

Proximity Sensor with All-stainless Housing

E2FM-X1R5C1 2M

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



Image

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

Ratings/Performance

As of July 16, 2020

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

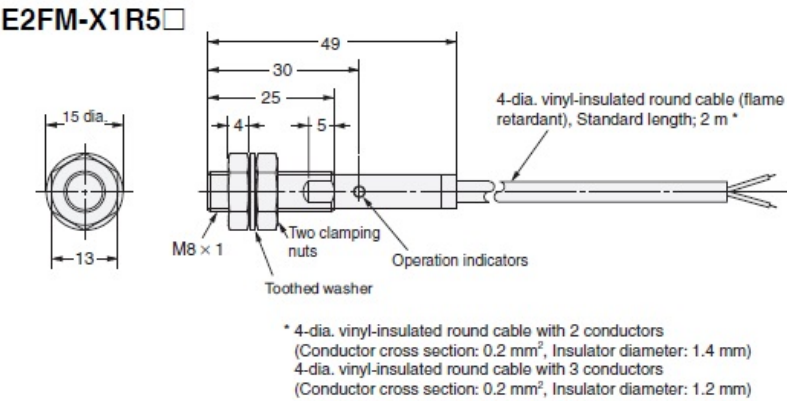
Temperature influence	±20% max. of sensing distance at 23 °C in the temperature range of -25 to 70 °C
Voltage influence	±1% max. of sensing distance at rated voltage in the rated voltage ±15% range
Insulation resistance	Between charged parts and the case: 5 MΩ min. at 500 VDC
Dielectric strength	Between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

As of July 16, 2020

Dimensions

As of July 16, 2020

Dimensions

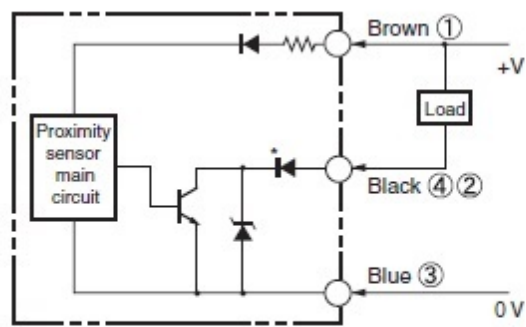


As of July 16, 2020

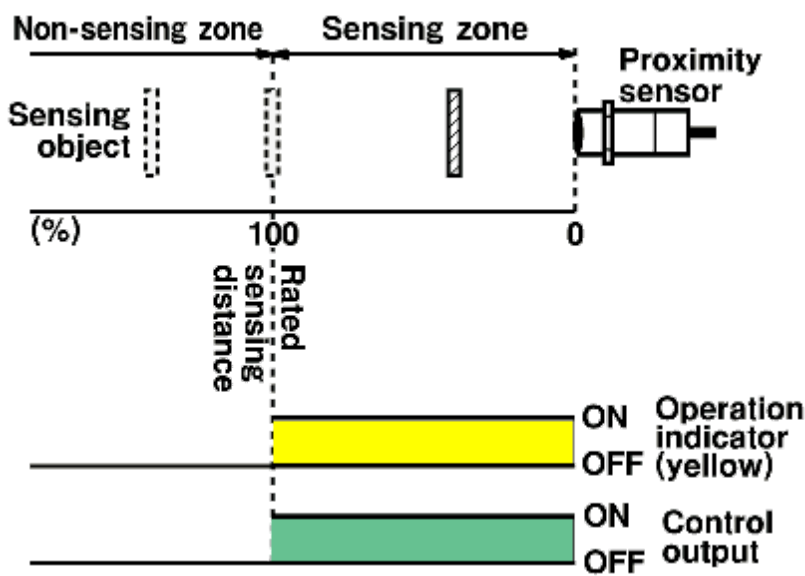
Output circuit

As of July 16, 2020

Output circuit



Timing chart

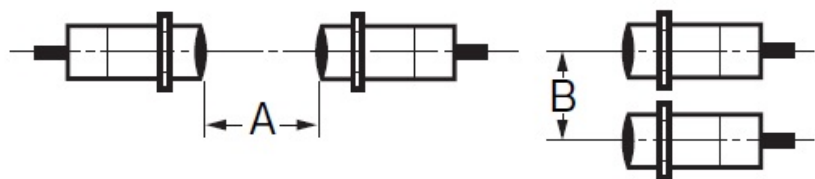


As of July 16, 2020

Mutual interference

As of July 16, 2020

Mutual interference



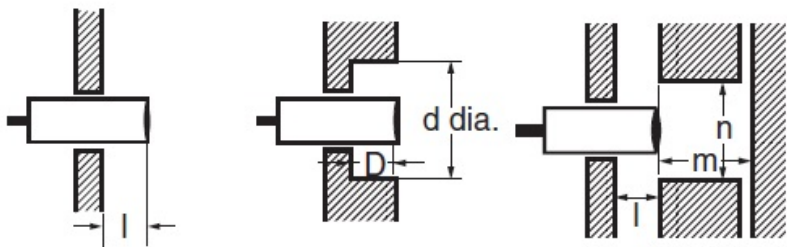
A: 35 mm min., B: 30 mm min.

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

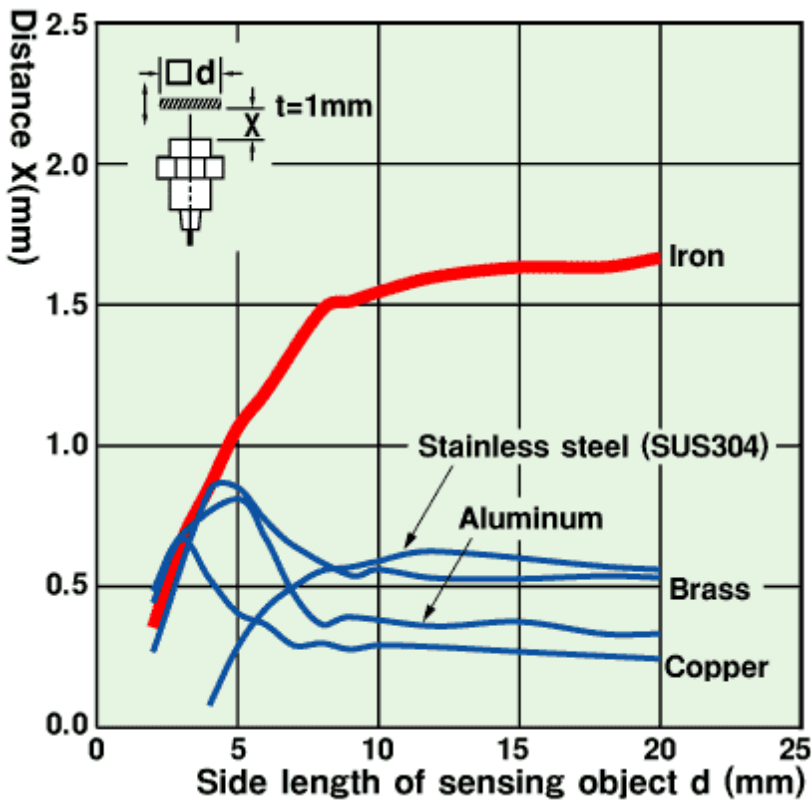
l: 10 mm min., dia. d: 50 mm min., D: 10 mm min., m: 4.5 mm min., n: 50 mm min.

As of July 16, 2020

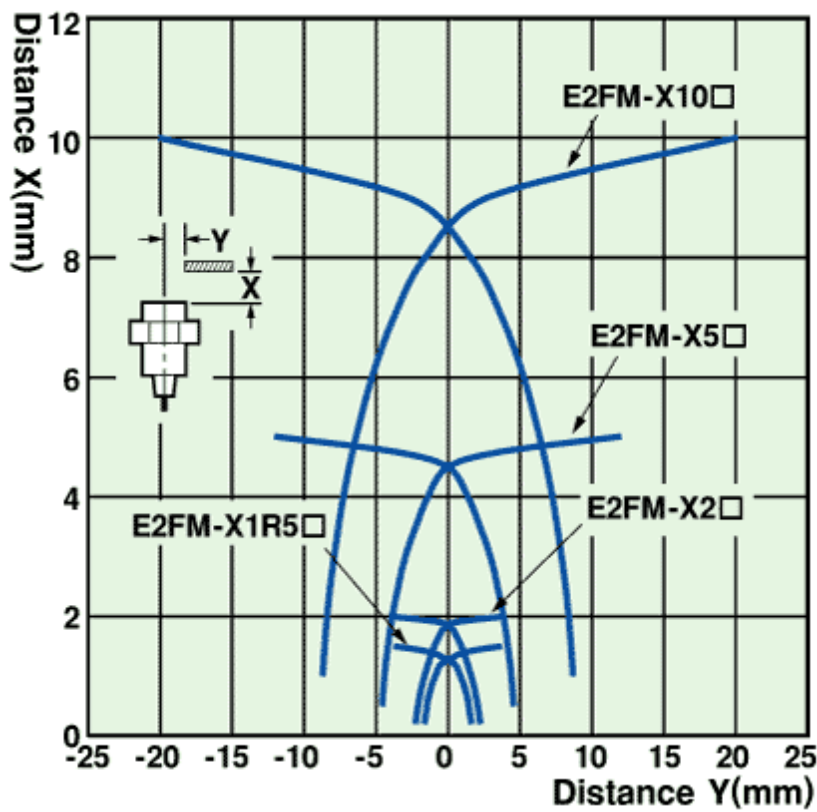
Characteristic chart

As of July 16, 2020

Sensing distance vs. size and material of sensing object

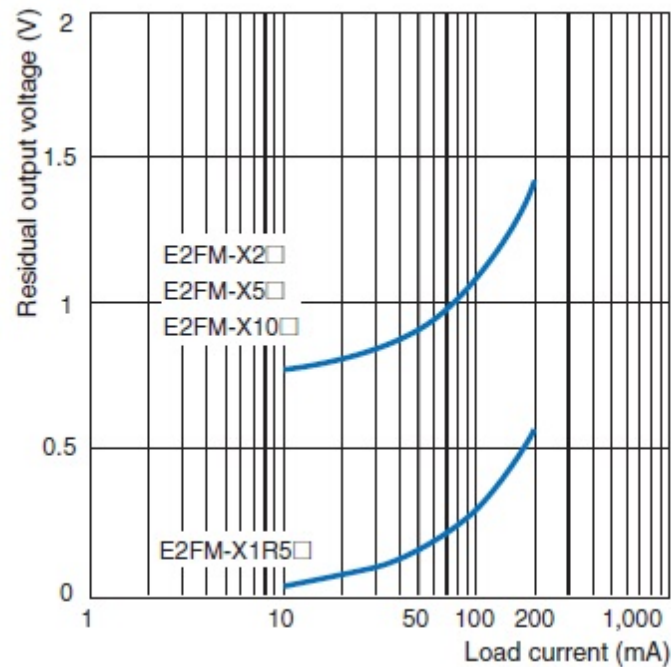


Sensing range



Residual voltage

E2FM-X□C□/B□



As of July 16, 2020