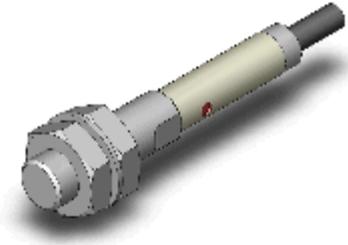


Proximity Sensor with All-stainless Housing

## E2FM-X1R5B1 2M

Shielded, Cylinder type (with screw) M8, DC Three-wires models, Sensing distance 1.5 mm  $\pm$ 10%, NO, PNP open collector, Pre-wired models



Image

<b>Sensing head size</b>	M8
<b>Type</b>	Cylinder type (with screw), Shielded
<b>Power source</b>	DC Three-wires models
<b>Sensing distance</b>	1.5 mm $\pm$ 10%
<b>Setting distance</b>	0 to 1.05 mm
<b>Operation mode</b>	NO

### Ratings/Performance

As of July 16, 2020

<b>Sensing head size</b>	M8
<b>Type</b>	Cylinder type (with screw), Shielded
<b>Power source</b>	DC Three-wires models
<b>Sensing distance</b>	1.5 mm $\pm$ 10%
<b>Setting distance</b>	0 to 1.05 mm
<b>Differential distance</b>	15% max. of sensing distance
<b>Sensing object</b>	Ferrous metal (Sensitivity lowers with non-ferrous metals.)
<b>Standard sensing object</b>	Iron 8 x 8 x 1 mm
<b>Response frequency</b>	200 Hz (Average value)
<b>Power supply voltage</b>	12 to 24 VDC ripple (p-p) 10% max.
<b>Operating voltage range</b>	10 to 30 VDC
<b>Current consumption</b>	10 mA max.
<b>Control output (Output type)</b>	PNP open collector
<b>Control output (Switching capacity)</b>	200 mA max.
<b>Control output (Residual voltage)</b>	2 V max. (Load current 200 mA max. with cable length of 2 m)
<b>Indicator</b>	Operation indicator (yellow)
<b>Operation mode</b>	NO
<b>Protective circuit</b>	Output short-cut protection Output reverse polarity protection Power supply reverse polarity protection Surge suppressor
<b>Ambient temperature (Operating)</b>	-25 to 70 °C
<b>Ambient temperature (Storage)</b>	-25 to 70 °C
<b>Ambient humidity (Operating)</b>	35 to 95% RH
<b>Ambient humidity (Storage)</b>	35 to 95% RH

<b>Temperature influence</b>	±20% max. of sensing distance at 23 °C in the temperature range of -25 to 70 °C
<b>Voltage influence</b>	±1% max. of sensing distance at rated voltage in the rated voltage ±15% range
<b>Insulation resistance</b>	Between charged parts and the case: 5 MΩ min. at 500 VDC
<b>Dielectric strength</b>	Between charged parts and the case: 1,000 VAC 50/60 Hz 1 min
<b>Vibration resistance</b>	Destruction: 10 to 55 Hz, 1.5 mm double amplitude each in X, Y, and Z directions for 2 h
<b>Shock resistance</b>	Destruction: 500 m/s <sup>2</sup> 10 times each in X, Y, and Z directions
<b>Degree of protection</b>	IEC: IP67
<b>Connection method</b>	Pre-wired models (2 m)
<b>Weight</b>	Package: Approx. 90 g
<b>Material</b>	Case: Stainless steel (SUS303) Sensing surface: Stainless steel (SUS303) Clamping nuts: Stainless steel Toothed washers: Iron zinc plating
<b>Accessories</b>	Instruction manual

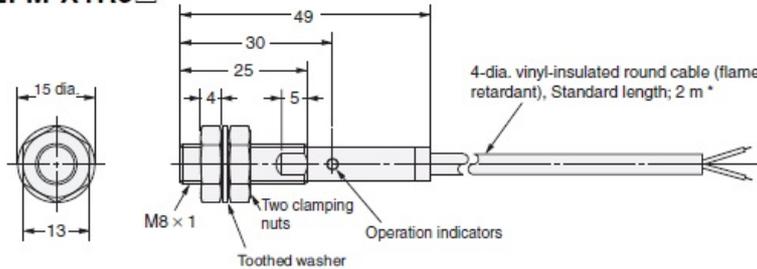
As of July 16, 2020

Dimensions

As of July 16, 2020

Dimensions

**E2FM-X1R5** □



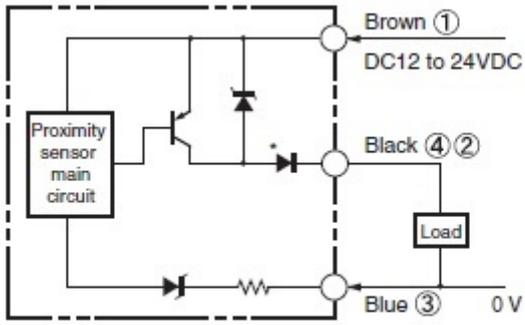
\* 4-dia. vinyl-insulated round cable with 2 conductors  
(Conductor cross section: 0.2 mm<sup>2</sup>, Insulator diameter: 1.4 mm)  
4-dia. vinyl-insulated round cable with 3 conductors  
(Conductor cross section: 0.2 mm<sup>2</sup>, Insulator diameter: 1.2 mm)

As of July 16, 2020

Output circuit

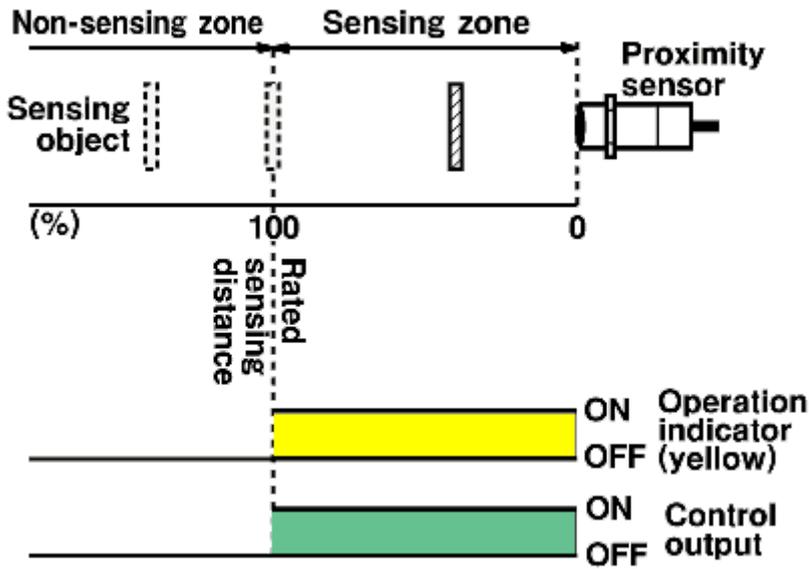
As of July 16, 2020

Output circuit



\* There is no reversed output polarity protection diode.

Timing chart

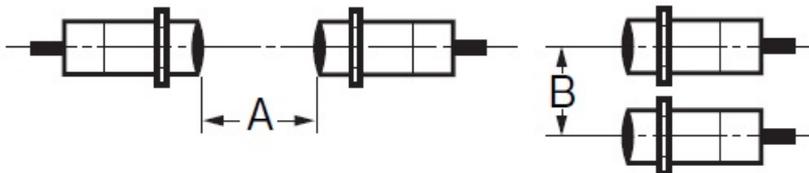


As of July 16, 2020

Mutual interference

As of July 16, 2020

Mutual interference



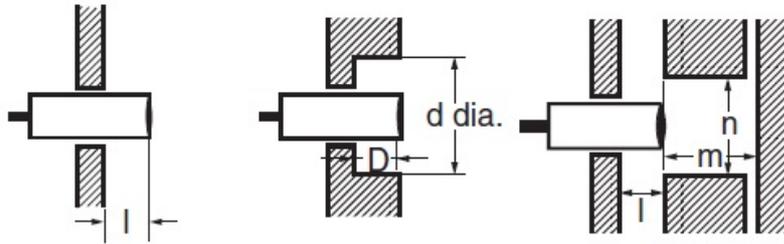
A: 35 mm min., B: 30 mm min.

As of July 16, 2020

Effects of surrounding metals

As of July 16, 2020

Effects of surrounding metals



Iron

l: 0 mm min., dia. d: 8 mm min., D: 0 mm min., m: 4.5 mm min., n: 30 mm min.

Aluminum

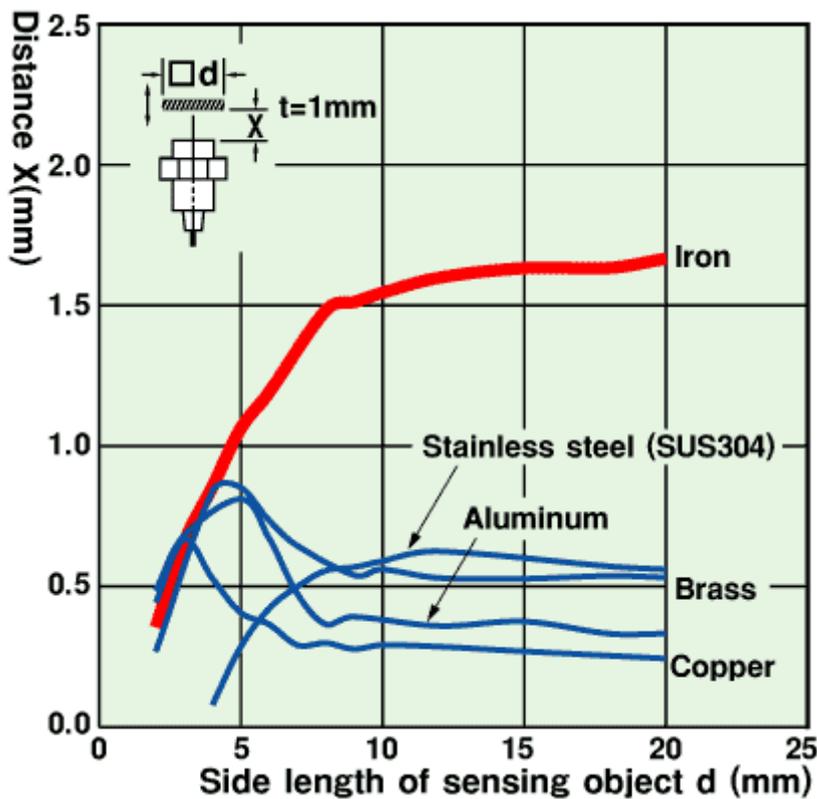
l: 10 mm min., dia. d: 50 mm min., D: 10 mm min., m: 4.5 mm min., n: 50 mm min.

As of July 16, 2020

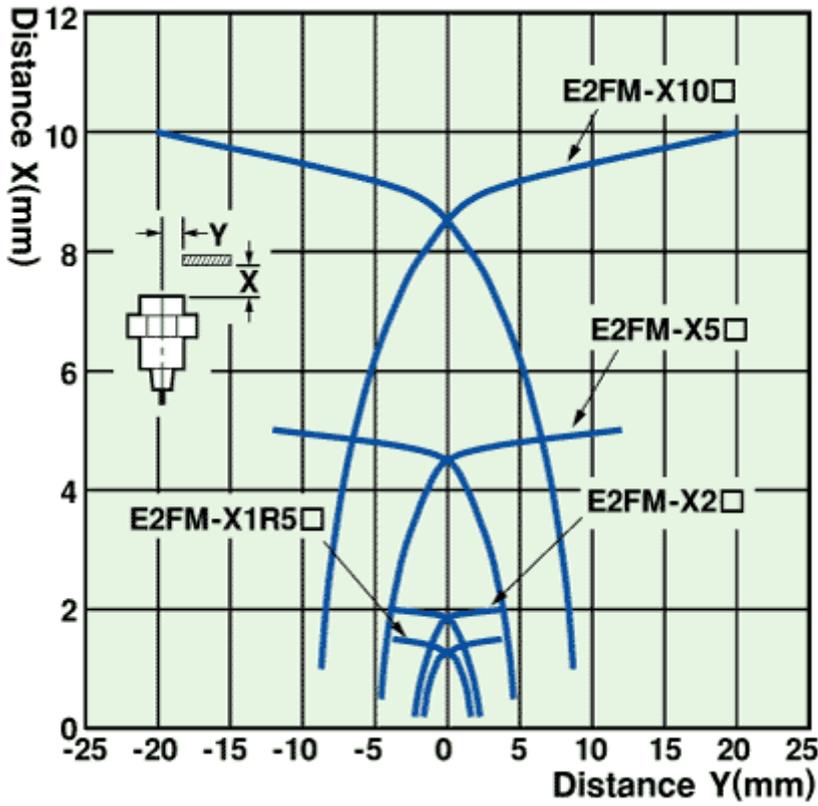
Characteristic chart

As of July 16, 2020

Sensing distance vs. size and material of sensing object

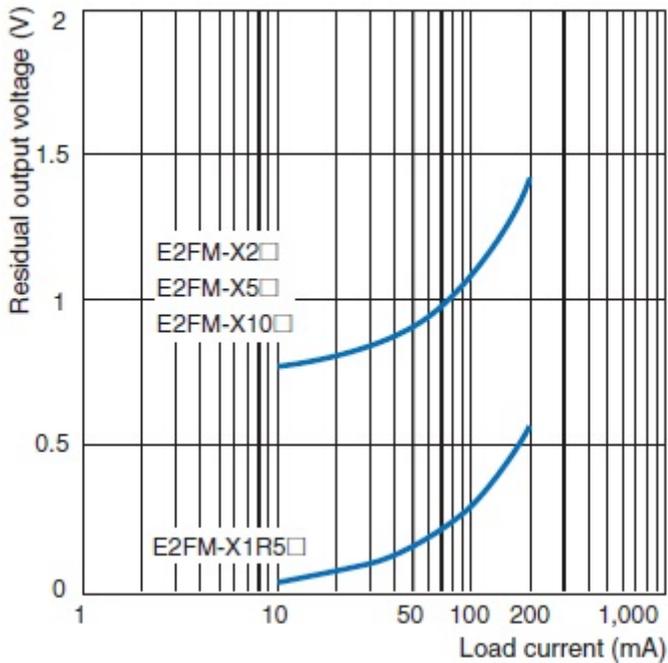


Sensing range



Residual voltage

E2FM-X□C□/B□



As of July 16, 2020