OMRON

Standard Proximity Sensor
E2E
(DC 2/3-Wire)

Your Search for Proximity Sensors Starts with the World-leading Performance and Quality of the E2E

- Standard Sensors for detecting ferrous metals.
- Wide array of variations. Ideal for a variety of applications.
- Models with different frequencies are also available to prevent mutual interference.
- Superior environment resistance with standard cable made of oil-resistant PVC and sensing surface made of material that resists cutting oil.
- Useful to help prevent disconnection.
  Cable protector provided as a standard feature.

(Standards do not apply to all models.)

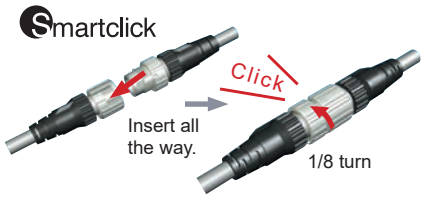
For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

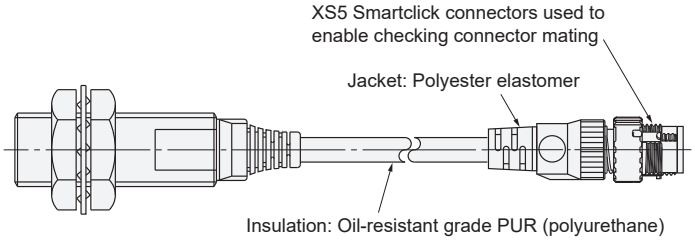
⚠ Be sure to read *Safety Precautions* on page 18.

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022.
DC 3-Wire Models have been discontinued at the end of March 2022.
Refer to the catalog (Cat. No. D120) for details.

Features

Lineup includes models with Smartclick pre-wired connectors for fast connection.





UL-recognized Models Available

E2E Model Number Legend

E2E- (1) (2) (3) (4) (5) (6) (7) - (8) (9) - (10) - (11) - (12) (13)

No.	Classification	Code	Meaning	Remarks
(1)	Appearance	X	Cylindrical (threaded)	
(2)	Sensing distance	Number	Sensing distance (Unit: mm)	Example: 1R5: 1.5 mm
		R	Indication of decimal point	
(3)	Shielding	Blank	Shielded Model	
		M	Unshielded Model	
(4)	Power supply and output specifications	B	DC 3-wire PNP open-collector output	Whether D models have polarity is defined by number 10.
		C	DC 3-wire NPN open-collector output	
		D	DC 2-wire polarity/no polarity	
		E	DC 3-wire NPN collector load built-in output	
		F	DC 3-wire PNP collector load built-in output	
		T	AC/DC 2-wire	
		Y	AC 2-wire	
(5)	Form of output switching element	1	Normally open (NO)	
		2	Normally closed (NC)	
(6)	Oscillation frequency type	Blank	Standard frequency	Used to prevent mutual interference.
		5	Different frequency	
(7)	Self-diagnosis	Blank	No	
		5	Yes	
(8)	Connection method	Blank	Pre-wired	
		M1	M12-size metal connector	
		M3	M8-size metal connector	
(9)	Connector specifications	Blank	Connector Model DC 3-wire and AC 2-wire, DC 2-wire with self-diagnosis output, DC 2-wire with old pin arrangement	
		G	Connector Model DC 2-wire with IEC pin arrangement	
		J	Pre-wired Connector Model DC 3-wire and AC 2-wire, DC 2-wire with old pin arrangement	
		GJ	Pre-wired Connector Model DC 2-wire with IEC pin arrangement	
		TJ	Pre-wired Smartclick Connector Model DC 2-wire	
		TGJ	Pre-wired Smartclick Connector Model DC 2-wire with IEC pin arrangement	
(10)	DC 2-wire polarity	Blank	Polarity	
		T	No polarity	
(11)	Cable specifications	Blank	Standard PVC cable (oil resistant)	
		R	Flexible PVC cable (oil resistant)	
		U	Polyurethane cable (oil resistant and reinforced)	
(12)	New model	N	New model (Applies only to DC 2-wire pre-wired and shielded models.)	This is blank if the cable specification in number 11 is R or U.
	Standard-certified model	US	UL-recognized model (Applies to DC 2-wire pre-wired models and pre-wired connector models.)	
(13)	Cable length	Letter M	Cable length (Unit: m) (Applicable to Pre-wired Models and Pre-wired Connector Models.)	Example: 2M 0.3M

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

Ordering Information

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. Refer to the catalog (Cat. No. D120) for details.

2-Wire Models

Shielded DC 2-wire Models with No Self-diagnostic Output [Refer to *Dimensions* on page 20.]

Appearance	Sensing distance	Connection method	Cable specifications	Polarity	Operation mode	Pin arrangement	Applicable connector code *2	Model
M8	2 mm	M12 Pre-wired Smartclick Connector Models (0.3m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	E	**E2E-X2D1-M1TGJ 0.3M**
		Pre-wired Models (2 m)	PVC (oil-resistant)		NO	---	---	**E2E-X2D1-N 2M**
					NC			**E2E-X2D2-N 2M**
		M12 Connector Models	---		NO	1: +V, 4: 0 V	A	**E2E-X2D1-M1G**
					NC	1: +V, 2: 0 V	D	**E2E-X2D2-M1G**
		M8 Connector Models	---		NO	1: +V, 4: 0 V	F	**E2E-X2D1-M3G**
					NC	1: +V, 2: 0 V		**E2E-X2D2-M3G**
M12	3 mm	M12 Pre-wired Smartclick Connector Models (0.3m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	E	**E2E-X3D1-M1TGJ 0.3M**
		Pre-wired Models (2 m)	PVC (oil-resistant)		NO	---	---	**E2E-X3D1-N 2M *1**
					NC			**E2E-X3D2-N 2M**
		M12 Connector Models	---		NO	1: +V, 4: 0 V	A	**E2E-X3D1-M1G *1**
					NC	1: +V, 2: 0 V	D	**E2E-X3D2-M1G**
		M12 Standard Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	A	**E2E-X3D1-M1GJ 0.3M**
					NC	1: +V, 2: 0 V	D	**E2E-X3D2-M1GJ 0.3M**
				No *3	NO	(3, 4): (+V, 0 V)	C	**E2E-X3D1-M1J-T 0.3M**
					NC	(1, 2): (+V, 0 V)	D	---
M18	7 mm	M12 Pre-wired Smartclick Connector Models (0.3m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	E	**E2E-X7D1-M1TGJ 0.3M**
		Pre-wired Models (2 m)	PVC (oil-resistant)		NO	---	---	**E2E-X7D1-N 2M *1**
					NC			**E2E-X7D2-N 2M**
		M12 Connector Models	---		NO	1: +V, 4: 0 V	A	**E2E-X7D1-M1G *1**
					NC	1: +V, 2: 0 V	D	**E2E-X7D2-M1G**
		M12 Standard Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	A	**E2E-X7D1-M1GJ 0.3M**
					NC	1: +V, 2: 0 V	D	**E2E-X7D2-M1GJ 0.3M**
				No *3	NO	(3, 4): (+V, 0 V)	C	**E2E-X7D1-M1J-T 0.3M**
					NC	(1, 2): (+V, 0 V)	D	**E2E-X7D2-M1J-T 0.3M**
M30	10 mm	M12 Pre-wired Smartclick Connector Models (0.3m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	E	**E2E-X10D1-M1TGJ 0.3M**
		Pre-wired Models (2 m)	PVC (oil-resistant)		NO	---	---	**E2E-X10D1-N 2M *1**
					NC			**E2E-X10D2-N 2M**
		M12 Connector Models	---		NO	1: +V, 4: 0 V	A	**E2E-X10D1-M1G *1**
					NC	1: +V, 2: 0 V	D	**E2E-X10D2-M1G**
		M12 Standard Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	A	**E2E-X10D1-M1GJ 0.3M**
					NC	1: +V, 2: 0 V	D	**E2E-X10D2-M1GJ 0.3M**
				No *3	NO	(3, 4): (+V, 0 V)	C	**E2E-X10D1-M1J-T 0.3M**
					NC	(1, 2): (+V, 0 V)	D	**E2E-X10D2-M1J-T 0.3M**

*1. Models with different frequencies are also available. The model number is E2E-X □D15 (example: E2E-X3D15-N 2M).
*2. Refer to page 15 for details.
*3. The residual voltage for models without polarity is 5 V, so use caution concerning the connection load interface conditions (e.g., PLC ON voltage). Refer to page 19

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. Refer to the catalog (Cat. No. D120) for details.

2-Wire Models

Shielded DC 2-Wire UL-recognized Models with No Self-diagnostic Output [Refer to *Dimensions* on page 20.]

Appear-ance	Sensing distance	Connection method	Cable specifications	Polar-ity	Opera-tion mode	Pin arrangement	Applicable connector code *	Model
M8	2 mm	M12 Pre-wired Smart-click Connector Models (0.3 m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	E	E2E-X2D1-M1TGJ-US 0.3M
					NC	1: +V, 2: 0 V		E2E-X2D2-M1TGJ-US 0.3M
		Pre-wired Models (2 m)			NO	---	---	E2E-X2D1-US 2M
					NC			E2E-X2D2-US 2M
M12	3 mm	M12 Pre-wired Smart-click Connector Models (0.3 m)			NO	1: +V, 4: 0 V	E	E2E-X3D1-M1TGJ-US 0.3M
					NC	1: +V, 2: 0 V		E2E-X3D2-M1TGJ-US 0.3M
		Pre-wired Models (2 m)			NO	---	---	E2E-X3D1-US 2M
					NC			E2E-X3D2-US 2M
M18	7 mm	M12 Pre-wired Smart-click Connector Models (0.3 m)			NO	1: +V, 4: 0 V	E	E2E-X7D1-M1TGJ-US 0.3M
					NC	1: +V, 2: 0 V		E2E-X7D2-M1TGJ-US 0.3M
		Pre-wired Models (2 m)			NO	---	---	E2E-X7D1-US 2M
					NC			E2E-X7D2-US 2M
M30	10 mm	M12 Pre-wired Smart-click Connector Models (0.3 m)			NO	1: +V, 4: 0 V	E	E2E-X10D1-M1TGJ-US 0.3M
					NC	1: +V, 2: 0 V		E2E-X10D2-M1TGJ-US 0.3M
		Pre-wired Models (2 m)			NO	---	---	E2E-X10D1-US 2M
					NC			E2E-X10D2-US 2M

* Refer to page 15 for details.

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. Refer to the catalog (Cat. No. D120) for details.

2-Wire Models

Unshielded DC 2-Wire Models with No Self-diagnosis Output [Refer to *Dimensions* on page 20.]

Appearance	Sensing distance	Connection method	Cable specifications	Polarity	Operation mode	Pin arrangement	Applicable connector code *2	Model
M8	4 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	Yes	NO	---	---	**E2E-X4MD1 2M**
					NC			**E2E-X4MD2 2M**
		M12 Connector Models	---		NO	1: +V, 4: 0 V	A	**E2E-X4MD1-M1G**
					NC	1: +V, 2: 0 V	D	**E2E-X4MD2-M1G**
		M8 Connector Models	---		NO	1: +V, 4: 0 V	F	**E2E-X4MD1-M3G**
					NC	1: +V, 2: 0 V		**E2E-X4MD2-M3G**
M12	8 mm	M12 Pre-wired Smartclick Connector Models (0.3m)	PVC (oil-resistant)		NO	1: +V, 4: 0 V	E	**E2E-X8MD1-M1TGJ 0.3M**
		Pre-wired Models (2 m)	PVC (oil-resistant)		NO	---	---	**E2E-X8MD1 2M *1**
					NC			**E2E-X8MD2 2M**
		M12 Connector Models	---		NO	1: +V, 4: 0 V	A	**E2E-X8MD1-M1G *1**
					NC	1: +V, 2: 0 V	D	**E2E-X8MD2-M1G**
		M12 Standard Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)		NO	1: +V, 4: 0 V	A	**E2E-X8MD1-M1GJ 0.3M**
					NC	1: +V, 2: 0 V	D	---
M18	14 mm	M12 Pre-wired Smartclick Connector Models (0.3m)	PVC (oil-resistant)		NO	1: +V, 4: 0 V	E	**E2E-X14MD1-M1TGJ 0.3M**
		Pre-wired Models (2 m)	PVC (oil-resistant)		NO	---	---	**E2E-X14MD1 2M *1**
					NC			**E2E-X14MD2 2M**
		M12 Connector Models	---		NO	1: +V, 4: 0 V	A	**E2E-X14MD1-M1G *1**
					NC	1: +V, 2: 0 V	D	**E2E-X14MD2-M1G**
		M12 Standard Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)		NO	1: +V, 4: 0 V	A	**E2E-X14MD1-M1GJ 0.3M**
					NC	1: +V, 2: 0 V	D	**E2E-X14MD2-M1GJ 0.3M**
M30	20 mm	M12 Pre-wired Smartclick Connector Models (0.3m)	PVC (oil-resistant)		NO	1: +V, 4: 0 V	E	**E2E-X20MD1-M1TGJ 0.3M**
		Pre-wired Models (2 m)	PVC (oil-resistant)		NO	---	---	**E2E-X20MD1 2M *1**
					NC			**E2E-X20MD2 2M**
		M12 Connector Models	---		NO	1: +V, 4: 0 V	A	**E2E-X20MD1-M1G *1**
					NC	1: +V, 2: 0 V	D	**E2E-X20MD2-M1G**
		M12 Standard Pre-wired Connector Models (0.3 m)	PVC (oil-resistant)		NO	1: +V, 4: 0 V	A	**E2E-X20MD1-M1GJ 0.3M**
					NC	1: +V, 2: 0 V	D	---

*1. Models with different frequencies are also available. The model number is E2E-X □D15 (example: E2E-X8MD15 2M).
*2. Refer to page 15 for details.

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. Refer to the catalog (Cat. No. D120) for details.

2-Wire Models

Unshielded DC 2-Wire UL-recognized Models with No Self-diagnostic Output [Refer to *Dimensions* on page 20.]

Appearance	Sensing distance	Connection method	Cable specifications	Polarity	Operation mode	Pin arrangement	Applicable connector code *	Model
M8	4 mm	M12 Pre-wired Smartclick Connector Models (0.3 m)	PVC (oil-resistant)	Yes	NO	1: +V, 4: 0 V	E	E2E-X4MD1-M1TGJ-US 0.3M
					NC	1: +V, 2: 0 V		E2E-X4MD2-M1TGJ-US 0.3M
		Pre-wired Models (2 m)			NO	---	---	E2E-X4MD1-US 2M
					NC			E2E-X4MD2-US 2M
M12	8 mm	M12 Pre-wired Smartclick Connector Models (0.3 m)			NO	1: +V, 4: 0 V	E	E2E-X8MD1-M1TGJ-US 0.3M
					NC	1: +V, 2: 0 V		E2E-X8MD2-M1TGJ-US 0.3M
		Pre-wired Models (2 m)			NO	---	---	E2E-X8MD1-US 2M
					NC			E2E-X8MD2-US 2M
M18	14 mm	M12 Pre-wired Smartclick Connector Models (0.3 m)			NO	1: +V, 4: 0 V	E	E2E-X14MD1-M1TGJ-US 0.3M
					NC	1: +V, 2: 0 V		E2E-X14MD2-M1TGJ-US 0.3M
		Pre-wired Models (2 m)			NO	---	---	E2E-X14MD1-US 2M
					NC			E2E-X14MD2-US 2M
M30	20 mm	M12 Pre-wired Smartclick Connector Models (0.3 m)			NO	1: +V, 4: 0 V	E	E2E-X20MD1-M1TGJ-US 0.3M
					NC	1: +V, 2: 0 V		E2E-X20MD2-M1TGJ-US 0.3M
		Pre-wired Models (2 m)			NO	---	---	E2E-X20MD1-US 2M
					NC			E2E-X20MD2-US 2M

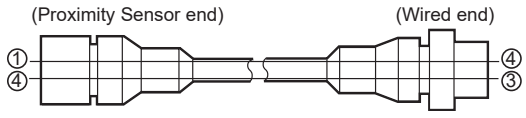
* Refer to page 15 for details.

Connector Pin Assignments of DC 2-Wire Models

- The connector pin assignments of each New E2E DC 2-Wire Model conform to IEC 947-5-2 Table III. (Only DC 2-Wire Models have been changed in comparison to the previous models.)
- The following models with conventional connector pin assignments are available as well. (Only NO Models can be used.)
  The cable at the right should also be used if the XW3D-P□55-G11/ XW3B-P□55-G11 Connector Junction Box is already being used.

Cable length	Model
500 mm	XS2W-D421-BY1

Internal Wiring



Models with conventional connector pin assignments are available as well.

Appearance		Model			
		NO	Applicable connector code *	NC	Applicable connector code *
Shielded	M8	E2E-X2D1-M1	C	E2E-X2D2-M1	D
	M12	E2E-X3D1-M1	C	E2E-X3D2-M1	D
	M18	E2E-X7D1-M1	C	E2E-X7D2-M1	D
	M30	E2E-X10D1-M1	C	E2E-X10D2-M1	D
Unshielded	M8	E2E-X4MD1-M1	C	E2E-X4MD2-M1	D
	M12	E2E-X8MD1-M1	C	E2E-X8MD2-M1	D
	M18	E2E-X14MD1-M1	C	E2E-X14MD2-M1	D
	M30	E2E-X20MD1-M1	C	E2E-X20MD2-M1	D

* Refer to page 15 for details.

Note: DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

3-Wire Models

Shielded DC 3-Wire Models [Refer to *Dimensions* on page 20.]

Appearance	Sensing distance	Connection method	Cable specifications	Operation mode	Pin arrangement	Applicable connector code *2	Model	
							NPN output	PNP output
M8	1.5 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	---	---	**E2E-X1R5E1 2M**	**E2E-X1R5F1 2M**
			PVC (oil-resistant)	NC			**E2E-X1R5E2 2M**	**E2E-X1R5F2 2M**
		M12 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	B	**E2E-X1R5E1-M1**	**E2E-X1R5F1-M1**
				NC	1: +V, 3: 0 V, 2: Control output	D	**E2E-X1R5E2-M1**	**E2E-X1R5F2-M1**
		M8 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	F	**E2E-X1R5E1-M3**	**E2E-X1R5F1-M3**
				NC	1: +V, 3: 0 V, 2: Control output		**E2E-X1R5E2-M3**	**E2E-X1R5F2-M3**
M12	2 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	---	---	**E2E-X2E1 2M *1**	**E2E-X2F1 2M *1**
				NC			**E2E-X2E2 2M**	**E2E-X2F2 2M**
		M12 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	B	**E2E-X2E1-M1**	**E2E-X2F1-M1**
				NC	1: +V, 3: 0 V, 2: Control output	D	**E2E-X2E2-M1**	**E2E-X2F2-M1**
M18	5 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	---	---	**E2E-X5E1 2M *1**	**E2E-X5F1 2M *1**
				NC			**E2E-X5E2 2M**	**E2E-X5F2 2M**
		M12 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	B	**E2E-X5E1-M1**	**E2E-X5F1-M1**
				NC	1: +V, 3: 0 V, 2: Control output	D	**E2E-X5E2-M1**	**E2E-X5F2-M1**
M30	10 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	---	---	**E2E-X10E1 2M *1**	**E2E-X10F1 2M**
				NC			**E2E-X10E2 2M**	**E2E-X10F2 2M**
		M12 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	B	**E2E-X10E1-M1**	**E2E-X10F1-M1**
				NC	1: +V, 3: 0 V, 2: Control output	D	**E2E-X10E2-M1**	**E2E-X10F2-M1**

*1. Models with different frequencies are also available. The model number is E2E-X□□□5 (example: E2E-X5E15 2M).
*2. Refer to page 15 for details.

Note: DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

3-Wire Models

Unshielded DC 3-Wire Models [Refer to *Dimensions* on page 20.]

Appearance	Sensing distance	Connection method	Cable specifications	Operation mode	Pin arrangement	Applicable connector code *2	Model	
							NPN output	PNP output
M8	2 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	---	---	**E2E-X2ME1 2M**	**E2E-X2MF1 2M**
				NC			**E2E-X2ME2 2M**	**E2E-X2MF2 2M**
		M12 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	B	**E2E-X2ME1-M1**	**E2E-X2MF1-M1**
				NC	1: +V, 3: 0 V, 2: Control output	D	**E2E-X2ME2-M1**	**E2E-X2MF2-M1**
		M8 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	F	**E2E-X2ME1-M3**	**E2E-X2MF1-M3**
				NC	1: +V, 3: 0 V, 2: Control output		**E2E-X2ME2-M3**	**E2E-X2MF2-M3**
M12	5 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	---	---	**E2E-X5ME1 2M *1**	**E2E-X5MF1 2M**
				NC			**E2E-X5ME2 2M**	**E2E-X5MF2 2M**
		M12 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	B	**E2E-X5ME1-M1**	**E2E-X5MF1-M1**
				NC	1: +V, 3: 0 V, 2: Control output	D	**E2E-X5ME2-M1**	**E2E-X5MF2-M1**
M18	10 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	---	---	**E2E-X10ME1 2M *1**	**E2E-X10MF1 2M**
				NC			**E2E-X10ME2 2M**	**E2E-X10MF2 2M**
		M12 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	B	**E2E-X10ME1-M1**	**E2E-X10MF1-M1**
				NC	1: +V, 3: 0 V, 2: Control output	D	**E2E-X10ME2-M1**	**E2E-X10MF2-M1**
M30	18 mm	Pre-wired Models (2 m)	PVC (oil-resistant)	NO	---	---	**E2E-X18ME1 2M *1**	**E2E-X18MF1 2M**
				NC			**E2E-X18ME2 2M**	**E2E-X18MF2 2M**
		M12 Connector Models	---	NO	1: +V, 3: 0 V, 4: Control output	B	**E2E-X18ME1-M1**	**E2E-X18MF1-M1**
				NC	1: +V, 3: 0 V, 2: Control output	D	**E2E-X18ME2-M1**	**E2E-X18MF2-M1**

*1. Models with different frequencies are also available. The model number is E2E-X□M□□5 (example: E2E-X5ME15 2M).
*2. Refer to page 15 for details.

Ratings and Specifications

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. Refer to the catalog (Cat. No. D120) for details.

E2E-X□D□ DC 2-Wire Models

Size		M8		M12		M18		M30	
Shielded		Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
Item	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%
Set 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 pages 11 and 12.							
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, 54 × 54 × 1 mm	
Response frequency *2		1.5 kHz	1 kHz		0.8 kHz	0.5 kHz	0.4 kHz	0.1 kHz	
Power supply voltage (operating voltage range)		Standard Models: 12 to 24 VDC, ripple (p-p): 10% max. (10 to 30 VDC) US Models and Connector Models Used as UL-certified Models: 12 to 24 VDC, ripple (p-p): 10% max. (The operating voltage range is also the same.) *3							
Leakage current		0.8 mA max.							
Control output	Load current	3 to 100 mA, Diagnostic output: 50 mA for -D1(5)S Models							
	Residual voltage *4	3 V max. (Load current: 100 mA, Cable length: 2 m, M1J-T Models only: 5 V max.)							
Indicators		D1 Models: Operation indicator (red) and setting indicator (green) D2 Models: Operation indicator (red)							
Operation mode (with sensing object approaching)		D1 Models: NO D2 Models: NC Refer to the timing charts under *I/O Circuit Diagrams* on page 13 for details.							
Diagnostic output delay		0.3 to 1 s							
Protection circuits		Surge suppressor, Load short-circuit protection (for control and diagnostic output)							
Ambient temperature range		Operating: –25 to 70°C, Storage: –40 to 85°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		1000 VAC, 50/60 Hz for 1 minute between current carry 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		Destruction: 1,000 m/s² 10 times each in X, Y, and Z directions					
Degree of protection		Pre-wired Models: IEC 60529 IP67, in-house standards: oil-resistant Connector Models: IEC 60529 IP67							
Connection method		Pre-wired Models (Standard cable length: 2 m), Connector Models, or 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. 175 g	
	Pre-wired Connector Models	---		Approx. 40 g		Approx. 70 g		Approx. 110 g	
	Connector Models	Approx. 15 g		Approx. 25 g		Approx. 40 g		Approx. 90 g	
Materials	Case	Stainless steel (SUS303)		Nickel-plated brass					
	Sensing surface	PBT							
	Clamping nuts	Nickel-plated brass							
	Toothed washer	Zinc-plated iron							
Accessories		Instruction manual							

*1. Use the E2E 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. For the information on UL-certified connector models, refer to your OMRON website.
*4. The residual voltage of each M1J-T Model is 5 V. When connecting to a device, make sure that the device can withstand the residual voltage. (Refer to page 19 for details.)

Note: DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

E2E-X□E□/F□ DC 3-Wire Models

Item	Size	M8		M12		M18		M30	
	Shielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
	Model	E2E -X1R5E□/F□	E2E -X2ME□/F□	E2E -X2E□/F□	E2E -X5ME□/F□	E2E -X5E□/F□	E2E -X10ME□/F□	E2E-X10E□/ F□	E2E -X18ME□/F□
Sensing distance		1.5 mm ±10%	2 mm ±10%		5 mm ±10%		10 mm ±10%		18 mm ±10%
Set distance		0 to 1.2 mm	0 to 1.6 mm		0 to 4 mm		0 to 8 mm		0 to 14 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 12.)							
Standard sensing object		Iron, 8 × 8 × 1 mm	Iron, 12 × 12 × 1 mm		Iron, 15 ×15 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, 30 × 30 × 1 mm		Iron, 54 × 54 × 1 mm
Response frequency *1		2 kHz	0.8 kHz	1.5 kHz	0.4 kHz	0.6 kHz	0.2 kHz	0.4 kHz	0.1 kHz
Power supply voltage (operating voltage range) *2		12 to 24 VDC, ripple(p-p): 10% max. (10 to 30 VDC) Connector Models Used as UL-certified Models: 12 to 24 VDC, ripple (p-p): 10% max. (The operating voltage range is also the same.) *3							
Current consumption		13 mA max.							
Control output	Load current *2	200 mA max.							
	Residual voltage	2 V max. (Load current: 200 mA, Cable length: 2 m)							
Indicators		Operation indicator (red)							
Operation mode (with sensing object approaching)		E1/F1 Models: NO E2/F2 Models: NC Refer to the timing charts under */O Circuit Diagrams* on page 14 for details.							
Protection circuits		Load short-circuit protection, Surge suppressor, Reverse polarity protection							
Ambient temperature range *2		Operating/Storage: –40 to 85°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 –40 to 85°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 carry 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		Destruction: 1,000 m/s^2 10 times each in X, Y, and Z directions					
Degree of protection		Pre-wired Models : IEC 60529 IP67, in-house standards: oil-resistant Connector Models : IEC 60529 IP67							
Connection method		Pre-wired Models (Standard cable length: 2 m) and Connector Models							
Weight (packed state)	Pre-wired Models	Approx. 65 g		Approx. 75 g		Approx. 150 g		Approx. 195 g	
	Connector Models	Approx. 15 g		Approx. 25 g		Approx. 40 g		Approx. 90 g	
Materials	Case	Stainless steel (SUS303)		Nickel-plated brass					
	Sensing surface	PBT							
	Clamping nuts	Nickel-plated brass							
	Toothed washer	Zinc-plated iron							
Accessories		Instruction manual							

*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. When using an M8 Model at an ambient temperature between 70 and 85°C, supply 10 to 30 VDC to the Sensor and make sure that the Sensor has a control output of 100 mA maximum.
*3. For the information on UL-certified connector models, refer to your OMRON website.

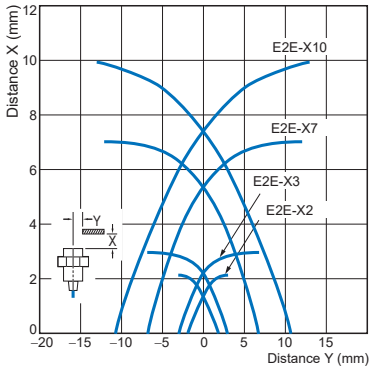
Engineering Data (Reference Value)

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

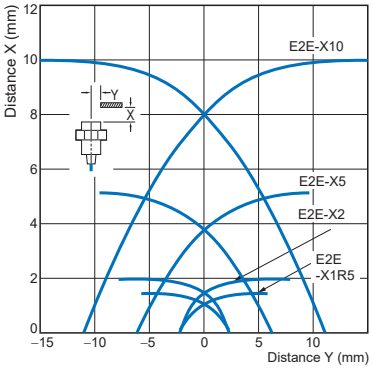
Sensing Area

Shielded Models

E2E-X□D□

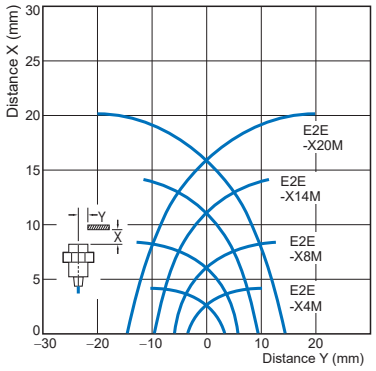


E2E-X□E□/-X□F□

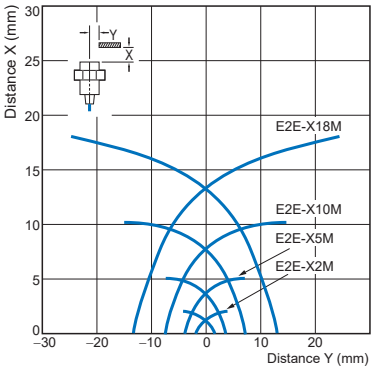


Unshielded Models

E2E-X□MD□

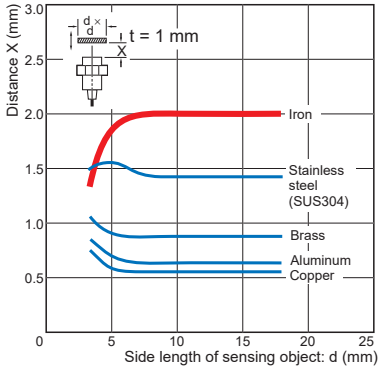


E2E-X□ME□/-X□MF□

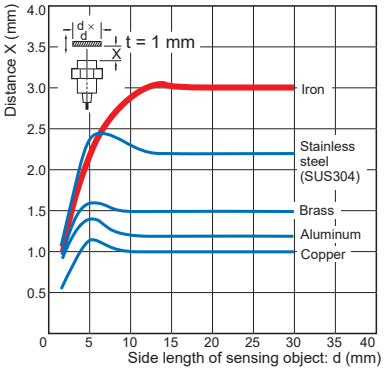


Influence of Sensing Object Size and Material

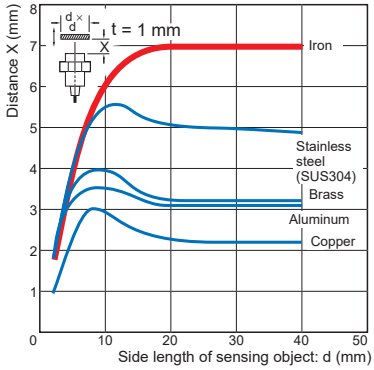
E2E-X2D□



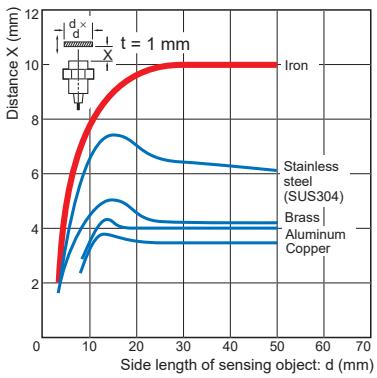
E2E-X3D□



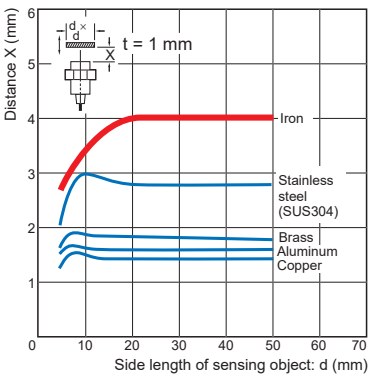
E2E-X7D□



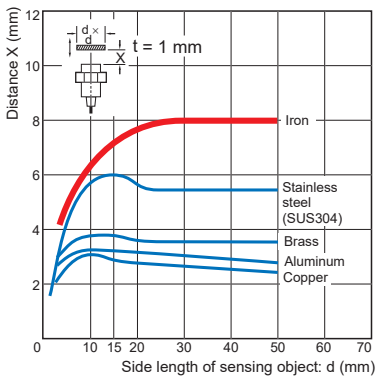
E2E-X10D□



E2E-X4MD□

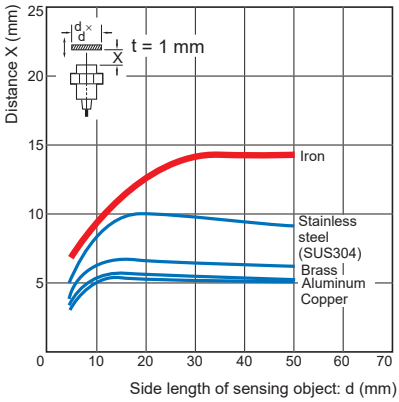


E2E-X8MD□

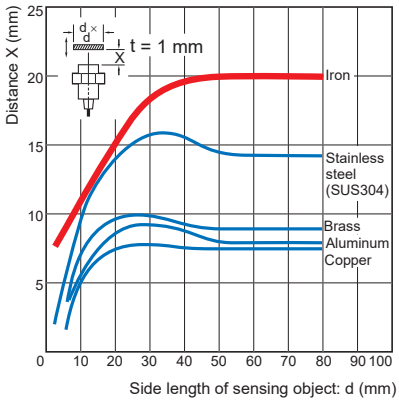


Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

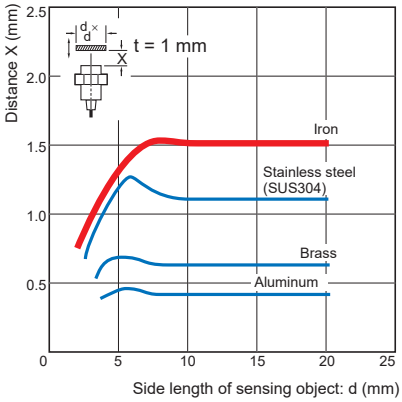
E2E-X14MD□



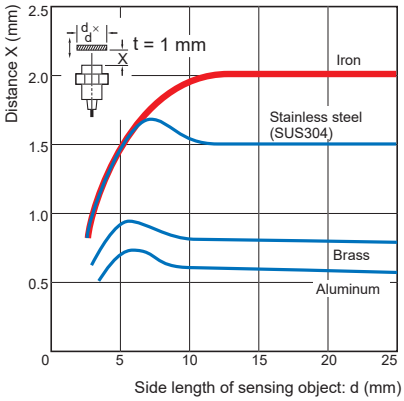
E2E-X20MD□



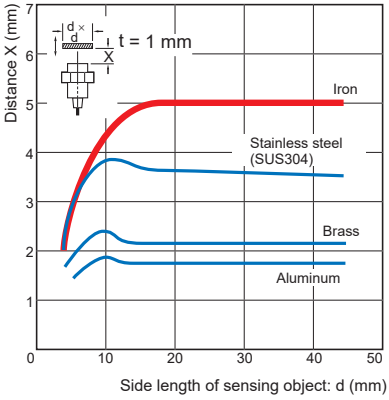
E2E-X1R5E□/-X1R5F□



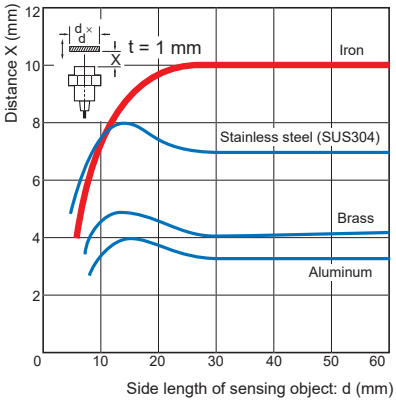
E2E-X2E□/-X2F□



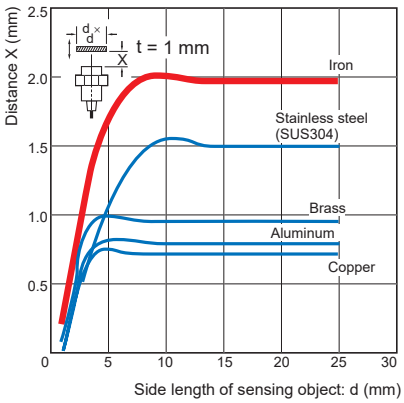
E2E-X5E□/-X5F□



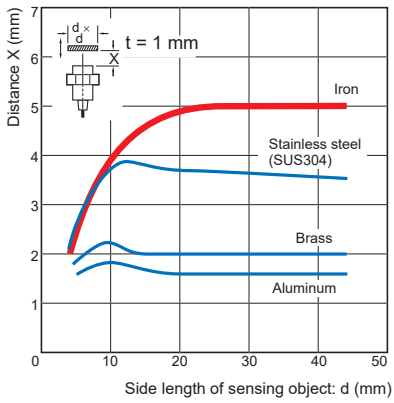
E2E-X10E□/-X10F□



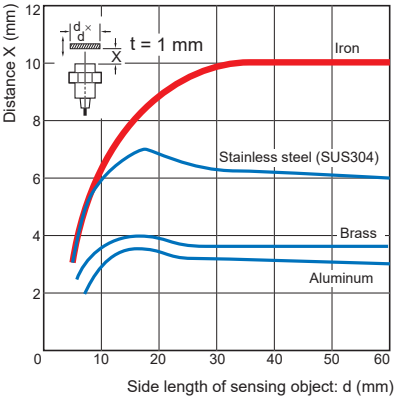
E2E-X2ME□/-X2MF□



E2E-X5ME□/-X5MF□

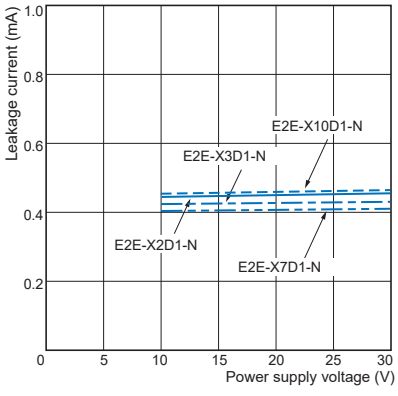


E2E-X10ME□/-X10MF□



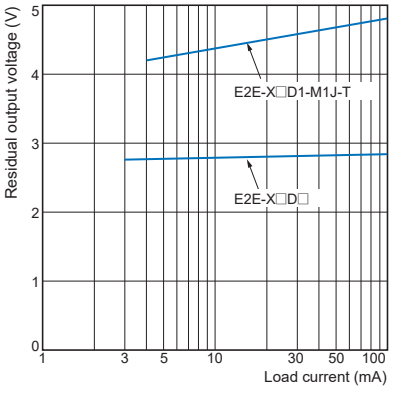
Leakage Current

E2E-X□D□

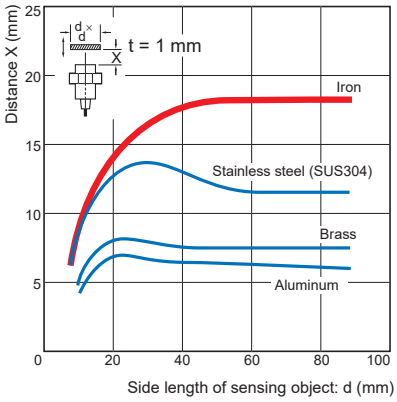


Residual Output Voltage

E2E-X□D□



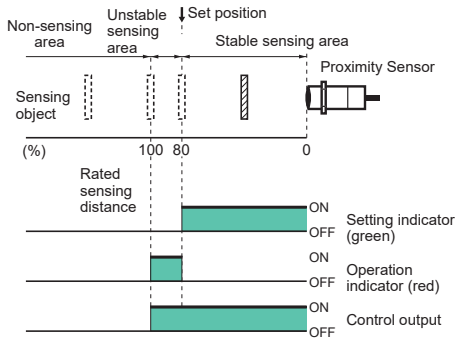
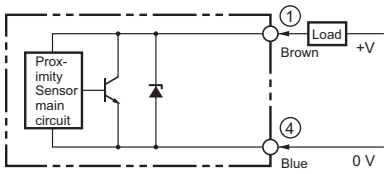
E2E-X18ME□/-X18MF□

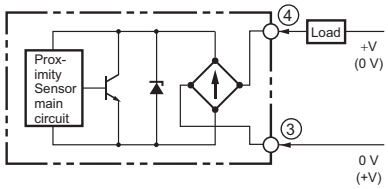


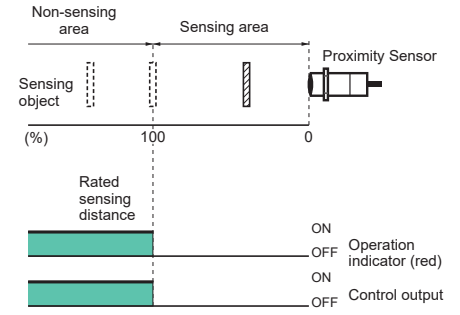
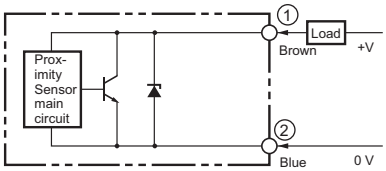
I/O Circuit Diagrams

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. Refer to the catalog (Cat. No. D120) for details.

E2E-X□D□ DC 2-Wire Models

<table>
<tr><th>Operation mode</th><th>Model</th><th>Timing Chart</th><th>Output circuit</th></tr>
<tr><td rowspan="2">Without self-diagnostic output: NO</td><td>E2E-X□D1-N
E2E-X□D1-M1G(J)
E2E-X□D1-M3G
E2E-X□D1(-M1TGJ)-US</td><td rowspan="2"> 
</td><td>Polarity: Yes
 

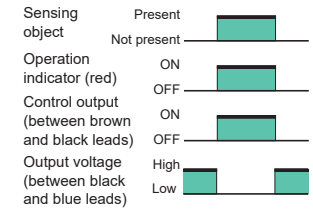
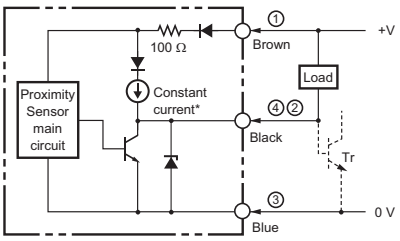
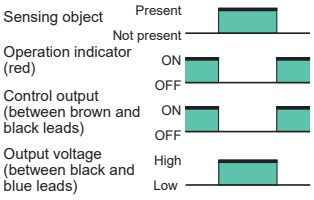
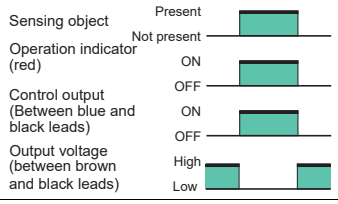
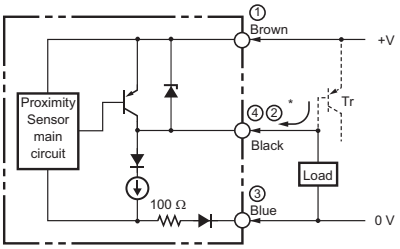
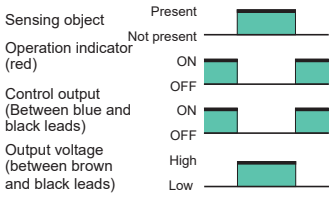
Note: The load can be connected to either the +V or 0 V side.</td></tr>
<tr><td>E2E-X□D1-M1J-T</td><td>Polarity: None
 

Note 1. The load can be connected to either the +V or 0 V side.
2. The E2E-X□D1-M1J-T has no polarity. Therefore, terminals 3 and 4 have no polarity.</td></tr>
<tr><td>Without self-diagnostic output: NC</td><td>E2E-X□D2-N
E2E-X□D2-M1G
E2E-X□D2-M3G
E2E-X□D2(-M1TGJ)-US</td><td> 
</td><td> 

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

Note: DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

DC 3-Wire Models

Operation mode	Output specifications	Model	Timing Chart	Output circuit
NO	NPN output	E2E-X□E□ E2E-X□E□-M1 E2E-X□E□-M3		 *Constant current output is 1.5 to 3 mA. Note: For Connector Models, the connection between pins 1, 4 and 3 uses an NO contact, and the connection between pins 1, 2 and 3 uses an NC contact.
NC				
NO	PNP output	E2E-X□F□ E2E-X□F□-M1 E2E-X□F□-M3		 *When a transistor is connected Note: For Connector Models, the connection between pins 1, 4 and 3 uses an NO contact, and the connection between pins 1, 2 and 3 uses an NC contact.
NC				

Sensor I/O Connectors (Sockets on One Cable End)

Model for Connectors and Pre-wired Connectors: A Connector is not provided with the Sensor. Be sure to order a Connector separately.

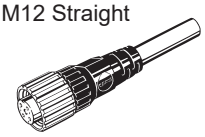
[Refer to Dimensions for the XS2, XS3, and XS5.]

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

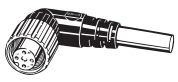
Applicable connector code	Connector				Applicable Proximity Sensor model number	Connection diagram No. *2
	Screw	Appearance *1	Cable length 2m	Cable length 5m		
			CablConnector model number	CablConnector model number		
A	M12	Straight	**XS2F-D421-DA0-F**	**XS2F-D421-GA0-F**	E2E-X□D1-M1G(J)	1
		L-shape	**XS2F-D422-DA0-F**	**XS2F-D422-GA0-F**		
B		Straight	**XS2F-D421-DC0-F**	**XS2F-D421-GC0-F**	E2E-X□E1-M1 E2E-X□F1-M1	9
		L-shape	**XS2F-D422-DC0-F**	**XS2F-D422-GC0-F**		
C		Straight	**XS2F-D421-DD0**	**XS2F-D421-GD0**	E2E-X□D1-M1J-T	3
					E2E-X□D1-M1	2
		L-shape	**XS2F-D422-DD0**	**XS2F-D422-GD0**	E2E-X□D1-M1J-T	3
					E2E-X□D1-M1	2
D		Straight	**XS2F-D421-D80-F**	**XS2F-D421-G80-F**	E2E-X□D2-M1G(J)	5
					E2E-X□D2-M1J-T	7
					E2E-X□D2-M1	6
					E2E-X□E2-M1 E2E-X□F2-M1	10
		L-shape	**XS2F-D422-D80-F**	**XS2F-D422-G80-F**	E2E-X□D2-M1G(J)	5
					E2E-X□D2-M1J-T	7
					E2E-X□D2-M1	6
					E2E-X□E2-M1 E2E-X□F2-M1	10
E		Smartclick Connector, Straight	**XS5F-D421-D80-F**	**XS5F-D421-G80-F**	E2E-X□D1-M1TGJ(-US)	13
					E2E-X□D2-M1TGJ-US	14
F	M8	Straight	**XS3F-M421-402-A**	**XS3F-M421-405-A**	E2E-X□D1-M3G	4
					E2E-X□D2-M3G	8
					E2E-X□E1-M3 E2E-X□F1-M3	11
					E2E-X□E2-M3 E2E-X□F2-M3	12
		L-shape	**XS3F-M422-402-A**	**XS3F-M422-405-A**	E2E-X□D1-M3G	4
					E2E-X□D2-M3G	8
					E2E-X□E1-M3 E2E-X□F1-M3	11
					E2E-X□E2-M3 E2E-X□F2-M3	12

Note: Refer to *Introduction to Sensor I/O Connectors/Sensor Controllers* for details and for information on Cable length and Robotics Cables.
*1. Images of straight and L-shaped connectors.

M12 Straight



M12 L-shape



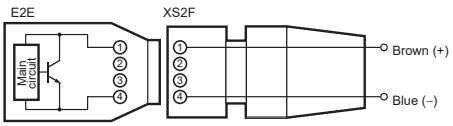
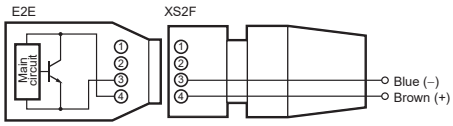
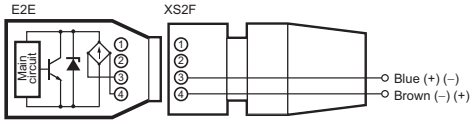
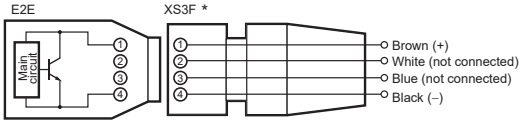
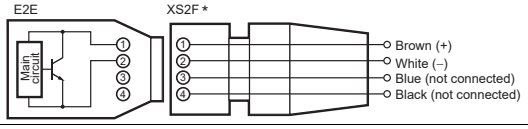
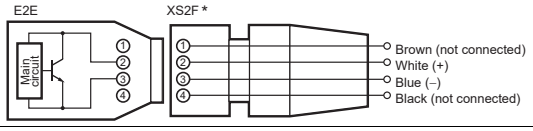
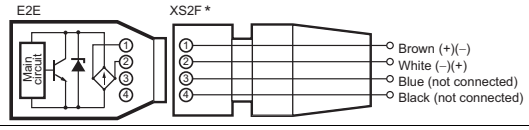
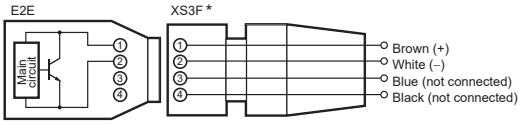
M8 Straight

M8 L-shape

*2. Refer to *Connection Diagrams* on page 16 for information on Proximity Sensor and I/O Connector connections.

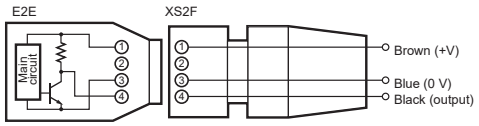
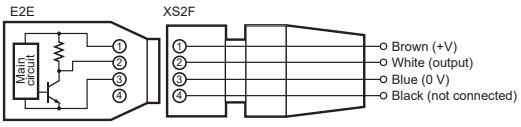
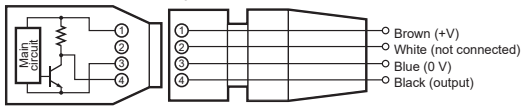
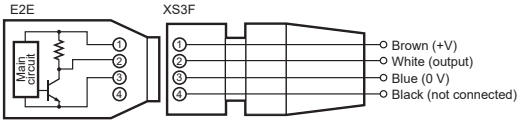
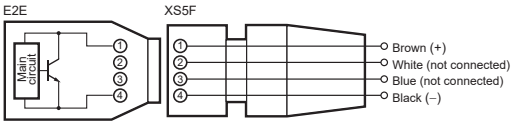
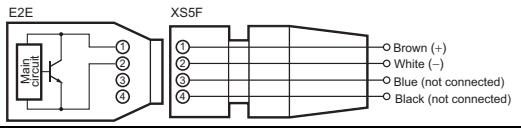
Connections for Sensor I/O Connectors

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Connection diagram No.	Proximity Sensor			Sensor I/O Connector model number	Connections
	Type	Operation mode	Model		
1	DC 2-wire (IEC pin wiring)	NO	E2E-X□D1-M1G/M1GJ	XS2F-D42□-□A0-F (1: Straight, 2: L-shape; D: 2-m cable, G: 5-m cable)	
2	DC 2-wire (previous pin wiring)		E2E-X□D1-M1	XS2F-D42□-□D0 (1: Straight, 2: L-shape; D: 2-m cable, G: 5-m cable)	
3	DC 2-wire (no polarity)		E2E-X□D1-M1J-T	XS2F-D42□-□D0 (1: Straight, 2: L-shape; D: 2-m cable, G: 5-m cable)	
4	DC 2-wire (M8 connector)		E2E-X□D1-M3G	XS3F-M42□-40□-A (1: Straight, 2: L-shape; 2: 2-m cable, 5: 5-m cable)	
5	DC 2-wire (IEC pin wiring)	NC	E2E-X□D2-M1G/M1GJ	XS2F-D42□-□80-F (1: Straight, 2: L-shape; D: 2-m cable, G: 5-m cable)	
6	DC 2-wire (previous pin wiring)		E2E-X□D2-M1	XS2F-D42□-□80-F (1: Straight, 2: L-shape; D: 2-m cable, G: 5-m cable)	
7	DC 2-wire (no polarity)		E2E-X□D2-M1J-T	XS2F-D42□-□80-F (1: Straight, 2: L-shape; D: 2-m cable, G: 5-m cable)	
8	DC 2-wire (M8 connector)		E2E-X□D2-M3G	XS3F-M42□-40□-A (1: Straight, 2: L-shape; 2: 2-m cable, 5: 5-m cable)	

* Different from Proximity Sensor wire colors.

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Connection diagram No.	Proximity Sensor			Sensor I/O Connector model number	Connections
	Type	Operation mode	Model		
9	DC 3-wire	NO	E2E-X□E/F1-M1	XS2F-D42□-□C0-F (1: Straight, 2: L-shape; D: 2-m cable, G: 5-m cable)	
10		NC	E2E-X□E2/F2-M1	XS2F-D42□-□80-F (1: Straight, 2: L-shape; D: 2-m cable, G: 5-m cable)	
11	DC 3-wire (M8 connector)	NO	E2E-X□E1/F1-M3	XS3F-M42□-40□-A (1: Straight, 2: L-shape; 2: 2-m cable, 5: 5-m cable)	
12		NC	E2E-X□E2/F2-M3	XS3F-M42□-40□-A (1: Straight, 2: L-shape; 2: 2-m cable, 5: 5-m cable)	
13	DC 2-wire (Smartclick connector)	NO	E2E-X□D1-M1TGJ(-US)	XS5F-D421-□80-F (D: 2-m cable, G: 5-m cable)	
14		NC	E2E-X□D2-M1TGJ-US	XS5F-D421-□80-F (D: 2-m cable, G: 5-m cable)	

Refer to *Introduction to Sensor I/O Connectors/Sensor Controllers* for details.

Safety Precautions

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Refer to *Warranty and Limitations of Liability*.

⚠ WARNING

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

⚠ CAUTION

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

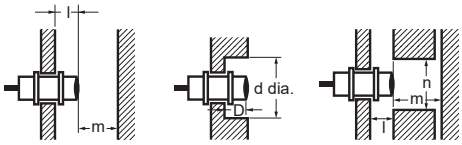
Precautions for Correct Use

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

Design

Influence of Surrounding Metal

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



Influence of Surrounding Metal (Unit: mm)

Model		Item	M8	M12	M18	M30
DC 2-Wire Models E2E-X□D□	Shielded	l	0			
		d	8	12	18	30
		D	0			
		m	4.5	8	20	40
		n	12	18	27	45
	Unshielded	l	12	15	22	30
		d	24	40	70	90
		D	12	15	22	30
		m	8	20	40	70
		n	24	40	70	90
DC 3-Wire Models E2E-X□E□ E2E-X□F□	Shielded	l	0			
		d	8	12	18	30
		D	0			
		m	4.5	8	20	40
		n	12	18	27	45
	Unshielded	l	6	15	22	30
		d	24	40	55	90
		D	6	15	22	30
		m	8	20	40	70
		n	24	36	54	90

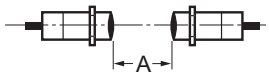
Relationship between Sizes and Models

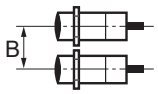
Model		Model
M8	Shielded	E2E-X2D□
		E2E-X1R5E□
		E2E-X1R5F□
	Unshielded	E2E-X4MD□
		E2E-X2ME□
		E2E-X2MF□
M12	Shielded	E2E-X3D□
		E2E-X2E□
		E2E-X2F□
	Unshielded	E2E-X8MD□
		E2E-X5ME□
		E2E-X5MF□
M18	Shielded	E2E-X7D□
		E2E-X5E□
		E2E-X5F□
	Unshielded	E2E-X14MD□
		E2E-X10ME□
		E2E-X10MF□
M30	Shielded	E2E-X10D□
		E2E-X10E□
		E2E-X10F□
	Unshielded	E2E-X20MD□
		E2E-X18ME□
		E2E-X18MF□

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Mutual Interference

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





Mutual Interference

(Unit: mm)

Model		Item	M8	M12	M18	M30
DC 2-Wire Models E2E-X□D□	Shielded	A	20	30 (20)	50 (30)	100 (50)
		B	15	20 (12) *	35 (18) *	70 (35)
	Unshielded	A	80	120 (60)	200 (100)	300 (100)
		B	60	100 (50)	110 (60)	200 (100)
DC 3-Wire Models E2E-X□E□/X□F□	Shielded	A	20	30 (20)	50 (30)	100 (50)
		B	15	20 (12) *	35 (18) *	70 (35)
	Unshielded	A	80	120 (60)	200 (100)	300 (100)
		B	60	100 (50)	110 (60)	200 (100)

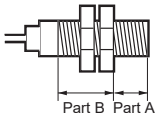
Note: Values in parentheses apply to Sensors operating at different frequencies.
* Mutual interference will not occur for close-proximity mounting if models with different frequencies are used together.

Mounting

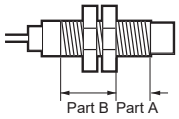
Tightening Force

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

Shielded Models



Unshielded Models



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.

Model		Part A		Part B
		Dimension	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		

Connecting a DC 2-Wire Proximity Sensor to a PLC (Programmable Controller)

Required Conditions

Connection to a PLC is possible if the specifications of the PLC and the Proximity Sensor satisfy the following conditions. (The meanings of the symbols are given at the right.)

1. The ON voltage of the PLC and the residual voltage of the Proximity Sensor must satisfy the following.
   $V_{ON} \leq V_{CC} - V_R$
2. The OFF current of the PLC and the leakage current of the Proximity Sensor must satisfy the following.
   $I_{OFF} \geq I_{leak}$
   (If the OFF current is not listed in the PLC's input specifications, take it to be 1.3 mA.)
3. The ON current of the PLC and the control output of the Proximity Sensor must satisfy the following.
   I_{OUT} (min.) $\leq I_{ON} \leq I_{OUT}$ (max.)
   The ON current of the PLC will vary, however, with the power supply voltage and the input impedance, as shown in the following equation.
   $I_{ON} = (V_{CC} - V_R - \underline{V_{PC}}) / R_{IN}$

Example

In this example, the above conditions are checked when the Proximity Sensor is the E2E-X7D1-N and the power supply voltage is 24 V.

1. V_{ON} (14.4 V) ≤ V_{CC} (20.4 V) – V_R (3 V) = 17.4 V: OK
2. I_{OFF} (1.3 mA) ≥ I_{leak} (0.8 mA): OK
3. I_{ON} = [V_{CC} (20.4 V) – V_R (3 V) – $\underline{V_{PC}\ (4\ V)}$] / R_{IN} (3 kΩ)
   = Approx. 4.5 mA
   Therefore, I_{OUT} (min.) (3 mA) ≤ I_{ON} (4.5 mA): OK
   Connection is thus possible.

Connection Example (Reference)

PLC	V_{ON}: ON voltage (14.4 V) I_{ON}: ON current (typically 7 mA) I_{OFF}: OFF current (1.3 mA) R_{IN}: Input impedance (3 kΩ) $\underline{V_{PC}}$: Internal residual voltage (4 V)
Proximity Sensor	V_R: Output residual voltage (3 V) I_{leak}: Leakage current (0.8 mA) I_{OUT}: Control output (3 to 100 mA) V_{CC}: Power supply voltage (PLC: 20.4 to 26.4 V)

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Dimensions

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

Main Units

Model Number-Dimensions Drawing Number Lookup Table

Model	Shielded	Model	DC 2-Wire Models		DC 3-Wire Models	
			Model	No.	Model	No.
Pre-wired Models	Shielded	M8	E2E-X2D□(-US)	1	E2E-X1R5E□/F□	1
		M12	E2E-X3D□(-US)	3	E2E-X2E□/F□	3
		M18	E2E-X7D□(-US)	5	E2E-X5E□/F□	5
		M30	E2E-X10D□(-US)	7	E2E-X10E□/F□	7
	Unshielded	M8	E2E-X4MD□(-US)	2	E2E-X2ME□/F□	2
		M12	E2E-X8MD□(-US)	4	E2E-X5ME□/F□	4
		M18	E2E-X14MD□(-US)	6	E2E-X10ME□/F□	6
		M30	E2E-X20MD□(-US)	8	E2E-X18ME□/F□	8
Connector Models (M12)	Shielded	M8	E2E-X2D□-M1(G)	9	E2E-X1R5E/F□-M1	9
		M12	E2E-X3D□-M1(G)	11	E2E-X2E/F□-M1	11
		M18	E2E-X7D□-M1(G)	13	E2E-X5E/F□-M1	13
		M30	E2E-X10D□-M1(G)	15	E2E-X10E/F□-M1	15
	Unshielded	M8	E2E-X4MD□-M1(G)	10	E2E-X2ME/F□-M1	10
		M12	E2E-X8MD□-M1(G)	12	E2E-X5ME/F□-M1	12
		M18	E2E-X14MD□-M1(G)	14	E2E-X10ME/F□-M1	14
		M30	E2E-X20MD□-M1(G)	16	E2E-X18ME/F□-M1	16
Connector Models (M8)	Shielded	M8	E2E-X2D□-M3G	17	E2E-X1R5E/F□-M3	17
	Unshielded		E2E-X4MD□-M3G	18	E2E-X2ME/F□-M3	18
Pre-wired Connector Models	Shielded	M8	E2E-X2D□-M1TGJ	19	---	
			E2E-X2D□-M1TGJ-US			
		M12	E2E-X3D□-M1(T)GJ	20		
			E2E-X3D□-M1TGJ-US			
		M18	E2E-X7D□-M1(T)GJ	21		
			E2E-X7D□-M1TGJ-US			
		M30	E2E-X10D□-M1(T)GJ	22		
			E2E-X10D□-M1TGJ-US			
	Unshielded	M8	E2E-X4MD□-M1TGJ-US	23	---	
		M12	E2E-X8MD1-M1(T)GJ	24		
			E2E-X8MD□-M1TGJ-US			
		M18	E2E-X14MD1-M1(T)GJ	25		
			E2E-X14MD□-M1TGJ-US			
		M30	E2E-X20MD1-M1(T)GJ	26		
			E2E-X20MD□-M1TGJ-US			
Pre-wired Connector Models (no polarity)	Shielded	M12	E2E-X3D1-M1J-T	20	---	
		M18	E2E-X7D□-M1J-T	21		
		M30	E2E-X10D□-M1J-T	22		

Note 1. Two clamping nuts and one toothed washer are provided with M8 to M30 Models.
2. The model numbers of M8 to M30 Pre-wired Models are laser-marked on the milled section and cable section.

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Pre-wired Models (Shielded)

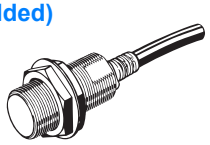
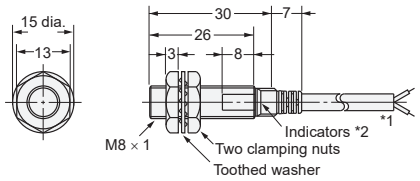
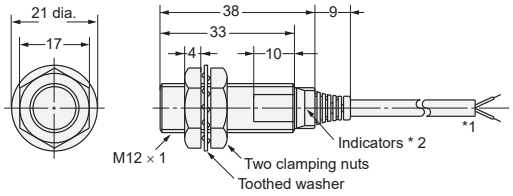


Diagram 1 E2E-X2D□ E2E-X1R5E□/F□



*1. 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
Robotics Cable Models:
4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.27 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.27 mm), Standard length: 2 m
Models with Highly Oil-resistant Cables:
4-dia. polyurethane-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
The cable can be extended up to 200 m (separate metal conduit).
*2. D1 Models: Operation indicator (red) and setting indicator (green), D2/E/F Models: Operation indicator (red)

Diagram 3 E2E-X3D□ E2E-X2E□/F□



*1. 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
Robotics Cable Models:
4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.27 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.27 mm), Standard length: 2 m
Models with Highly Oil-resistant Cables:
4-dia. polyurethane-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
The cable can be extended (separate metal conduit) up to 200 m for the control output and up to 100 m for the diagnostic output.
*2. D1 Models: Operation indicator (red) and setting indicator (green), D2/E/F Models: Operation indicator (red)

Pre-wired Models (Unshielded)

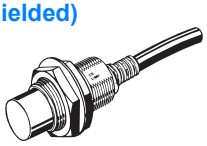
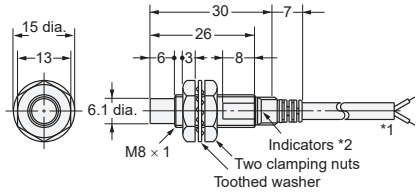
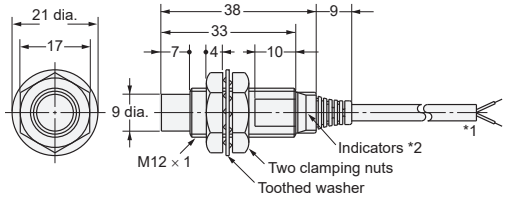


Diagram 2 E2E-X4MD□ E2E-X2ME□/F□



*1. 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
Robotics Cable Models:
4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.27 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.27 mm), Standard length: 2 m
The cable can be extended up to 200 m (separate metal conduit).
*2. D1 Models: Operation indicator (red) and setting indicator (green), D2/E/F Models: Operation indicator (red)

Diagram 4 E2E-X8MD□ E2E-X5ME□/F□



*1. 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
Robotics Cable Models:
4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.27 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.27 mm), Standard length: 2 m
The cable can be extended (separate metal conduit) up to 200 m for the control output and up to 100 m for the diagnostic output.
*2. D1 Models: Operation indicator (red) and setting indicator (green), D2/E/F Models: Operation indicator (red)

Mounting Hole Dimensions

Dimension	M8	M12
F (mm)	$8.5^{+0.5}_{0}$ dia.	$12.5^{+0.5}_{0}$ dia.

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Pre-wired Models (Shielded)

Pre-wired Models (Unshielded)

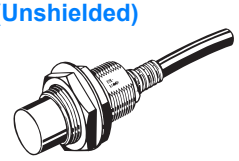
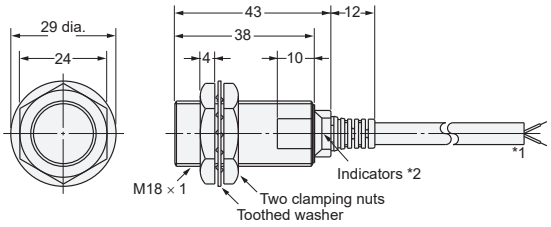
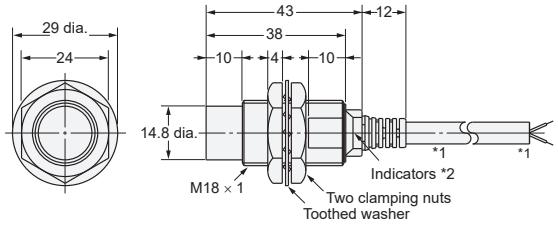


Diagram 5 E2E-X7D□/E2E-X5E□/F□



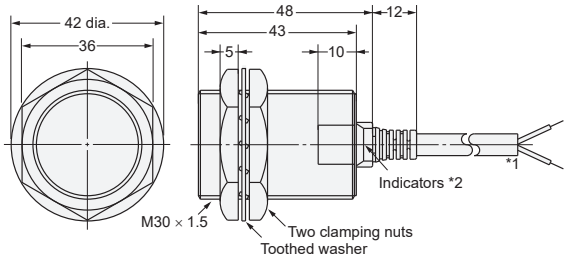
*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
Robotics Cable Models:
6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.74 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.74 mm), Standard length: 2 m
Models with Highly Oil-resistant Cables:
6-dia. polyurethane-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
The cable can be extended (separate metal conduit) up to 200 m for the control output and up to 100 m for the diagnostic output.
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Diagram 6 E2E-X14MD□/E2E-X10ME□/F□



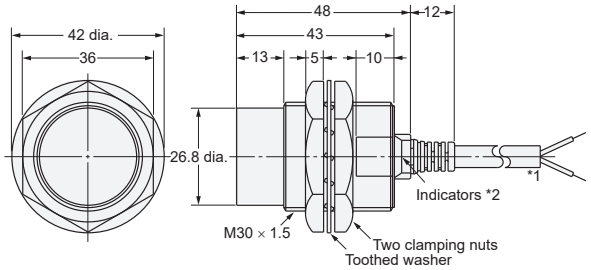
*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
Robotics Cable Models:
6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.74 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.74 mm), Standard length: 2 m
The cable can be extended (separate metal conduit) up to 200 m for the control output and up to 100 m for the diagnostic output.
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Diagram 7 E2E-X10D□/E2E-X10E□/F□



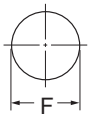
*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
Robotics Cable Models:
6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.74 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.74 mm), Standard length: 2 m
Models with Highly Oil-resistant:
6-dia. polyurethane-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
The cable can be extended (separate metal conduit) up to 200 m for the control output and up to 100 m for the diagnostic output.
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Diagram 8 E2E-X20MD□/E2E-X18ME□/F□



*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.9 mm), Standard length: 2 m
Robotics Cable Models:
6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.74 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm^2, Insulator diameter: 1.74 mm), Standard length: 2 m
The cable can be extended (separate metal conduit) up to 200 m for the control output and up to 100 m for the diagnostic output.
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Mounting Hole Dimensions



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

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

M8 Connector Models (Shielded)

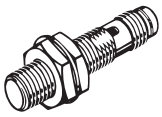
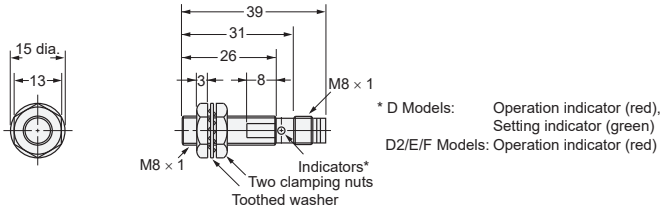


Diagram 17 E2E-X2D□-M3G/E2E-X1R5E□-M3/X1RF□-M3



* D Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

M8 Connector Models (Unshielded)

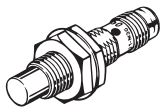
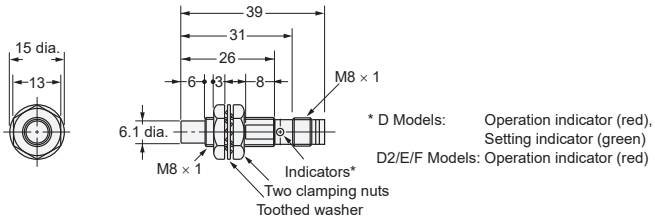


Diagram 18 E2E-X4MD□-M3G/E2E-X2ME□-M3/X2MF□-M3



* D Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

M12 Connector Models (Shielded)

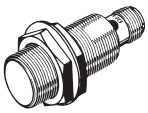
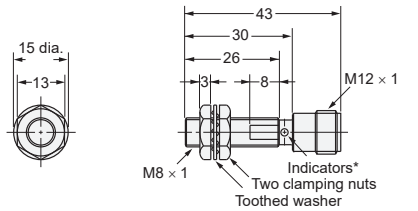


Diagram 9 E2E-X2D□-M1(G) E2E-X1R5E□-M1/E2E-X1R5F□-M1



* D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

M12 Connector Models (Unshielded)

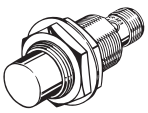
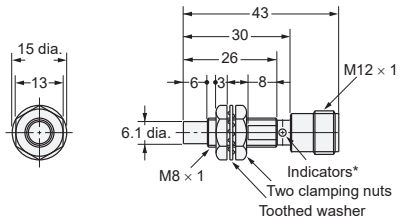
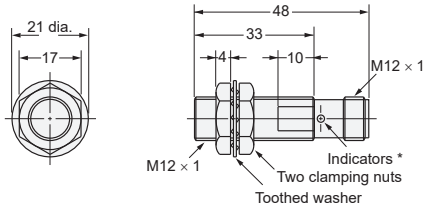


Diagram 10 E2E-X4MD□-M1(G) E2E-X2ME□-M1/E2E-X2MF□-M1



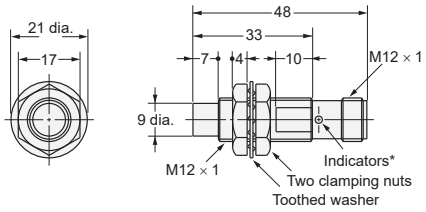
* D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Diagram 11 E2E-X3D□-M1(G) E2E-X2E□-M1/E2E-X2F□-M1



* D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

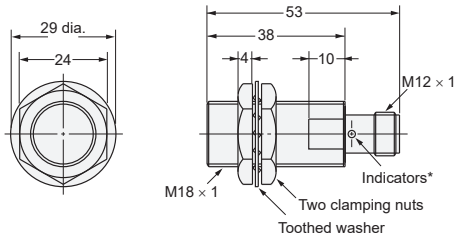
Diagram 12 E2E-X8MD□-M1(G) E2E-X5ME□-M1/E2E-X5MF□-M1



* D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

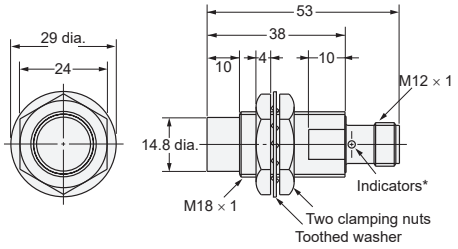
Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Diagram 13 E2E-X7D□-M1(G)/E2E-X5E□-M1/X5F□-M1



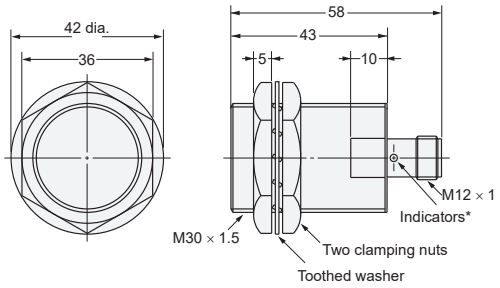
* D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Diagram 14 E2E-X14MD□-M1(G)/E2E-X10ME□-M1 X10MF□-M1



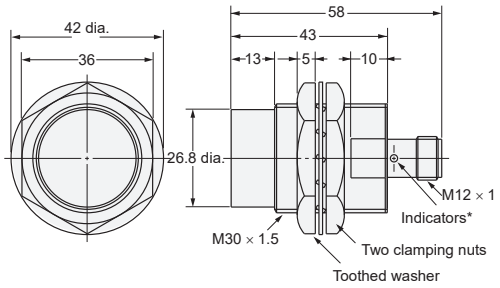
* D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Diagram 15 E2E-X10D□-M1(G)/E2E-X10E□-M1/X10F□-M1



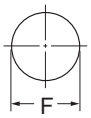
* D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Diagram 16 E2E-X20MD□-M1(G)/E2E-X18ME□-M1/ X18MF□-M1



* D1 Models: Operation indicator (red), Setting indicator (green)
D2/E/F Models: Operation indicator (red)

Mounting Hole Dimensions



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

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Pre-wired Connector Models (Shielded)

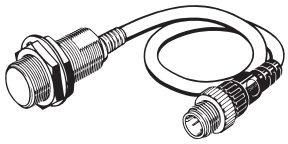
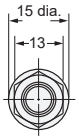
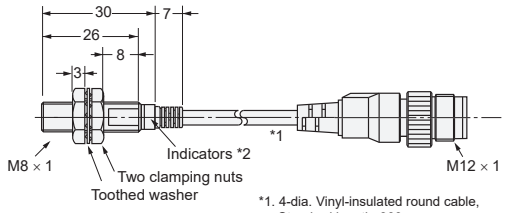


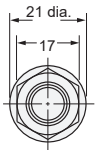
Diagram 19 E2E-X2D1-M1TGJ
E2E-X2D□-M1TGJ-US

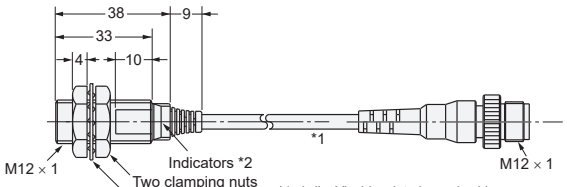




*1. 4-dia. Vinyl-insulated round cable, Standard length: 300 mm
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2 Models: Operation indicator (red)

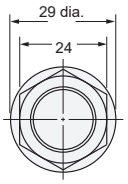
Diagram 20 E2E-X3D□-M1GJ
E2E-X3D1-M1J-T
E2E-X3D1-M1TGJ
E2E-X3D□-M1TGJ-US

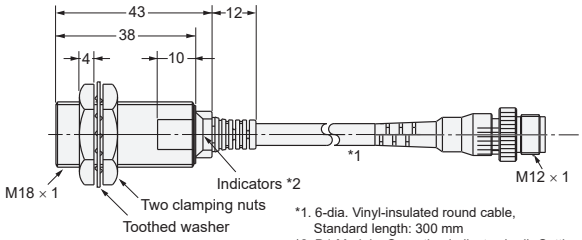




*1. 4-dia. Vinyl-insulated round cable, Standard length: 300 mm
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2 Models: Operation indicator (red)

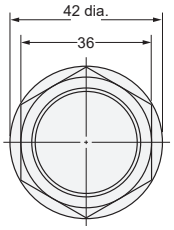
Diagram 21 E2E-X7D□-M1GJ
E2E-X7D□-M1J-T
E2E-X7D1-M1TGJ
E2E-X7D□-M1TGJ-US

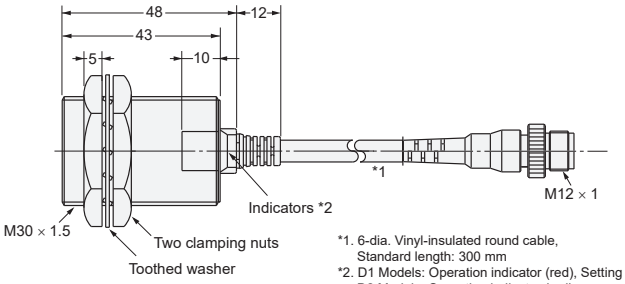




*1. 6-dia. Vinyl-insulated round cable, Standard length: 300 mm
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2 Models: Operation indicator (red)

Diagram 22 E2E-X10D□-M1GJ
E2E-X10D□-M1J-T
E2E-X10D1-M1TGJ
E2E-X10D□-M1TGJ-US



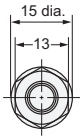


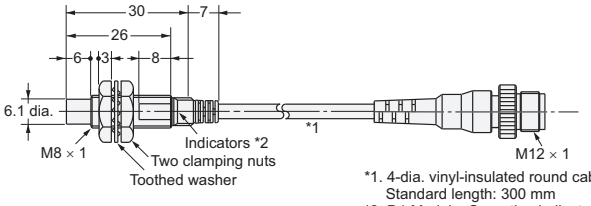
*1. 6-dia. Vinyl-insulated round cable, Standard length: 300 mm
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2 Models: Operation indicator (red)

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

Pre-wired Connector Models (Unshielded)

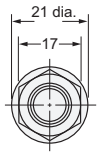
Diagram 23 E2E-X4MD□-M1TGJ-US

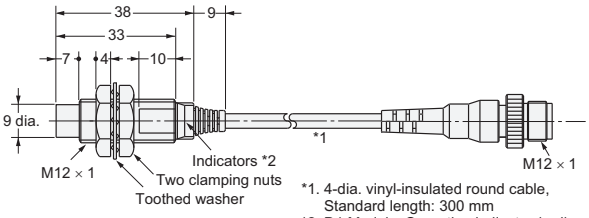




*1. 4-dia. vinyl-insulated round cable
Standard length: 300 mm
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2 Models: Operation indicator (red)

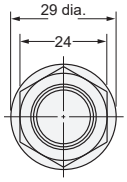
Diagram 24 E2E-X8MD1-M1GJ
E2E-X8MD1-M1TGJ
E2E-X8MD□-M1TGJ-US

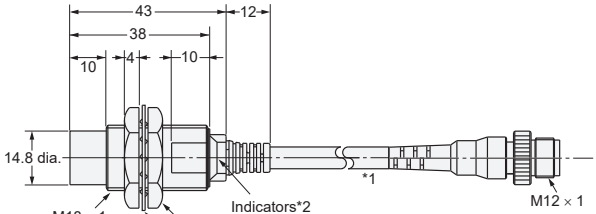




*1. 4-dia. vinyl-insulated round cable,
Standard length: 300 mm
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2 Models: Operation indicator (red)

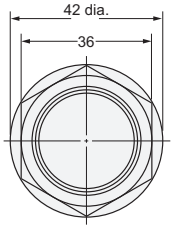
Diagram 25 E2E-X14MD□-M1GJ
E2E-X14MD1-M1TGJ
E2E-X14MD□-M1TGJ-US

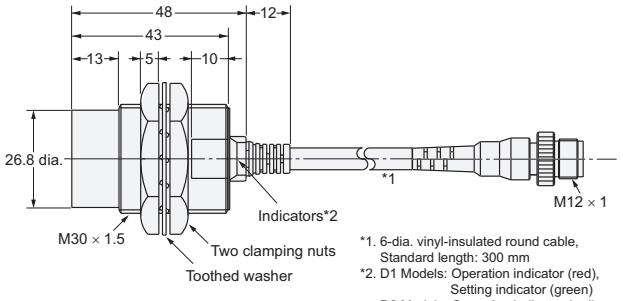




*1. 6-dia. vinyl-insulated round cable,
Standard length: 300 mm
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2 Models: Operation indicator (red)

Diagram 26 E2E-X20MD1-M1GJ
E2E-X20MD1-M1TGJ
E2E-X20MD□-M1TGJ-US





*1. 6-dia. vinyl-insulated round cable,
Standard length: 300 mm
*2. D1 Models: Operation indicator (red), Setting indicator (green)
D2 Models: Operation indicator (red)

Mounting Hole Dimensions

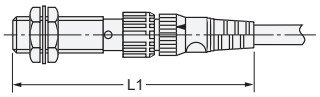
Dimension	M8	M12	M18	M30
F (mm)	$8.5^{+0.5}_{0}$ dia.	$12.5^{+0.5}_{0}$ dia.	$18.5^{+0.5}_{0}$ dia.	$30.5^{+0.5}_{0}$ dia.

Note: DC 2-Wire Models have been integrated into the E2E NEXT Series at the end of october 2022. DC 3-Wire Models have been discontinued at the end of March 2022. Refer to the catalog (Cat. No. D120) for details.

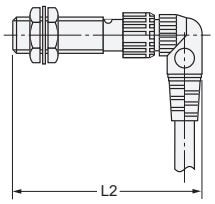
Dimensions for Proximity Sensors with Sensor I/O Connectors

Shielded Models

Straight Connectors

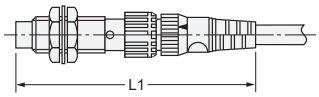


L-shape Connectors

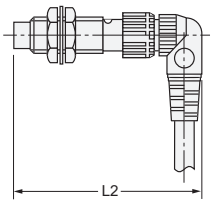


Unshielded Models

Straight Connectors



L-shape Connectors



Dimensions with the XS2F/XS5F Connected (Unit: mm)

Dimension / Sensor diameter		L1	L2
M8		Approx. 75	Approx. 62
M12*	DC	Approx. 80	Approx. 67
	AC	Approx. 85	Approx. 72
M18		Approx. 85	Approx. 72
M30		Approx. 90	Approx. 77

* The overall length of the Sensor is different between AC and DC Models for Sensors with diameters of M12. This will change the dimension when the I/O Connector is connected.

Dimensions with the XS3F Connected (Unit: mm)

Dimension / Sensor diameter	L1	L2
M8	Approx. 65	Approx. 54

Accessories (Order Separately)

Sensor I/O Connectors

Refer to *Introduction to Sensor I/O Connectors/Sensor Controllers* for details.

Mounting Brackets
Protective Covers
Sputter Protective Covers
Refer to *Y92□* for details.

Terms and Conditions Agreement

Read and understand this catalog.

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

Warranties.

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

(b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See http://www.omron.com/global/ or contact your Omron representative for published information.

Limitation on Liability; Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

Note: Do not use this document to operate the Unit.

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) 6835-2711

OMRON (CHINA) CO., LTD.
Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222 Fax: (86) 21-5037-2200

Authorized Distributor:

©OMRON Corporation 2023 All Rights Reserved.
In the interest of product improvement,
specifications are subject to change without notice.

Cat. No. D126-E1-01 0323 (0323)