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 27 to 29 for details.

Be sure to read *Safety Precautions* on page 33.

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 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 32 for details.

Ordering Information

Sensors

DC 2-wire (Standard model) **[Refer to *Dimensions* on page 35.]**

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 35.] NEW

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 38.]

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 Standard model (Shielded/Unshielded Models) Single distance model (Shielded Models)	M8	Clamping nuts (bronze with nickel plating): 2 Toothed washer (iron with zinc plating): 1
Y92E-NWM12-E2E	E2E NEXT Series Standard model (Shielded/Unshielded Models) Double distance model (Shielded Models) Single distance model (Shielded Models)	M12	
Y92E-NWM18-E2E	E2E NEXT Series Standard model (Shielded/Unshielded Models) Double distance model (Shielded/Unshielded Models) Single distance model (Shielded Models)	M18	
Y92E-NWM30-E2E	E2E NEXT Series Standard model (Shielded/Unshielded Models) 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 84.
For details of the connector, refer to XS5 Series Round Water-resistant Connectors (M12 Smartclick) on page 87.
For details of the connector, refer to XS3 Series Round Water-resistant Connectors (M8) on page 91.

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 30.)							
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) No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m)							
Indicator		D1 Models: Operation indicator (orange), Setting indicator (green) D2 Models: Operation indicator (orange)							
Operation mode		D1 Models: NO D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 32 for details.							
Protection circuits		Surge suppressor, Load short-circuit protection							
Ambient temperature range		Operating: -25 to 70°C, Storage: -40 to 85°C (with no icing or condensation)							
Ambient humidity range		Operating and Storage: 35% to 95% (with no condensation)							
Temperature influence		±10% max. of sensing distance at 23°C in the temperature range of -25 to 70°C							
Voltage influence		±1% max. of sensing distance at rated voltage in the rated voltage ±15% range							
Insulation resistance		50 MΩ min. (at 500 VDC) between current-carrying parts and case							
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case							
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions							
Shock resistance (destruction)		500 m/s^2 10 times each in X, Y, and Z directions		1,000 m/s^2 10 times each in X, Y, and Z directions					
Degree of protection		Pre-wired Models/Pre-wired Connector Models: IP67 (IEC 60529), IP67G *3 (JIS C 0920 Annex 1) Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000, Temperature: 35°C max.) and 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), 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 30.)				
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) D2 Models: Operation indicator (orange)				
Operation mode		D1 Models: NO D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 32 for details.				
Protection circuits		Surge suppressor, Load short-circuit protection				
Ambient temperature range		Operating: -25 to 70°C, Storage: -40 to 85°C (with no icing or condensation)				
Ambient humidity range		Operating and Storage: 35% to 95% (with no condensation)				
Temperature influence		±10% max. of sensing distance at 23°C in the temperature range of -25 to 70°C				
Voltage influence		±1% max. of sensing distance at rated voltage in the rated voltage ±15% range				
Insulation resistance		50 MΩ min. (at 500 VDC) between current-carrying parts and case				
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case				
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions				
Shock resistance (destruction)		500 m/s^2 10 times each in X, Y, and Z directions	1,000 m/s^2 10 times each in X, Y, and Z directions			
Degree of protection		Pre-wired Models/Pre-wired Connector Models: IP67 (IEC 60529), IP67G *3 (JIS C 0920 Annex 1) Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000, Temperature: 35°C max.) and 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 30.)		
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) No polarity: 5 V max. (Load current: 100 mA, Cable length: 2 m)		
Indicator		D1 Models: Operation indicator (orange), Setting indicator (green) D2 Models: Operation indicator (orange)		
Operation mode		D1 Models: NO D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 32 for details.		
Protection circuits		Surge suppressor, Load short-circuit protection		
Ambient temperature range		Operating: -25 to 70°C, Storage: -40 to 85°C (with no icing or condensation)		
Ambient humidity range		Operating and Storage: 35% to 95% (with no condensation)		
Temperature influence		±10% max. of sensing distance at 23°C in the temperature range of -25 to 70°C		
Voltage influence		±1% max. of sensing distance at rated voltage in the rated voltage ±15% range		
Insulation resistance		50 MΩ min. (at 500 VDC) between current-carrying parts and case		
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case		
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions		
Shock resistance (destruction)		500 m/s^2 10 times each in X, Y, and Z directions	1,000 m/s^2 10 times each in X, Y, and Z directions	
Degree of protection		Pre-wired Models/Pre-wired Connector Models: IP67 (IEC 60529), IP67G *3 (JIS C 0920 Annex 1) Passed OMRON's Oil-resistant Component Evaluation Standards *4 (Cutting oil type: specified in JIS K 2241:2000, Temperature: 35°C max.) and 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		

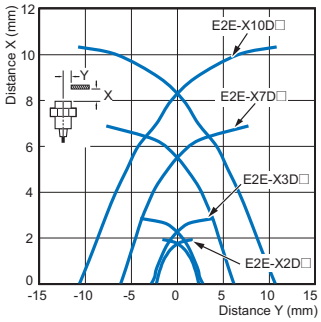
*1. Use the Sensor within the range in which the setting indicator (green LED) is ON (except D2 Models).
*2. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard.
*3. The IP67G is the degree of protection which is 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)

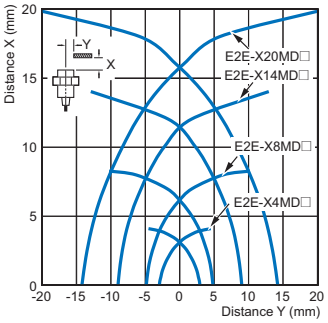
Sensing Area

Standard model

Shielded

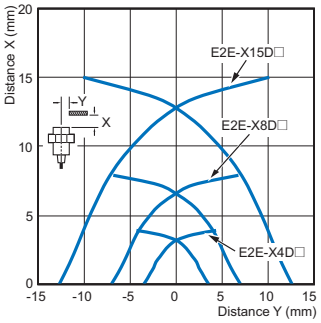


Unshielded

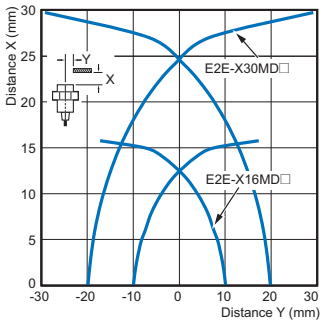


Double distance model

Shielded

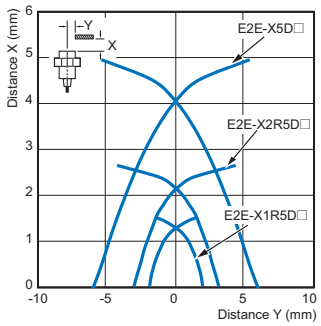


Unshielded



Single distance model

Shielded

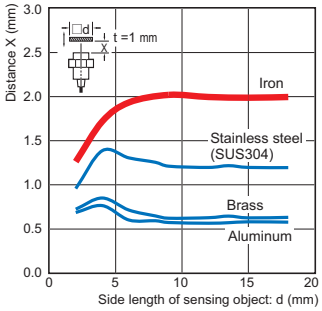


Influence of Sensing Object Size and Materials

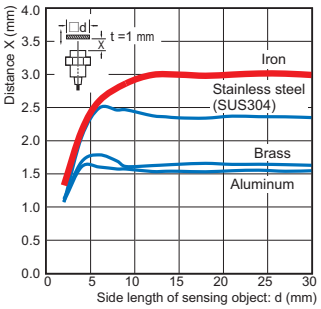
Standard model

Shielded

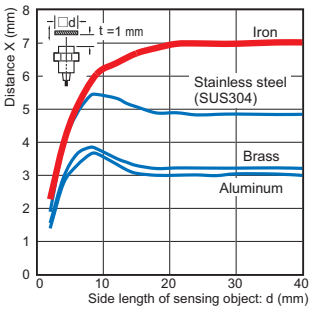
Size: M8 E2E-X2D□



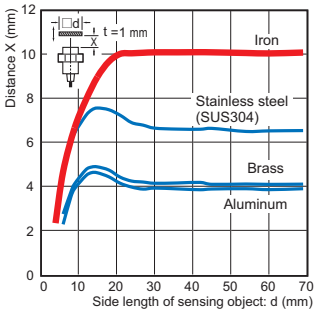
Size: M12 E2E-X3D□



Size: M18 E2E-X7D□

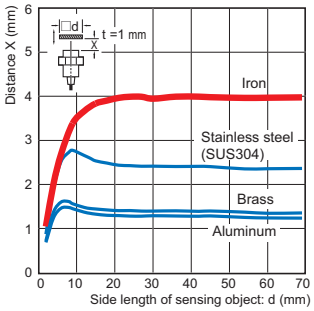


Size: M30 E2E-X10D□

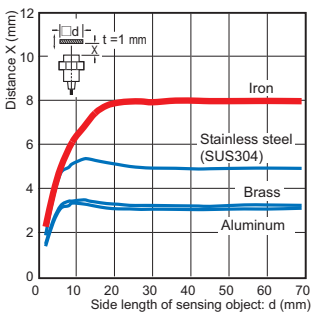


Unshielded

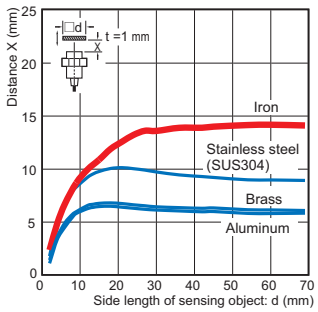
Size: M8 E2E-X4MD□



Size: M12 E2E-X8MD□



Size: M18 E2E-X14MD□



Size: M30 E2E-X20MD□