 0.3M	E2E-X3D28-M1TGJ 0.3M
					No	E2E-X3D18-M1TGJ-T 0.3M	E2E-X3D28-M1TGJ-T 0.3M
	M12	7 mm	Pre-wired Models (2 m) *2 *3 *4		Yes	E2E-X7D112 2M	E2E-X7D212 2M
					No	E2E-X7D112-T 2M	E2E-X7D212-T 2M
			M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X7D112-M1TGJ 0.3M	E2E-X7D212-M1TGJ 0.3M
					No	E2E-X7D112-M1TGJ-T 0.3M	E2E-X7D212-M1TGJ-T 0.3M
	M18	11 mm	Pre-wired Models (2 m) *2 *3 *4		Yes	E2E-X11D118 2M	E2E-X11D218 2M
					No	E2E-X11D118-T 2M	E2E-X11D218-T 2M
			M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X11D118-M1TGJ 0.3M	E2E-X11D218-M1TGJ 0.3M
					No	E2E-X11D118-M1TGJ-T 0.3M	E2E-X11D218-M1TGJ-T 0.3M
	M30	20 mm	Pre-wired Models (2 m) *2 *3 *4		Yes	E2E-X20D130 2M	E2E-X20D230 2M
					No	E2E-X20D130-T 2M	E2E-X20D230-T 2M
			M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X20D130-M1TGJ 0.3M	E2E-X20D230-M1TGJ 0.3M
					No	E2E-X20D130-M1TGJ-T 0.3M	E2E-X20D230-M1TGJ-T 0.3M
Unshielded	M8	6 mm	Pre-wired Models (2 m) *2 *3 *4		Yes	E2E-X6MD18 2M	E2E-X6MD28 2M
					No	E2E-X6MD18-T 2M	E2E-X6MD28-T 2M
			M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X6MD18-M1TGJ 0.3M	E2E-X6MD28-M1TGJ 0.3M
					No	E2E-X6MD18-M1TGJ-T 0.3M	E2E-X6MD28-M1TGJ-T 0.3M
	M12	10 mm	Pre-wired Models (2 m) *2 *3 *4		Yes	E2E-X10MD112 2M	E2E-X10MD212 2M
					No	E2E-X10MD112-T 2M	E2E-X10MD212-T 2M
			M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X10MD112-M1TGJ 0.3M	E2E-X10MD212-M1TGJ 0.3M
					No	E2E-X10MD112-M1TGJ-T 0.3M	E2E-X10MD212-M1TGJ-T 0.3M
	M18	20 mm	Pre-wired Models (2 m) *2 *3 *4		Yes	E2E-X20MD1L18 2M	E2E-X20MD2L18 2M
					No	E2E-X20MD1L18-T 2M	E2E-X20MD2L18-T 2M
			M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X20MD1L18-M1TGJ 0.3M	E2E-X20MD2L18-M1TGJ 0.3M
					No	E2E-X20MD1L18-M1TGJ-T 0.3M	E2E-X20MD2L18-M1TGJ-T 0.3M
	M30	40 mm	Pre-wired Models (2 m) *2 *3 *4		Yes	E2E-X40MD1L30 2M	E2E-X40MD2L30 2M
					No	E2E-X40MD1L30-T 2M	E2E-X40MD2L30-T 2M
			M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X40MD1L30-M1TGJ 0.3M	E2E-X40MD2L30-M1TGJ 0.3M
					No	E2E-X40MD1L30-M1TGJ-T 0.3M	E2E-X40MD2L30-M1TGJ-T 0.3M

*1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 25.
*2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2E-X3D18 5M)
*3. Models with robot (bending-resistant) cable are also available with "-R" in the model number. (Example: E2E-X3D18-R 2M)
*4. Models with 5-m robot (bending-resistant) cable are also available with "-R" and the "5M" suffix in the model number. (Example: E2E-X3D18-R 5M)

Sensors

E2EQ NEXT Series (Spatter-resistant Long-distance type)
DC 2-wire [Refer to *Dimensions* on page 28.]

Appearance	Sensing distance	Connection method	Cable specifications	Polarity	Model	
					Operation mode: NO	Operation mode: NC
Shielded *1 	M8 3 mm	Pre-wired Models (2 m) *2	Vinyl chloride (PVC) (oil-resistant reinforced)	Yes	E2EQ-X3D18 2M	E2EQ-X3D28 2M
				No	E2EQ-X3D18-T 2M	E2EQ-X3D28-T 2M
		M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2EQ-X3D18-M1TGJ 0.3M	E2EQ-X3D28-M1TGJ 0.3M
				No	E2EQ-X3D18-M1TGJ-T 0.3M	E2EQ-X3D28-M1TGJ-T 0.3M
	M12 7 mm	Pre-wired Models (2 m) *2		Yes	E2EQ-X7D112 2M	E2EQ-X7D212 2M
				No	E2EQ-X7D112-T 2M	E2EQ-X7D212-T 2M
		M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2EQ-X7D112-M1TGJ 0.3M	E2EQ-X7D212-M1TGJ 0.3M
				No	E2EQ-X7D112-M1TGJ-T 0.3M	E2EQ-X7D212-M1TGJ-T 0.3M
	M18 11 mm	Pre-wired Models (2 m) *2		Yes	E2EQ-X11D118 2M	E2EQ-X11D218 2M
				No	E2EQ-X11D118-T 2M	E2EQ-X11D218-T 2M
		M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2EQ-X11D118-M1TGJ 0.3M	E2EQ-X11D218-M1TGJ 0.3M
				No	E2EQ-X11D118-M1TGJ-T 0.3M	E2EQ-X11D218-M1TGJ-T 0.3M
	M30 20 mm	Pre-wired Models (2 m) *2		Yes	E2EQ-X20D130 2M	E2EQ-X20D230 2M
				No	E2EQ-X20D130-T 2M	E2EQ-X20D230-T 2M
		M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2EQ-X20D130-M1TGJ 0.3M	E2EQ-X20D230-M1TGJ 0.3M
				No	E2EQ-X20D130-M1TGJ-T 0.3M	E2EQ-X20D230-M1TGJ-T 0.3M

*1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 25.
*2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2EQ-X3D18 5M)

E2E NEXT Series (Standard-distance type)
DC 2-wire [Refer to *Dimensions* on page 29.]

Appearance	Sensing distance	Connection method	Cable specifications	Polarity	Model	
					Operation mode: NO	Operation mode: NC
Shielded 	M8 1.5 mm	Pre-wired Models (2 m) *1 *2 *3	Vinyl chloride (PVC) (oil-resistant reinforced)	Yes	E2E-X1R5D1-N 2M	E2E-X1R5D2-N 2M
				No	E2E-X1R5D1-T-N 2M	E2E-X1R5D2-T-N 2M
		M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X1R5D1-M1TGJ 0.3M	E2E-X1R5D2-M1TGJ 0.3M
				No	E2E-X1R5D1-M1TGJ-T 0.3M	E2E-X1R5D2-M1TGJ-T 0.3M
	M12 2.5 mm	Pre-wired Models (2 m) *1 *2 *3		Yes	E2E-X2R5D1-N 2M	E2E-X2R5D2-N 2M
				No	E2E-X2R5D1-T-N 2M	E2E-X2R5D2-T-N 2M
		M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X2R5D1-M1TGJ 0.3M	E2E-X2R5D2-M1TGJ 0.3M
				No	E2E-X2R5D1-M1TGJ-T 0.3M	E2E-X2R5D2-M1TGJ-T 0.3M
	M18 5 mm	Pre-wired Models (2 m) *1 *2 *3		Yes	E2E-X5D1-N 2M	E2E-X5D2-N 2M
				No	E2E-X5D1-T-N 2M	E2E-X5D2-T-N 2M
		M12 Pre-wired Smartclick Connector Models (0.3 m)		Yes	E2E-X5D1-M1TGJ 0.3M	E2E-X5D2-M1TGJ 0.3M
				No	E2E-X5D1-M1TGJ-T 0.3M	E2E-X5D2-M1TGJ-T 0.3M

*1. Models with 5-m cable length are also available with "5M" suffix. (Example: E2E-X1R5D1-N 5M)
*2. Models with robot (bending-resistant) cable are also available with "-R" in the model number. (Example: E2E-X1R5D1-R-N 2M)
*3. Models with 5-m robot (bending-resistant) cable are also available with "-R" and the "5M" suffix in the model number. (Example: E2E-X1R5D1-R-N 5M)

Accessories (Sold Separately)

Sensor I/O Connectors (Sockets on One Cable End) [Refer to *Dimensions* on page 30.]

(Models for Pre-wired Connectors) A Sensor I/O Connector is not provided with the Sensor. It must be ordered separately as required.

Appearance		Cable diameter (mm)	Cable length	Sensor I/O Connector model number	Applicable Proximity Sensor model number
M12 Straight, Smartclick Connectors 	Sockets on One Cable End	6 dia.	1 m	**XS5F-D421-C80-F**	E2E-X□D□-M1TGJ(-T) E2EQ-X□D□-M1TGJ(-T)
			2 m	**XS5F-D421-D80-F**	
			3 m	**XS5F-D421-E80-F**	
			5 m	**XS5F-D421-G80-F**	
			10 m	**XS5F-D421-J80-F**	
	Socket and Plug on Cable Ends		1 m	**XS5W-D421-C81-F**	
			2 m	**XS5W-D421-D81-F**	
			3 m	**XS5W-D421-E81-F**	
			5 m	**XS5W-D421-G81-F**	
			10 m	**XS5W-D421-J81-F**	

e-jig (Mounting Sleeves) [Refer to Dimensions on page 30.]

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

Appearance	Model	Applicable Sensors	Quantity
	Y92E-J8S12	E2E NEXT M8 Shielded Sensors	1
	Y92E-J12S18	E2E NEXT M12 Shielded Sensors	1
	Y92E-J18S30	E2E NEXT M18 Shielded Sensors	1

Note: Mounting Brackets are not Spatter-resistant Models.

E2E/E2EQ NEXT Series

Ratings and Specifications

E2E NEXT Series (Long-distance type)

DC 2-wire

Item	Size	M8		M12		M18		M30	
	Shielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
	Model	E2E-X3D□	E2E-X6MD□	E2E-X7D□	E2E-X10MD□	E2E-X11D□	E2E-X20MD□	E2E-X20D□	E2E-X40MD□
Sensing distance		3 mm ±10%	6 mm ±10%	7 mm ±10%	10 mm ±10%	11 mm ±10%	20 mm ±10%	20 mm ±10%	40 mm ±10%
Setting distance *1		0 to 2.4 mm	0 to 4.8 mm	0 to 5.6 mm	0 to 8 mm	0 to 8.8 mm	0 to 16 mm	0 to 16 mm	0 to 32 mm
Differential travel		15% max. of sensing distance							
Detectable object		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to *Engineering Data* on page 20.)							
Standard sensing object		Iron, 9 × 9 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, 21 × 21 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, 33 × 33 × 1 mm	Iron, 60 × 60 × 1 mm	Iron, 60 × 60 × 1 mm	Iron, 120 × 120 × 1 mm
Response frequency *2		1,000 Hz	500 Hz	800 Hz	400 Hz	500 Hz	200 Hz	200 Hz	100 Hz
Power supply voltage		10 to 30 VDC, (including 10% ripple (p-p))							
Leakage current		0.8 mA max.							
Control output	Load current	3 to 100 mA							
	Residual voltage	Polarity: 3 V max. (Load current: 100 mA, Cable length: 2 m) No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m)							
Indicator		D1 Models: Operation indicator (orange), Setting indicator (green) D2 Models: Operation indicator (orange)							
Operation mode		D1 Models: NO D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 23 for details.							
Protection circuits		Surge suppressor, Load short-circuit protection							
Ambient temperature range		Operating: -25 to 70°C, Storage: -40 to 85°C (with no icing or condensation)							
Ambient humidity range		Operating and Storage: 35% to 95% (with no condensation)							
Temperature influence		±10% max. of sensing distance at 23°C in the temperature range of -25 to 70°C				±20% max. of sensing distance at 23°C in the temperature range of -25 to 70°C	±10% max. of sensing distance at 23°C in the temperature range of -25 to 70°C	±20% max. of sensing distance at 23°C in the temperature range of -25 to 70°C	
Voltage influence		±1% max. of sensing distance at rated voltage in the rated voltage ±15% range							
Insulation resistance		50 MΩ min. (at 500 VDC) between current-carrying parts and case							
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case							
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions							
Shock resistance (destruction)		500 m/s² 10 times each in X, Y, and Z directions		1,000 m/s² 10 times each in X, Y, and Z directions					
Degree of protection		Pre-wired Models/Pre-wired Connector Models: IP67 (IEC 60529), IP67G *3 (JIS C 0920 Annex 1) Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000, Temperature: 35 °C max.) and IEC 60529 (old standard: DIN 40050 PART9) IP69K							
Connecting method		Pre-wired Models (Standard cable length: 2 m) and Pre-wired Connector Models (Standard cable length: 0.3 m)							
Weight (packed state)	Pre-wired Models	Approx. 60 g		Approx. 70 g		Approx. 130 g	Approx. 150 g	Approx. 180 g	Approx. 210 g
	Pre-wired Connector Models	Approx. 30 g		Approx. 40 g		Approx. 70 g	Approx. 90 g	Approx.110 g	Approx. 140 g
Materials	Case	Nickel-plated brass	Stainless steel (SUS303)	Nickel-plated brass					
	Sensing surface	Polybutylene terephthalate (PBT)							
	Clamping nuts	Nickel-plated brass							
	Toothed washer	Zinc-plated iron							
	Cable	Vinyl chloride (PVC)							
Accessories		Instruction manual, Clamping nuts, Toothed washer							

*1. Use the Sensor within the range in which the setting indicator (green LED) is ON (except D2 Models).
*2. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing distance.
*3. The IP67G is the degree of protection which is defined according to the JIS (Japanese Industrial Standards).
The IP67 indicates the same level of protection as defined by the IEC, and the G indicates that a device has resistance to oil.
*4. The Oil-resistant Component Evaluation Standards are OMRON's own durability evaluation standards.
2-year oil resistance indicates the median value of the product design and the oil-resistance performance criterion result (=Typical value).
Products to be shipped will have around 2 years of oil resistance, but will very depending on the product.
2-year oil resistance is verified by Pre-wired models (2 m/5 m).
The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models and the connector part for the Pre-wired Connector Models.

E2EQ NEXT Series (Spatter-resistant Long-distance type)
DC 2-wire

Item	Size	M8	M12	M18	M30
	Shielded	Shielded			
	Model	E2EQ-X3D□	E2EQ-X7D□	E2EQ-X11D□	E2EQ-X20D□
Sensing distance		3 mm ±10%	7 mm ±10%	11 mm ±10%	20 mm ±10%
Setting distance *1		0 to 2.4 mm	0 to 5.6 mm	0 to 8.8 mm	0 to 16 mm
Differential travel		15% max. of sensing distance			
Detectable object		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to *Engineering Data* on page 20.)			
Standard sensing object		Iron, 9 × 9 × 1 mm	Iron, 21 × 21 × 1 mm	Iron, 33 × 33 × 1 mm	Iron, 60 × 60 × 1 mm
Response frequency *2		1,000 Hz	800 Hz	500 Hz	200 Hz
Power supply voltage		10 to 30 VDC, (including 10% ripple (p-p))			
Leakage current		0.8 mA max.			
Control output	Load current	3 to 100 mA			
	Residual voltage	Polarity: 3 V max. (Load current: 100 mA, Cable length: 2 m) No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m)			
Indicator		D1 Models: Operation indicator (orange), Setting indicator (green) D2 Models: Operation indicator (orange)			
Operation mode		D1 Models: NO D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 23 for details.			
Protection circuits		Surge suppressor, Load short-circuit protection			
Ambient temperature range		Operating: -25 to 70°C, Storage: -40 to 85°C (with no icing or condensation)			
Ambient humidity range		Operating and Storage: 35% to 95% (with no condensation)			
Temperature influence		±10% max. of sensing distance at 23°C in the temperature range of -25 to 70°C		±20% max. of sensing distance at 23°C in the temperature range of -25 to 70°C	
Voltage influence		±1% max. of sensing distance at rated voltage in the rated voltage ±15% range			
Insulation resistance		50 MΩ min. (at 500 VDC) between current-carrying parts and case			
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case			
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions			
Shock resistance (destruction)		500 m/s^2 10 times each in X, Y, and Z directions	1,000 m/s^2 10 times each in X, Y, and Z directions		
Degree of protection		Pre-wired Models/Pre-wired Connector Models: IP67 (IEC 60529) and IP67G *3 (JIS C 0920 Annex 1)			
Connecting method		Pre-wired Models (Standard cable length: 2 m) and Pre-wired Connector Models (Standard cable length: 0.3 m)			
Weight (packed state)	Pre-wired Models	Approx. 60 g	Approx. 70 g	Approx. 150 g	Approx. 210 g
	Pre-wired Connector Models	Approx. 30 g	Approx. 40 g	Approx. 90 g	Approx. 140 g
Materials	Case	Fluororesin coating (Base material: brass)			
	Sensing surface	Fluororesin			
	Clamping nuts	Fluororesin coating (Base material: brass)			
	Toothed washer	Zinc-plated iron			
	Cable	Vinyl chloride (PVC)			
Accessories		Instruction manual, Clamping nuts, Toothed washer			

*1. Use the Sensor within the range in which the setting indicator (green LED) is ON (except D2 Models).
*2. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing distance.
*3. The IP67G is the degree of protection which is defined according to the JIS (Japanese Industrial Standards).
The IP67 indicates the same level of protection as defined by the IEC, and the G indicates that a device has resistance to oil.

E2E NEXT Series (Standard-distance type)
DC 2-wire

Item \ Size		M8	M12	M18
Shielded		Shielded		
Model		E2E-X1R5D□	E2E-X2R5D□	E2E-X5D□
Sensing distance		1.5 mm ±10%	2.5 mm ±10%	5 mm ±10%
Setting distance *1		0 to 1.2 mm	0 to 2 mm	0 to 4 mm
Differential travel		10% max. of sensing distance		
Detectable object		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to *Engineering Data* on page 20.)		
Standard sensing object		Iron, 10 × 10 × 1 mm	Iron, 12 × 12 × 1 mm	Iron, 18 × 18 × 1 mm
Response frequency *2		1,500 Hz	1,000 Hz	600 Hz
Power supply voltage		10 to 30 VDC, (including 10% ripple (p-p))		
Leakage current		0.8 mA max.		
Control output	Load current	3 to 100 mA		
	Residual voltage	Polarity: 3 V max. (Load current: 100 mA, Cable length: 2 m) No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m)		
Indicator		D1 Models: Operation indicator (orange), Setting indicator (green) D2 Models: Operation indicator (orange)		
Operation mode		D1 Models: NO D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 23 for details.		
Protection circuits		Surge suppressor, Load short-circuit protection		
Ambient temperature range		Operating: -25 to 70°C, Storage: -40 to 85°C (with no icing or condensation)		
Ambient humidity range		Operating and Storage: 35% to 95% (with no condensation)		
Temperature influence		±10% max. of sensing distance at 23°C in the temperature range of -25 to 70°C		
Voltage influence		±1% max. of sensing distance at rated voltage in the rated voltage ±15% range		
Insulation resistance		50 MΩ min. (at 500 VDC) between current-carrying parts and case		
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case		
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions		
Shock resistance (destruction)		500 m/s^2 10 times each in X, Y, and Z directions	1,000 m/s^2 10 times each in X, Y, and Z directions	
Degree of protection		Pre-wired Models/Pre-wired Connector Models: IP67 (IEC 60529), IP67G *3 (JIS C 0920 Annex 1) Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000, Temperature: 35°C max.) and IEC 60529 (old standard: DIN 40050 PART9) IP69K		
Connecting method		Pre-wired Models (Standard cable length: 2 m) and Pre-wired Connector Models (Standard cable length: 0.3 m)		
Weight (packed state)	Pre-wired Models	Approx. 60 g	Approx. 70 g	Approx. 130 g
	Pre-wired Connector Models	Approx. 30 g	Approx. 40 g	Approx. 70 g
Materials	Case	Stainless steel (SUS303)	Nickel-plated brass	
	Sensing surface	Polybutylene terephthalate (PBT)		
	Clamping nuts	Nickel-plated brass		
	Toothed washer	Zinc-plated iron		
	Cable	Vinyl chloride (PVC)		
Accessories		Instruction manual, Clamping nuts, Toothed washer		

*1. Use the Sensor within the range in which the setting indicator (green LED) is ON (except D2 Models).
*2. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard.
*3. The IP67G is the degree of protection which is defined according to the JIS (Japanese Industrial Standards).
The IP67 indicates the same level of protection as defined by the IEC, and the G indicates that a device has resistance to oil.
*4. The Oil-resistant Component Evaluation Standards are OMRON's own durability evaluation standards.
2-year oil resistance indicates the median value of the product design and the oil-resistance performance criterion result (=Typical value).
Products to be shipped will have around 2 years of oil resistance, but will very depending on the product.
2-year oil resistance is verified by Pre-wired models (2 m/5 m).
The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models and the connector part for the Pre-wired Connector Models.

Accessories (Sold Separately)

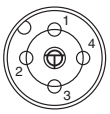
Sensor I/O Connectors

Rated current	4 A
Rated voltage	250 VDC
Contact resistance (connector)	40 mΩ max. (20 mV max., 100 mA max.)
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength (connector)	1,500 VAC for 1 min (leakage current: 1 mA max.)
Degree of protection	IP67 (IEC60529)
Insertion tolerance	50 times min.
Lock strength	Tensile: 100 N/15 s, Torsion: 1 N·m/15 s
Cable holding strength	Tensile: 100 N/15 s, Torsion: 1 N·m/15 s (for cable diameter of 6 mm)
Lock operating force	0.1 to 0.25 N·m
Ambient operating temperature range	–25 to 70°C
Ambient humidity range	20% to 85%
Number of pressure-weld repairs	10 times max. (Limited to the same external diameter and wire diameter.)

Materials and Finishes

Item	Model	XS5F/XS5W
Contacts	**Material**	Phosphor bronze
	Finish	Nickel base, 0.4-μm gold plating
Fixtures		Nickel-plated zinc alloy
Fixtures (Lock)		Stainless
Pin block		PBT resin (UL94V-0)
O-ring		Rubber
Overmolding/Cover		Soft PBT resin (UL94V-0)
Cable	**Fire-retardant, Robot cable**	UL AWM2464 CL3, 6 mm dia., AWG20 (0.5mm^2) Structure: 0.08 mm/110 wires

Connector Pinout Diagram (from Mating Side)

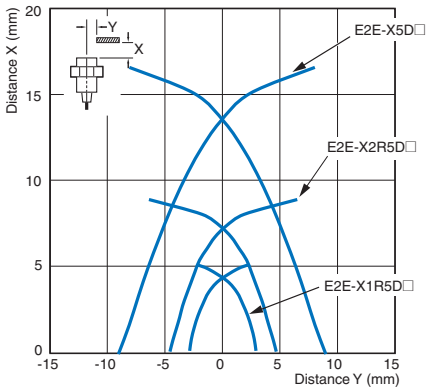
Item	No. of poles	4 poles
DC type	**Male (plug) contacts**	
	Female (socket) contacts	

Engineering Data (Reference Value)

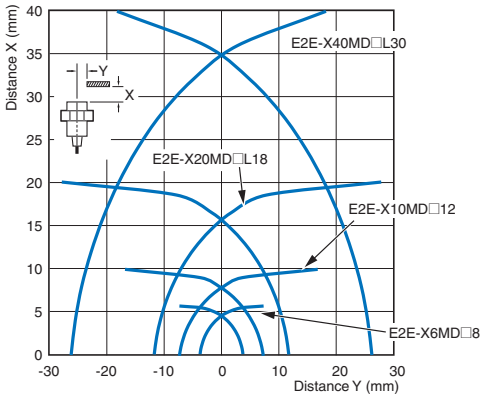
Sensing Area

Long-distance type, Spatter-resistant Long-distance type

Shielded Models
E2E-X□D□/E2EQ-X□D□

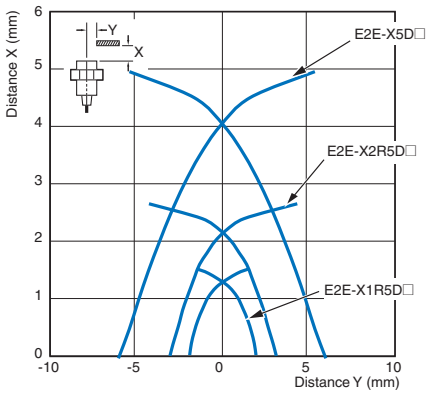


Unshielded Models
E2E-X□MD□



Standard-distance type

Shielded Models
E2E-X1R5D□/-X2R5D□/-X5D□

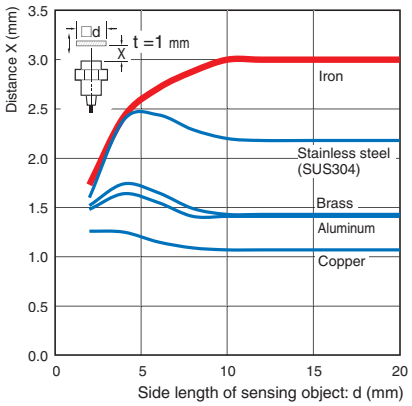


Influence of Sensing Object Size and Materials

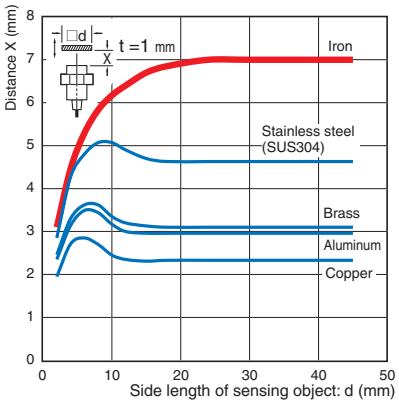
Long-distance type, Spatter-resistant Long-distance type

Shielded Models

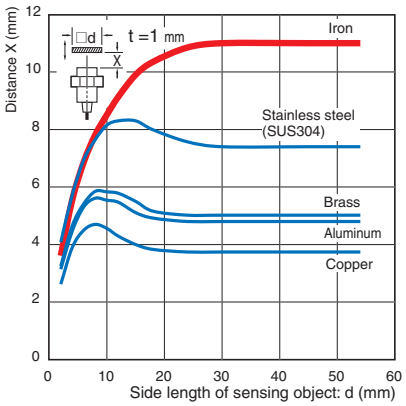
E2E-X3D□8/E2EQ-X3D□8



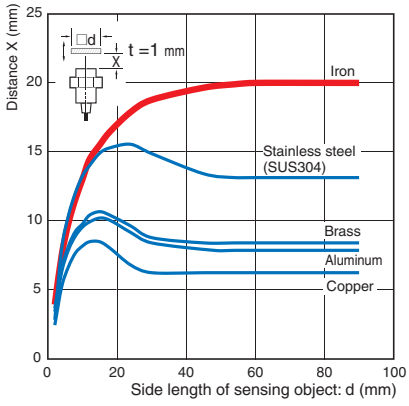
E2E-X7D□12/E2EQ-X7D□12



E2E-X11D□18/E2EQ-X11D□18

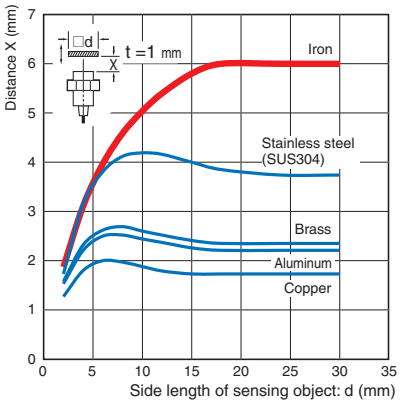


E2E-X20D□30/E2EQ-X20D□30

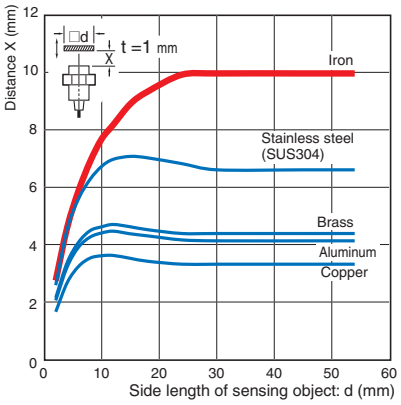


Unshielded Models

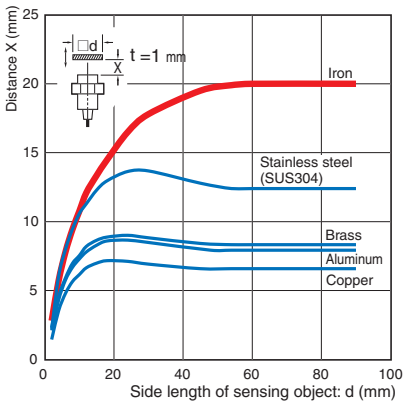
E2E-X6MD□8



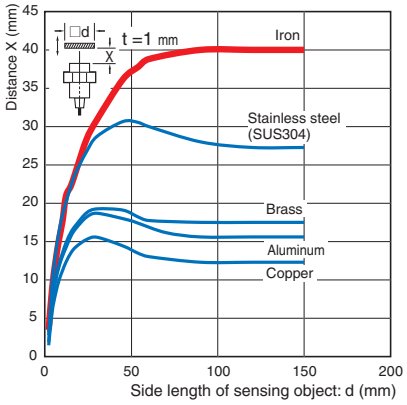
E2E-X10MD□12



E2E-X20MD□L18



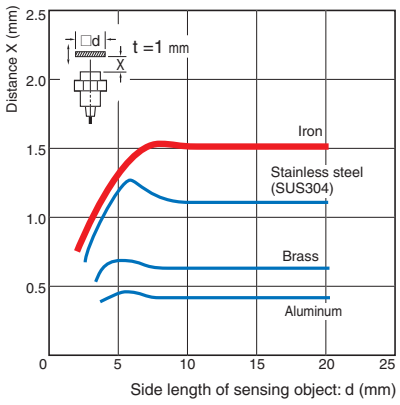
E2E-X40MD□L30



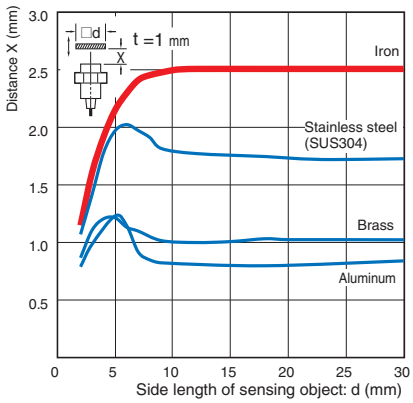
Standard-distance type

Shielded Models

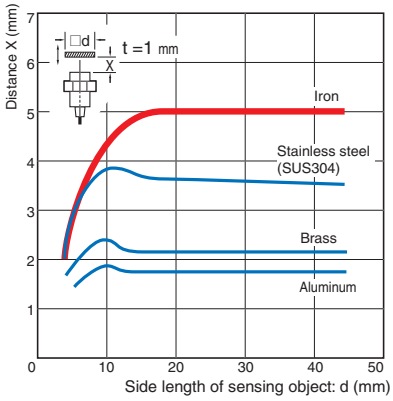
E2E-X1R5D□



E2E-X2R5D□



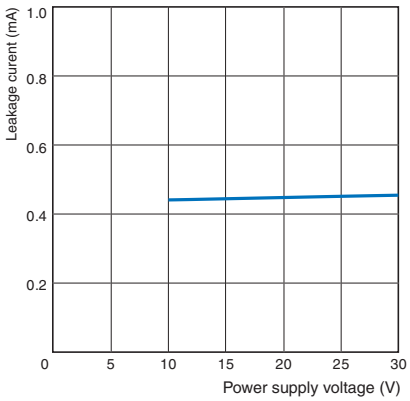
E2E-X5D□



Leakage Current

Long-distance type / Spatter-resistant Long-distance type / Standard-distance type

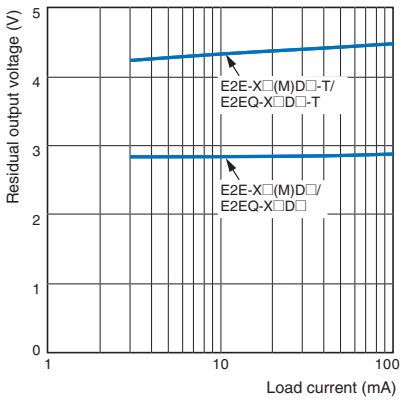
E2E-X□(M)D□(-T)/E2EQ-X□D□(-T)



Residual Output Voltage

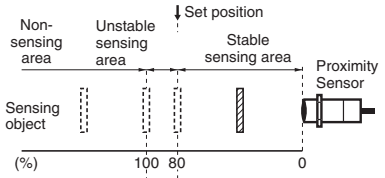
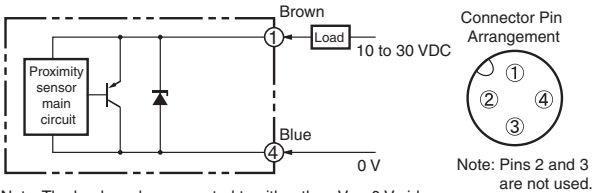
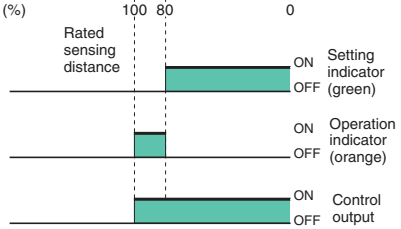
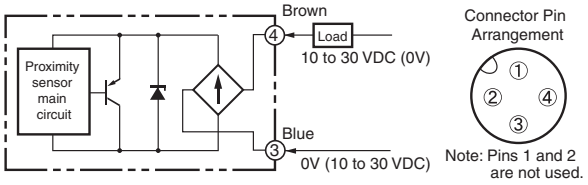
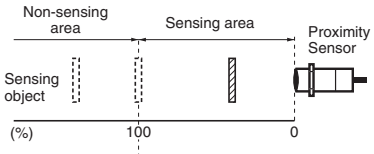
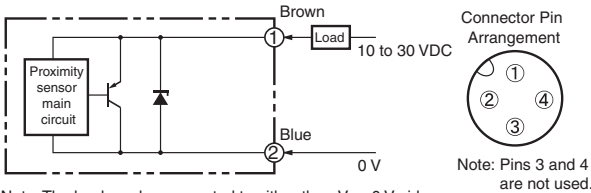
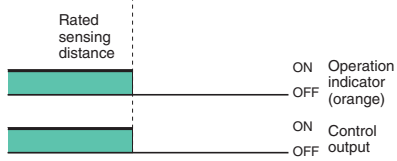
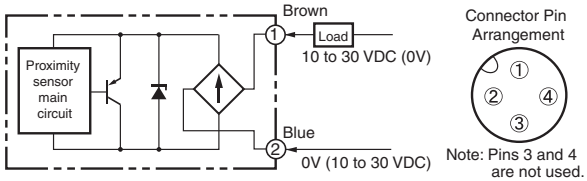
Long-distance type / Spatter-resistant Long-distance type / Standard-distance type

E2E-X□(M)D□(-T)/E2EQ-X□D□(-T)

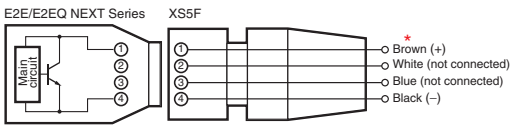
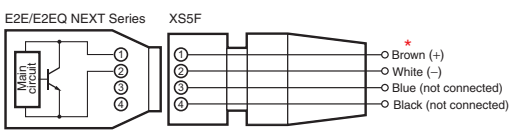
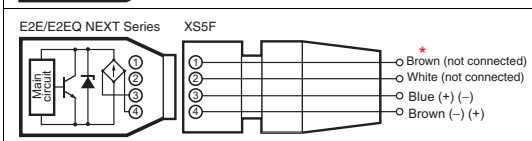
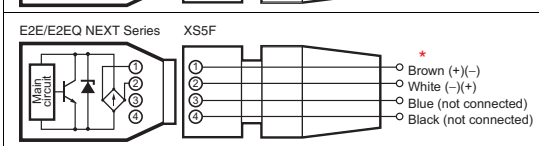


I/O Circuit Diagrams

DC 2-Wire Models

Operation mode	Model	Timing Chart	Output circuit
NO	E2E-X□D1□ E2EQ-X□D1□		 Note: The load can be connected to either the +V or 0 V side.
	E2E-X□D1□-T E2EQ-X□D1□-T		 Note1. The load can be connected to either the +V or 0 V side. 2. The E2E□-X□D1□(-M1TGJ)-T has no polarity. There is no need to be concerned about the polarity of brown and blue wires, or pins 3 and 4.
NC	E2E-X□D2□ E2EQ-X□D2□		 Note: The load can be connected to either the +V or 0 V side.
	E2E-X□D2□-T E2EQ-X□D2□-T		 Note1. The load can be connected to either the +V or 0 V side. 2. The E2E□-X□D1□(-M1TGJ)-T has no polarity. There is no need to be concerned about the polarity of brown and blue wires, or pins 1 and 2.

Connections to Sensor I/O Connectors

Proximity Sensor				Sensor I/O Connector model number	Connections
Type	Polarity	Operation mode	Model		
DC 2-wire (Smartclick Connector)	Yes	NO	E2E-X□D1□-M1TGJ E2EQ-X□D1□-M1TGJ	XS5F-D421-□80-F C: 1-m cable D: 2-m cable E: 3-m cable G: 5-m cable J: 10-m cable	
	No	NC	E2E-X□D2□-M1TGJ E2EQ-X□D2□-M1TGJ		
	Yes	NO	E2E-X□D1□-M1TGJ-T E2EQ-X□D1□-M1TGJ-T		
	No	NC	E2E-X□D2□-M1TGJ-T E2EQ-X□D2□-M1TGJ-T		

Note: Different from Proximity Sensor wire colors.

* If the XS5W-D421-□81-F Connector which has a socket and plug on the cable ends is connected to the Sensor, this part will be a plug.

Safety Precautions

Be sure to read the precautions for all models in the website at: http://www.ia.omron.com/.

Warning Indications

⚠WARNING	**Warning level** Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage.
Precautions for Safe Use	Supplementary comments on what to do or avoid doing, to use the product safely.
Precautions for Correct Use	Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction or undesirable effect on product performance.

Meaning of Product Safety Symbols

	**General prohibition** Indicates the instructions of unspecified prohibited action.
	**Caution, explosion** Indicates the possibility of explosion under specific conditions.

⚠WARNING

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

Risk of explosion.
Do not connect sensor to AC power supply.

Precautions for Safe Use

The following precautions must be observed to ensure safe operation.

1. Do not use the product in an environment where flammable or explosive gas is present.
2. Do not attempt to disassemble, repair, or modify the product.
3. Do not use a voltage that exceeds the rated operating voltage range. Applying a voltage that is higher than the operating voltage range may result in damage or burnout.
4. Be sure that the power supply polarity and other wiring is correct. Incorrect wiring may cause explosion or burnout.
5. If the power supply is connected directly without a load, the internal elements may explode or burn. Be sure to insert a load when connecting the power supply.
6. Dispose of this product as industrial waste.

Precautions for Correct Use

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

● Operating Environment

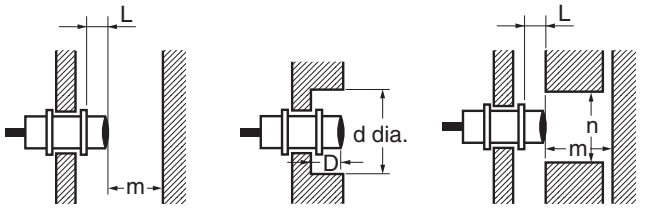
1. Do not install the product in the following locations.
   Doing so may result in product failure or malfunction.
   (1) Outdoor locations directly subject to sunlight, rain, snow, water droplets, or oil.
   (2) Locations subject to atmospheres with chemical vapors, in particular solvents and acids.
   (3) Locations subject to corrosive gases.
2. The Sensor may malfunction if used near ultrasonic cleaning equipment, high-frequency equipment, transceivers, cellular phones, inverters, or other devices that generate a high-frequency electric field. Please refer to the Precautions for Correct Use on the OMRON website (www.ia.omron.com) for typical measures.
3. Laying the Proximity Sensor wiring in the same conduit or duct as high-voltage wires or power lines may result in incorrect operation and damage due to induction. Wire the Sensor using a separate conduit or independent conduit.
4. Never use thinner or other solvents. Otherwise, the Sensor surface may be dissolved.
5. The following conditions shall be observed if you use the product under an environment using cutting oil that may affect product's life and/or performance.
   - Usage under the cutting oil condition designated by the specification
   - Usage under the cutting oil dilution ratio recommended by its manufacturer
   - Usage in oil or water is prohibited

   Impact on the product life may differ depending on the oil you use. Before using the cutting oil, make sure that it should not cause deterioration or degradation of sealing components.

● Design

Influence of Surrounding Metal

When mounting the Proximity Sensor using a nut, only use the provided nut. And ensure that the minimum distances given in the following table are maintained.

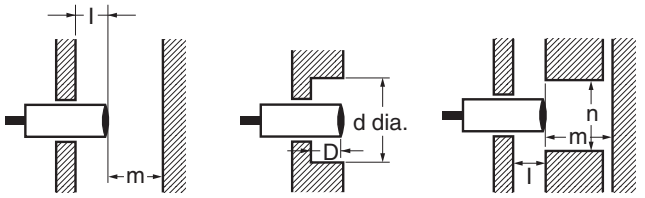


(Unit: mm)

Type		Item	M8	M12	M18	M30
Long-distance type E2E-X□D□(-T) Spatter-resistant Long-distance type E2EQ-X□D□(-T) *1	**Shielded**	L	0	0	0	0
		d	20	20	50	70
		D	2	4	4	8
		m	9	18	33	60
		n	18	20	54	90
Long-distance type E2E-X□MD□(-T) *2	**Unshielded**	L	10	16	31	50
		d	30	50	80	130
		D	13	20	35	55
		m	18	30	60	120
		n	30	50	80	130
Standard-distance type E2E-X□R5D□(-T) E2E-X5D□(-T) *2	**Shielded**	L	0	0	0	---
		d	8	12	18	
		D	0	0	0	
		m	4.5	8	20	
		n	12	18	27	

Note: Nuts that are supplied along with each Sensor (*1, *2) are different. Refer to *Dimensions* for details on shapes.

When the Proximity Sensor is mounted in metal, ensure that the minimum distances given in the following table are maintained.

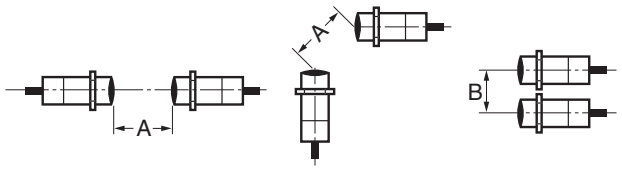


(Unit: mm)

Type		Item	M8	M12	M18	M30
Long-distance type E2E-X□D□(-T) Spatter-resistant Long-distance type E2EQ-X□D□(-T)	**Shielded**	l	2	4	4	8
		d	20	20	50	70
		D	2	4	4	8
		m	9	18	33	60
		n	18	20	54	90
Long-distance type E2E-X□MD□(-T)	**Unshielded**	l	13	20	35	55
		d	30	50	80	130
		D	13	20	35	55
		m	18	30	60	120
		n	30	50	80	130
Standard-distance type E2E-X□R5D□(-T) E2E-X5D□(-T)	**Shielded**	l	0	0	0	---
		d	8	12	18	
		D	0	0	0	
		m	4.5	8	20	
		n	12	18	27	

● Mutual Interference

When the Proximity Sensor is embedded in metal, ensure that the minimum distances given in the following table are maintained.



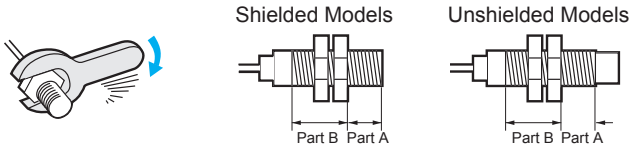
(Unit: mm)

Type		Item	M8	M12	M18	M30
Long-distance type E2E-X□D□(-T) Spatter-resistant Long-distance type E2EQ-X□D□(-T)	**Shielded**	A	25	40	70	140
		B	20	30	45	70
Long-distance type E2E-X□MD□(-T)	**Unshielded**	A	80	120	200	380
		B	60	100	120	280
Standard-distance type E2E-X□R5D□(-T) E2E-X5D□(-T)	**Shielded**	A	20	30	50	---
		B	15	20	35	

● Mounting

Tightening Force

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



Note: 1. The allowable tightening strength depends on the distance from the edge of the head, as shown in the following table. (A is the distance from the edge of the head. B includes the nut on the head side. If the edge of the nut is in part A, the tightening torque for part A applies instead.)

2. The following strengths assume washers are being used.

Long-distance type

Model		Part A		Part B
		Dimension (mm)	Torque	Torque
M8	Shielded	9	4 N·m	10 N·m
	Unshielded	3		
M12	Shielded	16	6 N·m	15 N·m
	Unshielded	9		
M18	Shielded	16	15 N·m	60 N·m
	Unshielded	3		
M30	Shielded	23	40 N·m	80 N·m
	Unshielded	8		

Spatter-resistant Long-distance type

Model	Part A		Part B
	Dimension (mm)	Torque	Torque
M8	9	4 N·m	10 N·m
M12	16	6 N·m	15 N·m
M18	16	15 N·m	30 N·m
M30	23	40 N·m	80 N·m

Standard-distance type

Model	Part A		Part B
	Dimension (mm)	Torque	Torque
M8	9	9 N·m	12 N·m
M12	---	30 N·m	
M18		70 N·m	

Dimensions

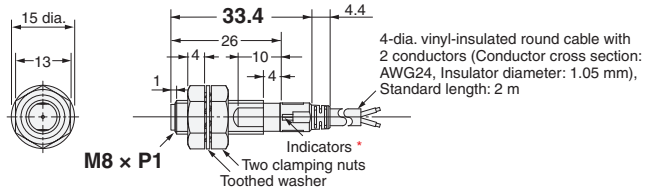
(Unit: mm)
Tolerance class IT16 applies to dimensions in this data sheet unless otherwise specified.

Sensors
E2E NEXT Series (Long-distance type)
DC 2-wire

Pre-wired Models Shielded

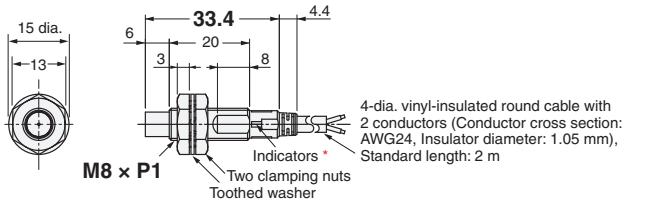
Pre-wired Models Unshielded

E2E-X3D□8



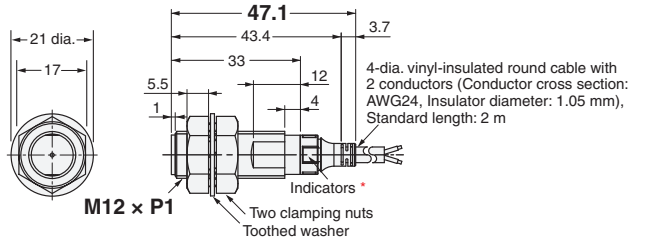
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X6MD□8



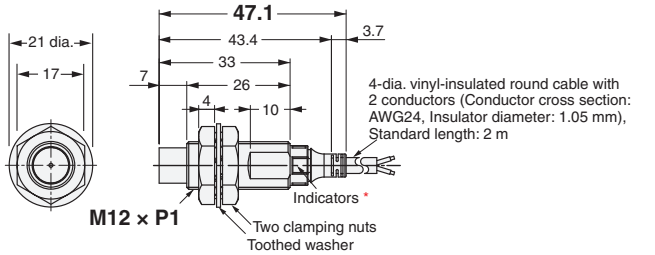
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X7D□12



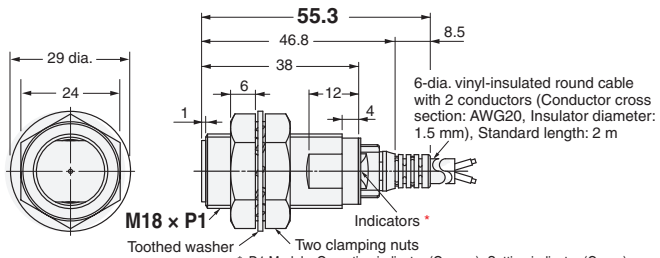
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X10MD□12



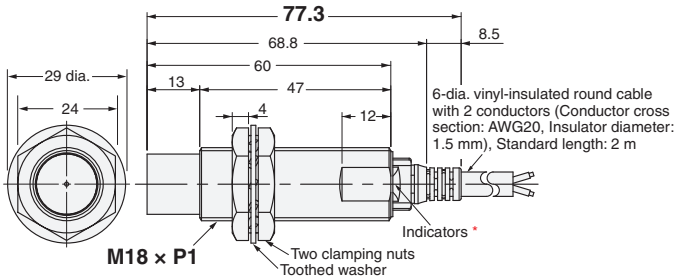
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X11D□18



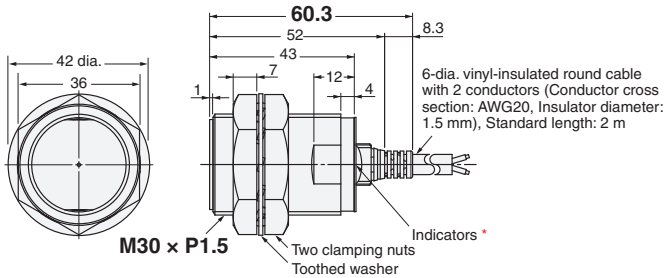
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X20MD□L18



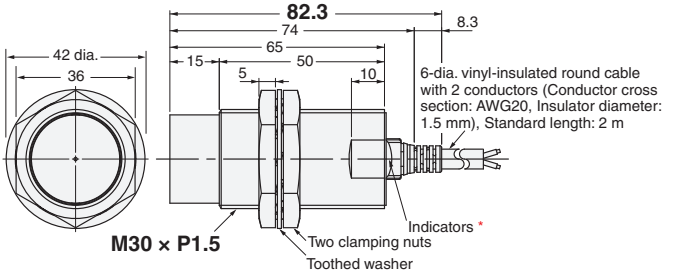
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X20D□30



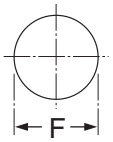
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X40MD□L30



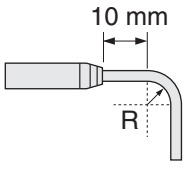
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

Mounting Hole Dimensions



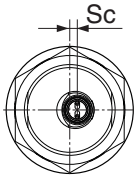
Dimensions	F (mm)
M8	8.5 dia. $^{+0.5}_{0}$
M12	12.5 dia. $^{+0.5}_{0}$
M18	18.5 dia. $^{+0.5}_{0}$
M30	30.5 dia. $^{+0.5}_{0}$

Angle R of the Bending Wire



Dimensions	R (mm)
M8	12
M12	
M18	18
M30	

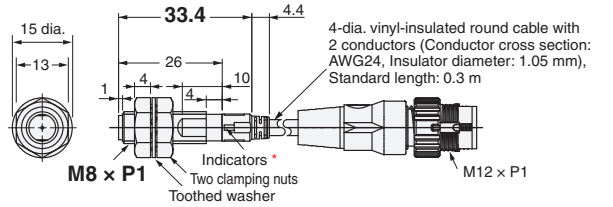
Wire pullout position



Dimensions	Sc (mm)
M8	- (0)
M12	
M18	2.5
M30	

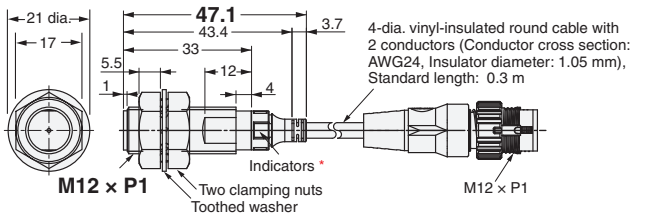
Pre-wired Connector Models Shielded

E2E-X3D□8-M1TGJ



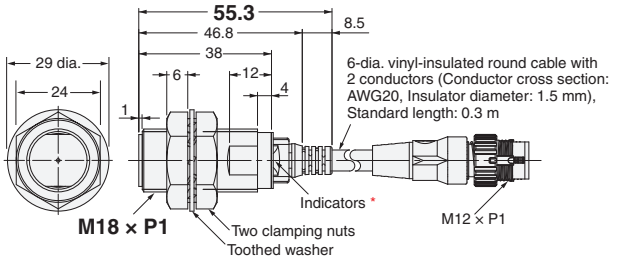
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X7D□12-M1TGJ



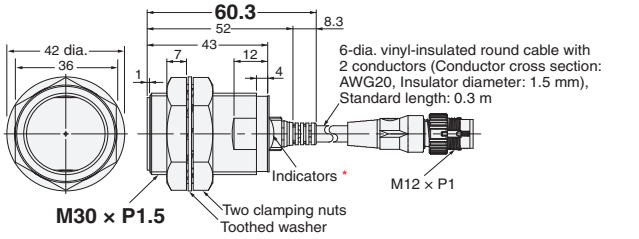
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X11D□18-M1TGJ



* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

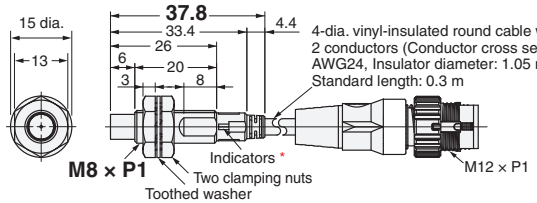
E2E-X20D□30-M1TGJ



* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

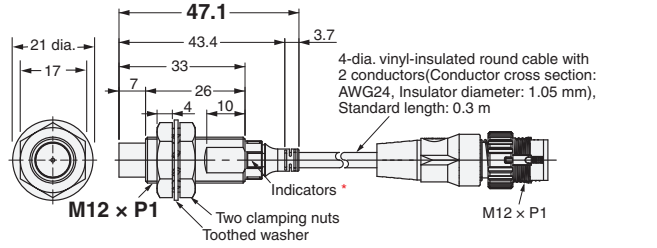
Pre-wired Connector Models Unshielded

E2E-X6MD□8-M1TGJ



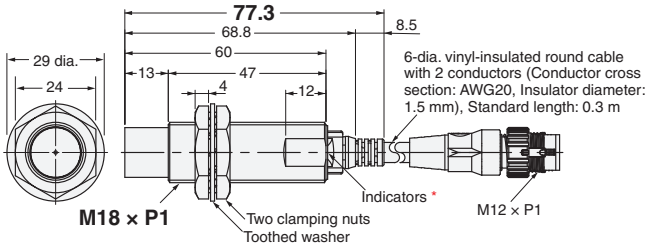
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X10MD□12-M1TGJ



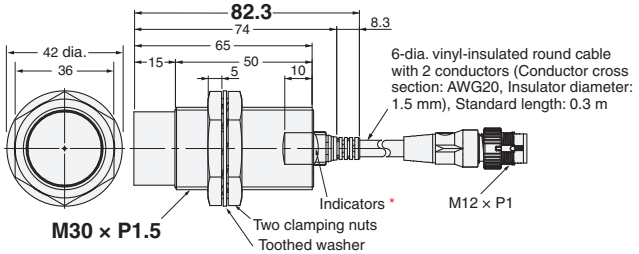
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X20MD□L18-M1TGJ



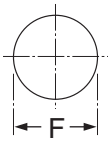
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2E-X40MD□L30-M1TGJ



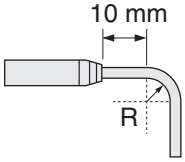
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

Mounting Hole Dimensions



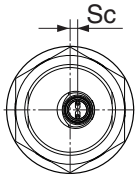
Dimensions	F (mm)
M8	8.5 dia. $^{+0.5}_{0}$
M12	12.5 dia. $^{+0.5}_{0}$
M18	18.5 dia. $^{+0.5}_{0}$
M30	30.5 dia. $^{+0.5}_{0}$

Angle R of the Bending Wire



Dimensions	R (mm)
M8	12
M12	
M18	18
M30	

Wire pullout position

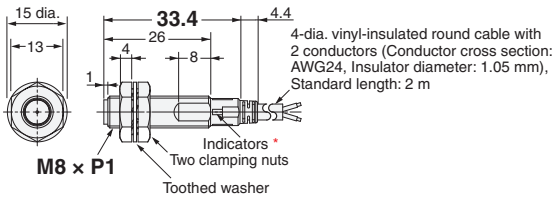


Dimensions	Sc (mm)
M8	- (0)
M12	
M18	2.5
M30	

Sensors
E2EQ NEXT Series (Spatter-resistant Long-distance type)
DC 2-wire

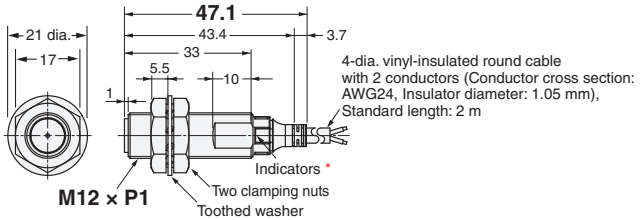
Pre-wired Models
Shielded

E2EQ-X3D□8



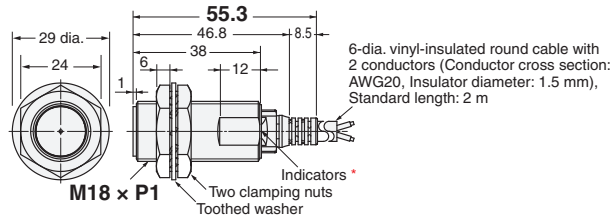
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2EQ-X7D□12



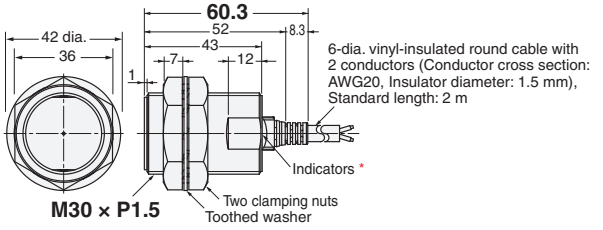
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2EQ-X11D□18



* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

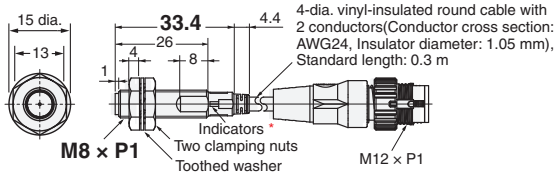
E2EQ-X20D□30



* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

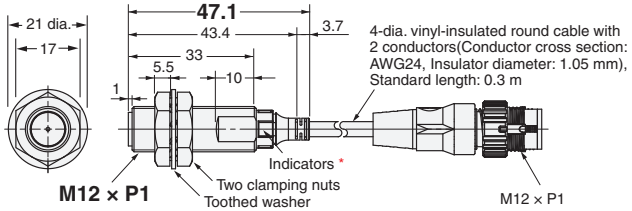
Pre-wired Connector Models
Shielded

E2EQ-X3D□8-M1TGJ



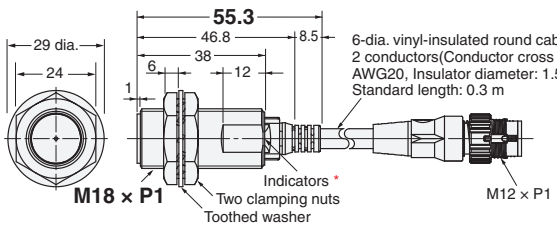
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2EQ-X7D□12-M1TGJ



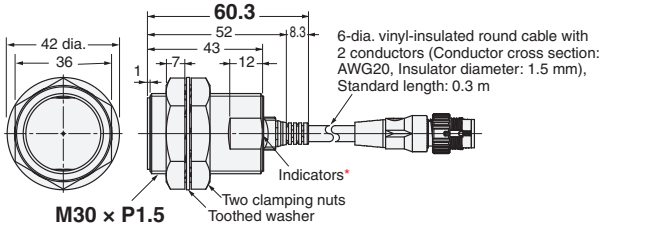
* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2EQ-X11D□18-M1TGJ



* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

E2EQ-X20D□30-M1TGJ

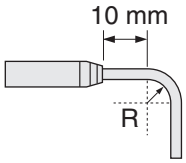


* D1 Models: Operation indicator (Orange), Setting indicator (Green)
D2 Models: Operation indicator (Orange)

Mounting Hole Dimensions

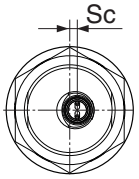
Dimensions	F (mm)
M8	8.5 dia. $^{+0.5}_{0}$
M12	12.5 dia. $^{+0.5}_{0}$
M18	18.5 dia. $^{+0.5}_{0}$
M30	30.5 dia. $^{+0.5}_{0}$

Angle R of the Bending Wire



Dimensions	R (mm)
M8	12
M12	
M18	18
M30	

Wire pullout position

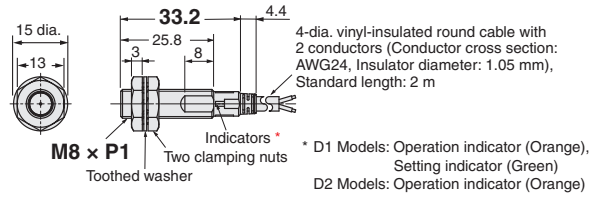


Dimensions	Sc (mm)
M8	- (0)
M12	
M18	2.5
M30	

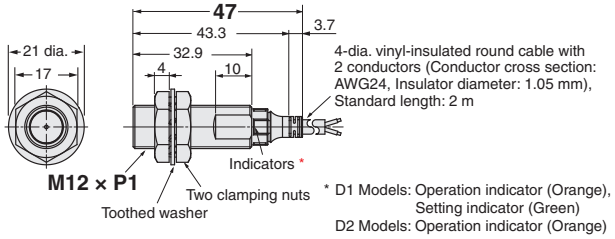
Sensors
E2E NEXT Series (Standard-distance type)
DC 2-wire

Pre-wired Models
Shielded

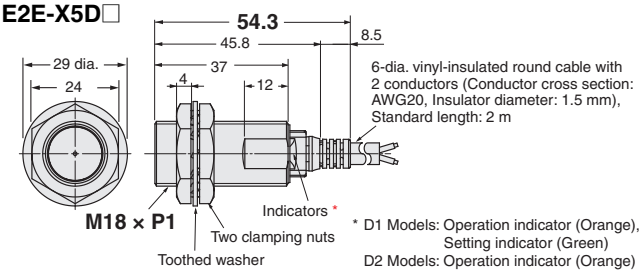
E2E-X1R5D□



E2E-X2R5D□

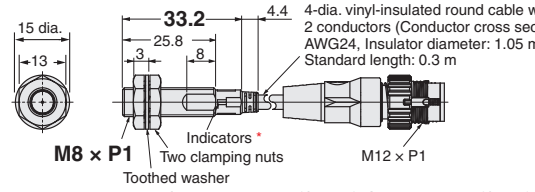


E2E-X5D□

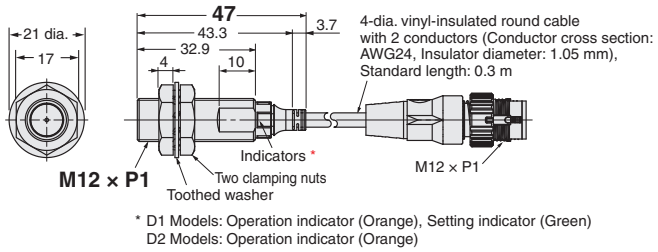


Pre-wired Connector Models
Shielded

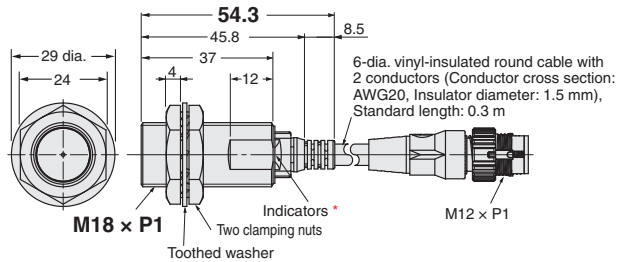
E2E-X1R5D□-M1TGJ



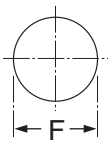
E2E-X2R5D□-M1TGJ



E2E-X5D□-M1TGJ

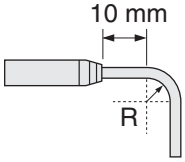


Mounting Hole Dimensions



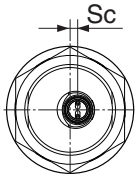
Dimensions	F (mm)
M8	8.5 dia. $^{+0.5}_{0}$
M12	12.5 dia. $^{+0.5}_{0}$
M18	18.5 dia. $^{+0.5}_{0}$
M30	30.5 dia. $^{+0.5}_{0}$

Angle R of the Bending Wire



Dimensions	R (mm)
M8	12
M12	
M18	18
M30	

Wire pullout position

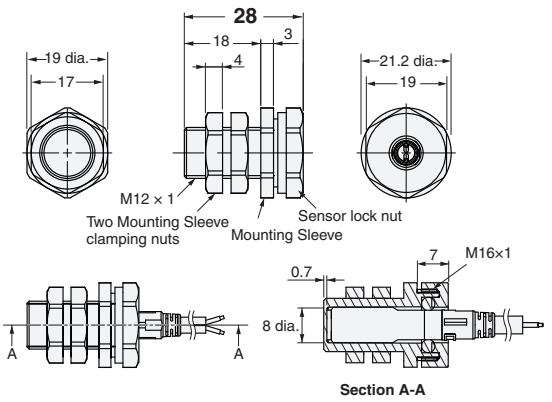


Dimensions	Sc (mm)
M8	- (0)
M12	
M18	2.5
M30	

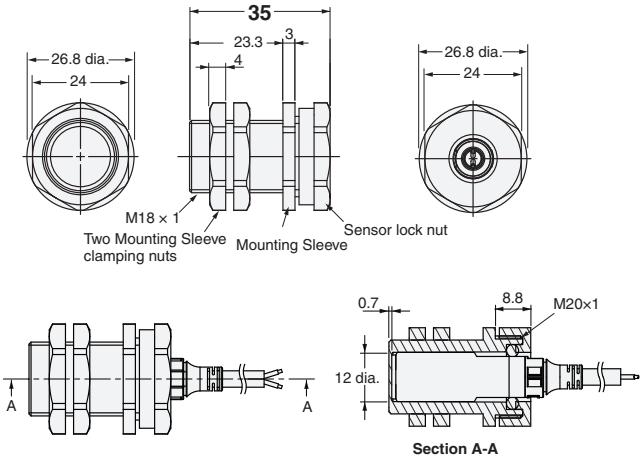
Accessories (Sold Separately)

e-jig (Mounting Sleeves)

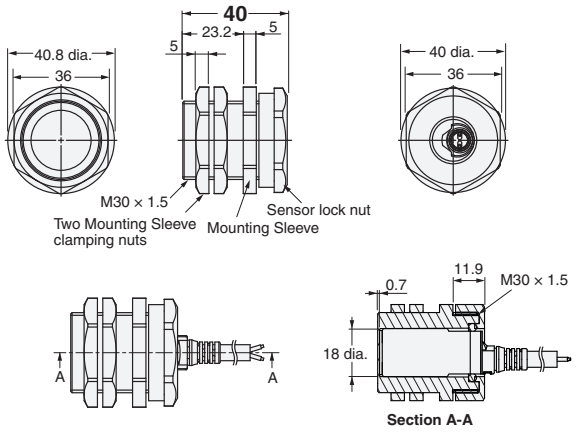
Y92E-J8S12



Y92E-J12S18



Y92E-J18S30



Material

Mounting Sleeve	Polyetheretherketone (PEEK) / Polybutylene terephthalate (PBT)
Mounting Sleeve clamping nut	Polybutylene terephthalate (PBT)
Sensor lock nut	Polybutylene terephthalate (PBT)
Sensor lock O-ring	Material combining HNBR and fluororubber

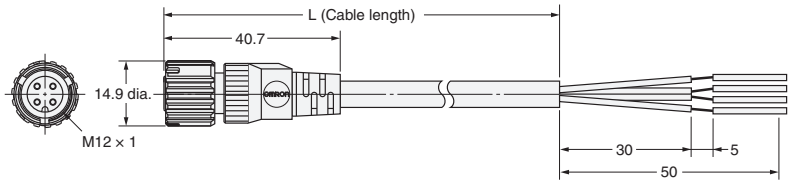
Tightening Force

Model	Torque	
	Mounting Sleeve clamping nut	Sensor lock nut
Y92E-J8S12	0.6 N•m	0.6 N•m
Y92E-J12S18	1.2 N•m	1.2 N•m
Y92E-J18S30	5 N•m	3.5 N•m

Sensor I/O Connectors

Sockets on One Cable End XS5F Models

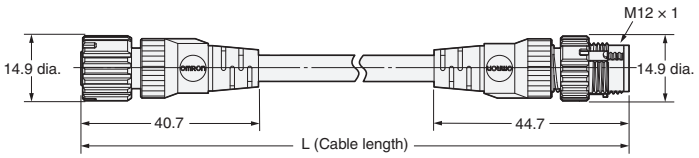
Straight



L=1 m (XS5F-D421-C80-F)
2 m (XS5F-D421-D80-F)
3 m (XS5F-D421-E80-F)
5 m (XS5F-D421-G80-F)
10 m (XS5F-D421-J80-F)

Socket and Plug on Cable Ends XS5W Models

Straight/straight



L=1 m (XS5W-D421-C80-F)
2 m (XS5W-D421-D80-F)
3 m (XS5W-D421-E80-F)
5 m (XS5W-D421-G80-F)
10 m (XS5W-D421-J80-F)

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