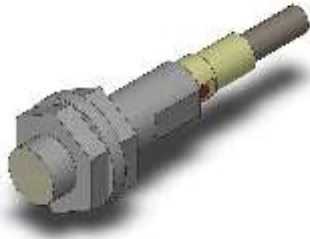


Standard Proximity Sensor

E2E-X1R5F1 2M

Shielded, Cylinder type (with screw) M8, DC Three-wires models, Sensing distance 1.5 mm \pm 10%, NO, PNP collector load built-in output, 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 \pm 10%
Setting distance	0 to 1.2 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 \pm 10%
Setting distance	0 to 1.2 mm
Differential distance	10% 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	2 kHz
Power supply voltage	12 to 24 VDC ripple (p-p) 10% max.
Operating voltage range	10 to 30 VDC
Current consumption	13 mA max.
Control output (Output type)	PNP collector load built-in output
Control output (Switching capacity)	200 mA max.
Control output (Residual voltage)	2 V max. (Load current 200 mA with cable length of 2 m)
Indicator	Operation indicator (red)
Operation mode	NO
Protective circuit	Output short-cut protection Reverse polarity protection Surge suppressor
Ambient temperature (Operating)	-40 to 85 °C
Ambient temperature (Storage)	-40 to 85 °C
Ambient humidity (Operating)	35 to 95% RH

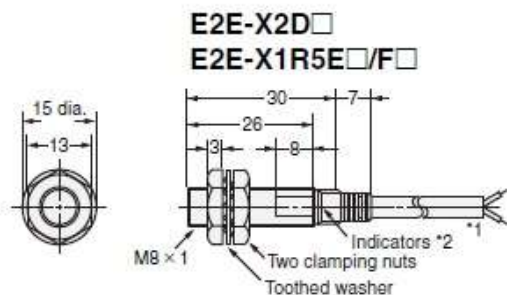
Ambient humidity (Storage)	35 to 95% RH
Temperature influence	±10% max. of sensing distance at 23 °C in the temperature range of -25 to 70 °C ±15% max. of sensing distance at 23 °C in the temperature range of -40 to 85 °C
Voltage influence	±1% max. of sensing distance at rated voltage in the rated voltage ±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 Company standard: Oil-proof
Connection method	Pre-wired models (2 m)
Weight	Package: Approx. 65 g
Material	Case: Stainless steel (SUS303) Sensing surface: Polybutylene terephthalate (PBT) Clamping nuts: Brass nickel plating Toothed washers: Iron zinc plating
Accessories	Instruction manual

As of July 16, 2020

Dimensions

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Dimensions

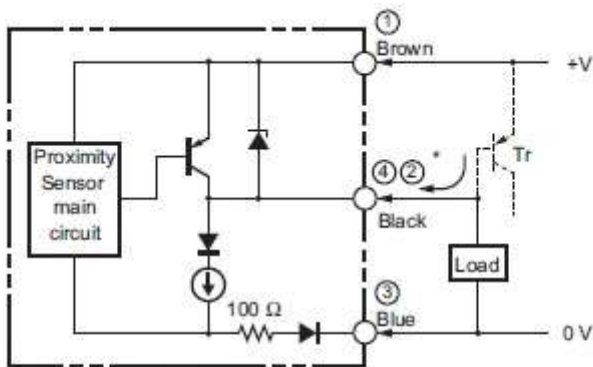


- E2E-X2D□**
E2E-X1R5E□/F□
- *1. 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
 - 4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 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)

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Output circuit

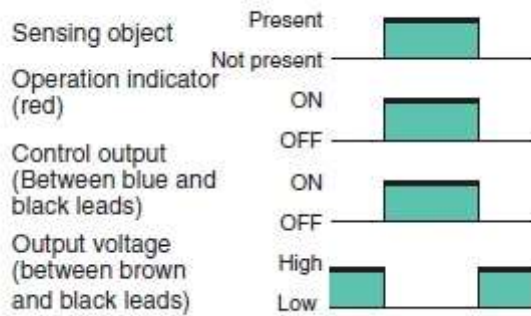
Output circuit



*When a transistor is connected

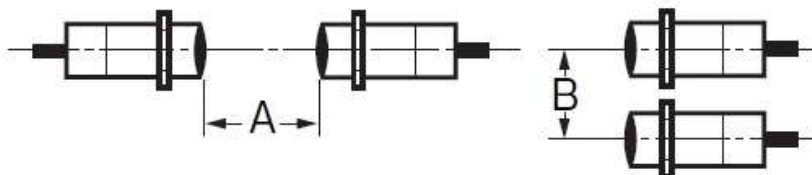
Note: For Connector Models, the connection between pins 1, 4 and 3 uses an NO contact, and the connection between pins 1, 2 and 3 uses an NC contact.

Timing chart



Mutual interference

Mutual interference



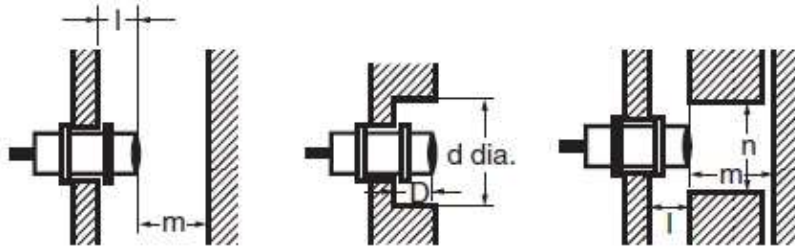
A: 20 mm min., B: 15 mm min.

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Effects of surrounding metals

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Effects of surrounding metals



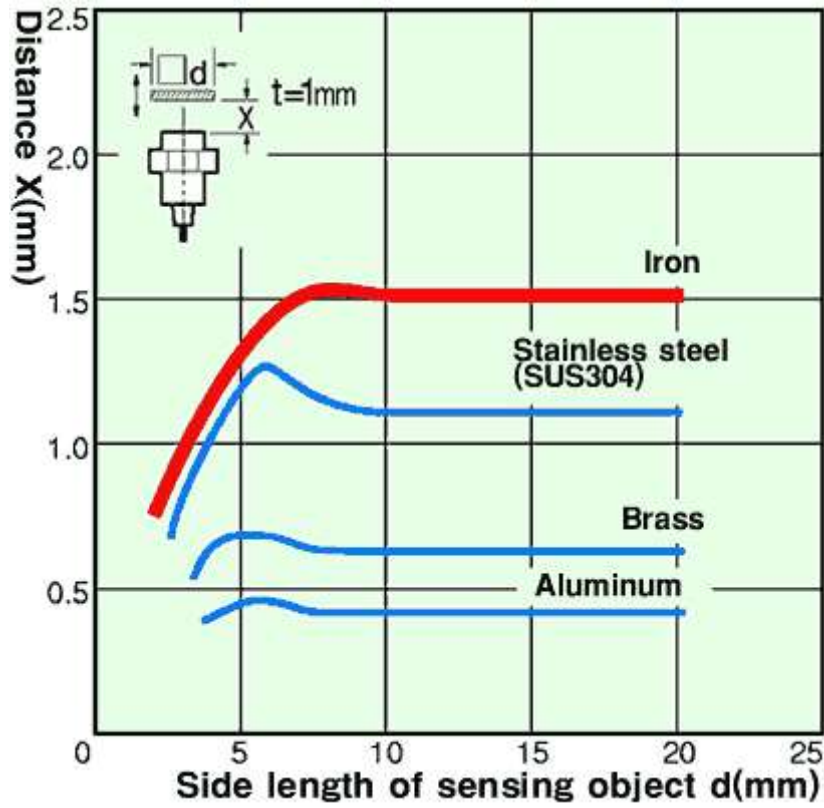
l: 0 mm min., dia. d: 8 mm min., D: 0 mm min., m: 4.5 mm min., n: 12 mm min.

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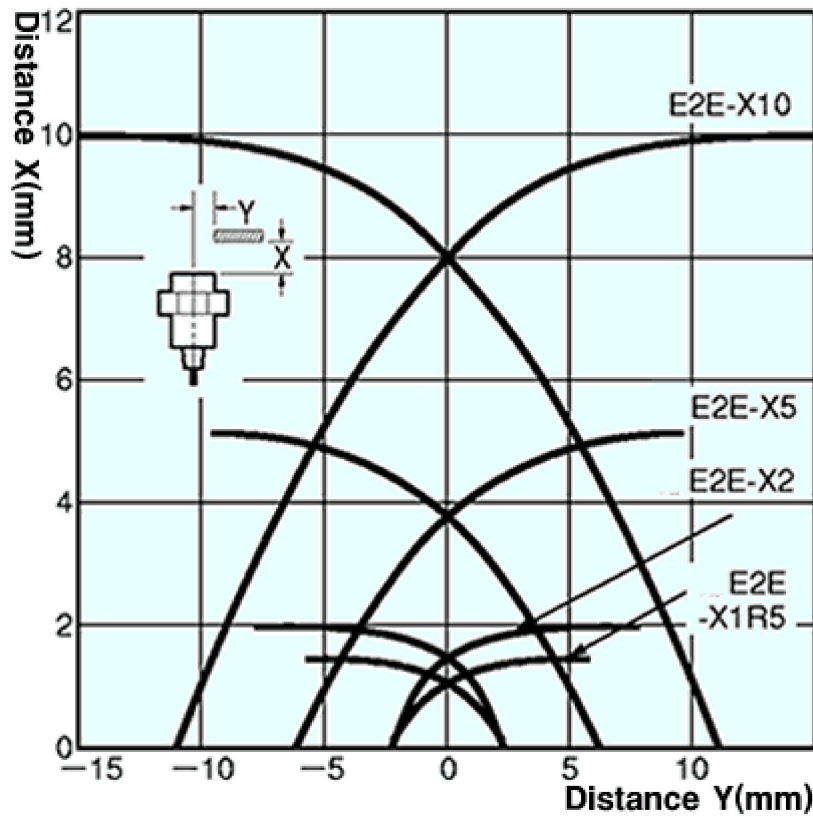
Characteristic chart

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Sensing distance vs. size and material of sensing object



Sensing range



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