Welding Proximity Sensor

E2EW Series

DC 3-wire

Stable detection in lines containing both aluminum and iron

- Equivalent sensing distances for both iron and aluminum [1]
- Enables common design for lines with both iron and aluminum [1]
- The exceptional sensing range [2], which means fewer false detections and thereby fewer unexpected stoppages.
- OMRON's unique fluororesin coating technologies enable long-lasting spatter resistance [4], eliminates the need to replace for 10 years [3].
- Durable full metal body to reduce unexpected downtime
- 2-output (NO+NC) models and models with IO-Link [1] are also available.
- Laser printed information (sensing distance on the sensor head, model on the cable, and model on the metal part of the connector model) reduce errors during sensor replacement. [5]
- Weld field immunity cancels pulse noise from magnetic fields. [1]
- UL certification (UL60947-5-2) and CSA certification (CSA C22.2 UL60947-5-2-14)

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

Be sure to read *Safety Precautions* on page 23.

1. PREMIUM Models only.
2. Based on November 2020 OMRON investigation.
3. This value assumes that the sensor operates 10 hours a day in an arc welding environment and is cleaned once a month (12 times a year).
   If our previous model (E2EF-Q) needs to be replaced once every 3 times it is cleaned, the E2EW-Q Proximity Sensor needs to be replaced once every 180 times it is cleaned. This means that there is no need to replace the E2EW-Q Proximity Sensor for 10 or more years.
4. Models with spatter-resistant coating only.
5. Models without spatter-resistant coating only.

E2EW Series Model Number Legend

DC 3-wire

E2EW - (1) X (2) (3) (4) (5) (6) - (7) (8)

No.	Type	Code	Meaning
(1)	Case	Blank	Without spatter-resistant coating
		Q	With spatter-resistant coating
(2)	Sensing distance	Number	Sensing distance (Unit: mm)
(3)	Output configuration	B	PNP open collector
		C	NPN open collector
(4)	Operation mode	1	Normally open (NO)
		2	Normally closed (NC)
		3	Normally open, Normally closed (NO+NC)
(5)	IO-Link baud rate	Blank	Non IO-Link compliant
		D	COM2 (38.4kbps)
		T	COM3 (230.4kbps)
(6)	Size	12	M12
		18	M18
		30	M30
(7)	Connection method	Blank	Pre-wired Models
		M1	M12 Connector Models
		M1TJ	M12 Pre-wired Smartclick Connector Models
(8)	Cable length	Number M	Cable length

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

Ordering Information

PREMIUM Model

E2EW Series (Quadruple distance model)

DC 3-wire [Refer to *Dimensions* on page 26.]

Shielded [1]

Size (Sensing distance)	Connection method	Operation mode	Model	
			PNP	NPN
M12 (7 mm)	Pre-wired (2 m) [2]	NO	E2EW-X7B1T12 2M	E2EW-X7C112 2M
		NC	E2EW-X7B212 2M	E2EW-X7C212 2M
		NO+NC	E2EW-X7B3T12 2M	E2EW-X7C312 2M
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	E2EW-X7B1T12-M1TJ 0.3M	E2EW-X7C112-M1TJ 0.3M
		NC	E2EW-X7B212-M1TJ 0.3M	E2EW-X7C212-M1TJ 0.3M
		NO+NC	E2EW-X7B3T12-M1TJ 0.3M	E2EW-X7C312-M1TJ 0.3M
	M12 Connector	NO	E2EW-X7B1T12-M1	E2EW-X7C112-M1
		NC	E2EW-X7B212-M1	E2EW-X7C212-M1
		NO+NC	E2EW-X7B3T12-M1	E2EW-X7C312-M1
M18 (12 mm)	Pre-wired (2 m) [2]	NO	E2EW-X12B1T18 2M	E2EW-X12C118 2M
		NC	E2EW-X12B218 2M	E2EW-X12C218 2M
		NO+NC	E2EW-X12B3T18 2M	E2EW-X12C318 2M
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	E2EW-X12B1T18-M1TJ 0.3M	E2EW-X12C118-M1TJ 0.3M
		NC	E2EW-X12B218-M1TJ 0.3M	E2EW-X12C218-M1TJ 0.3M
		NO+NC	E2EW-X12B3T18-M1TJ 0.3M	E2EW-X12C318-M1TJ 0.3M
	M12 Connector	NO	E2EW-X12B1T18-M1	E2EW-X12C118-M1
		NC	E2EW-X12B218-M1	E2EW-X12C218-M1
		NO+NC	E2EW-X12B3T18-M1	E2EW-X12C318-M1
M30 (22 mm)	Pre-wired (2 m) [2]	NO	E2EW-X22B1T30 2M	E2EW-X22C130 2M
		NC	E2EW-X22B230 2M	E2EW-X22C230 2M
		NO+NC	E2EW-X22B3T30 2M	E2EW-X22C330 2M
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	E2EW-X22B1T30-M1TJ 0.3M	E2EW-X22C130-M1TJ 0.3M
		NC	E2EW-X22B230-M1TJ 0.3M	E2EW-X22C230-M1TJ 0.3M
		NO+NC	E2EW-X22B3T30-M1TJ 0.3M	E2EW-X22C330-M1TJ 0.3M
	M12 Connector	NO	E2EW-X22B1T30-M1	E2EW-X22C130-M1
		NC	E2EW-X22B230-M1	E2EW-X22C230-M1
		NO+NC	E2EW-X22B3T30-M1	E2EW-X22C330-M1

1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 24.
2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2EW-X7B1T12 5M)

Note: 1. Models in [ ] are equipped with IO-Link (COM3). For IO-Link (COM2), select a model number with the format of "E2EW-X□□□D□" (Example: E2EW-X7B1D12 2M).
Operation mode NO can be changed to NC via IO-Link communications.

2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

PREMIUM Model

E2EW Series (Triple distance model)

DC 3-wire [Refer to *Dimensions* on page 26.]

Shielded [1]

Size (Sensing distance)	Connection method	Operation mode	Model	
			PNP	NPN
M12 (6 mm)	Pre-wired (2 m) [2]	NO	**E2EW-X6B1T12 2M**	**E2EW-X6C112 2M**
		NC	**E2EW-X6B212 2M**	**E2EW-X6C212 2M**
		NO+NC	**E2EW-X6B3T12 2M**	**E2EW-X6C312 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-X6B1T12-M1TJ 0.3M**	**E2EW-X6C112-M1TJ 0.3M**
		NC	**E2EW-X6B212-M1TJ 0.3M**	**E2EW-X6C212-M1TJ 0.3M**
		NO+NC	**E2EW-X6B3T12-M1TJ 0.3M**	**E2EW-X6C312-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-X6B1T12-M1**	**E2EW-X6C112-M1**
		NC	**E2EW-X6B212-M1**	**E2EW-X6C212-M1**
		NO+NC	**E2EW-X6B3T12-M1**	**E2EW-X6C312-M1**
M18 (10 mm)	Pre-wired (2 m) [2]	NO	**E2EW-X10B1T18 2M**	**E2EW-X10C118 2M**
		NC	**E2EW-X10B218 2M**	**E2EW-X10C218 2M**
		NO+NC	**E2EW-X10B3T18 2M**	**E2EW-X10C318 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-X10B1T18-M1TJ 0.3M**	**E2EW-X10C118-M1TJ 0.3M**
		NC	**E2EW-X10B218-M1TJ 0.3M**	**E2EW-X10C218-M1TJ 0.3M**
		NO+NC	**E2EW-X10B3T18-M1TJ 0.3M**	**E2EW-X10C318-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-X10B1T18-M1**	**E2EW-X10C118-M1**
		NC	**E2EW-X10B218-M1**	**E2EW-X10C218-M1**
		NO+NC	**E2EW-X10B3T18-M1**	**E2EW-X10C318-M1**
M30 (20 mm)	Pre-wired (2 m) [2]	NO	**E2EW-X20B1T30 2M**	**E2EW-X20C130 2M**
		NC	**E2EW-X20B230 2M**	**E2EW-X20C230 2M**
		NO+NC	**E2EW-X20B3T30 2M**	**E2EW-X20C330 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-X20B1T30-M1TJ 0.3M**	**E2EW-X20C130-M1TJ 0.3M**
		NC	**E2EW-X20B230-M1TJ 0.3M**	**E2EW-X20C230-M1TJ 0.3M**
		NO+NC	**E2EW-X20B3T30-M1TJ 0.3M**	**E2EW-X20C330-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-X20B1T30-M1**	**E2EW-X20C130-M1**
		NC	**E2EW-X20B230-M1**	**E2EW-X20C230-M1**
		NO+NC	**E2EW-X20B3T30-M1**	**E2EW-X20C330-M1**

1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 24.
2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2EW-X6B1T12 5M)

Note: 1. Models in [ ] are equipped with IO-Link (COM3). For IO-Link (COM2), select a model number with the format of "E2EW-X□□□D□" (Example: E2EW-X6B1D12 2M).
Operation mode NO can be changed to NC via IO-Link communications.

2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

PREMIUM Model

E2EW-Q Series (Spatter-resistant Quadruple distance model)

DC 3-wire [Refer to *Dimensions* on page 26.]

Shielded [1]

Size (Sensing distance)	Connection method	Operation mode	Model	
			PNP	NPN
M12 (7 mm)	Pre-wired (2 m) [2]	NO	**E2EW-QX7B1T12 2M**	**E2EW-QX7C112 2M**
		NC	**E2EW-QX7B212 2M**	**E2EW-QX7C212 2M**
		NO+NC	**E2EW-QX7B3T12 2M**	**E2EW-QX7C312 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX7B1T12-M1TJ 0.3M**	**E2EW-QX7C112-M1TJ 0.3M**
		NC	**E2EW-QX7B212-M1TJ 0.3M**	**E2EW-QX7C212-M1TJ 0.3M**
		NO+NC	**E2EW-QX7B3T12-M1TJ 0.3M**	**E2EW-QX7C312-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-QX7B1T12-M1**	**E2EW-QX7C112-M1**
		NC	**E2EW-QX7B212-M1**	**E2EW-QX7C212-M1**
		NO+NC	**E2EW-QX7B3T12-M1**	**E2EW-QX7C312-M1**
M18 (12 mm)	Pre-wired (2 m) [2]	NO	**E2EW-QX12B1T18 2M**	**E2EW-QX12C118 2M**
		NC	**E2EW-QX12B218 2M**	**E2EW-QX12C218 2M**
		NO+NC	**E2EW-QX12B3T18 2M**	**E2EW-QX12C318 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX12B1T18-M1TJ 0.3M**	**E2EW-QX12C118-M1TJ 0.3M**
		NC	**E2EW-QX12B218-M1TJ 0.3M**	**E2EW-QX12C218-M1TJ 0.3M**
		NO+NC	**E2EW-QX12B3T18-M1TJ 0.3M**	**E2EW-QX12C318-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-QX12B1T18-M1**	**E2EW-QX12C118-M1**
		NC	**E2EW-QX12B218-M1**	**E2EW-QX12C218-M1**
		NO+NC	**E2EW-QX12B3T18-M1**	**E2EW-QX12C318-M1**
M30 (22 mm)	Pre-wired (2 m) [2]	NO	**E2EW-QX22B1T30 2M**	**E2EW-QX22C130 2M**
		NC	**E2EW-QX22B230 2M**	**E2EW-QX22C230 2M**
		NO+NC	**E2EW-QX22B3T30 2M**	**E2EW-QX22C330 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX22B1T30-M1TJ 0.3M**	**E2EW-QX22C130-M1TJ 0.3M**
		NC	**E2EW-QX22B230-M1TJ 0.3M**	**E2EW-QX22C230-M1TJ 0.3M**
		NO+NC	**E2EW-QX22B3T30-M1TJ 0.3M**	**E2EW-QX22C330-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-QX22B1T30-M1**	**E2EW-QX22C130-M1**
		NC	**E2EW-QX22B230-M1**	**E2EW-QX22C230-M1**
		NO+NC	**E2EW-QX22B3T30-M1**	**E2EW-QX22C330-M1**

1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 24.
2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2EW-QX7B1T12 5M)

Note: 1. Models in [ ] are equipped with IO-Link (COM3). For IO-Link (COM2), select a model number with the format of "E2EW-QX□□□D□" (Example: E2EW-QX7B1D12 2M).
Operation mode NO can be changed to NC via IO-Link communications.

2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

PREMIUM Model

E2EW-Q Series (Spatter-resistant Triple distance model)

DC 3-wire [Refer to *Dimensions* on page 26.]

Shielded [1]

Size (Sensing distance)	Connection method	Operation mode	Model	
			PNP	NPN
M12 (6 mm)	Pre-wired (2 m) [2]	NO	**E2EW-QX6B1T12 2M**	**E2EW-QX6C112 2M**
		NC	**E2EW-QX6B212 2M**	**E2EW-QX6C212 2M**
		NO+NC	**E2EW-QX6B3T12 2M**	**E2EW-QX6C312 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX6B1T12-M1TJ 0.3M**	**E2EW-QX6C112-M1TJ 0.3M**
		NC	**E2EW-QX6B212-M1TJ 0.3M**	**E2EW-QX6C212-M1TJ 0.3M**
		NO+NC	**E2EW-QX6B3T12-M1TJ 0.3M**	**E2EW-QX6C312-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-QX6B1T12-M1**	**E2EW-QX6C112-M1**
		NC	**E2EW-QX6B212-M1**	**E2EW-QX6C212-M1**
		NO+NC	**E2EW-QX6B3T12-M1**	**E2EW-QX6C312-M1**
M18 (10 mm)	Pre-wired (2 m) [2]	NO	**E2EW-QX10B1T18 2M**	**E2EW-QX10C118 2M**
		NC	**E2EW-QX10B218 2M**	**E2EW-QX10C218 2M**
		NO+NC	**E2EW-QX10B3T18 2M**	**E2EW-QX10C318 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX10B1T18-M1TJ 0.3M**	**E2EW-QX10C118-M1TJ 0.3M**
		NC	**E2EW-QX10B218-M1TJ 0.3M**	**E2EW-QX10C218-M1TJ 0.3M**
		NO+NC	**E2EW-QX10B3T18-M1TJ 0.3M**	**E2EW-QX10C318-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-QX10B1T18-M1**	**E2EW-QX10C118-M1**
		NC	**E2EW-QX10B218-M1**	**E2EW-QX10C218-M1**
		NO+NC	**E2EW-QX10B3T18-M1**	**E2EW-QX10C318-M1**
M30 (20 mm)	Pre-wired (2 m) [2]	NO	**E2EW-QX20B1T30 2M**	**E2EW-QX20C130 2M**
		NC	**E2EW-QX20B230 2M**	**E2EW-QX20C230 2M**
		NO+NC	**E2EW-QX20B3T30 2M**	**E2EW-QX20C330 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX20B1T30-M1TJ 0.3M**	**E2EW-QX20C130-M1TJ 0.3M**
		NC	**E2EW-QX20B230-M1TJ 0.3M**	**E2EW-QX20C230-M1TJ 0.3M**
		NO+NC	**E2EW-QX20B3T30-M1TJ 0.3M**	**E2EW-QX20C330-M1TJ 0.3M**
	M12 Connector	NO	**E2EW-QX20B1T30-M1**	**E2EW-QX20C130-M1**
		NC	**E2EW-QX20B230-M1**	**E2EW-QX20C230-M1**
		NO+NC	**E2EW-QX20B3T30-M1**	**E2EW-QX20C330-M1**

1. When embedding the Proximity Sensor in metal, refer to *Influence of Surrounding Metal* on page 24.
2. Models with 5-m cable length are also available with "5M" suffix. (Example: E2EW-QX6B1T12 5M)

Note: 1. Models in [ ] are equipped with IO-Link (COM3). For IO-Link (COM2), select a model number with the format of "E2EW-QX□□□D□" (Example: E2EW-QX6B1D12 2M).
Operation mode NO can be changed to NC via IO-Link communications.

2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.

BASIC Model

E2EW Series (Single distance model)

DC 3-wire [Refer to *Dimensions* on page 27.]

Shielded

Size (Sensing distance)	Connection method	Operation mode	Model	
			PNP	NPN
M12 (2 mm)	Pre-wired (2 m) *	NO	**E2EW-X2B112 2M**	**E2EW-X2C112 2M**
		NC	**E2EW-X2B212 2M**	**E2EW-X2C212 2M**
		NO+NC	**E2EW-X2B312 2M**	**E2EW-X2C312 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-X2B112-M1TJ 0.3M**	**E2EW-X2C112-M1TJ 0.3M**
		NC	**E2EW-X2B212-M1TJ 0.3M**	**E2EW-X2C212-M1TJ 0.3M**
		NO+NC	**E2EW-X2B312-M1TJ 0.3M**	**E2EW-X2C312-M1TJ 0.3M**
M18 (5 mm)	Pre-wired (2 m) *	NO	**E2EW-X5B118 2M**	**E2EW-X5C118 2M**
		NC	**E2EW-X5B218 2M**	**E2EW-X5C218 2M**
		NO+NC	**E2EW-X5B318 2M**	**E2EW-X5C318 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-X5B118-M1TJ 0.3M**	**E2EW-X5C118-M1TJ 0.3M**
		NC	**E2EW-X5B218-M1TJ 0.3M**	**E2EW-X5C218-M1TJ 0.3M**
		NO+NC	**E2EW-X5B318-M1TJ 0.3M**	**E2EW-X5C318-M1TJ 0.3M**
M30 (10 mm)	Pre-wired (2 m) *	NO	**E2EW-X10B130 2M**	**E2EW-X10C130 2M**
		NC	**E2EW-X10B230 2M**	**E2EW-X10C230 2M**
		NO+NC	**E2EW-X10B330 2M**	**E2EW-X10C330 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-X10B130-M1TJ 0.3M**	**E2EW-X10C130-M1TJ 0.3M**
		NC	**E2EW-X10B230-M1TJ 0.3M**	**E2EW-X10C230-M1TJ 0.3M**
		NO+NC	**E2EW-X10B330-M1TJ 0.3M**	**E2EW-X10C330-M1TJ 0.3M**

* Models with 5-m cable length are also available with "5M" suffix. (Example: E2EW-X2B112 5M)

Note: IO-Link is not supported for all types of BASIC Model.

BASIC Model

E2EW-Q Series (Spatter-resistant Single distance model)

DC 3-wire [Refer to *Dimensions* on page 27.]

Shielded

Size (Sensing distance)	Connection method	Operation mode	Model	
			PNP	NPN
M12 (2 mm)	Pre-wired (2 m) *	NO	**E2EW-QX2B112 2M**	**E2EW-QX2C112 2M**
		NC	**E2EW-QX2B212 2M**	**E2EW-QX2C212 2M**
		NO+NC	**E2EW-QX2B312 2M**	**E2EW-QX2C312 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX2B112-M1TJ 0.3M**	**E2EW-QX2C112-M1TJ 0.3M**
		NC	**E2EW-QX2B212-M1TJ 0.3M**	**E2EW-QX2C212-M1TJ 0.3M**
		NO+NC	**E2EW-QX2B312-M1TJ 0.3M**	**E2EW-QX2C312-M1TJ 0.3M**
M18 (5 mm)	Pre-wired (2 m) *	NO	**E2EW-QX5B118 2M**	**E2EW-QX5C118 2M**
		NC	**E2EW-QX5B218 2M**	**E2EW-QX5C218 2M**
		NO+NC	**E2EW-QX5B318 2M**	**E2EW-QX5C318 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX5B118-M1TJ 0.3M**	**E2EW-QX5C118-M1TJ 0.3M**
		NC	**E2EW-QX5B218-M1TJ 0.3M**	**E2EW-QX5C218-M1TJ 0.3M**
		NO+NC	**E2EW-QX5B318-M1TJ 0.3M**	**E2EW-QX5C318-M1TJ 0.3M**
M30 (10 mm)	Pre-wired (2 m) *	NO	**E2EW-QX10B130 2M**	**E2EW-QX10C130 2M**
		NC	**E2EW-QX10B230 2M**	**E2EW-QX10C230 2M**
		NO+NC	**E2EW-QX10B330 2M**	**E2EW-QX10C330 2M**
	M12 Pre-wired Smartclick Connector (0.3 m)	NO	**E2EW-QX10B130-M1TJ 0.3M**	**E2EW-QX10C130-M1TJ 0.3M**
		NC	**E2EW-QX10B230-M1TJ 0.3M**	**E2EW-QX10C230-M1TJ 0.3M**
		NO+NC	**E2EW-QX10B330-M1TJ 0.3M**	**E2EW-QX10C330-M1TJ 0.3M**

* Models with 5-m cable length are also available with "5M" suffix. (Example: E2EW-QX2B112 5M)

Note: IO-Link is not supported for all types of BASIC Model.

Accessories (Sold Separately)

Sensor I/O Connectors

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

Round Water-resistant Connectors XS2 series

Appearance	Cable Specification	Type	Cable diameter (mm)	Cable Connection Direction	Cable length (m)	Sensor I/O Connector model number	Applicable Proximity Sensor model number
M12 Connector Straight type 	PVC robot cable	Sockets on One Cable End	6 dia.	Straight	2	**XS2F-M12PVC4S2M**	E2EW-X□-M1 E2EW-QX□-M1 E2EW-X□-M1TJ E2EW-QX□-M1TJ
					5	**XS2F-M12PVC4S5M**	
					10	**XS2F-M12PVC4S10M**	
				Right-angle	2	**XS2F-M12PVC4A2M**	
					5	**XS2F-M12PVC4A5M**	
					10	**XS2F-M12PVC4A10M**	
Right-angle type 		Socket and Plug on Cable Ends	6 dia.	Straight (Socket)/ Straight (Plug)	1	**XS2W-D421-C81-F**	
					2	**XS2W-D421-D81-F**	
					3	**XS2W-D421-E81-F**	
					5	**XS2W-D421-G81-F**	
					10	**XS2W-D421-J81-F**	
				Right-angle (Socket)/ Right-angle (Plug)	2	**XS2W-D422-D81-F**	
					5	**XS2W-D422-G81-F**	
				Straight (Socket)/ Right-angle (Plug)	2	**XS2W-D423-D81-F**	
					5	**XS2W-D423-G81-F**	
				Right-angle (Socket)/ Straight (Plug)	2	**XS2W-D424-D81-F**	
					5	**XS2W-D424-G81-F**	

Ratings and Specifications

PREMIUM Model

E2EW Series (Quadruple/Triple distance model)
E2EW-Q Series (Spatter-resistant Quadruple/Triple distance model)

DC 3-wire
Shielded

Item	Model	Type	Quadruple distance model			Triple distance model		
		Size	M12	M18	M30	M12	M18	M30
		Model	E2EW-(Q)X7□12	E2EW-(Q)X12□18	E2EW-(Q)X22□30	E2EW-(Q)X6□12	E2EW-(Q)X10□18	E2EW-(Q)X20□30
Sensing distance			7 mm ±10%	12 mm ±10%	22 mm ±10%	6 mm ±10%	10 mm ±10%	20 mm ±10%
Setting distance			0 to 4.9 mm	0 to 8.4 mm	0 to 15.4 mm	0 to 4.2 mm	0 to 7.0 mm	0 to 14 mm
Differential travel			15% max. of sensing distance					
Detectable object			Ferrous metals and non-ferrous metals (The sensing distance depends on the material of the sensing object. Refer to *Engineering Data* on page 11.)					
Standard sensing object			Iron, 21 × 21 × 1 mm	Iron, 36 × 36 × 1 mm	Iron, 66 × 66 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, 60 × 60 × 1 mm
Response frequency [1]			2 Hz					
Power supply voltage			10 to 30 VDC (including 10% ripple (p-p)), Class 2					
Current consumption			720 mW max. (Current consumption: 30 mA max. at power supply voltage of 24 V)					
Output configuration			B□ Models: PNP open collector, C□ Models: NPN open collector					
Operation mode			1-output models (B1, C1): NO (Normally open), 1-output models (B2, C2): NC (Normally closed), 2-output models (B3, C3): NO+NC (Normally open, Normally closed)					
Control output	Load current		1-output models (B1,B2,C1,C2): 10 to 30 VDC, Class 2, 200 mA max. 2-output models (B3, C3): 10 to 30 VDC, Class 2, 100 mA max.					
	Residual voltage		1-output models (B1,B2,C1,C2): 2 V max. (Load current: 200 mA, Cable length: 2 m) 2-output models (B3, C3): 2 V max. (Load current: 100 mA, Cable length: 2 m)					
Indicator			In the Standard I/O mode (SIO mode): Operation indicator (orange, lit) and communication indicator (green, not lit) In the IO-Link communication mode (COM mode): Operation indicator (orange, lit) and communication indicator (green, blinking at 1 s intervals)					
Protection circuits			Power supply reverse polarity protection, Surge suppressor, Output short-circuit protection, Output reverse polarity protection					
Ambient temperature range			Operating: 0 to 85 °C, Storage: -15 to 85 °C (with no icing or condensation) [3]					
Ambient humidity range			Operating/Storage: 35% to 95% (with no condensation)					
Temperature influence			±20% max. of sensing distance at 23 °C in the temperature range of 0 to 85 °C					
Voltage influence			±1.5% max. of sensing distance at rated voltage in the rated voltage ±15% range					
Insulation resistance			50 MΩ min. (at 500 VDC) between current-carrying parts and case					
Dielectric strength			1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case					
Vibration resistance (destruction)			10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions					
Shock resistance (destruction)			1,000 m/s^2 10 times each in X, Y, and Z directions					
Degree of protection			IEC 60529: IP67					
Connection method			Pre-wired Models (Standard cable length: 2 m), Pre-wired Connector Models (Standard cable length: 0.3 m), M12 Connector Models					
Weight (packed state)	Pre-wired		Approx. 140 g	Approx. 165 g	Approx. 225 g	Approx. 140 g	Approx. 165 g	Approx. 225 g
	M12 Pre-wired Smartclick Connector		Approx. 70 g	Approx. 100 g	Approx. 160 g	Approx. 70 g	Approx. 100 g	Approx. 160 g
	M12 Connector		Approx. 60 g	Approx. 75 g	Approx. 135 g	Approx. 60 g	Approx. 75 g	Approx. 135 g
Materials	Case		E2EW-X□: Stainless steel (SUS303), E2EW-QX□: Fluororesin coating (Base material: (SUS303))					
	Sensing surface		E2EW-X□: Stainless steel (SUS303), E2EW-QX□: Fluororesin coating (Base material: (SUS303))					
	Sensing surface (Thickness)		0.4 mm	0.4 mm	0.5 mm	0.4 mm	0.4 mm	0.5 mm
	Clamping nuts		E2EW-X□: Stainless steel (SUS303), E2EW-QX□: Fluororesin coating (Base material: (SUS303))					
	Toothed washers		Zinc-plated iron					
	Cable		Vinyl chloride (PVC)					
Main IO-Link functions [2]			Operation mode switching between NO and NC, self diagnosis enabling, excessive proximity judgment distance selecting, timer function of the control output and timer time selecting, instability output (IO-Link mode) ON delay timer time selecting function, monitor output, operating hours read-out, readout of the sensor internal temperature, and initial reset					
IO-Link Communication specifications [2]	IO-Link specification		Ver.1.1					
	Baud rate		E2EW(-Q) X□B□T□: COM3 (230.4 kbps), E2EW(-Q) X□B□D□: COM2 (38.4 kbps)					
	Data length		PD size: 2 bytes, OD size: 1 byte (M-sequence type: TYPE_2_2)					
	Minimum cycle time		COM2: 2.3 ms, COM3: 1.0 ms					
Accessories			Instruction manual, Clamping nuts, Toothed washer					

1. The response frequency is an average value. Factory setting: (timer function: ONOFF delay)
2. IO-Link is not supported for NC-type PNP outputs or all types of NPN outputs.
3. UL temperature rating is between 0 °C to 60 °C.

BASIC Model

E2EW Series (Single distance model)
E2EW-Q Series (Spatter-resistant Single distance model)

DC 3-wire
Shielded

Item		Type	Single distance model		
		Size	M12	M18	M30
		Model	E2EW-(Q)X2□12	E2EW-(Q)X5□18	E2EW-(Q)X10□30
Sensing distance			2 mm ±10%	5 mm ±10%	10 mm ±10%
Setting distance			0 to 1.4 mm	0 to 3.5 mm	0 to 7 mm
Differential travel			10% max. of sensing distance		
Detectable object			Ferrous metals and non-ferrous metals (The sensing distance depends on the material of the sensing object. Refer to *Engineering Data* on page 11.)		
Standard sensing object			Iron, 12 × 12 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, 30 × 30 × 1 mm
Response frequency [1]			100 Hz	80 Hz	40 Hz
Power supply voltage			10 to 30 VDC (including 10% ripple (p-p)), Class 2		
Current consumption			1-output models (B1, B2, C1, C2): 16 mA max. 2-output models (B3, C3): 20 mA max.		
Output configuration			B□ Models: PNP open collector, C□ Models: NPN open collector		
Operation mode			1-output models (B1, C1): NO (Normally open), 1-output models (B2, C2): NC (Normally closed), 2-output models (B3, C3): NO+NC (Normally open, Normally closed)		
Control output	Load current		1-output models (B1, B2, C1, C2): 10 to 30 VDC, Class 2, 200 mA max. 2-output models (B3, C3): 10 to 30 VDC, Class 2, 100 mA max.		
	Residual voltage		1-output models (B1, B2, C1, C2): 2 V max. (Load current: 200 mA, Cable length: 2 m) 2-output models (B3, C3): 2 V max. (Load current: 100 mA, Cable length: 2 m)		
Indicator			Operation indicator (orange, lit) and communication indicator (green, not lit)		
Protection circuits			Power supply reverse polarity protection, Surge suppressor, Output short-circuit protection, Output reverse polarity protection		
Ambient temperature range			Operating: 0 to 85 °C, Storage: -15 to 85 °C (with no icing or condensation) [2]		
Ambient humidity range			Operating/Storage: 35% to 95% (with no condensation)		
Temperature influence			±20% max. of sensing distance at 23 °C in the temperature range of 0 to 85 °C		
Voltage influence			±1.5% max. of sensing distance at rated voltage in the rated voltage ±15% range		
Insulation resistance			50 MΩ min. (at 500 VDC) between current-carrying parts and case		
Dielectric strength			1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case		
Vibration resistance (destruction)			10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions		
Shock resistance (destruction)			1,000 m/s^2 10 times each in X, Y, and Z directions		
Degree of protection			IEC 60529: IP67		
Connection method			Pre-wired Models (Standard cable length: 2 m), Pre-wired Connector Models (Standard cable length: 0.3 m)		
Weight (packed state)	Pre-wired		Approx. 140 g	Approx. 160 g	Approx. 225 g
	M12 Pre-wired Smartclick Connector		Approx. 70 g	Approx. 95 g	Approx. 160 g
Materials	Case		E2EW-X□: Stainless steel (SUS303), E2EW-QX□: Fluororesin coating (Base material: (SUS303))		
	Sensing surface		E2EW-X□: Stainless steel (SUS303), E2EW-QX□: Fluororesin coating (Base material: (SUS303))		
	Sensing surface (Thickness)		0.8 mm	0.8 mm	0.8 mm
	Clamping nuts		E2EW-X□: Stainless steel (SUS303), E2EW-QX□: Fluororesin coating (Base material: (SUS303))		
	Toothed washers		Zinc-plated iron		
	Cable		Vinyl chloride (PVC)		
Accessories			Instruction manual, Clamping nuts, Toothed washer		

1. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing distance.
2. UL temperature rating is between 0 °C to 60 °C.

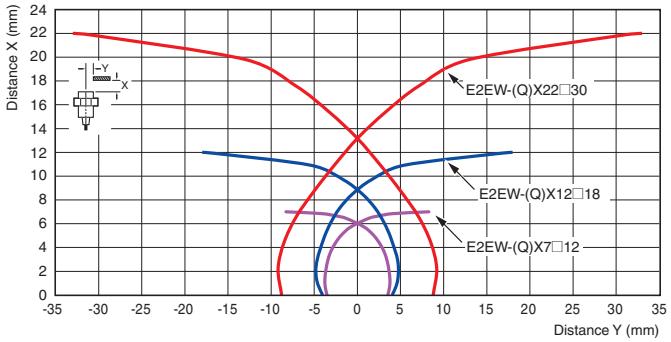
Engineering Data (Reference Value)

Sensing Area

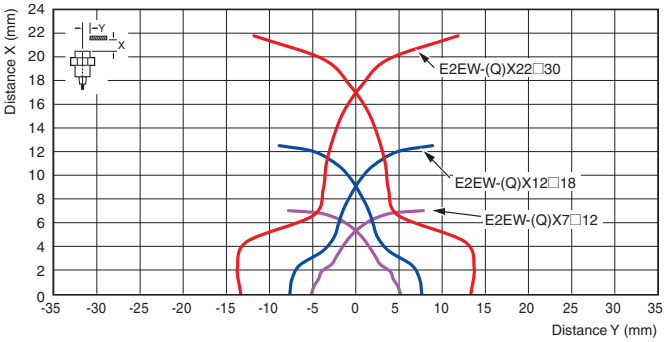
PREMIUM Model

Quadruple distance model/ Spatter-resistant Quadruple distance model Shielded

Sensing object: iron

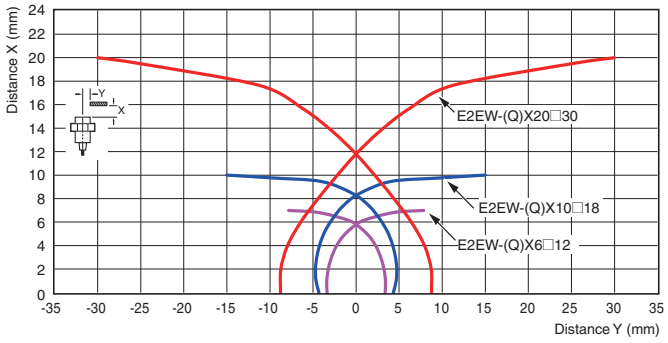


Sensing object: Aluminum

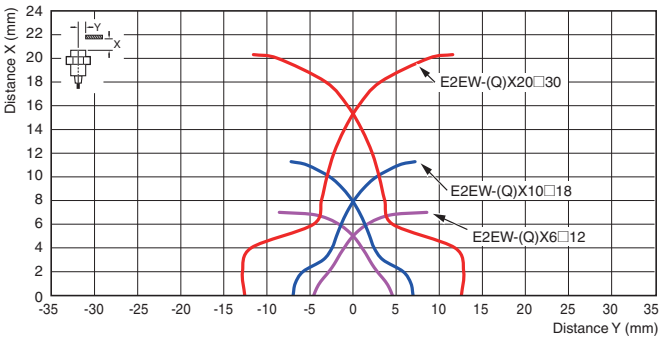


Triple distance model/ Spatter-resistant Triple distance model Shielded

Sensing object: iron



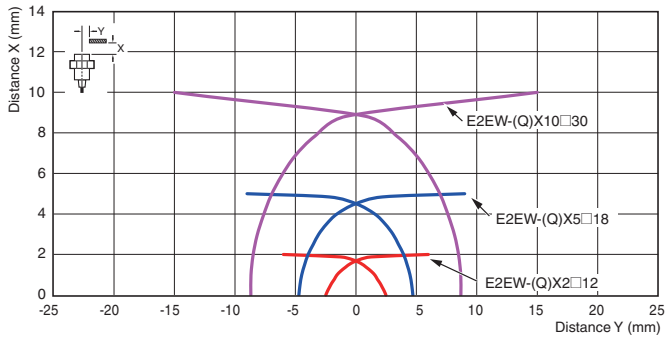
Sensing object: Aluminum



BASIC Model

Single distance model/ Spatter-resistant Single distance model Shielded

Sensing object: iron

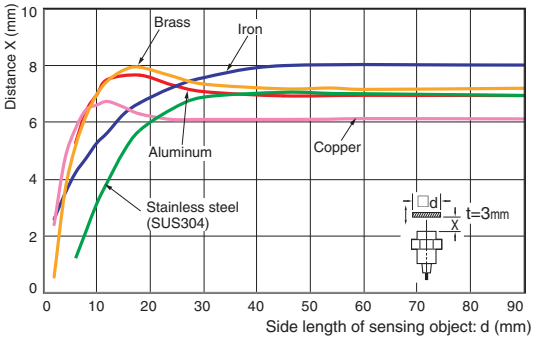


Influence of Sensing Object Size and Material

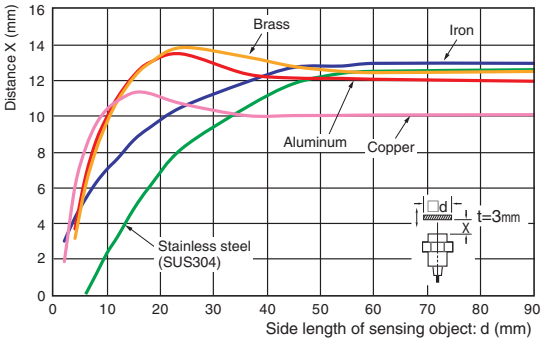
PREMIUM Model

Quadruple distance model/ Spatter-resistant Quadruple distance model Shielded

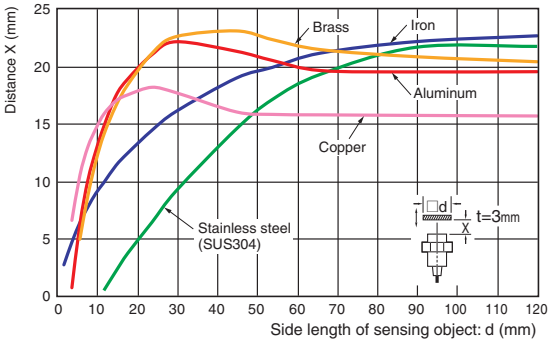
Size: M12 E2EW-(Q)X7□12



Size: M18 E2EW-(Q)X12□18

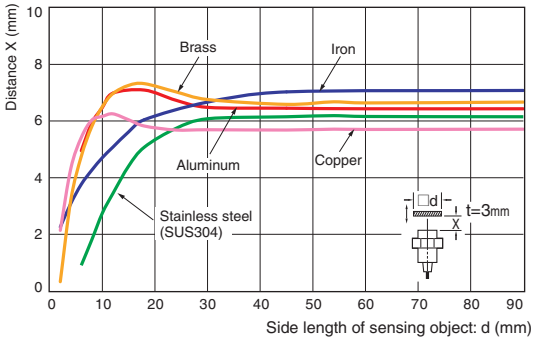


Size: M30 E2EW-(Q)X22□30

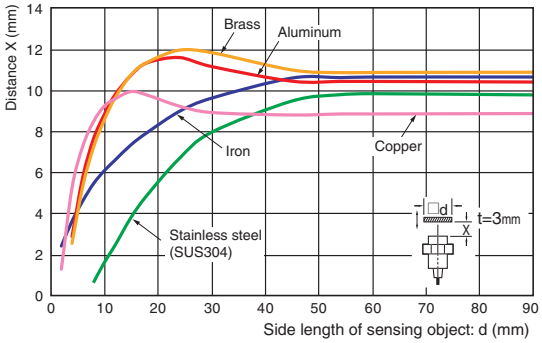


Triple distance model/ Spatter-resistant Triple distance model Shielded

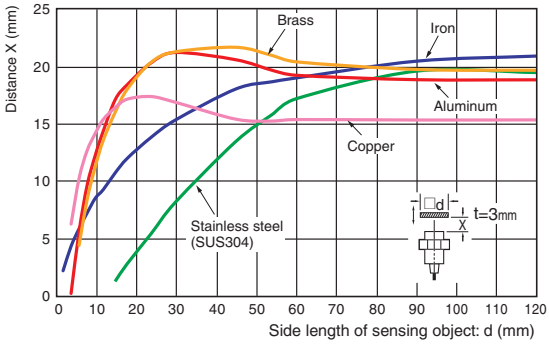
Size: M12 E2EW-(Q)X6□12



Size: M18 E2EW-(Q)X10□18



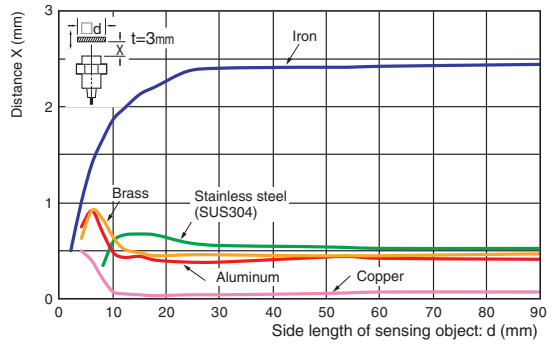
Size: M30 E2EW-(Q)X20□30



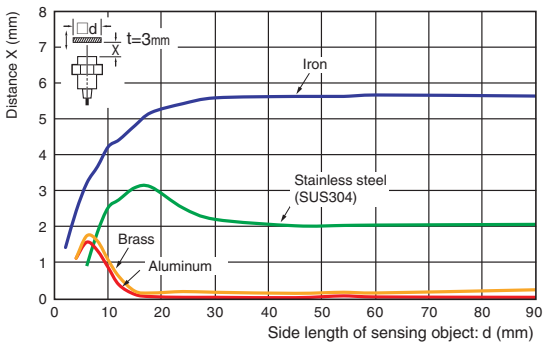
BASIC Model

Single distance model/
Spatter-resistant Single distance model
Shielded

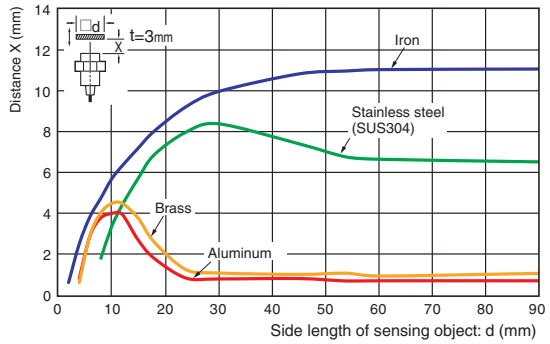
Size: M12 E2EW-(Q)X2□12



Size: M18 E2EW-(Q)X5□18



Size: M30 E2EW-(Q)X10□30

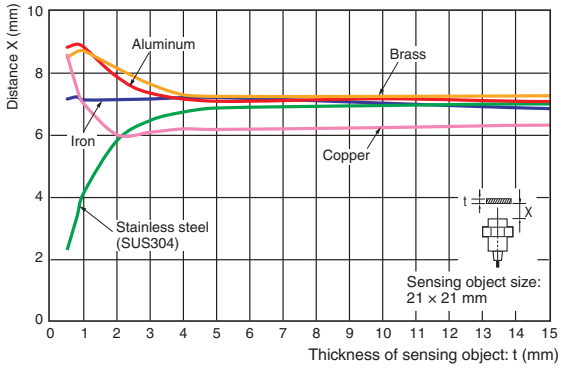


Influence of Sensing Object Thickness and Material

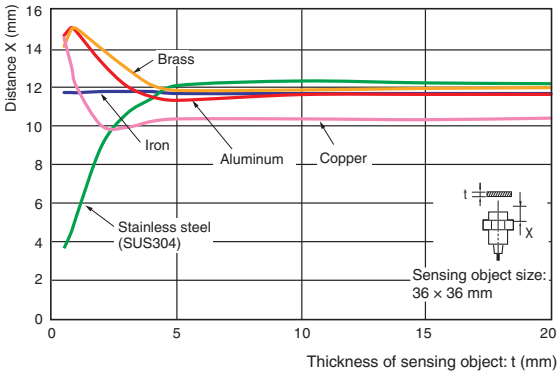
PREMIUM Model

Quadruple distance model/ Spatter-resistant Quadruple distance model Shielded

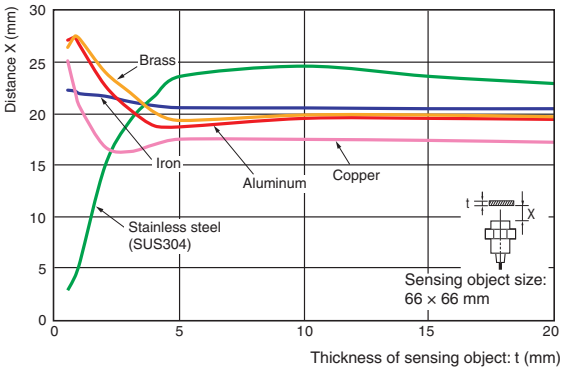
Size: M12 E2EW-(Q)X7□12



Size: M18 E2EW-(Q)X12□18

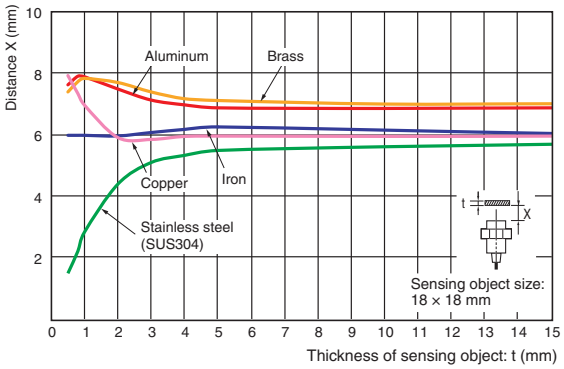


Size: M30 E2EW-(Q)X22□30

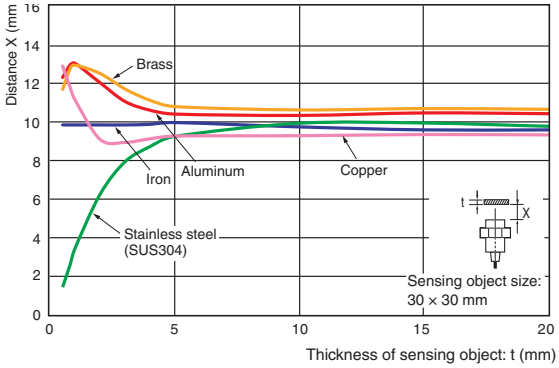


Triple distance model/ Spatter-resistant Triple distance model Shielded

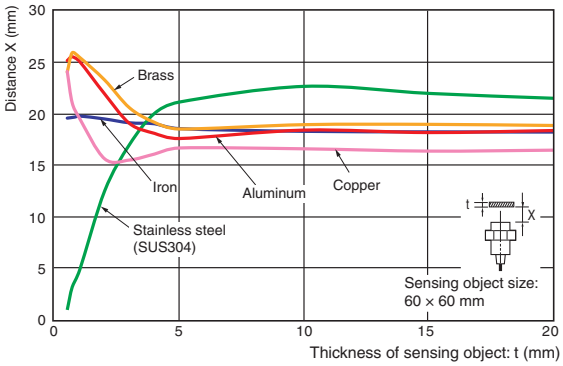
Size: M12 E2EW-(Q)X6□12



Size: M18 E2EW-(Q)X10□18



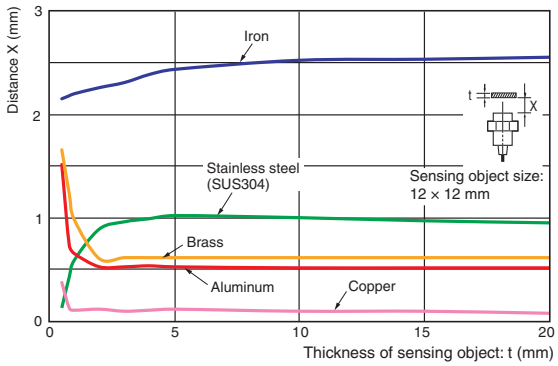
Size: M30 E2EW-(Q)X20□30



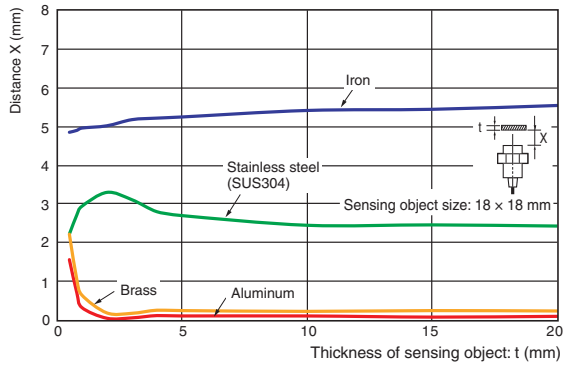
BASIC Model

Single distance model/
Spatter-resistant Single distance model
Shielded

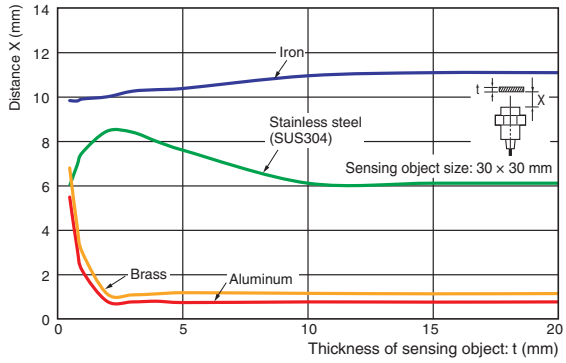
Size: M12 E2EW-(Q)X2□12



Size: M18 E2EW-(Q)X5□18



Size: M30 E2EW-(Q)X10□30

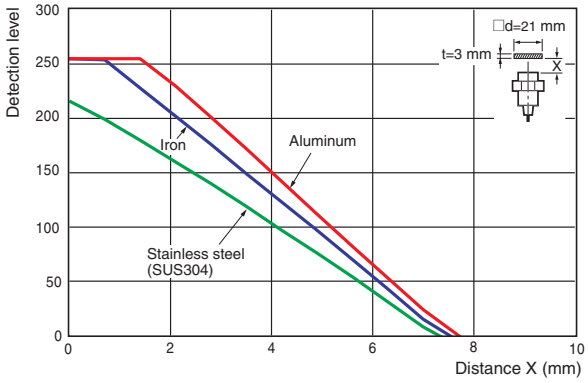


Monitor Output vs. Sensing Distance

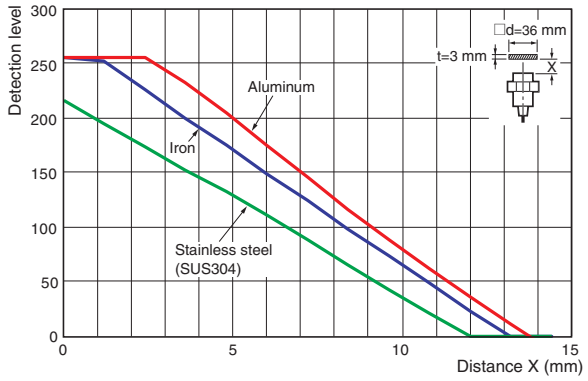
PREMIUM Model

Quadruple distance model/ Spatter-resistant Quadruple distance model Shielded

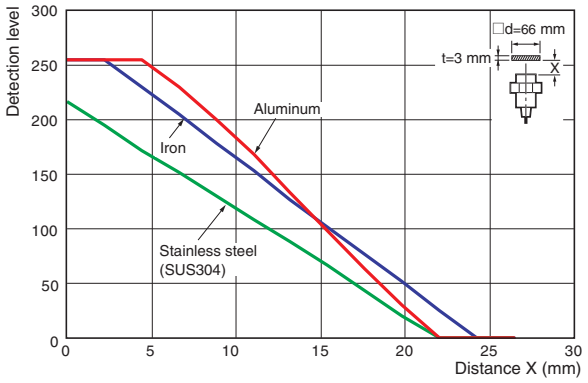
Size: M12 E2EW-(Q)X7□12



Size: M18 E2EW-(Q)X12□18

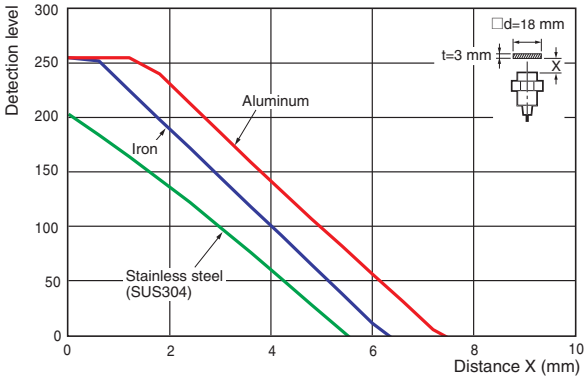


Size: M30 E2EW-(Q)X22□30

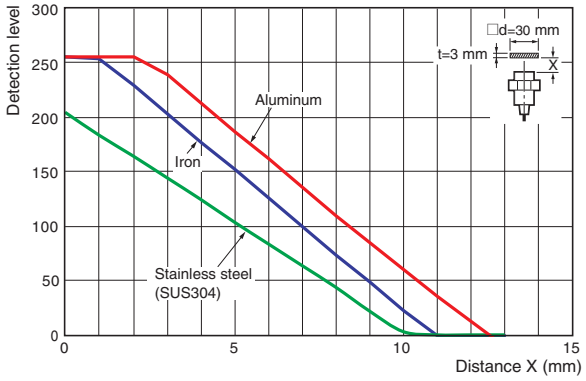


Triple distance model/ Spatter-resistant Triple distance model Shielded

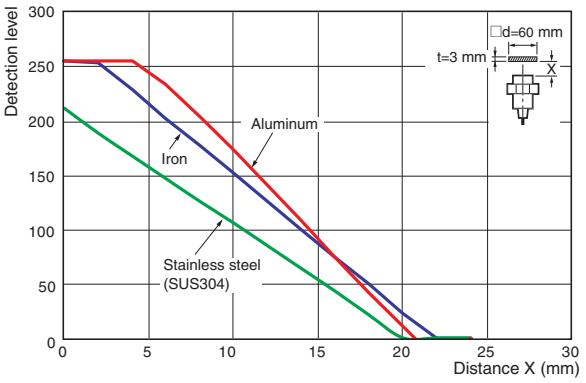
Size: M12 E2EW-(Q)X6□12



Size: M18 E2EW-(Q)X10□18



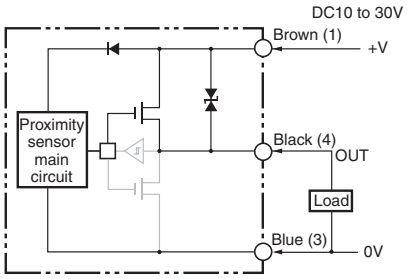
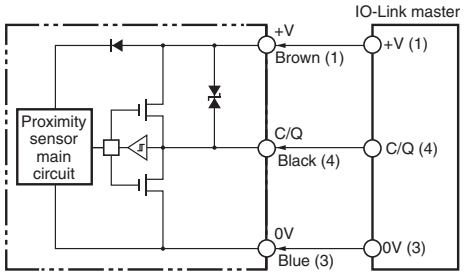
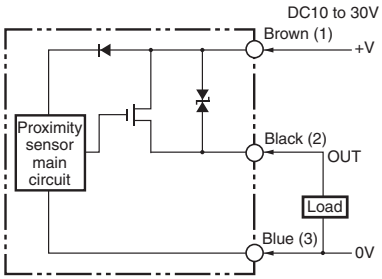
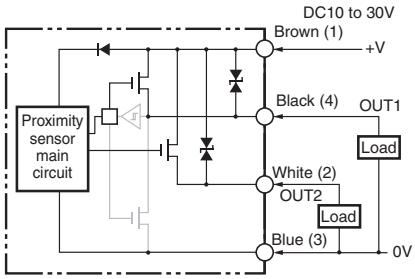
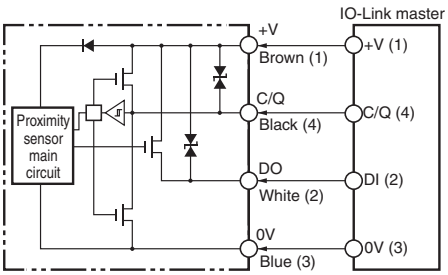
Size: M30 E2EW-(Q)X20□30



I/O Circuit Diagrams/Timing charts

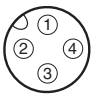
DC 3-wire

PNP output PREMIUM Model

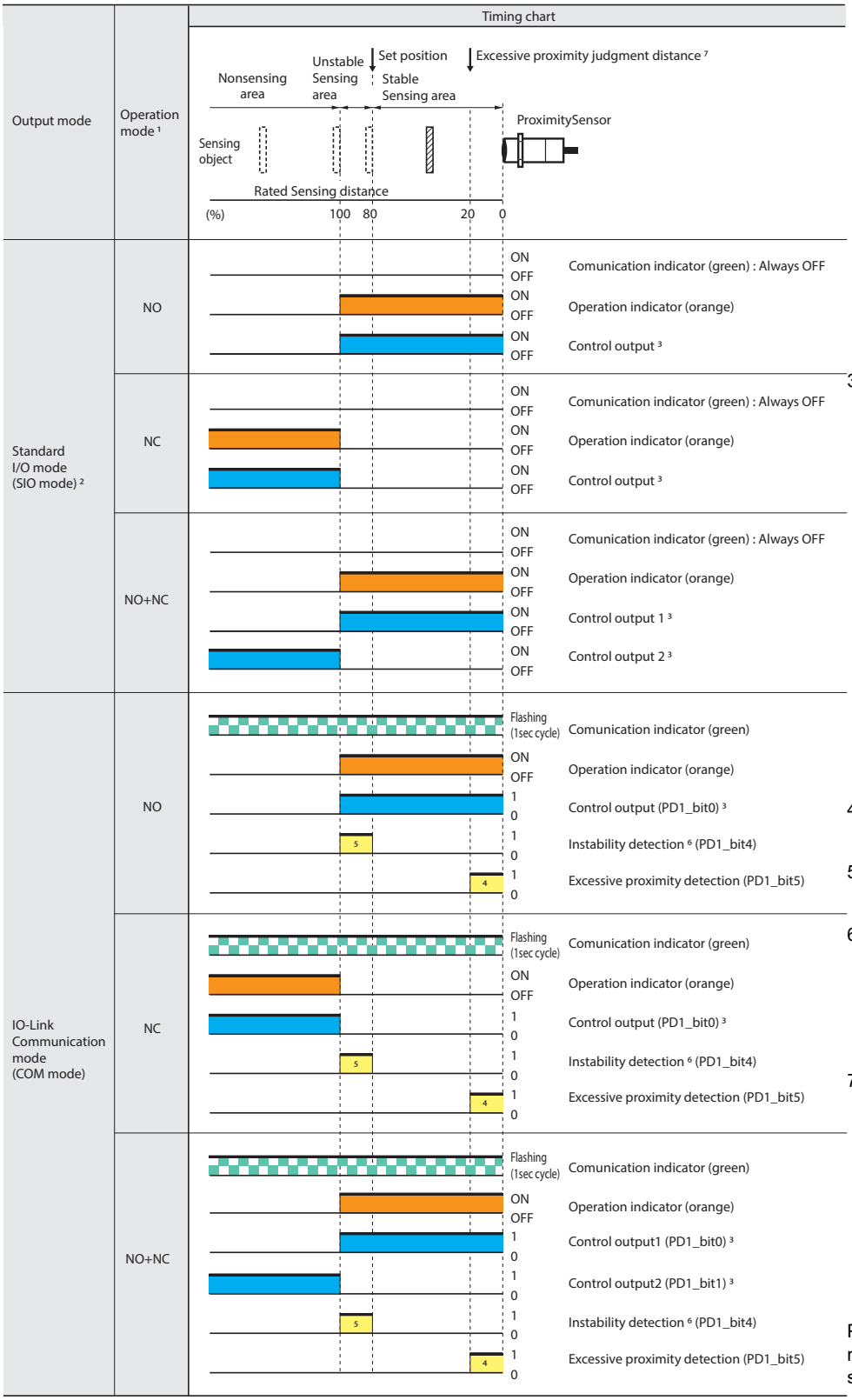
Operation mode	Model	Output circuit	
		Standard I/O mode (SIO mode) When using as a general	IO-Link Communication mode (COM mode) When using the Sensor connected to IO-Link Master Unit
NO	E2EW-(Q)X□B1		
NC	E2EW-(Q)X□B2		---
NO+NC	E2EW-(Q)X□B3		

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

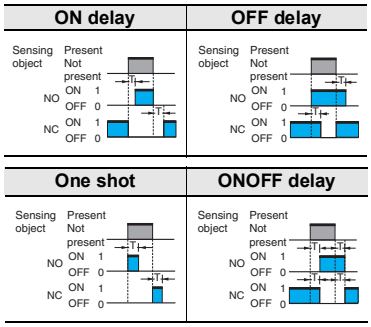
Connector Pin Arrangement

M12 Connector M12 Smartclick Connector


PNP output



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



4. The excessive proximity diagnosis function can be selected by the IO-Link communications.
5. The instability detection diagnosis can be selected by the IO-Link communications.
6. The judgment time for the instability detection diagnosis can be selected by the IO-Link communications. (For the ON delay timer function, the setting can be selected from 0 (invalid), 10, 50, 100, 300, 500, or 1000 ms.)
7. The judgment distance of the excessive proximity diagnosis function can be selected by the IO-Link communications. (The distance can be selected as a combination of the material of the object detected, such as iron, aluminum, or SUS and the judgment distance of approximately 10, 20, or 30%. However, it is not allowed to select a combination of aluminum and 10%.)

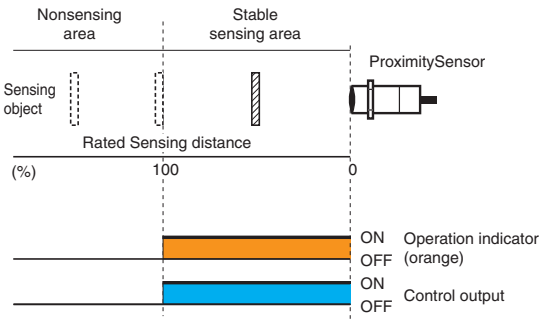
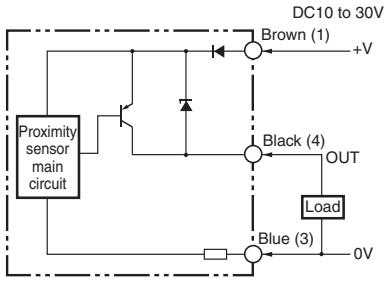
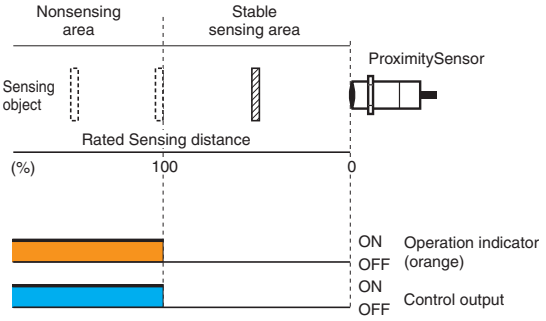
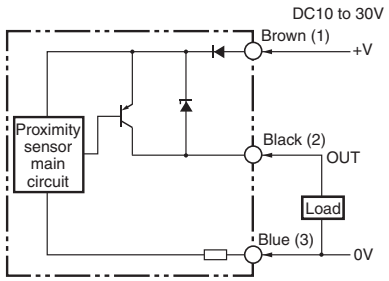
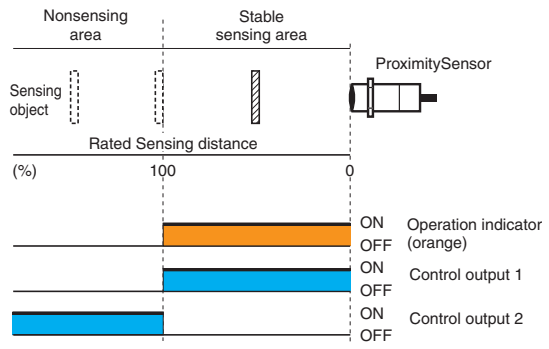
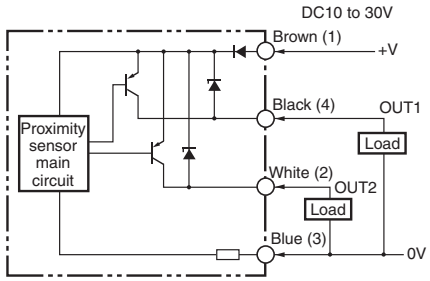
Please contact your OMRON sales representative regarding the IO-Link setup file (IODD file).

Please contact your OMRON sales representative regarding assignment of data.

1. For models with IO-Link, the operation mode can be changed by the IO-Link communications.
2. If using a model with IO-Link as a general sensor or using a model without IO-Link, it operates in the standard I/O mode (SIO mode).

DC 3-wire

PNP output BASIC Model

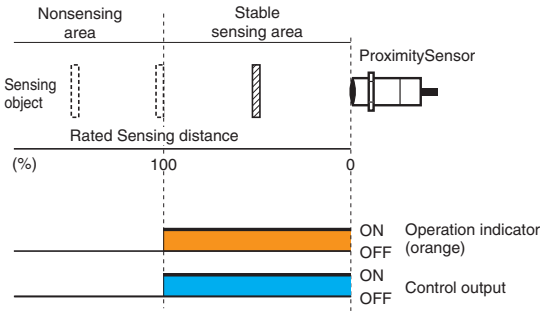
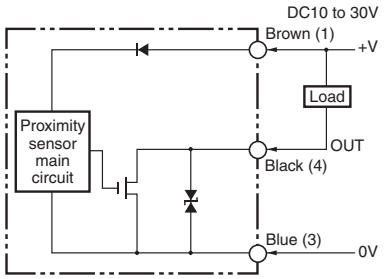
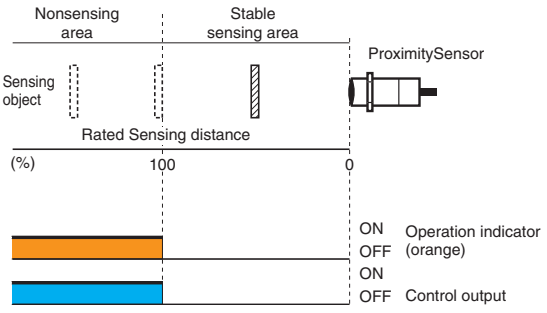
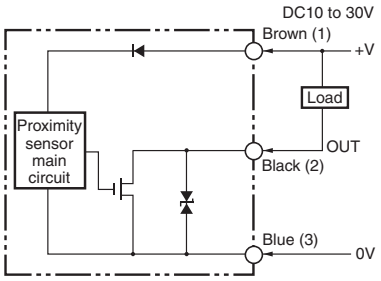
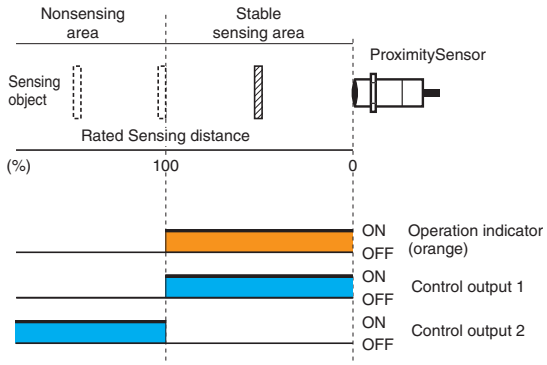
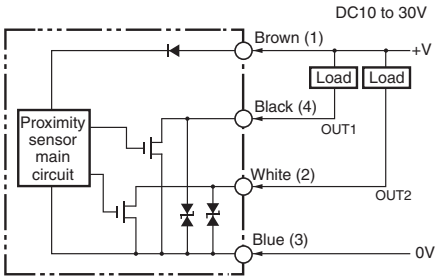
Operation mode	Model	Timing chart	Output circuit
NO	E2EW-(Q)X□B1		
NC	E2EW-(Q)X□B2		
NO+NC	E2EW-(Q)X□B3		

Connector Pin Arrangement

M12 Connector M12 Smartclick Connector


DC 3-wire

NPN OUTPUT PREMIUM Model

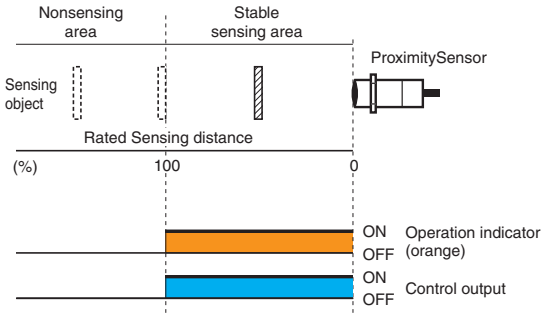
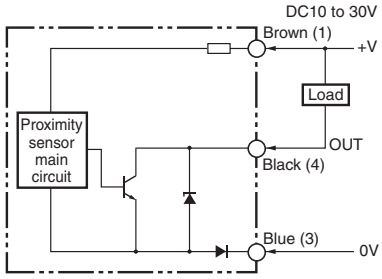
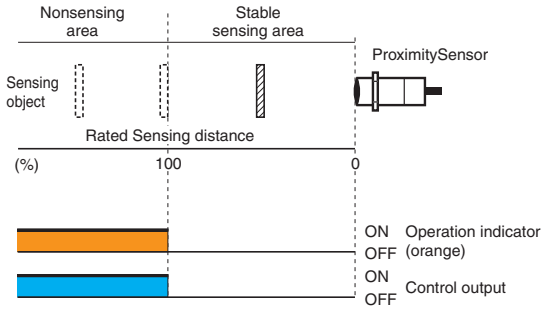
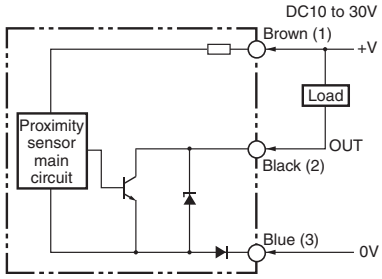
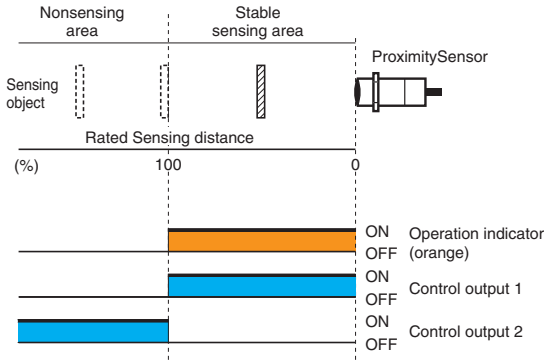
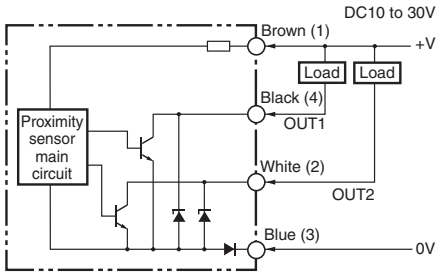
Operation mode	Model	Timing chart	Output circuit
NO	E2EW-(Q)X□C1		
NC	E2EW-(Q)X□C2		
NO+NC	E2EW-(Q)X□C3		

Connector Pin Arrangement

M12 Connector M12 Smartclick Connector


DC 3-wire

NPN OUTPUT BASIC Model

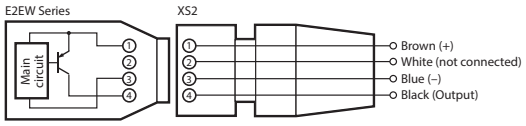
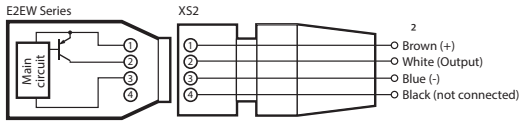
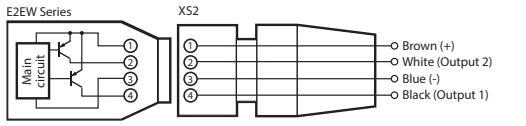
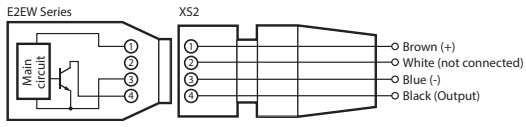
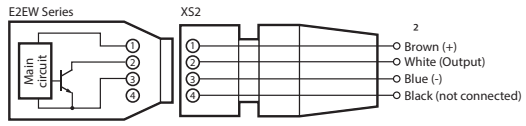
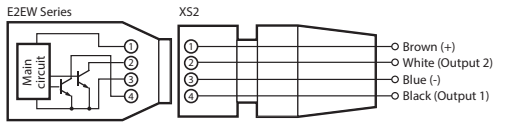
Operation mode	Model	Timing chart	Output circuit
NO	E2EW-(Q)X□C1		
NC	E2EW-(Q)X□C2		
NO+NC	E2EW-(Q)X□C3		

Connector Pin Arrangement

M12 Connector M12 Smartclick Connector


Connections for Sensor I/O Connectors

DC 3-Wire

Proximity Sensor				Sensor I/O Connectors	
Types	Output	Operation mode	Model	Model	Connections [1]
DC 3-Wire (M12 Connector)	PNP	NO	E2EW-(Q)X□B1□- M1TJ/M1	XS2F-M12□□□4□□M XS2W-D42□-□81-F	
		NC	E2EW-(Q)X□B2□-M1TJ/M1		
		NO+NC	E2EW-(Q)X□B3□-M1TJ/M1		
	NPN	NO	E2EW-(Q)X□C1□-M1TJ/M1		
		NC	E2EW-(Q)X□C2□-M1TJ/M1		
		NO+NC	E2EW-(Q)X□C3□-M1TJ/M1		

1. If the XS2W Series Connector which has a socket and plug on the cable ends is connected to the Sensor, this part will be a plug.
2. Different from Proximity Sensor wire colors.

Safety Precautions

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

Warning Indications

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

Meaning of Product Safety Symbols

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

⚠WARNING

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

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

Precautions for Safe Use

The following precautions must be observed to ensure safe operation.

1. Do not use the product in environments subject to flammable or explosive gases.
2. Do not attempt to disassemble, repair, or modify the product.
3. Do not use a voltage that exceeds the rated operating voltage range.
   Applying a voltage that is higher than the operating voltage range may result in explosion or fire.
4. Be sure that the power supply polarity and other wiring is correct. Incorrect wiring may cause explosion or fire.
5. If the power supply is connected directly without a load, the internal elements may explode or burn.
6. Dispose of the product according to applicable regulations (laws).

Precautions for Correct Use

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

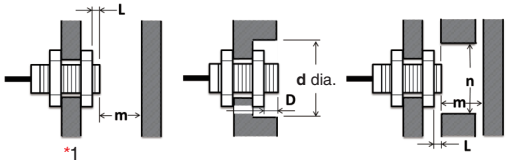
Operating Environment

1. Do not install the Sensor in the following locations.
   (1) Outdoor locations directly subject to sunlight, rain, snow, waterdroplets, or oil.
   (2) Locations subject to atmospheres with chemical vapors, inparticular solvents and acids.
   (3) Locations subject to corrosive gases.
2. The Sensor may malfunction if used near ultrasonic cleaning equipment, high-frequency equipment, transceivers, cellular phones, inverters, or other devices that generate a high-frequency electric field. Please refer to the Precautions for Correct Use on the OMRON website (www.ia.omron.com) for typical measures.
3. Laying the Proximity Sensor wiring in the same conduit or duct as high-voltage wires or power lines may result in incorrect operation and damage due to induction. Wire the Sensor using a separate conduit or independent conduit.
4. Never use thinner or other solvents. Otherwise, the Sensor surface may be dissolved.
5. When turning on the power by influence of temperature environment, an outputmis-pulse sometimes occurs. After the sensor has passed for 300 msec after turning on, please use in the stable state.
6. The sensor is adjusted with a high degree of accuracy, so do not use in the environment with sudden temperature change.
7. Operation check is performed using an OMRON's IO-Link master. If using an IO-Link master from another company, perform the operation check in advance.
8. When connecting non IO-Link compliant models to the IO-Link master, use the SIO mode.
9. In the IO-Link mode, the cord between the IO-Link master and sensor must have a length of 20 m or less.
10. The Sensor cannot be used embedded in where pressure is constantly applied to the sensing surface, such as hydraulic cylinders and hydraulic valves.

Design

Influence of Surrounding Metal

When mounting the Proximity Sensor, ensure that the minimum distances given in the following table are maintained.
If you use a nut, only use the provided nut. And ensure that the minimum distances between the sensing surface and nut is bigger than the "L" given in the following table.
Other non-ferrous metals affect sensor's performance in the same way as aluminum. Perform the operation check in advance.



(Unit: mm)

Mounting panel material: Iron

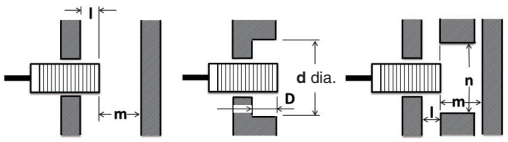
Models	Model	L	d	D	m	n
Quadruple distance model	E2EW-(Q)X7□12	4	30	4	28	36
	E2EW-(Q)X12□18	6	54	6	36	54
	E2EW-(Q)X22□30	8	90	8	66	90
Triple distance model	E2EW-(Q)X6□12	4	30	4	24	36
	E2EW-(Q)X10□18	2	54	2	30	54
	E2EW-(Q)X20□30	0	30	0	60	90
Single distance model	E2EW-(Q)X2□12	0	12	0	8	40
	E2EW-(Q)X5□18	0	18	0	20	60
	E2EW-(Q)X10□30	0	30	0	40	100

Mounting panel material: Aluminum

Models	Model	L	d	D	m	n
Quadruple distance model	E2EW-(Q)X7□12	12	70	12	28	70
	E2EW-(Q)X12□18	12	80	12	36	80
	E2EW-(Q)X22□30	16	120	16	66	120
Triple distance model	E2EW-(Q)X6□12	12	70	12	24	70
	E2EW-(Q)X10□18	12	80	12	30	80
	E2EW-(Q)X20□30	16	120	16	60	120
Single distance model	E2EW-(Q)X2□12	12	70	12	8	70
	E2EW-(Q)X5□18	12	80	12	20	80
	E2EW-(Q)X10□30	16	120	16	40	120

1. If you use the model E2EW-(Q)X22□30, or E2EW-(Q)X20□30, the panel thickness (t) is 3 mm or less.

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



(Unit: mm)

Embedded material: Iron

Models	Model	l	d	D	m	n
Quadruple distance model	E2EW-(Q)X7□12	4	30	4	28	36
	E2EW-(Q)X12□18	6	54	6	36	54
	E2EW-(Q)X22□30	8	90	8	66	90
Triple distance model	E2EW-(Q)X6□12	0 [2]	12 [2]	0 [2]	24	36
	E2EW-(Q)X10□18	0	18	0	30	54
	E2EW-(Q)X20□30	0	30	0	60	90
Single distance model	E2EW-(Q)X2□12	0	12	0	8	40
	E2EW-(Q)X5□18	0	18	0	20	60
	E2EW-(Q)X10□30	0	30	0	40	100

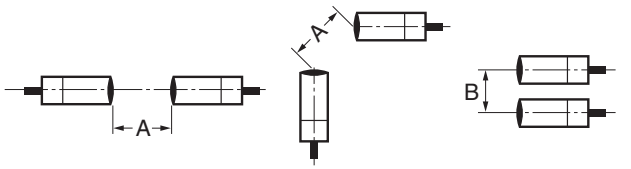
*2. If the thickness of the mounting bracket (t) is less than 10 mm, be sure to install the Sensor so that l ≥ 2, d (dia.) ≥ 30, and D ≥ 2.

Embedded material: Aluminum

Models	Model	l	d	D	m	n
Quadruple distance model	E2EW-(Q)X7□12	12	70	12	28	70
	E2EW-(Q)X12□18	12	80	12	36	80
	E2EW-(Q)X22□30	16	120	16	66	120
Triple distance model	E2EW-(Q)X6□12	12	70	12	24	70
	E2EW-(Q)X10□18	12	80	12	30	80
	E2EW-(Q)X20□30	16	120	16	60	120
Single distance model	E2EW-(Q)X2□12	12	70	12	8	70
	E2EW-(Q)X5□18	12	80	12	20	80
	E2EW-(Q)X10□30	16	120	16	40	120

Mutual Interference

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



(Unit: mm)

Models	Model	Item	
		A	B
Quadruple distance model	E2EW-(Q)X7□12	45	40
	E2EW-(Q)X12□18	80	60
	E2EW-(Q)X22□30	135	110
Triple distance model	E2EW-(Q)X6□12	45	40
	E2EW-(Q)X10□18	80	60
	E2EW-(Q)X20□30	135	110
Single distance model	E2EW-(Q)X2□12	40	35
	E2EW-(Q)X5□18	65	60
	E2EW-(Q)X10□30	110	100

Chips from Cutting Aluminum

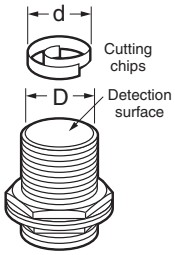
Normally, chips from cutting aluminum will not cause a detection signal to be output even if it adheres to or accumulates on the detection surface. In the following cases, however, a detection signal may be output.

Remove the cutting chips in these cases.

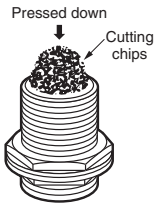
1. If d ≥ 2/3D at the center of the detection surface where d is the cutting chip size and D is the detection surface size

(Unit: mm)

Model	Dimension	D
E2EW-(Q)X□12		10
E2EW-(Q)X□18		16
E2EW-(Q)X□30		28



2.If the cutting chips are pressed down



Mounting

Tightening Force

Do not tighten the nut with excessive force.

A washer must be used with the nut.

The tightening force must be the same or less than the figures in the following table.

Quadruple distance model, Triple distance model

(Unit: N·m)

Size	Torque
M12	20 (15)
M18	70 (35)
M30	180 (60)

* Tighten the nut of the E2EW-Q to a torque in parentheses.

Single distance model

(Unit: N·m)

Size	Torque
M12	30 (15)
M18	70 (35)
M30	180 (60)

* Tighten the nut of the E2EW-Q to a torque in parentheses.

Note: When mounting the Proximity Sensor, only use the provided nut. Do not use set screws. The Sensor may malfunction.

Dimensions

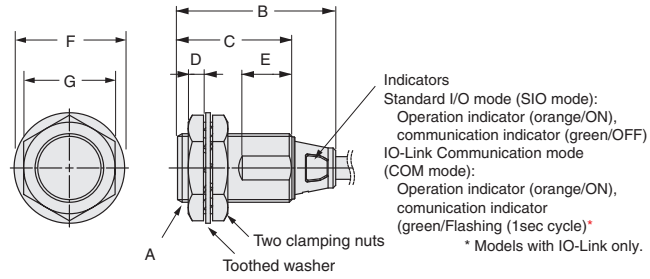
(Unit: mm)
Tolerance class IT16 applies to dimensions in this data sheet unless otherwise specified.

Sensors

PREMIUM Model

E2EW/E2EW-Q Series
(Quadruple distance/Triple distance/Spatter-resistant Quadruple distance, Spatter-resistant Triple distance model)

Pre-wired Model/ Pre-wired Connector Model

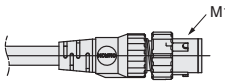


Pre-wired Model

(Operation mode):
Output configuration (B1, C1): NO
(B2, C2): NC
Vinyl-insulated round cable with
3 conductors size: 6-dia.
(Conductor cross section: 0.3 mm² (AWG24),
Insulator diameter: 1.05 mm),
Standard length: 2 m

(Operation mode):
Output configuration (B3, C3): NO+NC
Vinyl-insulated round cable with
4 conductors size: 6-dia.
(Conductor cross section: 0.3 mm² (AWG24),
Insulator diameter: 1.05 mm),
Standard length: 2 m

Pre-wired Connector Model (M1TJ)

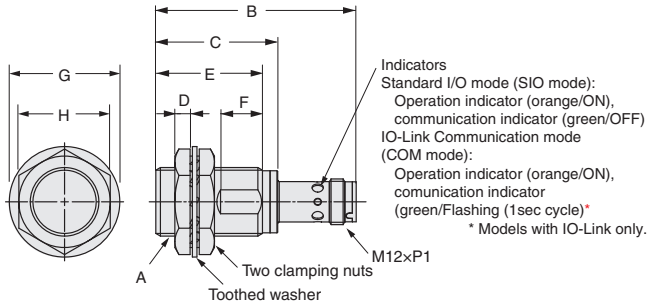


(Operation mode):
Output configuration (B1, C1): NO
(B2, C2): NC
Vinyl-insulated round cable with
3 conductors size: 6-dia.
(Conductor cross section: 0.3 mm² (AWG24),
Insulator diameter: 1.05 mm),
Standard length:0.3 m

(Operation mode):
Output configuration (B3, C3): NO+NC
Vinyl-insulated round cable with
4 conductors size: 6-dia.
(Conductor cross section: 0.3 mm² (AWG24),
Insulator diameter: 1.05 mm),
Standard length: 0.3 m

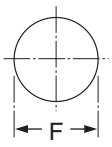
Models	Model	A	B	C	D	E	F	G
Quadruple distance model	E2EW-(Q)X7□12(-M1TJ)	M12×P1	41.5	30	4	10	21 dia.	17
	E2EW-(Q)X12□18(-M1TJ)	M18×P1	41.5	30	4	13	29 dia.	24
	E2EW-(Q)X22□30(-M1TJ)	M30×P1.5	41.5	30	5	13	42 dia.	36
Triple distance model	E2EW-(Q)X6□12(-M1TJ)	M12×P1	41.5	30	4	10	21 dia.	17
	E2EW-(Q)X10□18(-M1TJ)	M18×P1	41.5	30	4	13	29 dia.	24
	E2EW-(Q)X20□30(-M1TJ)	M30×P1.5	41.5	30	5	13	42 dia.	36

M12 Connector Model



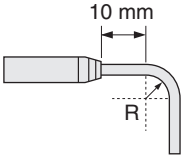
Models	Model	A	B	C	D	E	F	G	H
Quadruple distance model	E2EW-(Q)X7□12-M1	M12×P1	54.4	---	4	28	8	21 dia.	17
	E2EW-(Q)X12□18-M1	M18×P1	54.4	32	4	28	11	29 dia.	24
	E2EW-(Q)X22□30-M1	M30×P1.5	54.4	32	5	28	11	42 dia.	36
Triple distance model	E2EW-(Q)X6□12-M1	M12×P1	54.4	---	4	28	8	21 dia.	17
	E2EW-(Q)X10□18-M1	M18×P1	54.4	32	4	28	11	29 dia.	24
	E2EW-(Q)X20□30-M1	M30×P1.5	54.4	32	5	28	11	42 dia.	36

Mounting Hole Dimensions



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

Angle R of the Bending Wire



Dimensions	R (mm)
M12	18
M18	
M30	

Dimensions

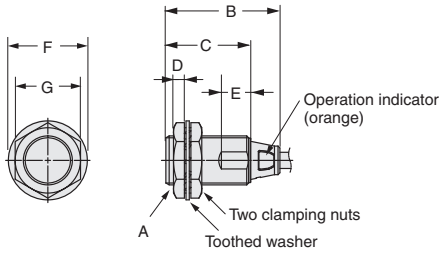
(Unit: mm)
Tolerance class IT16 applies to dimensions in this data sheet unless otherwise specified.

Sensors

BASIC Model

E2EW/E2EW-Q Series
(Single distance model/Spatter-resistant Single distance model)

Pre-wired Model/
Pre-wired Connector Model



Pre-wired Model

(Operation mode):
Output configuration (B1, C1): NO
(B2, C2): NC
Vinyl-insulated round cable with
3 conductors size: 6-dia.
(Conductor cross section:
0.3 mm² (AWG24),
Insulator diameter: 1.05 mm),
Standard length: 2 m

(Operation mode):
Output configuration (B3, C3):
NO+NC
Vinyl-insulated round cable with
4 conductors size: 6-dia.
(Conductor cross section:
0.3 mm² (AWG24),
Insulator diameter: 1.05 mm),
Standard length: 2 m

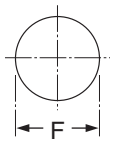
Pre-wired Connector Model (M1TJ)

(Operation mode):
Output configuration (B1, C1): NO
(B2, C2): NC
Vinyl-insulated round cable with
3 conductors size: 6-dia.
(Conductor cross section:
0.3 mm2 (AWG24),
Insulator diameter: 1.05 mm),
Standard length: 0.3 m

(Operation mode):
Output configuration (B3, C3): NO+NC
Vinyl-insulated round cable
with 4 conductors size: 6-dia.
(Conductor cross section:
0.3 mm² (AWG24),
Insulator diameter: 1.05 mm),
Standard length: 0.3 m

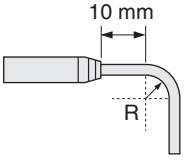
Models	Model	A	B	C	D	E	F	G
Single distance model	E2EW-(Q)X2 □12(-M1TJ)	M12×P1	41.9	30.4	4	7	21 dia.	17
	E2EW-(Q)X5 □18(-M1TJ)	M18×P1	41.9	30.4	4	10	29 dia.	24
	E2EW-(Q)X10 □30(-M1TJ)	M30×P1.5	41.9	30.3	5	10	42 dia.	36

Mounting Hole Dimensions



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

Angle R of the Bending Wire



Dimensions	R (mm)
M12	18
M18	
M30	

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