OMRON

# Proximity Sensors

DC 3-Wire Models

**E2E NEXT** Series


## Exceptional sensing range

**Enables easier and standardized design**

IO-Link

# Enables easier and standardized

## previously not possible

PREMIUM Model

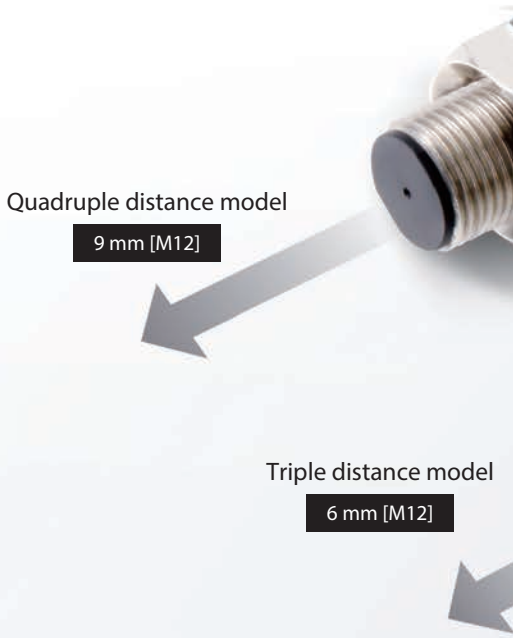
**Easy design** **Standardized design**

## Exceptional sensing range 9 [M12] mm *1

The PREMIUM Model, which has a longer detection range compared to previous models, allows for more spacious designs with less risk of contact. It also enables you to standardize your designs by letting you adopt a single one-size model instead of multiple models of different sizes.

*1. Quadruple distance models of M12 sized

P.4-7




BASIC Model

In addition to our HIGH SPEC Models, we also offer mid/short-distance BASIC Models, to meet various facility design requirement specifications.

# designs


## New standards for usability

### Early error detection

1 location, all new E2E Sensors can be monitored with IO-Link IO-Link P.8

### Quick recovery

10 second replaceable with e-jig (adaptor) P.10

360 degree view with high visibility LED indicator P.10

### Less unexpected facility stoppages

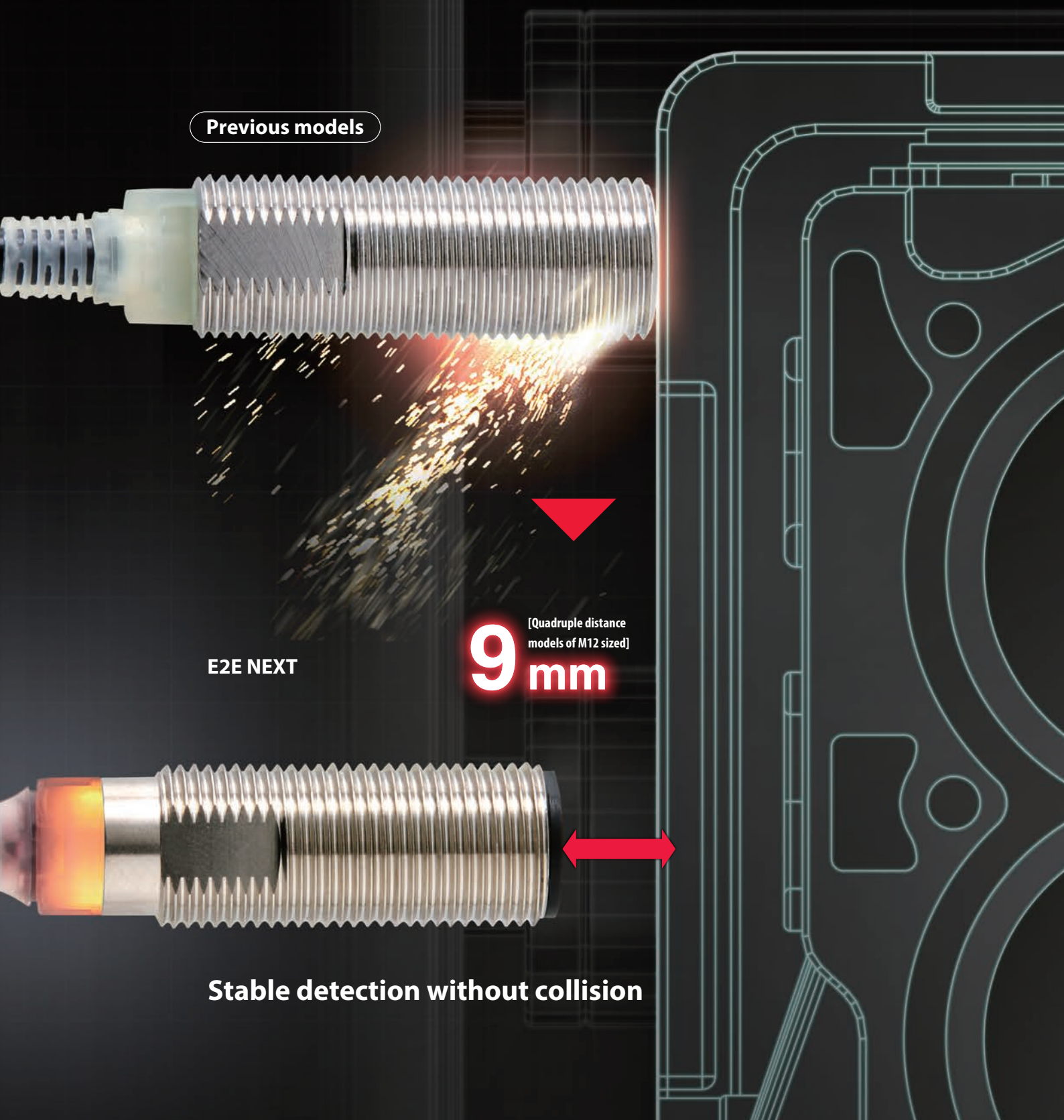
Strong resistance to cutting oil 2 -year oil resistance *2 P.12

*2. Pre-wired models and pre-wired connector models.

Easy design

## Equipped with exceptional sensing range to enable collision-free sensor installation

Enables designs with more distance between the sensor and the sensing object, thereby reducing unexpected facility stoppages due to collision and false detection, which occurred with previous proximity sensors.

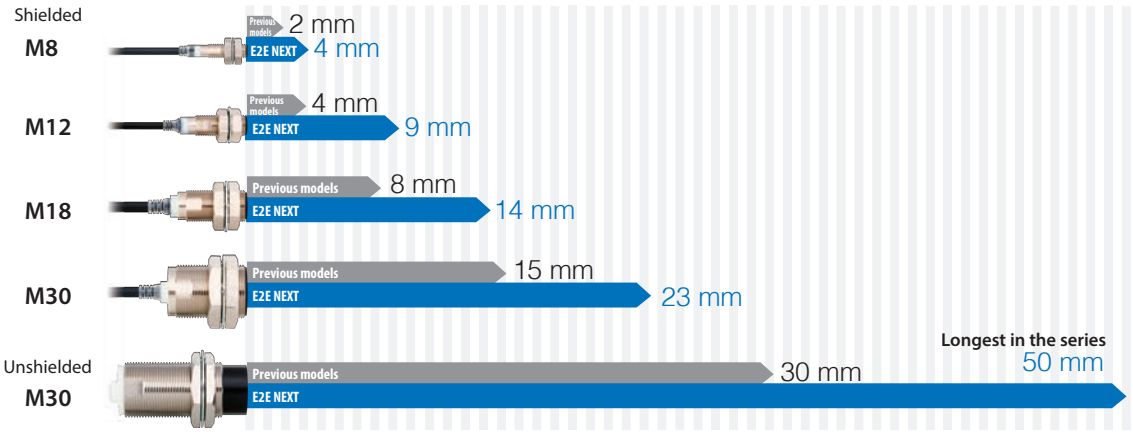


# Allows for more spacious design with less risk of contact

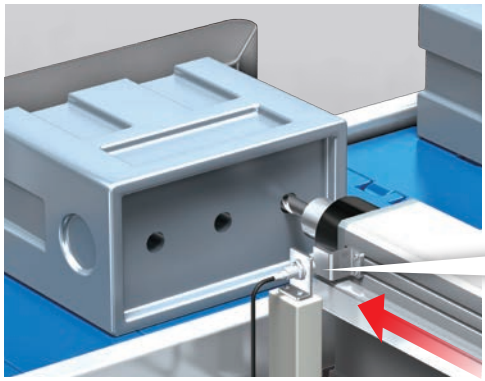
With previous models, to avoid false detections, you were forced to adopt sensor installation designs that risked contact. The E2E NEXT PREMIUM Proximity Sensor can detect accurately from a greater distance, which means you can adopt designs with more space and less risk of contact.

## ■Approximately double the sensing distance of previous models

**Sensing distance comparisons** (Quadruple distance models)



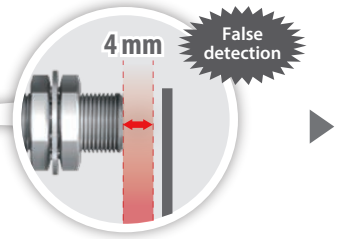

# Less false detection even when a stationary gets away from the sensor due to equipment vibration



Spindle presence detection

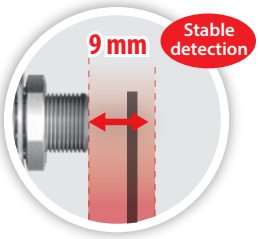
**Previous models**

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




**E2E NEXT**

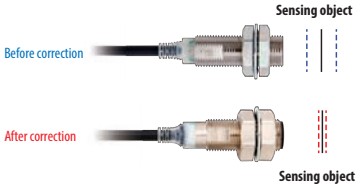
**Long-distance detection enhances the degree of the detection margin. Stable detection even when a stationary gets away.**




* Quadruple distance models of M12 sized

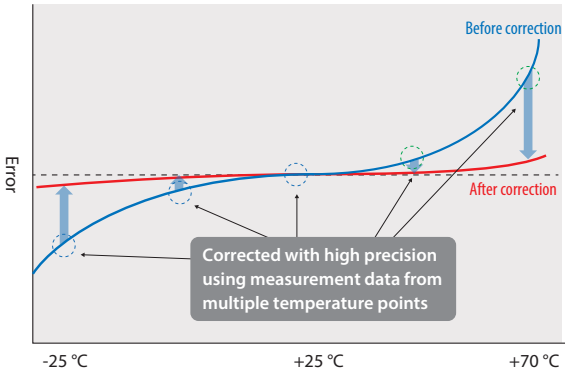
## PROX3 hybrid circuitry with Thermal Distance Control 2 eliminates ambient temperature influence to enable extended sensing ranges.

Proximity sensors with longer sensing distance require increased sensitivity. However, with the increased sensitivity, temperature changes will have bigger influence in sensing distance, and differences between individual sensors will be bigger. E2E NEXT Proximity Sensors (3-wire models) solve these issues by newly implementing Thermal Distance Control 2, a technology to enable extended sensing ranges. It enables in-line measurements of each sensor's temperature characteristics, using multiple temperature points, in IoT-enabled production processes. The optimal correction values are then calculated based on our unique algorithm. The values are written into the analog digital hybrid IC (PROX3) for shipping to minimize differences between sensors and the influence of temperature changes that may occur in the customer's environments.




PATENTED [*2] **Thermal Distance Control 2 technology reduces the extent of error**

**Sensing distance fluctuation due to ambient temperature**




*2. "Patent Pending" means that we applied for a patent in Japan, and "Patented" means that we obtained a patent in Japan. (As of October 2025)

Standardized design

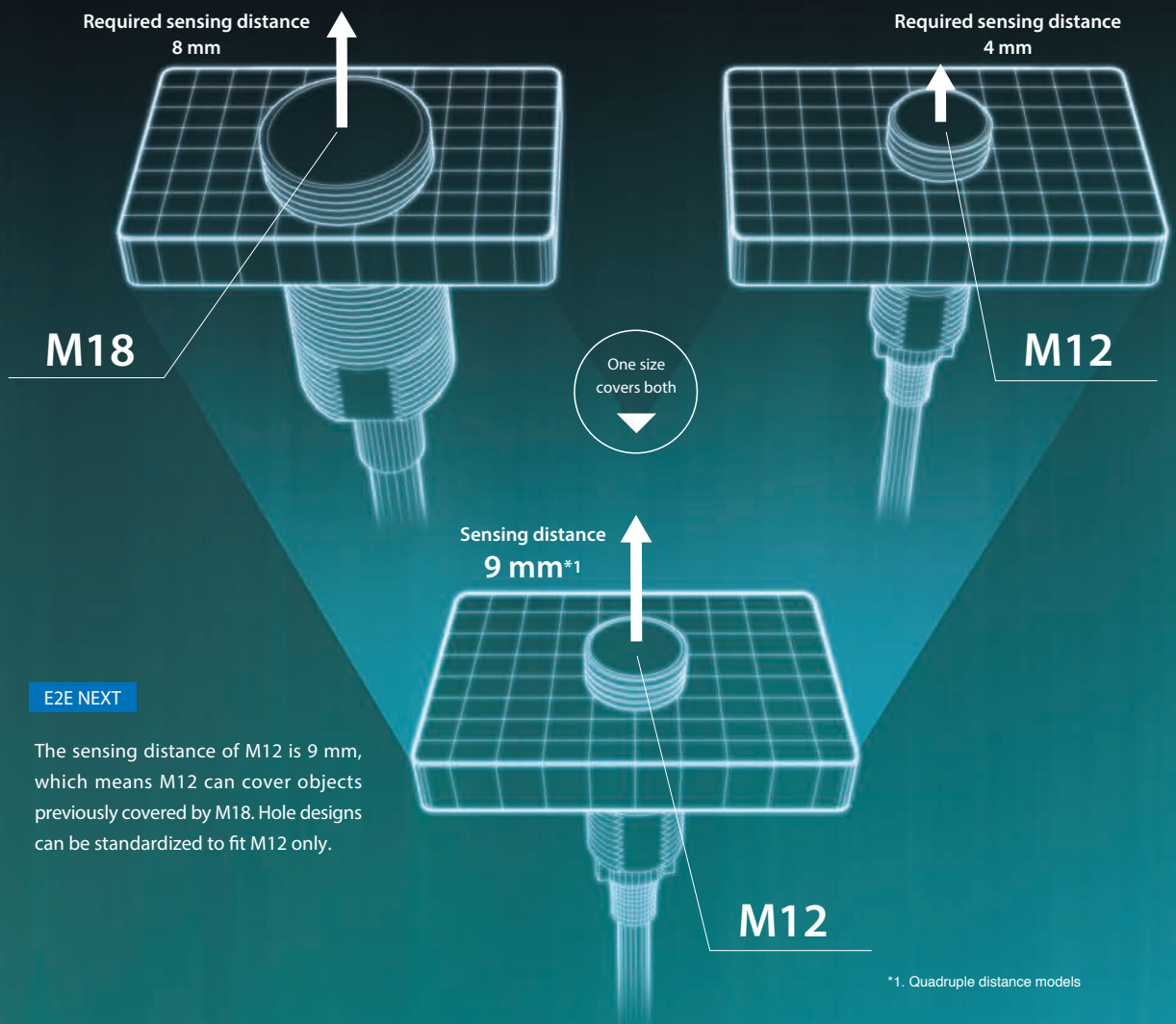
## Exceptional sensing range

# allows you to standardize your design with a single one-size model

Ensures equivalent sensing distance while being one size smaller than previous models. Equipment and facilities formerly designed to use sensors of multiple sizes can now be designed to use sensors that are all the same size, allowing you to standardize your designs.

### Case where either M12 or M18 is used depending on sensing distance

Previous modes Two different types of hole designs were required for the sensing distance of 4 mm and 8 mm.

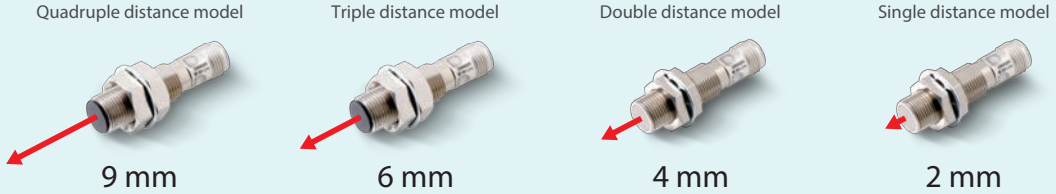



E2E NEXT

The sensing distance of M12 is 9 mm, which means M12 can cover objects previously covered by M18. Hole designs can be standardized to fit M12 only.

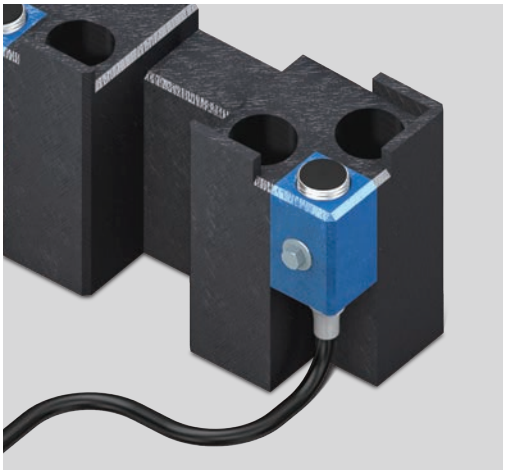
*1. Quadruple distance models

**Four types of M12 size sensors are available to meet the need for variable sensing distances for different installation sites.**

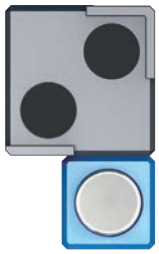


# Easy to install, even where space is limited

E2E NEXT PREMIUM Model Proximity Sensors ensure equivalent sensing distance while being one size smaller than previous models, allowing you to install them in spaces where conventional sensors were too big to fit.

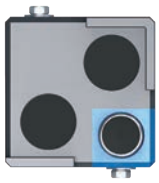


**Previous models** Proximity sensors could not be installed due to limited space.




**E2E NEXT** **They can be installed due to limited space.**

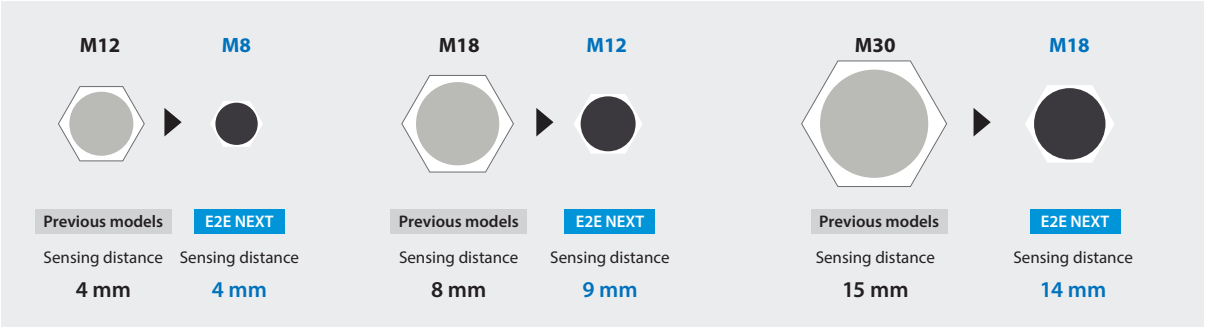
One size smaller to allow you to install proximity sensors where space is limited.




Note: When installing proximity sensors, make sure to factor the influence of surrounding metal into your designs.
(Refer to *Influence of Surrounding Metal upon Design* on page 51, page 70, page 84 and page 105 for details.)

## ■One size smaller than previous models

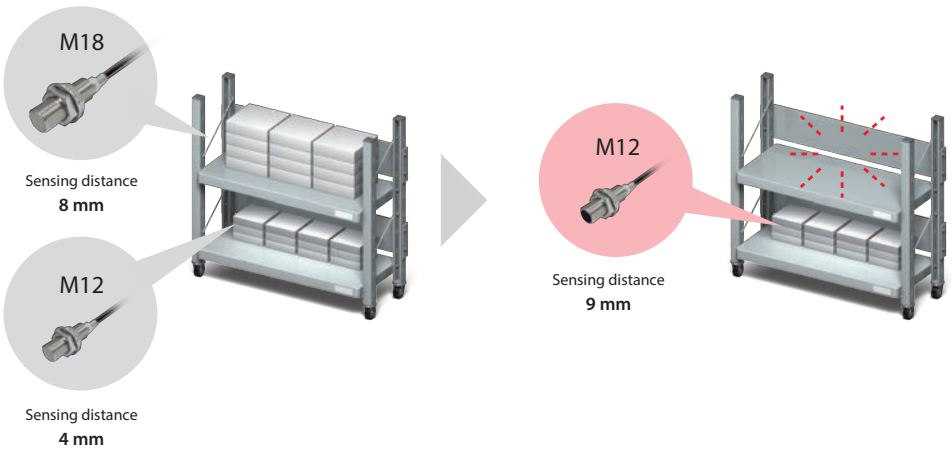
Size comparisons between models with equivalent sensing distance ("E2E NEXT" refers to quadruple distance models)




**Unifying the model types to reduce the number of parts kept in inventory.**

**Previous models** Two models (M12 and M18) stocked

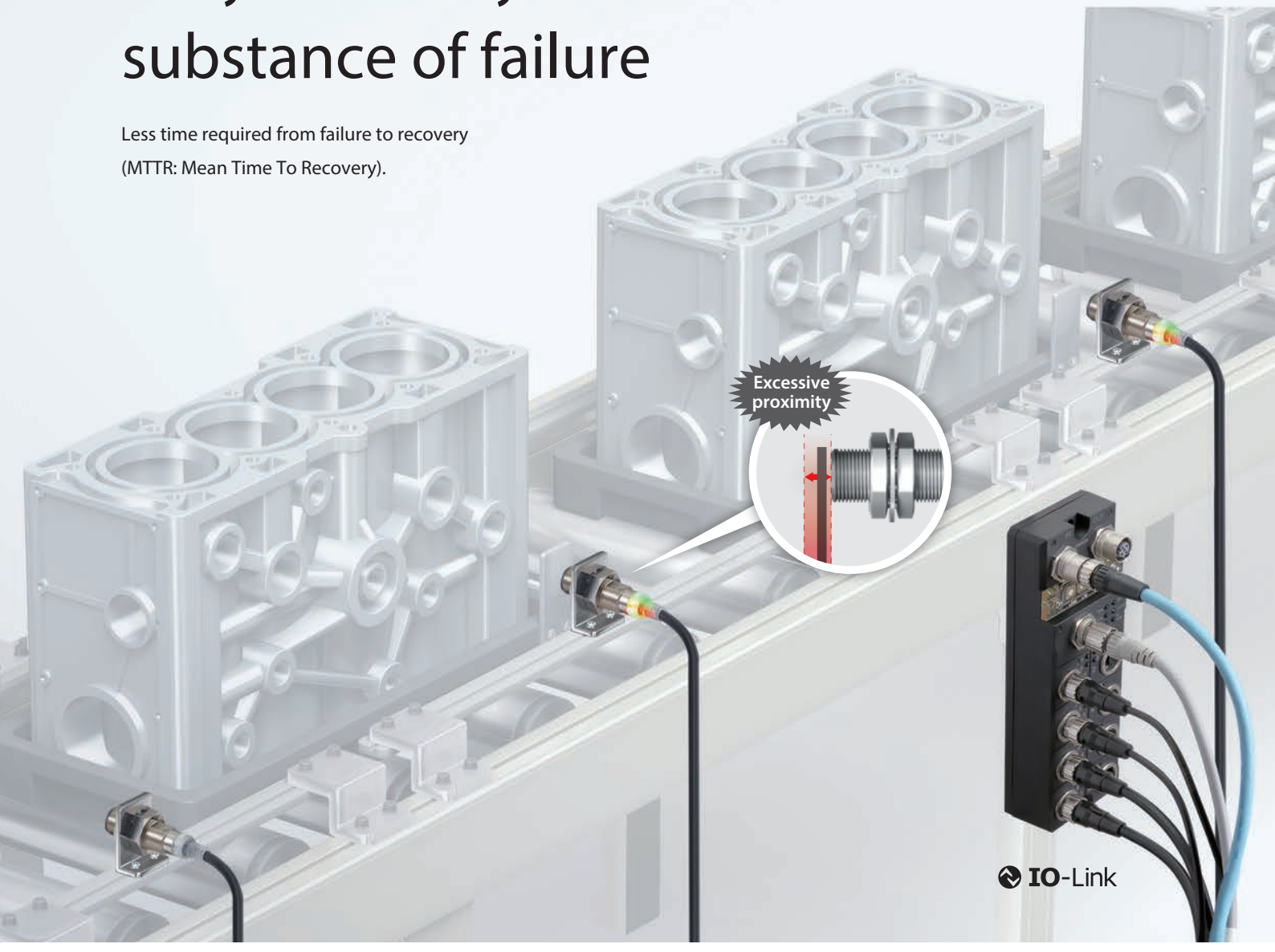
**E2E NEXT** The extended range of the new sensors allows you to reduce the sensor size from M18 down to M12.



New standards for usability | Early error detection

# Enables facility designs that allow for early discovery of the site and substance of failure

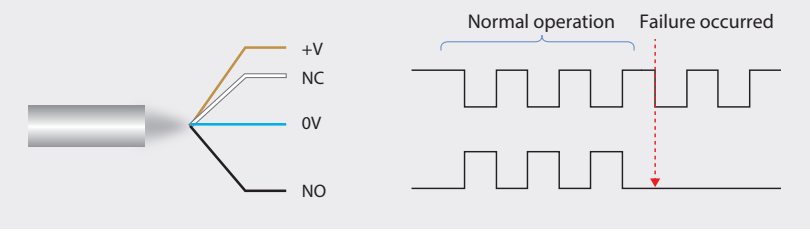
Less time required from failure to recovery
(MTTR: Mean Time To Recovery).




## Detects sensor failures through two output types, NO and NC

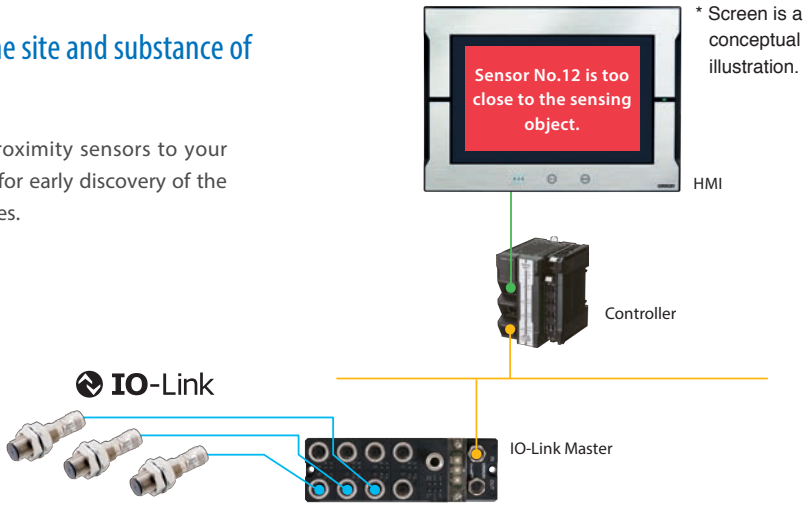
Enables failure discovery by wiring two outputs, NO and NC.

When NO cable is disconnected



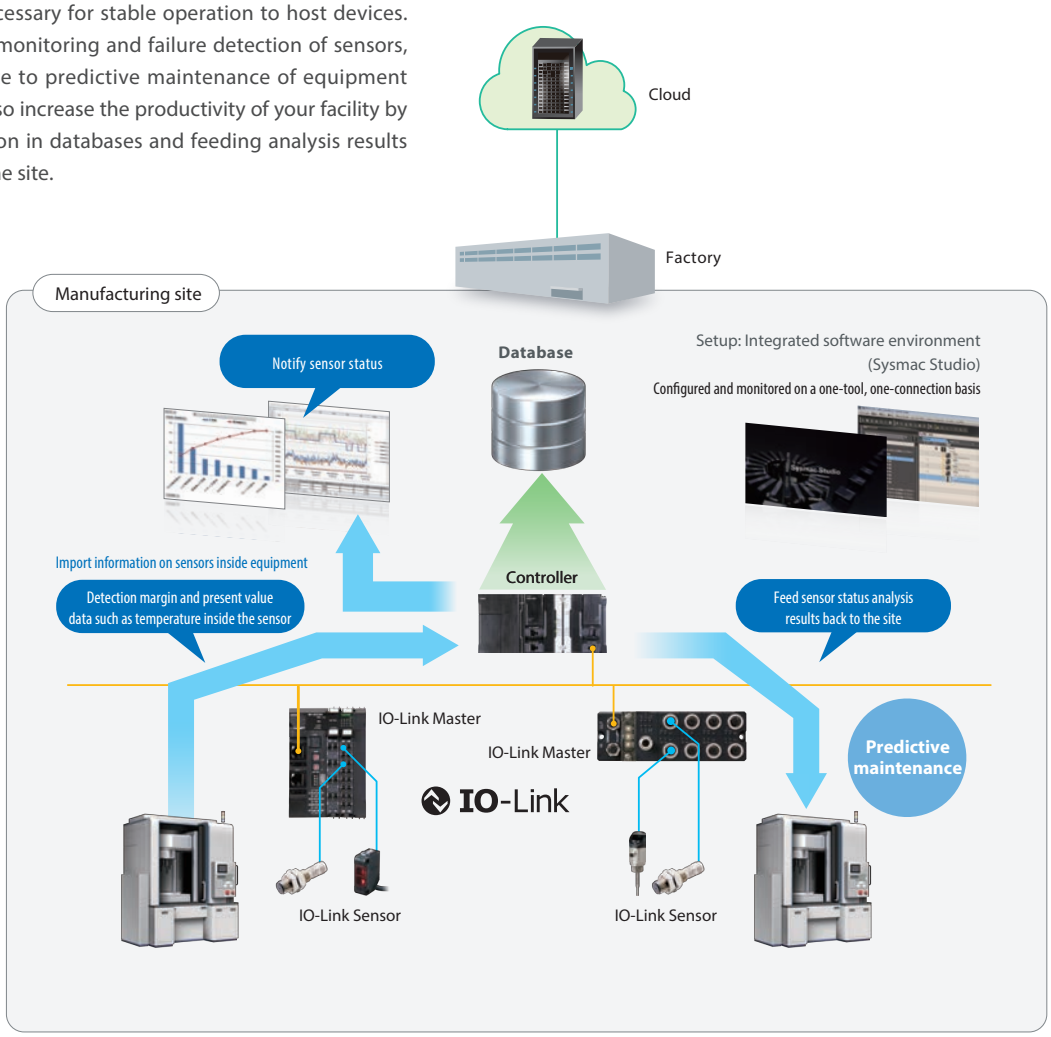
## Enables real-time identification of the site and substance of sensor failure from a single location

By using the IO-Link Master to connect proximity sensors to your controller, you can use your monitor (HMI) for early discovery of the site and substance of proximity sensor failures.




## Enables predictive maintenance through condition monitoring

Connecting sensors with controllers using IO-Link Master enables to send information necessary for stable operation to host devices. This enables condition monitoring and failure detection of sensors, which in turn contribute to predictive maintenance of equipment and facilities. You can also increase the productivity of your facility by accumulating information in databases and feeding analysis results back to equipment on the site.



* Applies only to the description of the high-brightness LED indicator.

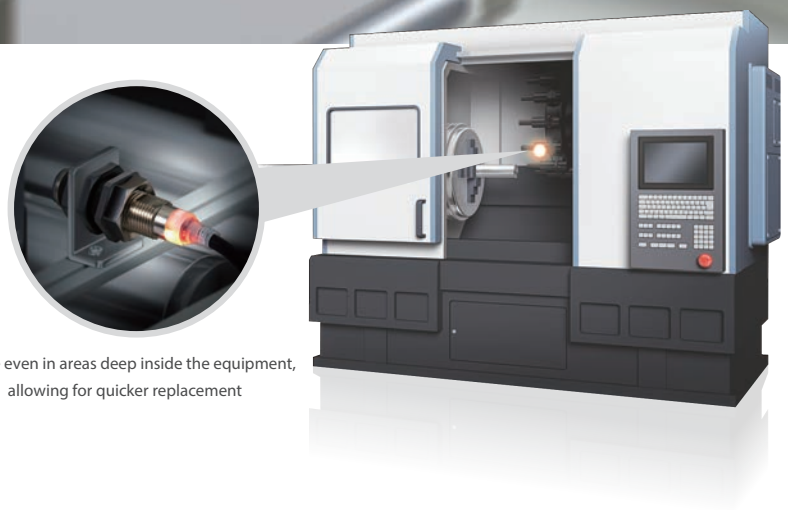
New standards for usability | Quick recovery

# Enables facility designs that allow for quick recovery in case of failure

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

## All around visible high-brightness LED indicator

Adopts high-brightness LED that is more luminous and visible than those in previous models. The indicator is visible from all angles, reducing the time required for operation checks after sensor replacement.



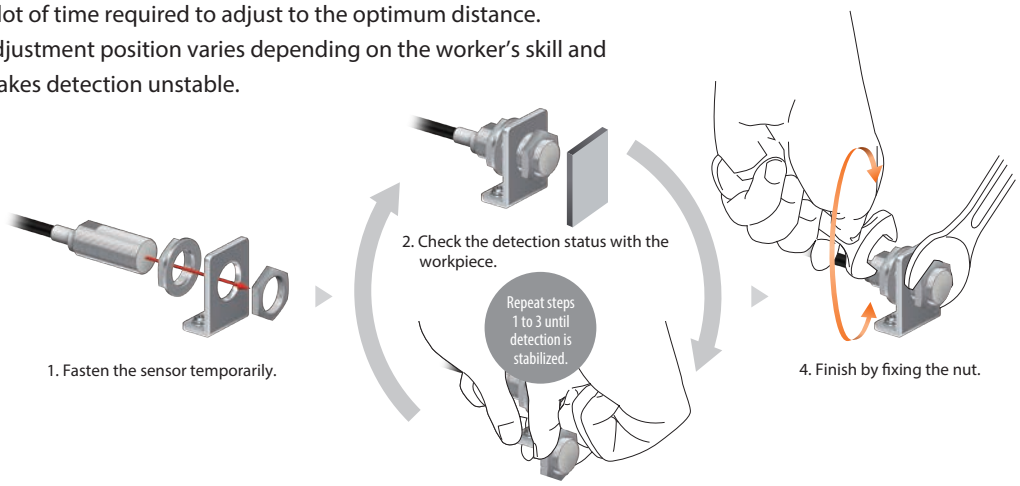
Visible even in areas deep inside the equipment, allowing for quicker replacement

## Replacements in as little as 10 seconds[*1] using e-jig

Using e-jig eliminates the need for adjustment so that anyone can install in the same position.

**Previous models**

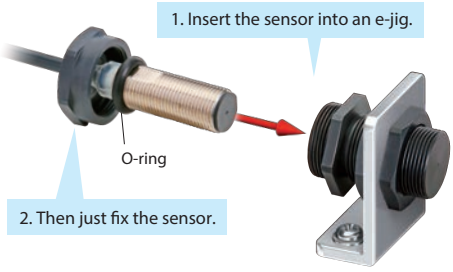
A lot of time required to adjust to the optimum distance.
Adjustment position varies depending on the worker's skill and makes detection unstable.




**E2E NEXT**

**Replacement time reduced significantly to approx. 10 sec.[*1]**

**Eliminating the need for adjustment allows for installation in the same position by any worker.**




PATENTED[*2]

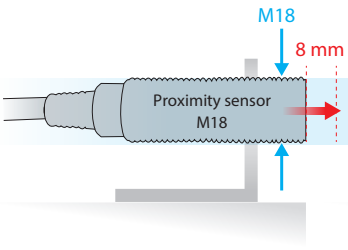
The O-ring blocks the ingress of foreign matter, including cutting oil, into the e-jig and ensures positioning precision (IP67G).

*1. Time required to adjust the distance when installing a sensor. Based on OMRON investigation.
*2. "Patent Pending" means that we applied for a patent in Japan, and "Patented" means that we obtained a patent in Japan. (As of September 2022)

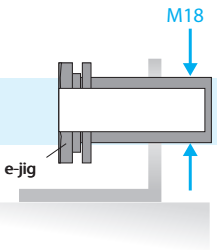
### Easily upgrade existing facilities to enable "10-second[*1] proximity sensor replacements"

The HIGH SPEC Model's sensing distance is approximately twice that of previous models. For example, the sensing distance of the quadruple distance model of M12 sized is 9 mm, which is about the same as conventional M18 models. Using these sensors together with the e-jig allows you to easily upgrade your existing facilities so that you can replace their sensors in just 10 seconds.[*1]

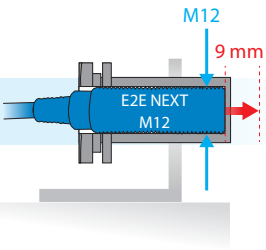
**1. Dismount the M18 proximity sensor from the existing facility.**




**2. Mount an M18-sized e-jig.**




**3. Insert an E2E NEXT Series M12 Proximity Sensor into the e-jig.**

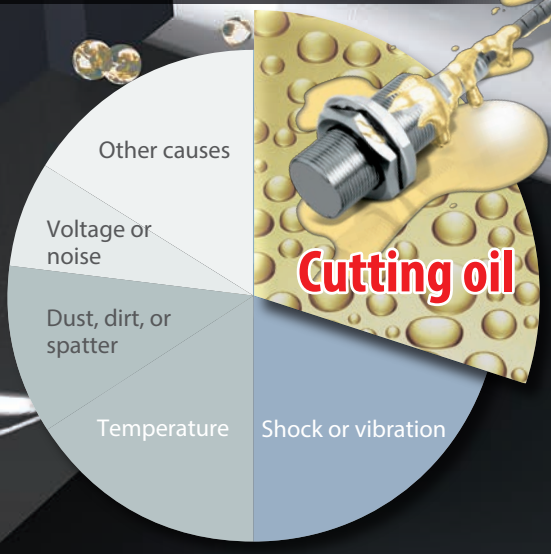


New standards for usability | Less unexpected facility stoppages

# Excellent environmental resistance enables robust facility design

Reduces sudden facility stoppages by reducing the number of failures, even in severe environments.

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 shut out cutting oil for 2 years*1

Our new PVC compound protects against damage caused by swelling, deterioration or cracking, preventing oil from seeping into and destroying internal circuits. Designed to resist oil ingress for up to two years.

### ■Two years*1 of stable operation verified by OMRON's unique evaluation technology

**Previous models** Cables damaged by cutting oil

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

**E2E NEXT** Verified 2-year oil resistance,*1 **based on IP67G and OMRON's oil-resistant component evaluation standards**

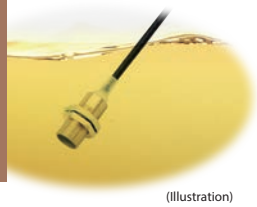
OMRON's E2E NEXT Series Proximity Sensors use PVC cables with enhanced oil resistance, and have been evaluated according to IP67G of JIS C 0920, and also OMRON's own, even stricter evaluation standards for oil-resistant components.

Oil resistance: **2 years** *1

| 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)

### ■Two years*1 of stable operation verified for pre-wired connector models as well, using similar oil resistance tests

- Delivers 2-year oil resistance*1 by adopting technologies unique to OMRON and PVC cables with enhanced oil resistance. PATENTED *2
- Smartclick connector cables block the ingress of cutting oil, and with the same torque, no matter who connects them.


Smartclick is a registered trademark of OMRON Corporation.

For machining processes where the amount of splashing cutting oil is large, **oil-resistant Proximity Sensors E2ER/E2ERZ**

**Oil Resistance: 4 years**

Cat. No. Y215

*1. • Applicable oil types: specified in JIS K 2241:2000
"2-year oil resistance" refers to median values (=Typical values) of the product designs and the oil-resistance performance evaluation results.
Products to be shipped will have around 2 years of oil resistance; actual oil resistance will vary depending on the product.
• The pre-wired connector model has a verified oil resistance of 2 years when mated with XS5 NEXT series round oil-resistant connectors.
This value has not been verified for connector models(M1/M3/M5).

*2. "Patent Pending" means that we applied for a patent in Japan, and "Patented" means that we obtained a patent in Japan. (As of September 2022)

## IP69K compliant for water resistance and wash resistance

IEC 60529 compliant. Ensures water resistance during hot pressure washing, where equipment is washed intensively with high-pressure water or steam. (8,000 to 10,000 kPa pressure, 80°C hot water, 30 seconds for each angle)

# E2E NEXT Series Functions and Specifications

| Main functions and specifications | | Model | DC 3-wire | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Shielded | | | | Unshielded | | | |
| | | |  | |  | |  | |  | |
| | | | Quadruple distance | Triple distance | Double distance | Single distance | Quadruple distance | Triple distance | Double distance | Single distance |
| Detection performance | Sensing distance | M8 | 4mm | 3mm | 2mm | 1.5mm | 8mm | 6mm | 4mm | 2mm |
| | | M12 | 9mm | 6mm | 4mm | 2mm | 16mm | 10mm | 8mm | 5mm |
| | | M18 | 14mm | 12mm | 8mm | 5mm | 30mm | 20mm | 16mm | 10mm |
| | | M30 | 23mm | 22mm | 15mm | 10mm | 50mm | 40mm | 30mm | 18mm |
| | Installation | Flush with surface | — | — | ● *2 | ● | — | — | — | — |
| | | Flush with surface using nut | — | ● *1 | ● | ● | — | — | — | — |
| Usability | 360° visible indicator | | ● | ● | ● | ● | ● | ● | ● | ● |
| | e-jig | | ● *3 | ● *3 | — | — | — | — | — | — |
| Industrial IoT enabled | Detection level and temp. visualization with IO-Link | | ● | ● | ● | ● | ● | ● | ● | ● |
| | 2-output model | | — | ● | ● | ● | — | ● | ● | ● |
| Environmental resistance | Oil resistance | 2 years | ● | ● | ● | ● | ● | ● | ● | ● |
| Datasheet | | | P.18 ~ | P.21 ~ | P.25 ~ | P.29 ~ | P.20 ~ | P.23 ~ | P.27 ~ | P.31 ~ |

| DC 2-wire | | | | | | |
|---|---|---|---|---|---|---|
| Shielded | | | | Unshielded | | |
|  |  | | |  |  | |
| Triple distance | Double distance | Standard | Single distance | Triple distance | Double distance | Standard |
| 3mm | — | 2mm | 1.5mm | 6mm | — | 4mm |
| 7mm | 4mm | 3mm | 2.5mm | 10mm | — | 8mm |
| 11mm | 8mm | 7mm | 5mm | 20mm | 16mm | 14mm |
| 20mm | 15mm | 10mm | — | 40mm | 30mm | 20mm |
| — | — | ● | ● | — | — | — |
| ● *1 | ● | ● | ● | — | — | — |
| ● | ● | ● | ● | ● | ● | ● |
| ● *3 | — | — | — | — | — | — |
| — | — | — | — | — | — | — |
| — | — | — | — | — | — | — |
| ● | ● | ● | ● | ● | ● | ● |
| P.64 ~ | P.75 ~ | P.74 ~ | P.75 ~ | P.64 ~ | P.75 ~ | P.74 ~ |

*1. The nuts are longer than other models. Please refer to the datasheet for details.
*2. Applicable to some models. Please refer to datasheet for details.
*3. Pre-wired models only.

# E2EQ NEXT Series Functions and Specifications

| | | | DC 3-wire | | | DC 2-wire | |
|---|---|---|---|---|---|---|---|
| | | | Fluororesin head | | | Fluororesin head | |
| | | |  | | |  | |
| Main functions and specifications | | Model | PREMIUM Model | BASIC Model | | PREMIUM Model | BASIC Model |
| | | | Triple distance | Double distance | Single distance | Triple distance | Double distance |
| Detection performance | Sensing distance | M8 | 3mm | 2mm | 1.5mm | 3mm | — |
| | | M12 | 6mm | 4mm | 2mm | 7mm | 4mm |
| | | M18 | 12mm | 8mm | 5mm | 11mm | 8mm |
| | | M30 | 22mm | 15mm | 10mm | 20mm | 15mm |
| | Installation | Flush with surface | — | — | ● | — | — |
| | | Flush with surface using nut | ● | ● | ● | ● | ● |
| Environmental resistance | Spatter resistance | Standard fluororesin coating | ● | ● | ● | ● | ● |
| Industrial IoT enabled | Detection level and temp. visualization with IO-Link | | ● | ● | ● | — | — |
| Usability | 360° visible indicator | | ● (Orange) | ● (Orange) | ● (Orange) | ● (Green) | ● (Green) |
| | Laser printed model number | | ● | ● | ● | ● | ● |
| | 2-output (NO+NC) model | | ● *1 | ● *1 | ● *1 | — | — |
| Datasheet | | | P.89 ~ | | | P.89 ~ | |

*1. 2-output (NO+NC) models only.

# E2E NEXT Series

## DC 3-Wire

## Enables easier and standardized designs previously not possible

- Nearly double the sensing distance*1 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.
- IP69K compliant for water resistance and wash resistance
- Comes in a wide variation to make sensor selection easy
- UL certification (UL60947-5-2)*4 and CSA certification (CSA C22.2 UL60947-5-2-14)

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

*1. Comparison with our previous model E2E.
*2. Time required to adjust the distance when installing a Sensor. Based on OMRON investigation.
*3. Refer to *Ratings and Specifications* for details. However, E2E Connector Models is excluded.
*4. M8 (4-pin) Connector Models are not UL certified.

Be sure to read *Safety Precautions* on page 50.

## Model Number Legend

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

| No. | Type | Code | Meaning |
|---|---|---|---|
| (1) | Sensing distance | Number | Sensing distance (Unit: mm)<br>(R: Indication of decimal point) |
| (2) | Shielding | Blank | Shielded |
| | | M | Unshielded |
| (3) | Output configuration | B | PNP open collector |
| | | C | NPN open collector |
| (4) | Operation mode | 1 | Normally open (NO) |
| | | 2 | Normally closed (NC) |
| | | 3 | Normally open, Normally closed (NO+NC) |
| (5) | Oscillation frequency type | Blank | Standard frequency |
| | | 5 | Different frequency |
| (6) | IO-Link baud rate | Blank | Non IO-Link compliant |
| | | D | COM2 (38.4 kbps) |
| | | T | COM3 (230.4 kbps) |
| (7) | Body size | Blank | Standard |
| | | L | Long Body |
| (8) | Size | 8 | M8 |
| | | 12 | M12 |
| | | 18 | M18 |
| | | 30 | M30 |
| (9) | Connection method | Blank | Pre-wired Models |
| | | M1 | M12 Connector Models |
| | | M3 | M8 (4-pin) Connector Models |
| | | M5 | M8 (3-pin) Connector Models |
| | | M1TJ | M12 Pre-wired Smartclick Connector Models |
| | | M1TJR | M12 Pre-wired Smartclick Connector Models<br>Robot (bending-resistant) cable |
| (10) | Cable specifications<br>(Only shown in the model number of Pre-wired Models.) | Blank | Standard PVC cable |
| | | R | Robot (bending-resistant) cable |
| (11) | Cable length | Number M | Cable length |

**Note:** The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number.

# Ordering Information

PREMIUM Model

## E2E NEXT Series (Quadruple distance model)

DC 3-wire [Refer to *Dimensions* on page 53.]

Shielded *1

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *5 | --- *5 |
| M8 (4 mm) | Pre-wired (2 m) *2 | 38 mm *3 | NO | E2E-X4B1T8 2M | E2E-X4B1D8 2M | E2E-X4C18 2M |
| | | | NC | - | E2E-X4B28 2M | E2E-X4C28 2M |
| | | 48 mm | NO | E2E-X4B1TL8 2M | E2E-X4B1DL8 2M | E2E-X4C1L8 2M |
| | | | NC | - | E2E-X4B2L8 2M | E2E-X4C2L8 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm *4 | NO | E2E-X4B1T8-M1TJ 0.3M | E2E-X4B1D8-M1TJ 0.3M | E2E-X4C18-M1TJ 0.3M |
| | | | NC | - | E2E-X4B28-M1TJ 0.3M | E2E-X4C28-M1TJ 0.3M |
| | | 48 mm | NO | E2E-X4B1TL8-M1TJ 0.3M | E2E-X4B1DL8-M1TJ 0.3M | E2E-X4C1L8-M1TJ 0.3M |
| | | | NC | - | E2E-X4B2L8-M1TJ 0.3M | E2E-X4C2L8-M1TJ 0.3M |
| | M12 Connector | 43 mm | NO | E2E-X4B1T8-M1 | E2E-X4B1D8-M1 | E2E-X4C18-M1 |
| | | | NC | - | E2E-X4B28-M1 | E2E-X4C28-M1 |
| | | 53 mm | NO | E2E-X4B1TL8-M1 | E2E-X4B1DL8-M1 | E2E-X4C1L8-M1 |
| | | | NC | - | E2E-X4B2L8-M1 | E2E-X4C2L8-M1 |
| | M8 Connector (4-pin) | 39 mm | NO | E2E-X4B1T8-M3 | E2E-X4B1D8-M3 | E2E-X4C18-M3 |
| | | | NC | - | E2E-X4B28-M3 | E2E-X4C28-M3 |
| | | 49 mm | NO | E2E-X4B1TL8-M3 | E2E-X4B1DL8-M3 | E2E-X4C1L8-M3 |
| | | | NC | - | E2E-X4B2L8-M3 | E2E-X4C2L8-M3 |
| | M8 Connector (3-pin) | 39 mm | NO | E2E-X4B1T8-M5 | E2E-X4B1D8-M5 | E2E-X4C18-M5 |
| | | | NC | - | E2E-X4B28-M5 | E2E-X4C28-M5 |
| | | 49 mm | NO | E2E-X4B1TL8-M5 | E2E-X4B1DL8-M5 | E2E-X4C1L8-M5 |
| | | | NC | - | E2E-X4B2L8-M5 | E2E-X4C2L8-M5 |
| M12 (9 mm) | Pre-wired (2 m) *2 | 47 mm *3 | NO | E2E-X9B1T12 2M | E2E-X9B1D12 2M | E2E-X9C112 2M |
| | | | NC | - | E2E-X9B212 2M | E2E-X9C212 2M |
| | | 69 mm | NO | E2E-X9B1TL12 2M | E2E-X9B1DL12 2M | E2E-X9C1L12 2M |
| | | | NC | - | E2E-X9B2L12 2M | E2E-X9C2L12 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm *4 | NO | E2E-X9B1T12-M1TJ 0.3M | E2E-X9B1D12-M1TJ 0.3M | E2E-X9C112-M1TJ 0.3M |
| | | | NC | - | E2E-X9B212-M1TJ 0.3M | E2E-X9C212-M1TJ 0.3M |
| | | 69 mm | NO | E2E-X9B1TL12-M1TJ 0.3M | E2E-X9B1DL12-M1TJ 0.3M | E2E-X9C1L12-M1TJ 0.3M |
| | | | NC | - | E2E-X9B2L12-M1TJ 0.3M | E2E-X9C2L12-M1TJ 0.3M |
| | M12 Connector | 48 mm | NO | E2E-X9B1T12-M1 | E2E-X9B1D12-M1 | E2E-X9C112-M1 |
| | | | NC | - | E2E-X9B212-M1 | E2E-X9C212-M1 |
| | | 70 mm | NO | E2E-X9B1TL12-M1 | E2E-X9B1DL12-M1 | E2E-X9C1L12-M1 |
| | | | NC | - | E2E-X9B2L12-M1 | E2E-X9C2L12-M1 |
| M18 (14 mm) | Pre-wired (2 m) *2 | 55 mm *3 | NO | E2E-X14B1T18 2M | E2E-X14B1D18 2M | E2E-X14C118 2M |
| | | | NC | - | E2E-X14B218 2M | E2E-X14C218 2M |
| | | 77 mm | NO | E2E-X14B1TL18 2M | E2E-X14B1DL18 2M | E2E-X14C1L18 2M |
| | | | NC | - | E2E-X14B2L18 2M | E2E-X14C2L18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm *4 | NO | E2E-X14B1T18-M1TJ 0.3M | E2E-X14B1D18-M1TJ 0.3M | E2E-X14C118-M1TJ 0.3M |
| | | | NC | - | E2E-X14B218-M1TJ 0.3M | E2E-X14C218-M1TJ 0.3M |
| | | 77 mm | NO | E2E-X14B1TL18-M1TJ 0.3M | E2E-X14B1DL18-M1TJ 0.3M | E2E-X14C1L18-M1TJ 0.3M |
| | | | NC | - | E2E-X14B2L18-M1TJ 0.3M | E2E-X14C2L18-M1TJ 0.3M |
| | M12 Connector | 53 mm | NO | E2E-X14B1T18-M1 | E2E-X14B1D18-M1 | E2E-X14C118-M1 |
| | | | NC | - | E2E-X14B218-M1 | E2E-X14C218-M1 |
| | | 75 mm | NO | E2E-X14B1TL18-M1 | E2E-X14B1DL18-M1 | E2E-X14C1L18-M1 |
| | | | NC | - | E2E-X14B2L18-M1 | E2E-X14C2L18-M1 |

## PREMIUM Model

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *5 | --- *5 |
| M30 (23 mm) | Pre-wired (2 m) *2 | 60 mm *4 | NO | E2E-X23B1T30 2M | E2E-X23B1D30 2M | E2E-X23C130 2M |
| | | | NC | - | E2E-X23B230 2M | E2E-X23C230 2M |
| | | 82 mm | NO | E2E-X23B1TL30 2M | E2E-X23B1DL30 2M | E2E-X23C1L30 2M |
| | | | NC | - | E2E-X23B2L30 2M | E2E-X23C2L30 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm *4 | NO | E2E-X23B1T30-M1TJ 0.3M | E2E-X23B1D30-M1TJ 0.3M | E2E-X23C130-M1TJ 0.3M |
| | | | NC | - | E2E-X23B230-M1TJ 0.3M | E2E-X23C230-M1TJ 0.3M |
| | | 82 mm | NO | E2E-X23B1TL30-M1TJ 0.3M | E2E-X23B1DL30-M1TJ 0.3M | E2E-X23C1L30-M1TJ 0.3M |
| | | | NC | - | E2E-X23B2L30-M1TJ 0.3M | E2E-X23C2L30-M1TJ 0.3M |
| | M12 Connector | 58 mm | NO | E2E-X23B1T30-M1 | E2E-X23B1D30-M1 | E2E-X23C130-M1 |
| | | | NC | - | E2E-X23B230-M1 | E2E-X23C230-M1 |
| | | 80 mm | NO | E2E-X23B1TL30-M1 | E2E-X23B1DL30-M1 | E2E-X23C1L30-M1 |
| | | | NC | - | E2E-X23B2L30-M1 | E2E-X23C2L30-M1 |

*1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 51.
*2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2E-X9B1D12 5M)
*3. Models with 2-m and 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X9B1D12-R 2M/ E2E-X9B1D12-R 5M)
*4. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with "R" in the model number. (Example: E2E-X9B1D12-M1TJR 0.3M)
*5. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

**Note:** Operation mode NO can be changed to NC via IO-Link communications.

PREMIUM Model

## E2E NEXT Series (Quadruple distance model)

DC 3-wire [Refer to *Dimensions* on page 54.]

**Unshielded**

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M8 (8 mm) | Pre-wired (2 m) *1 | 38 mm *2 | NO | E2E-X8MB1T8 2M | E2E-X8MB1D8 2M | E2E-X8MC18 2M |
| | | | NC | - | E2E-X8MB28 2M | E2E-X8MC28 2M |
| | | 48 mm | NO | E2E-X8MB1TL8 2M | E2E-X8MB1DL8 2M | E2E-X8MC1L8 2M |
| | | | NC | - | E2E-X8MB2L8 2M | E2E-X8MC2L8 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm *3 | NO | E2E-X8MB1T8-M1TJ 0.3M | E2E-X8MB1D8-M1TJ 0.3M | E2E-X8MC18-M1TJ 0.3M |
| | | | NC | - | E2E-X8MB28-M1TJ 0.3M | E2E-X8MC28-M1TJ 0.3M |
| | | 48 mm | NO | E2E-X8MB1TL8-M1TJ 0.3M | E2E-X8MB1DL8-M1TJ 0.3M | E2E-X8MC1L8-M1TJ 0.3M |
| | | | NC | - | E2E-X8MB2L8-M1TJ 0.3M | E2E-X8MC2L8-M1TJ 0.3M |
| | M12 Connector | 43 mm | NO | E2E-X8MB1T8-M1 | E2E-X8MB1D8-M1 | E2E-X8MC18-M1 |
| | | | NC | - | E2E-X8MB28-M1 | E2E-X8MC28-M1 |
| | | 53 mm | NO | E2E-X8MB1TL8-M1 | E2E-X8MB1DL8-M1 | E2E-X8MC1L8-M1 |
| | | | NC | - | E2E-X8MB2L8-M1 | E2E-X8MC2L8-M1 |
| | M8 Connector (4-pin) | 39 mm | NO | E2E-X8MB1T8-M3 | E2E-X8MB1D8-M3 | E2E-X8MC18-M3 |
| | | | NC | - | E2E-X8MB28-M3 | E2E-X8MC28-M3 |
| | | 49 mm | NO | E2E-X8MB1TL8-M3 | E2E-X8MB1DL8-M3 | E2E-X8MC1L8-M3 |
| | | | NC | - | E2E-X8MB2L8-M3 | E2E-X8MC2L8-M3 |
| | M8 Connector (3-pin) | 39 mm | NO | E2E-X8MB1T8-M5 | E2E-X8MB1D8-M5 | E2E-X8MC18-M5 |
| | | | NC | - | E2E-X8MB28-M5 | E2E-X8MC28-M5 |
| | | 49 mm | NO | E2E-X8MB1TL8-M5 | E2E-X8MB1DL8-M5 | E2E-X8MC1L8-M5 |
| | | | NC | - | E2E-X8MB2L8-M5 | E2E-X8MC2L8-M5 |
| M12 (16 mm) | Pre-wired (2 m) *1 | 47 mm *2 | NO | E2E-X16MB1T12 2M | E2E-X16MB1D12 2M | E2E-X16MC112 2M |
| | | | NC | - | E2E-X16MB212 2M | E2E-X16MC212 2M |
| | | 69 mm | NO | E2E-X16MB1TL12 2M | E2E-X16MB1DL12 2M | E2E-X16MC1L12 2M |
| | | | NC | - | E2E-X16MB2L12 2M | E2E-X16MC2L12 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm *3 | NO | E2E-X16MB1T12-M1TJ 0.3M | E2E-X16MB1D12-M1TJ 0.3M | E2E-X16MC112-M1TJ 0.3M |
| | | | NC | - | E2E-X16MB212-M1TJ 0.3M | E2E-X16MC212-M1TJ 0.3M |
| | | 69 mm | NO | E2E-X16MB1TL12-M1TJ 0.3M | E2E-X16MB1DL12-M1TJ 0.3M | E2E-X16MC1L12-M1TJ 0.3M |
| | | | NC | - | E2E-X16MB2L12-M1TJ 0.3M | E2E-X16MC2L12-M1TJ 0.3M |
| | M12 Connector | 48 mm | NO | E2E-X16MB1T12-M1 | E2E-X16MB1D12-M1 | E2E-X16MC112-M1 |
| | | | NC | - | E2E-X16MB212-M1 | E2E-X16MC212-M1 |
| | | 70 mm | NO | E2E-X16MB1TL12-M1 | E2E-X16MB1DL12-M1 | E2E-X16MC1L12-M1 |
| | | | NC | - | E2E-X16MB2L12-M1 | E2E-X16MC2L12-M1 |
| M18 (30 mm) | Pre-wired (2 m) *1 | 77 mm *2 | NO | E2E-X30MB1TL18 2M | E2E-X30MB1DL18 2M | E2E-X30MC1L18 2M |
| | | | NC | - | E2E-X30MB2L18 2M | E2E-X30MC2L18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 77 mm *3 | NO | E2E-X30MB1TL18-M1TJ 0.3M | E2E-X30MB1DL18-M1TJ 0.3M | E2E-X30MC1L18-M1TJ 0.3M |
| | | | NC | - | E2E-X30MB2L18-M1TJ 0.3M | E2E-X30MC2L18-M1TJ 0.3M |
| | M12 Connector | 75 mm | NO | E2E-X30MB1TL18-M1 | E2E-X30MB1DL18-M1 | E2E-X30MC1L18-M1 |
| | | | NC | - | E2E-X30MB2L18-M1 | E2E-X30MC2L18-M1 |
| M30 (50 mm) | Pre-wired (2 m) *1 | 97 mm *2 | NO | E2E-X50MB1TL30 2M | E2E-X50MB1DL30 2M | E2E-X50MC1L30 2M |
| | | | NC | - | E2E-X50MB2L30 2M | E2E-X50MC2L30 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 97 mm *3 | NO | E2E-X50MB1TL30-M1TJ 0.3M | E2E-X50MB1DL30-M1TJ 0.3M | E2E-X50MC1L30-M1TJ 0.3M |
| | | | NC | - | E2E-X50MB2L30-M1TJ 0.3M | E2E-X50MC2L30-M1TJ 0.3M |
| | M12 Connector | 95 mm | NO | E2E-X50MB1TL30-M1 | E2E-X50MB1DL30-M1 | E2E-X50MC1L30-M1 |
| | | | NC | - | E2E-X50MB2L30-M1 | E2E-X50MC2L30-M1 |

*1. Models with 5-m cable length are also available (Example: E2E-X16MB1D12 5M)
*2. Models with 2-m and 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X16MB1D12-R 2M/E2E-X16MB1D12-R 5M)
*3. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with R" in the model number. (Example: E2E-X16MB1D12-M1TJR 0.3M)
*4. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

**Note:** Operation mode NO can be changed to NC via IO-Link communications.

PREMIUM Model

# E2E NEXT Series (Triple distance model)

DC 3-wire [Refer to *Dimensions* on page 53.]

Shielded *1

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *5 | --- *5 |
| M8 (3 mm) | Pre-wired (2 m) *2 | 38 mm *3 | NO | E2E-X3B1T8 2M | E2E-X3B1D8 2M | E2E-X3C18 2M |
| | | | NC | - | E2E-X3B28 2M | E2E-X3C28 2M |
| | | 48 mm | NO | E2E-X3B1TL8 2M | E2E-X3B1DL8 2M | E2E-X3C1L8 2M |
| | | | NC | - | E2E-X3B2L8 2M | E2E-X3C2L8 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm *4 | NO | E2E-X3B1T8-M1TJ 0.3M | E2E-X3B1D8-M1TJ 0.3M | E2E-X3C18-M1TJ 0.3M |
| | | | NC | - | E2E-X3B28-M1TJ 0.3M | E2E-X3C28-M1TJ 0.3M |
| | | 48 mm | NO | E2E-X3B1TL8-M1TJ 0.3M | E2E-X3B1DL8-M1TJ 0.3M | E2E-X3C1L8-M1TJ 0.3M |
| | | | NC | - | E2E-X3B2L8-M1TJ 0.3M | E2E-X3C2L8-M1TJ 0.3M |
| | M12 Connector | 43 mm | NO | E2E-X3B1T8-M1 | E2E-X3B1D8-M1 | E2E-X3C18-M1 |
| | | | NC | - | E2E-X3B28-M1 | E2E-X3C28-M1 |
| | | 53 mm | NO | E2E-X3B1TL8-M1 | E2E-X3B1DL8-M1 | E2E-X3C1L8-M1 |
| | | | NC | - | E2E-X3B2L8-M1 | E2E-X3C2L8-M1 |
| | M8 Connector (4-pin) | 39 mm | NO | E2E-X3B1T8-M3 | E2E-X3B1D8-M3 | E2E-X3C18-M3 |
| | | | NC | - | E2E-X3B28-M3 | E2E-X3C28-M3 |
| | | 49 mm | NO | E2E-X3B1TL8-M3 | E2E-X3B1DL8-M3 | E2E-X3C1L8-M3 |
| | | | NC | - | E2E-X3B2L8-M3 | E2E-X3C2L8-M3 |
| | M8 Connector (3-pin) | 39 mm | NO | E2E-X3B1T8-M5 | E2E-X3B1D8-M5 | E2E-X3C18-M5 |
| | | | NC | - | E2E-X3B28-M5 | E2E-X3C28-M5 |
| | | 49 mm | NO | E2E-X3B1TL8-M5 | E2E-X3B1DL8-M5 | E2E-X3C1L8-M5 |
| | | | NC | - | E2E-X3B2L8-M5 | E2E-X3C2L8-M5 |
| M12 (6 mm) | Pre-wired (2 m) *2 | 47 mm *3 | NO | E2E-X6B1T12 2M | E2E-X6B1D12 2M | E2E-X6C112 2M |
| | | | NC | - | E2E-X6B212 2M | E2E-X6C212 2M |
| | | | NO+NC | - | E2E-X6B3D12 2M | E2E-X6C312 2M |
| | | 69 mm | NO | E2E-X6B1TL12 2M | E2E-X6B1DL12 2M | E2E-X6C1L12 2M |
| | | | NC | - | E2E-X6B2L12 2M | E2E-X6C2L12 2M |
| | | | NO+NC | - | E2E-X6B3DL12 2M | E2E-X6C3L12 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm *4 | NO | E2E-X6B1T12-M1TJ 0.3M | E2E-X6B1D12-M1TJ 0.3M | E2E-X6C112-M1TJ 0.3M |
| | | | NC | - | E2E-X6B212-M1TJ 0.3M | E2E-X6C212-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X6B3D12-M1TJ 0.3M | E2E-X6C312-M1TJ 0.3M |
| | | 69 mm | NO | E2E-X6B1TL12-M1TJ 0.3M | E2E-X6B1DL12-M1TJ 0.3M | E2E-X6C1L12-M1TJ 0.3M |
| | | | NC | - | E2E-X6B2L12-M1TJ 0.3M | E2E-X6C2L12-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X6B3DL12-M1TJ 0.3M | E2E-X6C3L12-M1TJ 0.3M |
| | M12 Connector | 48 mm | NO | E2E-X6B1T12-M1 | E2E-X6B1D12-M1 | E2E-X6C112-M1 |
| | | | NC | - | E2E-X6B212-M1 | E2E-X6C212-M1 |
| | | | NO+NC | - | E2E-X6B3D12-M1 | E2E-X6C312-M1 |
| | | 70 mm | NO | E2E-X6B1TL12-M1 | E2E-X6B1DL12-M1 | E2E-X6C1L12-M1 |
| | | | NC | - | E2E-X6B2L12-M1 | E2E-X6C2L12-M1 |
| | | | NO+NC | - | E2E-X6B3DL12-M1 | E2E-X6C3L12-M1 |

**PREMIUM Model**

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *5 | --- *5 |
| M18 (12 mm) | Pre-wired (2 m) *2 | 55 mm *3 | NO | E2E-X12B1T18 2M | E2E-X12B1D18 2M | E2E-X12C118 2M |
| | | | NC | - | E2E-X12B218 2M | E2E-X12C218 2M |
| | | | NO+NC | - | E2E-X12B3D18 2M | E2E-X12C318 2M |
| | | 77 mm | NO | E2E-X12B1TL18 2M | E2E-X12B1DL18 2M | E2E-X12C1L18 2M |
| | | | NC | - | E2E-X12B2L18 2M | E2E-X12C2L18 2M |
| | | | NO+NC | - | E2E-X12B3DL18 2M | E2E-X12C3L18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm *4 | NO | E2E-X12B1T18-M1TJ 0.3M | E2E-X12B1D18-M1TJ 0.3M | E2E-X12C118-M1TJ 0.3M |
| | | | NC | - | E2E-X12B218-M1TJ 0.3M | E2E-X12C218-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X12B3D18-M1TJ 0.3M | E2E-X12C318-M1TJ 0.3M |
| | | 77 mm | NO | E2E-X12B1TL18-M1TJ 0.3M | E2E-X12B1DL18-M1TJ 0.3M | E2E-X12C1L18-M1TJ 0.3M |
| | | | NC | - | E2E-X12B2L18-M1TJ 0.3M | E2E-X12C2L18-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X12B3DL18-M1TJ 0.3M | E2E-X12C3L18-M1TJ 0.3M |
| | M12 Connector | 53 mm | NO | E2E-X12B1T18-M1 | E2E-X12B1D18-M1 | E2E-X12C118-M1 |
| | | | NC | - | E2E-X12B218-M1 | E2E-X12C218-M1 |
| | | | NO+NC | - | E2E-X12B3D18-M1 | E2E-X12C318-M1 |
| | | 75 mm | NO | E2E-X12B1TL18-M1 | E2E-X12B1DL18-M1 | E2E-X12C1L18-M1 |
| | | | NC | - | E2E-X12B2L18-M1 | E2E-X12C2L18-M1 |
| | | | NO+NC | - | E2E-X12B3DL18-M1 | E2E-X12C3L18-M1 |
| M30 (22 mm) | Pre-wired (2 m) *2 | 60 mm *3 | NO | E2E-X22B1T30 2M | E2E-X22B1D30 2M | E2E-X22C130 2M |
| | | | NC | - | E2E-X22B230 2M | E2E-X22C230 2M |
| | | | NO+NC | - | E2E-X22B3D30 2M | E2E-X22C330 2M |
| | | 82 mm | NO | E2E-X22B1TL30 2M | E2E-X22B1DL30 2M | E2E-X22C1L30 2M |
| | | | NC | - | E2E-X22B2L30 2M | E2E-X22C2L30 2M |
| | | | NO+NC | - | E2E-X22B3DL30 2M | E2E-X22C3L30 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm *4 | NO | E2E-X22B1T30-M1TJ 0.3M | E2E-X22B1D30-M1TJ 0.3M | E2E-X22C130-M1TJ 0.3M |
| | | | NC | - | E2E-X22B230-M1TJ 0.3M | E2E-X22C230-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X22B3D30-M1TJ 0.3M | E2E-X22C330-M1TJ 0.3M |
| | | 82 mm | NO | E2E-X22B1TL30-M1TJ 0.3M | E2E-X22B1DL30-M1TJ 0.3M | E2E-X22C1L30-M1TJ 0.3M |
| | | | NC | - | E2E-X22B2L30-M1TJ 0.3M | E2E-X22C2L30-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X22B3DL30-M1TJ 0.3M | E2E-X22C3L30-M1TJ 0.3M |
| | M12 Connector | 58 mm | NO | E2E-X22B1T30-M1 | E2E-X22B1D30-M1 | E2E-X22C130-M1 |
| | | | NC | - | E2E-X22B230-M1 | E2E-X22C230-M1 |
| | | | NO+NC | - | E2E-X22B3D30-M1 | E2E-X22C330-M1 |
| | | 80 mm | NO | E2E-X22B1TL30-M1 | E2E-X22B1DL30-M1 | E2E-X22C1L30-M1 |
| | | | NC | - | E2E-X22B2L30-M1 | E2E-X22C2L30-M1 |
| | | | NO+NC | - | E2E-X22B3DL30-M1 | E2E-X22C3L30-M1 |

*1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 51.
*2. Models with 5-m cable length are also available (Example: E2E-X6B1D12 5M)
*3. Models with 2-m and 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X6B1D12-R 2M/ E2E-X6B1D12-R 5M)
*4. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with R" in the model number. (Example: E2E-X6B1D12-M1TJR 0.3M)
*5. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

**Note:** Operation mode NO can be changed to NC via IO-Link communications.

PREMIUM Model

# E2E NEXT Series (Triple distance model)

DC 3-wire [Refer to *Dimensions* on page 54.]

**Unshielded**

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M8 (6 mm) | Pre-wired (2 m) *1 | 38 mm *2 | NO | E2E-X6MB1T8 2M | E2E-X6MB1D8 2M | E2E-X6MC18 2M |
| | | | NC | - | E2E-X6MB28 2M | E2E-X6MC28 2M |
| | | 48 mm | NO | E2E-X6MB1TL8 2M | E2E-X6MB1DL8 2M | E2E-X6MC1L8 2M |
| | | | NC | - | E2E-X6MB2L8 2M | E2E-X6MC2L8 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm *3 | NO | E2E-X6MB1T8-M1TJ 0.3M | E2E-X6MB1D8-M1TJ 0.3M | E2E-X6MC18-M1TJ 0.3M |
| | | | NC | - | E2E-X6MB28-M1TJ 0.3M | E2E-X6MC28-M1TJ 0.3M |
| | | 48 mm | NO | E2E-X6MB1TL8-M1TJ 0.3M | E2E-X6MB1DL8-M1TJ 0.3M | E2E-X6MC1L8-M1TJ 0.3M |
| | | | NC | - | E2E-X6MB2L8-M1TJ 0.3M | E2E-X6MC2L8-M1TJ 0.3M |
| | M12 Connector | 43 mm | NO | E2E-X6MB1T8-M1 | E2E-X6MB1D8-M1 | E2E-X6MC18-M1 |
| | | | NC | - | E2E-X6MB28-M1 | E2E-X6MC28-M1 |
| | | 53 mm | NO | E2E-X6MB1TL8-M1 | E2E-X6MB1DL8-M1 | E2E-X6MC1L8-M1 |
| | | | NC | - | E2E-X6MB2L8-M1 | E2E-X6MC2L8-M1 |
| | M8 Connector (4-pin) | 39 mm | NO | E2E-X6MB1T8-M3 | E2E-X6MB1D8-M3 | E2E-X6MC18-M3 |
| | | | NC | - | E2E-X6MB28-M3 | E2E-X6MC28-M3 |
| | | 49 mm | NO | E2E-X6MB1TL8-M3 | E2E-X6MB1DL8-M3 | E2E-X6MC1L8-M3 |
| | | | NC | - | E2E-X6MB2L8-M3 | E2E-X6MC2L8-M3 |
| | M8 Connector (3-pin) | 39 mm | NO | E2E-X6MB1T8-M5 | E2E-X6MB1D8-M5 | E2E-X6MC18-M5 |
| | | | NC | - | E2E-X6MB28-M5 | E2E-X6MC28-M5 |
| | | 49 mm | NO | E2E-X6MB1TL8-M5 | E2E-X6MB1DL8-M5 | E2E-X6MC1L8-M5 |
| | | | NC | - | E2E-X6MB2L8-M5 | E2E-X6MC2L8-M5 |
| M12 (10 mm) | Pre-wired (2 m) *1 | 47 mm *2 | NO | E2E-X10MB1T12 2M | E2E-X10MB1D12 2M | E2E-X10MC112 2M |
| | | | NC | - | E2E-X10MB212 2M | E2E-X10MC212 2M |
| | | | NO+NC | - | E2E-X10MB3D12 2M | E2E-X10MC312 2M |
| | | 69 mm | NO | E2E-X10MB1TL12 2M | E2E-X10MB1DL12 2M | E2E-X10MC1L12 2M |
| | | | NC | - | E2E-X10MB2L12 2M | E2E-X10MC2L12 2M |
| | | | NO+NC | - | E2E-X10MB3DL12 2M | E2E-X10MC3L12 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm *3 | NO | E2E-X10MB1T12-M1TJ 0.3M | E2E-X10MB1D12-M1TJ 0.3M | E2E-X10MC112-M1TJ 0.3M |
| | | | NC | - | E2E-X10MB212-M1TJ 0.3M | E2E-X10MC212-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X10MB3D12-M1TJ 0.3M | E2E-X10MC312-M1TJ 0.3M |
| | | 69 mm | NO | E2E-X10MB1TL12-M1TJ 0.3M | E2E-X10MB1DL12-M1TJ 0.3M | E2E-X10MC1L12-M1TJ 0.3M |
| | | | NC | - | E2E-X10MB2L12-M1TJ 0.3M | E2E-X10MC2L12-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X10MB3DL12-M1TJ 0.3M | E2E-X10MC3L12-M1TJ 0.3M |
| | M12 Connector | 48 mm | NO | E2E-X10MB1T12-M1 | E2E-X10MB1D12-M1 | E2E-X10MC112-M1 |
| | | | NC | - | E2E-X10MB212-M1 | E2E-X10MC212-M1 |
| | | | NO+NC | - | E2E-X10MB3D12-M1 | E2E-X10MC312-M1 |
| | | 70 mm | NO | E2E-X10MB1TL12-M1 | E2E-X10MB1DL12-M1 | E2E-X10MC1L12-M1 |
| | | | NC | - | E2E-X10MB2L12-M1 | E2E-X10MC2L12-M1 |
| | | | NO+NC | - | E2E-X10MB3DL12-M1 | E2E-X10MC3L12-M1 |
| M18 (20 mm) | Pre-wired (2 m) *1 | 77 mm *2 | NO | E2E-X20MB1TL18 2M | E2E-X20MB1DL18 2M | E2E-X20MC1L18 2M |
| | | | NC | - | E2E-X20MB2L18 2M | E2E-X20MC2L18 2M |
| | | | NO+NC | - | E2E-X20MB3DL18 2M | E2E-X20MC3L18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 77 mm *3 | NO | E2E-X20MB1TL18-M1TJ | E2E-X20MB1DL18-M1TJ | E2E-X20MC1L18-M1TJ 0.3M |
| | | | NC | - | E2E-X20MB2L18-M1TJ 0.3M | E2E-X20MC2L18-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X20MB3DL18-M1TJ 0.3M | E2E-X20MC3L18-M1TJ 0.3M |
| | M12 Connector | 75 mm | NO | E2E-X20MB1TL18-M1 | E2E-X20MB1DL18-M1 | E2E-X20MC1L18-M1 |
| | | | NC | - | E2E-X20MB2L18-M1 | E2E-X20MC2L18-M1 |
| | | | NO+NC | - | E2E-X20MB3DL18-M1 | E2E-X20MC3L18-M1 |

**PREMIUM Model**

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M30 (40 mm) | Pre-wired (2 m) *1 | 82 mm *2 | NO | E2E-X40MB1TL30 2M | E2E-X40MB1DL30 2M | E2E-X40MC1L30 2M |
| | | | NC | - | E2E-X40MB2L30 2M | E2E-X40MC2L30 2M |
| | | | NO+NC | - | E2E-X40MB3DL30 2M | E2E-X40MC3L30 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 82 mm *3 | NO | E2E-X40MB1TL30-M1TJ 0.3M | E2E-X40MB1DL30-M1TJ 0.3M | E2E-X40MC1L30-M1TJ 0.3M |
| | | | NC | - | E2E-X40MB2L30-M1TJ 0.3M | E2E-X40MC2L30-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X40MB3DL30-M1TJ 0.3M | E2E-X40MC3L30-M1TJ 0.3M |
| | M12 Connector | 80 mm | NO | E2E-X40MB1TL30-M1 | E2E-X40MB1DL30-M1 | E2E-X40MC1L30-M1 |
| | | | NC | - | E2E-X40MB2L30-M1 | E2E-X40MC2L30-M1 |
| | | | NO+NC | - | E2E-X40MB3DL30-M1 | E2E-X40MC3L30-M1 |

*1. Models with 5-m cable length are also available (Example: E2E-X10MB1D12 5M)
*2. Models with 2-m and 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X10MB1D12-R 2M/E2E-X10MB1D12-R 5M)
*3. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with R" in the model number. (Example: E2E-X10MB1D12-M1TJR 0.3M)
*4. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

**Note:** Operation mode NO can be changed to NC via IO-Link communications.

BASIC Model

# E2E NEXT Series (Double distance model)

DC 3-wire [Refer to *Dimensions* on page 57.]

**Shielded**

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M8 (2 mm) | Pre-wired (2 m) *1 | 38 mm *2 | NO | E2E-X2B1T8 2M | E2E-X2B1D8 2M | E2E-X2C18 2M |
| | | | NC | - | E2E-X2B28 2M | E2E-X2C28 2M |
| | | 48 mm | NO | E2E-X2B1TL8 2M | E2E-X2B1DL8 2M | E2E-X2C1L8 2M |
| | | | NC | - | E2E-X2B2L8 2M | E2E-X2C2L8 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm *3 | NO | E2E-X2B1T8-M1TJ 0.3M | E2E-X2B1D8-M1TJ 0.3M | E2E-X2C18-M1TJ 0.3M |
| | | | NC | - | E2E-X2B28-M1TJ 0.3M | E2E-X2C28-M1TJ 0.3M |
| | | 48 mm | NO | E2E-X2B1TL8-M1TJ 0.3M | E2E-X2B1DL8-M1TJ 0.3M | E2E-X2C1L8-M1TJ 0.3M |
| | | | NC | - | E2E-X2B2L8-M1TJ 0.3M | E2E-X2C2L8-M1TJ 0.3M |
| | M12 Connector | 43 mm | NO | E2E-X2B1T8-M1 | E2E-X2B1D8-M1 | E2E-X2C18-M1 |
| | | | NC | - | E2E-X2B28-M1 | E2E-X2C28-M1 |
| | | 53 mm | NO | E2E-X2B1TL8-M1 | E2E-X2B1DL8-M1 | E2E-X2C1L8-M1 |
| | | | NC | - | E2E-X2B2L8-M1 | E2E-X2C2L8-M1 |
| | | | NO+NC | - | E2E-X2B3DL8-M1 | E2E-X2C3L8-M1 |
| | M8 Connector (4-pin) | 39 mm | NO | E2E-X2B1T8-M3 | E2E-X2B1D8-M3 | E2E-X2C18-M3 |
| | | | NC | - | E2E-X2B28-M3 | E2E-X2C28-M3 |
| | | 49 mm | NO | E2E-X2B1TL8-M3 | E2E-X2B1DL8-M3 | E2E-X2C1L8-M3 |
| | | | NC | - | E2E-X2B2L8-M3 | E2E-X2C2L8-M3 |
| | M8 Connector (3-pin) | 39 mm | NO | E2E-X2B1T8-M5 | E2E-X2B1D8-M5 | E2E-X2C18-M5 |
| | | | NC | - | E2E-X2B28-M5 | E2E-X2C28-M5 |
| | | 49 mm | NO | E2E-X2B1TL8-M5 | E2E-X2B1DL8-M5 | E2E-X2C1L8-M5 |
| | | | NC | - | E2E-X2B2L8-M5 | E2E-X2C2L8-M5 |
| M12 (4 mm) | Pre-wired (2 m) *1 | 47 mm *2 | NO | E2E-X4B1T12 2M | E2E-X4B1D12 2M | E2E-X4C112 2M |
| | | | NC | - | E2E-X4B212 2M | E2E-X4C212 2M |
| | | | NO+NC | - | E2E-X4B3D12 2M | E2E-X4C312 2M |
| | | 69 mm | NO | E2E-X4B1TL12 2M | E2E-X4B1DL12 2M | E2E-X4C1L12 2M |
| | | | NC | - | E2E-X4B2L12 2M | E2E-X4C2L12 2M |
| | | | NO+NC | - | E2E-X4B3DL12 2M | E2E-X4C3L12 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm *3 | NO | E2E-X4B1T12-M1TJ 0.3M | E2E-X4B1D12-M1TJ 0.3M | E2E-X4C112-M1TJ 0.3M |
| | | | NC | - | E2E-X4B212-M1TJ 0.3M | E2E-X4C212-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X4B3D12-M1TJ 0.3M | E2E-X4C312-M1TJ 0.3M |
| | | 69 mm | NO | E2E-X4B1TL12-M1TJ 0.3M | E2E-X4B1DL12-M1TJ 0.3M | E2E-X4C1L12-M1TJ 0.3M |
| | | | NC | - | E2E-X4B2L12-M1TJ 0.3M | E2E-X4C2L12-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X4B3DL12-M1TJ 0.3M | E2E-X4C3L12-M1TJ 0.3M |
| | M12 Connector | 48 mm | NO | E2E-X4B1T12-M1 | E2E-X4B1D12-M1 | E2E-X4C112-M1 |
| | | | NC | - | E2E-X4B212-M1 | E2E-X4C212-M1 |
| | | | NO+NC | - | E2E-X4B3D12-M1 | E2E-X4C312-M1 |
| | | 70 mm | NO | E2E-X4B1TL12-M1 | E2E-X4B1DL12-M1 | E2E-X4C1L12-M1 |
| | | | NC | - | E2E-X4B2L12-M1 | E2E-X4C2L12-M1 |
| | | | NO+NC | - | E2E-X4B3DL12-M1 | E2E-X4C3L12-M1 |

## BASIC Model

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M18 (8 mm) | Pre-wired (2 m) *1 | 55 mm *2 | NO | E2E-X8B1T18 2M | E2E-X8B1D18 2M | E2E-X8C118 2M |
| | | | NC | - | E2E-X8B218 2M | E2E-X8C218 2M |
| | | | NO+NC | - | E2E-X8B3D18 2M | E2E-X8C318 2M |
| | | 77 mm | NO | E2E-X8B1TL18 2M | E2E-X8B1DL18 2M | E2E-X8C1L18 2M |
| | | | NC | - | E2E-X8B2L18 2M | E2E-X8C2L18 2M |
| | | | NO+NC | - | E2E-X8B3DL18 2M | E2E-X8C3L18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm *3 | NO | E2E-X8B1T18-M1TJ 0.3M | E2E-X8B1D18-M1TJ 0.3M | E2E-X8C118-M1TJ 0.3M |
| | | | NC | - | E2E-X8B218-M1TJ 0.3M | E2E-X8C218-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X8B3D18-M1TJ 0.3M | E2E-X8C318-M1TJ 0.3M |
| | | 77 mm | NO | E2E-X8B1TL18-M1TJ 0.3M | E2E-X8B1DL18-M1TJ 0.3M | E2E-X8C1L18-M1TJ 0.3M |
| | | | NC | - | E2E-X8B2L18-M1TJ 0.3M | E2E-X8C2L18-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X8B3DL18-M1TJ 0.3M | E2E-X8C3L18-M1TJ 0.3M |
| | M12 Connector | 53 mm | NO | E2E-X8B1T18-M1 | E2E-X8B1D18-M1 | E2E-X8C118-M1 |
| | | | NC | - | E2E-X8B218-M1 | E2E-X8C218-M1 |
| | | | NO+NC | - | E2E-X8B3D18-M1 | E2E-X8C318-M1 |
| | | 75 mm | NO | E2E-X8B1TL18-M1 | E2E-X8B1DL18-M1 | E2E-X8C1L18-M1 |
| | | | NC | - | E2E-X8B2L18-M1 | E2E-X8C2L18-M1 |
| | | | NO+NC | - | E2E-X8B3DL18-M1 | E2E-X8C3L18-M1 |
| M30 (15 mm) | Pre-wired (2 m) *1 | 60 mm *2 | NO | E2E-X15B1T30 2M | E2E-X15B1D30 2M | E2E-X15C130 2M |
| | | | NC | - | E2E-X15B230 2M | E2E-X15C230 2M |
| | | | NO+NC | - | E2E-X15B3D30 2M | E2E-X15C330 2M |
| | | 82 mm | NO | E2E-X15B1TL30 2M | E2E-X15B1DL30 2M | E2E-X15C1L30 2M |
| | | | NC | - | E2E-X15B2L30 2M | E2E-X15C2L30 2M |
| | | | NO+NC | - | E2E-X15B3DL30 2M | E2E-X15C3L30 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm *3 | NO | E2E-X15B1T30-M1TJ 0.3M | E2E-X15B1D30-M1TJ 0.3M | E2E-X15C130-M1TJ 0.3M |
| | | | NC | - | E2E-X15B230-M1TJ 0.3M | E2E-X15C230-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X15B3D30-M1TJ 0.3M | E2E-X15C330-M1TJ 0.3M |
| | | 82 mm | NO | E2E-X15B1TL30-M1TJ 0.3M | E2E-X15B1DL30-M1TJ 0.3M | E2E-X15C1L30-M1TJ 0.3M |
| | | | NC | - | E2E-X15B2L30-M1TJ 0.3M | E2E-X15C2L30-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X15B3DL30-M1TJ 0.3M | E2E-X15C3L30-M1TJ 0.3M |
| | M12 Connector | 58 mm | NO | E2E-X15B1T30-M1 | E2E-X15B1D30-M1 | E2E-X15C130-M1 |
| | | | NC | - | E2E-X15B230-M1 | E2E-X15C230-M1 |
| | | | NO+NC | - | E2E-X15B3D30-M1 | E2E-X15C330-M1 |
| | | 80 mm | NO | E2E-X15B1TL30-M1 | E2E-X15B1DL30-M1 | E2E-X15C1L30-M1 |
| | | | NC | - | E2E-X15B2L30-M1 | E2E-X15C2L30-M1 |
| | | | NO+NC | - | E2E-X15B3DL30-M1 | E2E-X15C3L30-M1 |

*1. Models with 5-m cable length are also available (Example: E2E-X2B1D8 5M)
*2. Models with 2-m and 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X2B1D8-R 2M/ E2E-X2B1D8-R 5M)
*3. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with R" in the model number. (Example: E2E-X4B1T12-M1TJR 0.3M)
*4. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

**Note:** Operation mode NO can be changed to NC via IO-Link communications.

BASIC Model

# E2E NEXT Series (Double distance model)

DC 3-wire [Refer to *Dimensions* on page 58.]

**Unshielded**

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M8 (4 mm) | Pre-wired (2 m) *1 | 38 mm *2 | NO | E2E-X4MB1T8 2M | E2E-X4MB1D8 2M | E2E-X4MC18 2M |
| | | | NC | - | E2E-X4MB28 2M | E2E-X4MC28 2M |
| | | 48 mm | NO | E2E-X4MB1TL8 2M | E2E-X4MB1DL8 2M | E2E-X4MC1L8 2M |
| | | | NC | - | E2E-X4MB2L8 2M | E2E-X4MC2L8 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm *3 | NO | E2E-X4MB1T8-M1TJ 0.3M | E2E-X4MB1D8-M1TJ 0.3M | E2E-X4MC18-M1TJ 0.3M |
| | | | NC | - | E2E-X4MB28-M1TJ 0.3M | E2E-X4MC28-M1TJ 0.3M |
| | | 48 mm | NO | E2E-X4MB1TL8-M1TJ 0.3M | E2E-X4MB1DL8-M1TJ 0.3M | E2E-X4MC1L8-M1TJ 0.3M |
| | | | NC | - | E2E-X4MB2L8-M1TJ 0.3M | E2E-X4MC2L8-M1TJ 0.3M |
| | M12 Connector | 43 mm | NO | E2E-X4MB1T8-M1 | E2E-X4MB1D8-M1 | E2E-X4MC18-M1 |
| | | | NC | - | E2E-X4MB28-M1 | E2E-X4MC28-M1 |
| | | 53 mm | NO | E2E-X4MB1TL8-M1 | E2E-X4MB1DL8-M1 | E2E-X4MC1L8-M1 |
| | | | NC | - | E2E-X4MB2L8-M1 | E2E-X4MC2L8-M1 |
| | | | NO+NC | - | E2E-X4MB3DL8-M1 | E2E-X4MC3L8-M1 |
| | M8 Connector (4-pin) | 39 mm | NO | E2E-X4MB1T8-M3 | E2E-X4MB1D8-M3 | E2E-X4MC18-M3 |
| | | | NC | - | E2E-X4MB28-M3 | E2E-X4MC28-M3 |
| | | 49 mm | NO | E2E-X4MB1TL8-M3 | E2E-X4MB1DL8-M3 | E2E-X4MC1L8-M3 |
| | | | NC | - | E2E-X4MB2L8-M3 | E2E-X4MC2L8-M3 |
| | M8 Connector (3-pin) | 39 mm | NO | E2E-X4MB1T8-M5 | E2E-X4MB1D8-M5 | E2E-X4MC18-M5 |
| | | | NC | - | E2E-X4MB28-M5 | E2E-X4MC28-M5 |
| | | 49 mm | NO | E2E-X4MB1TL8-M5 | E2E-X4MB1DL8-M5 | E2E-X4MC1L8-M5 |
| | | | NC | - | E2E-X4MB2L8-M5 | E2E-X4MC2L8-M5 |
| M12 (8 mm) | Pre-wired (2 m) *1 | 47 mm *2 | NO | E2E-X8MB1T12 2M | E2E-X8MB1D12 2M | E2E-X8MC112 2M |
| | | | NC | - | E2E-X8MB212 2M | E2E-X8MC212 2M |
| | | | NO+NC | - | E2E-X8MB3D12 2M | E2E-X8MC312 2M |
| | | 69 mm | NO | E2E-X8MB1TL12 2M | E2E-X8MB1DL12 2M | E2E-X8MC1L12 2M |
| | | | NC | - | E2E-X8MB2L12 2M | E2E-X8MC2L12 2M |
| | | | NO+NC | - | E2E-X8MB3DL12 2M | E2E-X8MC3L12 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm *3 | NO | E2E-X8MB1T12-M1TJ 0.3M | E2E-X8MB1D12-M1TJ 0.3M | E2E-X8MC112-M1TJ 0.3M |
| | | | NC | - | E2E-X8MB212-M1TJ 0.3M | E2E-X8MC212-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X8MB3D12-M1TJ 0.3M | E2E-X8MC312-M1TJ 0.3M |
| | | 69 mm | NO | E2E-X8MB1TL12-M1TJ 0.3M | E2E-X8MB1DL12-M1TJ 0.3M | E2E-X8MC1L12-M1TJ 0.3M |
| | | | NC | - | E2E-X8MB2L12-M1TJ 0.3M | E2E-X8MC2L12-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X8MB3DL12-M1TJ 0.3M | E2E-X8MC3L12-M1TJ 0.3M |
| | M12 Connector | 48 mm | NO | E2E-X8MB1T12-M1 | E2E-X8MB1D12-M1 | E2E-X8MC112-M1 |
| | | | NC | - | E2E-X8MB212-M1 | E2E-X8MC212-M1 |
| | | | NO+NC | - | E2E-X8MB3D12-M1 | E2E-X8MC312-M1 |
| | | 70 mm | NO | E2E-X8MB1TL12-M1 | E2E-X8MB1DL12-M1 | E2E-X8MC1L12-M1 |
| | | | NC | - | E2E-X8MB2L12-M1 | E2E-X8MC2L12-M1 |
| | | | NO+NC | - | E2E-X8MB3DL12-M1 | E2E-X8MC3L12-M1 |

## BASIC Model

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M18 (16 mm) | Pre-wired (2 m) *1 | 55 mm *2 | NO | E2E-X16MB1T18 2M | E2E-X16MB1D18 2M | E2E-X16MC118 2M |
| | | | NC | - | E2E-X16MB218 2M | E2E-X16MC218 2M |
| | | | NO+NC | - | E2E-X16MB3D18 2M | E2E-X16MC318 2M |
| | | 77 mm | NO | E2E-X16MB1TL18 2M | E2E-X16MB1DL18 2M | E2E-X16MC1L18 2M |
| | | | NC | - | E2E-X16MB2L18 2M | E2E-X16MC2L18 2M |
| | | | NO+NC | - | E2E-X16MB3DL18 2M | E2E-X16MC3L18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm *3 | NO | E2E-X16MB1T18-M1TJ 0.3M | E2E-X16MB1D18-M1TJ 0.3M | E2E-X16MC118-M1TJ 0.3M |
| | | | NC | - | E2E-X16MB218-M1TJ 0.3M | E2E-X16MC218-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X16MB3D18-M1TJ 0.3M | E2E-X16MC318-M1TJ 0.3M |
| | | 77 mm | NO | E2E-X16MB1TL18-M1TJ 0.3M | E2E-X16MB1DL18-M1TJ 0.3M | E2E-X16MC1L18-M1TJ 0.3M |
| | | | NC | - | E2E-X16MB2L18-M1TJ 0.3M | E2E-X16MC2L18-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X16MB3DL18-M1TJ 0.3M | E2E-X16MC3L18-M1TJ 0.3M |
| | M12 Connector | 53 mm | NO | E2E-X16MB1T18-M1 | E2E-X16MB1D18-M1 | E2E-X16MC118-M1 |
| | | | NC | - | E2E-X16MB218-M1 | E2E-X16MC218-M1 |
| | | | NO+NC | - | E2E-X16MB3D18-M1 | E2E-X16MC318-M1 |
| | | 75 mm | NO | E2E-X16MB1TL18-M1 | E2E-X16MB1DL18-M1 | E2E-X16MC1L18-M1 |
| | | | NC | - | E2E-X16MB2L18-M1 | E2E-X16MC2L18-M1 |
| | | | NO+NC | - | E2E-X16MB3DL18-M1 | E2E-X16MC3L18-M1 |
| M30 (30 mm) | Pre-wired (2 m) *1 | 82 mm *2 | NO | E2E-X30MB1TL30 2M | E2E-X30MB1DL30 2M | E2E-X30MC1L30 2M |
| | | | NC | - | E2E-X30MB2L30 2M | E2E-X30MC2L30 2M |
| | | | NO+NC | - | E2E-X30MB3DL30 2M | E2E-X30MC3L30 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 82 mm *3 | NO | E2E-X30MB1TL30-M1TJ 0.3M | E2E-X30MB1DL30-M1TJ 0.3M | E2E-X30MC1L30-M1TJ 0.3M |
| | | | NC | - | E2E-X30MB2L30-M1TJ 0.3M | E2E-X30MC2L30-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X30MB3DL30-M1TJ 0.3M | E2E-X30MC3L30-M1TJ 0.3M |
| | M12 Connector | 80 mm | NO | E2E-X30MB1TL30-M1 | E2E-X30MB1DL30-M1 | E2E-X30MC1L30-M1 |
| | | | NC | - | E2E-X30MB2L30-M1 | E2E-X30MC2L30-M1 |
| | | | NO+NC | - | E2E-X30MB3DL30-M1 | E2E-X30MC3L30-M1 |

*1. Models with 5-m cable length are also available (Example: E2E-X8MB1D12 5M)
*2. Models with 2-m and 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X8MB1D12-R 2M/ E2E-X8MB1D12-R 5M)
*3. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with R" in the model number. (Example: E2E-X8MB1D12-M1TJR 0.3M)
*4. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

**Note:** Operation mode NO can be changed to NC via IO-Link communications.

BASIC Model

# E2E NEXT Series (Single distance model)

DC 3-wire [Refer to *Dimensions* on page 57.]

**Shielded**

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M8 (1.5 mm) | Pre-wired (2 m) *1 | 38 mm *2 | NO | E2E-X1R5B1T8 2M | E2E-X1R5B1D8 2M | E2E-X1R5C18 2M |
| | | | NC | - | E2E-X1R5B28 2M | E2E-X1R5C28 2M |
| | | 48 mm | NO | E2E-X1R5B1TL8 2M | E2E-X1R5B1DL8 2M | E2E-X1R5C1L8 2M |
| | | | NC | - | E2E-X1R5B2L8 2M | E2E-X1R5C2L8 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm *3 | NO | E2E-X1R5B1T8-M1TJ 0.3M | E2E-X1R5B1D8-M1TJ 0.3M | E2E-X1R5C18-M1TJ 0.3M |
| | | | NC | - | E2E-X1R5B28-M1TJ 0.3M | E2E-X1R5C28-M1TJ 0.3M |
| | | 48 mm | NO | E2E-X1R5B1TL8-M1TJ 0.3M | E2E-X1R5B1DL8-M1TJ 0.3M | E2E-X1R5C1L8-M1TJ 0.3M |
| | | | NC | - | E2E-X1R5B2L8-M1TJ 0.3M | E2E-X1R5C2L8-M1TJ 0.3M |
| | M12 Connector | 43 mm | NO | E2E-X1R5B1T8-M1 | E2E-X1R5B1D8-M1 | E2E-X1R5C18-M1 |
| | | | NC | - | E2E-X1R5B28-M1 | E2E-X1R5C28-M1 |
| | | 53 mm | NO | E2E-X1R5B1TL8-M1 | E2E-X1R5B1DL8-M1 | E2E-X1R5C1L8-M1 |
| | | | NC | - | E2E-X1R5B2L8-M1 | E2E-X1R5C2L8-M1 |
| | | | NO+NC | - | E2E-X1R5B3DL8-M1 | E2E-X1R5C3L8-M1 |
| | M8 Connector (4-pin) | 39 mm | NO | E2E-X1R5B1T8-M3 | E2E-X1R5B1D8-M3 | E2E-X1R5C18-M3 |
| | | | NC | - | E2E-X1R5B28-M3 | E2E-X1R5C28-M3 |
| | | 49 mm | NO | E2E-X1R5B1TL8-M3 | E2E-X1R5B1DL8-M3 | E2E-X1R5C1L8-M3 |
| | | | NC | - | E2E-X1R5B2L8-M3 | E2E-X1R5C2L8-M3 |
| | M8 Connector (3-pin) | 39 mm | NO | E2E-X1R5B1T8-M5 | E2E-X1R5B1D8-M5 | E2E-X1R5C18-M5 |
| | | | NC | - | E2E-X1R5B28-M5 | E2E-X1R5C28-M5 |
| | | 49 mm | NO | E2E-X1R5B1TL8-M5 | E2E-X1R5B1DL8-M5 | E2E-X1R5C1L8-M5 |
| | | | NC | - | E2E-X1R5B2L8-M5 | E2E-X1R5C2L8-M5 |
| M12 (2 mm) | Pre-wired (2 m) *1 | 47 mm *2 | NO | E2E-X2B1T12 2M | E2E-X2B1D12 2M | E2E-X2C112 2M |
| | | | NC | - | E2E-X2B212 2M | E2E-X2C212 2M |
| | | | NO+NC | - | E2E-X2B3D12 2M | E2E-X2C312 2M |
| | | 69 mm | NO | E2E-X2B1TL12 2M | E2E-X2B1DL12 2M | E2E-X2C1L12 2M |
| | | | NC | - | E2E-X2B2L12 2M | E2E-X2C2L12 2M |
| | | | NO+NC | - | E2E-X2B3DL12 2M | E2E-X2C3L12 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm *3 | NO | E2E-X2B1T12-M1TJ 0.3M | E2E-X2B1D12-M1TJ 0.3M | E2E-X2C112-M1TJ 0.3M |
| | | | NC | - | E2E-X2B212-M1TJ 0.3M | E2E-X2C212-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X2B3D12-M1TJ 0.3M | E2E-X2C312-M1TJ 0.3M |
| | | 69 mm | NO | E2E-X2B1TL12-M1TJ 0.3M | E2E-X2B1DL12-M1TJ 0.3M | E2E-X2C1L12-M1TJ 0.3M |
| | | | NC | - | E2E-X2B2L12-M1TJ 0.3M | E2E-X2C2L12-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X2B3DL12-M1TJ 0.3M | E2E-X2C3L12-M1TJ 0.3M |
| | M12 Connector | 48 mm | NO | E2E-X2B1T12-M1 | E2E-X2B1D12-M1 | E2E-X2C112-M1 |
| | | | NC | - | E2E-X2B212-M1 | E2E-X2C212-M1 |
| | | | NO+NC | - | E2E-X2B3D12-M1 | E2E-X2C312-M1 |
| | | 70 mm | NO | E2E-X2B1TL12-M1 | E2E-X2B1DL12-M1 | E2E-X2C1L12-M1 |
| | | | NC | - | E2E-X2B2L12-M1 | E2E-X2C2L12-M1 |
| | | | NO+NC | - | E2E-X2B3DL12-M1 | E2E-X2C3L12-M1 |

## BASIC Model

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M18 (5 mm) | Pre-wired (2 m) *1 | 55 mm *2 | NO | E2E-X5B1T18 2M | E2E-X5B1D18 2M | E2E-X5C118 2M |
| | | | NC | - | E2E-X5B218 2M | E2E-X5C218 2M |
| | | | NO+NC | - | E2E-X5B3D18 2M | E2E-X5C318 2M |
| | | 77 mm | NO | E2E-X5B1TL18 2M | E2E-X5B1DL18 2M | E2E-X5C1L18 2M |
| | | | NC | - | E2E-X5B2L18 2M | E2E-X5C2L18 2M |
| | | | NO+NC | - | E2E-X5B3DL18 2M | E2E-X5C3L18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm *3 | NO | E2E-X5B1T18-M1TJ 0.3M | E2E-X5B1D18-M1TJ 0.3M | E2E-X5C118-M1TJ 0.3M |
| | | | NC | - | E2E-X5B218-M1TJ 0.3M | E2E-X5C218-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X5B3D18-M1TJ 0.3M | E2E-X5C318-M1TJ 0.3M |
| | | 77 mm | NO | E2E-X5B1TL18-M1TJ 0.3M | E2E-X5B1DL18-M1TJ 0.3M | E2E-X5C1L18-M1TJ 0.3M |
| | | | NC | - | E2E-X5B2L18-M1TJ 0.3M | E2E-X5C2L18-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X5B3DL18-M1TJ 0.3M | E2E-X5C3L18-M1TJ 0.3M |
| | M12 Connector | 53 mm | NO | E2E-X5B1T18-M1 | E2E-X5B1D18-M1 | E2E-X5C118-M1 |
| | | | NC | - | E2E-X5B218-M1 | E2E-X5C218-M1 |
| | | | NO+NC | - | E2E-X5B3D18-M1 | E2E-X5C318-M1 |
| | | 75 mm | NO | E2E-X5B1TL18-M1 | E2E-X5B1DL18-M1 | E2E-X5C1L18-M1 |
| | | | NC | - | E2E-X5B2L18-M1 | E2E-X5C2L18-M1 |
| | | | NO+NC | - | E2E-X5B3DL18-M1 | E2E-X5C3L18-M1 |
| M30 (10 mm) | Pre-wired (2 m) *1 | 60 mm *2 | NO | E2E-X10B1T30 2M | E2E-X10B1D30 2M | E2E-X10C130 2M |
| | | | NC | - | E2E-X10B230 2M | E2E-X10C230 2M |
| | | | NO+NC | - | E2E-X10B3D30 2M | E2E-X10C330 2M |
| | | 82 mm | NO | E2E-X10B1TL30 2M | E2E-X10B1DL30 2M | E2E-X10C1L30 2M |
| | | | NC | - | E2E-X10B2L30 2M | E2E-X10C2L30 2M |
| | | | NO+NC | - | E2E-X10B3DL30 2M | E2E-X10C3L30 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm *3 | NO | E2E-X10B1T30-M1TJ 0.3M | E2E-X10B1D30-M1TJ 0.3M | E2E-X10C130-M1TJ 0.3M |
| | | | NC | - | E2E-X10B230-M1TJ 0.3M | E2E-X10C230-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X10B3D30-M1TJ 0.3M | E2E-X10C330-M1TJ 0.3M |
| | | 82 mm | NO | E2E-X10B1TL30-M1TJ 0.3M | E2E-X10B1DL30-M1TJ 0.3M | E2E-X10C1L30-M1TJ 0.3M |
| | | | NC | - | E2E-X10B2L30-M1TJ 0.3M | E2E-X10C2L30-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X10B3DL30-M1TJ 0.3M | E2E-X10C3L30-M1TJ 0.3M |
| | M12 Connector | 58 mm | NO | E2E-X10B1T30-M1 | E2E-X10B1D30-M1 | E2E-X10C130-M1 |
| | | | NC | - | E2E-X10B230-M1 | E2E-X10C230-M1 |
| | | | NO+NC | - | E2E-X10B3D30-M1 | E2E-X10C330-M1 |
| | | 80 mm | NO | E2E-X10B1TL30-M1 | E2E-X10B1DL30-M1 | E2E-X10C1L30-M1 |
| | | | NC | - | E2E-X10B2L30-M1 | E2E-X10C2L30-M1 |
| | | | NO+NC | - | E2E-X10B3DL30-M1 | E2E-X10C3L30-M1 |

*1. Models with 5-m cable length are also available (Example: E2E-X2B1D12 5M)
*2. Models with 2-m and 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X2B1D12-R 2M/ E2E-X2B1D12-R 5M)
*3. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with R" in the model number. (Example: E2E-X2B1D12-M1TJR 0.3M)
*4. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

**Note:** Operation mode NO can be changed to NC via IO-Link communications.

BASIC Model

# E2E NEXT Series (Single distance model)

DC 3-wire [Refer to *Dimensions* on page 58.]

**Unshielded**

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M8 (2mm) | Pre-wired (2 m) *1 | 38 mm *2 | NO | E2E-X2MB1T8 2M | E2E-X2MB1D8 2M | E2E-X2MC18 2M |
| | | | NC | - | E2E-X2MB28 2M | E2E-X2MC28 2M |
| | | 48 mm | NO | E2E-X2MB1TL8 2M | E2E-X2MB1DL8 2M | E2E-X2MC1L8 2M |
| | | | NC | - | E2E-X2MB2L8 2M | E2E-X2MC2L8 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm *3 | NO | E2E-X2MB1T8-M1TJ 0.3M | E2E-X2MB1D8-M1TJ 0.3M | E2E-X2MC18-M1TJ 0.3M |
| | | | NC | - | E2E-X2MB28-M1TJ 0.3M | E2E-X2MC28-M1TJ 0.3M |
| | | 48 mm | NO | E2E-X2MB1TL8-M1TJ 0.3M | E2E-X2MB1DL8-M1TJ 0.3M | E2E-X2MC1L8-M1TJ 0.3M |
| | | | NC | - | E2E-X2MB2L8-M1TJ 0.3M | E2E-X2MC2L8-M1TJ 0.3M |
| | M12 Connector | 43 mm | NO | E2E-X2MB1T8-M1 | E2E-X2MB1D8-M1 | E2E-X2MC18-M1 |
| | | | NC | - | E2E-X2MB28-M1 | E2E-X2MC28-M1 |
| | | 53 mm | NO | E2E-X2MB1TL8-M1 | E2E-X2MB1DL8-M1 | E2E-X2MC1L8-M1 |
| | | | NC | - | E2E-X2MB2L8-M1 | E2E-X2MC2L8-M1 |
| | | | NO+NC | - | E2E-X2MB3DL8-M1 | E2E-X2MC3L8-M1 |
| | M8 Connector (4-pin) | 39 mm | NO | E2E-X2MB1T8-M3 | E2E-X2MB1D8-M3 | E2E-X2MC18-M3 |
| | | | NC | - | E2E-X2MB28-M3 | E2E-X2MC28-M3 |
| | | 49 mm | NO | E2E-X2MB1TL8-M3 | E2E-X2MB1DL8-M3 | E2E-X2MC1L8-M3 |
| | | | NC | - | E2E-X2MB2L8-M3 | E2E-X2MC2L8-M3 |
| | M8 Connector (3-pin) | 39 mm | NO | E2E-X2MB1T8-M5 | E2E-X2MB1D8-M5 | E2E-X2MC18-M5 |
| | | | NC | - | E2E-X2MB28-M5 | E2E-X2MC28-M5 |
| | | 49 mm | NO | E2E-X2MB1TL8-M5 | E2E-X2MB1DL8-M5 | E2E-X2MC1L8-M5 |
| | | | NC | - | E2E-X2MB2L8-M5 | E2E-X2MC2L8-M5 |
| M12 (5mm) | Pre-wired (2 m) *1 | 47 mm *2 | NO | E2E-X5MB1T12 2M | E2E-X5MB1D12 2M | E2E-X5MC112 2M |
| | | | NC | - | E2E-X5MB212 2M | E2E-X5MC212 2M |
| | | | NO+NC | - | E2E-X5MB3D12 2M | E2E-X5MC312 2M |
| | | 69 mm | NO | E2E-X5MB1TL12 2M | E2E-X5MB1DL12 2M | E2E-X5MC1L12 2M |
| | | | NC | - | E2E-X5MB2L12 2M | E2E-X5MC2L12 2M |
| | | | NO+NC | - | E2E-X5MB3DL12 2M | E2E-X5MC3L12 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm *3 | NO | E2E-X5MB1T12-M1TJ 0.3M | E2E-X5MB1D12-M1TJ 0.3M | E2E-X5MC112-M1TJ 0.3M |
| | | | NC | - | E2E-X5MB212-M1TJ 0.3M | E2E-X5MC212-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X5MB3D12-M1TJ 0.3M | E2E-X5MC312-M1TJ 0.3M |
| | | 69 mm | NO | E2E-X5MB1TL12-M1TJ 0.3M | E2E-X5MB1DL12-M1TJ 0.3M | E2E-X5MC1L12-M1TJ 0.3M |
| | | | NC | - | E2E-X5MB2L12-M1TJ 0.3M | E2E-X5MC2L12-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X5MB3DL12-M1TJ 0.3M | E2E-X5MC3L12-M1TJ 0.3M |
| | M12 Connector | 48 mm | NO | E2E-X5MB1T12-M1 | E2E-X5MB1D12-M1 | E2E-X5MC112-M1 |
| | | | NC | - | E2E-X5MB212-M1 | E2E-X5MC212-M1 |
| | | | NO+NC | - | E2E-X5MB3D12-M1 | E2E-X5MC312-M1 |
| | | 70 mm | NO | E2E-X5MB1TL12-M1 | E2E-X5MB1DL12-M1 | E2E-X5MC1L12-M1 |
| | | | NC | - | E2E-X5MB2L12-M1 | E2E-X5MC2L12-M1 |
| | | | NO+NC | - | E2E-X5MB3DL12-M1 | E2E-X5MC3L12-M1 |

## BASIC Model

| Size (Sensing distance) | Connection method | Body size | Operation mode | Model | | |
|---|---|---|---|---|---|---|
| | | | | PNP | | NPN |
| | | | | IO-Link (COM3) | IO-Link (COM2) *4 | --- *4 |
| M18 (10mm) | Pre-wired (2 m) *1 | 55 mm *2 | NO | E2E-X10MB1T18 2M | E2E-X10MB1D18 2M | E2E-X10MC118 2M |
| | | | NC | - | E2E-X10MB218 2M | E2E-X10MC218 2M |
| | | | NO+NC | - | E2E-X10MB3D18 2M | E2E-X10MC318 2M |
| | | 77 mm | NO | E2E-X10MB1TL18 2M | E2E-X10MB1DL18 2M | E2E-X10MC1L18 2M |
| | | | NC | - | E2E-X10MB2L18 2M | E2E-X10MC2L18 2M |
| | | | NO+NC | - | E2E-X10MB3DL18 2M | E2E-X10MC3L18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm *3 | NO | E2E-X10MB1T18-M1TJ 0.3M | E2E-X10MB1D18-M1TJ 0.3M | E2E-X10MC118-M1TJ 0.3M |
| | | | NC | - | E2E-X10MB218-M1TJ 0.3M | E2E-X10MC218-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X10MB3D18-M1TJ 0.3M | E2E-X10MC318-M1TJ 0.3M |
| | | 77 mm | NO | E2E-X10MB1TL18-M1TJ 0.3M | E2E-X10MB1DL18-M1TJ 0.3M | E2E-X10MC1L18-M1TJ 0.3M |
| | | | NC | - | E2E-X10MB2L18-M1TJ 0.3M | E2E-X10MC2L18-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X10MB3DL18-M1TJ 0.3M | E2E-X10MC3L18-M1TJ 0.3M |
| | M12 Connector | 53 mm | NO | E2E-X10MB1T18-M1 | E2E-X10MB1D18-M1 | E2E-X10MC118-M1 |
| | | | NC | - | E2E-X10MB218-M1 | E2E-X10MC218-M1 |
| | | | NO+NC | - | E2E-X10MB3D18-M1 | E2E-X10MC318-M1 |
| | | 75 mm | NO | E2E-X10MB1TL18-M1 | E2E-X10MB1DL18-M1 | E2E-X10MC1L18-M1 |
| | | | NC | - | E2E-X10MB2L18-M1 | E2E-X10MC2L18-M1 |
| | | | NO+NC | - | E2E-X10MB3DL18-M1 | E2E-X10MC3L18-M1 |
| M30 (18mm) | Pre-wired (2 m) *1 | 60 mm *2 | NO | E2E-X18MB1T30 2M | E2E-X18MB1D30 2M | E2E-X18MC130 2M |
| | | | NC | - | E2E-X18MB230 2M | E2E-X18MC230 2M |
| | | | NO+NC | - | E2E-X18MB3D30 2M | E2E-X18MC330 2M |
| | | 82 mm | NO | E2E-X18MB1TL30 2M | E2E-X18MB1DL30 2M | E2E-X18MC1L30 2M |
| | | | NC | - | E2E-X18MB2L30 2M | E2E-X18MC2L30 2M |
| | | | NO+NC | - | E2E-X18MB3DL30 2M | E2E-X18MC3L30 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm *3 | NO | E2E-X18MB1T30-M1TJ 0.3M | E2E-X18MB1D30-M1TJ 0.3M | E2E-X18MC130-M1TJ 0.3M |
| | | | NC | - | E2E-X18MB230-M1TJ 0.3M | E2E-X18MC230-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X18MB3D30-M1TJ 0.3M | E2E-X18MC330-M1TJ 0.3M |
| | | 82 mm | NO | E2E-X18MB1TL30-M1TJ 0.3M | E2E-X18MB1DL30-M1TJ 0.3M | E2E-X18MC1L30-M1TJ 0.3M |
| | | | NC | - | E2E-X18MB2L30-M1TJ 0.3M | E2E-X18MC2L30-M1TJ 0.3M |
| | | | NO+NC | - | E2E-X18MB3DL30-M1TJ 0.3M | E2E-X18MC3L30-M1TJ 0.3M |
| | M12 Connector | 58 mm | NO | E2E-X18MB1T30-M1 | E2E-X18MB1D30-M1 | E2E-X18MC130-M1 |
| | | | NC | - | E2E-X18MB230-M1 | E2E-X18MC230-M1 |
| | | | NO+NC | - | E2E-X18MB3D30-M1 | E2E-X18MC330-M1 |
| | | 80 mm | NO | E2E-X18MB1TL30-M1 | E2E-X18MB1DL30-M1 | E2E-X18MC1L30-M1 |
| | | | NC | - | E2E-X18MB2L30-M1 | E2E-X18MC2L30-M1 |
| | | | NO+NC | - | E2E-X18MB3DL30-M1 | E2E-X18MC3L30-M1 |

*1. Models with 5-m cable length are also available (Example: E2E-X5MB1D12 5M)
*2. Models with 2-m and 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X5MB1D12-R 2M/ E2E-X5MB1D12-R 5M)
*3. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with R" in the model number. (Example: E2E-X5MB1D12-M1TJR 2M)
*4. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

**Note:** Operation mode NO can be changed to NC via IO-Link communications.

## Accessories (Sold Separately)

**e-jig (Mounting Sleeves)** **[Refer to Dimensions on page 61.]**

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

| Appearance | Model | Applicable Sensor size | Applicable Sensor type |
|---|---|---|---|
|  | **Y92E-J8S12** | M8 | Triple distance model<br>Shielded models<br>Pre-wired models<br>Standard body-sized |
| | **Y92E-J12S18** | M12 | |
| | **Y92E-J18S30** | M18 | |

**Nut Sets**

**A Nut Set is included with the Sensor. Order a Nut Set when required, e.g., if you lose the nuts.**

| Model | Applicable Sensors | Applicable Sensor diameter | Set contents |
|---|---|---|---|
| **Y92E-NWM08-E2EN** | E2E NEXT Series<br>Quadruple distance/Triple distance model<br>(Shielded models) | M8 | Clamping nuts (bronze with nickel plating): 2<br>Toothed washer (iron with zinc plating): 2 |
| **Y92E-NWM12-E2EN** | | M12 | |
| **Y92E-NWM18-E2EN** | | M18 | Clamping nuts (bronze with nickel plating): 2<br>Toothed washer (iron with zinc plating): 1 |
| **Y92E-NWM30-E2EN** | | M30 | |
| **Y92E-NWM08-E2E** | E2E NEXT Series<br>Quadruple distance/Triple distance model<br>(Unshielded models)<br>Double distance/Single distance model<br>(Shielded/Unshielded models) | M8 | |
| **Y92E-NWM12-E2E** | | M12 | |
| **Y92E-NWM18-E2E** | | M18 | |
| **Y92E-NWM30-E2E** | | M30 | |

## Sensor I/O Connectors (Sold Separately)

For details of the connector, refer to XS5 NEXT Series Round Oil-resistant Connectors (M12 Smartclick) on page 108.
For details of the connector, refer to XS5 Series Round Water-resistant Connectors (M12 Smartclick) on page 111.
For details of the connector, refer to XS3 Series Round Water-resistant Connectors (M8) on page 115.

# Ratings and Specifications

PREMIUM Model

## DC 3-wire (Quadruple/Triple distance model)

### Shielded

| Item \ Types | | Quadruple distance model | | | | Triple distance model | | | |
|---|---|---|---|---|---|---|---|---|---|
| Size | | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| Model | | E2E-X4□8 | E2E-X9□12 | E2E-X14□18 | E2E-X23□30 | E2E-X3□8 | E2E-X6□12 | E2E-X12□18 | E2E-X22□30 |
| Sensing distance | | 4 mm±10% | 9 mm±10% | 14 mm±10% | 23 mm±10% | 3 mm±10% | 6 mm±10% | 12 mm±10% | 22 mm±10% |
| Setting distance | | 0 to 3 mm | 0 to 6.8 mm | 0 to 10.6 mm | 0 to 17.6 mm | 0 to 2.4 mm | 0 to 4.8 mm | 0 to 9.6 mm | 0 to 16.8 mm |
| Differential travel | | 15% max. of sensing distance | | | | | | | |
| Detectable object | | Ferrous metals (For non-ferrous metals, refer to the *Engineering Data* on page 42.) | | | | | | | |
| Standard sensing object | | Iron, 12 × 12 × 1 mm | Iron, 27 × 27 × 1 mm | Iron, 42 × 42 × 1 mm | Iron, 69 × 69 × 1 mm | Iron, 9 × 9 × 1 mm | Iron, 18 × 18 × 1 mm | Iron, 36 × 36 × 1 mm | Iron, 66 × 66 × 1 mm |
| Response frequency *1 | | 700 Hz | 700 Hz | 350 Hz | 200 Hz | 1,000 Hz | 800 Hz | 500 Hz | 200 Hz |
| Power supply voltage | | 10 to 30 VDC (including 10% ripple (p-p)), Class 2 | | | | | | | |
| Current consumption | | 1-output models:16 mA max. | | | | | 1-output models: 16 mA max., 2-output models: 20 mA max. | | |
| Output configuration | | B□ Models: PNP open collector, C□ Models: NPN open collector | | | | | | | |
| Operation mode (with sensing object approaching) | | 1-output models (B1, C1): NO (Normally open), 1-output models (B2, C2): NC (Normally closed) | | | | | 1-output models (B1, C1): NO (Normally open), 1-output models (B2, C2): NC (Normally closed), 2-output models (B3, C3): NO+NC (Normally open, Normally closed) | | |
| Control output | Load current | 1-output models: 10 to 30 VDC, Class 2, 50 mA max. | | | | 1-output models: 10 to 30 VDC, Class 2, 100 mA max. | 1-output models: 10 to 30 VDC, Class 2, 100 mA max., 2-output models: 10 to 30 VDC, Class 2, 50 mA max. | | |
| | Residual voltage | 1-output models: 2 V max. (Load current: 50 mA, Cable length: 2 m) | | | | 1-output models: 2 V max. (Load current: 100 mA, Cable length: 2 m) | 1-output models: 2 V max. (Load current: 100 mA, Cable length: 2 m), 2-output models: 2 V max. (Load current: 50 mA, Cable length: 2 m) | | |
| Indicator *2 | | In the Standard I/O mode (SIO mode): Operation indicator (orange, lit) and communication indicator (green, not lit) In the IO-Link communication mode (COM mode): Operation indicator (orange, lit) and communication indicator (green, blinking at 1 s intervals) | | | | | | | |
| Protection circuits | | Power supply reverse polarity protection, Surge suppressor, Output short-circuit protection, Output reverse polarity protection | | | | | | | |
| Ambient temperature range | | Operating: -25 to 60°C Storage: -25 to 70°C (with no icing or condensation) | Operating/Storage: -25 to 70°C (with no icing or condensation) | | | | | | |
| Ambient humidity range | | Operating/Storage: 35% to 95% (with no condensation) | | | | | | | |
| Temperature influence | | -15% to 25% max. of sensing distance at 23°C in the temperature range of -25 to 60°C | ±15% 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 | | | |
| 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 | | | 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: IEC 60529: IP67, ISO 20653 (old standard: DIN 40050 PART9): IP69K, JIS C 0920 Annex 1: IP67G, Passed OMRON's Oil-resistant Component Evaluation Standards *3 (Cutting oil type: specified in JIS K 2241: 2000; Temperature: 35°C max.) Connector Models: IEC 60529: IP67, ISO 20653 (old standard: DIN 40050 PART9): IP69K | | | | | | | |
| Connection method | | Pre-wired Models (Standard cable length: 2 m), Pre-wired Connector Models (Standard cable length: 0.3 m) and Connector Models (M12 Connector, M8 (4-pin) Connector and M8 (3-pin) Connector) | | | | | | | |
| Weight *4 (packed state) | Pre-wired | Approx. 85 g | Approx. 95 g | Approx. 180 g | Approx. 260 g | Approx. 85 g | Approx. 95 g | Approx. 180 g | Approx. 260 g |
| | M12 Pre-wired Smartclick Connector | Approx. 55 g | Approx. 70 g | Approx. 115 g | Approx. 200 g | Approx. 55 g | Approx. 70 g | Approx. 115 g | Approx. 200 g |
| | Connector | Approx. 40 g (M8/M12 Connector) | Approx. 55 g | Approx. 95 g | Approx. 180 g | Approx. 40 g (M8/M12 Connector) | Approx. 55 g | Approx. 95 g | Approx. 180 g |

| Item | | Types | Quadruple distance model | | | | Triple distance model | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Size | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| | | Model | E2E-X4□8 | E2E-X9□12 | E2E-X14□18 | E2E-X23□30 | E2E-X3□8 | E2E-X6□12 | E2E-X12□18 | E2E-X22□30 |
| Materials | Case | | Nickel-plated brass | | | | | | | |
| | Sensing surface | | Polybutylene terephthalat (PBT) | | | | | | | |
| | Clamping nuts | | Nickel-plated brass | | | | | | | |
| | Toothed washers | | Zinc-plated iron | | | | | | | |
| | Cable | | Vinyl chloride (PVC) Note: Material of Pre-wired Models and Pre-wired Connector Models. | | | | | | | |
| Main IO-Link functions*2 | | | Operation mode switching between NO and NC, self diagnosis enabling, excessive proximity judgment distance selecting, timer function of the control output and timer time selecting, instability output (IO-Link mode) ON delay timer time selecting function, monitor output, operating hours read-out, readout of the sensor internal temperature, and initial reset | | | | | | | |
| IO-Link Communication specifications *2 | IO-Link specification | | Ver 1.1 | | | | | | | |
| | Baud rate | | COM2 (38.4 kbps), COM3 (230.4 kbps) | | | | | | | |
| | Data length | | PD size: 2 bytes, OD size: 1 byte (M-sequence type: TYPE_2_2) | | | | | | | |
| | Minimum cycle time | | COM2: 2.3 ms, COM3: 0.4 ms | | | | | | | |
| Accessories | | | Instruction manual, Clamping nuts, Toothed washer | | | | | | | |

*1. 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.
*2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.
*3. 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).
The Pre-wired Connector Model verifies 2 years of oil resistance when mating with Round Oil-resistant Connectors XS5 NEXT series correctly.
The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models.
*4. Weight of the standard body-sized model.

PREMIUM Model

## DC 3-wire (Quadruple/Triple distance model)

### Unshielded

| Item | Types | Quadruple distance model | | | | Triple distance model | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Size | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| | Model | E2E-X8M□8 | E2E-X16M□12 | E2E-X30M□18 | E2E-X50M□30 | E2E-X6M□8 | E2E-X10M□12 | E2E-X20M□18 | E2E-X40M□30 |
| Sensing distance | | 8 mm±10% | 16 mm±10% | 30 mm±10% | 50 mm±10% | 6 mm±10% | 10 mm±10% | 20 mm±10% | 40 mm±10% |
| Setting distance | | 0 to 6 mm | 0 to 12.2 mm | 0 to 23 mm | 0 to 38.2 mm | 0 to 4.8 mm | 0 to 8 mm | 0 to 16 mm | 0 to 32 mm |
| Differential travel | | 15% max. of sensing distance | | | | | | | |
| Detectable object | | Ferrous metals (For non-ferrous metals, refer to the *Engineering Data* on page 42.) | | | | | | | |
| Standard sensing object | | Iron, 24 × 24 × 1 mm | Iron, 48 × 48 × 1 mm | Iron, 90 × 90 × 1 mm | Iron, 150 × 150 × 1 mm | Iron, 18 × 18 × 1 mm | Iron, 30 × 30 × 1 mm | Iron, 60 × 60 × 1 mm | Iron, 120 × 120 × 1 mm |
| Response frequency *1 | | 500 Hz | 400 Hz | 200 Hz | 100 Hz | 800 Hz | 400 Hz | 200 Hz | 100 Hz |
| Power supply voltage | | 10 to 30 VDC (including 10% ripple (p-p)), Class 2 | | | | | | | |
| Current consumption | | 1-output models: 16 mA max. | | | | | 1-output models: 16 mA max.,<br>2-output models: 20 mA max. | | |
| Output configuration | | B□ Models: PNP open collector<br>C□ Models: NPN open collector | | | | | | | |
| Operation mode (with sensing object approaching) | | 1-output models (B1, C1): NO (Normally open),<br>1-output models (B2, C2): NC (Normally closed) | | | | | 1-output models (B1, C1): NO (Normally open),<br>1-output models (B2, C2): NC (Normally closed),<br>2-output models (B3, C3):<br>NO+NC (Normally open, Normally closed) | | |
| Control output | Load current | 1-output models:<br>10 to 30 VDC, Class 2, 50 mA max. | | | | 1-output models:<br>10 to 30 VDC, Class 2, 100 mA max. | 1-output models:<br>10 to 30 VDC, Class 2, 100 mA max.,<br>2-output models:<br>10 to 30 VDC, Class 2, 50 mA max. | | |
| | Residual voltage | 1-output models:<br>2 V max. (Load current: 50 mA, Cable length: 2 m) | | | | 1-output models:<br>2 V max.<br>(Load current: 100 mA, Cable length: 2 m) | 1-output models:<br>2 V max. (Load current: 100 mA, Cable length: 2 m),<br>2-output models:<br>2 V max. (Load current: 50 mA, Cable length: 2 m) | | |
| Indicator *2 | | In the Standard I/O mode (SIO mode): Operation indicator (orange, lit) and communication indicator (green, not lit)<br>In the IO-Link communication mode (COM mode): Operation indicator (orange, lit) and communication indicator (green, blinking at 1 s intervals) | | | | | | | |
| Protection circuits | | Power supply reverse polarity protection, Surge suppressor, Output short-circuit protection, Output reverse polarity protection | | | | | | | |
| Ambient temperature range | | Operating/Storage: -25 to 70°C (with no icing or condensation) | | | | | | | |
| Ambient humidity range | | Operating/Storage: 35% to 95% (with no condensation) | | | | | | | |
| Temperature influence | | ±15% 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 | | | |
| 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 | | | 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: IEC 60529:IP67, ISO 20653 (old standard: DIN 40050 PART9): IP69K, JIS C 0920 Annex 1: IP67G, Passed OMRON's Oil-resistant Component Evaluation Standards *3 (Cutting oil type: specified in JIS K 2241: 2000; Temperature: 35°C max.)<br>Connector Models: IEC 60529: IP67, ISO 20653 (old standard: DIN 40050 PART9): IP69K | | | | | | | |
| Connection method | | Pre-wired Models (Standard cable length: 2 m), Pre-wired Connector Models (Standard cable length: 0.3 m) and Connector Models (M12 Connector, M8 (4-pin) Connector and M8 (3-pin) Connector) | | | | | | | |
| Weight *4 (packed state) | Pre-wired | Approx. 85 g | Approx. 95 g | Approx. 190 g | Approx. 310 g | Approx. 85 g | Approx. 95 g | Approx. 190 g | Approx. 280 g |
| | M12 Pre-wired Smartclick Connector | Approx. 55 g | Approx. 70 g | Approx. 125 g | Approx. 250 g | Approx. 55 g | Approx. 70 g | Approx. 125 g | Approx. 220 g |
| | Connector | Approx. 40 g (M8/M12 Connector) | Approx. 55 g | Approx. 105 g | Approx. 230 g | Approx. 40 g (M8/M12 Connector) | Approx. 55 g | Approx. 105 g | Approx. 200 g |

| Item | Types | Quadruple distance model | | | | Triple distance model | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Size | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| | Model | E2E-X8M□8 | E2E-X16M□12 | E2E-X30M□18 | E2E-X50M□30 | E2E-X6M□8 | E2E-X10M□12 | E2E-X20M□18 | E2E-X40M□30 |
| Materials | Case | Stainless (SUS303) | Nickel-plated brass | | | Stainless (SUS303) | Nickel-plated brass | | |
| | Sensing surface | Polybutylene terephthalat (PBT) | | | | | | | |
| | Clamping nuts | Nickel-plated brass | | | | | | | |
| | Toothed washers | Zinc-plated iron | | | | | | | |
| | Cable | Vinyl chloride (PVC) Note: Material of Pre-wired Models and Pre-wired Connector Models. | | | | | | | |
| Main IO-Link functions*2 | | Operation mode switching between NO and NC, self diagnosis enabling, excessive proximity judgment distance selecting, timer function of the control output and timer time selecting, instability output (IO-Link mode) ON delay timer time selecting function, monitor output, operating hours read-out, readout of the sensor internal temperature, and initial reset | | | | | | | |
| IO-Link Communication specifications *2 | IO-Link specification | Ver1.1 | | | | | | | |
| | Baud rate | COM2 (38.4 kbps), COM3 (230.4 kbps) | | | | | | | |
| | Data length | PD size: 2 bytes, OD size: 1 byte (M-sequence type: TYPE_2_2) | | | | | | | |
| | Minimum cycle time | COM2: 2.3 ms, COM3: 0.4 ms | | | | | | | |
| Accessories | | Instruction manual, Clamping nuts, Toothed washer | | | | | | | |

*1. 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.
*2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.
*3. 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). Actual performance can be expected to decline after two years on average from shipment. The Pre-wired Connector Model verifies 2 years of oil resistance when mating with Round Oil-resistant Connectors XS5 NEXT series correctly. The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models.
*4. Weight of the standard body-sized model.

BASIC Model

## DC 3-wire (Double/Single distance model)

### Shielded

| Item | Types | Double distance model | | | | Single distance model | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Size | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| | Model | E2E-X2□8 | E2E-X4□12 | E2E-X8□18 | E2E-X15□30 | E2E-X1R5□8 | E2E-X2□12 | E2E-X5□18 | E2E-X10□30 |
| Sensing distance | | 2 mm±10% | 4 mm±10% | 8 mm±10% | 15 mm±10% | 1.5 mm±10% | 2 mm±10% | 5 mm±10% | 10 mm±10% |
| Setting distance | | 0 to 1.6 mm | 0 to 3.2 mm | 0 to 6.4 mm | 0 to 12 mm | 0 to 1.2 mm | 0 to 1.6 mm | 0 to 4 mm | 0 to 8 mm |
| Differential travel | | 15% max. of sensing distance | | | | 10% max. of sensing distance | | | |
| Detectable object | | Ferrous metals (For non-ferrous metals, refer to the *Engineering Data* on page 42.) | | | | | | | |
| Standard sensing object | | Iron, 8 × 8 × 1 mm | Iron, 12 × 12 × 1 mm | Iron, 24 × 24 × 1 mm | Iron, 45 × 45 × 1 mm | Iron, 8 × 8 × 1 mm | Iron, 12 × 12 × 1 mm | Iron, 18 × 18 × 1 mm | Iron, 30 × 30 × 1 mm |
| Response frequency *1 | | 1,500 Hz | 1,000 Hz | 500 Hz | 250 Hz | 2,000 Hz | 1,500 Hz | 600 Hz | 400 Hz |
| Power supply voltage | | 10 to 30 VDC (including 10% ripple (p-p)), Class 2 | | | | | | | |
| Current consumption | | 1-output models: 16 mA max.<br>2-output models: 20 mA max. | | | | | | | |
| Output configuration | | B□ Models: PNP open collector<br>C□ Models: NPN open collector | | | | | | | |
| Operation mode (with sensing object approaching) | | 1-output models (B1, C1): NO (Normally open),<br>1-output models (B2, C2): NC (Normally closed),<br>2-output models (B3, C3): NO+NC (Normally open, Normally closed) *3 | | | | | | | |
| Control output | Load current | 1-output models: 10 to 30 VDC, Class 2, 200 mA max., (-40 to 70°C), 100 mA max., (70 to 85°C)<br>2-output models: 10 to 30 VDC, Class 2, 50 mA max. | 1-output models: 10 to 30 VDC, Class 2, 200 mA max.,<br>2-output models: 10 to 30 VDC, Class 2, 100 mA max. | | | 1-output models: 10 to 30 VDC, Class 2, 200 mA max., (-40 to 70°C), 100 mA max., (70 to 85°C)<br>2-output models: 10 to 30 VDC, Class 2, 50 mA max. | 1-output models: 10 to 30 VDC, Class 2, 200 mA max.,<br>2-output models: 10 to 30 VDC, Class 2, 100 mA max. | | |
| | Residual voltage | 1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m),<br>2-output models: 2 V max. (Load current: 50 mA, Cable length: 2 m) | 1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m),<br>2-output models: 2 V max. (Load current: 100 mA, Cable length: 2 m) | | | 1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m),<br>2-output models: 2 V max. (Load current: 50 mA, Cable length: 2 m) | 1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m),<br>2-output models: 2 V max. (Load current: 100 mA, Cable length: 2 m) | | |
| Indicator *2 | | In the Standard I/O mode (SIO mode): Operation indicator (orange, lit) and communication indicator (green, not lit)<br>In the IO-Link communication mode (COM mode): Operation indicator (orange, lit) and communication indicator (green, blinking at 1 s intervals) | | | | | | | |
| Protection circuits | | Power supply reverse polarity protection, Surge suppressor, Output short-circuit protection, Output reverse polarity protection | | | | | | | |
| Ambient temperature range | | Operating/Storage: -40 to 85°C (with no icing or condensation)<br>**Note:** The UL temperature rating for M12 Pre-wired Connector Models is -25 to 70°C. | | | | | | | |
| Ambient humidity range | | Operating/Storage: 35% to 95% (with no condensation) | | | | | | | |
| Temperature influence | | ±15% max. of sensing distance at 23°C in the temperature range of -40 to 85°C<br>±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 | | | 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: IEC 60529:IP67, ISO 20653 (old standard: DIN 40050 PART9): IP69K, JIS C 0920 Annex 1: IP67G, Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000; Temperature: 35°C max.)<br>Connector Models: IEC 60529: IP67, ISO 20653 (old standard: DIN 40050 PART9): IP69K | | | | | | | |
| Connection method | | Pre-wired Models (Standard cable length: 2 m), Pre-wired Connector Models (Standard cable length: 0.3 m) and Connector Models (M12 Connector, M8 (4-pin) Connector and M8 (3-pin) Connector) | | | | | | | |
| Weight *5 (packed state) | Pre-wired | Approx. 85 g | Approx. 95 g | Approx. 170 g | Approx. 240 g | Approx. 85 g | Approx. 95 g | Approx. 170 g | Approx. 240 g |
| | M12 Pre-wired Smartclick Connector | Approx. 55 g | Approx. 70 g | Approx. 105 g | Approx. 170 g | Approx. 55 g | Approx. 70 g | Approx. 105 g | Approx. 170 g |
| | Connector | Approx. 40 g (M8/M12 Connector) | Approx. 55 g | Approx. 85 g | Approx. 160 g | Approx. 40 g (M8/M12 Connector) | Approx. 55 g | Approx. 85 g | Approx. 160 g |

| Item | Types | Double distance model | | | | Single distance model | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Size | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| | Model | E2E-X2□8 | E2E-X4□12 | E2E-X8□18 | E2E-X15□30 | E2E-X1R5□8 | E2E-X2□12 | E2E-X5□18 | E2E-X10□30 |
| Materials | Case | Stainless (SUS303) | Nickel-plated brass | | | Stainless (SUS303) | Nickel-plated brass | | |
| | Sensing surface | Polybutylene terephthalat (PBT) | | | | | | | |
| | Clamping nuts | Nickel-plated brass | | | | | | | |
| | Toothed washers | Zinc-plated iron | | | | | | | |
| | Cable | Vinyl chloride (PVC) Note: Material of Pre-wired Models and Pre-wired Connector Models. | | | | | | | |
| Main IO-Link functions *2 | | Operation mode switching between NO and NC, self diagnosis enabling, excessive proximity judgment distance selecting, timer function of the control output and timer time selecting, instability output (IO-Link mode) ON delay timer time selecting function, monitor output, operating hours read-out, readout of the sensor internal temperature, and initial reset | | | | | | | |
| IO-Link Communication specifications *2 | IO-Link specification | Ver1.1 | | | | | | | |
| | Baud rate | COM2 (38.4 kbps), COM3 (230.4 kbps) | | | | | | | |
| | Data length | PD size: 2 bytes, OD size: 1 byte (M-sequence type: TYPE_2_2) | | | | | | | |
| | Minimum cycle time | COM2: 2.3 ms, COM3: 0.4 ms | | | | | | | |
| Accessories | | Instruction manual, Clamping nuts, Toothed washer | | | | | | | |

*1. 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.
*2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.
*3. Dual-output specification for the M8-size models is only applicable to long-size M12 Connector models.
*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). Actual performance can be expected to decline after two years on average from shipment. The Pre-wired Connector Model verifies 2 years of oil resistance when mating with Round Oil-resistant Connectors XS5 NEXT series correctly. The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models.
*5. Weight of the standard body-sized model.

BASIC Model

## DC 3-wire (Double/Single distance model)

### Unshielded

| Item | Types | Double distance model | | | | Single distance model | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Size | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| | Model | E2E-X4M□8 | E2E-X8M□12 | E2E-X16M□18 | E2E-X30M□30 | E2E-X2M□8 | E2E-X5M□12 | E2E-X10M□18 | E2E-X18M□30 |
| Sensing distance | | 4 mm±10% | 8 mm±10% | 16 mm±10% | 30 mm±10% | 2 mm±10% | 5 mm±10% | 10 mm±10% | 18 mm±10% |
| Setting distance | | 0 to 3.2 mm | 0 to 6.4 mm | 0 to 12.8 mm | 0 to 24 mm | 0 to 1.6 mm | 0 to 4 mm | 0 to 8 mm | 0 to 14.4 mm |
| Differential travel | | 15% max. of sensing distance | | | | 10% max. of sensing distance | | | |
| Detectable object | | Ferrous metals (For non-ferrous metals, refer to the *Engineering Data* on page 42.) | | | | | | | |
| Standard sensing object | | Iron, 12 × 12 × 1 mm | Iron, 24 × 24 × 1 mm | Iron, 48 × 48 × 1 mm | Iron, 90 × 90 × 1 mm | Iron, 8 × 8 × 1 mm | Iron, 15 × 15 × 1 mm | Iron, 30 × 30 × 1 mm | Iron, 54 × 54 × 1 mm |
| Response frequency *1 | | 1,000 Hz | 800 Hz | 400 Hz | 100 Hz | 1,000 Hz | 800 Hz | 400 Hz | 100 Hz |
| Power supply voltage | | 10 to 30 VDC (including 10% ripple (p-p)), Class 2 | | | | | | | |
| Current consumption | | 1-output models: 16 mA max.<br>2-output models: 20 mA max. | | | | | | | |
| Output configuration | | B□ Models: PNP open collector<br>C□ Models: NPN open collector | | | | | | | |
| Operation mode (with sensing object approaching) | | 1-output models (B1, C1): NO (Normally open),<br>1-output models (B2, C3): NC (Normally closed)<br>2-output models (B3, C3): NO+NC (Normally open, Normally closed) *3 | | | | | | | |
| Control output | Load current | 1-output models: 10 to 30 VDC, Class 2, 200 mA max., (-40 to 70°C), 100 mA max., (70 to 85°C)<br>2-output models: 10 to 30 VDC, Class 2, 50 mA max. | 1-output models: 10 to 30 VDC, Class 2, 200 mA max.,<br>2-output models: 10 to 30 VDC, Class 2, 100 mA max. | | | 1-output models: 10 to 30 VDC, Class 2, 200 mA max., (-40 to 70°C), 100 mA max., (70 to 85°C)<br>2-output models: 10 to 30 VDC, Class 2, 50 mA max. | 1-output models: 10 to 30 VDC, Class 2, 200 mA max.,<br>2-output models: 10 to 30 VDC, Class 2, 100 mA max. | | |
| | Residual voltage | 1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m),<br>2-output models: 2 V max. (Load current: 50 mA, Cable length: 2 m) | 1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m),<br>2-output models: 2 V max. (Load current: 100 mA, Cable length: 2 m) | | | 1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m),<br>2-output models: 2 V max. (Load current: 50 mA, Cable length: 2 m) | 1-output models: 2 V max. (under load current of 200 mA with cable length of 2 m),<br>2-output models: 2 V max. (under load current of 100 mA with cable length of 2 m) | | |
| Indicator *2 | | In the Standard I/O mode (SIO mode): Operation indicator (orange, lit) and communication indicator (green, not lit)<br>In the IO-Link communication mode (COM mode): Operation indicator (orange, lit) and communication indicator (green, blinking at 1 s intervals) | | | | | | | |
| Protection circuits | | Power supply reverse polarity protection, Surge suppressor, Output short-circuit protection, Output reverse polarity protection | | | | | | | |
| Ambient temperature range | | Operating/Storage: -40 to 85°C (with no icing or condensation)<br>**Note:** The UL temperature rating for M12 Pre-wired Connector Models is -25 to 70°C. | | | | | | | |
| Ambient humidity range | | Operating/Storage: 35% to 95% (with no condensation) | | | | | | | |
| Temperature influence | | ±15% max. of sensing distance at 23°C in the temperature range of -40 to 85°C<br>±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 | | | 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: IEC 60529:IP67, ISO 20653 (old standard: DIN 40050 PART9): IP69K, JIS C 0920 Annex 1: IP67G, Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000; Temperature: 35°C max.)<br>Connector Models: IEC 60529:IP67, ISO 20653 (old standard: DIN 40050 PART9): IP69K | | | | | | | |
| Connection method | | Pre-wired Models (Standard cable length: 2 m), Pre-wired Connector Models (Standard cable length: 0.3 m) and Models (M12 Connector, M8 (4-pin) Connector and M8 (3-pin) Connector) | | | | | | | |
| Weight *5 (packed state) | Pre-wired | Approx. 85 g | Approx. 95 g | Approx. 170 g | Approx. 280 g | Approx. 85 g | Approx. 95 g | Approx. 170 g | Approx. 240 g |
| | M12 Pre-wired Smartclick Connector | Approx. 55 g | Approx. 70 g | Approx. 105 g | Approx. 220 g | Approx. 55 g | Approx. 70 g | Approx. 105 g | Approx. 170 g |
| | Connector | Approx. 40 g (M8/M12 Connector) | Approx. 55 g | Approx. 85 g | Approx. 200 g | Approx. 40 g (M8/M12 Connector) | Approx. 55 g | Approx. 85 g | Approx. 160 g |

| Item | Types | Double distance model | | | | Single distance model | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Size | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| | Model | E2E-X4M□8 | E2E-X8M□12 | E2E-X16M□18 | E2E-X30M□30 | E2E-X2M□8 | E2E-X5M□12 | E2E-X10M□18 | E2E-X18M□30 |
| Materials | Case | Stainless (SUS303) | Nickel-plated brass | | | Stainless (SUS303) | Nickel-plated brass | | |
| | Sensing surface | Polybutylene terephthalat (PBT) | | | | | | | |
| | Clamping nuts | Nickel-plated brass | | | | | | | |
| | Toothed washers | Zinc-plated iron | | | | | | | |
| | Cable | Vinyl chloride (PVC) Note: Material of Pre-wired Models and Pre-wired Connector Models. | | | | | | | |
| Main IO-Link functions *2 | | Operation mode switching between NO and NC, self diagnosis enabling, excessive proximity judgment distance selecting, timer function of the control output and timer time selecting, instability output (IO-Link mode) ON delay timer time selecting function, monitor output, operating hours read-out, readout of the sensor internal temperature, and initial reset | | | | | | | |
| IO-Link Communication specifications *2 | IO-Link specification | Ver 1.1 | | | | | | | |
| | Baud rate | COM2 (38.4 kbps), COM3 (230.4 kbps) | | | | | | | |
| | Data length | PD size: 2 bytes, OD size: 1 byte (M-sequence type: TYPE_2_2) | | | | | | | |
| | Minimum cycle time | COM2: 2.3 ms, COM3: 0.4 ms | | | | | | | |
| Accessories | | Instruction manual, Clamping nuts, Toothed washer | | | | | | | |

*1. 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.
*2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.
*3. Dual-output specification for the M8-size models is only applicable to long-size M12 Connector models.
*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). Actual performance can be expected to decline after two years on average from shipment. The Pre-wired Connector Model verifies 2 years of oil resistance when mating with Round Oil-resistant Connectors XS5 NEXT series correctly. The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models.
*5. Weight of the standard body-sized model.

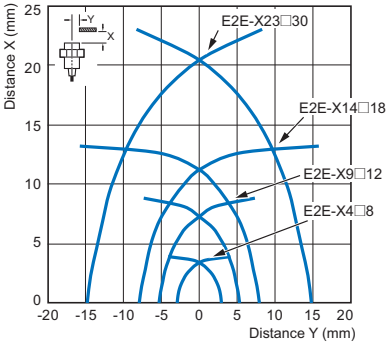
# Engineering Data (Reference Value)

## Sensing Area

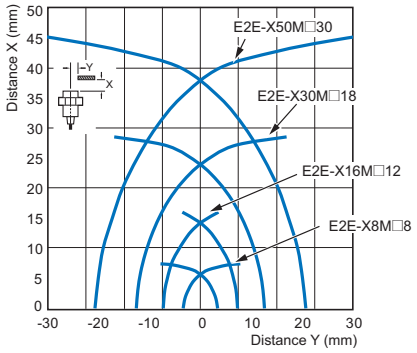
### PREMIUM Model

#### Quadruple distance model

**Shielded**

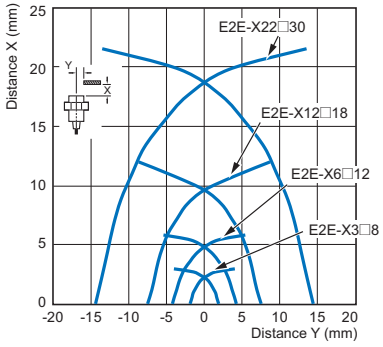



**Unshielded**

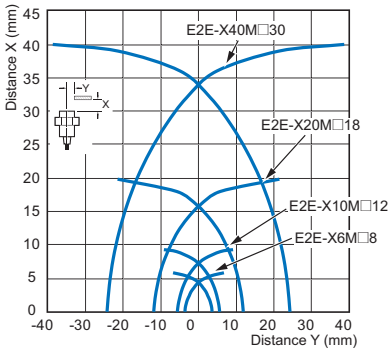



#### Triple distance model

**Shielded**



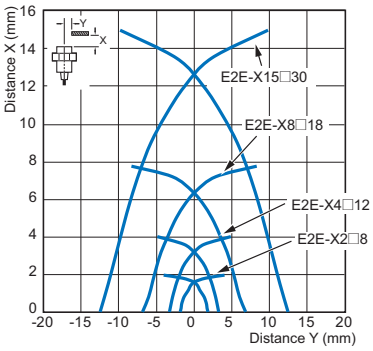

**Unshielded**



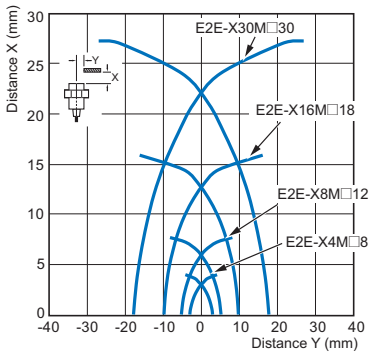

### BASIC Model

#### Double distance model

**Shielded**

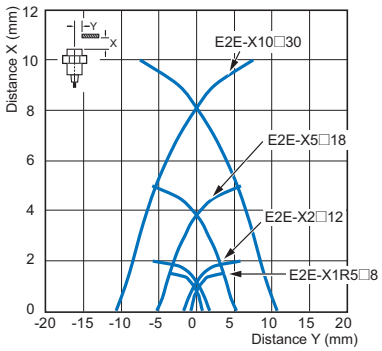



**Unshielded**

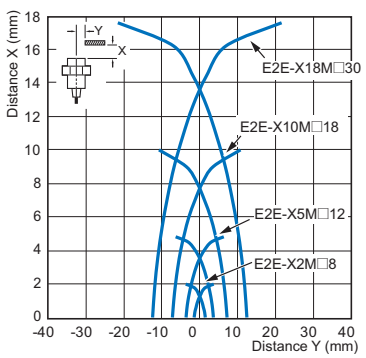



#### Single distance model

**Shielded**




**Unshielded**



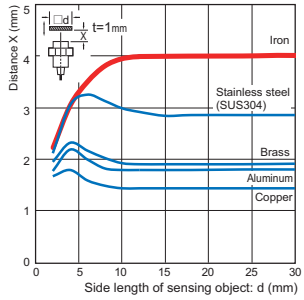
## Influence of Sensing Object Size and Material

**PREMIUM Model**

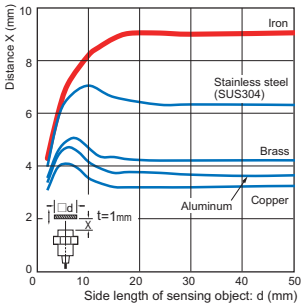
### Shielded

#### Quadruple distance model

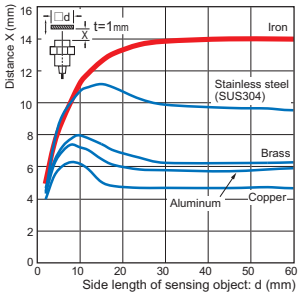
**Size: M8 E2E-X4□8**



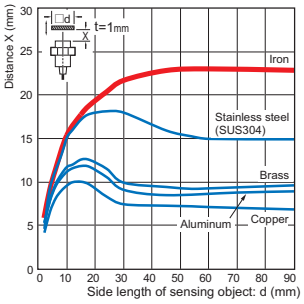

**Size: M12 E2E-X9□12**




**Size: M18 E2E-X14□18**

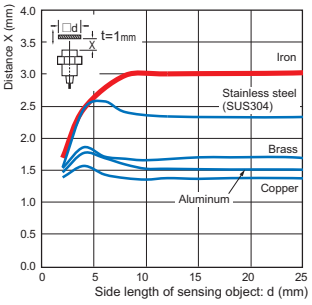



**Size: M30 E2E-X23□30**

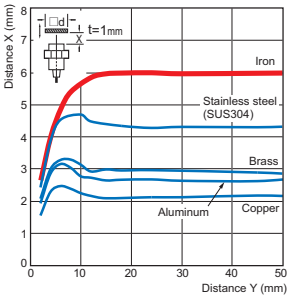



#### Triple distance model

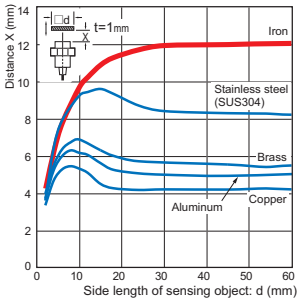
**Size: M8 E2E-X3□8**



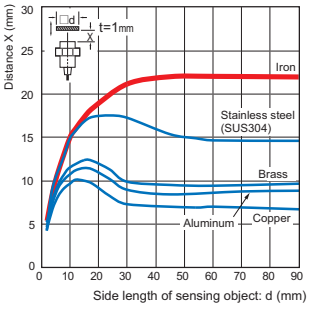

**Size: M12 E2E-X6□12**




**Size: M18 E2E-X12□18**



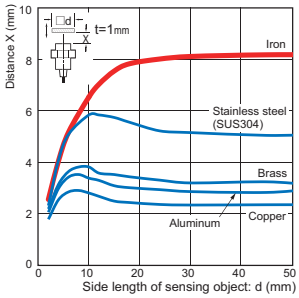

**Size: M30 E2E-X22□30**



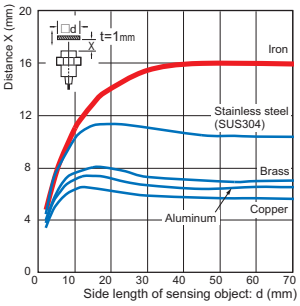

### Unshielded

#### Quadruple distance model

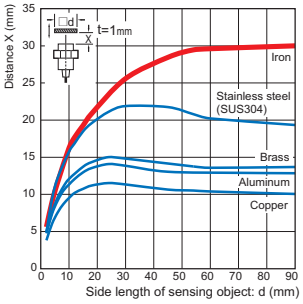
**Size: M8 E2E-X8M□8**



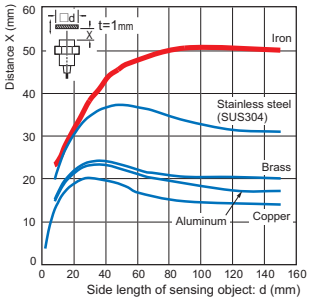

**Size: M12 E2E-X16M□12**




**Size: M18 E2E-X30M□18**

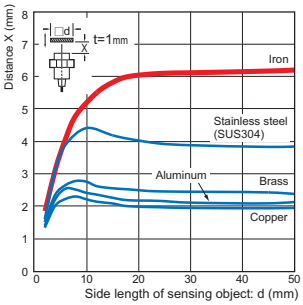



**Size: M30 E2E-X50M□30**

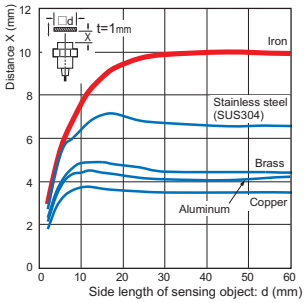



#### Triple distance model

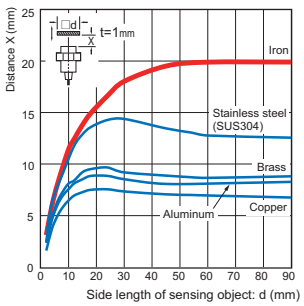
**Size: M8 E2E-X6M□8**



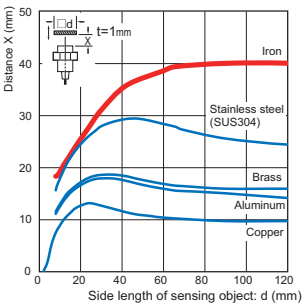

**Size: M12 E2E-X10M□12**




**Size: M18 E2E-X20M□18**




**Size: M30 E2E-X40M□30**

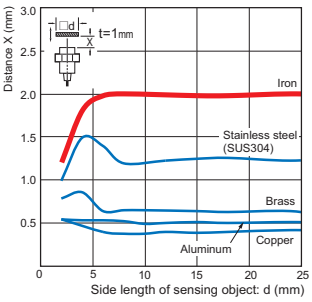


## BASIC Model

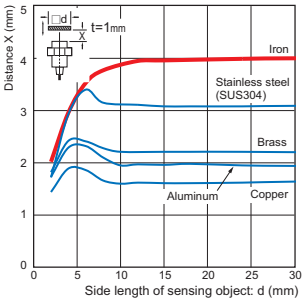
### Shielded

#### Double distance model

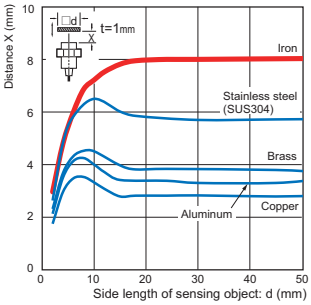
**Size: M8 E2E-X2□8**



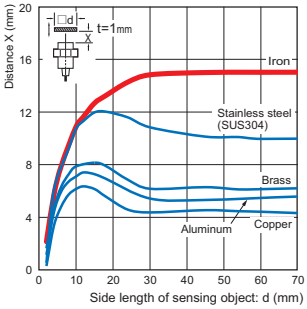

**Size: M12 E2E-X4□12**




**Size: M18 E2E-X8□18**

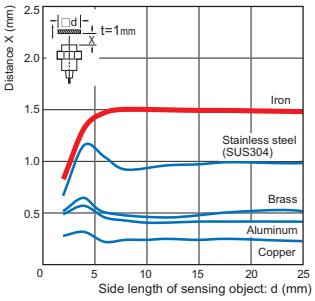



**Size: M30 E2E-X15□30**

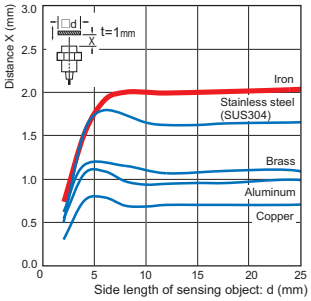



#### Single distance model

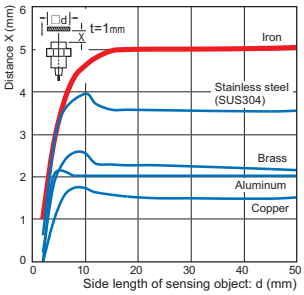
**Size: M8 E2E-X1R5□8**



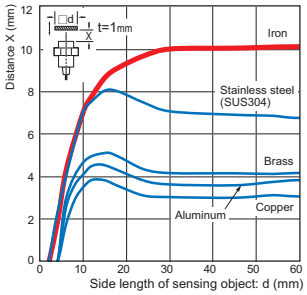

**Size: M12 E2E-X2□12**




**Size: M18 E2E-X5□18**



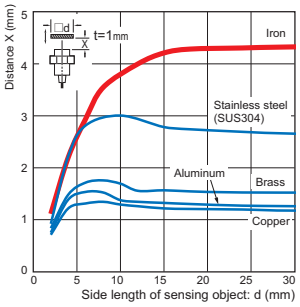

**Size: M30 E2E-X10□30**



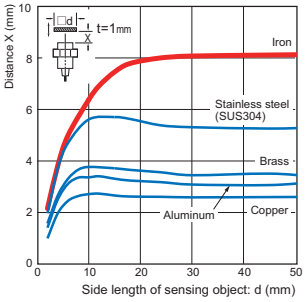

### Unshielded

#### Double distance model

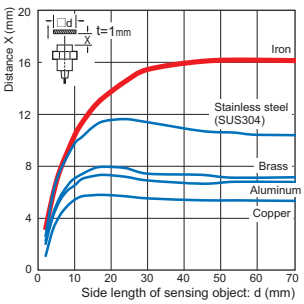
**Size: M8 E2E-X4M□8**



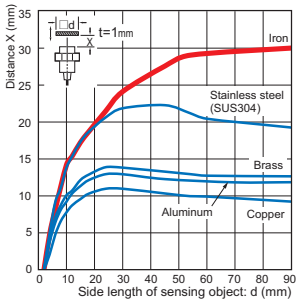

**Size: M12 E2E-X8M□12**




**Size: M18 E2E-X16M□18**

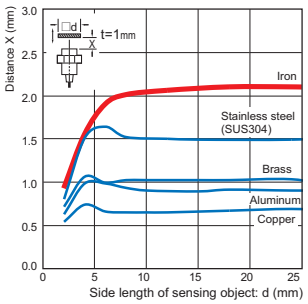



**Size: M30 E2E-X30M□30**

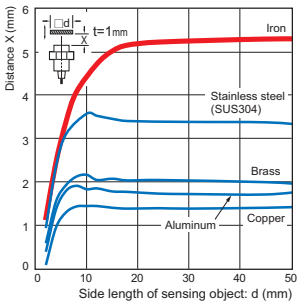



#### Single distance model

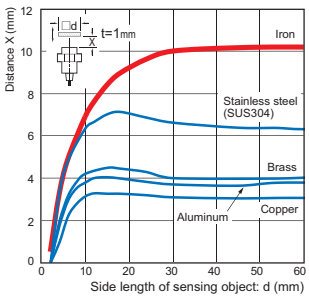
**Size: M8 E2E-X2M□8**



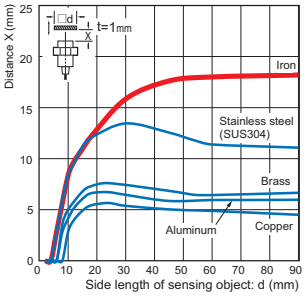

**Size: M12 E2E-X5M□12**




**Size: M18 E2E-X10M□18**




**Size: M30 E2E-X18M□30**



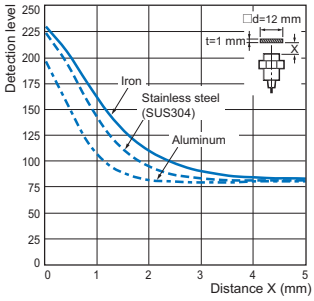
## Monitor Output vs. Sensing Distance

**PREMIUM Model**

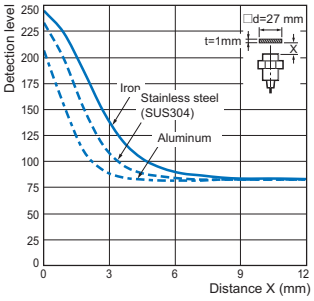
### Shielded

#### Quadruple distance model

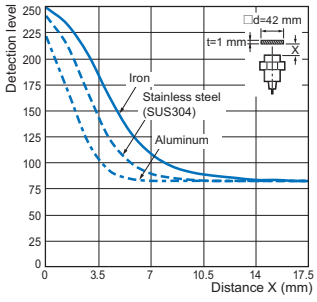
**Size: M8 E2E-X4□8**



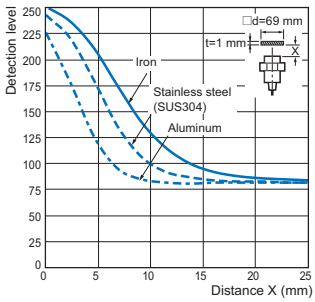

**Size: M12 E2E-X9□12**




**Size: M18 E2E-X14□18**

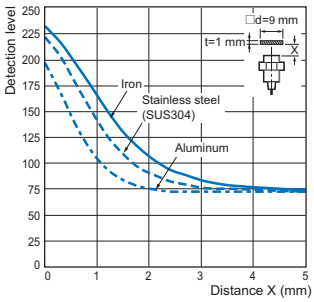



**Size: M30 E2E-X23□30**

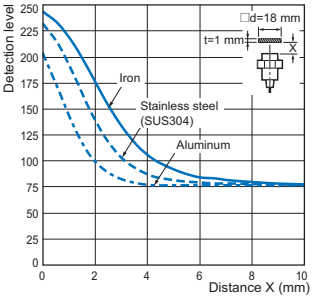



#### Triple model

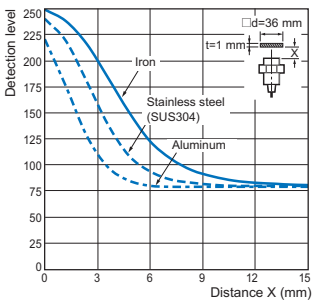
**Size: M8 E2E-X3□8**



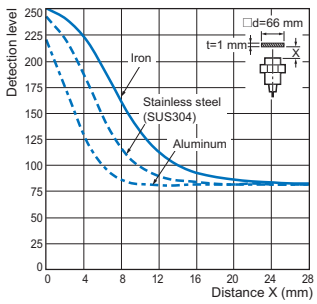

**Size: M12 E2E-X6□12**




**Size: M18 E2E-X12□18**



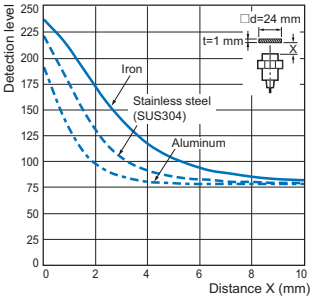

**Size: M30 E2E-X22□30**



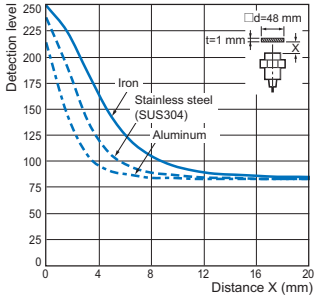

### Unshielded

#### Quadruple distance model

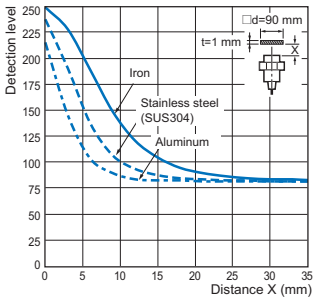
**Size: M8 E2E-X8M□8**



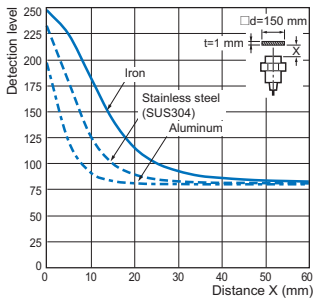

**Size: M12 E2E-X16M□12**




**Size: M18 E2E-X30M□18**

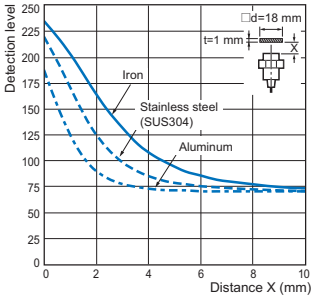



**Size: M30 E2E-X50M□30**

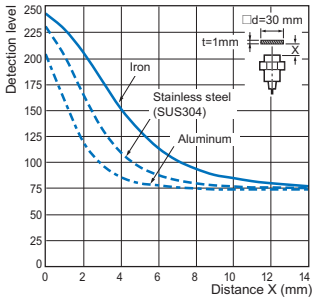



#### Triple distance model

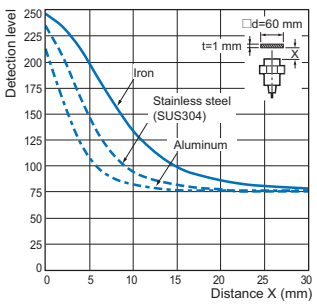
**Size: M8 E2E-X6M□8**



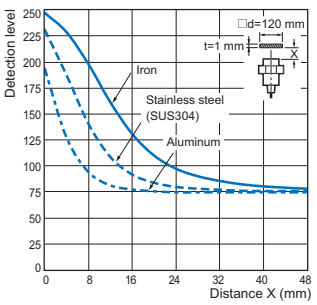

**Size: M12 E2E-X10M□12**




**Size: M18 E2E-X20M□18**




**Size: M30 E2E-X40M□30**

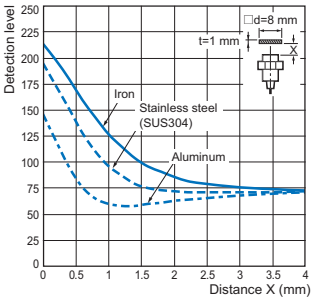


BASIC Model

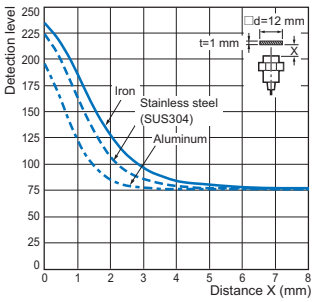
## Shielded

### Double distance model

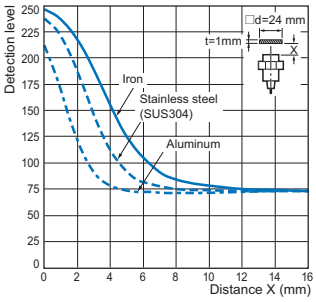
#### Size: M8 E2E-X2□8



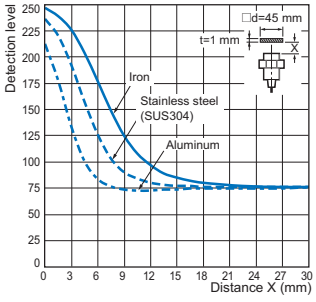

#### Size: M12 E2E-X4□12




#### Size: M18 E2E-X8□18

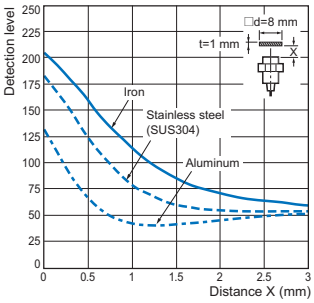



#### Size: M30 E2E-X15□30

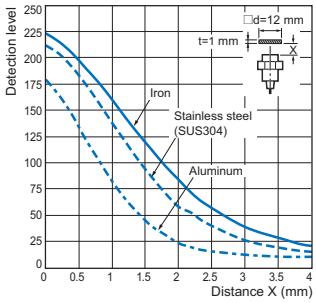



### Single distance model

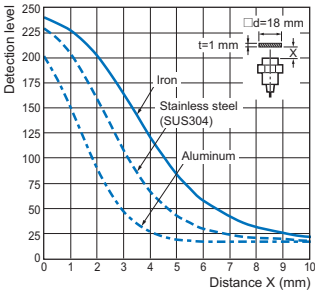
#### Size: M8 E2E-X1R5□8



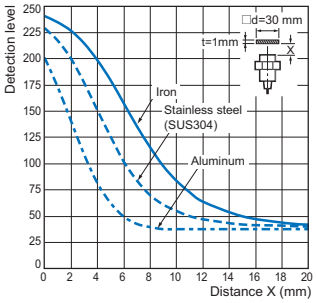

#### Size: M12 E2E-X2□12




#### Size: M18 E2E-X5□18



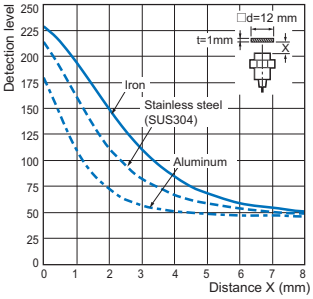

#### Size: M30 E2E-X10□30



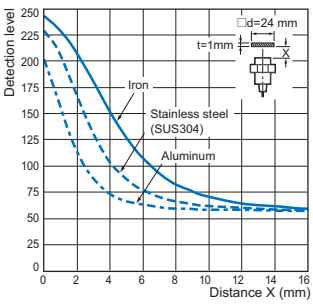

## Unshielded

### Double distance model

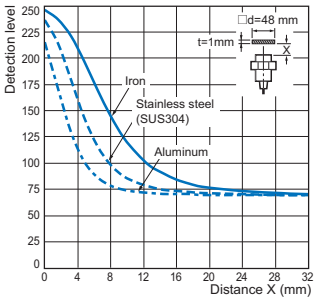
#### Size: M8 E2E-X4M□8



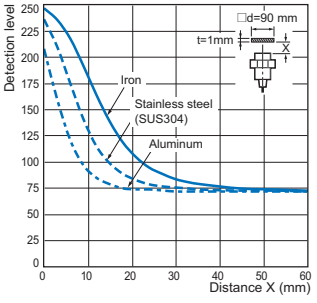

#### Size: M12 E2E-X8M□12




#### Size: M18 E2E-X16M□18

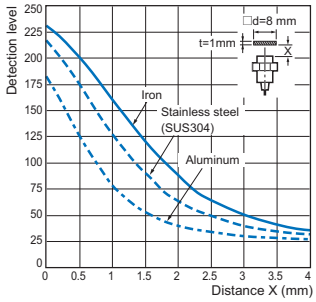



#### Size: M30 E2E-X30M□30

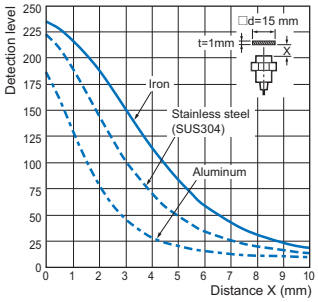



### Single distance model

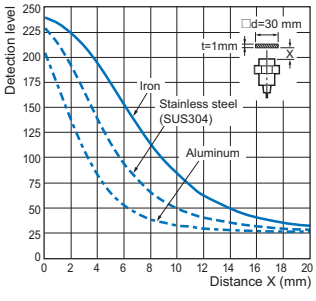
#### Size: M8 E2E-X2M□8



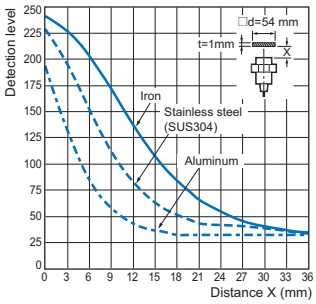

#### Size: M12 E2E-X5M□12




#### Size: M18 E2E-X10M□18



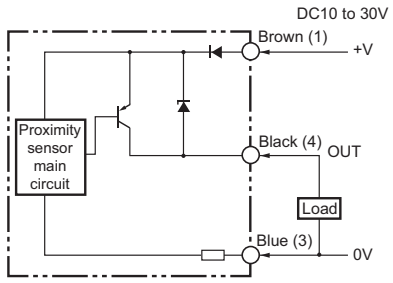
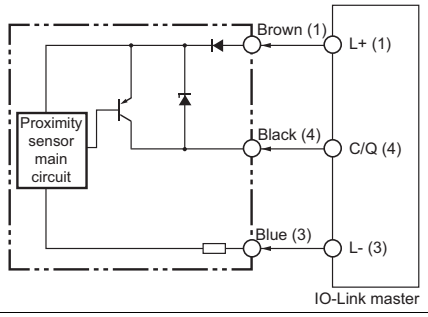
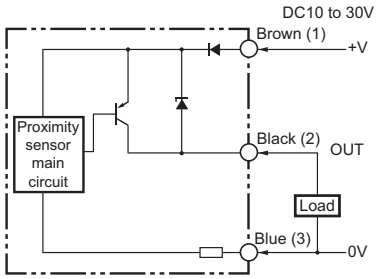
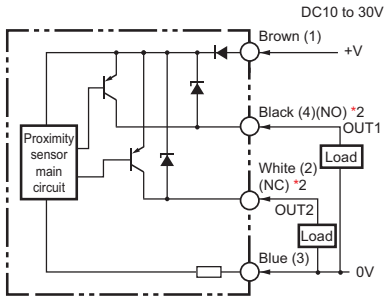
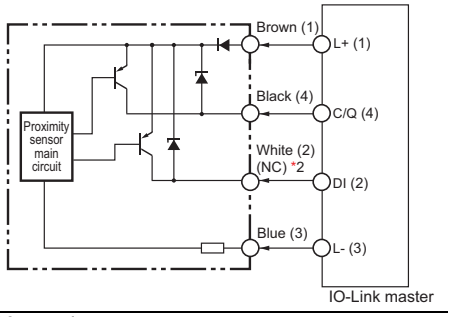

#### Size: M30 E2E-X18M□30



# I/O Circuit Diagrams/Timing charts

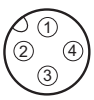
## DC 3-wire

**PNP output**

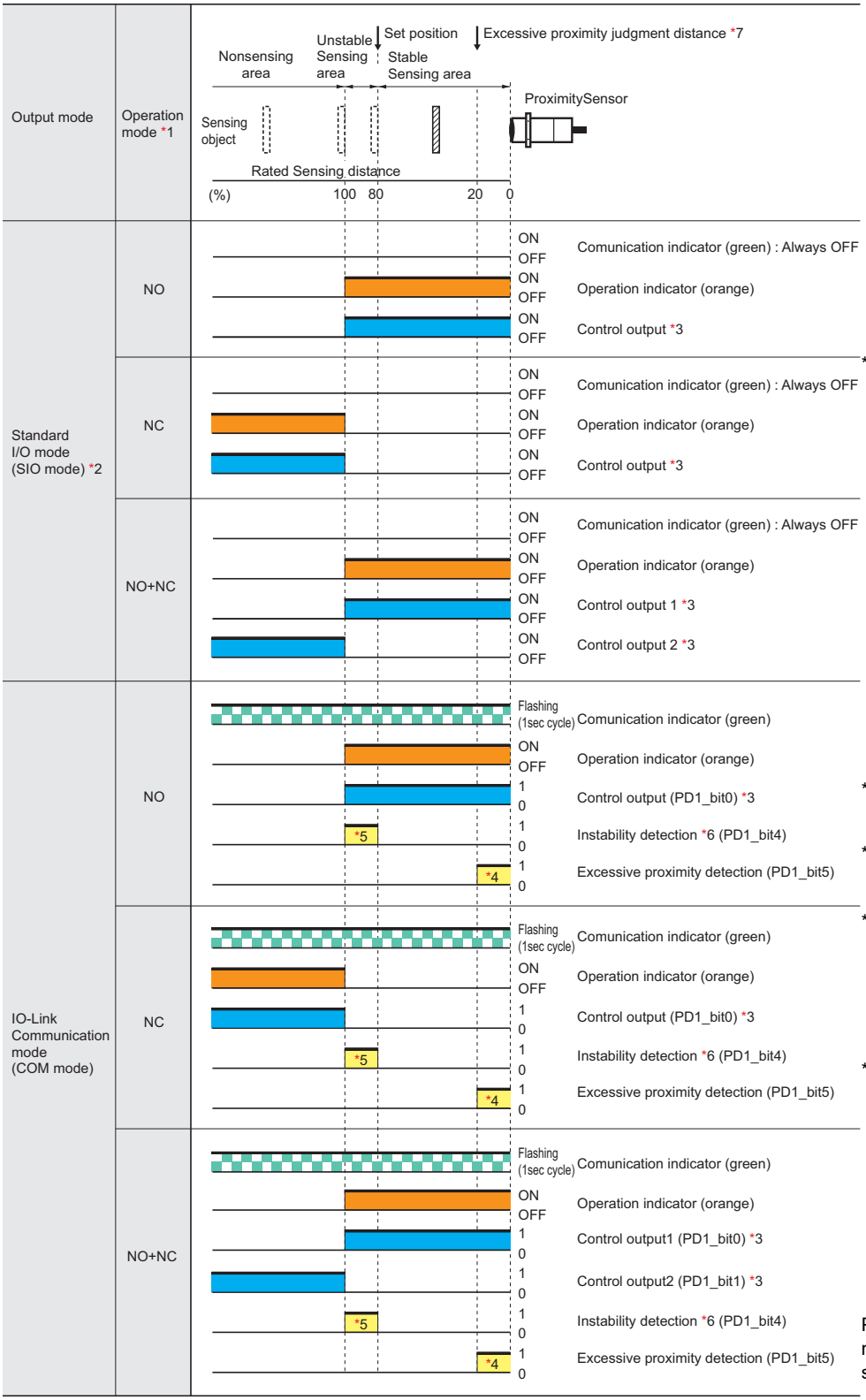
| Operation mode | Model | Output circuit | |
|---|---|---|---|
| | | Standard I/O mode (SIO mode) When using as a general | IO-Link Communication mode (COM mode) When using the Sensor connected to IO-Link Master Unit *1 |
| NO | E2E-□B1 |  |  |
| NC | E2E-□B2 |  <br>Note: M8 (3-pin) Connector: (1)(4)(3) | --- |
| NO+NC | E2E-□B3 |  |  |

*1. In the IO-Link mode, the cord between the IO-Link master and sensor must have a length of 20 m or less.
*2. This is the factory setting. For models with IO-Link, the operation mode can be changed by the IO-Link communications.

### Connector Pin Arrangement

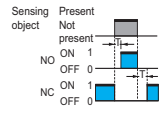
| M12 Connector M12 Smartclick Connector | M8 (4-pin) Connector | M8 (3-pin) Connector |
|---|---|---|
|  |  |  |

## PNP output

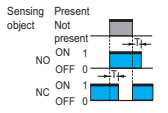



*3. The timer function of the control output can be set up by the IO-Link communications. (It is able to select ON delay, OFF delay, or one-shot function and select a timer time of 1 to 16,383ms (T).)

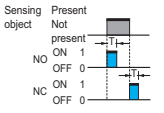
**ON delay**




**OFF delay**




**One shot**




*4. The excessive proximity diagnosis function can be selected by the IO-Link communications.

*5. The instability detection diagnosis can be selected by the IO-Link communications.

*6. The judgment time for the instability detection diagnosis can be selected by the IO-Link communications. (For the ON delay timer function, the setting can be selected from 0 (invalid), 10, 50, 100, 300, 500, or 1000 ms.)

*7. The judgment distance of the excessive proximity diagnosis function can be selected by the IO-Link communications. (The distance can be selected as a combination of the material of the object detected, such as iron, aluminum, or SUS and the judgment distance of approximately 10, 20, or 30%. However, it is not allowed to select a combination of aluminum and 30%.)

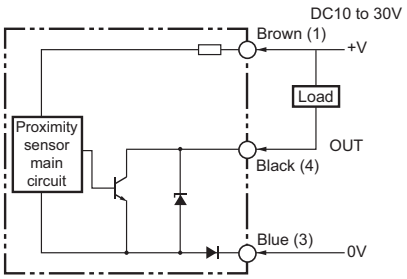
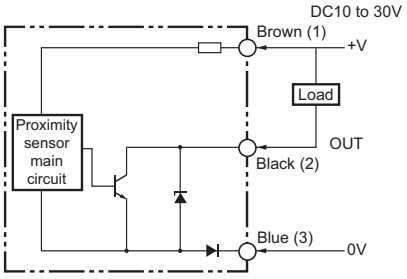
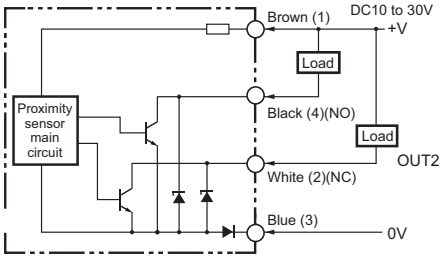
Please contact your OMRON sales representative regarding the IO-Link setup file (IODD file).

Please contact your OMRON sales representative regarding assignment of data.

*1. This is the factory setting. For models with IO-Link, the operation mode can be changed by the IO-Link communications.

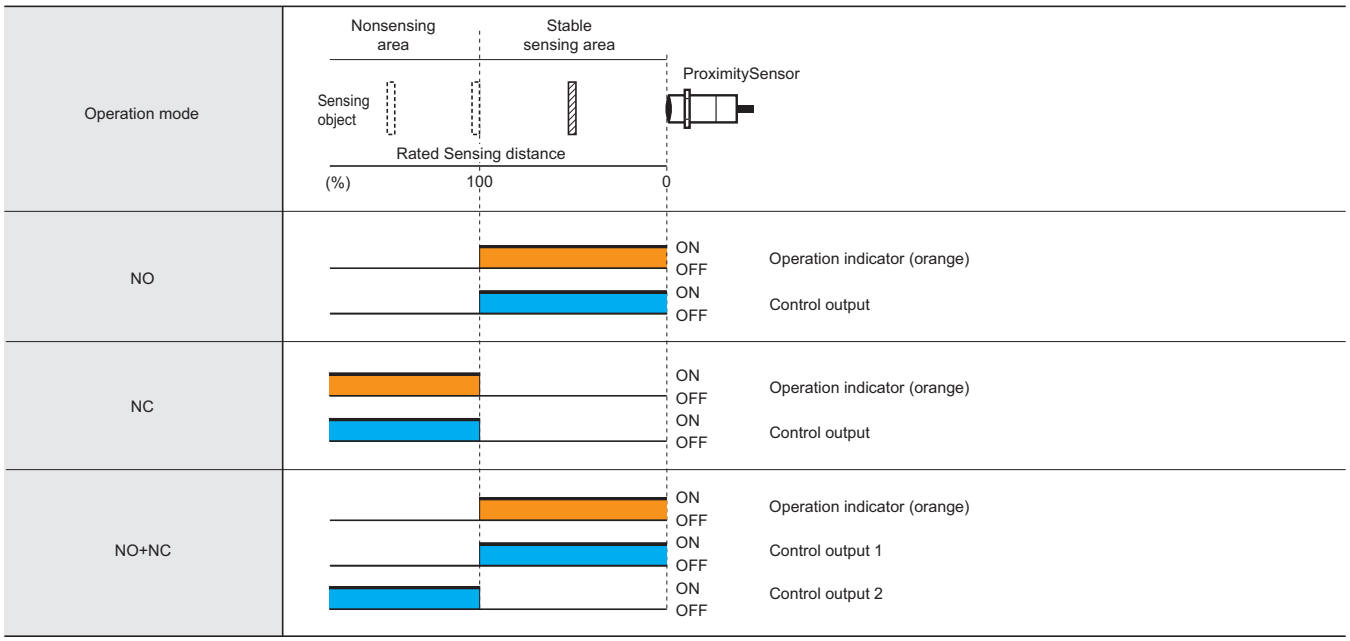
*2. If using a model with IO-Link as a general sensor or using a model without IO-Link, it operates in the standard I/O mode (SIO mode).

## NPN output

| Operation mode | Model | Output circuit |
|---|---|---|
| NO | E2E-□C1 |  |
| NC | E2E-□C2 |  <br>Note: M8 (3-pin) Connector: (1)(4)(3) |
| NO+NC | E2E-□C3 |  |

## Connector Pin Arrangement

| M12 Connector<br>M12 Smartclick Connector | M8 (4-pin) Connector | M8 (3-pin) Connector |
|---|---|---|
|  |  |  |



# 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**<br>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**<br>Indicates the instructions of unspecified prohibited action. |
|  | **Caution, explosion**<br>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.**

**Otherwise, explosion may result. Never use the product with an AC power supply.**

## Precautions for Safe Use

The following precautions must be observed to ensure safe operation.

1. Do not use the product in environments subject to flammable or explosive gases.
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 explosion or fire.
4. Be sure that the power supply polarity and other wiring is correct. Incorrect wiring may cause explosion or fire.
5. If the power supply is connected directly without a load, the internal elements may explode or burn.
6.  Dispose of the product according to applicable regulations (laws).

## Precautions for Correct Use

Do not use the product in any atmosphere or environment that exceeds the ratings.

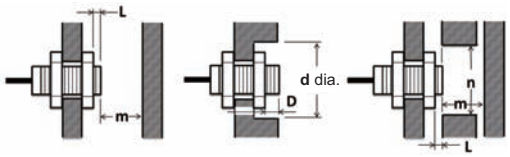
### Operating Environment

1. Do not install the Sensor in the following locations.
   (1) Outdoor locations directly subject to sunlight, rain, snow, waterdroplets, or oil.
   (2) Locations subject to atmospheres with chemical vapors, inparticular 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.
6. When turning on the power by influence of temperature environment, an outputmis-pulse sometimes occurs. After the sensor has passed for 300 msec after turning on, please use in the stable state.
7. The sensor is adjusted with a high degree of accuracy, so do not use in the environment with sudden temperature change.
8. Operation check is performed using an OMRON's IO-Link master. If using an IO-Link master from another company, perform the operation check in advance.

## 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.
When mounting the Proximity Sensor using a nut, only use the provided nut. Nuts that are supplied along with each Sensor are different. Refer to Dimensions for details on shapes.




(Unit: mm)

#### Shielded

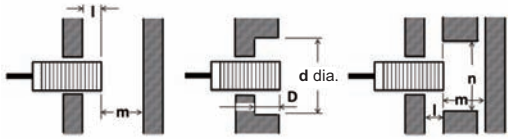
| Type | Model | L | d | D | m | n |
|---|---|---|---|---|---|---|
| Quadruple distance model | E2E-X4□8 | 3 | 30 | 3 | 12 | 20 |
| | E2E-X9□12 | 2 | 40 | 2 | 27 | 30 |
| | E2E-X14□18 | 2 | 60 | 2 | 42 | 70 |
| | E2E-X23□30 | 2 | 100 | 2 | 69 | 100 |
| Triple distance model | E2E-X3□8 | 0 | 20 | 0 | 9 | 18 |
| | E2E-X6□12 | 0 | 20 | 0 | 18 | 20 |
| | E2E-X12□18 | 0 | 50 | 0 | 36 | 54 |
| | E2E-X22□30 | 0 | 70 | 0 | 66 | 90 |
| Double distance model | E2E-X2□8 | 0 | 8 | 0 | 4.5 | 12 |
| | E2E-X4□12 | 0 | 18 | 0 | 12 | 18 |
| | E2E-X8□18 | 0 | 27 | 0 | 24 | 27 |
| | E2E-X15□30 | 0 | 45 | 0 | 45 | 45 |
| Single distance model | E2E-X1R5□8 | 0 | 8 | 0 | 4.5 | 12 |
| | E2E-X2□12 | 0 | 12 | 0 | 8 | 18 |
| | E2E-X5□18 | 0 | 18 | 0 | 20 | 27 |
| | E2E-X10□30 | 0 | 30 | 0 | 40 | 45 |

#### Unshielded

| Models | Model | L | d | D | m | n |
|---|---|---|---|---|---|---|
| Quadruple distance model | E2E-X8M□8 | 12 | 40 | 12 | 24 | 40 |
| | E2E-X16M□12 | 21 | 70 | 21 | 48 | 80 |
| | E2E-X30M□18 | 46 | 130 | 46 | 90 | 110 |
| | E2E-X50M□30 | 60 | 200 | 60 | 150 | 180 |
| Triple distance model | E2E-X6M□8 | 10 | 30 | 10 | 18 | 30 |
| | E2E-X10M□12 | 16 | 50 | 16 | 30 | 50 |
| | E2E-X20M□18 | 31 | 90 | 31 | 60 | 80 |
| | E2E-X40M□30 * | 50 | 170 | 50 | 120 | 140 |
| Double distance model | E2E-X4M□8 | 9 | 24 | 9 | 8 | 24 |
| | E2E-X8M□12 | 11 | 40 | 11 | 20 | 40 |
| | E2E-X16M□18 | 21 | 70 | 21 | 48 | 70 |
| | E2E-X30M□30 | 40 | 120 | 40 | 90 | 120 |
| Single distance model | E2E-X2M□8 | 6 | 24 | 6 | 8 | 24 |
| | E2E-X5M□12 | 11 | 40 | 11 | 20 | 36 |
| | E2E-X10M□18 | 18 | 55 | 18 | 40 | 54 |
| | E2E-X18M□30 | 25 | 90 | 25 | 70 | 90 |

* If you use the model E2E-X40M□30, the panel thickness (t) is 4 mm or less.

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




(Unit: mm)

#### Shielded

| Models | Model | l | d | D | m | n |
|---|---|---|---|---|---|---|
| Quadruple distance model | E2E-X4□8 | 4 | 30 | 4 | 12 | 20 |
| | E2E-X9□12 | 6 | 40 | 6 | 27 | 30 |
| | E2E-X14□18 | 7 | 60 | 7 | 42 | 70 |
| | E2E-X23□30 | 9 | 100 | 9 | 69 | 100 |
| Triple distance model | E2E-X3□8 | 2 | 20 | 2 | 9 | 18 |
| | E2E-X6□12 | 4 | 20 | 4 | 18 | 20 |
| | E2E-X12□18 | 4 | 50 | 4 | 36 | 54 |
| | E2E-X22□30 | 8 | 70 | 8 | 66 | 90 |
| Double distance model | E2E-X2□8 | 0 | 8 | 0 | 4.5 | 12 |
| | E2E-X4□12 | 2.4 | 18 | 2.4 | 12 | 18 |
| | E2E-X8□18 | 3.6 | 27 | 3.6 | 24 | 27 |
| | E2E-X15□30 | 6 | 45 | 6 | 45 | 45 |
| Single distance model | E2E-X1R5□8 | 0 | 8 | 0 | 4.5 | 12 |
| | E2E-X2□12 | 0 | 12 | 0 | 8 | 18 |
| | E2E-X5□18 | 0 | 18 | 0 | 20 | 27 |
| | E2E-X10□30 | 0 | 30 | 0 | 40 | 45 |

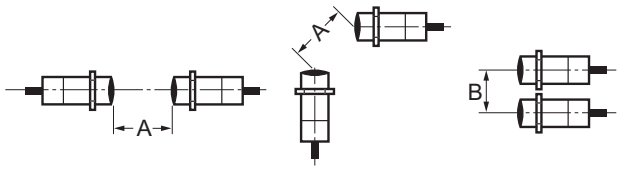
#### Unshielded

| Models | Model | l | d | D | m | n |
|---|---|---|---|---|---|---|
| Quadruple distance model | E2E-X8M□8 | 15 | 40 | 15 | 24 | 40 |
| | E2E-X16M□12 | 25 | 70 | 25 | 48 | 80 |
| | E2E-X30M□18 | 50 | 130 | 50 | 90 | 110 |
| | E2E-X50M□30 | 65 | 200 | 65 | 150 | 180 |
| Triple distance model | E2E-X6M□8 | 13 | 30 | 13 | 18 | 30 |
| | E2E-X10M□12 | 20 | 50 | 20 | 30 | 50 |
| | E2E-X20M□18 | 35 | 90 | 35 | 60 | 80 |
| | E2E-X40M□30 * | 55 | 170 | 55 | 120 | 140 |
| Double distance model | E2E-X4M□8 | 12 | 24 | 12 | 8 | 24 |
| | E2E-X8M□12 | 15 | 40 | 15 | 20 | 40 |
| | E2E-X16M□18 | 25 | 70 | 25 | 48 | 70 |
| | E2E-X30M□30 | 45 | 120 | 45 | 90 | 120 |
| Single distance model | E2E-X2M□8 | 6 | 24 | 6 | 8 | 24 |
| | E2E-X5M□12 | 15 | 40 | 15 | 20 | 36 |
| | E2E-X10M□18 | 22 | 55 | 22 | 40 | 54 |
| | E2E-X18M□30 | 30 | 90 | 30 | 70 | 90 |

* If you use the model E2E-X40M□30, the panel thickness (t) is 4 mm or less.

## Mutual Interference

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




(Unit: mm)

### Shielded

| Models | Model | Item | |
|---|---|---|---|
| | | A | B |
| Quadruple distance model | E2E-X4□8 | 40 | 20 |
| | E2E-X9□12 | 60 | 35 |
| | E2E-X14□18 | 90 | 50 |
| | E2E-X23□30 | 150 | 90 |
| Triple distance model | E2E-X3□8 | 25 | 20 |
| | E2E-X6□12 | 40 | 30 |
| | E2E-X12□18 | 70 | 45 |
| | E2E-X22□30 | 150 | 90 |
| Double distance model | E2E-X2□8 | 20 | 15 |
| | E2E-X4□12 | 30 | 20 |
| | E2E-X8□18 | 60 | 35 |
| | E2E-X15□30 | 110 | 90 |
| Single distance model | E2E-X1R5□8 | 20 | 15 |
| | E2E-X2□12 | 30 | 20 |
| | E2E-X5□18 | 50 | 35 |
| | E2E-X10□30 | 100 | 70 |

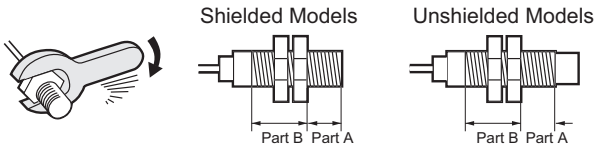
### Unshielded

| Models | Model | Item | |
|---|---|---|---|
| | | A | B |
| Quadruple distance model | E2E-X8M□8 | 80 | 60 |
| | E2E-X16M□12 | 160 | 120 |
| | E2E-X30M□18 | 360 | 300 |
| | E2E-X50M□30 | 700 | 480 |
| Triple distance model | E2E-X6M□8 | 80 | 60 |
| | E2E-X10M□12 | 120 | 100 |
| | E2E-X20M□18 | 200 | 120 |
| | E2E-X40M□30 | 380 | 300 |
| Double distance model | E2E-X4M□8 | 80 | 60 |
| | E2E-X8M□12 | 120 | 100 |
| | E2E-X16M□18 | 200 | 120 |
| | E2E-X30M□30 | 350 | 300 |
| Single distance model | E2E-X2M□8 | 80 | 60 |
| | E2E-X5M□12 | 120 | 100 |
| | E2E-X10M□18 | 200 | 110 |
| | E2E-X18M□30 | 300 | 200 |

## Mounting

### Tightening Force

Do not tighten the sensor mounting nuts with excessive force. Secure the mounting nuts to the corresponding torque values in the following table.




**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.

#### Quadruple distance model, Triple distance model, Spatter-resistant Triple distance model

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

#### Double distance model, Single distance model, Spatter-resistant Triple distance model, Spatter-resistant Single distance model

| Size | Shielded | Part A | | Part B |
|---|---|---|---|---|
| | | Dimension (mm) | Torque | Torque |
| M8 | Shielded | 9 | 9 N·m | 12 N·m |
| | Unshielded | 3 | | |
| M12 | --- | --- | 30 N·m | |
| M18 | --- | --- | 70 N·m | |
| M30 | --- | --- | 180 N·m | |

# Dimensions

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

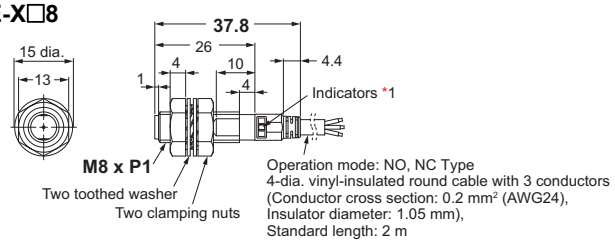
## Sensor PREMIUM Model

### DC 3-wire (Quadruple/Triple distance model)

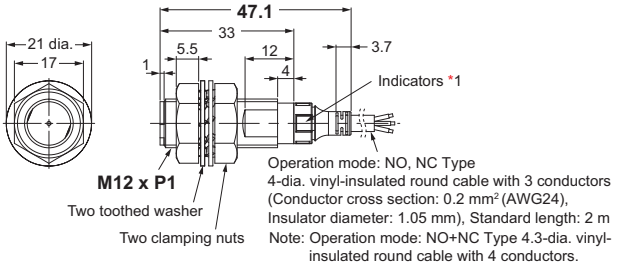
**Pre-wired Models**
**Pre-wired Connector Models (Shielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

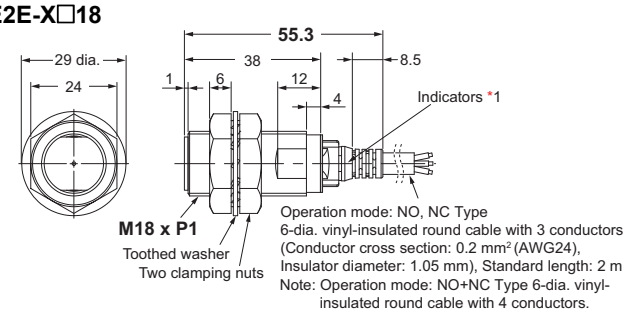
#### E2E-X□8



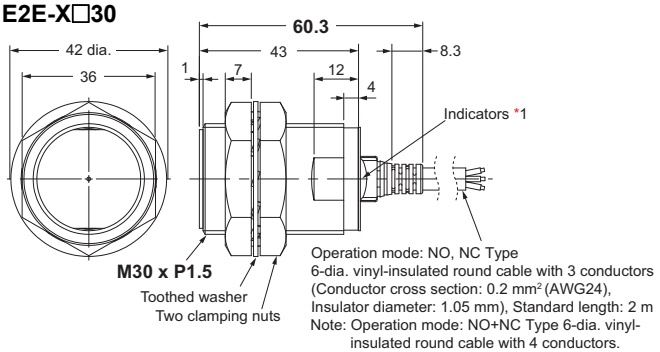

#### E2E-X□12




#### E2E-X□18




#### E2E-X□30

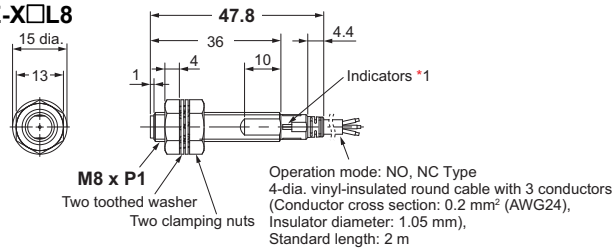



### DC 3-wire (Long-body Quadruple/Triple distance model)

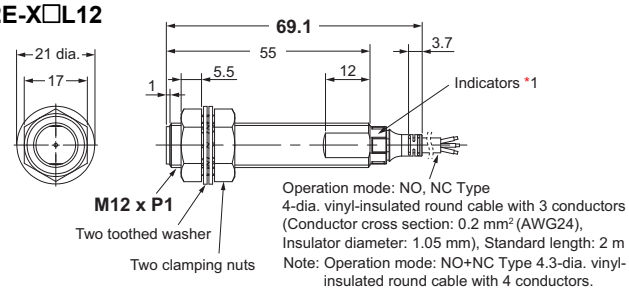
**Pre-wired Models**
**Pre-wired Connector Models (Shielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

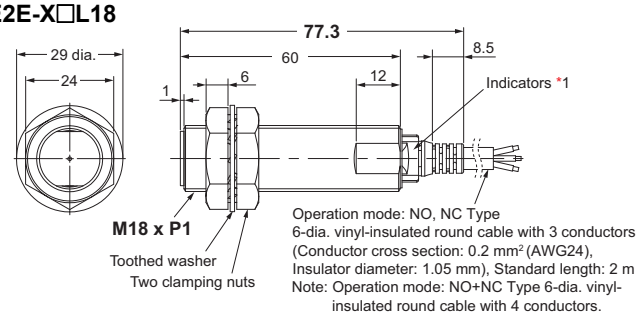
#### E2E-X□L8



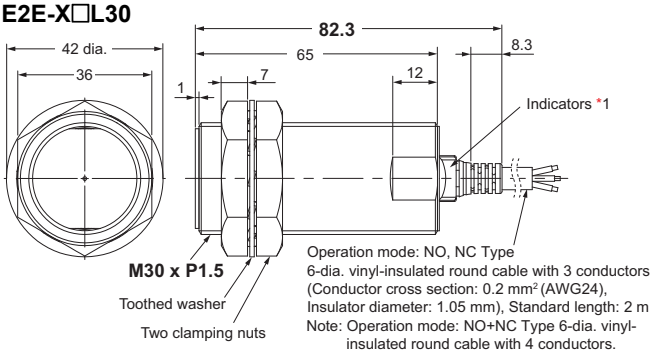

#### E2E-X□L12




#### E2E-X□L18

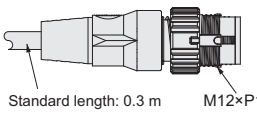



#### E2E-X□L30




*1. Standard I/O mode (SIO mode): Operation indicator (orange/ON), communication indicator (green/OFF)
IO-Link Communication mode (COM mode): Operation indicator (orange/ON), communication indicator (green/Flashing (1sec cycle))

#### Pre-wired Connector Models (-M1TJ)



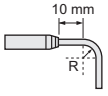

**Note:** Refer to the Pre-wired Model for the cable specifications of the Pre-wired Connector Model.

#### 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. $^{+0.5}_{0}$ |

**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

#### 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 | |

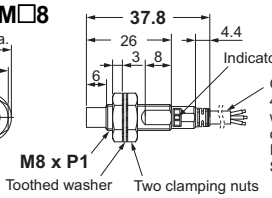
## Sensors PREMIUM Model

### DC 3-wire (Quadruple/Triple distance model)

**Pre-wired Models**
**Pre-wired Connector Models (Unshielded)**

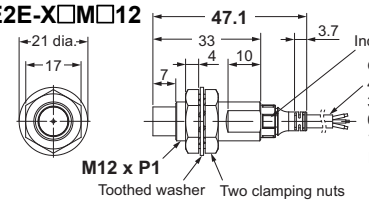
**Note:**
Refer to the figure below the table for the connections of the Pre-wired Connector Model.

**E2E-X□M□8**




Operation mode: NO, NC Type
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.05 mm), Standard length: 2 m

**E2E-X□M□12**



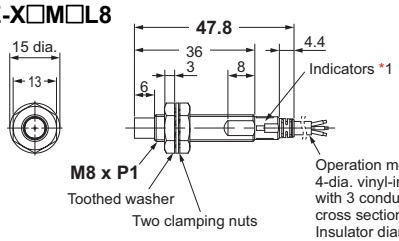

Operation mode: NO, NC Type
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.05 mm), Standard length: 2 m
Note: Operation mode: NO+NC Type 4.3-dia. vinyl-insulated round cable with 4 conductors.

### DC 3-wire (Long-body Quadruple/Triple distance model)

**Pre-wired Models**
**Pre-wired Connector Models (Unshielded)**

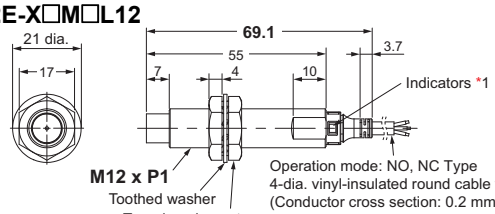
**Note:**
Refer to the figure below the table for the connections of the Pre-wired Connector Model.

**E2E-X□M□L8**



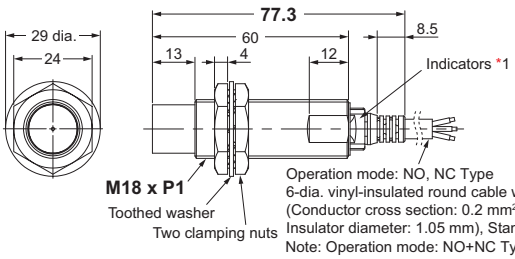

Operation mode: NO, NC Type
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.05 mm), Standard length: 2 m

**E2E-X□M□L12**



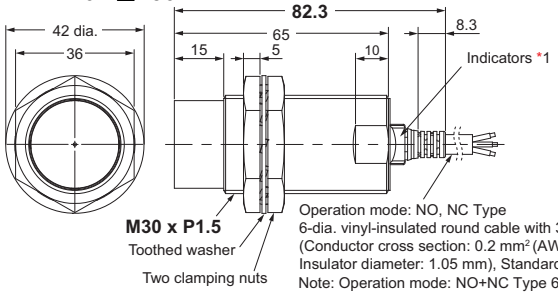

Operation mode: NO, NC Type
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.05 mm), Standard length: 2 m
Note: Operation mode: NO+NC Type 4.3-dia. vinyl-insulated round cable with 4 conductors.

**E2E-X□M□L18**



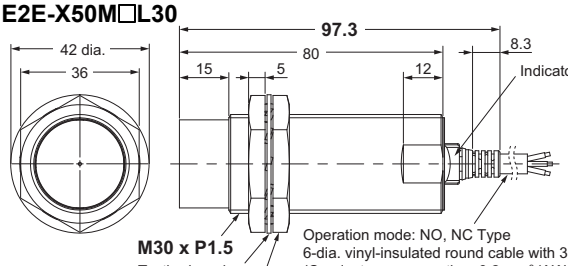

Operation mode: NO, NC Type
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.05 mm), Standard length: 2 m
Note: Operation mode: NO+NC Type 6-dia. vinyl-insulated round cable with 4 conductors.

**E2E-X40M□L30**




Operation mode: NO, NC Type
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.05 mm), Standard length: 2 m
Note: Operation mode: NO+NC Type 6-dia. vinyl-insulated round cable with 4 conductors.

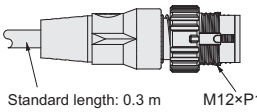
**E2E-X50M□L30**




Operation mode: NO, NC Type
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.05 mm), Standard length: 2 m
Note: Operation mode: NO+NC Type 6-dia. vinyl-insulated round cable with 4 conductors.

*1. Standard I/O mode (SIO mode): Operation indicator (orange/ON), communication indicator (green/OFF)
IO-Link Communication mode (COM mode): Operation indicator (orange/ON), communication indicator (green/Flashing (1sec cycle))

#### Pre-wired Connector Models (-M1TJ)



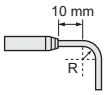

**Note:** Refer to the Pre-wired Model for the cable specifications of the Pre-wired Connector Model.

#### 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. $^{+0.5}_{0}$ |

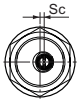
**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

#### Angle R of the Bending Wire




| Dimensions | R (mm) |
|---|---|
| M8 | 12 |
| M12 | |
| M18 | 18 |
| M30 | |

#### Wire pullout position



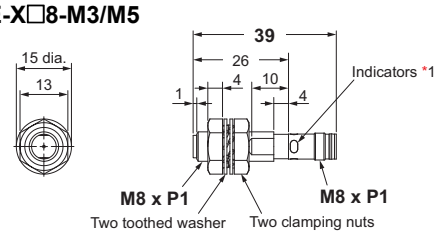

| Dimensions | Sc (mm) |
|---|---|
| M8 | - (0) |
| M12 | |
| M18 | 2.5 |
| M30 | |

# Sensors PREMIUM Model

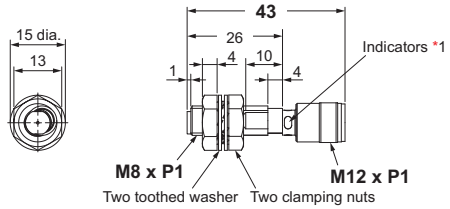
## DC 3-wire (Quadruple/Triple distance model)

**Connector Models (Shielded)**

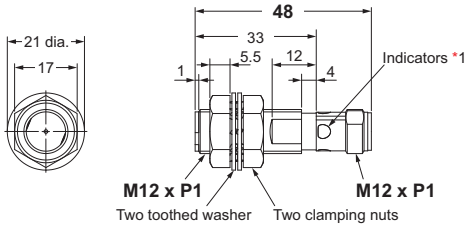
### E2E-X□8-M3/M5



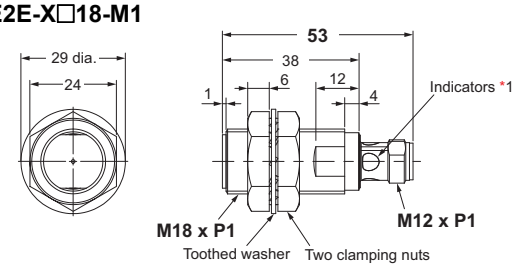

### E2E-X□8-M1



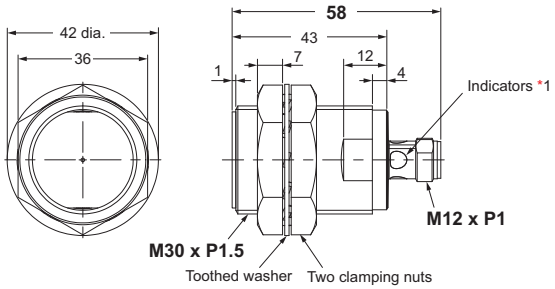

### E2E-X□12-M1




### E2E-X□18-M1



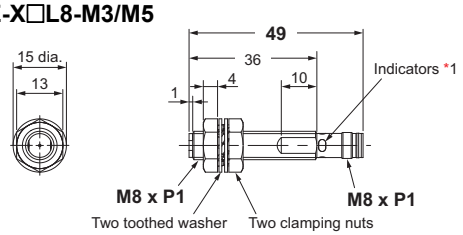

### E2E-X□30-M1



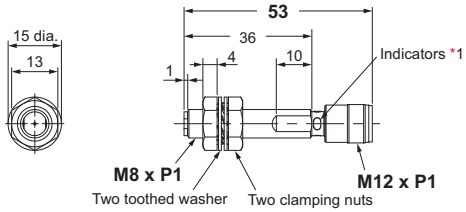

## DC 3-wire (Long-body Quadruple/Triple distance model)

**Connector Models (Shielded)**

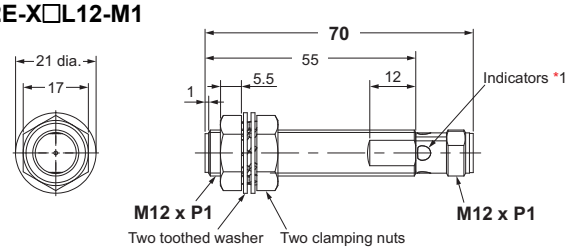
### E2E-X□L8-M3/M5



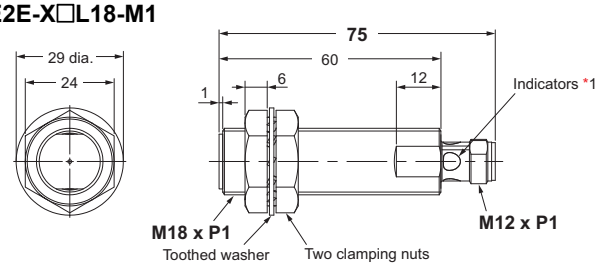

### E2E-X□L8-M1



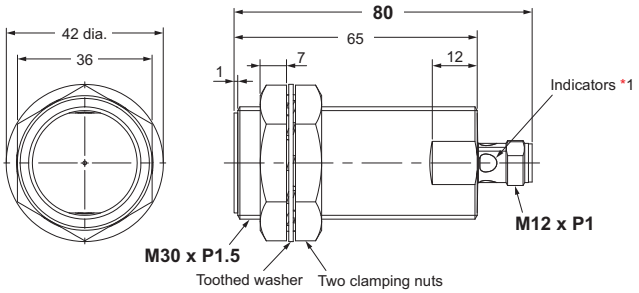

### E2E-X□L12-M1




### E2E-X□L18-M1




### E2E-X□L30-M1




*1. Standard I/O mode (SIO mode): Operation indicator (orange/ON), communication indicator (green/OFF)
IO-Link Communication mode (COM mode): Operation indicator (orange/ON), communication indicator (green/Flashing (1sec cycle))

### 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. $^{+0.5}_{0}$ |

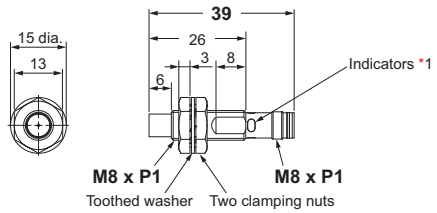
**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

## Sensors PREMIUM Model

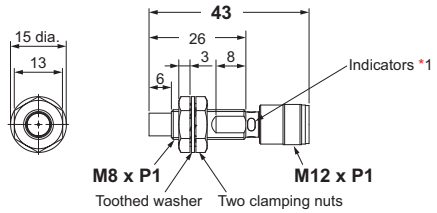
### DC 3-wire (Quadruple/Triple distance model)

**Connector Models (Unshielded)**

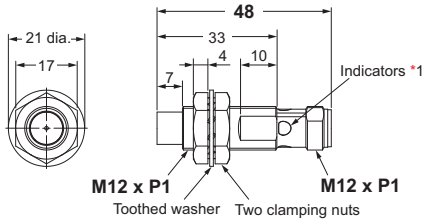
#### E2E-X□M□8-M3/M5




#### E2E-X□M□8-M1




#### E2E-X□M□12-M1




*1. Standard I/O mode (SIO mode): Operation indicator (orange/ON), communication indicator (green/OFF)
IO-Link Communication mode (COM mode): Operation indicator (orange/ON), communication indicator (green/Flashing (1sec cycle))

**Mounting Hole Dimensions**

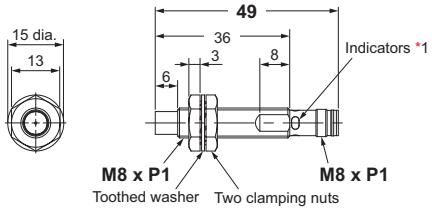

| Dimensions | F (mm) |
|---|---|
| M8 | 8.5 dia. $^{+0.5}_{0}$ |
| M12 | 12.5 dia. $^{+0.5}_{0}$ |
| M18 | 18.5 dia. $^{+0.5}_{0}$ |
| M30 | 30.5 dia. $^{+0.5}_{0}$ |

**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

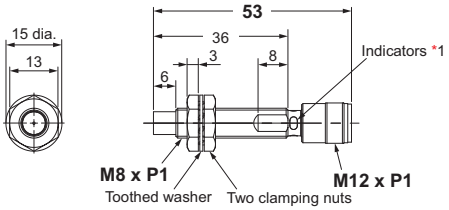
### DC 3-wire (Long-body Quadruple/Triple distance model)

**Connector Models (Unshielded)**

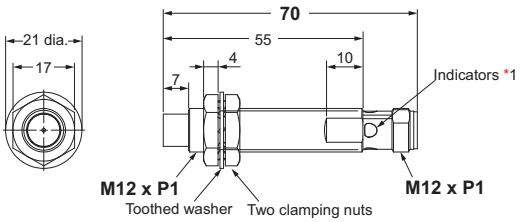
#### E2E-X□M□L8-M3/M5



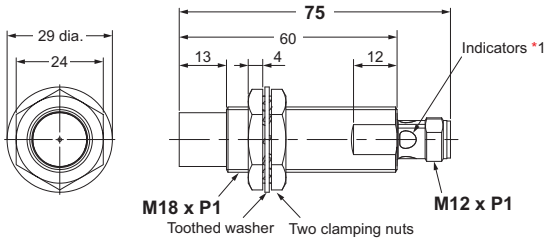

#### E2E-X□M□L8-M1



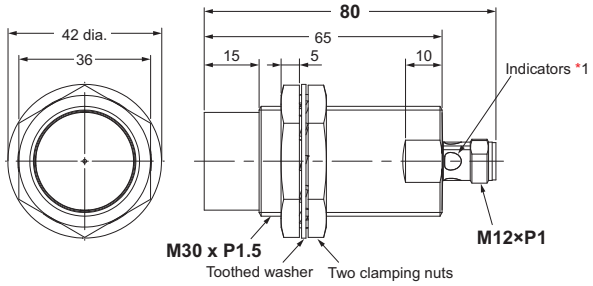

#### E2E-X□M□L12-M1



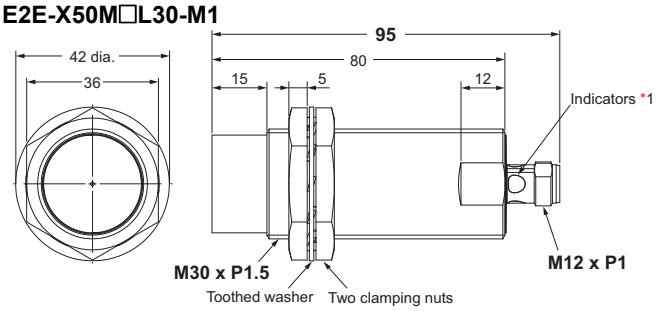

#### E2E-X□M□L18-M1




#### E2E-X40M□L30-M1




#### E2E-X50M□L30-M1



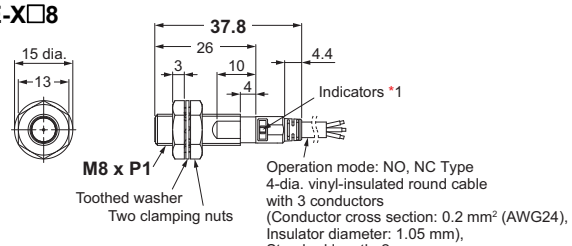
# Sensors BASIC Model

## DC 3-wire (Double/Single distance model)

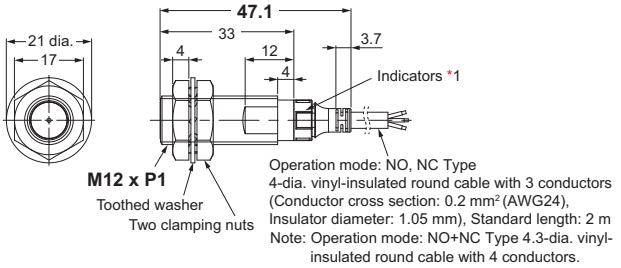
**Pre-wired Models**
**Pre-wired Connector Models**
**(Shielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

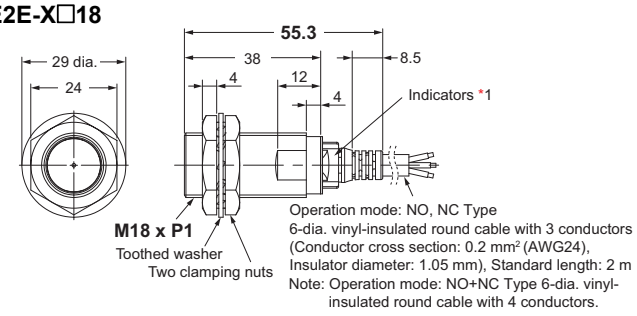
### E2E-X□8



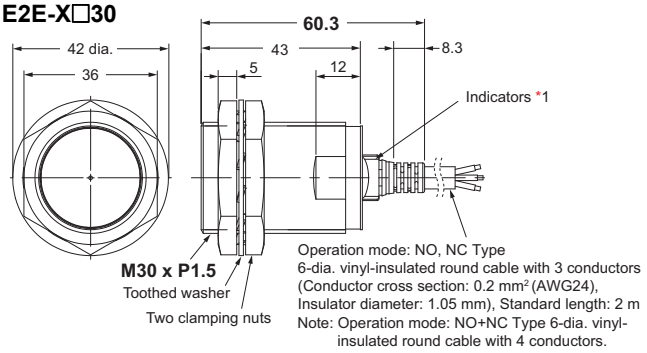

### E2E-X□12




### E2E-X□18




### E2E-X□30

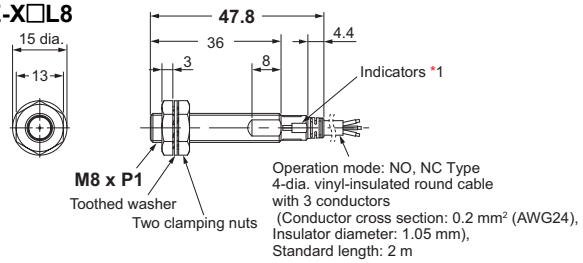



## DC 3-wire (Long-body Double/Single distance model)

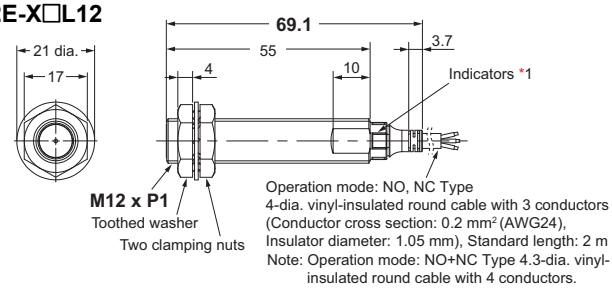
**Pre-wired Models**
**Pre-wired Connector Models**
**(Shielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

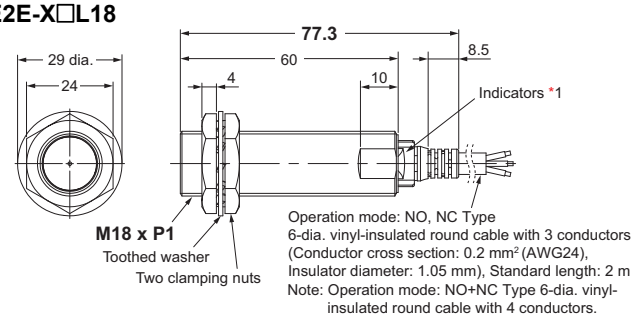
### E2E-X□L8



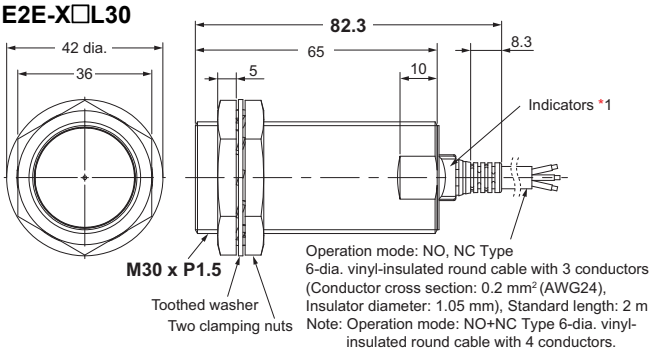

### E2E-X□L12




### E2E-X□L18

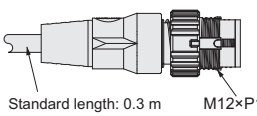



### E2E-X□L30




*1. Standard I/O mode (SIO mode): Operation indicator (orange/ON), communication indicator (green/OFF)
IO-Link Communication mode (COM mode): Operation indicator (orange/ON), communication indicator (green/Flashing (1sec cycle))

### Pre-wired Connector Models (-M1TJ)



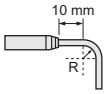

**Note:** Refer to the Pre-wired Model for the cable specifications of the Pre-wired Connector Model.

### 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. $^{+0.5}_{0}$ |

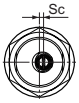
**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

### 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 | |

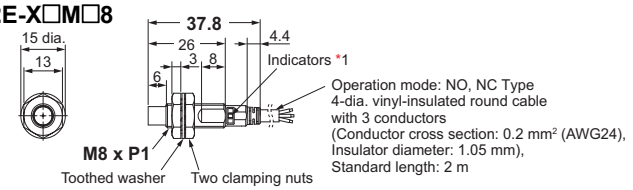
## Sensors BASIC Model

### DC 3-wire (Double/Single distance model)

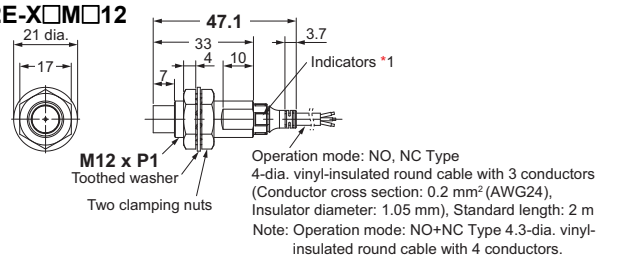
**Pre-wired Models**
**Pre-wired Connector Models (Unshielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

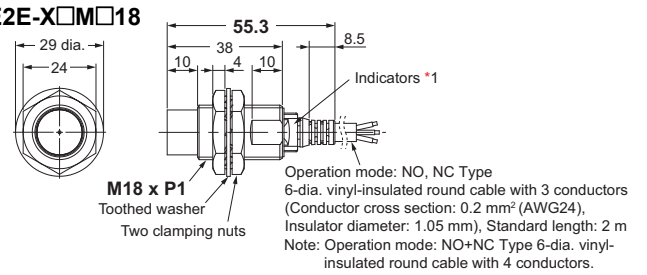
**E2E-X□M□8**



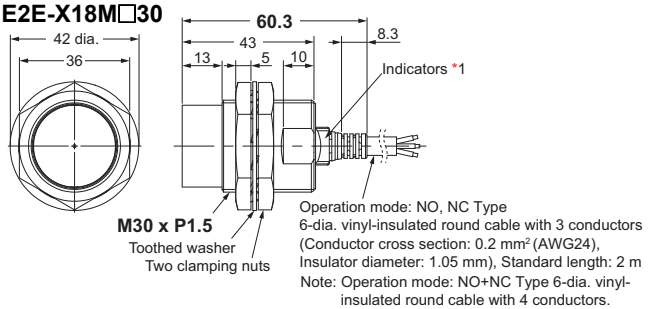

**E2E-X□M□12**




**E2E-X□M□18**




**E2E-X18M□30**



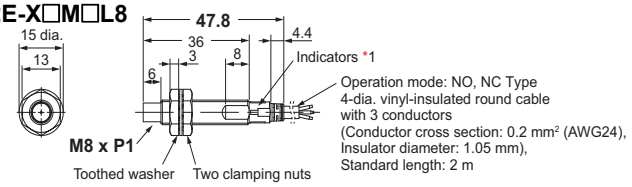

*1. Standard I/O mode (SIO mode): Operation indicator (orange/ON), communication indicator (green/OFF)
IO-Link Communication mode (COM mode): Operation indicator (orange/ON), communication indicator (green/Flashing (1sec cycle))

### DC 3-wire (Long-body Double/Single distance model)

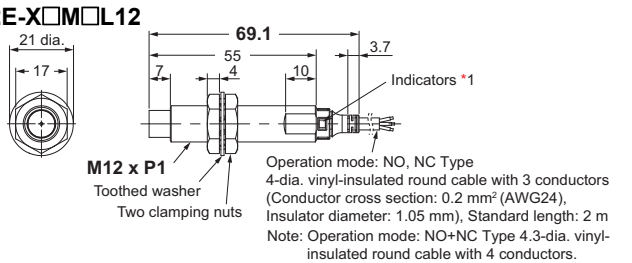
**Pre-wired Models**
**Pre-wired Connector Models (Unshielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

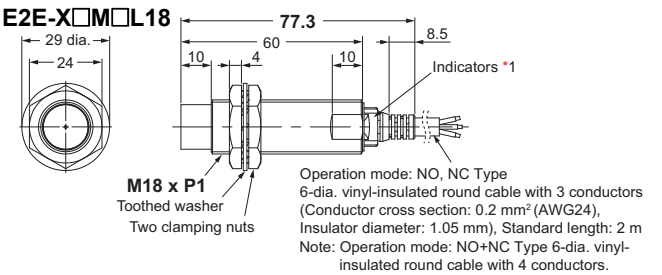
**E2E-X□M□L8**



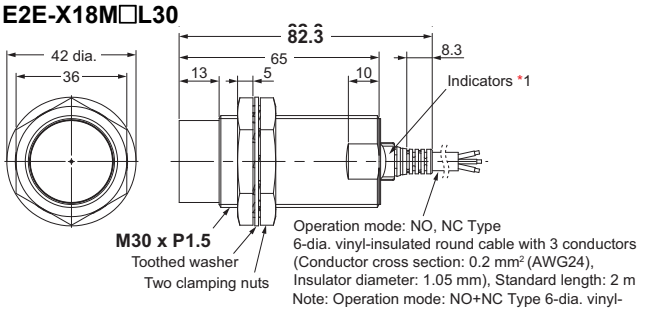

**E2E-X□M□L12**



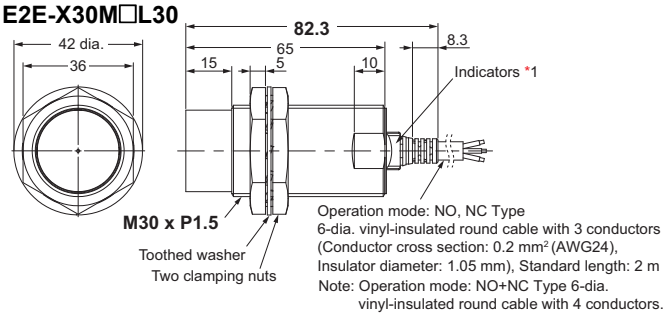

**E2E-X□M□L18**



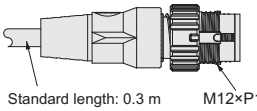

**E2E-X18M□L30**




**E2E-X30M□L30**




### Pre-wired Connector Models (-M1TJ)



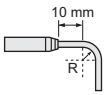

**Note:** Refer to the Pre-wired Model for the cable specifications of the Pre-wired Connector Model.

### 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. $^{+0.5}_{0}$ |

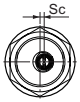
**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

### Angle R of the Bending Wire




| Dimensions | R (mm) |
|---|---|
| M8 | 12 |
| M12 | |
| M18 | 18 |
| M30 | |

### Wire pullout position



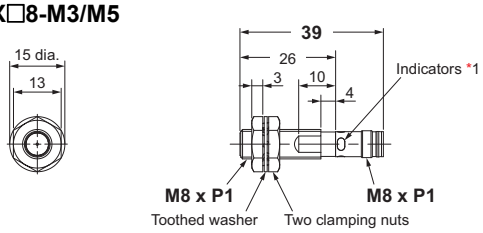

| Dimensions | Sc (mm) |
|---|---|
| M8 | - (0) |
| M12 | |
| M18 | 2.5 |
| M30 | |

# Sensors BASIC Model

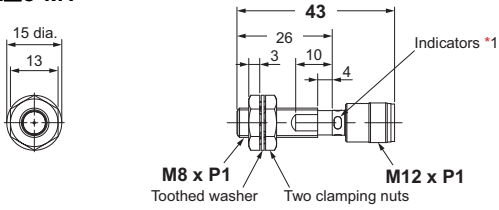
## DC 3-wire (Double/Single distance model)

**Connector Models (Shielded)**

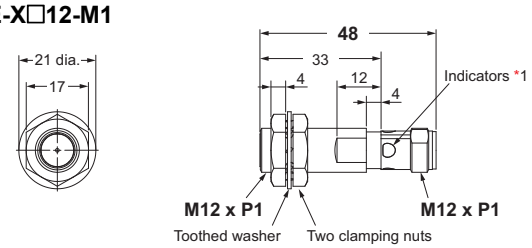
### E2E-X□8-M3/M5



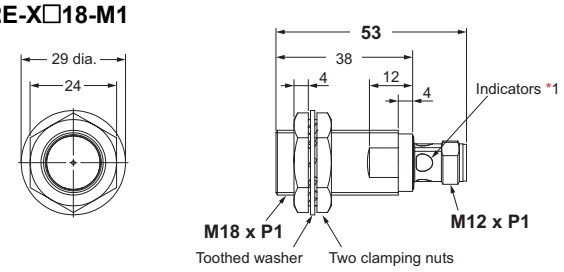

### E2E-X□8-M1



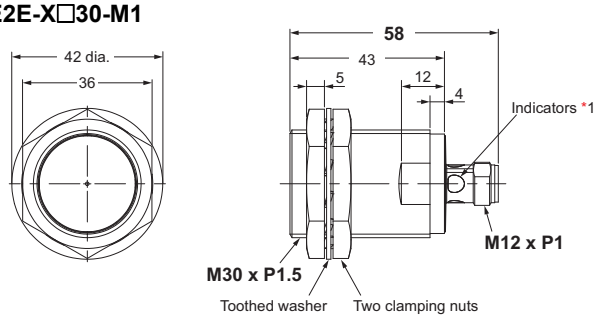

### E2E-X□12-M1




### E2E-X□18-M1



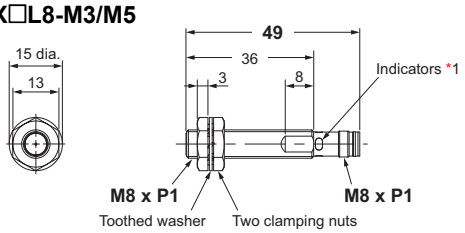

### E2E-X□30-M1



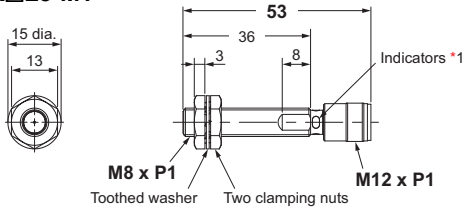

## DC 3-wire (Long-body Double/Single distance model)

**Connector Models (Shielded)**

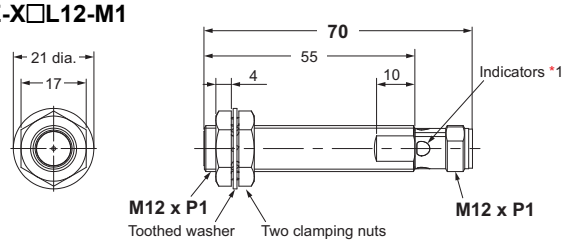
### E2E-X□L8-M3/M5



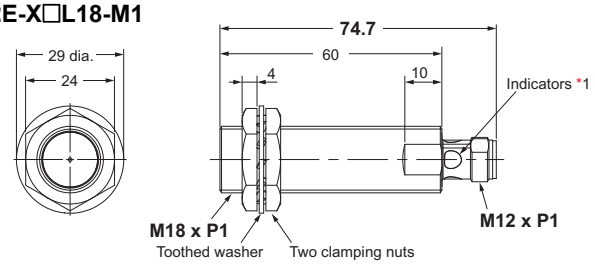

### E2E-X□L8-M1



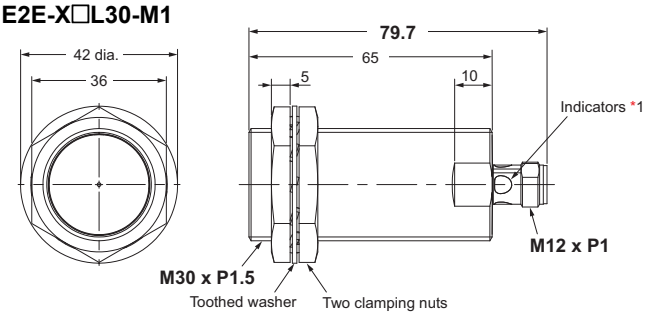

### E2E-X□L12-M1




### E2E-X□L18-M1




### E2E-X□L30-M1




*1. Standard I/O mode (SIO mode): Operation indicator (orange/ON), communication indicator (green/OFF)
IO-Link Communication mode (COM mode): Operation indicator (orange/ON), communication indicator (green/Flashing (1sec cycle))

### 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. $^{+0.5}_{0}$ |

**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

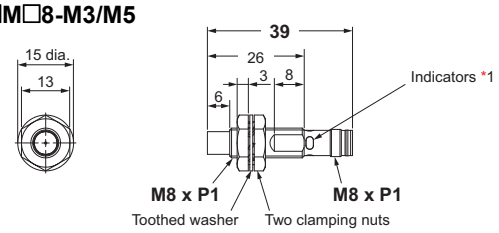
## Sensors BASIC Model

### DC 3-wire (Double/Single distance model)

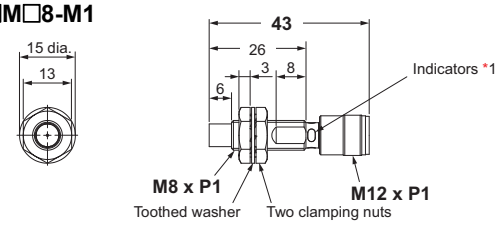
**Connector Models (Unshielded)**

**Note:** The sensing surface of size M30 is light gray.

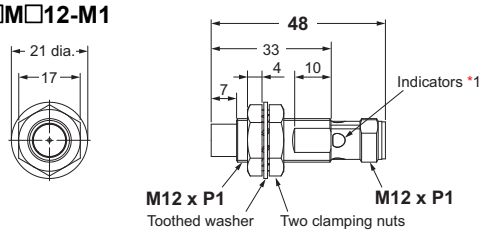
#### E2E-X□M□8-M3/M5



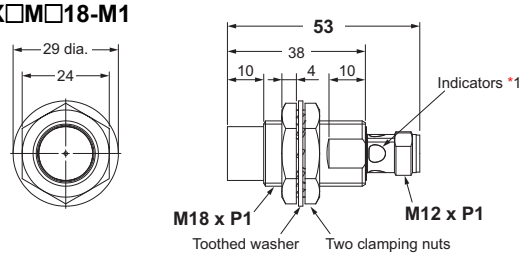

#### E2E-X□M□8-M1



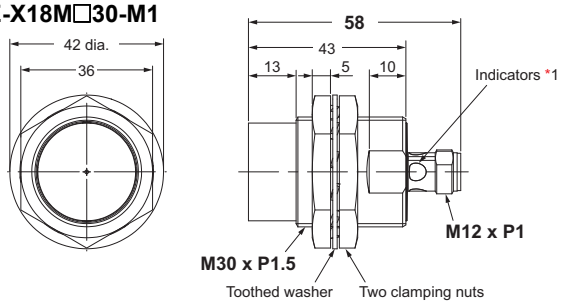

#### E2E-X□M□12-M1




#### E2E-X□M□18-M1




#### E2E-X18M□30-M1




*1. Standard I/O mode (SIO mode): Operation indicator (orange/ON), communication indicator (green/OFF)
IO-Link Communication mode (COM mode): Operation indicator (orange/ON), communication indicator (green/Flashing (1sec cycle))

**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. $^{+0.5}_{0}$ |

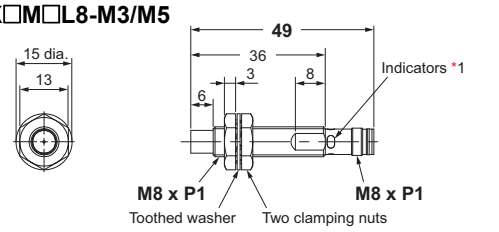
**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

### DC 3-wire (Long-body Double/Single distance model)

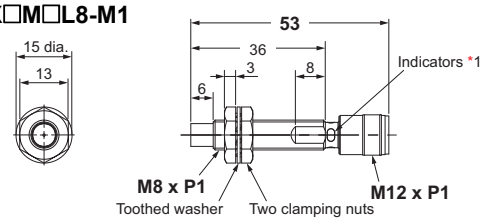
**Connector Models (Unshielded)**

**Note:** The sensing surface of size M30 is light gray.

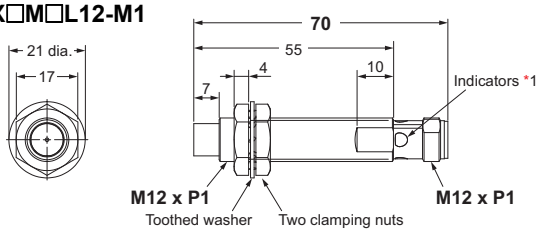
#### E2E-X□M□L8-M3/M5



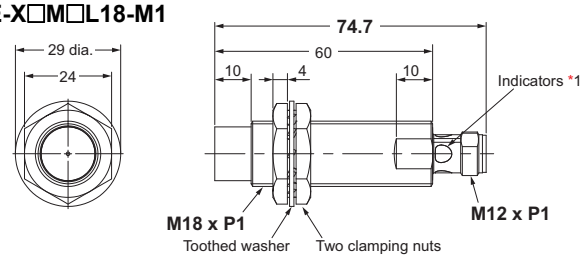

#### E2E-X□M□L8-M1



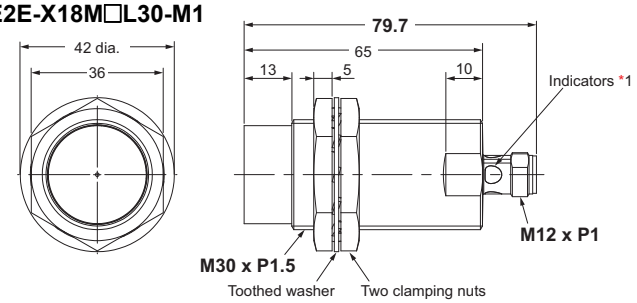

#### E2E-X□M□L12-M1



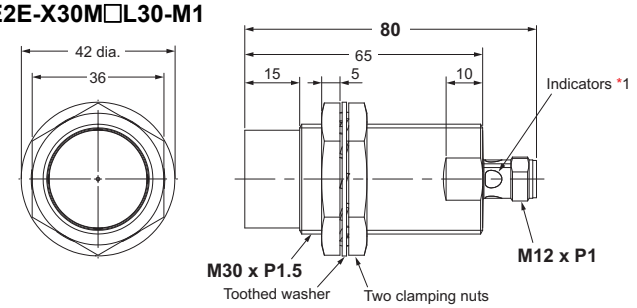

#### E2E-X□M□L18-M1




#### E2E-X18M□L30-M1



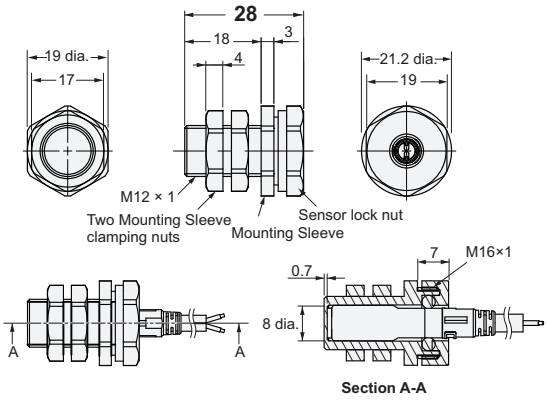

#### E2E-X30M□L30-M1



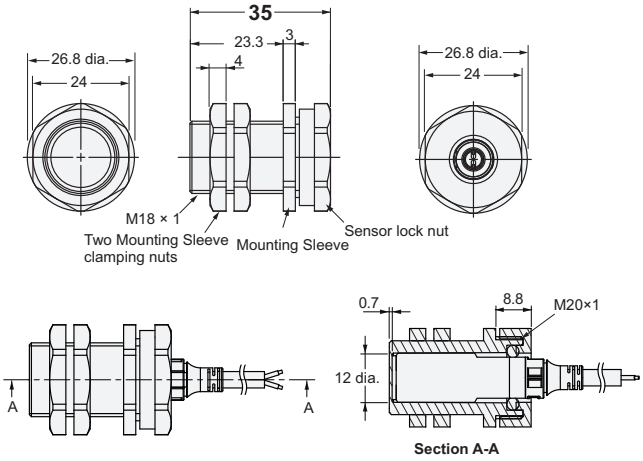
# Accessories (Sold Separately)

## e-jig (Mounting Sleeves)

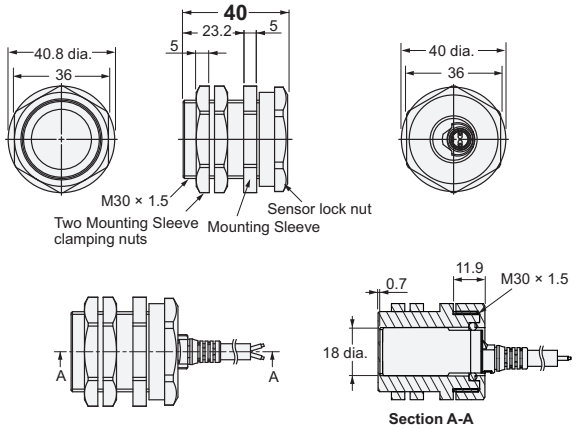
### Y92E-J8S12




### 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 |

**Note:** The dimensional control of the threaded part is based on the fit with the accompanying nut.

MEMO

# E2E NEXT Series

## DC 2-wire (Triple distance model)



## 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.
- IP69K compliant for water resistance and wash resistance.
- UL certification (UL60947-5-2) and CSA certification (CSA C22.2 UL60947-5-2-14)

*1. Based on October 2025 OMRON investigation.
*2. Time required to adjust the distance when installing a Sensor. Based on OMRON investigation.
*3. Refer to page 66 for details.

Be sure to read *Safety Precautions* on page 69.

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

## Model Number Legend

E2E - X (1) (2) D (3) (4) (5) - (6) - (7) (8) (9)

| No. | Classification | Code | Meaning |
|---|---|---|---|
| (1) | Sensing distance | Number | Sensing distance (Unit: mm) (R: Indication of decimal point) |
| (2) | Shielding | Blank | Shielded Models |
| | | M | Unshielded Models |
| (3) | Operation mode | 1 | Normally open (NO) |
| | | 2 | Normally closed (NC) |
| (4) | Body size | Blank | Standard |
| | | L | Long Body |
| (5) | Size | 8 | M8 |
| | | 12 | M12 |
| | | 18 | M18 |
| | | 30 | M30 |
| (6) | Connecting method | Blank | Pre-wired Models |
| | | M1TGJ | M12 Pre-wired Smartclick Connector Models |
| | | M1TGJR | M12 Pre-wired Smartclick Connector Models (Robot (bending-resistant) PVC cable) |
| (7) | Polarity | Blank | Polarity |
| | | T | No polarity |
| (8) | Cable specifications (Only shown in the model number of Pre-wired Models.) | Blank | Standard PVC cable |
| | | R | Robot (bending-resistant) PVC cable |
| (9) | Cable length | Number M | Cable length |

**Note: 1.** The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number.
**2.** Pin arrangements vary depending on the model. Refer to I/O Circuit Diagrams on page 68 for details.

# Ordering Information

## Sensors

**DC 2-wire (Triple distance model) [Refer to *Dimensions* on page 71.]**

**Shielded Models *1**

| Size (Sensing distance) | Connection method | Polarity | Model | |
|---|---|---|---|---|
| | | | Operation mode: NO | Operation mode: NC |
| M8 (3 mm) | Pre-wired (2 m) *2 *3 | Yes | E2E-X3D18 2M | E2E-X3D28 2M |
| | | No | E2E-X3D18-T 2M | E2E-X3D28-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) *4 | 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 (2 m) *2 *3 | Yes | E2E-X7D112 2M | E2E-X7D212 2M |
| | | No | E2E-X7D112-T 2M | E2E-X7D212-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) *4 | 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 (2 m) *2 *3 | Yes | E2E-X11D118 2M | E2E-X11D218 2M |
| | | No | E2E-X11D118-T 2M | E2E-X11D218-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) *4 | 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 (2 m) *2 *3 | Yes | E2E-X20D130 2M | E2E-X20D230 2M |
| | | No | E2E-X20D130-T 2M | E2E-X20D230-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) *4 | 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 Models**

| Size (Sensing distance) | Connection method | Polarity | Model | |
|---|---|---|---|---|
| | | | Operation mode: NO | Operation mode: NC |
| M8 (6 mm) | Pre-wired (2 m) *2 *3 | Yes | E2E-X6MD18 2M | E2E-X6MD28 2M |
| | | No | E2E-X6MD18-T 2M | E2E-X6MD28-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) *4 | 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 (2 m) *2 *3 | Yes | E2E-X10MD112 2M | E2E-X10MD212 2M |
| | | No | E2E-X10MD112-T 2M | E2E-X10MD212-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) *4 | 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 (2 m) *2 *3 | Yes | E2E-X20MD1L18 2M | E2E-X20MD2L18 2M |
| | | No | E2E-X20MD1L18-T 2M | E2E-X20MD2L18-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) *4 | 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 (2 m) *2 *3 | Yes | E2E-X40MD1L30 2M | E2E-X40MD2L30 2M |
| | | No | E2E-X40MD1L30-T 2M | E2E-X40MD2L30-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) *4 | 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 70.
*2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2E-X3D18 5M)
*3. Models with a 2-m or 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X3D18-R 2M/E2E-X3D18-R 5M)
*4. Models with M12 Pre-wired Smartclick Connectors and robot (bending-resistant) cables are also available with "R" in the model number. (Example: E2E-X3D18-M1TGJR 0.3M/E2E-X3D18-M1TGJR-T 0.3M)

## Accessories (Sold Separately)

**e-jig (Mounting Sleeves)** **[Refer to Dimensions on page 72.]**

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

| Appearance | Model | Applicable Sensor size | Applicable Sensor type |
|---|---|---|---|
|  | **Y92E-J8S12** | M8 | Triple distance model<br>Shielded models<br>Pre-wired models<br>Standard body-sized |
| | **Y92E-J12S18** | M12 | |
| | **Y92E-J18S30** | M18 | |

**Nut Sets**

**A Nut Set is included with the Sensor. Order a Nut Set when required, e.g., if you lose the nuts.**

| Model | Applicable Sensors | Applicable Sensor diameter | Set contents |
|---|---|---|---|
| **Y92E-NWM08-E2EN** | E2E NEXT Series<br>Triple distance model<br>(Shielded models) | M8 | Clamping nuts (bronze with nickel plating): 2<br>Toothed washer (iron with zinc plating): 2 |
| **Y92E-NWM12-E2EN** | | M12 | |
| **Y92E-NWM18-E2EN** | | M18 | Clamping nuts (bronze with nickel plating): 2<br>Toothed washer (iron with zinc plating): 1 |
| **Y92E-NWM30-E2EN** | | M30 | |
| **Y92E-NWM08-E2E** | E2E NEXT Series<br>Triple distance model<br>(Unshielded models) | M8 | |
| **Y92E-NWM12-E2E** | | M12 | |
| **Y92E-NWM18-E2E** | | M18 | |
| **Y92E-NWM30-E2E** | | M30 | |

## Sensor I/O Connectors (Sold Separately)

For details of the connector, refer to XS5 NEXT Series Round Oil-resistant Connectors (M12 Smartclick) on page 108.
For details of the connector, refer to XS5 Series Round Water-resistant Connectors (M12 Smartclick) on page 111.

# Ratings and Specifications

## DC 2-wire (Triple distance model)

| 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 67.) | | | | | | | |
| 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 | | 350 Hz | 250 Hz | 350 Hz | 200 Hz | 250 Hz | 200 Hz | 200 Hz | 50 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)<br>No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m) | | | | | | | |
| Indicator | | D1 Models: Operation indicator (orange), Setting indicator (green)<br>D2 Models: Operation indicator (orange) | | | | | | | |
| Operation mode | | D1 Models: NO<br>D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 68 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/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 ISO 20653 (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 | | | | | | | |

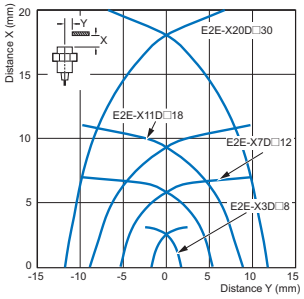
*1. Use the Sensor within the range in which the setting indicator (green LED) is ON (except D2 Models).
*2. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing 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).
The Pre-wired Connector Model verifies 2 years of oil resistance when mating with Round Oil-resistant Connectors XS5 NEXT series correctly.
The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models.

# Engineering Data (Reference Value)

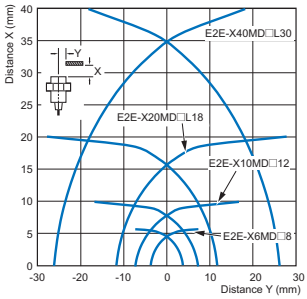
## Sensing Area

### Triple distance model

### Shielded Models




### Unshielded Models

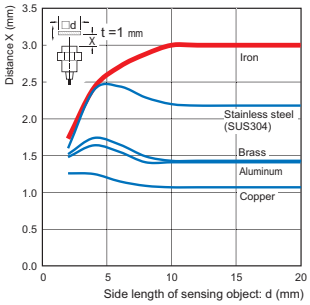



## Influence of Sensing Object Size and Materials

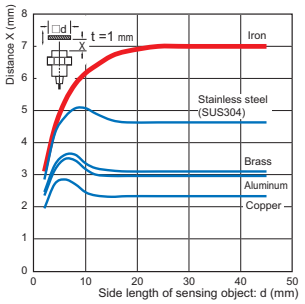
### Triple distance model

### Shielded Models

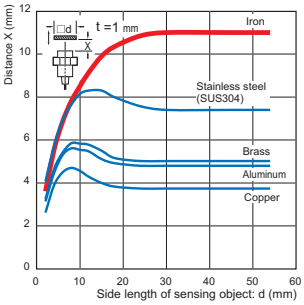
**Size: M8 E2E-X3D□8**



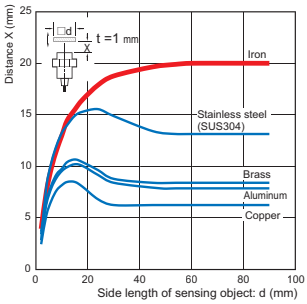

**Size: M12 E2E-X7D□12**




**Size: M18 E2E-X11D□18**

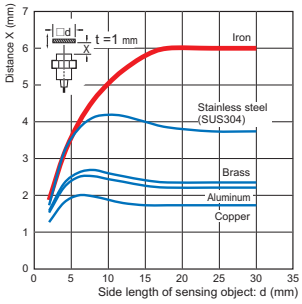



**Size: M30 E2E-X20D□30**

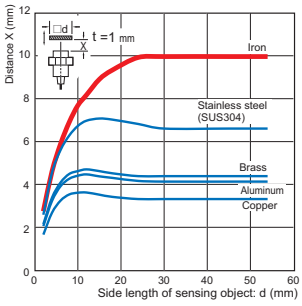



### Unshielded Models

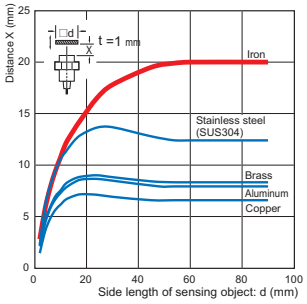
**Size: M8 E2E-X6MD□8**



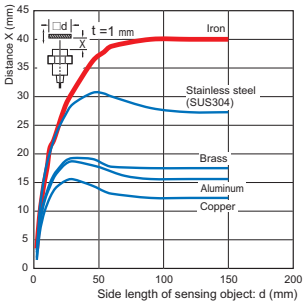

**Size: M12 E2E-X10MD□12**




**Size: M18 E2E-X20MD□L18**




**Size: M30 E2E-X40MD□L30**

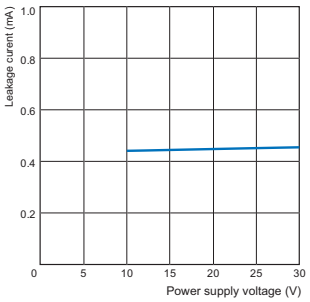



## Leakage Current

### Triple distance model

### Shielded / Unshielded Models

**E2E-X□(M)D□(-T)**

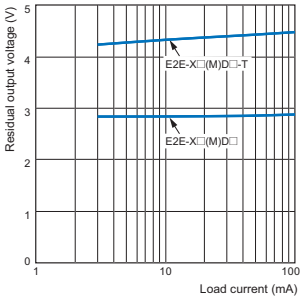



## Residual Output Voltage

### Triple distance model

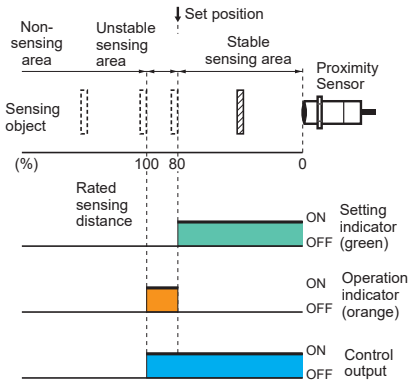
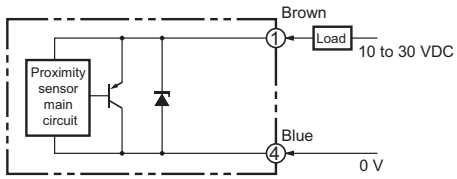
### Shielded / Unshielded Models

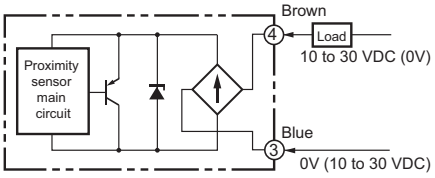
**E2E-X□(M)D□(-T)**

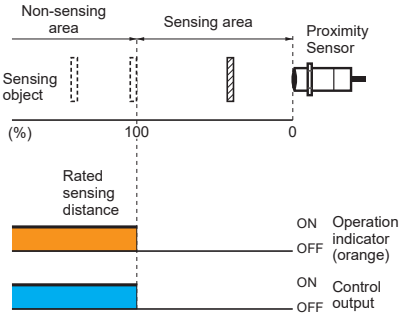
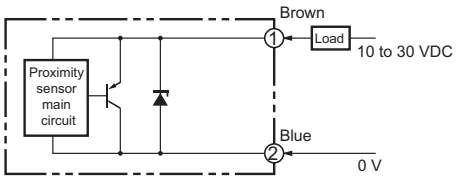


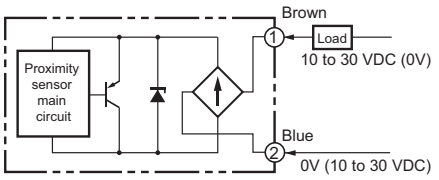
# I/O Circuit Diagrams

## DC 2-wire Models (Triple distance model)

<table>
<tr><th>Operation mode</th><th>Model</th><th>Timing Chart</th><th>Output circuit</th></tr>
<tr><td rowspan="2">NO</td><td>E2E-X□D1□</td><td rowspan="2"> 
</td><td> 

Note: The load can be connected to either the +V or 0 V side.</td></tr>
<tr><td>E2E-X□D1□-T</td><td> 

Note1. The load can be connected to either the +V or 0 V side.<br>2. There is no polarity. Therefore, no need to be concerned about the polarity of brown and blue wires, or pins 3 and 4.</td></tr>
<tr><td rowspan="2">NC</td><td>E2E-X□D2□</td><td rowspan="2"> 
</td><td> 

Note: The load can be connected to either the +V or 0 V side.</td></tr>
<tr><td>E2E-X□D2□-T</td><td> 

Note1. The load can be connected to either the +V or 0 V side.<br>2. There is no polarity. Therefore, no need to be concerned about the polarity of brown and blue wires, or pins 1 and 2.</td></tr>
</table>

**Note:** For the Pre-wired Connector Models, the core wire color and pin number are different.

### Connector Pin Arrangement

| M12 Smartclick Connector | |
|---|---|
| -M1TGJ |  |

# 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**<br>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**<br>Indicates the instructions of unspecified prohibited action. |
|  | **Caution, explosion**<br>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 the product according to applicable regulations (laws).

## Precautions for Correct Use

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

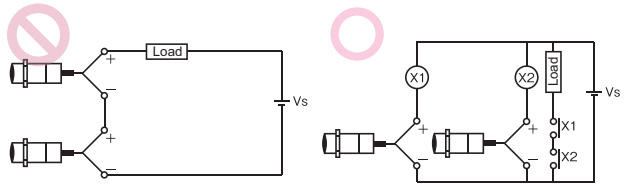
### Operating Environment

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.

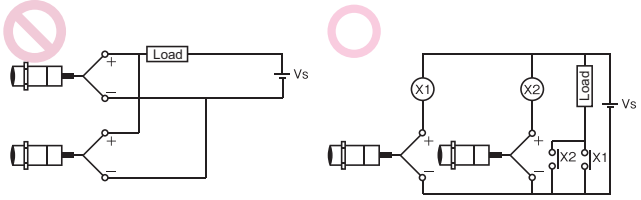
### AND Connection of Proximity Sensors

Two or more sensors cannot be connected in series on the AND circuit. Use them via a relay as shown on the figure.




### OR Wiring of Proximity Sensors

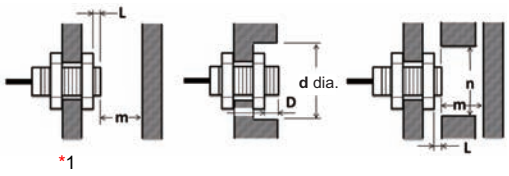
As a general principle, two or more sensors cannot be used in parallel on the OR circuit. It is possible only when sensors do not operate simultaneously and loads do not need to be maintained. When loads need to be maintained, use the sensors via a relay as shown on the figure.



## 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.
When mounting the Proximity Sensor using a nut, only use the provided nut. Nuts that are supplied along with each Sensor are different. Refer to Dimensions for details on shapes.




(Unit: mm)

**Shielded**

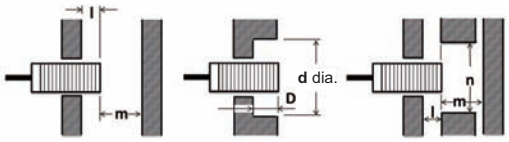
| Type | Size | Model | L | d | D | m | n |
|---|---|---|---|---|---|---|---|
| Triple distance model | M8 | E2E-X3D□8 | 0 | 20 | 2 | 9 | 18 |
| | M12 | E2E-X7D□12 | 0 | 20 | 4 | 18 | 20 |
| | M18 | E2E-X11D□18 | 0 | 50 | 4 | 33 | 54 |
| | M30 | E2E-X20D□30 | 0 | 70 | 8 | 60 | 90 |

**Unshielded**

| Type | Size | Model | L | d | D | m | n |
|---|---|---|---|---|---|---|---|
| Triple distance model | M8 | E2E-X6MD□8 | 10 | 30 | 13 | 18 | 30 |
| | M12 | E2E-X10MD□12 | 16 | 50 | 20 | 30 | 50 |
| | M18 | E2E-X20MD□18 | 31 | 90 | 35 | 60 | 80 |
| | M30 | E2E-X40MD□30 | 50 *1 | 170 | 55 *2 | 120 | 140 |

*1. If you use the M30 Triple distance model of Unshielded Model, the panel thickness (t) is 4 mm or less.
*2. Cannot be mounted if countersunk holes are used.

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




(Unit: mm)

**Shielded**

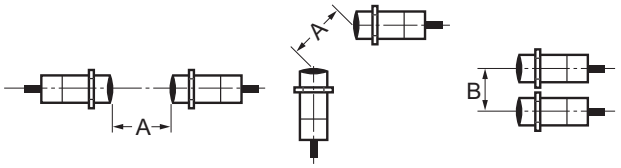
| Type | Size | Model | l | d | D | m | n |
|---|---|---|---|---|---|---|---|
| Triple distance model | M8 | E2E-X3D□8 | 2 | 20 | 2 | 9 | 18 |
| | M12 | E2E-X7D□12 | 4 | 20 | 4 | 18 | 20 |
| | M18 | E2E-X11D□18 | 4 | 50 | 4 | 33 | 54 |
| | M30 | E2E-X20D□30 | 8 | 70 | 8 | 60 | 90 |

**Unshielded**

| Type | Size | Model | l | d | D | m | n |
|---|---|---|---|---|---|---|---|
| Triple distance model | M8 | E2E-X6MD□8 | 13 | 30 | 13 | 18 | 30 |
| | M12 | E2E-X10MD□12 | 20 | 50 | 20 | 30 | 50 |
| | M18 | E2E-X20MD□18 | 35 | 90 | 35 | 60 | 80 |
| | M30 | E2E-X40MD□30 | 55 | 170 | 55 | 120 | 140 |

## Mutual Interference

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




(Unit: mm)

**Shielded**

| Type | Size | Model | A | B |
|---|---|---|---|---|
| Triple distance model | M8 | E2E-X3D□8 | 25 | 20 |
| | M12 | E2E-X7D□12 | 40 | 30 |
| | M18 | E2E-X11D□18 | 70 | 45 |
| | M30 | E2E-X20D□30 | 140 | 70 |

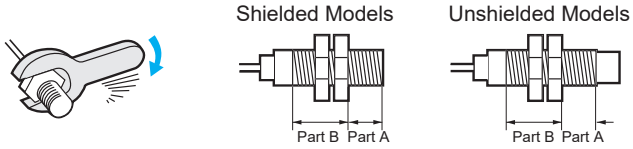
**Unshielded**

| Type | Size | Model | A | B |
|---|---|---|---|---|
| Triple distance model | M8 | E2E-X6MD□8 | 80 | 60 |
| | M12 | E2E-X10MD□12 | 120 | 100 |
| | M18 | E2E-X20MD□18 | 200 | 120 |
| | M30 | E2E-X40MD□30 | 380 | 280 |

## Mounting

### Tightening Force

Do not tighten the sensor mounting nuts with excessive force. Secure the mounting nuts to the corresponding torque values in the following table.




**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.

**Triple distance model**

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

# Dimensions

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

## Sensor

### DC 2-wire (Triple distance model)

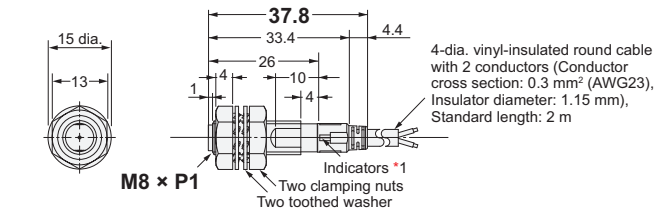
**Pre-wired Models**
**Pre-wired Connector Models**
**(Shielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

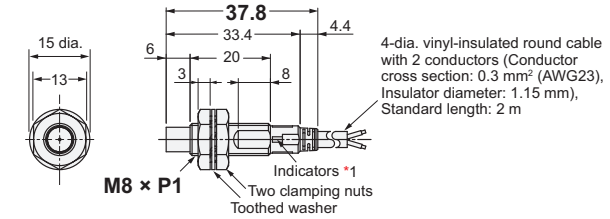
**Pre-wired Models**
**Pre-wired Connector Models**
**(Unshielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

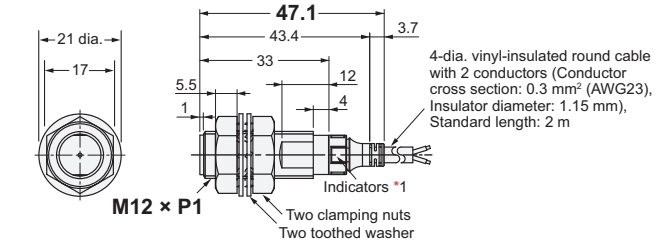
#### E2E-X3D□8



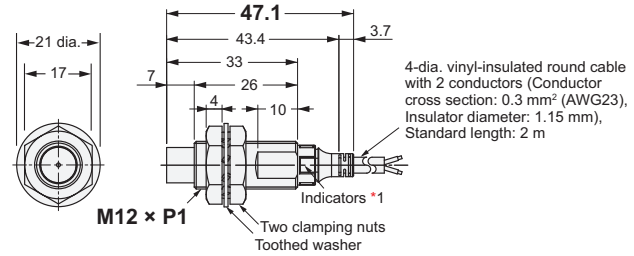

#### E2E-X6MD□8



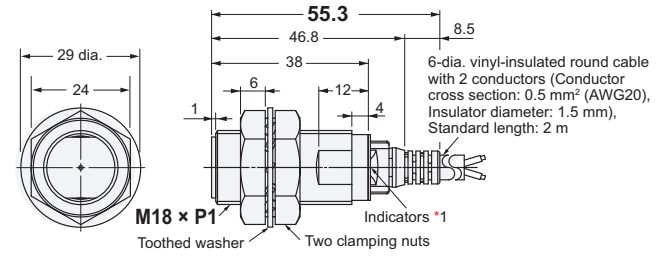

#### E2E-X7D□12



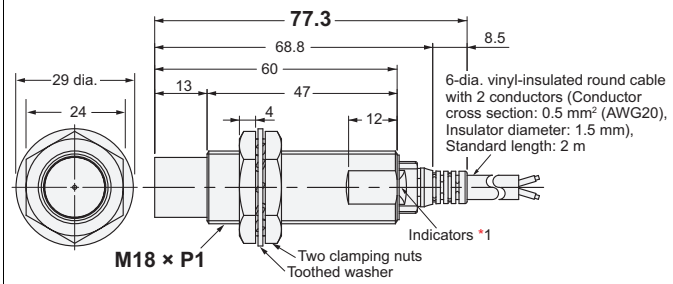

#### E2E-X10MD□12



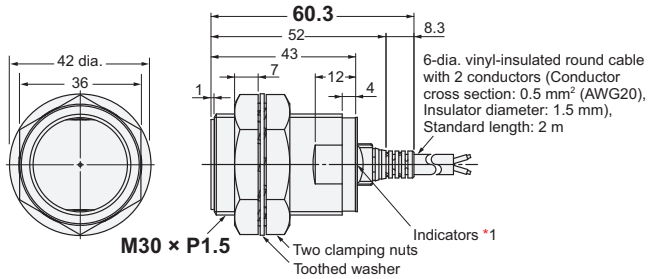

#### E2E-X11D□18



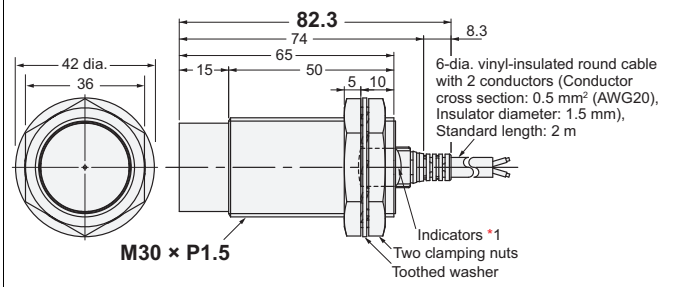

#### E2E-X20MD□L18




#### E2E-X20D□30

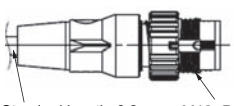



#### E2E-X40MD□L30




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

#### Pre-wired Connector Models (-M1TGJ)




**Note:** Refer to the Pre-wired Model for the cable specifications of the Pre-wired Connector Model.

#### Mounting Hole Dimensions

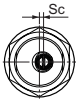

| Dimensions | F (mm) |
|---|---|
| M8 | 8.5 dia. $^{+0.5}_{0}$ |
| M12 | 12.5 dia. $^{+0.5}_{0}$ |
| M18 | 18.5 dia. $^{+0.5}_{0}$ |
| M30 | 30.5 dia. $^{+0.5}_{0}$ |

**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

#### Angle R of the Bending Wire


| Dimensions | R (mm) |
|---|---|
| M8 | 12 |
| M12 | |
| M18 | 18 |
| M30 | |

#### Wire pullout position

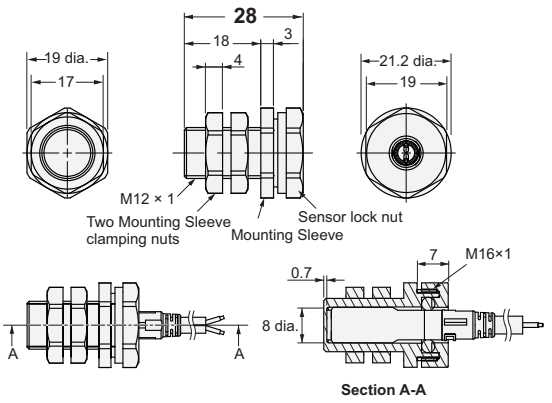



| Dimensions | Sc (mm) |
|---|---|
| M8 | - (0) |
| M12 | |
| M18 | 2.5 |
| M30 | |

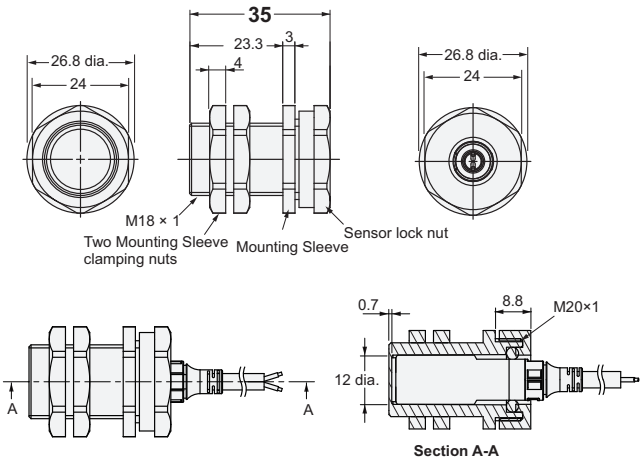
## Accessories (Sold Separately)

### e-jig (Mounting Sleeves)

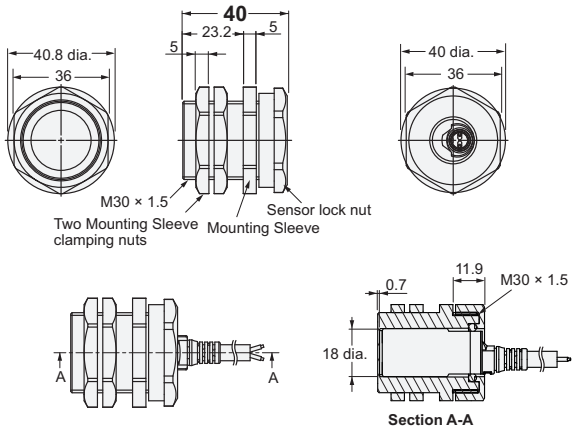
**Y92E-J8S12**




**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 |

**Note:** The dimensional control of the threaded part is based on the fit with the accompanying nut.

# E2E NEXT Series

## DC 2-wire (Standard/Double/Single distance model)

## Enhanced Usability Enables Installation without Special Skills and Shortens Commissioning and Recovery Time

- With high-brightness LED, the indicator is visible anywhere from 360°.
- Cables with enhanced oil resistance enabled 2-year oil resistance*1.
- IP69K compliant for water resistance and wash resistance.
- UL certification (UL60947-5-2) and CSA certification (CSA C22.2 UL60947-5-2-14)

*1. Refer to page 77 to 79 for details.

Be sure to read *Safety Precautions* on page 83.

**Note:** Some models are not certified.
For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

## Model Number Legend

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

| No. | Type | Code | Meaning |
|---|---|---|---|
| (1) | Sensing distance | Number | Sensing distance (Unit: mm) (R: Indication of decimal point) |
| (2) | Shielding | Blank | Shielded |
| | | M | Unshielded |
| (3) | Operation mode | 1 | Normally open (NO) |
| | | 2 | Normally closed (NC) |
| (4) | Oscillation frequency type | Blank | Standard frequency |
| | | 5 | Different frequency |
| (5) | Body size | Blank | Standard |
| | | L | Long-body |
| (6) | Connection method | Blank | Pre-wired Models |
| | | M1 | M12 Connector Models (Old pin arrangement) |
| | | M1G | M12 Connector Models (IEC pin arrangement) |
| | | M1J | M12 Pre-wired Standard Connector Models (Old pin arrangement) |
| | | M1GJ | M12 Pre-wired Standard Connector Models (IEC pin arrangement) |
| | | M1TJ | M12 Pre-wired Smartclick Connector Models (Old pin arrangement) |
| | | M1TGJ | M12 Pre-wired Smartclick Connector Models (IEC pin arrangement) |
| | | M1TGJR | M12 Pre-wired Smartclick Connector Models Robot (bending-resistant) cable (IEC pin arrangement) |
| | | M3G | M8 (4-pin) Connector Models (IEC pin arrangement) |
| (7) | Polarity | Blank | Polarity |
| | | T | No polarity |
| (8) | Cable specifications (Only shown in the model number of Pre-wired Models.) | Blank | Standard PVC cable |
| | | R | Robot (bending-resistant) PVC cable |
| (9) | New model | N | New model<br>This is blank if the cable specification in number (8) is R. |
| (10) | Cable length | Number M | Cable length (Applicable to Pre-wired Models and Prewired Connector Models.) |

**Note: 1.** The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number.
**2.** Pin arrangements vary depending on the model. Refer to *I/O Circuit Diagrams* on page 82 for details.

# Ordering Information

## Sensors

**DC 2-wire (Standard model)** **[Refer to *Dimensions* on page 85.]**

### Shielded Models

| Size (Sensing distance) | Connection method | Body size | Polarity | Model | |
|---|---|---|---|---|---|
| | | | | Operation mode: NO | Operation mode: NC |
| M8 (2mm) | Pre-wired (2 m) | 38 mm | Yes | E2E-X2D1-N 2M *1 *2 | E2E-X2D2-N 2M *1 *2 |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm | Yes | E2E-X2D1-M1TGJ 0.3M *4 *5 | --- |
| | M12 Connector | 43 mm | Yes | E2E-X2D1-M1G *5 | E2E-X2D2-M1G *5 |
| | M8 (4-pin) Connector | 39 mm | Yes | E2E-X2D1-M3G | E2E-X2D2-M3G |
| M12 (3 mm) | Pre-wired (2 m) | 47 mm | Yes | E2E-X3D1-N 2M *1 *2 *3 | E2E-X3D2-N 2M *1 *2 *3 |
| | | 69 mm | | E2E-X3D1L 2M *1 *3 | E2E-X3D2L 2M *1 |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm | Yes | E2E-X3D1-M1TGJ 0.3M *4 *5 | --- |
| | | | No | E2E-X3D1-M1TJ-T 0.3M | --- |
| | M12 Pre-wired Standard Connector (0.3 m) | 47 mm | No | --- | E2E-X3D2-M1GJ-T 0.3M |
| | M12 Connector | 48 mm | Yes | E2E-X3D1-M1G *3 *5 | E2E-X3D2-M1G *5 |
| M18 (7 mm) | Pre-wired (2 m) | 55 mm | Yes | E2E-X7D1-N 2M *1 *2 *3 | E2E-X7D2-N 2M *1 *2 *3 |
| | | 77 mm | | E2E-X7D1L 2M *1 *3 | E2E-X7D2L 2M *1 |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm | Yes | E2E-X7D1-M1TGJ 0.3M *4 *5 | --- |
| | | | No | E2E-X7D1-M1TJ-T 0.3M | --- |
| | M12 Pre-wired Standard Connector (0.3 m) | 55 mm | No | --- | E2E-X7D2-M1GJ-T 0.3M |
| | M12 Connector | 53 mm | Yes | E2E-X7D1-M1G *3 *5 | E2E-X7D2-M1G *5 |
| M30 (10 mm) | Pre-wired (2 m) | 60 mm | Yes | E2E-X10D1-N 2M *1 *2 | E2E-X10D2-N 2M *1 *3 |
| | | 82 mm | | E2E-X10D1L 2M *1 *3 | E2E-X10D2L 2M *1 |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm | Yes | E2E-X10D1-M1TGJ 0.3M *3 *4 *5 | --- |
| | | | No | E2E-X10D1-M1TJ-T 0.3M | --- |
| | M12 Connector | 58 mm | Yes | E2E-X10D1-M1G *3 *5 | E2E-X10D2-M1G *5 |

### Unshielded Models

| Size (Sensing distance) | Connection method | Body size | Polarity | Model | |
|---|---|---|---|---|---|
| | | | | Operation mode: NO | Operation mode: NC |
| M8 (4 mm) | Pre-wired (2 m) | 38 mm | Yes | E2E-X4MD1 2M *1 *2 | E2E-X4MD2 2M *1 *2 |
| | M12 Connector | 43 mm | Yes | E2E-X4MD1-M1G *5 | E2E-X4MD2-M1G *5 |
| | M8 (4-pin) Connector | 39 mm | Yes | E2E-X4MD1-M3G | E2E-X4MD2-M3G |
| M12 (8 mm) | Pre-wired (2 m) | 47 mm | Yes | E2E-X8MD1 2M *1 *2 | E2E-X8MD2 2M *1 *3 |
| | | 69 mm | | E2E-X8MD1L 2M *1 *3 | E2E-X8MD2L 2M *1 |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm | Yes | E2E-X8MD1-M1TGJ 0.3M *4 *5 | --- |
| | M12 Connector | 48 mm | Yes | E2E-X8MD1-M1G *3 *5 | E2E-X8MD2-M1G *5 |
| M18 (14 mm) | Pre-wired (2 m) | 55 mm | Yes | E2E-X14MD1 2M *1 *2 *3 | E2E-X14MD2 2M *1 *2 *3 |
| | | 77 mm | | E2E-X14MD1L 2M *1 *3 | E2E-X14MD2L 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm | Yes | E2E-X14MD1-M1TGJ 0.3M *4 *5 | --- |
| | M12 Connector | 53 mm | Yes | E2E-X14MD1-M1G *3 *5 | E2E-X14MD2-M1G *5 |
| M30 (20 mm) | Pre-wired (2 m) | 60 mm | Yes | E2E-X20MD1 2M *1 *2 *3 | E2E-X20MD2 2M *1 *3 |
| | | 82 mm | | E2E-X20MD1L 2M *1 *3 | E2E-X20MD2L 2M *1 |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm | Yes | E2E-X20MD1-M1TGJ 0.3M *4 *5 | --- |
| | M12 Connector | 58 mm | Yes | E2E-X20MD1-M1G *3 *5 | E2E-X20MD2-M1G *5 |

*1. Models with 5-m cable length are also available with "5M" suffix. (Example: E2E-X2D1-N 5M)
*2. Models with a 2-m or 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X2D1-R 2M/E2E-X2D1-R 5M)
*3. Models with different frequencies are also available. The model number is E2E-X□D□5. (Example: E2E-X3D15-N 2M/E2E-X3D15L 2M)
*4. M12 Pre-wired Standard Connector Models with a 0.3-m cable are also available. The model numbers of models with IEC pin arrangement include "-M1GJ". (Example: E2E-X2D1-M1GJ 0.3M)
The model numbers of models with old pin arrangement include "-M1J". (Example: E2E-X2D1-M1J 0.3M)
Models with old pin arrangement of M12 Pre-wired Smartclick Connector Models are also available. The model numbers include "-M1TJ". (Example: E2E-X3D1-M1TJ 0.3M)
*5. Models with old pin arrangement are also available. The model number is E2E-X□D□-M1. (Example: E2E-X2D1-M1)

## Sensors

### DC 2-wire (Double distance model) [Refer to *Dimensions* on page 85.]

**Shielded Models**

| Size (Sensing distance) | Connection method | Body size | Polarity | Model | |
|---|---|---|---|---|---|
| | | | | Operation mode: NO | Operation mode: NC |
| M12 (4 mm) | Pre-wired (2 m) | 47 mm | No | **E2E-X4D1-T 2M *1** | **E2E-X4D2-T 2M *1** |
| M18 (8 mm) | Pre-wired (2 m) | 55 mm | No | **E2E-X8D1-T 2M *1** | **E2E-X8D2-T 2M *1** |
| M30 (15 mm) | Pre-wired (2 m) | 60 mm | No | **E2E-X15D1-T 2M *1** | **E2E-X15D2-T 2M *1** |

**Unshielded Models**

| Size (Sensing distance) | Connection method | Body size | Polarity | Model | |
|---|---|---|---|---|---|
| | | | | Operation mode: NO | Operation mode: NC |
| M18 (16 mm) | Pre-wired (2 m) | 77 mm | No | **E2E-X16MD1L-T 2M *1** | **E2E-X16MD2L-T 2M** |
| M30 (30 mm) | Pre-wired (2 m) | 82 mm | No | **E2E-X30MD1L-T 2M *1** | **E2E-X30MD2L-T 2M *1** |

*1. Models with 5-m cable length are also available with "5M" suffix. (Example: E2E-X4D1-T 5M)

### DC 2-wire (Single distance model) [Refer to *Dimensions* on page 88.]

**Shielded Models**

| Size (Sensing distance) | Connection method | Polarity | Model | |
|---|---|---|---|---|
| | | | Operation mode: NO | Operation mode: NC |
| M8 (1.5 mm) | Pre-wired (2 m) *2 *3 | 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 (0.3 m) *4 | 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 (2 m) *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 (0.3 m) *4 | 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 (2 m) *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 (0.3 m) *4 | 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 a 2-m or 5-m robot (bending-resistant) cables are also available with "-R" in the model number. (Example: E2E-X1R5D1-R-N 2M/ E2E-X1R5D1-R-N 5M)
*3. Models with M12 Smartclick connector model robot (bending-resistant) cables are also available with "R" in the model number. (Example: E2E-X1R5D1-M1TGJR 0.3M/E2E-X1R5D1-M1TGJR-T 0.3M)

## Accessories (Sold Separately)

### Nut Sets

**A Nut Set is included with the Sensor. Order a Nut Set when required, e.g., if you lose the nuts.**

| Model | Applicable Sensors | Applicable Sensor diameter | Set contents |
|---|---|---|---|
| **Y92E-NWM08-E2E** | E2E NEXT Series<br>Standard model (Shielded/Unshielded Models)<br>Single distance model (Shielded Models) | M8 | Clamping nuts<br>(bronze with nickel plating): 2<br>Toothed washer<br>(iron with zinc plating): 1 |
| **Y92E-NWM12-E2E** | E2E NEXT Series<br>Standard model (Shielded/Unshielded Models)<br>Double distance model (Shielded Models)<br>Single distance model (Shielded Models) | M12 | |
| **Y92E-NWM18-E2E** | E2E NEXT Series<br>Standard model (Shielded/Unshielded Models)<br>Double distance model (Shielded/Unshielded Models)<br>Single distance model (Shielded Models) | M18 | |
| **Y92E-NWM30-E2E** | E2E NEXT Series<br>Standard model (Shielded/Unshielded Models)<br>Double distance model (Shielded/Unshielded Models) | M30 | |

## Sensor I/O Connectors (Sold Separately)

For details of the connector, refer to XS5 NEXT Series Round Oil-resistant Connectors (M12 Smartclick) on page 108.
For details of the connector, refer to XS5 Series Round Water-resistant Connectors (M12 Smartclick) on page 111.
For details of the connector, refer to XS3 Series Round Water-resistant Connectors (M8) on page 115.

# Ratings and Specifications

## DC 2-wire (Standard model)

| Item | | Size | M8 | | M12 | | M18 | | M30 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Shielded | Shielded | Unshielded | Shielded | Unshielded | Shielded | Unshielded | Shielded | Unshielded |
| | | Model | E2E-X2D□ | E2E-X4MD□ | E2E-X3D□ | E2E-X8MD□ | E2E-X7D□ | E2E-X14MD□ | E2E-X10D□ | E2E-X20MD□ |
| Sensing distance | | | 2 mm ±10% | 4 mm ±10% | 3 mm ±10% | 8 mm ±10% | 7 mm ±10% | 14 mm ±10% | 10 mm ±10% | 20 mm ±10% |
| Setting distance *1 | | | 0 to 1.6 mm | 0 to 3.2 mm | 0 to 2.4 mm | 0 to 6.4 mm | 0 to 5.6 mm | 0 to 11.2 mm | 0 to 8 mm | 0 to 16 mm |
| Differential travel | | | 15% max. of sensing distance | | 10% max. of sensing distance | | | | | |
| Detectable object | | | Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to *Engineering Data* on page 80.) | | | | | | | |
| Standard sensing object | | | Iron, 8 × 8 × 1 mm | Iron, 20 × 20 × 1 mm | Iron, 12 × 12 × 1 mm | Iron, 30 × 30 × 1 mm | Iron, 18 × 18 × 1 mm | Iron, 30 × 30 × 1 mm | Iron, 30 × 30 × 1 mm | Iron, 54 × 54 × 1 mm |
| Response frequency *2 | | | 1.5 kHz | 1 kHz | 1 kHz | 0.8 kHz | 0.5 kHz | 0.4 kHz | 0.4 kHz | 0.1 kHz |
| Power supply voltage | | | 12 to 24 VDC (including 10% ripple (p-p)), Class 2 | | | | | | | |
| 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)<br>No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m) | | | | | | | |
| Indicator | | | D1 Models: Operation indicator (orange), Setting indicator (green)<br>D2 Models: Operation indicator (orange) | | | | | | | |
| Operation mode | | | D1 Models: NO<br>D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 82 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:<br>IP67 (IEC 60529), IP67G *3 (JIS C 0920 Annex 1)<br>Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000, Temperature: 35°C max.) and ISO 20653 (old standard: DIN 40050 PART9) IP69K | | | | | | | |
| Connecting method | | | Pre-wired Models (Standard cable length: 2 m), Pre-wired Connector Models (Standard cable length: 0.3 m),<br>M8 Connector Models and M12 Connector Models | | | | | | | |
| Weight *5 (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 |
| | Connector Models | | Approx. 40 g (M8/M12 Connector) | | Approx. 55 g | | Approx. 85 g | Approx. 80 g | Approx. 160 g | Approx. 150 g |
| Materials | Case | | M8 Size: Stainless steel (SUS303), M12/M18/M30 Size: Nickel-plated brass | | | | | | | |
| | Sensing surface | | Polybutylene terephthalate (PBT) | | | | | | | |
| | Clamping nuts | | Nickel-plated brass | | | | | | | |
| | Toothed washer | | Zinc-plated iron | | | | | | | |
| | Cable | | Vinyl chloride (PVC) Note: Material of Pre-wired Models and Pre-wired Connector Models. | | | | | | | |
| 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).
The Pre-wired Connector Model verifies 2 years of oil resistance when mating with Round Oil-resistant Connectors XS5 NEXT series correctly.
The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models.
*5. Weight of the standard body-sized model.

## DC 2-wire (Double distance model)

| Item | Size | M12 | M18 | | M30 | |
|---|---|---|---|---|---|---|
| | Shielded | Shielded | Unshielded | Shielded | Shielded | Unshielded |
| | Model | E2E-X4D□ | E2E-X8D□ | E2E-X16MD□ | E2E-X15D□ | E2E-X30MD□ |
| Sensing distance | | 4 mm ±10% | 8 mm ±10% | 16 mm ±10% | 15 mm ±10% | 30 mm ±10% |
| Setting distance *1 | | 0 to 3.2 mm | 0 to 6.4 mm | 0 to 12.8 mm | 0 to 12 mm | 0 to 24 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 80.) | | | | |
| Standard sensing object | | Iron, 12 × 12 × 1 mm | Iron, 18 × 18 × 1 mm | Iron, 45 × 45 × 1 mm | Iron, 30 × 30 × 1 mm | Iron, 70 × 70 × 1 mm |
| Response frequency *2 | | 1 kHz | 0.5 kHz | 0.4 kHz | 0.25 kHz | 0.1 kHz |
| Power supply voltage | | 12 to 24 VDC (including 10% ripple (p-p)), Class 2 | | | | |
| Leakage current | | 0.8 mA max. | | | | |
| Control output | Load current | 3 to 100 mA | | | | |
| | Residual voltage | 5 V max. (Load current: 100 mA, Cable length: 2 m) | | | | |
| Indicator | | D1 Models: Operation indicator (orange), Setting indicator (green)<br>D2 Models: Operation indicator (orange) | | | | |
| Operation mode | | D1 Models: NO<br>D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 82 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:<br>IP67 (IEC 60529), IP67G *3 (JIS C 0920 Annex 1)<br>Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000, Temperature: 35°C max.) and ISO 20653 (old standard: DIN 40050 PART9) IP69K | | | | |
| Connecting method | | Pre-wired Models (Standard cable length: 2 m), Pre-wired Connector Models (Standard cable length: 0.3 m) | | | | |
| Weight (packed state) | Pre-wired Models | Approx. 70 g | Approx. 130 g | Approx. 150 g | Approx. 180 g | Approx. 210 g |
| | Pre-wired Connector Models | Approx. 40 g | Approx. 70 g | Approx. 90 g | Approx. 110 g | Approx. 140 g |
| Materials | Case | 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).
The Pre-wired Connector Model verifies 2 years of oil resistance when mating with Round Oil-resistant Connectors XS5 NEXT series correctly.
The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models.

## DC 2-wire (Single distance model)

| 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 80.) | | |
| Standard sensing object | | Iron, 10 × 10 × 1 mm | Iron, 12 × 12 × 1 mm | Iron, 18 × 18 × 1 mm |
| Response frequency *2 | | 250 Hz | 250 Hz | 250 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)<br>No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m) | | |
| Indicator | | D1 Models: Operation indicator (orange), Setting indicator (green)<br>D2 Models: Operation indicator (orange) | | |
| Operation mode | | D1 Models: NO<br>D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 82 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:<br>IP67 (IEC 60529), IP67G *3 (JIS C 0920 Annex 1)<br>Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000, Temperature: 35°C max.) and ISO 20653 (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 | | |

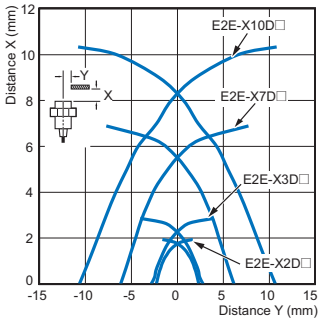
*1. Use the Sensor within the range in which the setting indicator (green LED) is ON (except D2 Models).
*2. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard.
*3. The IP67G is the degree of protection which is 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).
The Pre-wired Connector Model verifies 2 years of oil resistance when mating with Round Oil-resistant Connectors XS5 NEXT series correctly.
The degree of protection is not satisfied with the part where cable wires are uncovered for the Pre-wired Models.

# Engineering Data (Reference Value)

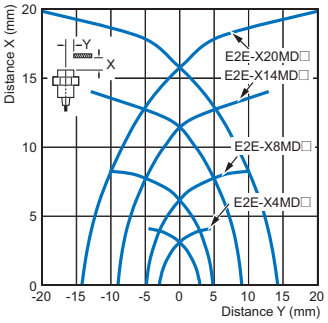
## Sensing Area

### Standard model

#### Shielded

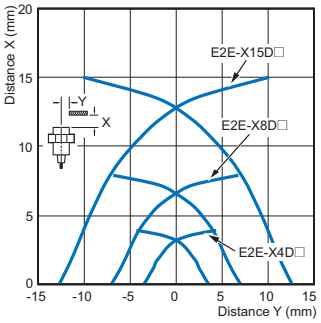



#### Unshielded

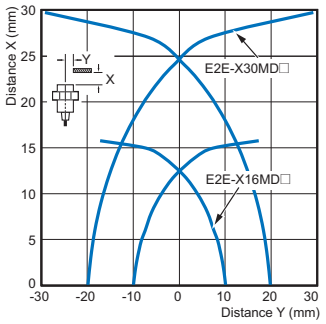



### Double distance model

#### Shielded

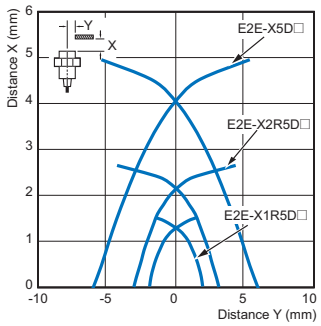



#### Unshielded




### Single distance model

#### Shielded

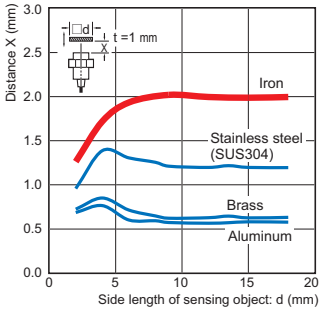



## Influence of Sensing Object Size and Materials

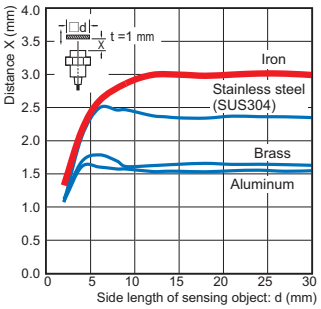
### Standard model

#### Shielded

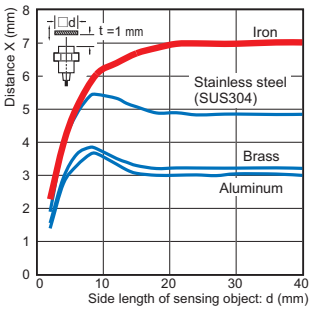
**Size: M8 E2E-X2D□**



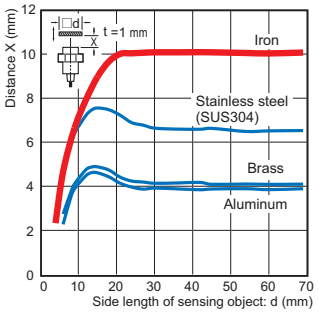

**Size: M12 E2E-X3D□**




**Size: M18 E2E-X7D□**

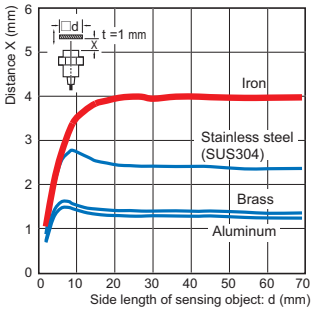



**Size: M30 E2E-X10D□**

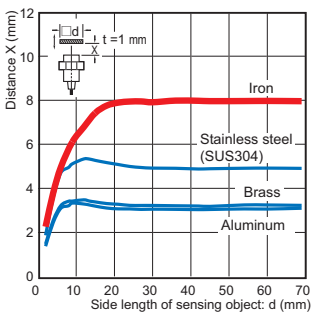



#### Unshielded

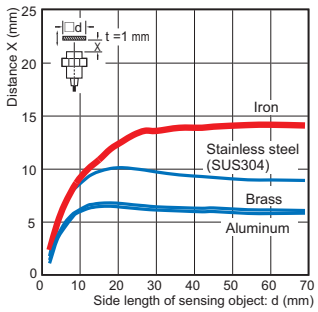
**Size: M8 E2E-X4MD□**



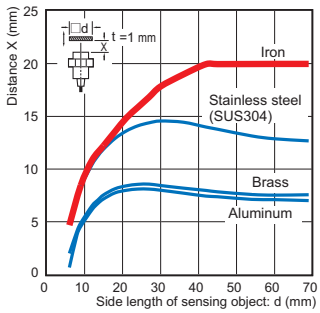

**Size: M12 E2E-X8MD□**




**Size: M18 E2E-X14MD□**




**Size: M30 E2E-X20MD□**

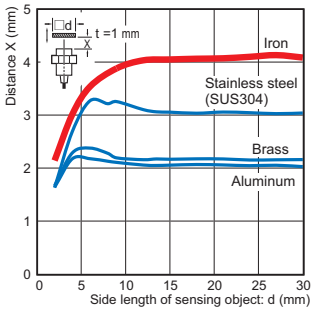


## Influence of Sensing Object Size and Materials

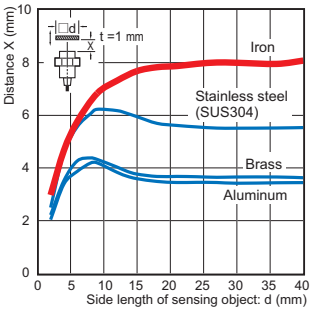
### Double distance model

#### Shielded

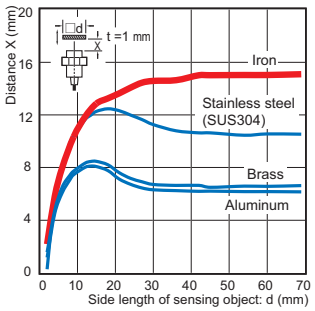
**Size: M12 E2E-X4D□**




**Size: M18 E2E-X8D□**

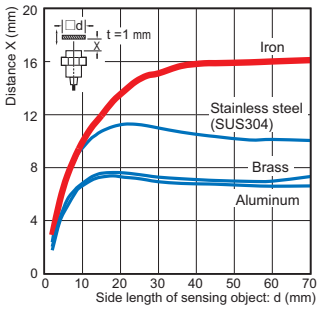



**Size: M30 E2E-X15D□**

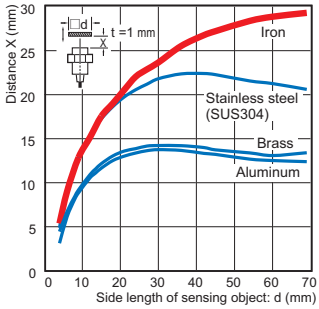



#### Unshielded

**Size: M18 E2E-X16MD□**



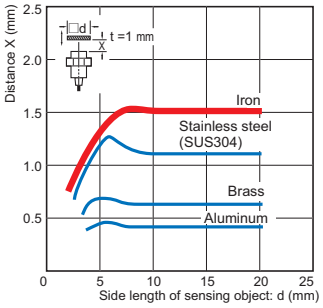

**Size: M30 E2E-X30MD□**



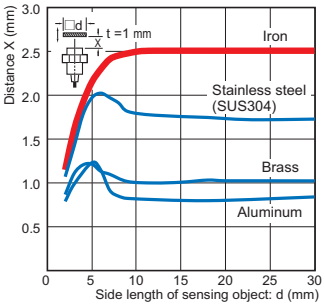

### Single distance model

#### Shielded

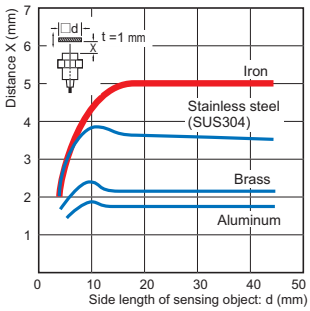
**Size: M8 E2E-X1R5D□**




**Size: M12 E2E-X2R5D□**



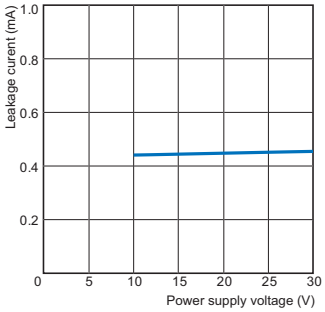

**Size: M18 E2E-X5D□**




## Leakage Current

**Standard/Double distance/ Single distance model Shielded/Unshielded**

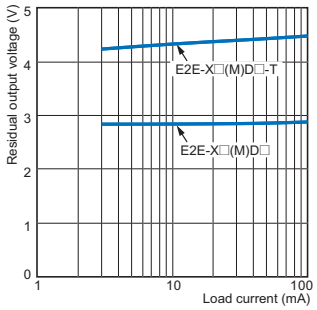
**E2E-X□(M)D□(-T)**




## Residual Output Voltage

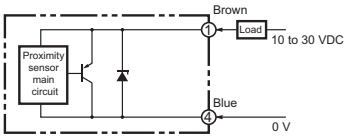
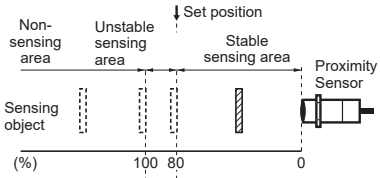
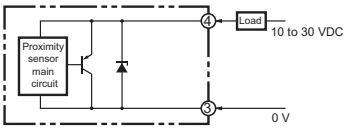
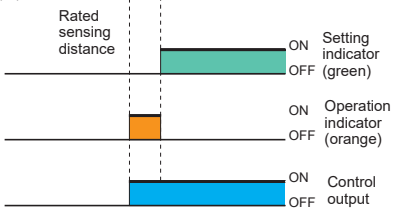
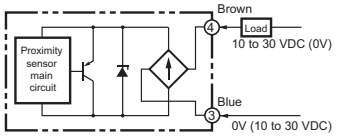
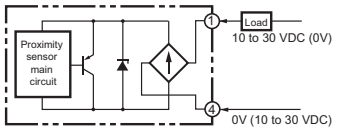
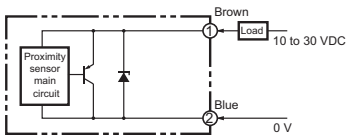
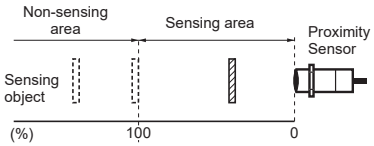
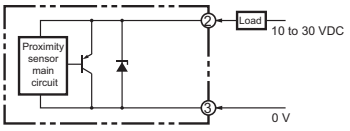
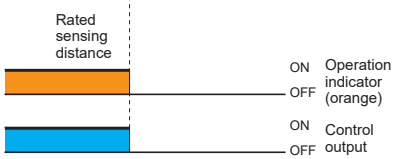
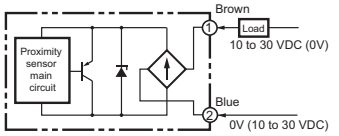
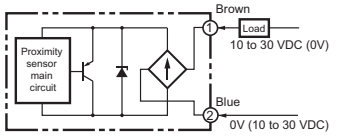
**Standard/Double distance/ Single distance model Shielded/Unshielded**

**E2E-X□(M)D□(-T)**



# I/O Circuit Diagrams

## DC 2-wire (Standard/Double distance/Single distance model)

| Operation mode | Model | Timing Chart | Output circuit |
|---|---|---|---|
| NO | E2E-X□D1<br>E2E-X□D1-M1(T)G(J)<br>E2E-X□D1-M3G | |  <br>Note: The load can be connected to either the +V or 0 V side. |
| | E2E-X□D1-M1(T)J |  |  <br>Note: The load can be connected to either the +V or 0 V side. |
| | E2E-X□D1-T<br>E2E-X□D1-M1(T)(J)-T<br>(Standard/Double distance model)<br><br>E2E-X□D1-M1(T)G(J)-T<br>(Single distance model) |  |  <br>Note1. The load can be connected to either the +V or 0 V side.<br>2. There is no polarity. Therefore, no need to be concerned about the polarity of brown and blue wires, or pins 3 and 4. |
| | E2E-X□D1-M1(T)G(J)-T<br>(Standard/Double distance model) | |  <br>Note1. The load can be connected to either the +V or 0 V side.<br>2. There is no polarity. Therefore, no need to be concerned about the polarity of pins 1 and 4. |
| NC | E2E-X□D2<br>E2E-X□D2-M1(T)G(J)<br>E2E-X□D2-M3G | |  <br>Note: The load can be connected to either the +V or 0 V side. |
| | E2E-X□D2-M1(T)(J) |  |  <br>Note: The load can be connected to either the +V or 0 V side. |
| | E2E-X□D2-T<br>E2E-X□D2-M1(T)(J)-T<br>(Standard/Double distance model)<br><br>E2E-X□D2-M1(T)G(J)-T<br>(Single distance model) |  |  <br>Note1. The load can be connected to either the +V or 0 V side.<br>2. There is no polarity. Therefore, no need to be concerned about the polarity of brown and blue wires, or pins 1 and 2. |
| | E2E-X□D2-M1(T)G(J)-T<br>(Standard/Double distance model) | |  <br>Note1. The load can be connected to either the +V or 0 V side.<br>2. There is no polarity. Therefore, no need to be concerned about the polarity of brown and blue wires, or pins 1 and 2. |

**Note:** For the Pre-wired Connector Models, the core wire color and pin number are different.

### Connector Pin Arrangement

| M12 Connector<br>M12 Smartclick Connector | M8 (4-pin) Connector |
|---|---|
| **-M1/M1G**<br>**-M1T□□**<br>  | **-M3G**<br>  |

# 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**<br>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**<br>Indicates the instructions of unspecified prohibited action. |
|  | **Caution, explosion**<br>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 the product according to applicable regulations (laws).

## Precautions for Correct Use

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

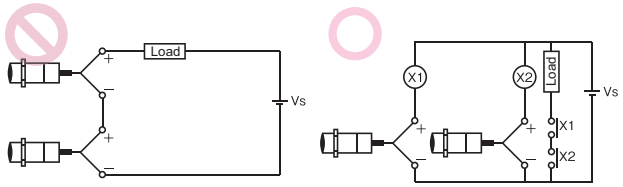
### Operating Environment

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.

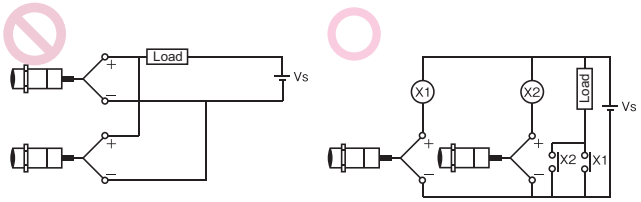
### AND Connection of Proximity Sensors

Two or more sensors cannot be connected in series on the AND circuit. Use them via a relay as shown on the figure.




### OR Wiring of Proximity Sensors

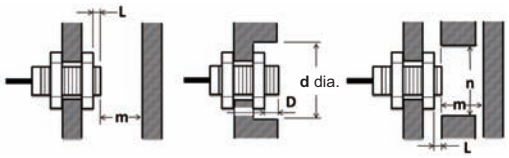
As a general principle, two or more sensors cannot be used in parallel on the OR circuit. It is possible only when sensors do not operate simultaneously and loads do not need to be maintained. When loads need to be maintained, use the sensors via a relay as shown on the figure.



## 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.
When mounting the Proximity Sensor using a nut, only use the provided nut. Nuts that are supplied along with each Sensor are different. Refer to Dimensions for details on shapes.




(Unit: mm)

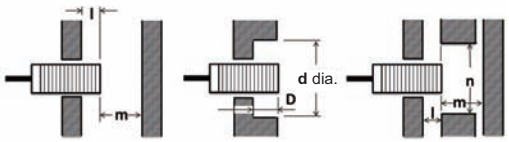
**Shielded**

| Type | Size | Model | L | d | D | m | n |
|---|---|---|---|---|---|---|---|
| Standard model | M8 | E2E-X2D□ | 0 | 8 | 0 | 4.5 | 12 |
| | M12 | E2E-X3D□ | 0 | 12 | 0 | 8 | 18 |
| | M18 | E2E-X7D□ | 0 | 18 | 0 | 20 | 27 |
| | M30 | E2E-X10D□ | 0 | 30 | 0 | 40 | 45 |
| Double distance model | M12 | E2E-X4D□ | 0 | 18 | 0 | 12 | 18 |
| | M18 | E2E-X8D□ | 0 | 27 | 0 | 24 | 27 |
| | M30 | E2E-X15D□ | 0 | 45 | 0 | 45 | 45 |
| Single distance model | M8 | E2E-X1R5D□ | 0 | 8 | 0 | 4.5 | 12 |
| | M12 | E2E-X2R5D□ | 0 | 12 | 0 | 8 | 18 |
| | M18 | E2E-X5D□ | 0 | 18 | 0 | 20 | 27 |

**Unshielded**

| Type | Size | Model | L | d | D | m | n |
|---|---|---|---|---|---|---|---|
| Standard model | M8 | E2E-X4MD□ | 9 | 24 | 9 | 8 | 24 |
| | M12 | E2E-X8MD□ | 11 | 40 | 11 | 20 | 40 |
| | M18 | E2E-X14MD□ | 18 | 55 | 18 | 40 | 54 |
| | M30 | E2E-X20MD□ | 25 | 90 | 25 | 70 | 90 |
| Double distance model | M18 | E2E-X16MD□ | 21 | 70 | 21 | 48 | 70 |
| | M30 | E2E-X30MD□ | 40 | 120 | 40 | 90 | 120 |

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




(Unit: mm)

**Shielded**

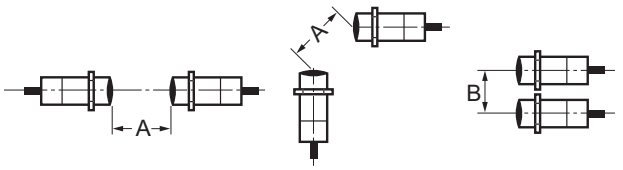
| Type | Size | Model | l | d | D | m | n |
|---|---|---|---|---|---|---|---|
| Standard model | M8 | E2E-X2D□ | 0 | 8 | 0 | 4.5 | 12 |
| | M12 | E2E-X3D□ | 0 | 12 | 0 | 8 | 18 |
| | M18 | E2E-X7D□ | 0 | 18 | 0 | 20 | 27 |
| | M30 | E2E-X10D□ | 0 | 30 | 0 | 40 | 45 |
| Double distance model | M12 | E2E-X4D□ | 2.4 | 18 | 2.4 | 12 | 18 |
| | M18 | E2E-X8D□ | 3.6 | 27 | 3.6 | 24 | 27 |
| | M30 | E2E-X15D□ | 6 | 45 | 6 | 45 | 45 |
| Single distance model | M8 | E2E-X1R5D□ | 0 | 8 | 0 | 4.5 | 12 |
| | M12 | E2E-X2R5D□ | 0 | 12 | 0 | 8 | 18 |
| | M18 | E2E-X5D□ | 0 | 18 | 0 | 20 | 27 |

**Unshielded**

| Type | Size | Model | l | d | D | m | n |
|---|---|---|---|---|---|---|---|
| Standard model | M8 | E2E-X4MD□ | 12 | 24 | 12 | 8 | 24 |
| | M12 | E2E-X8MD□ | 15 | 40 | 15 | 20 | 40 |
| | M18 | E2E-X14MD□ | 22 | 55 | 22 | 40 | 54 |
| | M30 | E2E-X20MD□ | 30 | 90 | 30 | 70 | 90 |
| Double distance model | M18 | E2E-X16MD□ | 25 | 70 | 25 | 48 | 70 |
| | M30 | E2E-X30MD□ | 45 | 120 | 45 | 90 | 120 |

## Mutual Interference

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




(Unit: mm)

**Shielded**

| Type | Size | Model | A | B |
|---|---|---|---|---|
| Standard model | M8 | E2E-X2D□ | 20 | 15 |
| | M12 | E2E-X3D□ | 30(20) | 20(12) |
| | M18 | E2E-X7D□ | 50(30) | 35(18) |
| | M30 | E2E-X10D□ | 100(50) | 70(35) |
| Double distance model | M12 | E2E-X4D□ | 30 | 20 |
| | M18 | E2E-X8D□ | 60 | 35 |
| | M30 | E2E-X15D□ | 110 | 90 |
| Single distance model | M8 | E2E-X1R5D□ | 20 | 15 |
| | M12 | E2E-X2R5D□ | 30 | 20 |
| | M18 | E2E-X5D□ | 50 | 35 |

**Unshielded**

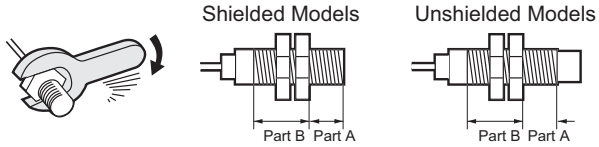
| Type | Size | Model | A | B |
|---|---|---|---|---|
| Standard model | M8 | E2E-X4MD□ | 80 | 60 |
| | M12 | E2E-X8MD□ | 120(60) | 100(50) |
| | M18 | E2E-X14MD□ | 200(100) | 110(60) |
| | M30 | E2E-X20MD□ | 300(100) | 200(100) |
| Double distance model | M18 | E2E-X16MD□ | 200 | 120 |
| | M30 | E2E-X30MD□ | 350 | 300 |

**Note: 1.** Values in parentheses apply to Sensors operating at different frequencies.
**2.** The values of mutual interference are provided for reference. Test the sensors on the actual machine or contact your OMRON sales representative to validate that there is no interference.

## Mounting

### Tightening Force

Do not tighten the sensor mounting nuts with excessive force. Secure the mounting nuts to the corresponding torque values in the following table.




**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.

**Standard/Double distance model**

| Model | | Part A | | Part B |
|---|---|---|---|---|
| | | Dimension (mm) | Torque | Torque |
| M8 | Shielded | 9 | 9 N·m | 12 N·m |
| | Unshielded | 3 | | |
| M12 | --- | --- | 30 N·m | |
| M18 | --- | --- | 70 N·m | |
| M30 | --- | --- | 180 N·m | |

**Single distance model**

| 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.

## Sensor

### DC 2-wire (Standard/Double distance model)

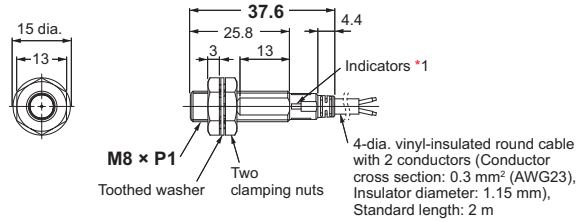
**Pre-wired Models**
**Pre-wired Connector Models**
**(Shielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

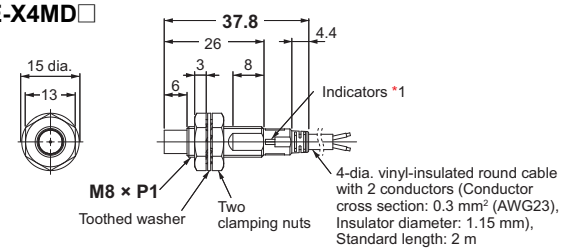
**Pre-wired Models**
**Pre-wired Connector Models**
**(Unshielded)**

**Note:** Refer to the figure below the table for the connections of the Pre-wired Connector Model.

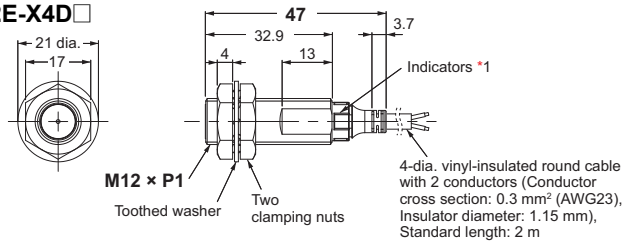
**E2E-X2D□**



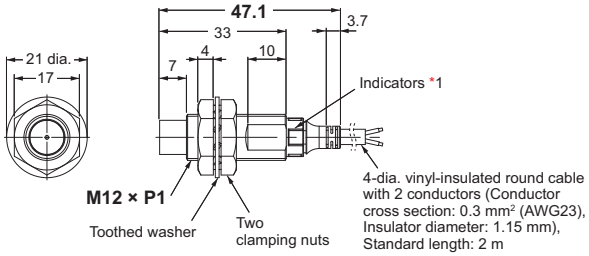

**E2E-X4MD□**



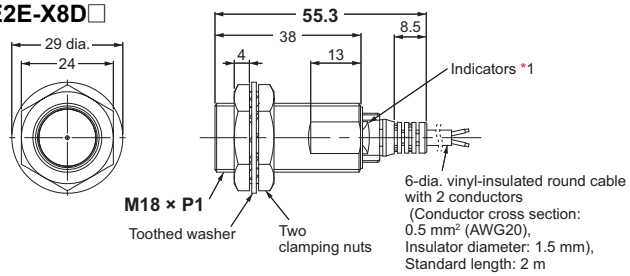

**E2E-X3D□**
**E2E-X4D□**



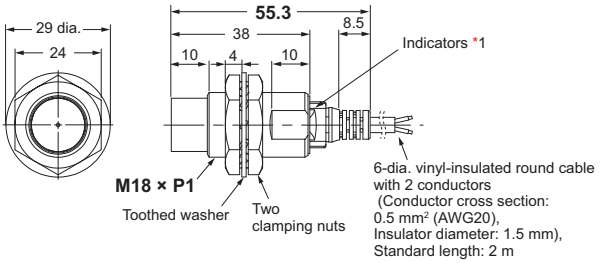

**E2E-X8MD□**



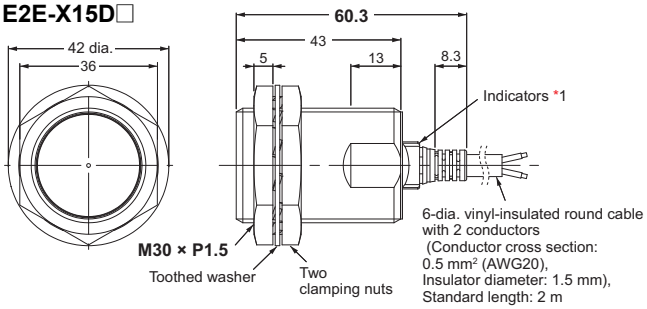

**E2E-X7D□**
**E2E-X8D□**



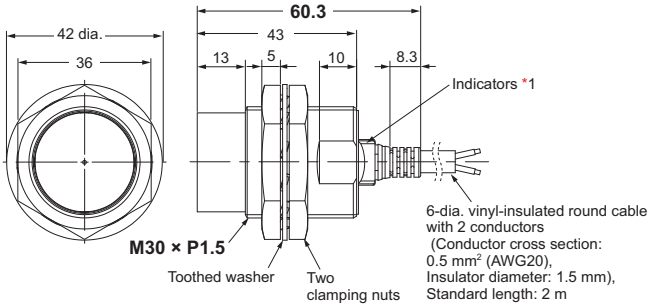

**E2E-X14MD□**




**E2E-X10D□**
**E2E-X15D□**

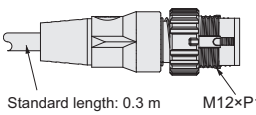



**E2E-X20MD□**




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

### Pre-wired Connector Models (-M1TGJ)



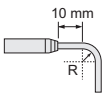

**Note:** Refer to the Pre-wired Model for the cable specifications of the Pre-wired Connector Model.

### 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. $^{+0.5}_{0}$ |

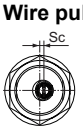
**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

### 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 | |

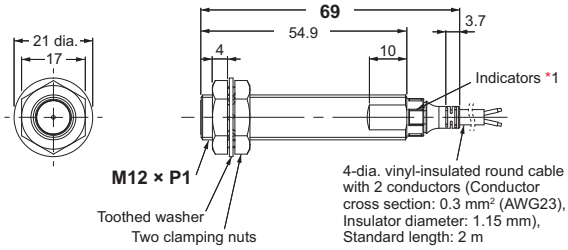
# Sensor

## DC 2-wire (Long-body Standard/Double distance model)

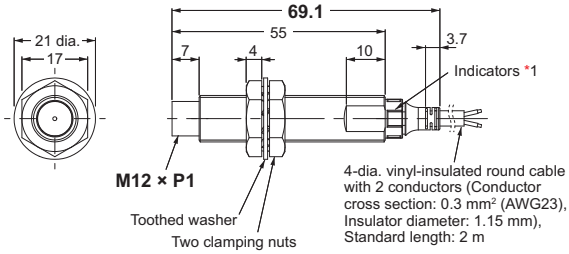
### Pre-wired Models (Shielde)

### Pre-wired Models (Unshielded)

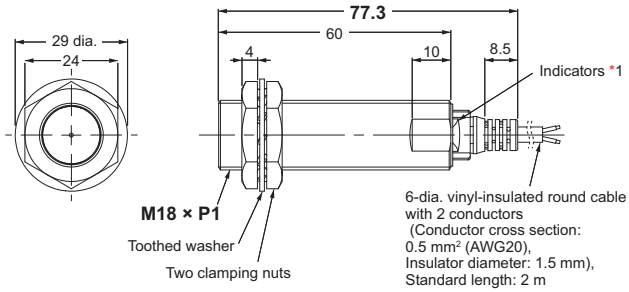
### E2E-X3D□L



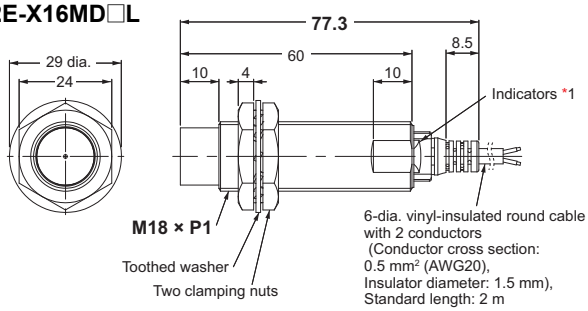

### E2E-X8MD□L



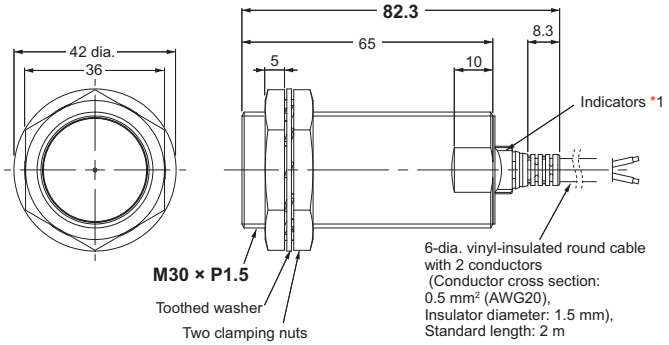

### E2E-X7D□L



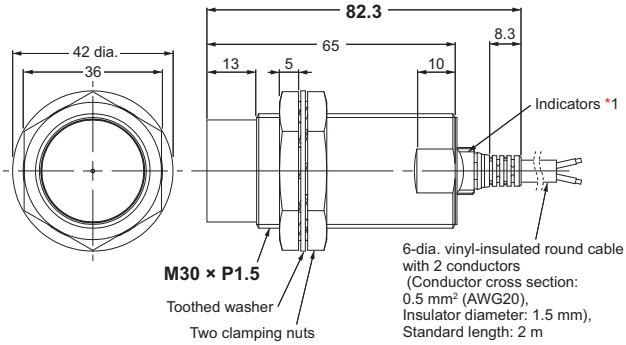

### E2E-X14MD□L
### E2E-X16MD□L



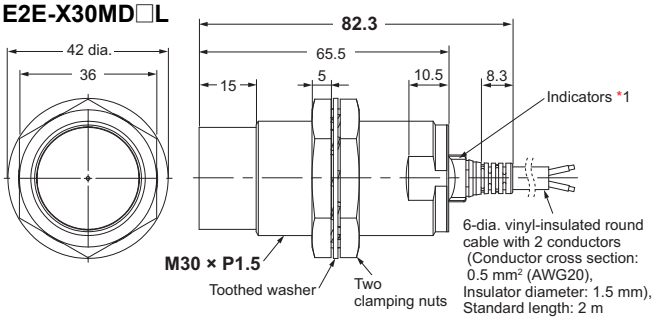

### E2E-X10D□L




### E2E-X20MD□L




### E2E-X30MD□L

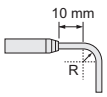



*1. D1 Models: Operation indicator (Orange), Setting indicator (Green)/ D2 Models: Operation indicator (Orange)

### Mounting Hole Dimensions

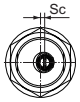

| Dimensions | F (mm) |
|---|---|
| M8 | 8.5 dia. $^{+0.5}_{0}$ |
| M12 | 12.5 dia. $^{+0.5}_{0}$ |
| M18 | 18.5 dia. $^{+0.5}_{0}$ |
| M30 | 30.5 dia. $^{+0.5}_{0}$ |

### 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 | |

**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

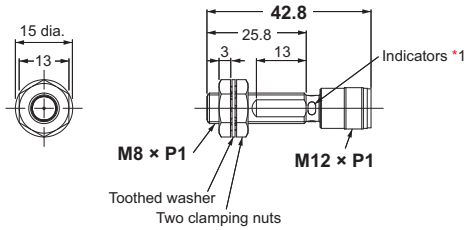
# Sensor

## DC 2-wire (Standard model)

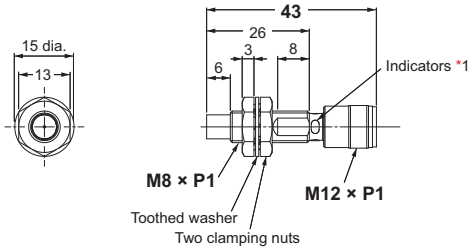
### M12 Connector Models (Shielded)

### M12 Connector Models (Unshielded)

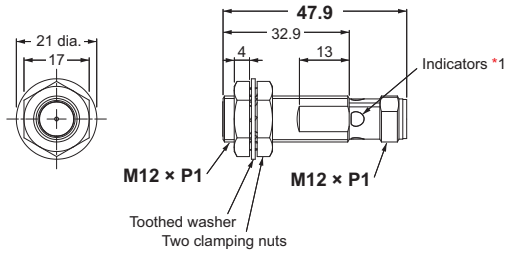
#### E2E-X2D□-M1/-M1G



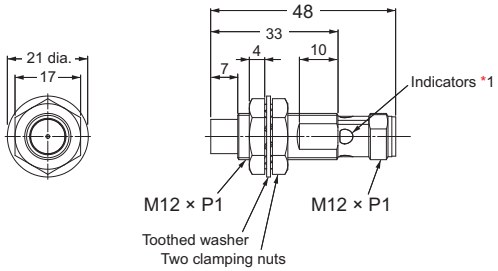

#### E2E-X4MD□-M1/-M1G



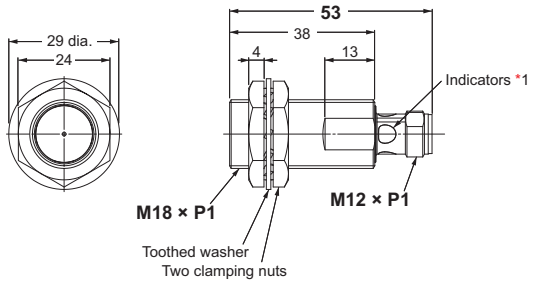

#### E2E-X3D□-M1/-M1G



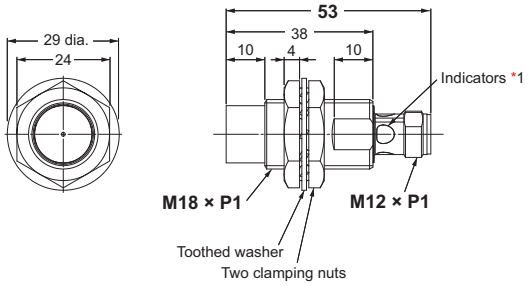

#### E2E-X8MD□-M1/-M1G



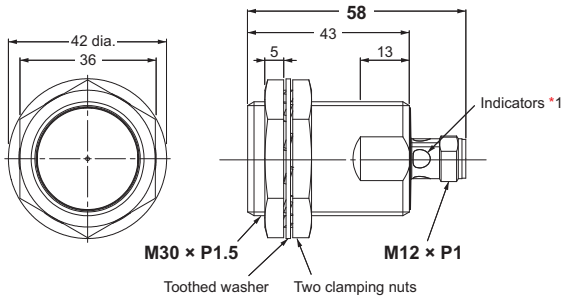

#### E2E-X7D□-M1/-M1G



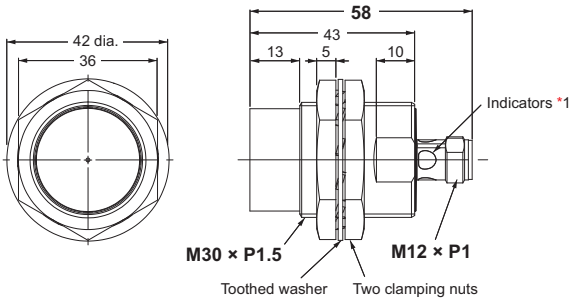

#### E2E-X14MD□-M1/-M1G




#### E2E-X10D□-M1/-M1G




#### E2E-X20MD□-M1/-M1G




*1. 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. $^{+0.5}_{0}$ |

**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

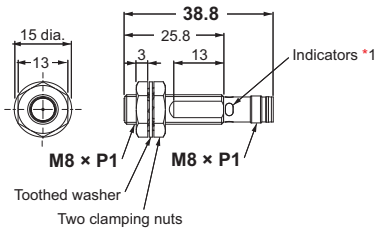
# Sensor

## DC 2-wire (Standard model)

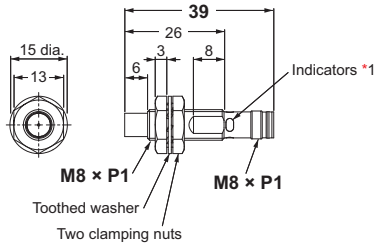
### M8 Connector Models (Shielded)

### M8 Connector Models (Unshielded)

**E2E-X2D□-M3G**




**E2E-X4MD□-M3G**

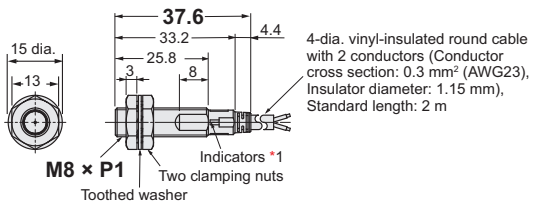



## DC 2-wire (Single distance model)

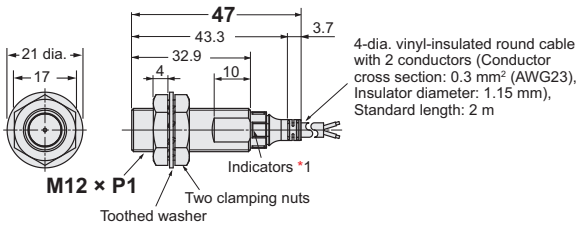
### Pre-wired Models
### Pre-wired Connector Models (Shielded)

**Note: 1.**
Refer to the figure below the table for the connections of the Pre-wired Connector Model.

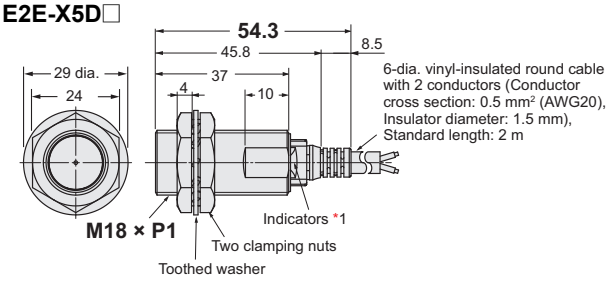
**E2E-X1R5D□**




**E2E-X2R5D□**

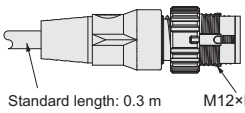



**E2E-X5D□**




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

### Pre-wired Connector Models (-M1TGJ)



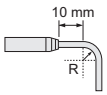

**Note:** Refer to the Pre-wired Model for the cable specifications of the Pre-wired Connector Model.

### 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. $^{+0.5}_{0}$ |

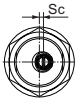
**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

### 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 | |

# E2EQ NEXT Series

## DC 3-wire/DC 2-wire

## Enables easier and standardized designs previously not possible with fluororesin coating models

- Nearly double*1 the sensing distance of previous
- With high-brightness LED, the indicator is visible anywhere from 360°
- Comes in a wide variation to make sensor selection easy
- UL certification (UL60947-5-2)*2 and CSA certification (CSA C22.2 UL60947-5-2-14)

*1. Comparison with E2EQ products. Based on September 2021 OMRON investigation.
*2. M8 (4-pin) Connector Models are not UL certified.

Be sure to read *Safety Precautions* on page 104.

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

## E2EQ NEXT Series Model Number Legend

E2EQ - X (1) (2) (3) (4) (5) (6) - (7) - (8) (9)

| No. | Type | Code | Meaning | Remarks |
|---|---|---|---|---|
| (1) | Sensing distance | Number | Sensing distance (Unit: mm)<br>(R: Indication of decimal point) | |
| (2) | Output configuration | B | PNP open collector | Whether the D model has polarity is defined by number (7). |
| | | C | NPN open collector | |
| | | D | DC 2-wire polarity/no polarity | |
| (3) | Operation mode | 1 | Normally open (NO) | |
| | | 2 | Normally closed (NC) | |
| | | 3 | Normally open, Normally closed (NO+NC) | |
| (4) | IO-Link baud rate | Blank | Non IO-Link compliant | |
| | | D | COM2 (38.4 kbps) | |
| | | T | COM3 (230.4 kbps) | |
| (5) | Size | 8 | M8 | |
| | | 12 | M12 | |
| | | 18 | M18 | |
| | | 30 | M30 | |
| (6) | Connection method | Blank | Pre-wired Models | |
| | | M1 | M12 Connector Models | |
| | | M3 | M8 (4-pin) Connector Models | |
| | | M5 | M8 (3-pin) Connector Models | |
| | | M1GJ | M12 Pre-wired Standard Connector Models DC 2-wire | |
| | | M1TGJ | M12 Pre-wired Smartclick Connector Models DC 2-wire | |
| | | M1TGJR | M12 Pre-wired Smartclick Connector Models<br>Robot (bending-resistant) cable DC 2-wire | |
| | | M1TJ | M12 Pre-wired Smartclick Connector Models DC 3-wire | |
| | | M1TJR | M12 Pre-wired Smartclick Connector Models<br>Robot (bending-resistant) cable DC 3-wire | |
| (7) | DC 2-wire polarity | Blank | Polarity | |
| | | T | No polarity | |
| (8) | Cable specifications *1 | Blank | Standard PVC cable | |
| | | R | Robot (bending-resistant) cable | |
| (9) | Cable length | Number M | Cable length | |

*1. (8) is only shown in the model number of Pre-wired Models.

**Note:** The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number.

# E2EQ NEXT Series

# Ordering Information

## Sensors

BASIC Model

### E2EQ NEXT Series (Spatter-resistant Double distance model)

DC 3-wire Shielded [Refer to *Ratings and Specification* on page 93, *Dimension* on page 106.]

| Size (Sensing distance) | Connection method *2 | Body size | Operation mode *3 | Model | |
|---|---|---|---|---|---|
| | | | | PNP | NPN |
| M8 (2 mm) | Pre-wired (2 m) *1 | 38 mm | NO | E2EQ-X2B1D8 2M | E2EQ-X2C18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm | NO | E2EQ-X2B1D8-M1TJ 0.3M | E2EQ-X2C18-M1TJ 0.3M |
| M12 (4 mm) | Pre-wired (2 m) *1 | 47 mm | NO | E2EQ-X4B1D12 2M | E2EQ-X4C112 2M |
| | | | NO+NC | E2EQ-X4B3D12 2M | E2EQ-X4C312 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm | NO | E2EQ-X4B1D12-M1TJ 0.3M | E2EQ-X4C112-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X4B3D12-M1TJ 0.3M | E2EQ-X4C312-M1TJ 0.3M |
| M18 (8 mm) | Pre-wired (2 m) *1 | 55 mm | NO | E2EQ-X8B1D18 2M | E2EQ-X8C118 2M |
| | | | NO+NC | E2EQ-X8B3D18 2M | E2EQ-X8C318 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm | NO | E2EQ-X8B1D18-M1TJ 0.3M | E2EQ-X8C118-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X8B3D18-M1TJ 0.3M | E2EQ-X8C318-M1TJ 0.3M |
| M30 (15 mm) | Pre-wired (2 m) *1 | 60 mm | NO | E2EQ-X15B1D30 2M | E2EQ-X15C130 2M |
| | | | NO+NC | E2EQ-X15B3D30 2M | E2EQ-X15C330 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm | NO | E2EQ-X15B1D30-M1TJ 0.3M | E2EQ-X15C130-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X15B3D30-M1TJ 0.3M | E2EQ-X15C330-M1TJ 0.3M |

BASIC Model

### E2EQ NEXT Series (Spatter-resistant Single distance model)

DC 3-wire Shielded [Refer to *Ratings and Specification* on page 93, *Dimension* on page 106.]

| Size (Sensing distance) | Connection method *2 | Body size | Operation mode *3 | Model | |
|---|---|---|---|---|---|
| | | | | PNP | NPN |
| M8 (1.5 mm) | Pre-wired (2 m) *1 | 38 mm | NO | E2EQ-X1R5B1D8 2M | E2EQ-X1R5C18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm | NO | E2EQ-X1R5B1D8-M1TJ 0.3M | E2EQ-X1R5C18-M1TJ 0.3M |
| M12 (2 mm) | Pre-wired (2 m) *1 | 47 mm | NO | E2EQ-X2B1D12 2M | E2EQ-X2C112 2M |
| | | | NO+NC | E2EQ-X2B3D12 2M | E2EQ-X2C312 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm | NO | E2EQ-X2B1D12-M1TJ 0.3M | E2EQ-X2C112-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X2B3D12-M1TJ 0.3M | E2EQ-X2C312-M1TJ 0.3M |
| M18 (5 mm) | Pre-wired (2 m) *1 | 55 mm | NO | E2EQ-X5B1D18 2M | E2EQ-X5C118 2M |
| | | | NO+NC | E2EQ-X5B3D18 2M | E2EQ-X5C318 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm | NO | E2EQ-X5B1D18-M1TJ 0.3M | E2EQ-X5C118-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X5B3D18-M1TJ 0.3M | E2EQ-X5C318-M1TJ 0.3M |
| M30 (10 mm) | Pre-wired (2 m) *1 | 60 mm | NO | E2EQ-X10B1D30 2M | E2EQ-X10C130 2M |
| | | | NO+NC | E2EQ-X10B3D30 2M | E2EQ-X10C330 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm | NO | E2EQ-X10B1D30-M1TJ 0.3M | E2EQ-X10C130-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X10B3D30-M1TJ 0.3M | E2EQ-X10C330-M1TJ 0.3M |

*1. Models with 5-m cable length are also available (Example: E2EQ-X6B1D12 5M)
*2. M12 Connector Models are also available with "M1" suffix. (Example: E2EQ-X2B1D8-M1)
*3. NC models are also available. The model number is E2EQ-X□□2□ (Example: E2EQ-X3B28 2M).

**Note: 1.** Models in [ ] are equipped with IO-Link (COM2). For IO-Link (COM3), select a model number with the format of "E2E-X□□□T□" (Example: E2EQ-X6B1T12 2M).
Operation mode NO can be changed to NC via IO-Link communications.
**2.** IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

## Sensors

BASIC Model

## E2EQ NEXT Series (Spatter-resistant Double distance model)

DC 2-wire Shielded [Refer to *Ratings and Specification* on page 94, *Dimension* on page 106.]

| Size (Sensing distance) | Connection method | Polarity | Model |
|---|---|---|---|
| | | | Operation mode: NO |
| M12 (4 mm) | Pre-wired (2 m) *1 | NO | E2EQ-X4D112-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | | E2EQ-X4D112-M1TGJ-T 0.3M |
| M18 (8 mm) | Pre-wired (2 m) *1 | | E2EQ-X8D118-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | | E2EQ-X8D118-M1TGJ-T 0.3M |
| M30 (15 mm) | Pre-wired (2 m) *1 | | E2EQ-X15D130-T 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | | E2EQ-X15D130-M1TGJ-T 0.3M |

*1. Models with 5-m cable length are also available (Example: E2EQ-X4D112-T 5M).

PREMIUM Model

## E2EQ NEXT Series (Spatter-resistant Triple distance model)

DC 3-wire Shielded *1 [Refer to *Ratings and Specification* on page 95, *Dimension* on page 107.]

| Size (Sensing distance) | Connection method *3 | Body size | Operation mode *4 | Model | |
|---|---|---|---|---|---|
| | | | | PNP | NPN |
| M8 (3 mm) | Pre-wired (2 m) *2 | 38 mm | NO | E2EQ-X3B1D8 2M | E2EQ-X3C18 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 38 mm | NO | E2EQ-X3B1D8-M1TJ 0.3M | E2EQ-X3C18-M1TJ 0.3M |
| M12 (6 mm) | Pre-wired (2 m) *2 | 47 mm | NO | E2EQ-X6B1D12 2M | E2EQ-X6C112 2M |
| | | | NO+NC | E2EQ-X6B3D12 2M | E2EQ-X6C312 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 47 mm | NO | E2EQ-X6B1D12-M1TJ 0.3M | E2EQ-X6C112-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X6B3D12-M1TJ 0.3M | E2EQ-X6C312-M1TJ 0.3M |
| M18 (12 mm) | Pre-wired (2 m) *2 | 55 mm | NO | E2EQ-X12B1D18 2M | E2EQ-X12C118 2M |
| | | | NO+NC | E2EQ-X12B3D18 2M | E2EQ-X12C318 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 55 mm | NO | E2EQ-X12B1D18-M1TJ 0.3M | E2EQ-X12C118-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X12B3D18-M1TJ 0.3M | E2EQ-X12C318-M1TJ 0.3M |
| M30 (22 mm) | Pre-wired (2 m) *2 | 60 mm | NO | E2EQ-X22B1D30 2M | E2EQ-X22C130 2M |
| | | | NO+NC | E2EQ-X22B3D30 2M | E2EQ-X22C330 2M |
| | M12 Pre-wired Smartclick Connector (0.3 m) | 60 mm | NO | E2EQ-X22B1D30-M1TJ 0.3M | E2EQ-X22C130-M1TJ 0.3M |
| | | | NO+NC | E2EQ-X22B3D30-M1TJ 0.3M | E2EQ-X22C330-M1TJ 0.3M |

*1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 105.
*2. Models with 5-m cable length are also available (Example: E2EQ-X6B1D12 5M)
*3. M12 Connector Models are also available with "M1" suffix. (Example: E2EQ-X3B1D8-M1).
*4. NC models are also available. The model number is E2EQ-□□2□ (Example: E2EQ-X3B28 2M).

**Note: 1.** Models in [ ] are equipped with IO-Link (COM2). For IO-Link (COM3), select a model number with the format of "E2E-X□□□T□" (Example: E2EQ-X6B1T12 2M).
Operation mode NO can be changed to NC via IO-Link communications.
**2.** IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

PREMIUM Model

## E2EQ NEXT Series (Spatter-resistant Triple distance model)

DC 2-wire Shielded *1 [Refer to *Ratings and Specification* on page 96, *Dimension* on page 107.]

| Size (Sensing distance) | Connection method | Polarity | Model | |
|---|---|---|---|---|
| | | | Operation mode: NO | Operation mode: NC |
| M8 (3 mm) | Pre-wired (2 m) *2 | Yes | E2EQ-X3D18 2M | E2EQ-X3D28 2M |
| | | No | E2EQ-X3D18-T 2M | E2EQ-X3D28-T 2M |
| | M12 Pre-wired Smartclick Connector (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 (2 m) *2 | Yes | E2EQ-X7D112 2M | E2EQ-X7D212 2M |
| | | No | E2EQ-X7D112-T 2M | E2EQ-X7D212-T 2M |
| | M12 Pre-wired Smartclick Connector (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 (2 m) *2 | Yes | E2EQ-X11D118 2M | E2EQ-X11D218 2M |
| | | No | E2EQ-X11D118-T 2M | E2EQ-X11D218-T 2M |
| | M12 Pre-wired Smartclick Connector (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 (2 m) *2 | Yes | E2EQ-X20D130 2M | E2EQ-X20D230 2M |
| | | No | E2EQ-X20D130-T 2M | E2EQ-X20D230-T 2M |
| | M12 Pre-wired Smartclick Connector (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 105.
*2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2EQ-X3D18 5M)

## Sensor I/O Connectors (Sold Separately)

For details of the connector, refer to XS5 Series on page 111.

# Ratings and Specifications

BASIC Model

## E2EQ NEXT Series (Spatter-resistant Double distance/Single distance model)

### DC 3-wire Shielded

| Item \ Types / Size / Model | | Double distance Models | | | | Single distance Models | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | M8 | M12 | M18 | M30 | M8 | M12 | M18 | M30 |
| | | E2EQ-X2□8 | E2EQ-X4□12 | E2EQ-X8□18 | E2EQ-X15□30 | E2EQ-X1R5□8 | E2EQ-X2□12 | E2EQ-X5□18 | E2EQ-X10□30 |
| Sensing distance | | 2 mm±10% | 4 mm±10% | 8 mm±10% | 15 mm±10% | 1.5 mm±10% | 2 mm±10% | 5 mm±10% | 10 mm±10% |
| Setting distance | | 0 to 1.6 mm | 0 to 3.2 mm | 0 to 6.4 mm | 0 to 12 mm | 0 to 1.2 mm | 0 to 1.6 mm | 0 to 4 mm | 0 to 8 mm |
| Differential travel | | 15% max. of sensing distance | | | | 10% max. of sensing distance | | | |
| Detectable object | | Ferrous metals (For non-ferrous metals, refer to the *Engineering Data* on page 97.) | | | | | | | |
| Standard sensing object (Iron) | | 8 × 8 × 1 mm | 12 × 12 × 1 mm | 24 × 24 × 1 mm | 45 × 45 × 1 mm | 8 × 8 × 1 mm | 12 × 12 × 1 mm | 18 × 18 × 1 mm | 30 × 30 × 1 mm |
| Response frequency *1 | | 1,500 Hz | 1,000 Hz | 500 Hz | 250 Hz | 2,000 Hz | 1,500 Hz | 600 Hz | 400 Hz |
| Power supply voltage | | 10 to 30 VDC (including 10% ripple (p-p)), Class 2 | | | | | | | |
| Current consumption | | 1-output models: 16 mA max., 2-output models: 20 mA max. | | | | | | | |
| Output configuration | | B□ Models: PNP open collector, C□ Models: NPN open collector | | | | | | | |
| Operation mode (with sensing object approaching) | | 1-output models (B1, C1): NO (Normally open), 1-output models (B2, C2): NC (Normally closed)<br>2-output models (B3, C3): NO+NC (Normally open, Normally closed) | | | | | | | |
| Control output | Load current | M8 size<br>1-output models: 10 to 30 VDC, Class 2, 200 mA max., (-40 to 70°C), 100 mA max., (70 to 85°C)<br>2-output models: 10 to 30 VDC, Class 2, 50 mA max.<br>M12, M18, M30 size<br>1-output models: 10 to 30 VDC, Class 2, 200 mA max., 2-output models:10 to 30 VDC, Class 2, 100 mA max. | | | | | | | |
| | Residual voltage | M8 size<br>1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m), 2-output models: 2 V max. (Load current: 50 mA, Cable length: 2 m)<br>M12, M18, M30 size<br>1-output models: 2 V max. (Load current: 200 mA, Cable length: 2 m), 2-output models: 2 V max. (Load current: 100 mA, Cable length: 2 m) | | | | | | | |
| Indicator *2 | | In the Standard I/O mode (SIO mode): Operation indicator (orange, lit) and communication indicator (green, not lit)<br>In the IO-Link communication mode (COM mode): Operation indicator (orange, lit) and communication indicator (green, blinking at 1 s intervals) | | | | | | | |
| Protection circuits | | Power supply reverse polarity protection, Surge suppressor, Output short-circuit protection, Output reverse polarity protection | | | | | | | |
| Ambient temperature range | | Operating/Storage: -40 to 85°C (with no icing or condensation)<br>**Note:** The UL temperature rating for M12 Pre-wired Connector Models is -25 to 70°C. | | | | | | | |
| Ambient humidity range | | Operating/Storage: 35% to 95% (with no condensation) | | | | | | | |
| Temperature influence | | ±15% max. of sensing distance at 23°C in the temperature range of -40 to 85°C<br>±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) | | M8 size: 500 m/s$^2$ 10 times each in X, Y, and Z directions/M12, M18, M30 size: 1,000 m/s$^2$ 10 times each in X, Y, and Z directions | | | | | | | |
| Degree of protection | | Pre-wired Models, Pre-wired Connector Models: IEC 60529:IP67, JIS C 0920 Annex 1: IP67G *4/Connector Models: IEC 60529 IP67 | | | | | | | |
| Connection method | | Pre-wired Models (Standard cable length: 2 m) and Pre-wired Connector Models (Standard cable length: 0.3 m), M12 Connector Models | | | | | | | |
| Weight *3 (packed state) | Pre-wired | Approx. 85 g | Approx. 95 g | Approx. 170 g | Approx. 240 g | Approx. 85 g | Approx. 95 g | Approx. 170 g | Approx. 240 g |
| | M12 Pre-wired Smartclick Connector | Approx. 55 g | Approx. 70 g | Approx. 105 g | Approx. 170 g | Approx. 55 g | Approx. 70 g | Approx. 105 g | Approx. 170 g |
| | Connector | Approx. 40 g | Approx. 55 g | Approx. 85 g | Approx. 160 g | Approx. 40 g | Approx. 55 g | Approx. 85 g | Approx. 160 g |
| Materials | Case | M8 size: Fluororesin coating (Base material: SUS303)/M12, M18, M30 size: Fluororesin coating (Base material: brass) | | | | | | | |
| | Sensing surface | Fluorine resin | | | | | | | |
| | Clamping nuts | Fluororesin coating (Base material: brass) | | | | | | | |
| | Toothed washers | Zinc-plated iron | | | | | | | |
| | Cable | Vinyl chloride (PVC) Note: Material of Pre-wired Models and Pre-wired Connector Models. | | | | | | | |
| Main IO-Link functions *2 | | Operation mode switching between NO and NC, self diagnosis enabling, excessive proximity judgment distance selecting, timer function of the control output and timer time selecting, instability output (IO-Link mode) ON delay timer time selecting function, monitor output, operating hours read-out, readout of the sensor internal temperature, and initial reset | | | | | | | |
| IO-Link Communication specifications *2 | IO-Link specification | Ver1.1 | | | | | | | |
| | Baud rate | COM2 (38.4 kbps), COM3 (230.4 kbps) | | | | | | | |
| | Data length | PD size: 2 bytes, OD size: 1 byte (M-sequence type: TYPE_2_2) | | | | | | | |
| | Minimum cycle time | COM2: 2.3 ms, COM3: 0.4 ms | | | | | | | |
| Accessories | | Instruction manual, Clamping nuts, Toothed washer | | | | | | | |

*1. 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.
*2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.
*3. Weight of the standard body-sized model.
*4. 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.

BASIC Model

### E2EQ NEXT Series (Spatter-resistant Double distance model)
### DC 2-wire Shielded

| Item \ Size | | M12 | M18 | M30 |
|---|---|---|---|---|
| Item \ Model | | E2EQ-X4D□12 | E2EQ-X8D□18 | E2EQ-X15D□30 |
| Sensing distance | | 4 mm ±10% | 8 mm ±10% | 15 mm ±10% |
| Setting distance *1 | | 0 to 3.2 mm | 0 to 6.4 mm | 0 to 12 mm |
| Differential travel | | 15% max. of sensing distance | | |
| Detectable object | | Ferrous metals (For non-ferrous metals, refer to *Engineering Data* on page 97.) | | |
| Standard sensing object (Iron) | | 12 × 12 × 1 mm | 18 × 18 × 1 mm | 30 × 30 × 1 mm |
| Response frequency *2 | | 1,000 Hz | 500 Hz | 250 Hz |
| Power supply voltage | | 10 to 30 VDC (including 10% ripple (p-p)), Class 2 | | |
| Current consumption | | 0.8 mA max. | | |
| Control output | Load current | 3 to 100 mA | | |
| | Residual voltage | 5 V max. (Load current: 100 mA, Cable length: 2 m) | | |
| Indicator | | Operation indicator (orange), Setting indicator (green) | | |
| Operation mode | | NO<br>Refer to the timing charts under *I/O Circuit Diagrams/Timing charts* on page 103 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) | | 1,000 m/s$^2$ 10 times each in X, Y, and Z directions | | |
| Degree of protection | | Pre-wired Models, Pre-wired Connector Models: IEC 60529:IP67, JIS C 0920 Annex 1: IP67G | | |
| Connection method | | Pre-wired Models (Standard cable length: 2 m) and<br>M12 Pre-wired Smartclick Connector Models (Standard cable length: 0.3 m) | | |
| Weight (packed state) | Pre-wired | Approx. 100 g | Approx. 180 g | Approx. 250 g |
| | M12 Pre-wired Smartclick Connector | Approx. 75 g | Approx. 110 g | Approx. 180 g |
| Materials | Materials | 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.
*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.

PREMIUM Model

## E2EQ NEXT Series (Spatter-resistant Triple distance model)
## DC 3-wire Shielded

| Item \ Size | | M8 | M12 | M18 | M30 |
|---|---|---|---|---|---|
| Item \ Model | | E2EQ-X3□8 | E2EQ-X6□12 | E2EQ-X12□18 | E2EQ-X22□30 |
| Sensing distance | | 3 mm±10% | 6 mm±10% | 12 mm±10% | 22 mm±10% |
| Setting distance | | 0 to 2.4 mm | 0 to 4.8 mm | 0 to 9.6 mm | 0 to 16.8 mm |
| Differential travel | | 15% max. of sensing distance | | | |
| Detectable object | | Ferrous metals (For non-ferrous metals, refer to the *Engineering Data* on page 97.) | | | |
| Standard sensing object (Iron) | | 9 × 9 × 1 mm | 18 × 18 × 1 mm | 36 × 36 × 1 mm | 66 × 66 × 1 mm |
| Response frequency *1 | | 1,000 Hz | 800 Hz | 500 Hz | 200 Hz |
| Power supply voltage | | 10 to 30 VDC (including 10% ripple (p-p)), Class 2 | | | |
| Current consumption | | 1-output models: 16 mA max. | 1-output models: 16 mA max., 2-output models: 20 mA max. | | |
| Output configuration | | B□ Models: PNP open collector, C□ Models: NPN open collector | | | |
| Operation mode (with sensing object approaching) | | 1-output models (B1, C1): NO (Normally open), 1-output models (B2, C2): NC (Normally closed) | 1-output models (B1, C1): NO (Normally open), 1-output models (B2, C2): NC (Normally closed), 2-output models (B3, C3): NO+NC (Normally open, Normally closed) | | |
| Control output | Load current | 1-output models: 10 to 30 VDC, Class 2, 100 mA max. | 1-output models: 10 to 30 VDC, Class 2, 100 mA max.,, 2-output models: 10 to 30 VDC, Class 2, 50 mA max. | | |
| | Residual voltage | 1-output models: 2 V max. (Load current: 100 mA, Cable length: 2 m) | 1-output models: 2 V max. (Load current: 100 mA, Cable length: 2 m), 2-output models: 2 V max. (Load current: 50 mA, Cable length: 2 m) | | |
| Indicator *2 | | In the Standard I/O mode (SIO mode): Operation indicator (orange, lit) and communication indicator (green, not lit) In the IO-Link communication mode (COM mode): Operation indicator (orange, lit) and communication indicator (green, blinking at 1 s intervals) | | | |
| Protection circuits | | Power supply reverse polarity protection, Surge suppressor, Output short-circuit protection, Output reverse polarity protection | | | |
| Ambient temperature range | | Operating/Storage: -25 to 70°C (with no icing or condensation) | | | |
| Ambient humidity range | | Operating/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/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: IEC 60529: IP67, JIS C 0920 Annex 1: IP67G *4 Connector Models: IEC 60529: IP67 | | | |
| Connection method | | Pre-wired Models (Standard cable length: 2 m) and Pre-wired Connector Models (Standard cable length: 0.3 m), M12 Connector Models | | | |
| Weight *3 (packed state) | Pre-wired Models | Approx. 85 g | Approx. 95 g | Approx. 180 g | Approx. 260 g |
| | M12 Pre-wired Smartclick Connector | Approx. 55 g | Approx. 70 g | Approx. 115 g | Approx. 200 g |
| | Connector | Approx. 40 g | Approx. 55 g | Approx. 95 g | Approx. 180 g |
| Materials | Case | Fluororesin coating (Base material: brass) | | | |
| | Sensing surface | Fluorine resin | | | |
| | Clamping nuts | Fluororesin coating (Base material: brass) | | | |
| | Toothed washers | Zinc-plated iron | | | |
| | Cable | Vinyl chloride (PVC) Note: Material of Pre-wired Models and Pre-wired Connector Models. | | | |
| Main IO-Link functions *2 | | Operation mode switching between NO and NC, self diagnosis enabling, excessive proximity judgment distance selecting, timer function of the control output and timer time selecting, instability output (IO-Link mode) ON delay timer time selecting function, monitor output, operating hours read-out, readout of the sensor internal temperature, and initial reset | | | |
| IO-Link Communication specifications *2 | IO-Link specification | Ver 1.1 | | | |
| | Baud rate | COM2 (38.4 kbps), COM3 (230.4 kbps) | | | |
| | Data length | PD size: 2 bytes, OD size: 1 byte (M-sequence type: TYPE_2_2) | | | |
| | Minimum cycle time | COM2: 2.3 ms, COM3: 0.4 ms | | | |
| Accessories | | Instruction manual, Clamping nuts, Toothed washer | | | |

*1. 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.
*2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.
*3. Weight of the standard body-sized model.
*4. 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.

PREMIUM Model

### E2EQ NEXT Series (Spatter-resistant Triple distance model)
### DC 2-wire Shielded

| Item \ Size | | M8 | M12 | M18 | M30 |
|---|---|---|---|---|---|
| Item \ 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 4.9 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 97.) | | | |
| Standard sensing object (Iron) | | 9 × 9 × 1 mm | 21 × 21 × 1 mm | 33 × 33 × 1 mm | 60 × 60 × 1 mm |
| Response frequency *2 | | 250 Hz | 250 Hz | 250 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)<br>No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m) | | | |
| Indicator | | D1 Models: Operation indicator (orange), Setting indicator (green)<br>D2 Models: Operation indicator (orange) | | | |
| Operation mode | | D1 Models: NO<br>D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams/Timing charts* on page 103 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/Pre-wired M12 Connector: IP67 (IEC 60529) and IP67G *3 (JIS C 0920 Annex 1) | | | |
| Connecting method | | Pre-wired (Standard cable length: 2 m) and Pre-wired M12 Connector (Standard cable length: 0.3 m) | | | |
| Weight (packed state) | Pre-wired | Approx. 60 g | Approx. 70 g | Approx. 150 g | Approx. 210 g |
| | Pre-wired M12 Connector | 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 | | | |

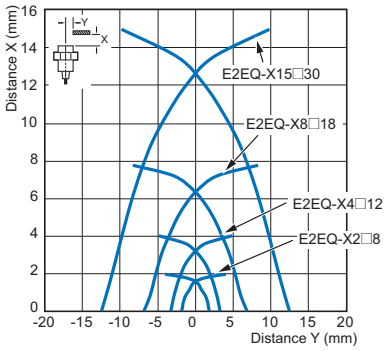
*1. Use the Sensor within the range in which the setting indicator (green LED) is ON (except D2 Models).
*2. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing 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.

# Engineering Data (Reference Value)

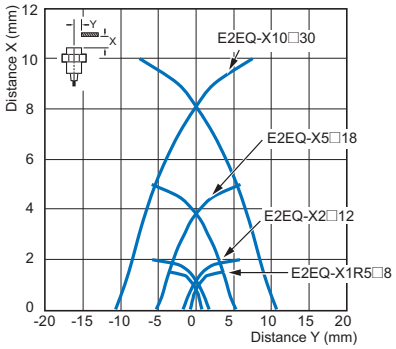
## Sensing Area

BASIC Model

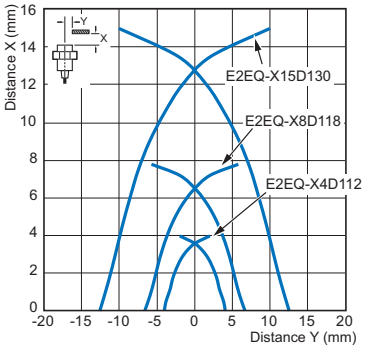
**DC 3-wire**
**Spatter-resistant Double distance model**




**DC 3-wire**
**Spatter-resistant Single distance model**

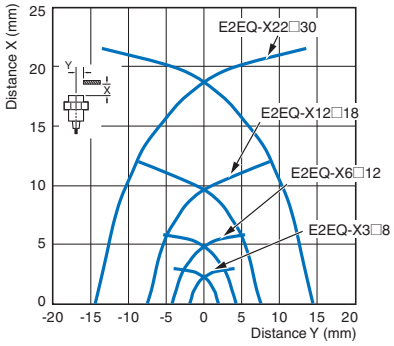



**DC 2-wire**
**Spatter-resistant Double distance model**

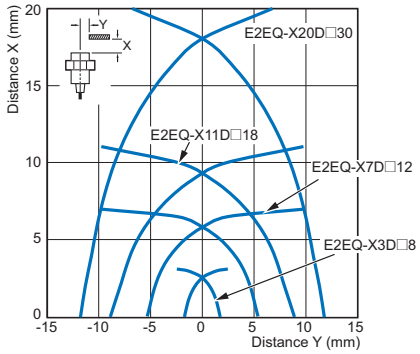



PREMIUM Model

**DC 3-wire**
**Spatter-resistant Triple distance model**

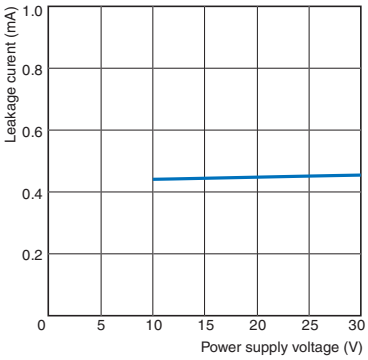



**DC 2-wire**
**Spatter-resistant Triple distance model**



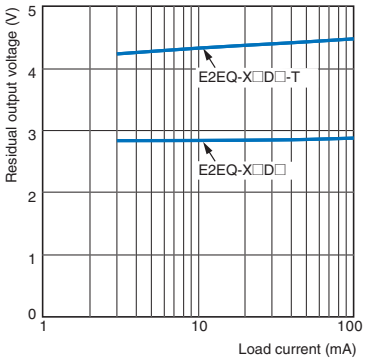

## Leakage Current

**DC 2-wire**
**Spatter-resistant Triple distance/ Double distance model**
**E2EQ-X□D□(-T)**




## Residual Output Voltage

**DC 2-wire**
**Spatter-resistant Triple distance/ Double distance model**
**E2EQ-X□D□(-T)**

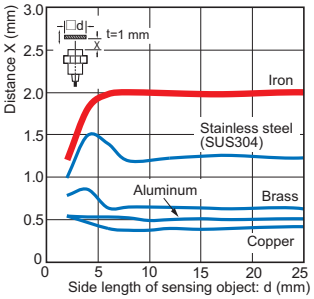


## Influence of Sensing Object Size and Material

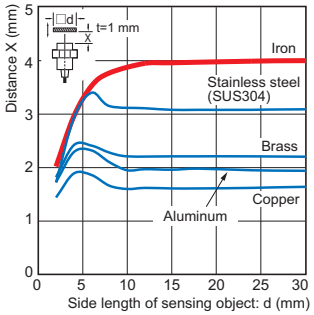
BASIC Model

**DC 3-wire/2-wire**
**Spatter-resistant**
**Double distance model**

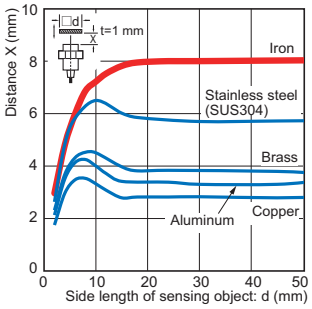
Size: M8
E2EQ-X2□8



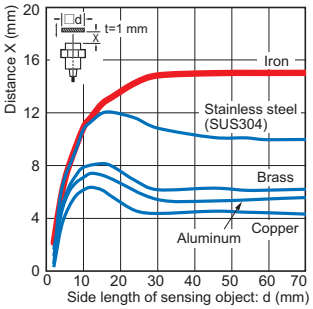

Size: M12
E2EQ-X4□12




Size: M18
E2EQ-X8□18



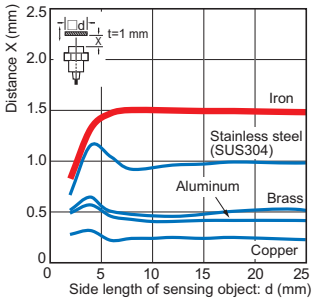

Size: M30
E2EQ-X15□30



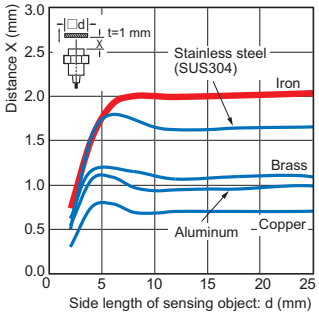

BASIC Model

**DC 3-wire**
**Spatter-resistant**
**Single distance model**

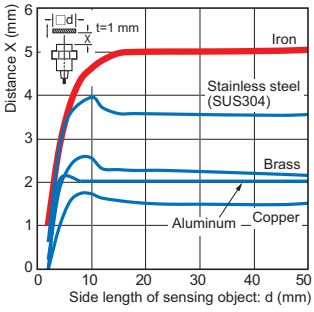
Size: M8
E2EQ-X1R5□8



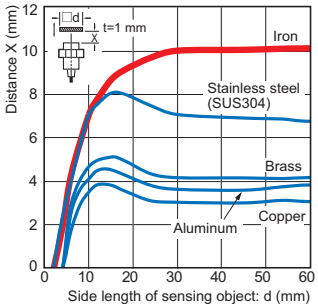

Size: M12
E2EQ-X2□12




Size: M18
E2EQ-X5□18



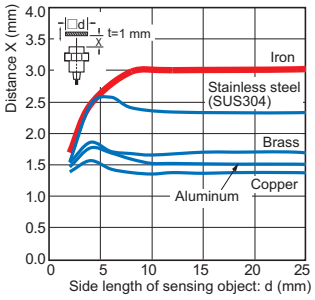

Size: M30
E2EQ-X10□30



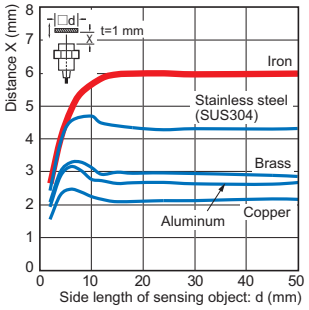

PREMIUM Model

**DC 3-wire**
**Spatter-resistant**
**Triple distance model**

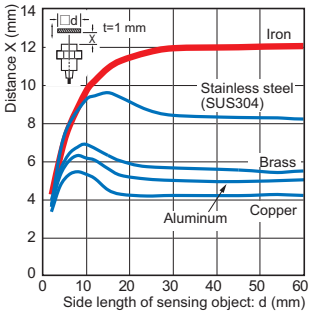
Size: M8
E2EQ-X3□8



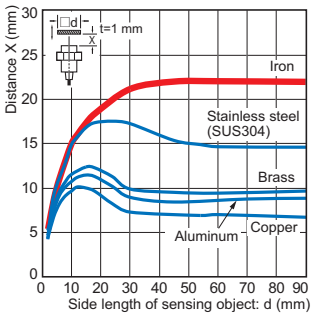

Size: M12
E2EQ-X6□12




Size: M18
E2EQ-X12□18



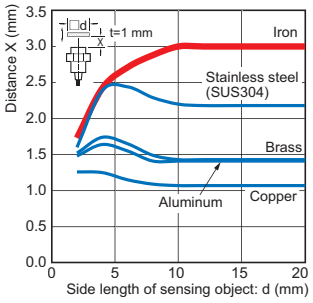

Size: M30
E2EQ-X22□30



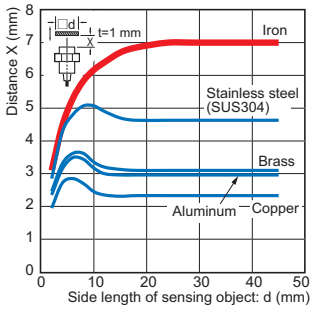

PREMIUM Model

**DC 2-wire**
**Spatter-resistant**
**Triple distance model**

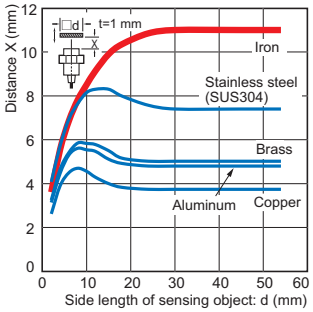
Size: M8
E2EQ-X3D□8



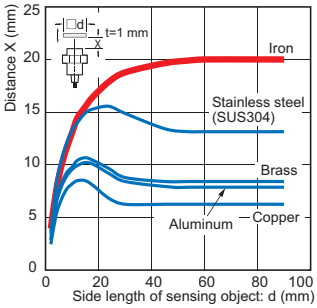

Size: M12
E2EQ-X7D□12




Size: M18
E2EQ-X11D□18




Size: M30
E2EQ-X20D□30

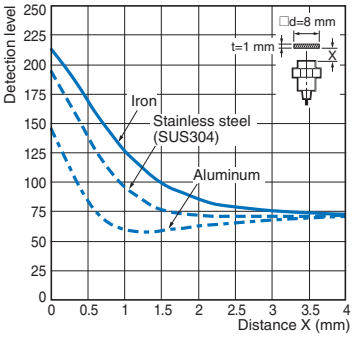


## Monitor Output vs. Sensing Distance

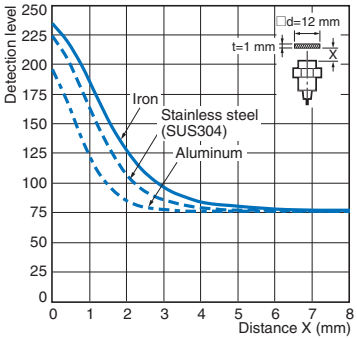
BASIC Model

### DC 3-wire
### Spatter-resistant
### Double distance model

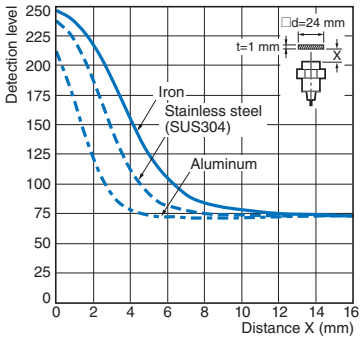
Size: M8
E2EQ-X2□8



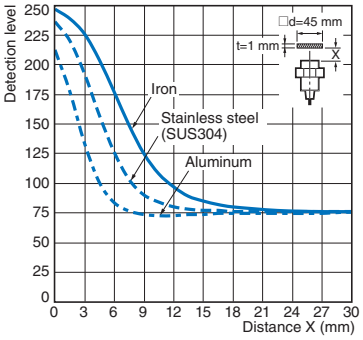

Size: M12
E2EQ-X4□12




Size: M18
E2EQ-X8□18



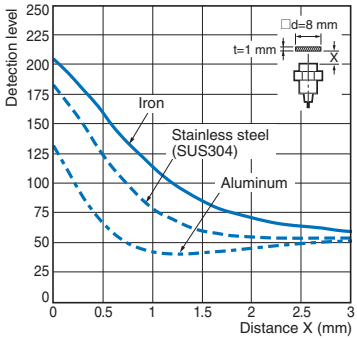

Size: M30
E2EQ-X15□30



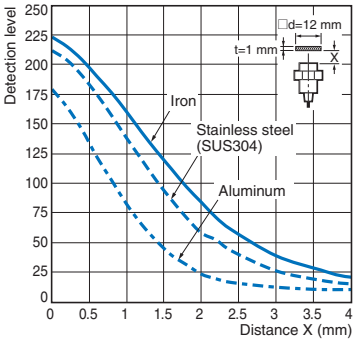

BASIC Model

### DC 3-wire
### Spatter-resistant
### Single distance model

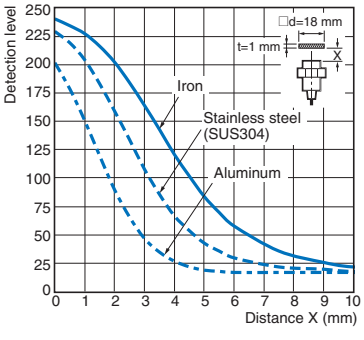
Size: M8
E2EQ-X1R5□8



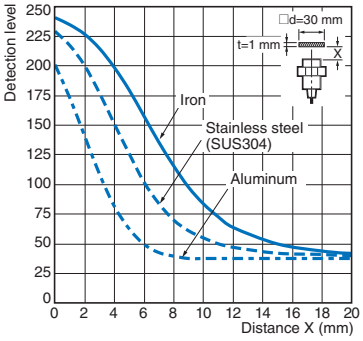

Size: M12
E2EQ-X2□12




Size: M18
E2EQ-X5□18



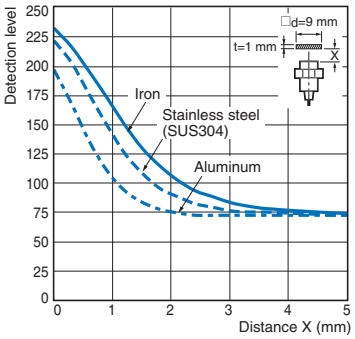

Size: M30
E2EQ-X10□30



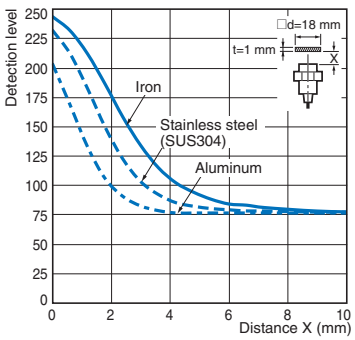

PREMIUM Model

### DC 3-wire
### Spatter-resistant
### Triple distance model

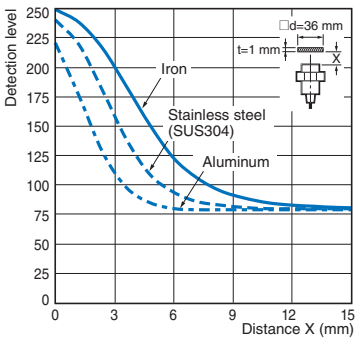
Size: M8
E2EQ-X3□8



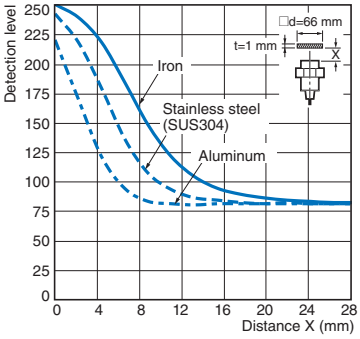

Size: M12
E2EQ-X6□12




Size: M18
E2EQ-X12□18



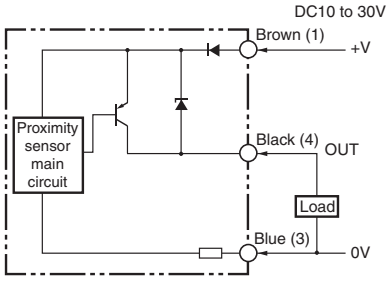
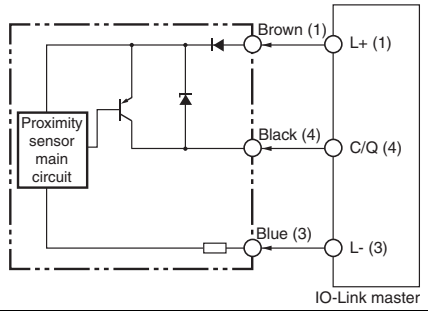
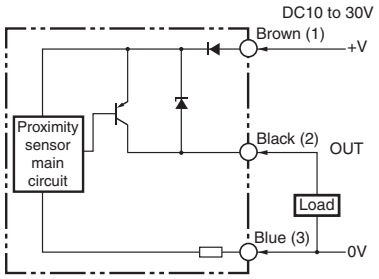
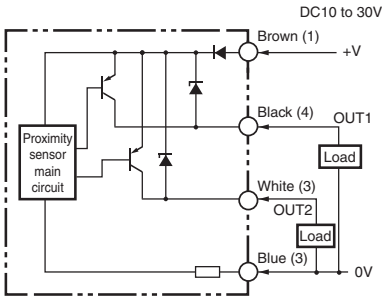
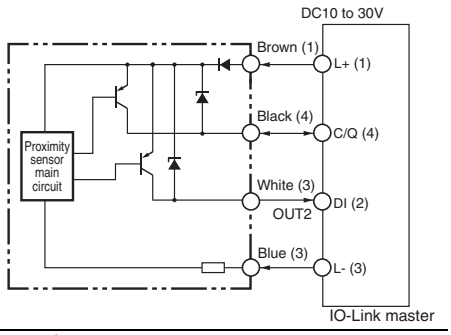

Size: M30
E2EQ-X22□30



# I/O Circuit Diagrams/Timing charts

## DC 3-wire

**PNP output**

| Operation mode | Model | Output circuit | |
|---|---|---|---|
| | | Standard I/O mode (SIO mode) When using as a general | IO-Link Communication mode (COM mode) When using the Sensor connected to IO-Link Master Unit * |
| NO | E2EQ-□B1 |  |  |
| NC | E2EQ-□B2 |  <br>Note: M8 (3-pin) Connector: (1)(4)(3) | --- |
| NO+NC | E2EQ-□B3 |  |  |

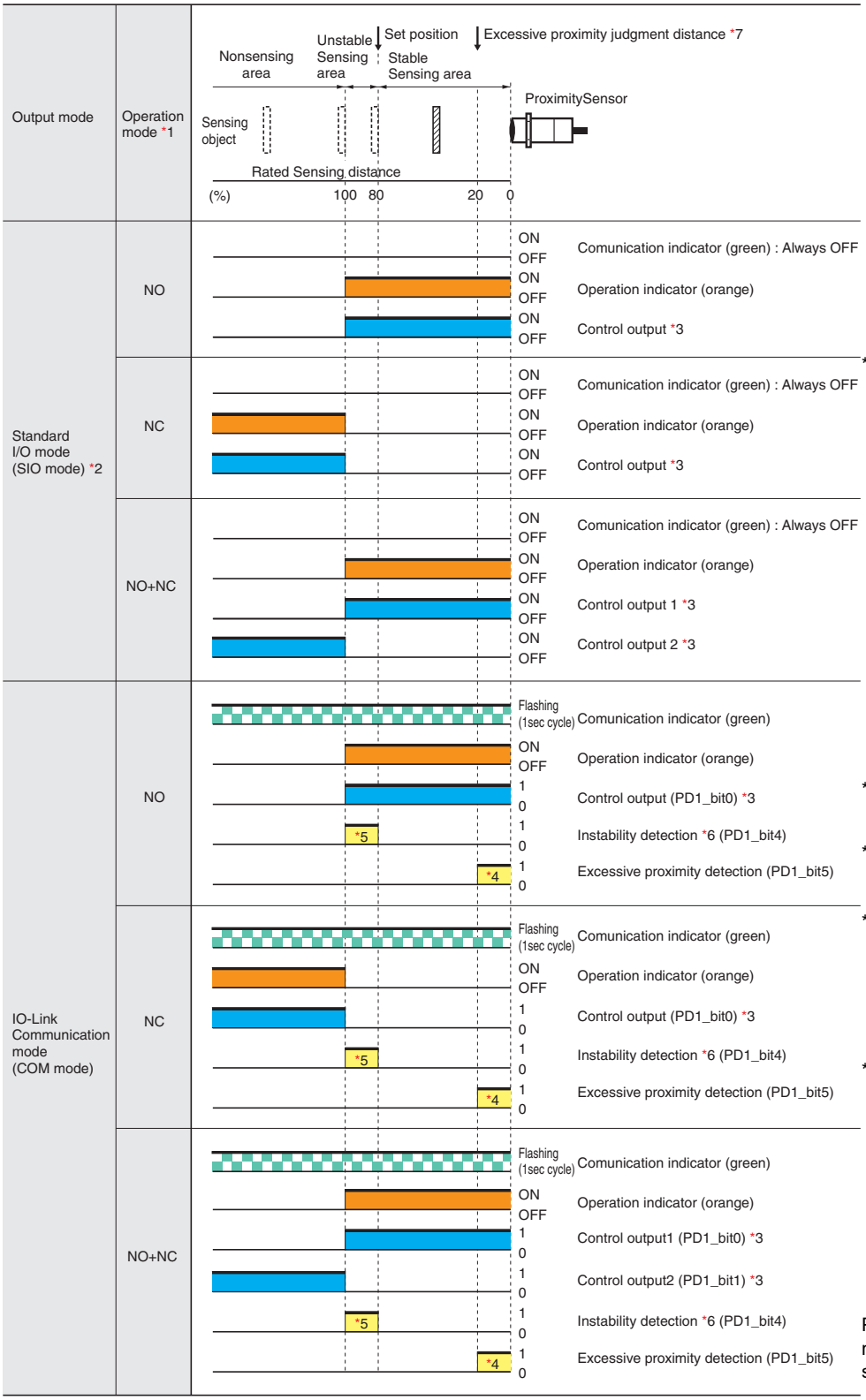
* In the IO-Link mode, the cord between the IO-Link master and sensor must have a length of 20 m or less.

### Connector Pin Arrangement

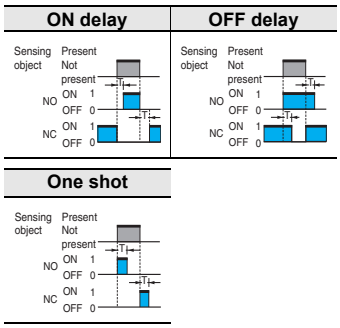
| M12 Connector<br>M12 Smartclick Connector | M8 (4-pin) Connector | M8 (3-pin) Connector |
|---|---|---|
|  |  |  |

## DC 3-wire

### PNP output




*3. The timer function of the control output can be set up by the IO-Link communications. (It is able to select ON delay, OFF delay, or one-shot function and select a timer time of 1 to 16,383ms (T).)




*4. The excessive proximity diagnosis function can be selected by the IO-Link communications.

*5. The instability detection diagnosis can be selected by the IO-Link communications.

*6. The judgment time for the instability detection diagnosis can be selected by the IO-Link communications. (For the ON delay timer function, the setting can be selected from 0 (invalid), 10, 50, 100, 300, 500, or 1000 ms.)

*7. The judgment distance of the excessive proximity diagnosis function can be selected by the IO-Link communications. (The distance can be selected as a combination of the material of the object detected, such as iron, aluminum, or SUS and the judgment distance of approximately 10, 20, or 30%. However, it is not allowed to select a combination of aluminum and 30%.)

Please contact your OMRON sales representative regarding the IO-Link setup file (IODD file).

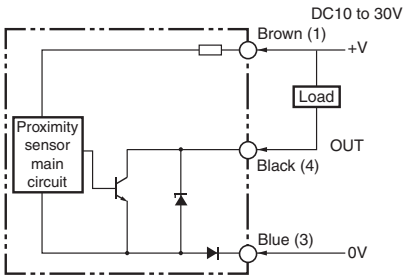
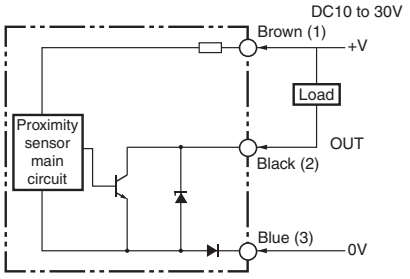
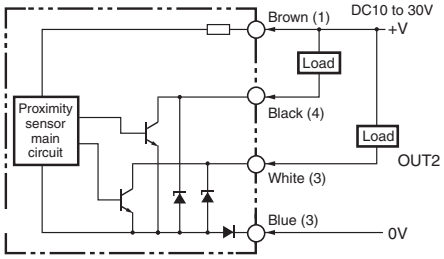
Please contact your OMRON sales representative regarding assignment of data.

*1. For models with IO-Link, the operation mode can be changed by the IO-Link communications.

*2. If using a model with IO-Link as a general sensor or using a model without IO-Link, it operates in the standard I/O mode (SIO mode).

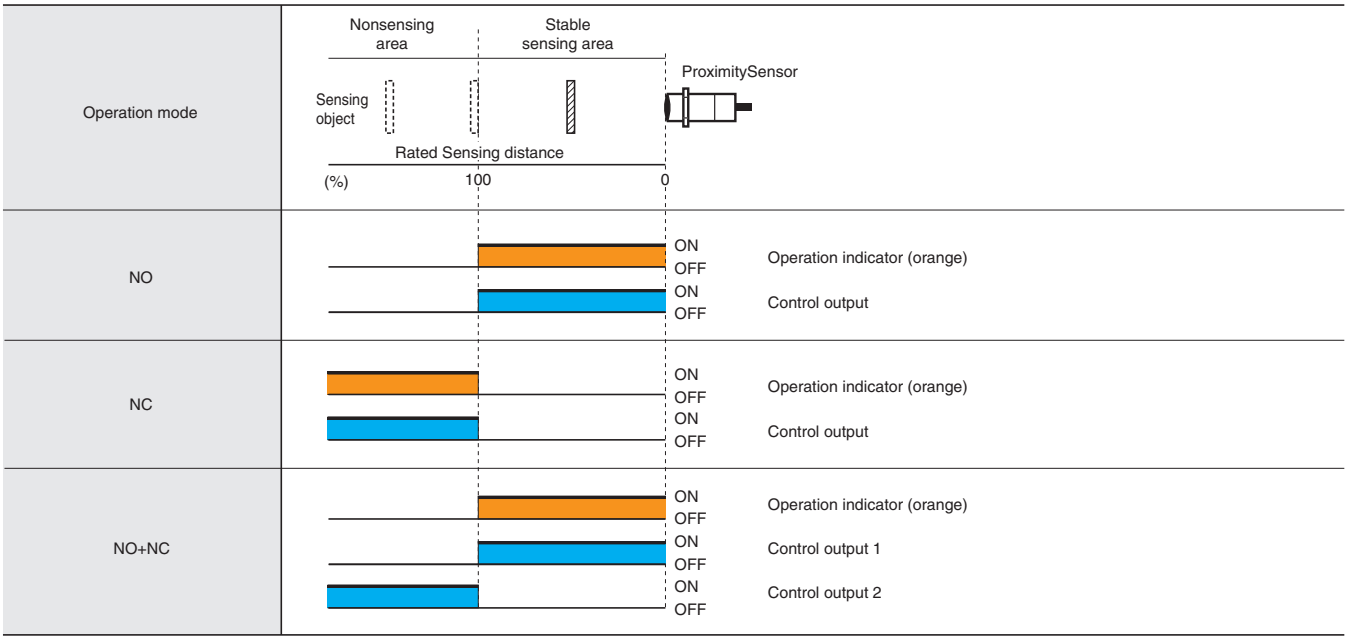
## DC 3-wire

### NPN output

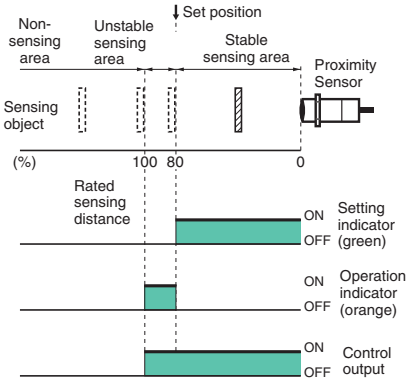
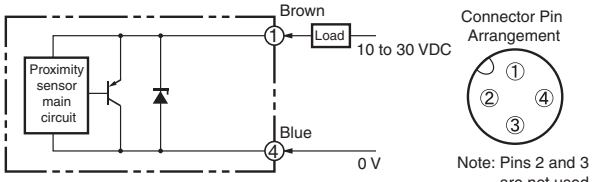
| Operation mode | Model | Output circuit |
|---|---|---|
| NO | E2EQ-□C1 |  |
| NC | E2EQ-□C2 |  <br>Note: M8 (3-pin) Connector: (1)(4)(3) |
| NO+NC | E2EQ-□C3 |  |

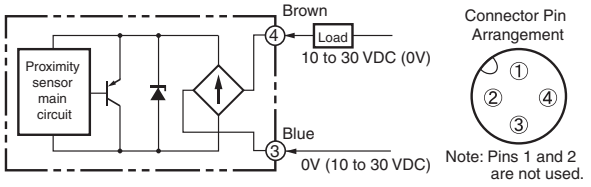
### Connector Pin Arrangement

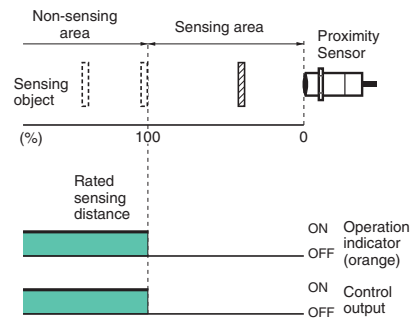
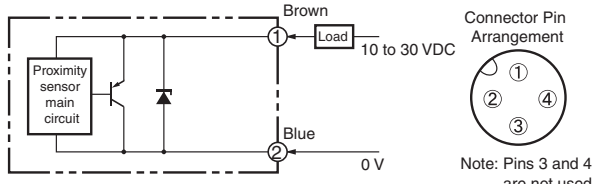
| M12 Connector<br>M12 Smartclick Connector | M8 (4-pin) Connector | M8 (3-pin) Connector |
|---|---|---|
|  |  |  |

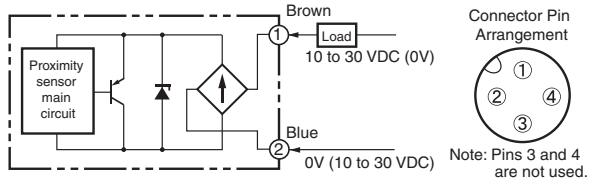


## DC 2-wire

<table>
<tr><th>Operation mode</th><th>Model</th><th>Timing Chart</th><th>Output circuit</th></tr>
<tr><td rowspan="2">NO</td><td>E2EQ-X□D1□</td><td rowspan="2"> 
</td><td> 

Note: The load can be connected to either the +V or 0 V side.</td></tr>
<tr><td>E2EQ-X□D1□-T</td><td> 

Note1. The load can be connected to either the +V or 0 V side.<br>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.</td></tr>
<tr><td rowspan="2">NC</td><td>E2EQ-X□D2□</td><td rowspan="2"> 
</td><td> 

Note: The load can be connected to either the +V or 0 V side.</td></tr>
<tr><td>E2EQ-X□D2□-T</td><td> 

Note1. The load can be connected to either the +V or 0 V side.<br>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.</td></tr>
</table>

# 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**<br>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**<br>Indicates the instructions of unspecified prohibited action. |
|  | **Caution, explosion**<br>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.**

**Otherwise, explosion may result. Never use the product with an AC power supply.**

## Precautions for Safe Use

The following precautions must be observed to ensure safe operation.

1. Do not use the product in environments subject to flammable or explosive gases.
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 explosion or fire.
4. Be sure that the power supply polarity and other wiring is correct. Incorrect wiring may cause explosion or fire.
5. If the power supply is connected directly without a load, the internal elements may explode or burn.
6. Be sure to insert a load when connecting the power supply.

## Precautions for Correct Use

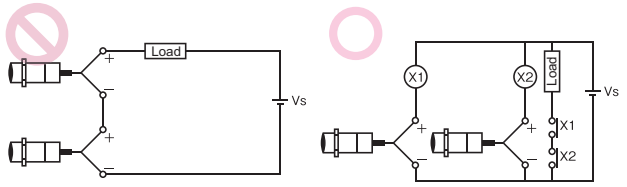
Do not use the product in any atmosphere or environment that exceeds the ratings.

### Operating Environment

1. Do not install the Sensor in the following locations.
   (1) Outdoor locations directly subject to sunlight, rain, snow, waterdroplets, or oil.
   (2) Locations subject to atmospheres with chemical vapors, inparticular 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.
6. When turning on the power by influence of temperature environment, an outputmis-pulse sometimes occurs. After the sensor has passed for 300 msec after turning on, please use in the stable state. (DC 3-wire only.)
7. The sensor is adjusted with a high degree of accuracy, so do not use in the environment with sudden temperature change. (DC 3-wire only.)
8. Operation check is performed using an OMRON's IO-Link master. If using an IO-Link master from another company, perform the operation check in advance. (Models with IO-Link only.)
9. In the IO-Link mode, the cord between the IO-Link master and sensor must have a length of 20 m or less. (Models with IO-Link only.)

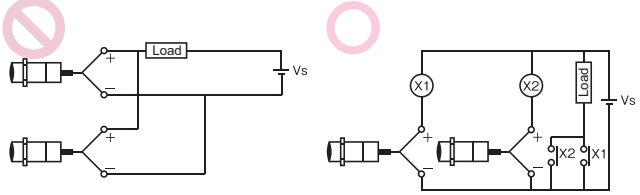
### AND Connection of Proximity Sensors (DC 2-wire)

Two or more sensors cannot be connected in series on the AND circuit. Use them via a relay as shown on the figure.




### OR Wiring of Proximity Sensors (DC 2-wire)

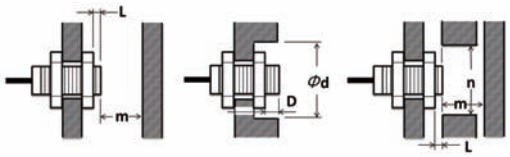
As a general principle, two or more sensors cannot be used in parallel on the OR circuit. It is possible only when sensors do not operate simultaneously and loads do not need to be maintained. When loads need to be maintained, use the sensors via a relay as shown on the figure.



## Design

### Influence of Surrounding Metal

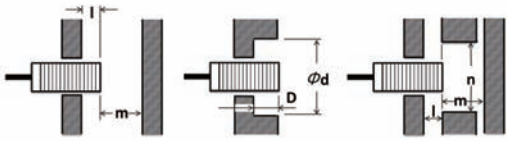
When mounting the Proximity Sensor using a nut, only use the provided nut. And ensure that the minimum distances given in the following table are maintained.
When mounting the Proximity Sensor using a nut, only use the provided nut. Nuts that are supplied along with each Sensor are different. Refer to Dimensions for details on shapes.




(Unit: mm)

| Type | Model | L | d | D | m | n |
|---|---|---|---|---|---|---|
| DC 3-wire Spatter-resistant Triple distance model | E2EQ-X3□8 | 0 | 20 | 0 | 9 | 18 |
| | E2EQ-X6□12 | 0 | 20 | 0 | 18 | 20 |
| | E2EQ-X12□18 | 0 | 50 | 0 | 36 | 54 |
| | E2EQ-X22□30 | 0 | 70 | 0 | 66 | 90 |
| DC 2-wire Spatter-resistant Triple distance model | E2EQ-X3D□8 | 0 | 20 | 2 | 9 | 18 |
| | E2EQ-X7D□12 | 0 | 20 | 4 | 18 | 20 |
| | E2EQ-X11D□18 | 0 | 50 | 4 | 33 | 54 |
| | E2EQ-X20D□30 | 0 | 70 | 8 | 60 | 90 |
| DC 3-wire/DC 2-wire Spatter-resistant Double distance model | E2EQ-X2□8 | 0 | 8 | 0 | 4.5 | 12 |
| | E2EQ-X4□12 | 0 | 18 | 0 | 12 | 18 |
| | E2EQ-X8□18 | 0 | 27 | 0 | 24 | 27 |
| | E2EQ-X15□30 | 0 | 45 | 0 | 45 | 45 |
| DC 3-wire Spatter-resistant Single distance model | E2EQ-X1R5□8 | 0 | 8 | 0 | 4.5 | 12 |
| | E2EQ-X2□12 | 0 | 12 | 0 | 8 | 18 |
| | E2EQ-X5□18 | 0 | 18 | 0 | 20 | 27 |
| | E2EQ-X10□30 | 0 | 30 | 0 | 40 | 45 |

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

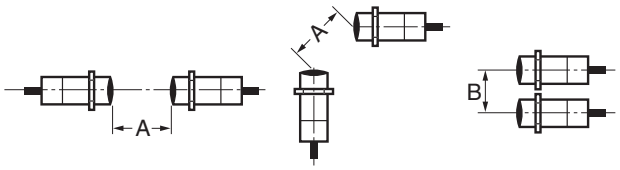



(Unit: mm)

| Models | Model | l | d | D | m | n |
|---|---|---|---|---|---|---|
| DC 3-wire Spatter-resistant Triple distance model | E2EQ-X3□8 | 2 | 20 | 2 | 9 | 18 |
| | E2EQ-X6□12 | 4 | 20 | 4 | 18 | 20 |
| | E2EQ-X12□18 | 4 | 50 | 4 | 36 | 54 |
| | E2EQ-X22□30 | 8 | 70 | 8 | 66 | 90 |
| DC 2-wire Spatter-resistant Triple distance model | E2EQ-X3D□8 | 2 | 20 | 2 | 9 | 18 |
| | E2EQ-X7D□12 | 4 | 20 | 4 | 18 | 20 |
| | E2EQ-X11D□18 | 4 | 50 | 4 | 33 | 54 |
| | E2EQ-X20D□30 | 8 | 70 | 8 | 60 | 90 |
| DC 3-wire/DC 2-wire Spatter-resistant Double distance model | E2EQ-X2□8 | 0 | 8 | 0 | 4.5 | 12 |
| | E2EQ-X4□12 | 2.4 | 18 | 2.4 | 12 | 18 |
| | E2EQ-X8□18 | 3.6 | 27 | 3.6 | 24 | 27 |
| | E2EQ-X15□30 | 6 | 45 | 6 | 45 | 45 |
| DC 3-wire Spatter-resistant Single distance model | E2EQ-X1R5□8 | 0 | 8 | 0 | 4.5 | 12 |
| | E2EQ-X2□12 | 0 | 12 | 0 | 8 | 18 |
| | E2EQ-X5□18 | 0 | 18 | 0 | 20 | 27 |
| | E2EQ-X10□30 | 0 | 30 | 0 | 40 | 45 |

## Mutual Interference

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



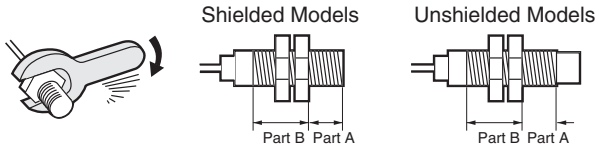

(Unit: mm)

| Models | Model | Item | |
|---|---|---|---|
| | | A | B |
| DC 3-wire Spatter-resistant Triple distance model | E2EQ-X3□8 | 25 | 20 |
| | E2EQ-X6□12 | 40 | 30 |
| | E2EQ-X12□18 | 70 | 45 |
| | E2EQ-X22□30 | 150 | 90 |
| DC 2-wire Spatter-resistant Triple distance model | E2EQ-X3D□8 | 25 | 20 |
| | E2EQ-X7D□12 | 40 | 30 |
| | E2EQ-X11D□18 | 70 | 45 |
| | E2EQ-X20D□30 | 140 | 70 |
| DC 3-wire/DC 2-wire Spatter-resistant Double distance model | E2EQ-X2□8 | 20 | 15 |
| | E2EQ-X4□12 | 30 | 20 |
| | E2EQ-X8□18 | 60 | 35 |
| | E2EQ-X15□30 | 110 | 90 |
| DC 3-wire Spatter-resistant Single distance model | E2EQ-X1R5□8 | 20 | 15 |
| | E2EQ-X2□12 | 30 | 20 |
| | E2EQ-X5□18 | 50 | 35 |
| | E2EQ-X10□30 | 100 | 70 |

## 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.

**DC 3-wire/DC 2-wire**
**Spatter-resistant Triple distance model**

| Size | Part A | | Part B |
|---|---|---|---|
| | Dimension (mm) | Torque | Torque |
| M8 | 9 | 4 N·m | 10 N·m |
| M12 | 16 | 8 N·m | 15 N·m |
| M18 | 16 | 15 N·m | 30 N·m |
| M30 | 23 | 40 N·m | 80 N·m |

**DC 3-wire/DC 2-wire**
**Spatter-resistant Double distance model,**
**Spatter-resistant Single distance model**

| Size | Part A | | Part B |
|---|---|---|---|
| | Dimension (mm) | Torque | Torque |
| M8 | 9 | 9 N·m | 12 N·m |
| M12 | --- | 30 N·m | |
| M18 | --- | 70 N·m | |
| M30 | --- | 100 N·m | |

# Dimensions

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

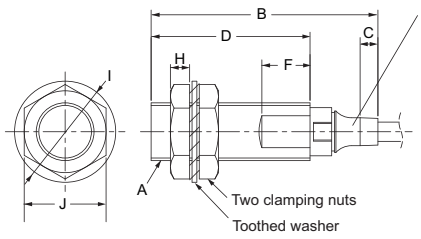
## Sensors

BASIC Model

## E2EQ NEXT Series (Spatter-resistant, Double distance/Single distance model)

### DC 3-wire/DC 2-wire

#### Pre-wired Model/Pre-wired Connector Model



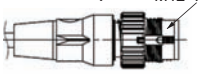

Indicators
DC 2-wire
D1 Models:
Operation indicator (orange),
Setting indicator (green)
D2 Models:
Operation indicator (orange)

DC 3-wire
Standard I/O mode (SIO mode):
Operation indicator (orange/ON),
Comunication indicator
(green/OFF)

IO-Link Communication mode
(COM mode):
Operation indicator (orange/ON),
Comunication indicator
(green/Flashing (1sec cycle))

**Pre-wired Models**

**Pre-wired Connector Models (M1TJ/M1TGJ)**



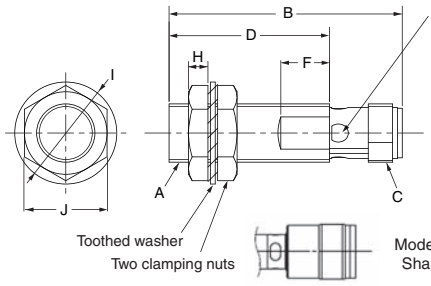

Operation mode, Output configuration (D1: NO, D2: NC)
Vinyl-insulated round cable with 2 conductors
M8, M12 size: 4-dia.
(Conductor cross section: 0.3 mm² (AWG23), Insulator diameter: 1.15 mm),
M18, M30 size: 6-dia.
(Conductor cross section: 0.5 mm² (AWG20), Insulator diameter: 1.5 mm),
Standard length: 2 m (Pre-wired Models), 0.3 m (Pre-wired Connector Models)

Operation mode, Output configuration (B1/C1: NO, B2/C2: NC)
Vinyl-insulated round cable with 3 conductors
M8, M12 size: 4-dia.
M18, M30 size: 6-dia.
(Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.5 mm),
Standard length: 2 m (Pre-wired Models), 0.3 m (Pre-wired Connector Models)

Operation mode, Output configuration (B3/C3: NO+NC Type)
Vinyl-insulated round cable with 4 conductors
M8, M12 size: 4.3-dia.
M18, M30 size: 6-dia.
(Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.5 mm),
Standard length: 2 m (Pre-wired Models), 0.3 m (Pre-wired Connector Models)

| Model | A | B | C | D | F | H | I | J |
|---|---|---|---|---|---|---|---|---|
| E2EQ-X□8 | M8XP1 | 37.8 | 4.4 | 26 | 8 | 3 | 15 | 13 |
| E2EQ-X□12 | M12XP1 | 47.1 | 3.7 | 33 | 10 | 4 | 21 | 17 |
| E2EQ-X□18 | M18XP1 | 55.3 | 8.5 | 38 | 10 | 4 | 29 | 24 |
| E2EQ-X□30 | M30XP1.5 | 60.3 | 8.3 | 43 | 10 | 5 | 42 | 36 |

#### Connector Models (M12 Connector, M8 (4-pin) Connector and M8 (3-pin) Connector)




Indicators
Standard I/O mode (SIO mode):
Operation indicator (orange/ON),
Comunication indicator
(green/OFF)

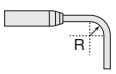
IO-Link Communication mode
(COM mode):
Operation indicator (orange/ON),
Comunication indicator
(green/Flashing (1sec cycle)

| Model | A | B | C | D | F | H | I | J |
|---|---|---|---|---|---|---|---|---|
| E2EQ-X□8-M3/M5 | M8XP1 | 39 | M8XP1 | 26 | 8 | 3 | 15 | 13 |
| E2EQ-X□8-M1 | M8XP1 | 43 | M12XP1 | 26 | 8 | 3 | 15 | 13 |
| E2EQ-X□12-M1 | M12XP1 | 48 | M12XP1 | 33 | 10 | 4 | 21 | 17 |
| E2EQ-X□18-M1 | M18XP1 | 53 | M12XP1 | 38 | 10 | 4 | 29 | 24 |
| E2EQ-X□30-M1 | M30XP1.5 | 58 | M12XP1 | 43 | 10 | 5 | 42 | 36 |

**Mounting Hole Dimensions**

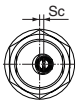

| Dimensions | F (mm) |
|---|---|
| M8 | 8.5 dia. $^{+0.5}_{0}$ |
| M12 | 12.5 dia. $^{+0.5}_{0}$ |
| M18 | 18.5 dia. $^{+0.5}_{0}$ |
| M30 | 30.5 dia. $^{+0.5}_{0}$ |

**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 | |

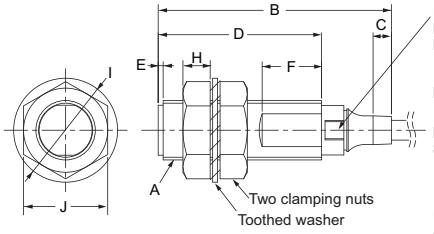
**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

PREMIUM Model

# E2EQ NEXT Series (Spatter-resistant, Triple distance model)

## DC 3-wire/DC 2-wire

### Pre-wired Model/Pre-wired Connector Model



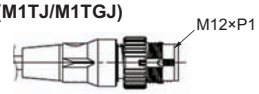

Indicators
DC 2-wire
D1 Models:
Operation indicator (orange),
Setting indicator (green)
D2 Models:
Operation indicator (orange)

DC 3-wire
Standard I/O mode (SIO mode):
Operation indicator (orange/ON),
Comunication indicator
(green/OFF)

IO-Link Communication mode
(COM mode):
Operation indicator (orange/ON),
Comunication indicator
(green/Flashing (1sec cycle))

**Pre-wired Models**

**Pre-wired Connector Models (M1TJ/M1TGJ)**




Operation mode,Output configuration (D1: NO, D2: NC)
Vinyl-insulated round cable with 2 conductors
M8, M12 size: 4-dia.
(Conductor cross section: 0.3 mm² (AWG23), Insulator diameter: 1.15 mm),
M18, M30 size: 6-dia.
(Conductor cross section: 0.5 mm² (AWG20), Insulator diameter: 1.5 mm),
Standard length: 2 m (Pre-wired Models), 0.3 m (Pre-wired Connector Models)

Operation mode, Output configuration (B1/C1: NO, B2/C2: NC)
Vinyl-insulated round cable with 3 conductors
M8, M12 size: 4-dia.
M18, M30 size: 6-dia.
(Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.5 mm),
Standard length: 2 m (Pre-wired Models), 0.3 m (Pre-wired Connector Models)

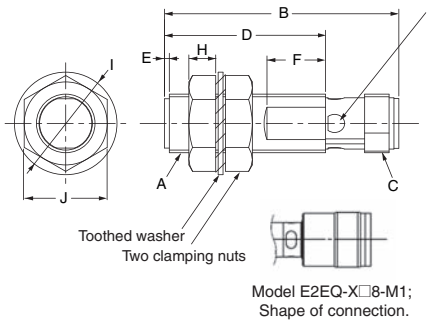
Operation mode, Output configuration (B3/C3: NO+NC Type)
Vinyl-insulated round cable with 4 conductors
M8, M12 size: 4.3-dia.
M18, M30 size: 6-dia.
(Conductor cross section: 0.2 mm² (AWG24), Insulator diameter: 1.5 mm),
Standard length: 2 m (Pre-wired Models), 0.3 m (Pre-wired Connector Models)

| Model | A | B | C | D | E | F | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| E2EQ-X□□8 | M8XP1 | 37.8 | 4.4 | 26 | 1 | 10 (8 *) | 4 | 15 | 13 |
| E2EQ-X□□12 | M12XP1 | 47.1 | 3.7 | 33 | 1 | 12 (10*) | 5.5 | 21 | 17 |
| E2EQ-X□□18 | M18XP1 | 55.3 | 8.5 | 38 | 1 | 12 | 6 | 29 | 24 |
| E2EQ-X□□30 | M30XP1.5 | 60.3 | 8.3 | 43 | 1 | 12 | 7 | 42 | 36 |

* If using the E2EQ-X□D□8, E2EQ-X□D□12, refer to ( ) dimensions.

### Connector Models
### (M12 Connector, M8 (4-pin) Connector and M8 (3-pin) Connector)

**Note:** DC 3-wire only




Model E2EQ-X□8-M1;
Shape of connection.

Indicators
Standard I/O mode (SIO mode):
Operation indicator (orange/ON),
Comunication indicator
(green/OFF)

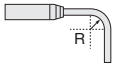
IO-Link Communication mode
(COM mode):
Operation indicator (orange/ON),
Comunication indicator
(green/Flashing (1sec cycle))

| Model | A | B | C | D | E | F | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| E2EQ-X□8-M3/M5 | M8XP1 | 39 | M8XP1 | 26 | 1 | 10 | 4 | 15 | 13 |
| E2EQ-X□8-M1 | M8XP1 | 43 | M12XP1 | 26 | 1 | 10 | 4 | 15 | 13 |
| E2EQ-X□12-M1 | M12XP1 | 48 | M12XP1 | 33 | 1 | 12 | 5.5 | 21 | 17 |
| E2EQ-X□18-M1 | M18XP1 | 53 | M12XP1 | 38 | 1 | 12 | 6 | 29 | 24 |
| E2EQ-X□30-M1 | M30XP1.5 | 58 | M12XP1 | 43 | 1 | 12 | 7 | 42 | 36 |

**Mounting Hole Dimensions**

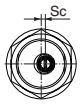

| Dimensions | F (mm) |
|---|---|
| M8 | 8.5 dia. $^{+0.5}_{0}$ |
| M12 | 12.5 dia. $^{+0.5}_{0}$ |
| M18 | 18.5 dia. $^{+0.5}_{0}$ |
| M30 | 30.5 dia. $^{+0.5}_{0}$ |

**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 | |

**Note:** When installed with a long hole, there is a possibility that the nut may be damaged due to the force applied during tightening, and therefore it cannot be used.

# XS5 NEXT Series

## Round Oil-resistive Smartclick Connectors for E2E NEXT Series proximity sensors, that are Resistant to Oil, and that Reduce Installation Work


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

- Uses unique OMRON technology*1 and the same PVC cable with increased oil resistance as the E2E NEXT Series proximity sensors. Oil-resistance performance values of 2 years*2 when used in combination with E2E NEXT Series proximity sensors.
- Oil-resistant robot cables for use with moving parts such as loaders and cableveyors
- OMRON's unique lock mechanism (Smartclick) that is compatible with round M12 connectors.
- Simply insert the Connectors, then turn them approximately 1/8 of a turn to lock.
- A positive click indicates locking.
- IP67, IP69K degree of protection.
- UL approved products.

**✻1.** Patented (as of March, 2022)
**✻2.** Covered types of oil: Cutting oil specified in JIS K 2241:2000
The oil-resistance performance value (2 years) indicates the median value (=Typ) at product design, and in evaluation testing results of oil-resistance performance. Shipped products will show some variance around this 2 year value in actual usage.

**Note:** For details, refer to *XS5 NEXT Series* on your OMRON website.

## Ordering Information

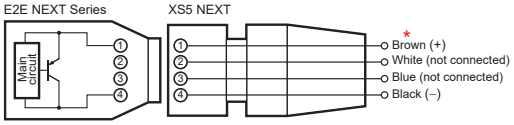
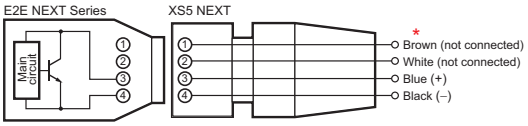
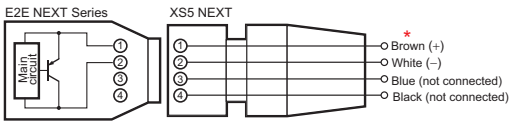
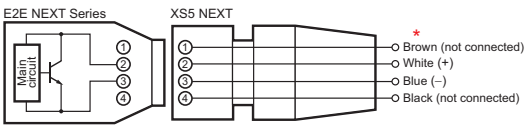
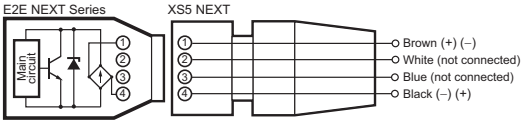
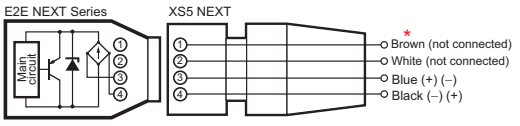
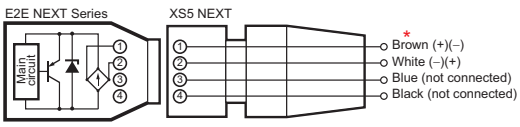
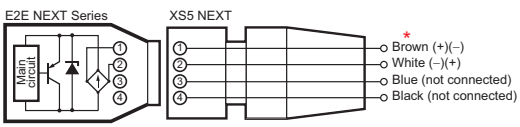
### Sensor I/O Connectors

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

| Appearance | Cable Specification | Type | Cable diameter (mm) | Cable Connection Direction | Cable length (m) | Sensor I/O Connector model number | Applicable Proximity Sensor model number |
|---|---|---|---|---|---|---|---|
| M12 Smartclick Connector<br>Straight type<br>  | Oil-resistant PVC cable | Sockets on One Cable End | 6 dia. | Straight | 1 | **XS5F-D421-C80-X** | E2E-X□D□-M1(T)(G)J(R)(-T)<br>E2E-X□D□-M1(G)(-T)<br>E2E-X□□□-M1TJ(R)<br>E2E-X□□□-M1 |
| | | | | | 2 | **XS5F-D421-D80-X** | |
| | | | | | 3 | **XS5F-D421-E80-X** | |
| | | | | | 5 | **XS5F-D421-G80-X** | |
| | | | | | 10 | **XS5F-D421-J80-X** | |
| | Oil-resistant PVC robot cable | Sockets on One Cable End | 6 dia. | Straight | 1 | **XS5F-D421-C80-XR** | |
| | | | | | 2 | **XS5F-D421-D80-XR** | |
| | | | | | 3 | **XS5F-D421-E80-XR** | |
| | | | | | 5 | **XS5F-D421-G80-XR** | |
| | | | | | 10 | **XS5F-D421-J80-XR** | |
| | Oil-resistant PVC cable | Socket and Plug on Cable Ends | 6 dia. | Straight (Socket)/ Straight (Plug) | 1 | **XS5W-D421-C81-X** | |
| | | | | | 2 | **XS5W-D421-D81-X** | |
| | | | | | 3 | **XS5W-D421-E81-X** | |
| | | | | | 5 | **XS5W-D421-G81-X** | |
| | | | | | 10 | **XS5W-D421-J81-X** | |
| | Oil-resistant PVC robot cable | Socket and Plug on Cable Ends | 6 dia. | Straight (Socket)/ Straight (Plug) | 1 | **XS5W-D421-C81-XR** | |
| | | | | | 2 | **XS5W-D421-D81-XR** | |
| | | | | | 3 | **XS5W-D421-E81-XR** | |
| | | | | | 5 | **XS5W-D421-G81-XR** | |
| | | | | | 10 | **XS5W-D421-J81-XR** | |

# Connections for Sensor I/O Connectors

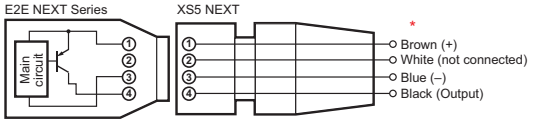
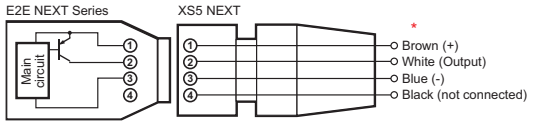
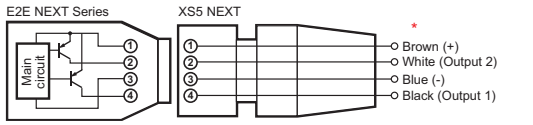
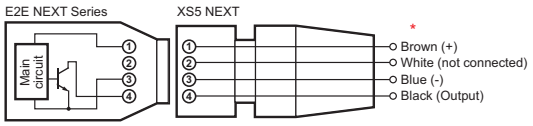
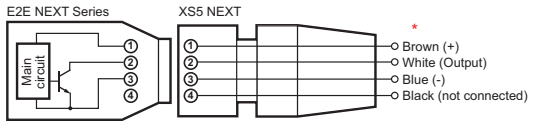
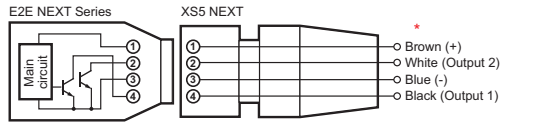
## DC 2-wire

| Proximity Sensor | | | | Sensor I/O Connector Model | Connections |
|---|---|---|---|---|---|
| Type | Polarity | Operation mode | Model | | |
| M12 Connector/ M12 Smartclick Connector | Yes | NO | E2E-X□D1□-M1(T)G(J) | XS5F-D421-□80-X□ XS5W-D421-□81-X□ |  |
| | | | E2E-X□D1□-M1(T)(J) | |  |
| | | NC | E2E-X□D2□-M1(T)G(J) | |  |
| | | | E2E-X□D2□-M1(T)(J) | |  |
| | No | NO | E2E-X□D1-M1(T)G(J)-T (Standard/Double distance model) | |  |
| | | | E2E-X□D1-M1(T)(J)-T<br>E2E-X□D1-M1TGJ-T (Triple distance/Single distance model) | |  |
| | | NC | E2E-X□D2-M1(T)G(J)-T (Standard/Double distance model) | |  |
| | | | E2E-X□D2-M1(T)(J)-T<br>E2E-X□D2-M1TGJ-T (Triple distance/Single distance model) | |  |

**Note:** Different from Proximity Sensor wire colors.

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

### DC 3-wire

| Proximity Sensor | | | | Sensor I/O Connectors | |
|---|---|---|---|---|---|
| Types | Output | Operation mode | Model | Model | Connections |
| M12 Connector/ M12 Smartclick Connector | PNP | NO | E2E-X□B1□-M1TJ/ M1 | XS5F-D421-□80-X□ XS5W-D421-□81-X□ |  |
| | | NC | E2E-X□B2□-M1TJ/M1 | |  |
| | | NO+NC | E2E-X□B3□-M1TJ/M1 | |  |
| | NPN | NO | E2E-X□C1□-M1TJ/M1 | |  |
| | | NC | E2E-X□C2□-M1TJ/M1 | |  |
| | | NO+NC | E2E-X□C3□-M1TJ/M1 | |  |



**Note:** Different from Proximity Sensor wire colors.
* If the XS5W Series Connector which has a socket and plug on the cable ends is connected to the Sensor, this part will be a plug.

### Sensor I/O Connectors Oil resistance performance of mating combination

| E2E NEXT Series | | Applicable connector Model |
|---|---|---|
| Connecting method | Model | XS5 NEXT Series |
| Pre-wired Connector Models | E2E-X□D□-M1T(G)J(R) | Oil resistant (2 years)* |
| | E2E-X□□-M1TJ(R) | |
| M12 Connector Models | E2E-X□D□-M1(G) | Water-resistant (IP67) |
| | E2E-X□□-M1 | |

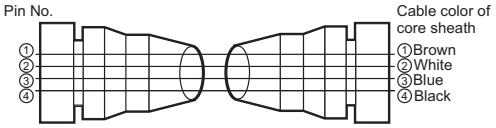
* Applicable cutting oil type: specified in JIS K 2241:2000
2 years of oil resistance indicates the median value of the product design and the oil-resistance performance criterion result (=Typical value).
Products to be shipped will have around 2 years of oil resistance, but will very depending on the product.

## Dimensions

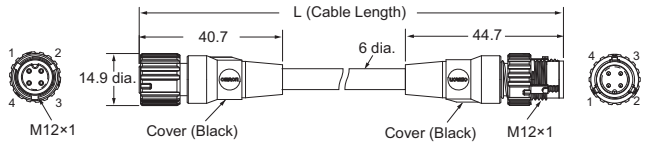
(Unit: mm)

### Both end connector type XS5W

#### Wiring Diagram for 4 Cores

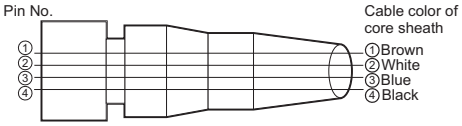



#### Straight (Socket)/Straight (Plug)
#### XS5W-D421-□81-X/XS5W-D421-□81-XR

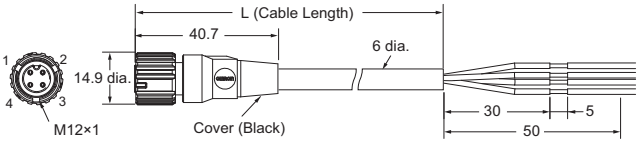



### One end connector type XS5F

#### Wiring Diagram for 4 Cores




#### Straight
#### XS5F-D421-□80-X/XS5F-D421-□80-XR



## Round Water-resistive Smartclick Connectors for E2E NEXT Series proximity sensors that Reduce Installation Work

- A newly developed lock mechanism that is compatible with round M12 connectors.
- Simply insert the Connectors, then turn them approximately 1/8 of a turn to lock.
- A positive click indicates locking.
- IP67 degree of protection.
- UL approved products.

**Note:** For details, refer to *XS5* on your OMRON website.

Smartclick

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

## Ordering Information

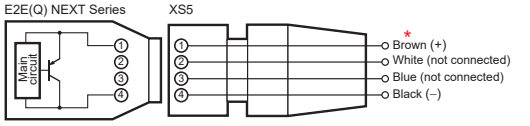
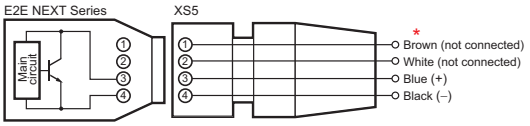
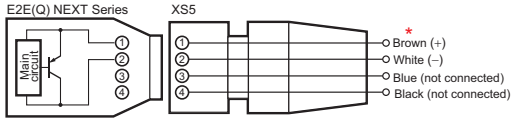
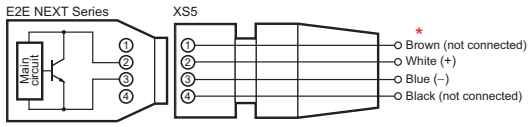
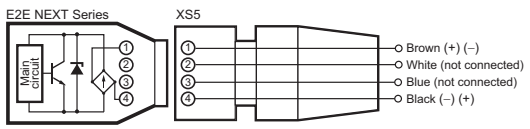
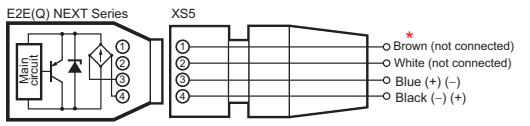
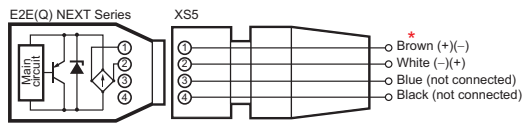
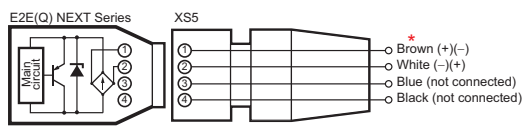
### Sensor I/O Connectors

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

| Appearance | Cable Specification | Type | Cable diameter (mm) | Cable Connection Direction | Cable length (m) | Sensor I/O Connector model number | Applicable Proximity Sensor model number |
|---|---|---|---|---|---|---|---|
| M12 Smartclick Connector<br>Straight type<br>  <br>Right-angle type<br>  | PVC robot cable | Sockets on One Cable End | 6 dia. | Straight | 1 | **XS5F-D421-C80-F** | E2E(Q)-X□D□-M1(T)(G)J(R)(-T)<br>E2E-X□D□-M1(G)(-T)<br>E2E(Q)-X□□□-M1TJ(R)<br>E2E(Q)-X□□□-M1 |
| | | | | | 2 | **XS5F-D421-D80-F** | |
| | | | | | 3 | **XS5F-D421-E80-F** | |
| | | | | | 5 | **XS5F-D421-G80-F** | |
| | | | | | 10 | **XS5F-D421-J80-F** | |
| | | | | Right-angle | 1 | **XS5F-D422-C80-F** | |
| | | | | | 2 | **XS5F-D422-D80-F** | |
| | | | | | 3 | **XS5F-D422-E80-F** | |
| | | | | | 5 | **XS5F-D422-G80-F** | |
| | | | | | 10 | **XS5F-D422-J80-F** | |
| | | Socket and Plug on Cable Ends | 6 dia. | Straight (Socket)/ Straight (Plug) | 1 | **XS5W-D421-C81-F** | |
| | | | | | 2 | **XS5W-D421-D81-F** | |
| | | | | | 3 | **XS5W-D421-E81-F** | |
| | | | | | 5 | **XS5W-D421-G81-F** | |
| | | | | | 10 | **XS5W-D421-J81-F** | |
| | | | | Right-angle (Socket)/ Right-angle (Plug) | 2 | **XS5W-D422-D81-F** | |
| | | | | | 5 | **XS5W-D422-G81-F** | |
| | | | | Straight (Socket)/ Right-angle (Plug) | 2 | **XS5W-D423-D81-F** | |
| | | | | | 5 | **XS5W-D423-G81-F** | |
| | | | | Right-angle (Socket)/ Straight (Plug) | 2 | **XS5W-D424-D81-F** | |
| | | | | | 5 | **XS5W-D424-G81-F** | |

# Connections for Sensor I/O Connectors

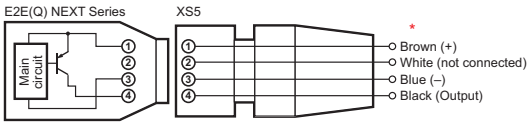
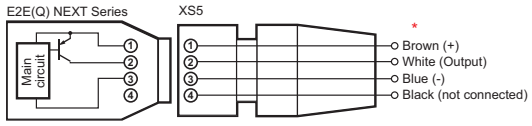
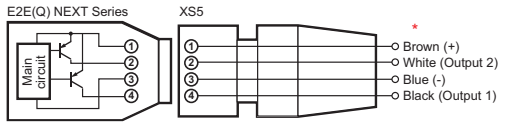
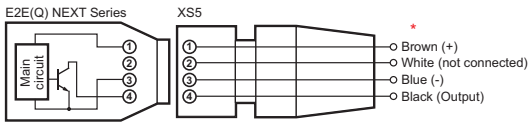
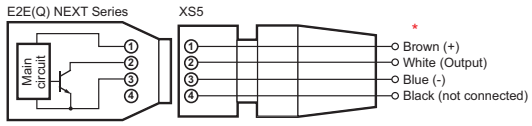
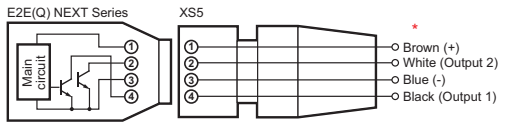
## DC 2-wire

| Proximity Sensor | | | | Sensor I/O Connector model number | Connections |
|---|---|---|---|---|---|
| Type | Polarity | Operation mode | Model | | |
| M12 Connector/ M12 Smartclick Connector | Yes | NO | E2E-X□D1□-M1(T)G(J)<br>E2EQ-X□D1□-M1TGJ | XS5F-D42□-□80-F<br>XS5W-D42□-□81-F |  |
| | | | E2E-X□D1□-M1(T)(J) | |  |
| | | NC | E2E-X□D2□-M1(T)G(J)<br>E2EQ-X□D2□-M1TGJ | |  |
| | | | E2E-X□D2□-M1(T)(J) | |  |
| | No | NO | E2E-X□D1-M1(T)G(J)-T<br>(Standard/Double distance model) | |  |
| | | | E2E-X□D1-M1(T)(J)-T<br><br>E2E-X□D1-M1TGJ-T<br>(Triple distance/Single distance model)<br><br>E2EQ-X□D1□-M1TGJ-T | |  |
| | | NC | E2E-X□D2-M1(T)G(J)-T<br>(Standard/Double distance model) | |  |
| | | | E2E-X□D2-M1(T)(J)-T<br><br>E2E-X□D2-M1TGJ-T<br>(Triple distance/Single distance model)<br><br>E2EQ-X□D2□-M1TGJ-T | |  |

**Note:** Different from Proximity Sensor wire colors.

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

## DC 3-wire

| Proximity Sensor | | | | Sensor I/O Connectors | |
|---|---|---|---|---|---|
| Types | Output | Operation mode | Model | Model | Connections |
| M12 Connector/ M12 Smartclick Connector | PNP | NO | E2E(Q)-X□B1□- M1TJ/ M1 | XS5F-D421-□80-X□<br>XS5W-D421-□81-X□ |  |
| | | NC | E2E(Q)-X□B2□-M1TJ/M1 | |  |
| | | NO+NC | E2E(Q)-X□B3□-M1TJ/M1 | |  |
| | NPN | NO | E2E(Q)-X□C1□-M1TJ/M1 | |  |
| | | NC | E2E(Q)-X□C2□-M1TJ/M1 | |  |
| | | NO+NC | E2E(Q)-X□C3□-M1TJ/M1 | |  |

**Note:** Different from Proximity Sensor wire colors.
* If the XS5W Series Connector which has a socket and plug on the cable ends is connected to the Sensor, this part will be a plug.

### Sensor I/O Connectors mating combination

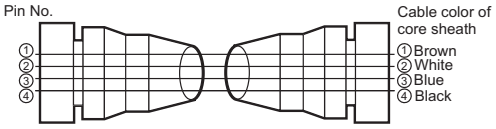
| E2E(Q) NEXT Series | | Applicable connector Model |
|---|---|---|
| Connecting method | Model | XS5 Series |
| Pre-wired Connector Models | E2E(Q)-X□D□-M1T(G)J(R) | Water-resistant (IP67) |
| | E2E(Q)-X□□-M1TJ(R) | |
| M12 Connector Models | E2E-X□D□-M1(G) | |
| | E2E(Q)-X□□-M1 | |

# Dimensions

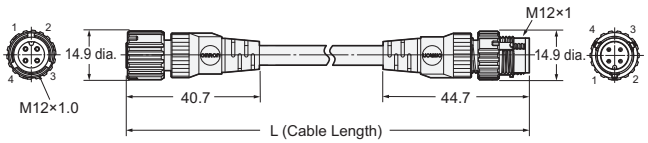
(Unit: mm)

## Socket and Plug on Cable Ends XS5W

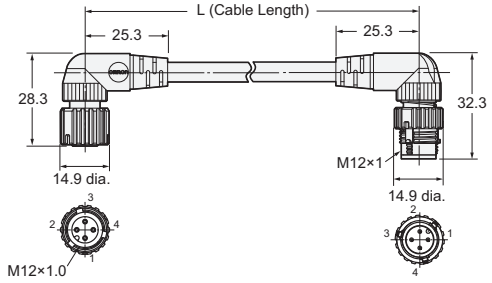
### Wiring Diagram for 4 Cores



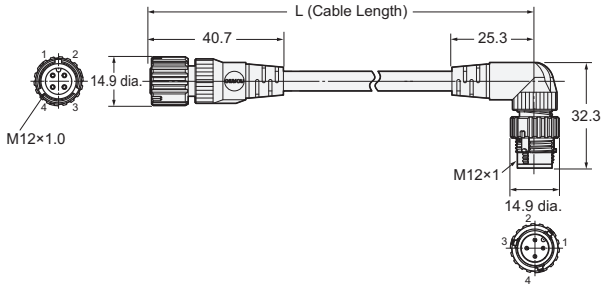

### Straight (Socket)/Straight (Plug)
**XS5W-D421-□81-F**



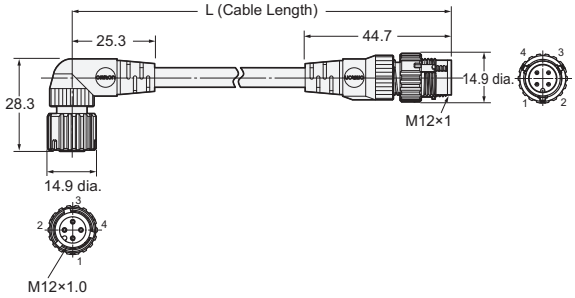

### Right-angle (Socket)/right-angle (Plug)
**XS5W-D422-□81-F**




### Straight (Socket)/right-angle (Plug)
**XS5W-D423-□81-F**

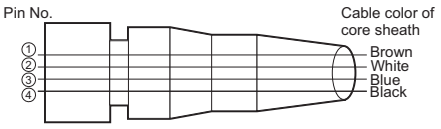



### Right-angle (Socket)/Straight (Plug)
**XS5W-D424-□81-F**

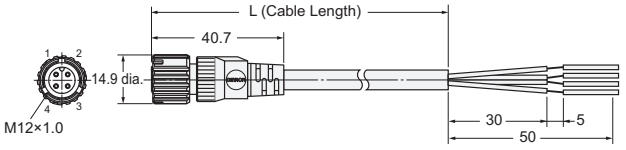



## Sockets on One Cable End XS5F

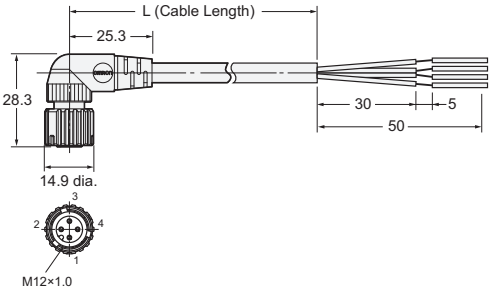
### Wiring Diagram for 4 Cores




### Straight
**XS5F-D421-□80-F**




### Right-angle
**XS5F-D422-□80-F**



## Small Round Water-resistive Connectors

- Water-resistive, compact connector meets IP67 requirements.
- XS3-R Series; connectors with cables are available.
  M8 models are UL certified.
- Oil-resistant Polyurethane Robot Cables added.

**Note:** For details, refer to *XS3* on your OMRON website.

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

## Ordering Information

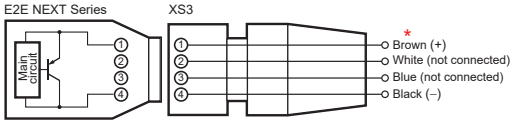
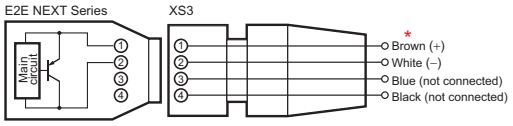
### Sensor I/O Connectors

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

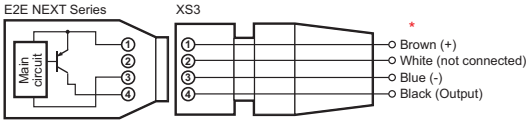
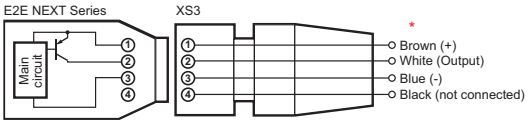
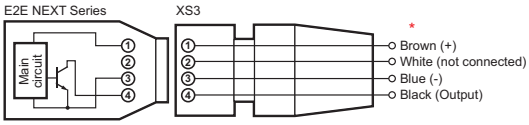
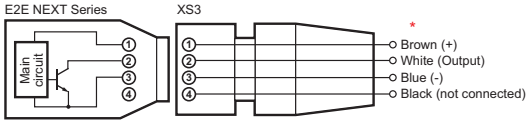
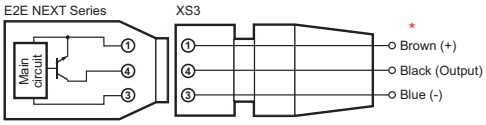
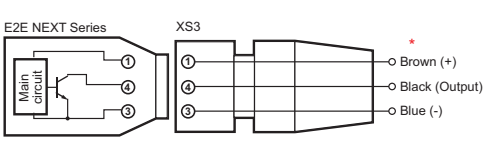
| Appearance | Cable specification | Type | Cable diameter (mm) | No. of cable cores (Poles) | Cable connection direction | Cable length (m) | Sensor I/O Connector model number | Applicable Proximity Sensor model number |
|---|---|---|---|---|---|---|---|---|
| M8 Connector<br>Straight type<br>  <br>Right-angle type<br>  | PVC robot cable | Sockets on One Cable End | 4 dia. | 3 | Straight | 2 | **XS3F-M321-302-R** | E2E-X□□□-M5 |
| | | | | | | 5 | **XS3F-M321-305-R** | |
| | | | | | | 10 | **XS3F-M321-310-R** | |
| | | | | | Right-angle | 2 | **XS3F-M322-302-R** | |
| | | | | | | 5 | **XS3F-M322-305-R** | |
| | | | | | | 10 | **XS3F-M322-310-R** | |
| | | | | 4 | Straight | 2 | **XS3F-M421-402-R** | E2E-X□□□-M3 |
| | | | | | | 5 | **XS3F-M421-405-R** | |
| | | | | | | 10 | **XS3F-M421-410-R** | |
| | | | | | Right-angle | 2 | **XS3F-M422-402-R** | |
| | | | | | | 5 | **XS3F-M422-405-R** | |
| | | | | | | 10 | **XS3F-M422-410-R** | |
| | | Socket and Plug on Cable Ends | | 3 | Straight (Plug)/ Straight (Socket) | 2 | **XS3W-M321-302-R** | E2E-X□□□-M5 |
| | | | | | | 5 | **XS3W-M321-305-R** | |
| | | | | | | 10 | **XS3W-M321-310-R** | |
| | | | | 4 | Straight (Plug)/ Straight (Socket) | 2 | **XS3W-M421-402-R** | E2E-X□□□-M3 |
| | | | | | | 5 | **XS3W-M421-405-R** | |
| | | | | | | 10 | **XS3W-M421-410-R** | |

# Connections for Sensor I/O Connectors

## DC 2-wire

| Proximity Sensor | | | | Sensor I/O Connector model number | Connections |
|---|---|---|---|---|---|
| Type | Polarity | Operation mode | Model | | |
| M8 (4-pin) Connector Models | Yes | NO | E2E-X□D1-M3G | XS3W-M42□-4□-R<br>XS3F-M42□-4□-R |  |
| | | NC | E2E-X□D2-M3G | |  |

## DC 3-wire

| Proximity Sensor | | | | Sensor I/O Connectors | |
|---|---|---|---|---|---|
| Types | Output | Operation mode | Model | Model | Connections |
| M8 (4-pin) Connector Models | PNP | NO | E2E-X□B1□-M3 | XS3W-M42□-4□-R<br>XS3F-M42□-4□-R |  |
| | | NC | E2E-X□B2□-M3 | |  |
| | NPN | NO | E2E-X□C1□-M3 | |  |
| | | NC | E2E-X□C2□-M3 | |  |
| M8 (3-pin) Connector Models | PNP | NO | E2E-X□B1□-M5 | XS3W-M32□-3□-R<br>XS3F-M32□-3□-R |  |
| | | NC | E2E-X□B2□-M5 | | |
| | NPN | NO | E2E-X□C1□-M5 | |  |
| | | NC | E2E-X□C2□-M5 | | |

**Note:** Different from Proximity Sensor wire colors.
* If the XS3W Series Connector which has a socket and plug on the cable ends is connected to the Sensor, this part will be a plug.

### Sensor I/O Connectors mating combination

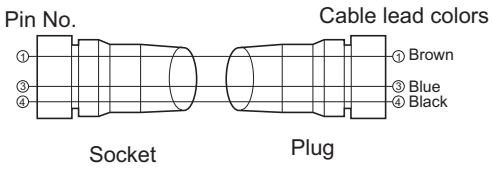
| E2E NEXT Series | | Applicable connector Model |
|---|---|---|
| Connecting method | Model | XS3 Series |
| M8 (4-pin) Connector Models | E2E-X□D□-M3G | Water-resistant (IP67) |
| | E2E-X□□-M3 | |
| M8 (3-pin) Connector Models | E2E-X□□-M5 | |

# Dimensions

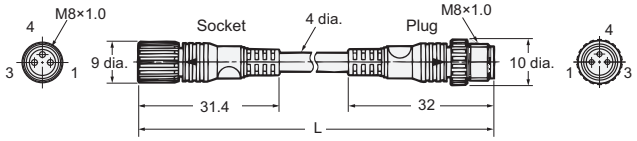
(Unit: mm)

## Socket and Plug on Cable Ends XS3W

### Wiring Diagram for 3 Cores

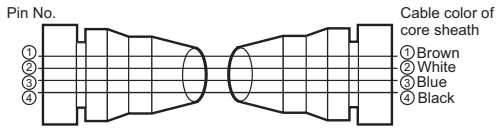



### Straight (Socket)/Straight (Plug)
### XS3W-M321-3□□-R

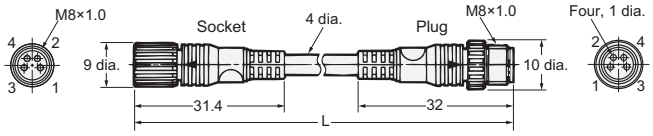



## Socket and Plug on Cable Ends XS3W

### Wiring Diagram for 4 Cores

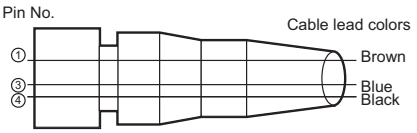



### Straight (Socket)/Straight (Plug)
### XS3W-M421-4□□-R

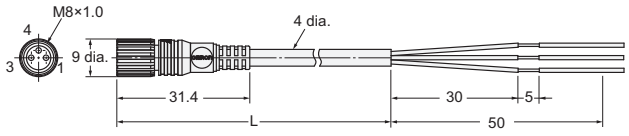



## Sockets on One Cable End XS3F

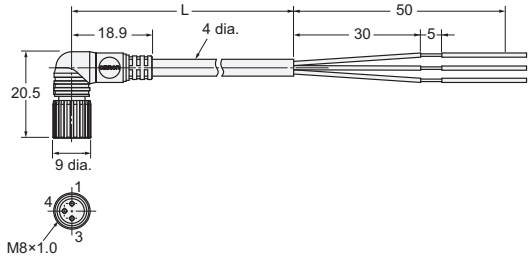
### Wiring Diagram for 3 Cores




### Straight
### XS3F-M321-3□□-R

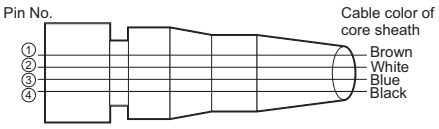



### Right-angle
### XS3F-M322-3□□-R

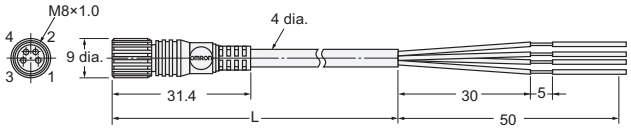



## Sockets on One Cable End XS3F

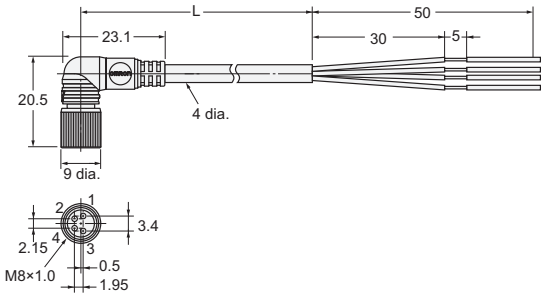
### Wiring Diagram for 4 Cores




### Straight
### XS3F-M421-4□□-R




### Right-angle
### XS3F-M422-4□□-R



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**OMRON Corporation Industrial Automation Company**

**Kyoto, JAPAN** **Contact : www.ia.omron.com**

***Regional Headquarters***

**OMRON EUROPE B.V.**
Wegalaan 67-69, 2132 JD Hoofddorp
The Netherlands
Tel: (31) 2356-81-300 Fax: (31) 2356-81-388

**OMRON ELECTRONICS LLC**
2895 Greenspoint Parkway, Suite 200
Hoffman Estates, IL 60169 U.S.A.
Tel: (1) 847-843-7900 Fax: (1) 847-843-7787

**OMRON ASIA PACIFIC PTE. LTD.**
438B Alexandra Road, #08-01/02 Alexandra
Technopark, Singapore 119968
Tel: (65) 6835-3011 Fax: (65) 6835-3011

**OMRON (CHINA) CO., LTD.**
Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-6023-0333 Fax: (86) 21-5037-2388

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