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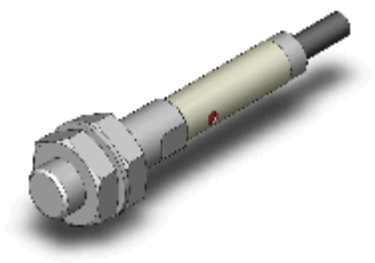
Proximity Sensor with All-stainless Housing

E2FM-X1R5D1 2M

Shielded, Cylinder type (with screw) M8, DC 2-wire models, Sensing distance 1.5 mm ±10%, NO, Polarity, Pre-wired models



Image

Sensing head size	M8
Type	Cylinder type (with screw), Shielded
Power source	DC 2-wire 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 2-wire 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
Leakage current	0.8 mA max.
Control output (Switching capacity)	3 to 100 mA
Control output (Residual voltage)	3 V max. (Load current 100 mA max. with cable length of 2 m)
Indicator	Operation indicator (red), Operation setting indicator (green)
Operation mode	NO
Polarity	Polarity
Protective circuit	Output short-cut protection Surge suppressor
Ambient temperature (Operating)	-25 to 70 ℃
Ambient temperature (Storage)	-25 to 70 ℃
Ambient humidity (Operating)	35 to 95% RH
Ambient humidity (Storage)	35 to 95% RH
Temperature influence	±20% max. of sensing distance at 23 ℃ in the temperature range of −25 to 70 ℃

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. 105 g
Material	Case: Stainless steel (SUS303) Sensing surface: Stainless steel (SUS303) Clamping nuts: Stainless steel Toothed washers: Iron zinc plating
Accessories	Instruction manual

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Dimensions

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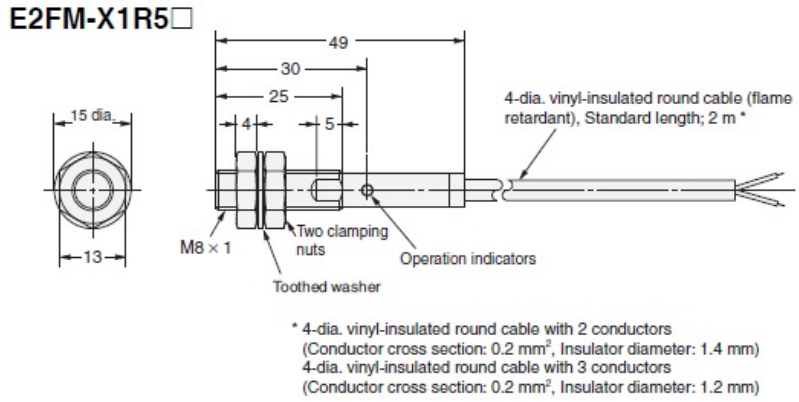
Dimensions



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

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Output circuit

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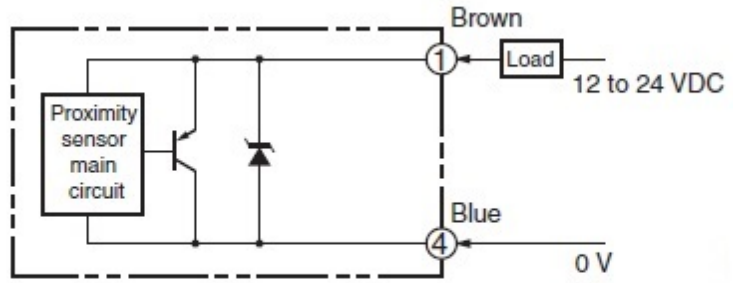
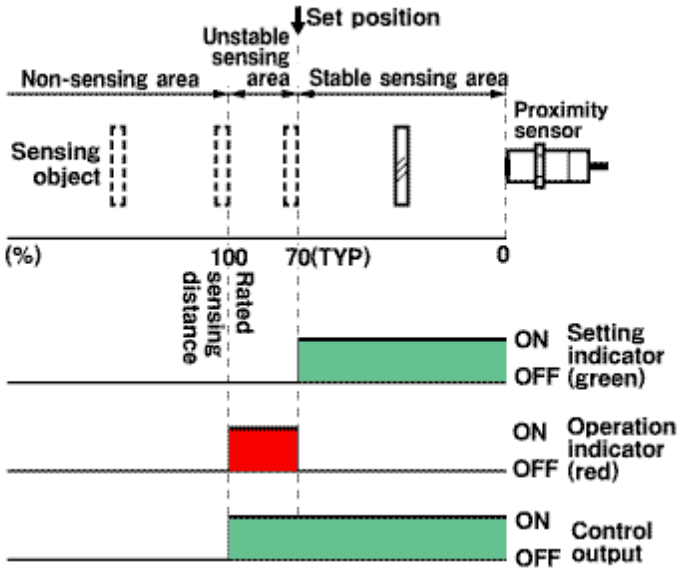
Output circuit



Note: The load can be connected to either the +V or 0 V side.

Timing chart



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Mutual interference

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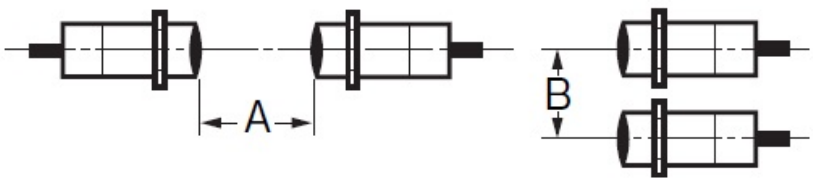
Mutual interference



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

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Effects of surrounding metals

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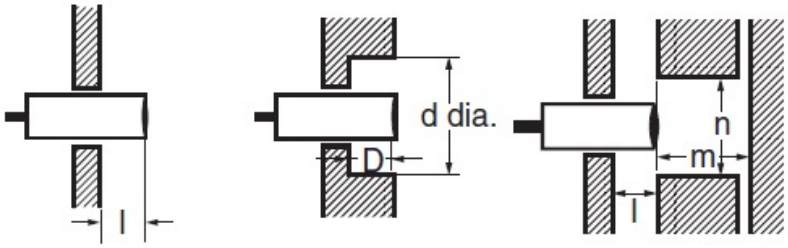
Effects of surrounding metals



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.

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Characteristic chart

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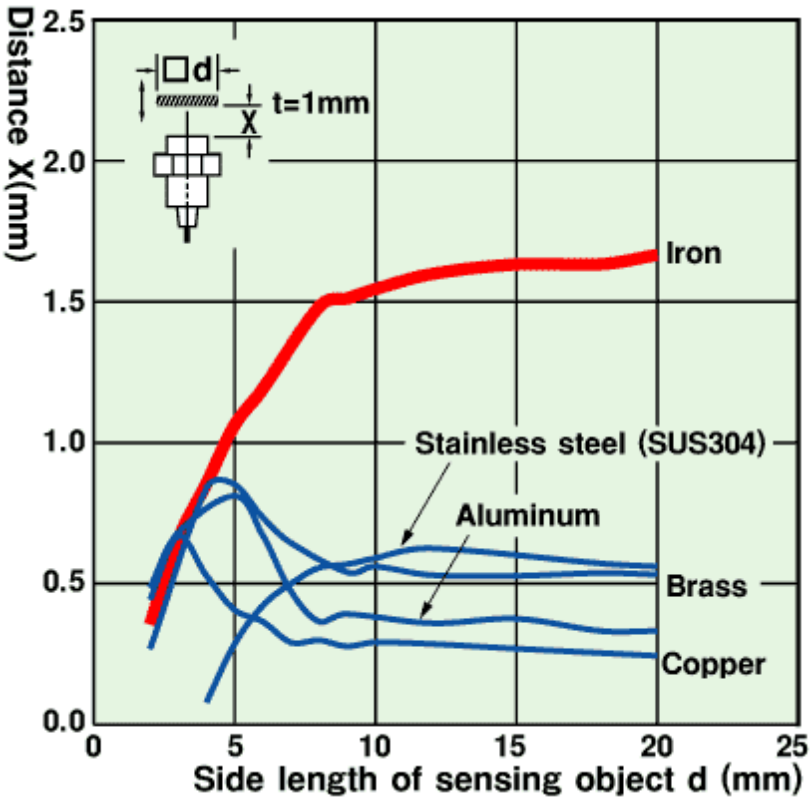
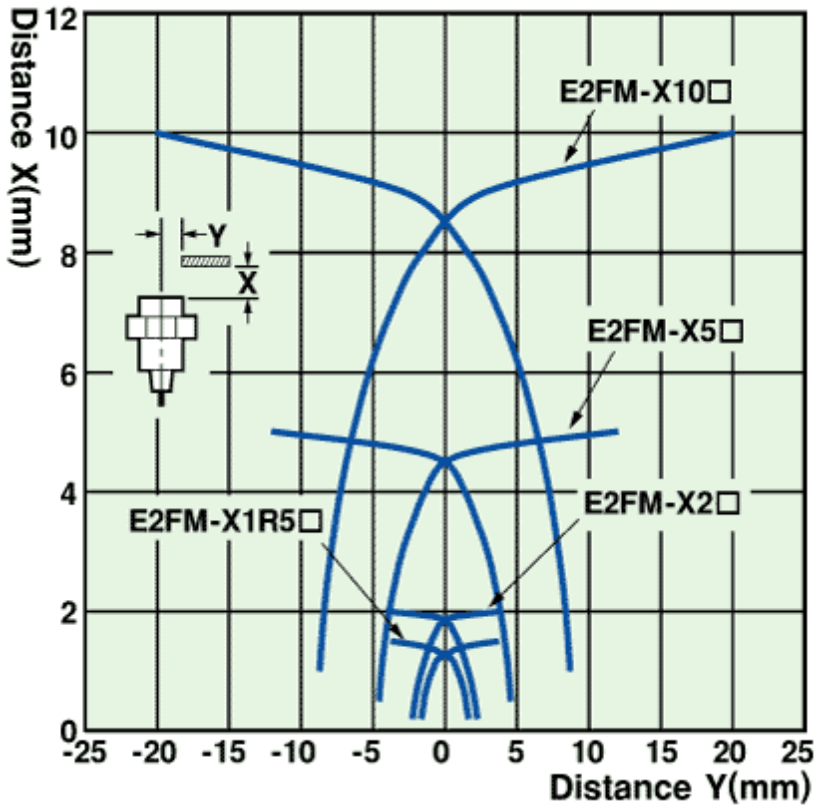
Sensing distance vs. size and material of sensing object



Sensing range



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