

DC 2-Wire (PUR Cable/Self-diagnosis Output), AC 2-Wire and AC/DC 2-Wire

E2E-X3D1-U 2M



Image

Proximity Sensor, Cylinder type (with screw), Sensing distance: 3 mm, Shielded, DC 2-wire, NO, Pre-wired model, Polarity, Polyurethane cable (oil resistant and reinforced), 2 m

Sensing head size	M12
Type	Cylinder type (with screw), Shielded
Power source	DC 2-wire models
Sensing distance	3 mm ±10%
Setting distance	0 to 2.4 mm
Operation mode	NO

Ratings/Performance

As of August 27, 2024

Sensing head size	M12
Type	Cylinder type (with screw), Shielded
Power source	DC 2-wire models
Sensing distance	3 mm ±10%
Setting distance	0 to 2.4 mm
Differential distance	10% max. of sensing distance
Sensing object	Ferrous metal (Sensitivity lowers with non-ferrous metals.)
Standard sensing object	Iron 12 x 12 x 1 mm
Response frequency	1000 Hz
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 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 °C(with no freezing or condensation)
Ambient temperature (Storage)	-40 to 85 °C(with no freezing or condensation)

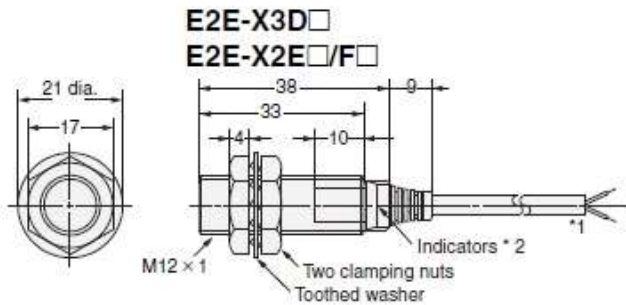
Ambient humidity (Operating)	35 to 95 % (with no condensation)
Ambient humidity (Storage)	35 to 95 % (with no condensation)
Temperature influence	±10% max. of sensing distance at 23 °C in the temperature range of -25 to 70 °C
Voltage influence	±1% max. of sensing distance at rated voltage in the rated voltage ±15% range
Insulation resistance	Between charged parts and the case: 50 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: 1000 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)
Material	Case: Brass nickel plating Sensing surface: Polybutylene terephthalate (PBT) Cable: PVC Clamping nuts: Brass nickel plating Toothed washers: Iron zinc plating
Accessories	Instruction manual, Clamping nuts, Toothed washers

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Dimensions

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Dimensions



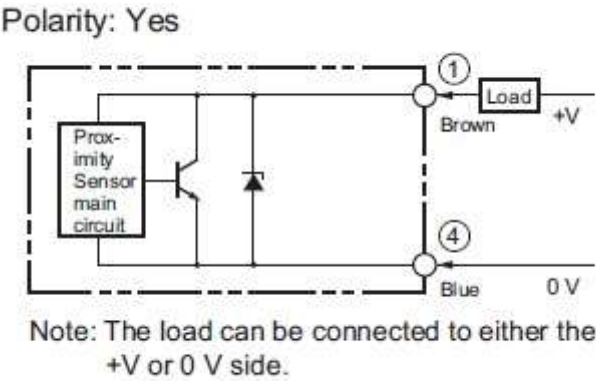
*1. 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m
Robotics Cable Models:
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 (separate metal conduit) up to 200 m for the control output and up to 100 m for the diagnostic output.
*2. D1 Models: Operation indicator (red) and setting indicator (green), D2/E/F Models: Operation indicator (red)

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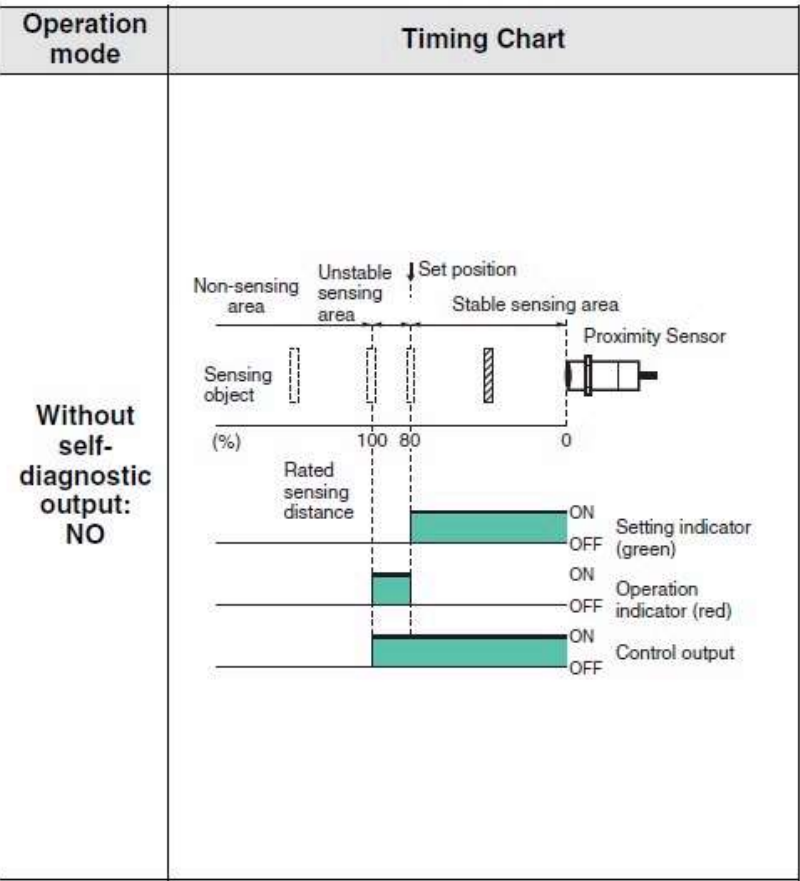
Output circuit

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Output circuit



Timing chart

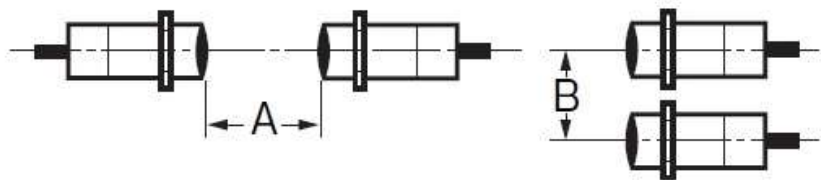


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Mutual interference

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Mutual interference



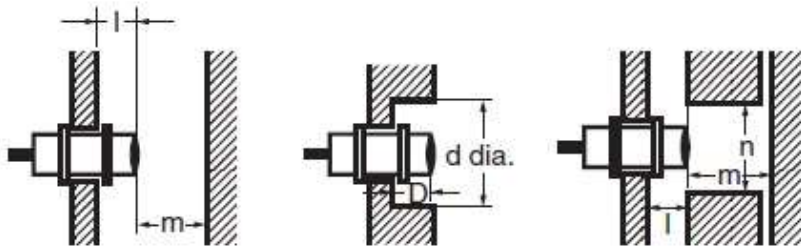
A: 30 mm min., B: 20 mm min.

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Effects of surrounding metals

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Effects of surrounding metals



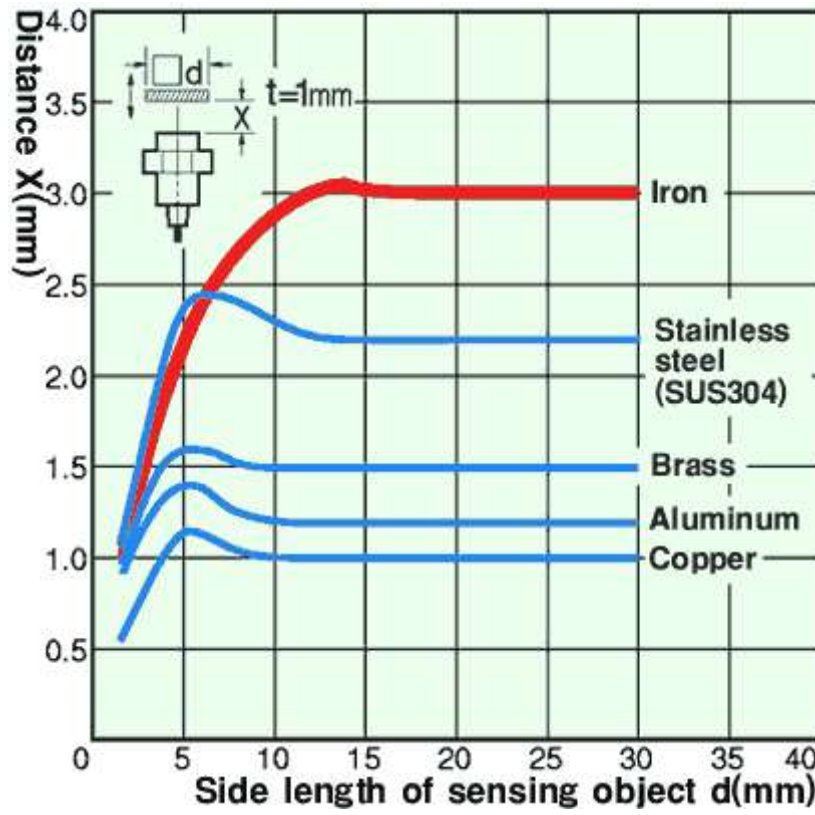
l: 0 mm min., dia. d: 12 mm min., D: 0 mm min., m: 8 mm min., n: 18 mm min.

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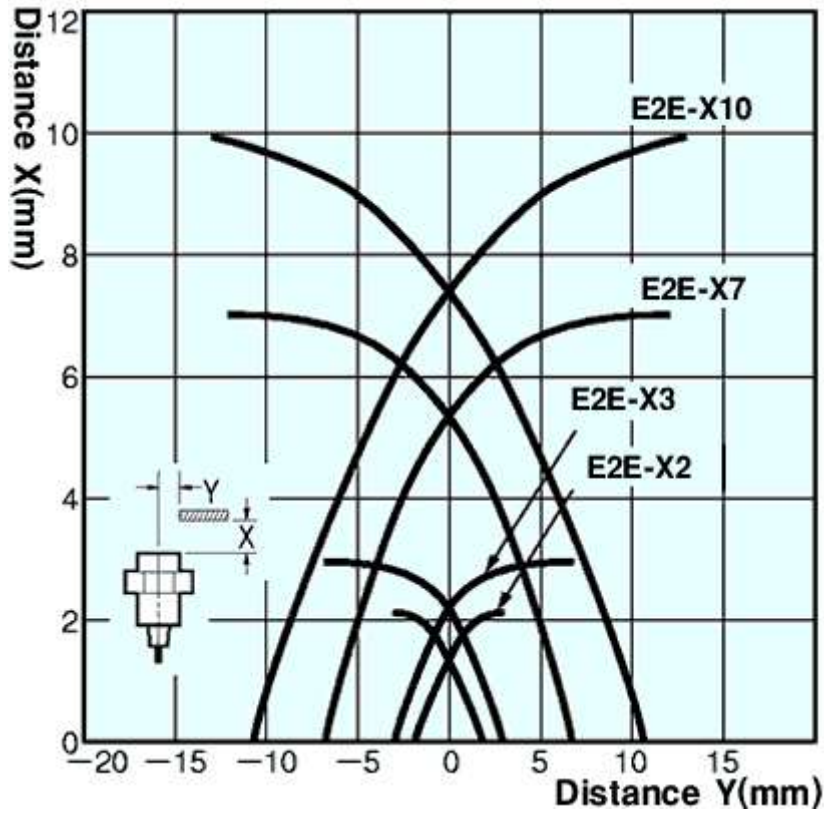
Characteristic chart

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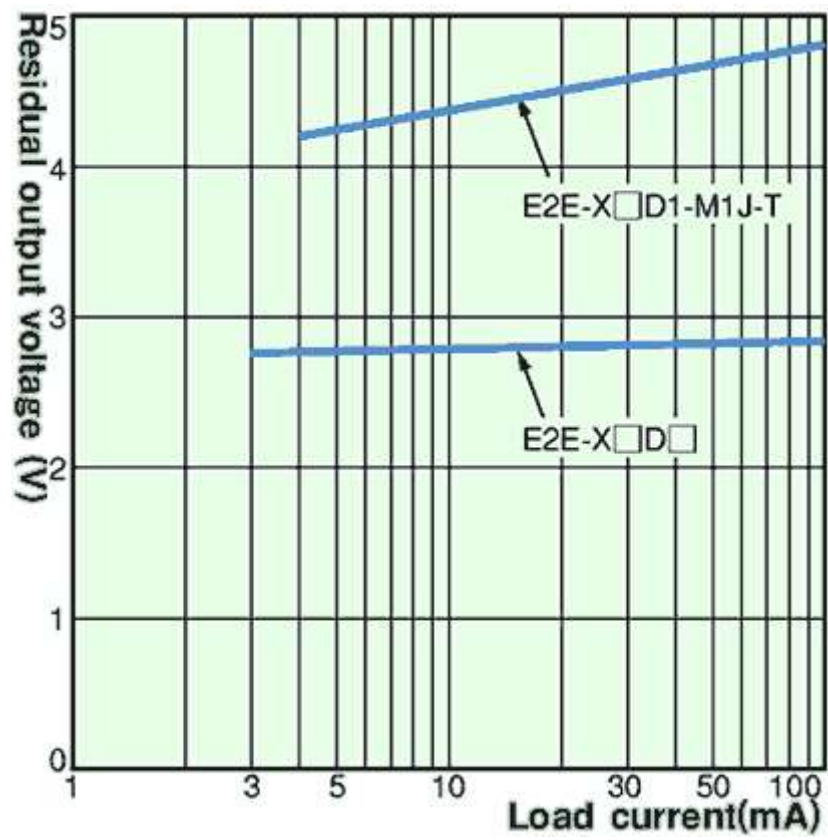
Sensing distance vs. size and material of sensing object



Sensing range



Residual voltage



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