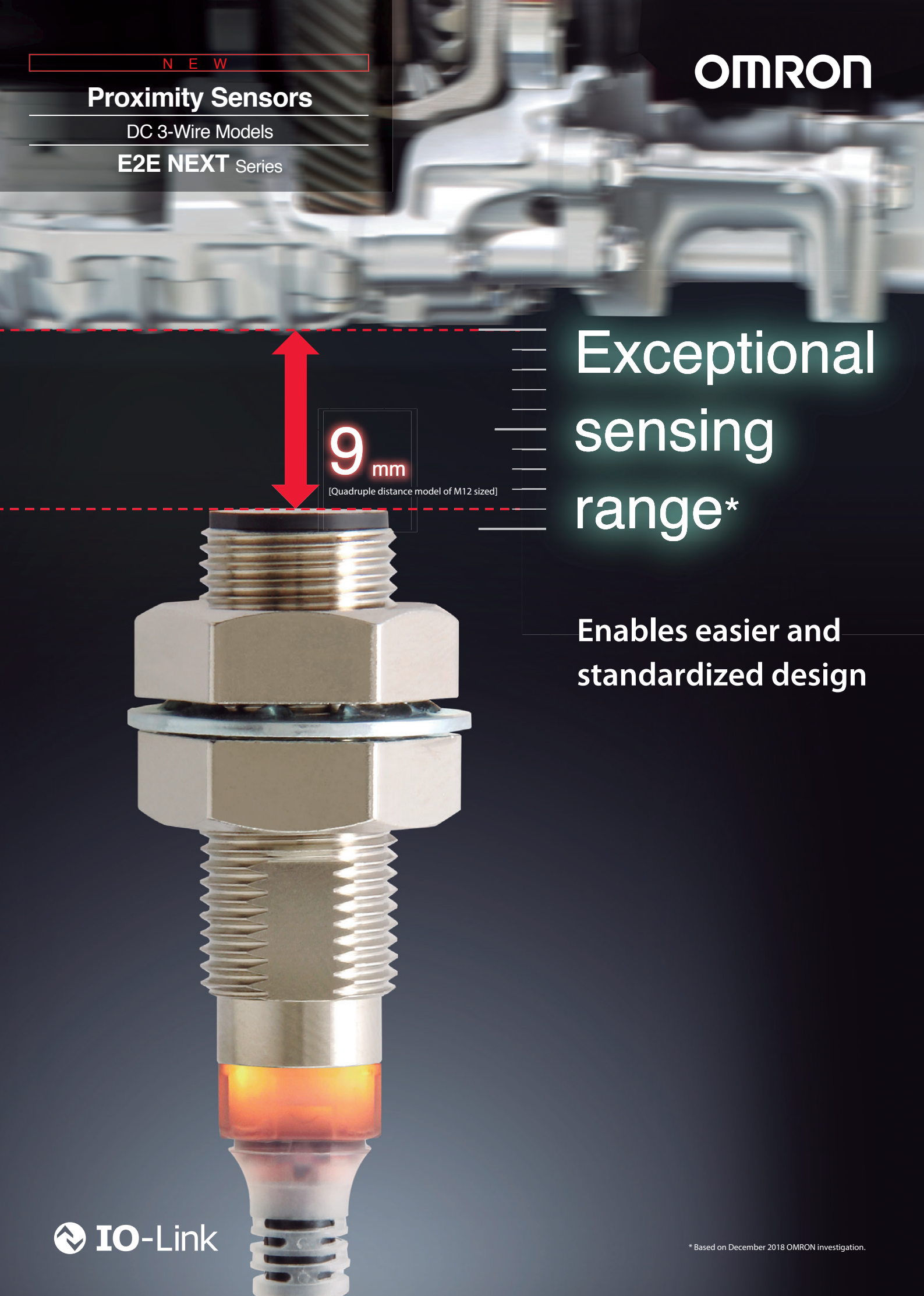
N E W

Proximity Sensors

DC 3-Wire Models

E2E NEXT Series

OMRON



Exceptional sensing range*

Enables easier and standardized design

IO-Link

* Based on December 2018 OMRON investigation.

Enables easier and standardi

previously not possible

PREMIUM Model

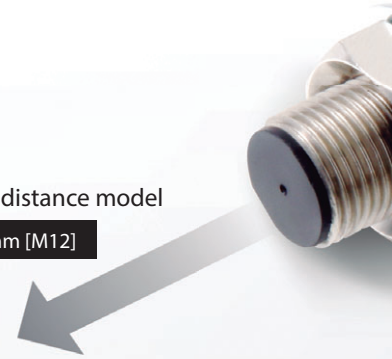
Easy design **Standardized design**

Exceptional sensing range*1 9 mm [M12]*2

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. Based on December 2018 OMRON investigation.

*2. 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.

zed 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 *3

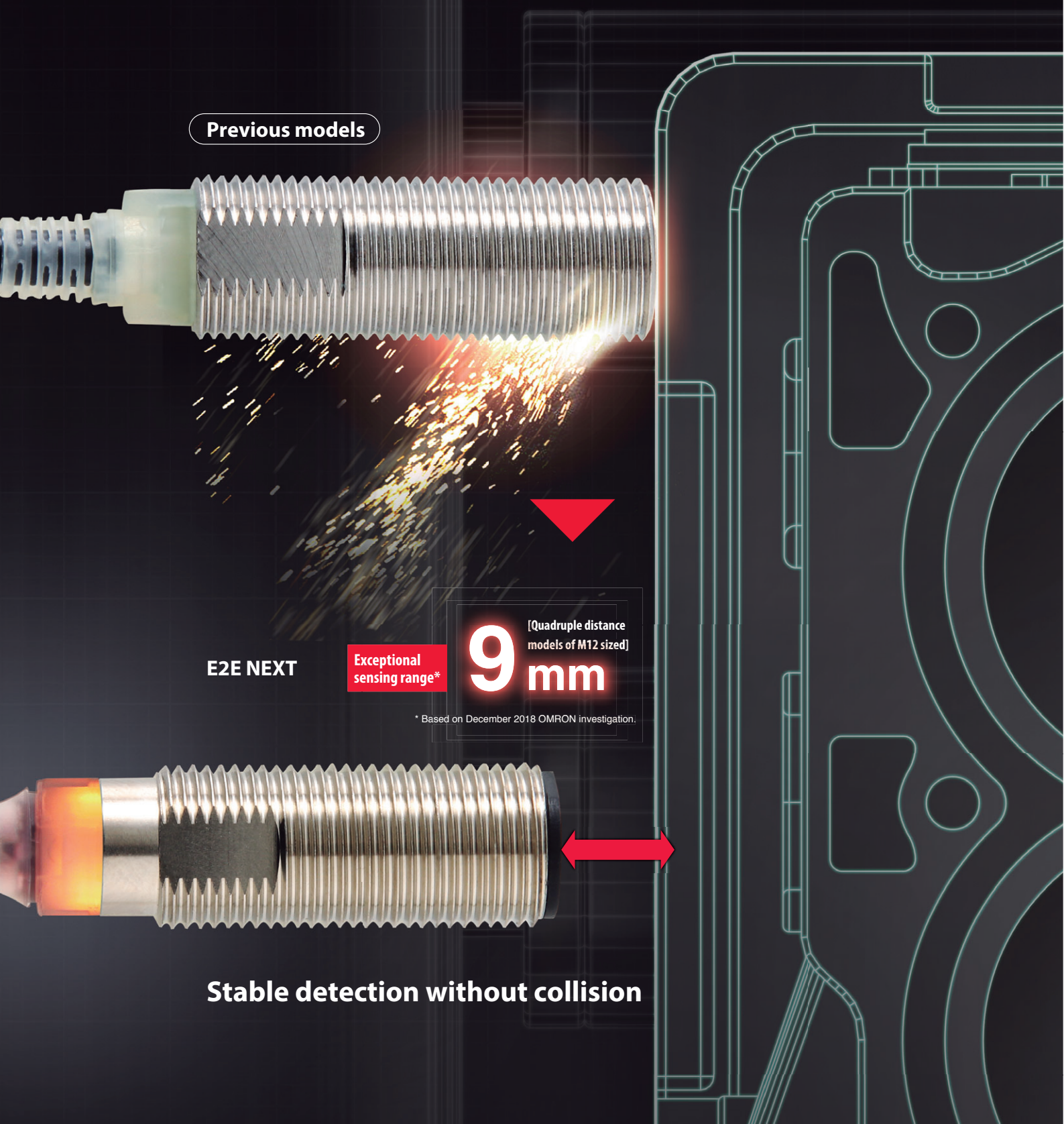
P.12

*3. 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.

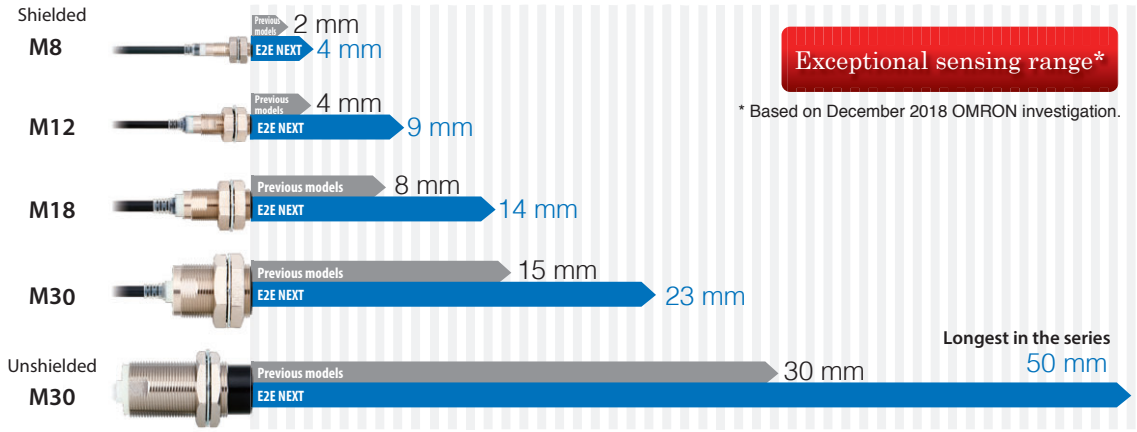


Allows for more spacious design with less risk of contact

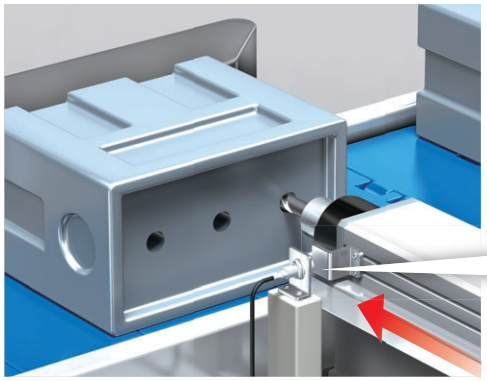
With previous models, to avoid false detections, you were forced to adopt sensor installation designs that risked contact. The E2E NEXT PREMIUM Proximity Sensor can detect accurately from a greater distance, which means you can adopt designs with more space and less risk of contact.

■Approximately double the sensing distance of previous models

Sensing distance comparisons (Quadruple distance models)



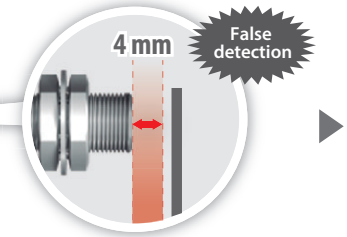
Less false detection even when a stationary gets away from the sensor due to equipment vibration



Spindle presence detection

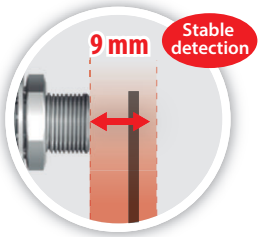
Previous models

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



E2E NEXT

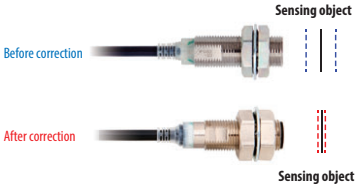
Long-distance detection enhances the degree of the detection margin. Stable detection even when a stationary gets away.



* Quadruple distance models of M12 sized

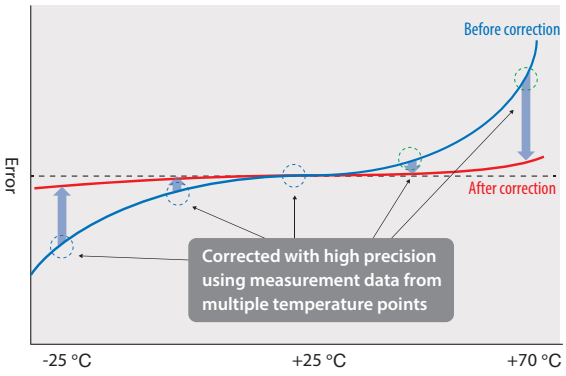
PROX3 hybrid circuitry with Thermal Distance Control 2 eliminates ambient temperature influence to enable extended sensing ranges.

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.



Patent Pending **Thermal Distance Control 2 technology reduces the extent of error**

Sensing distance fluctuation due to ambient temperature



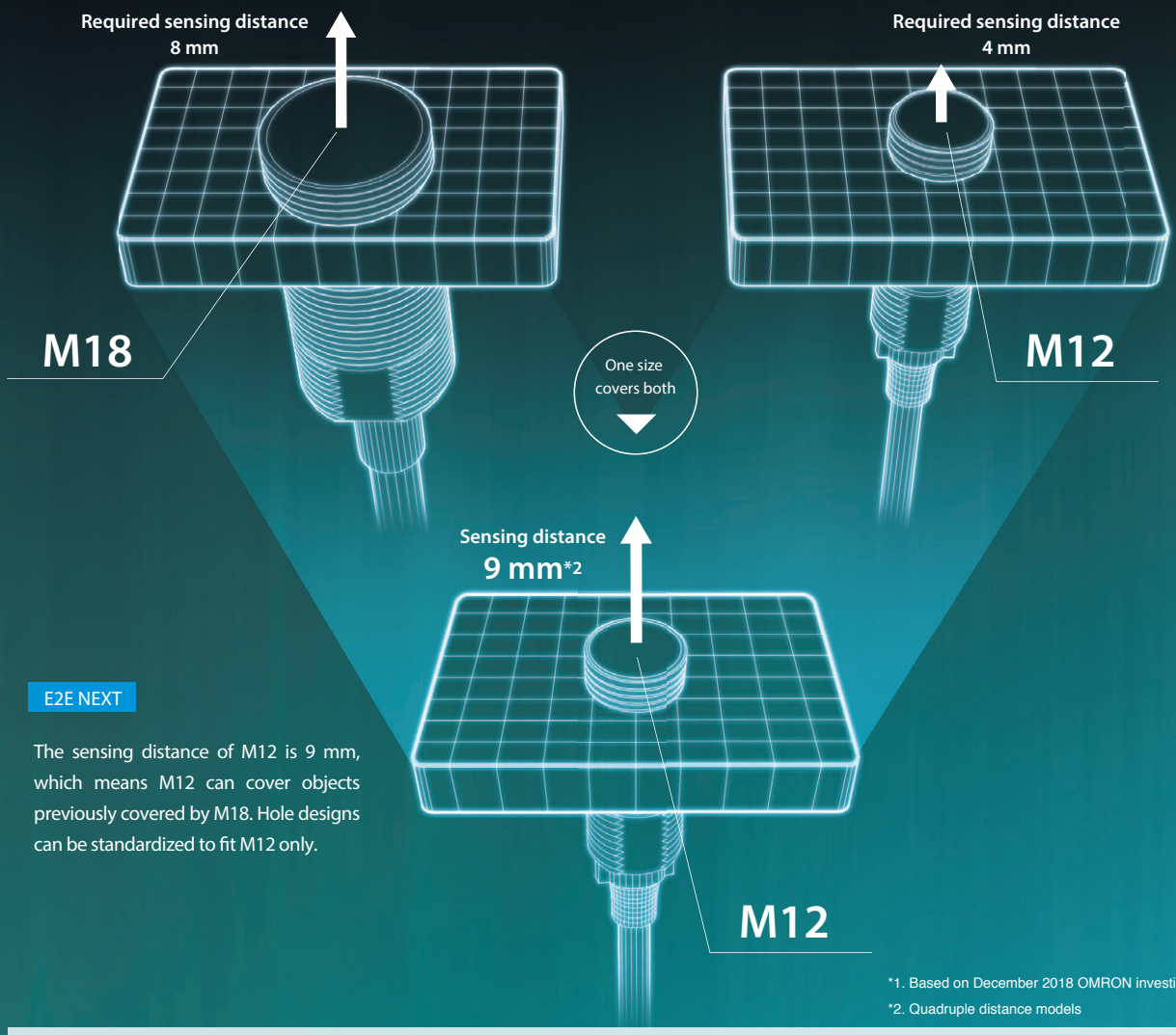
Standardized design

Exceptional sensing range*1 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 models Two different types of hole designs were required for the sensing distance of 4 mm and 8 mm.

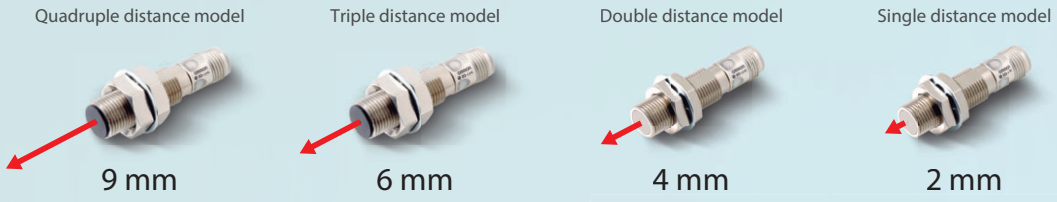


E2E NEXT

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.

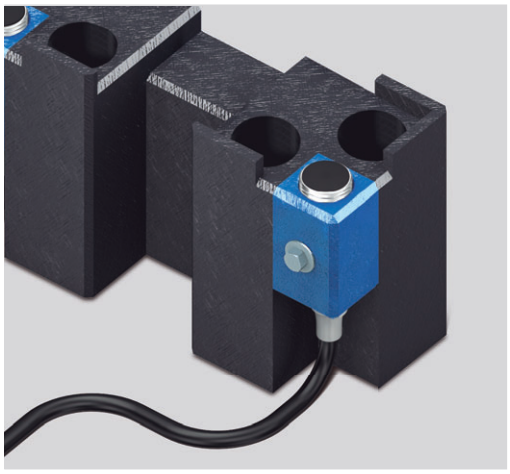
*1. Based on December 2018 OMRON investigation.
*2. Quadruple distance models

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

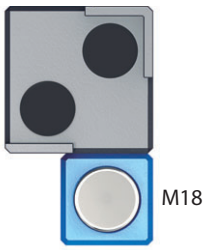


Easy to install, even where space is limited

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.

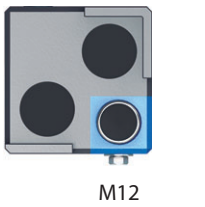


Previous models Proximity sensors could not be installed due to limited space.



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

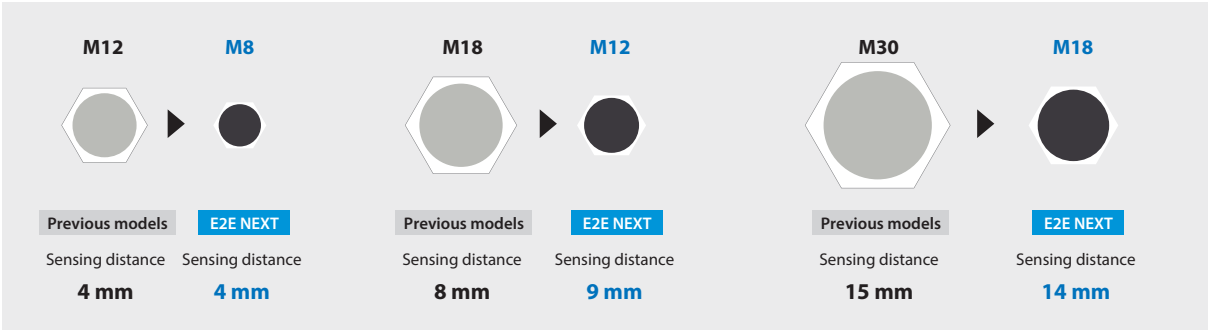
One size smaller to allow you to install proximity sensors where space is limited.



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 62 and page 80 for details.)

■One size smaller than previous models

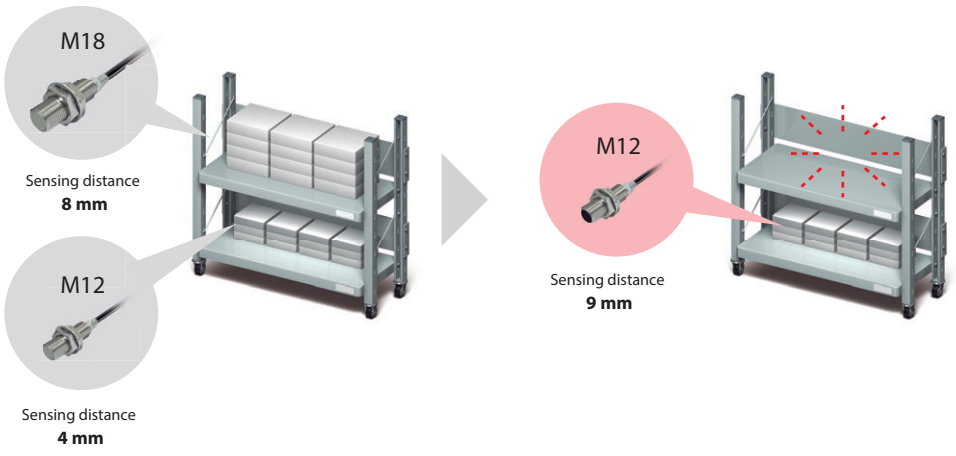
Size comparisons between models with equivalent sensing distance ("E2E NEXT" refers to quadruple distance models)



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

Previous models Two models (M12 and M18) stocked

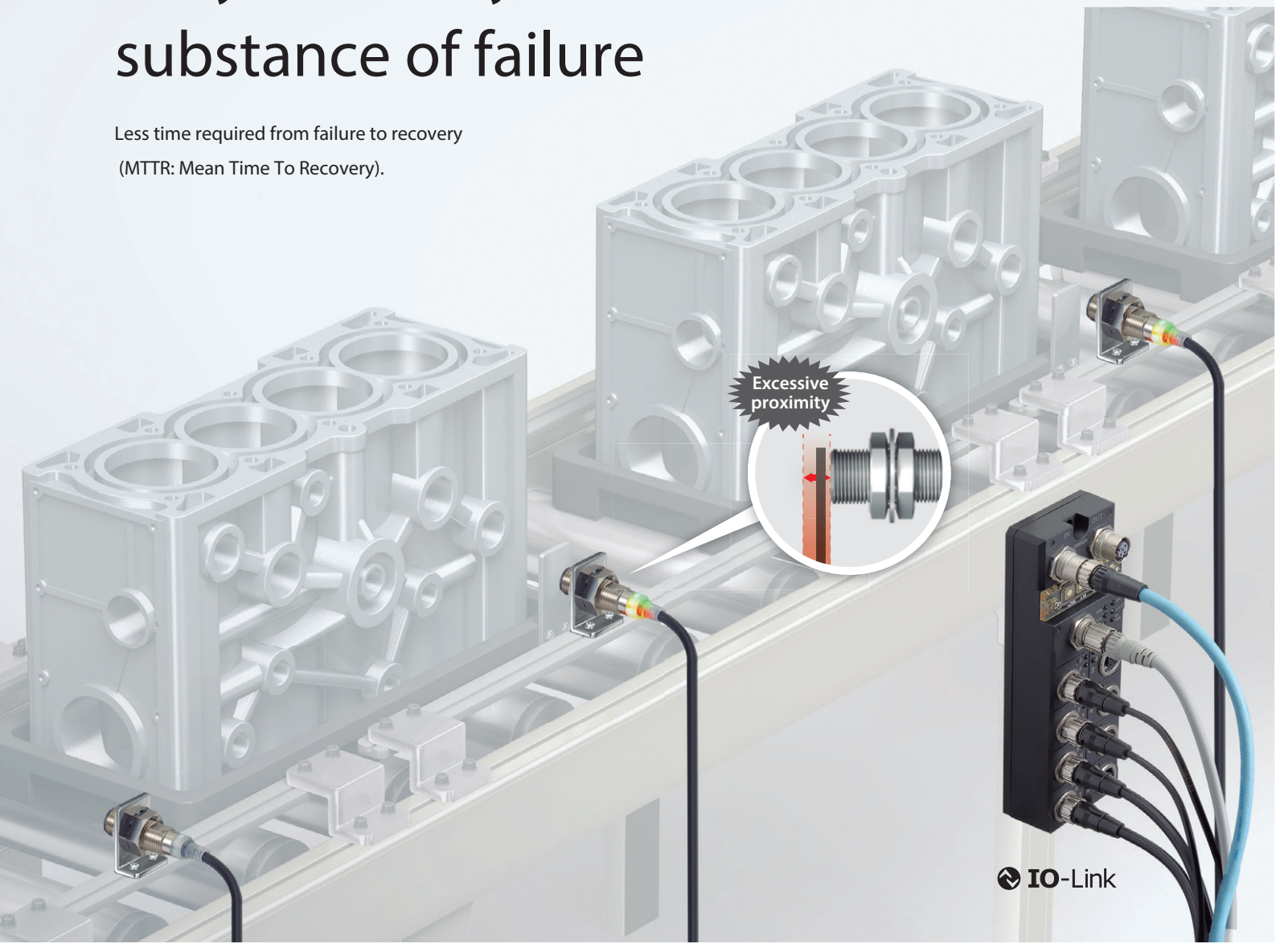
E2E NEXT The extended range of the new sensors allows you to reduce the sensor size from M18 down to M12.



New standards for usability | Early error detection

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

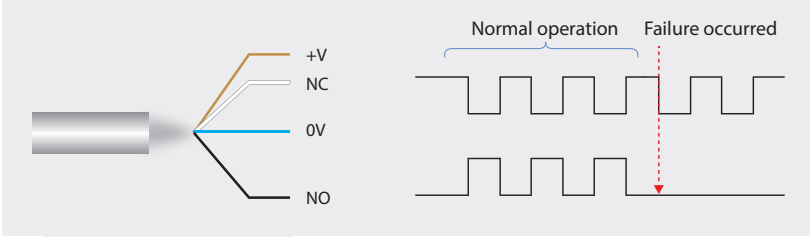
Less time required from failure to recovery
(MTTR: Mean Time To Recovery).



Detects sensor failures through two output types, NO and NC

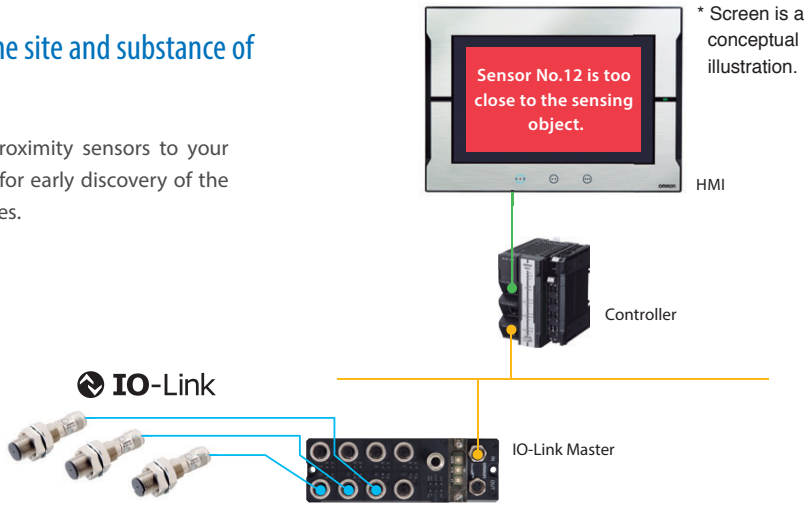
Enables failure discovery by wiring two outputs, NO and NC.

When NO cable is disconnected



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

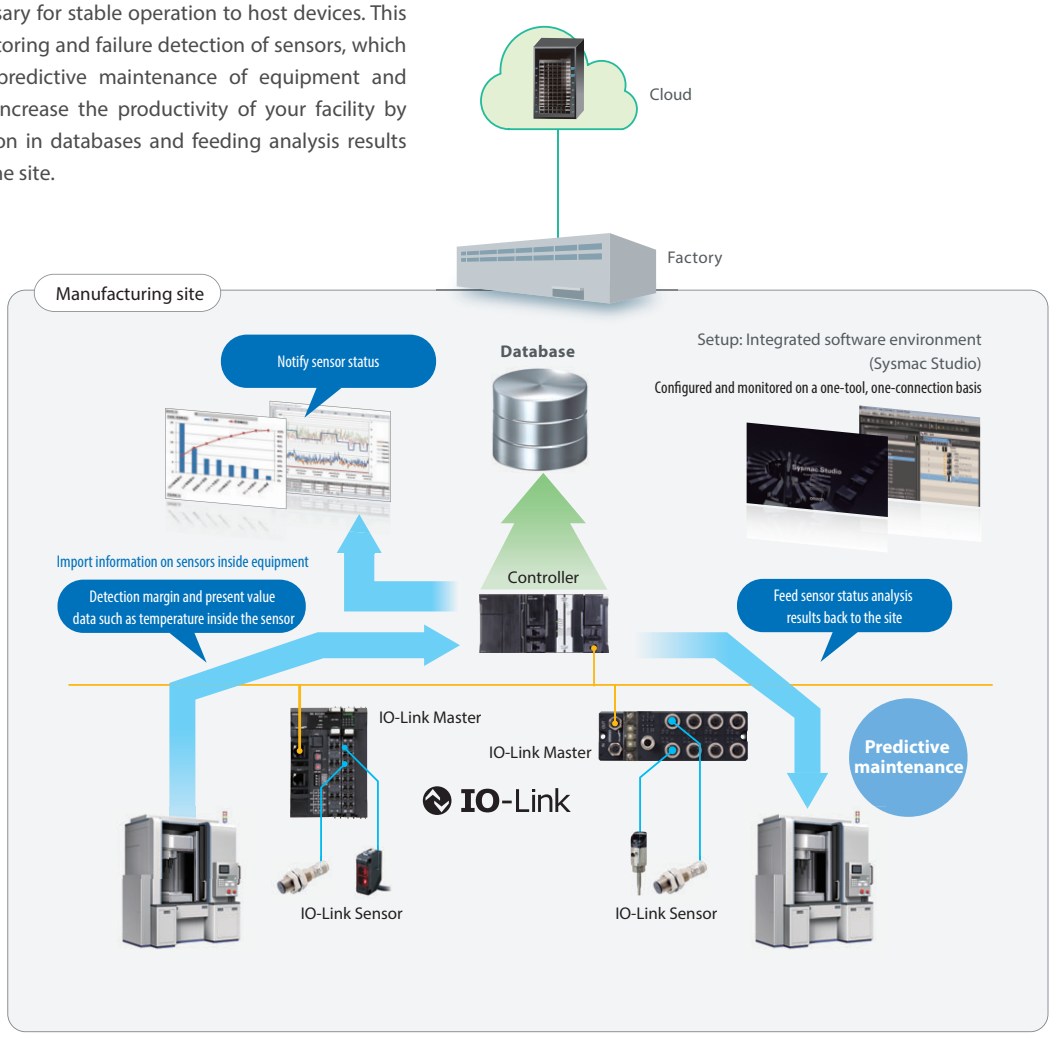
By using the IO-Link Master to connect proximity sensors to your controller, you can use your monitor (HMI) for early discovery of the site and substance of proximity sensor failures.



* Screen is a conceptual illustration.

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.



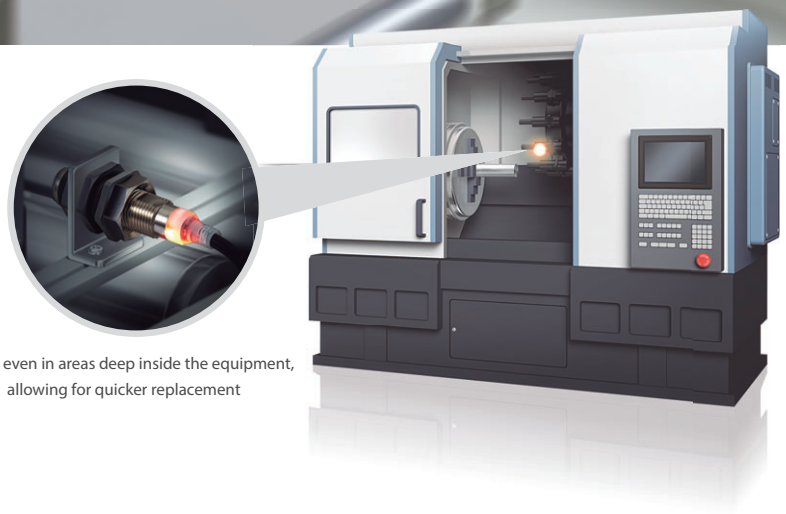
* Applies only to the description of the high-brightness LED indicator.

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.



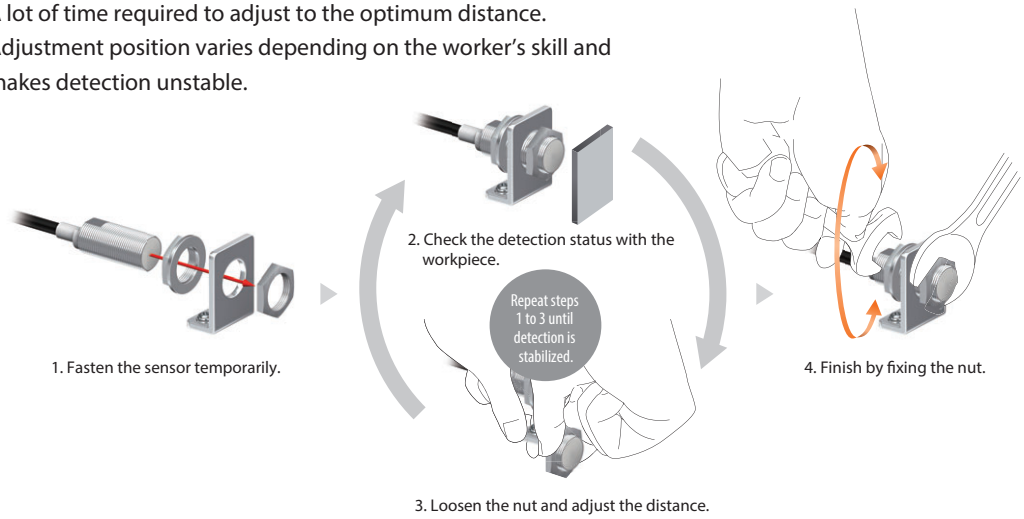
Visible even in areas deep inside the equipment, allowing for quicker replacement

Replacements in as little as 10 seconds* using e-jig

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

Previous models

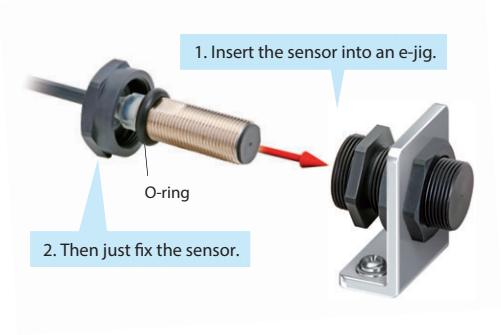
A lot of time required to adjust to the optimum distance.
Adjustment position varies depending on the worker's skill and makes detection unstable.



E2E NEXT

Replacement time reduced significantly to approx. 10 sec.*

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



Patent Pending

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

* Time required to adjust the distance when installing a sensor. Based on OMRON investigation.

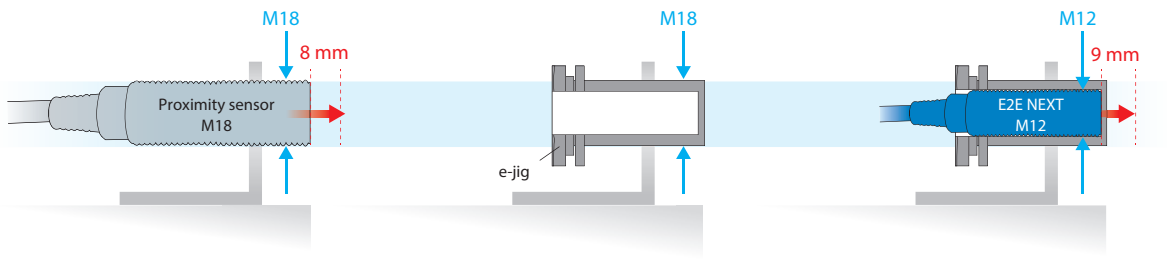
Easily upgrade existing facilities to enable "10-second* proximity sensor replacements"

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. 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.

■Environmental Causes of Component Failures

(Based on June 2016 OMRON investigation.)

Cables with enhanced oil resistance shut out cutting oil for 2 years*

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* 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,* **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***

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* of stable operation verified for pre-wired connector models as well, using similar oil resistance tests

- Delivers 2-year oil resistance* by adopting technologies unique to OMRON and PVC cables with enhanced oil resistance. Patent Pending
- 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

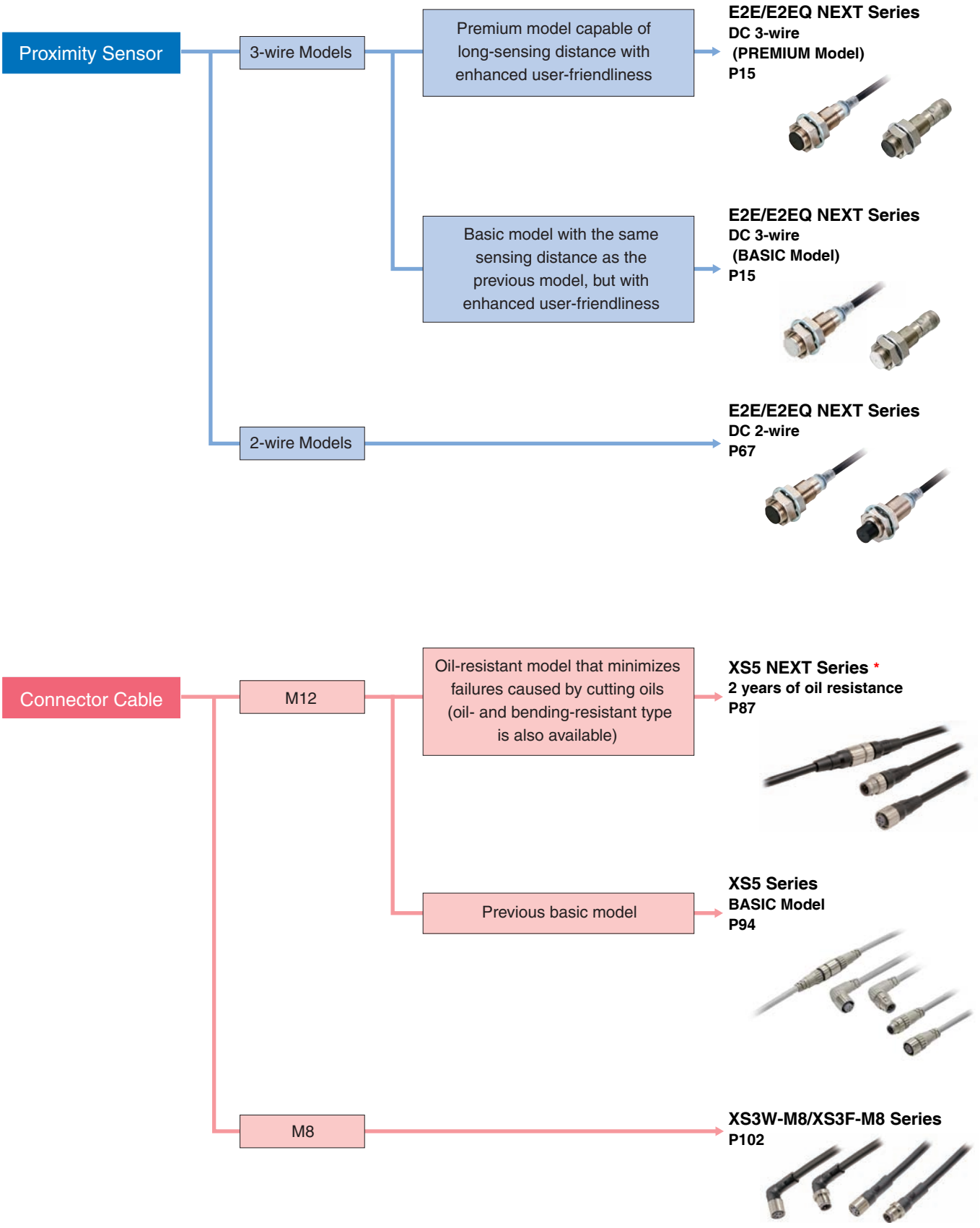
Cat. No. Y215

*•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).

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/E2EQ NEXT Series
Selection Guide



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The Pre-wired Connector Model has a verified oil resistance of 2 years when mated with XS5 NEXT Series round oil-resistant connectors.

E2E/E2EQ NEXT Series

DC 3-Wire

Enables easier and standardized designs previously not possible

- 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*4
- Comes in a wide variation to make sensor selection easy
- UL certification (UL60947-5-2)*5 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. Based on December 2018 OMRON investigation.
*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 and E2EQ series is excluded.
*4. E2EQ series is excluded.
*5. M8 (4-pin) Connector Models are not UL certified.

⚠ Be sure to read *Safety Precautions* on page 61.

Features

PREMIUM Model

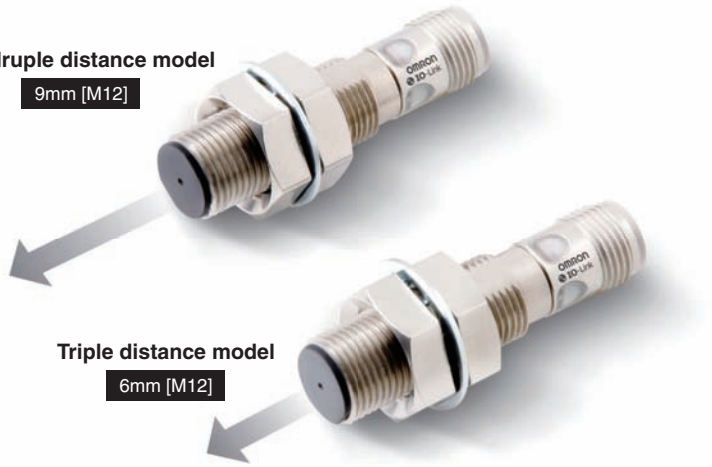
Easy design **Standardized design**

Exceptional sensing range *6

9 mm [M12] *7

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.

*6. Based on December 2018 OMRON investigation.
*7. Quadruple distance models of M12 sized



BASIC Model

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

Double distance model
4mm [M12]

Single distance model
2mm [M12]

New standards for usability

Early error detection

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

Quick recovery

10 second replaceable **with e-jig** (adaptor) *8

360° degree view **with high visibility LED indicator**

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

Less unexpected facility stoppages

Strong resistance to cutting oil **2-year** oil resistance *9

*9. E2E Connector Models and E2EQ series is excluded.

PREMIUM Model

E2E NEXT Series (Triple distance model)

DC 3-wire [Refer to *Dimensions* on page 64.]

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) *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.

Ratings and Specifications

PREMIUM Model

E2E NEXT Series (Quadruple/Triple distance model)
DC 3-wire
Shielded

Types		Quadruple distance model				Triple distance model			
Size		M8	M12	M18	M30	M8	M12	M18	M30
Item	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 48.)							
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 *5	Approx. 55 g	Approx. 95 g	Approx. 180 g	Approx. 40 g *5	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)							
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.
*5. Both M8 connectors and M12 connectors are available.