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Standard Proximity Sensor

E2E-X5E1 2M

Image

Shielded, Cylinder type (with screw) M18, DC Three-wires models, Sensing distance 5 mm ±10%, NO, NPN collector load built-in output, Pre-wired models

Sensing head size	M18
Type	Cylinder type (with screw)、Shielded
Power source	DC Three-wires models
Sensing distance	5 mm ±10%
Setting distance	0 to 4 mm
Operation mode	NO

Ratings/Performance

As of September 9, 2019

Sensing head size	M18
Type	Cylinder type (with screw)、Shielded
Power source	DC Three-wires models
Sensing distance	5 mm ±10%
Setting distance	0 to 4 mm
Differential distance	10% max. of sensing distance
Sensing object	Ferrous metal (Sensitivity lowers with non-ferrous metals.)
Standard sensing object	Iron 18 x 18 x 1 mm
Response frequency	0.6 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)	NPN 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℃

Ambient temperature (Storage)	-40 to 85°C
Ambient humidity (Operating)	35 to 95%
Ambient humidity (Storage)	35 to 95%
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: 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)
Weight	Package: Approx. 150 g
Material	Case: Brass nickel plating Sensing surface: Polybutylene terephthalate (PBT) Clamping nuts: Brass nickel plating Toothed washers: Iron zinc plating
Accessories	Instruction manual

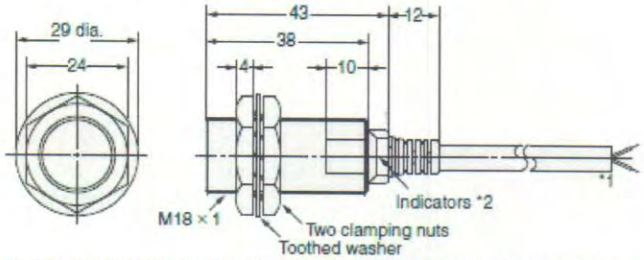
As of September 9, 2019

Dimensions

As of September 9, 2019

Dimensions

E2E-X7D□/E2E-X5E□/F□
E2E-X5Y□/E2E-X7T1



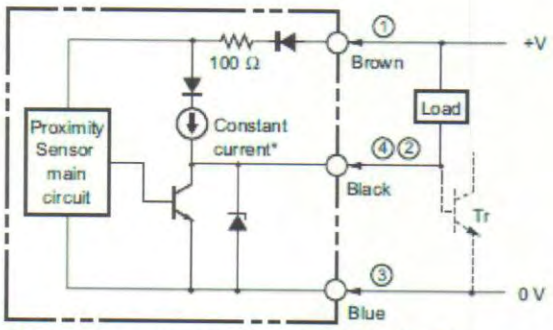
*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm², Insulator diameter: 1.9 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm², Insulator diameter: 1.9 mm), Standard length: 2 m
Robotics Cable Models:
6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm², Insulator diameter: 1.74 mm), Standard length: 2 m
6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm², Insulator diameter: 1.74 mm), Standard length: 2 m
Models with Highly Oil-resistant Cables:
6-dia. polyurethane-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm², Insulator diameter: 1.9 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/T Models: Operation indicator (red), Setting indicator (green)
D2/E/F/Y Models: Operation indicator (red)

As of September 9, 2019

Output circuit

As of September 9, 2019

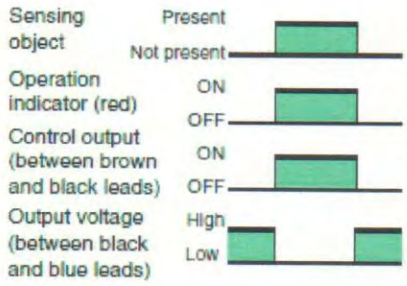
Output circuit



*Constant current output is 1.5 to 3 mA.

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



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Mutual interference

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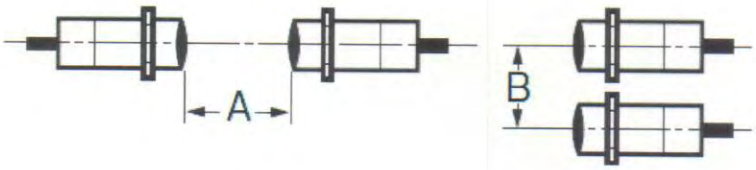
Mutual interference



A: 50 mm min., B: 35 mm min.

Different frequency

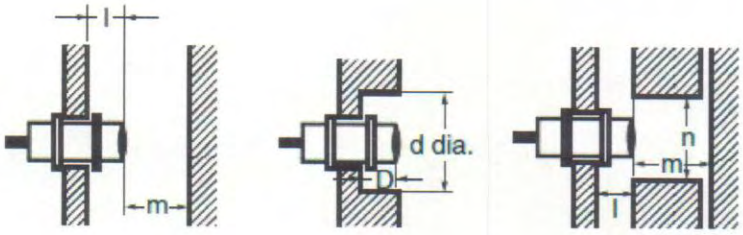
A: 30 mm min., B: 18 mm min.

As of September 9, 2019

Effects of surrounding metals

As of September 9, 2019

Effects of surrounding metals



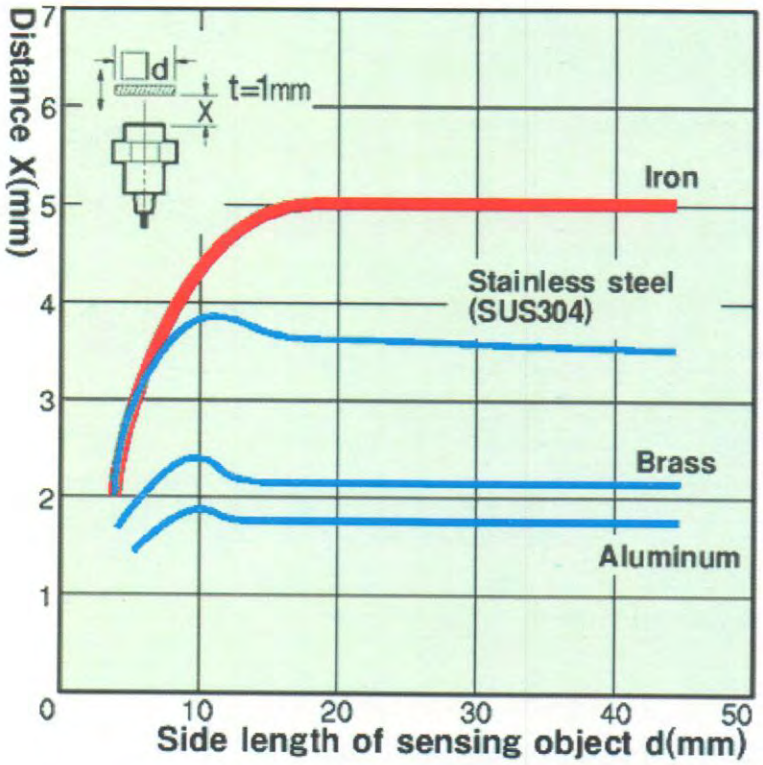
l: 0 mm min., dia. d: 18 mm min., D: 0 mm min., m: 20 mm min., n: 27 mm min.

As of September 9, 2019

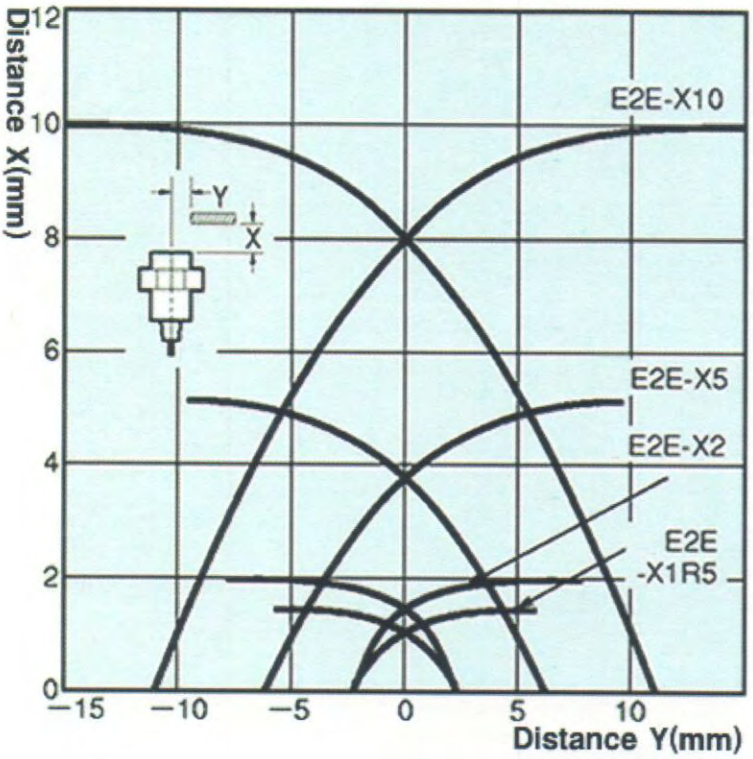
Characteristic chart

As of September 9, 2019

Sensing distance vs. size and material of sensing object



Sensing range



As of September 9, 2019