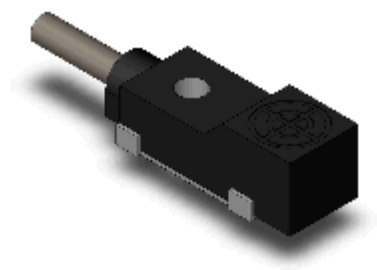


Super-compact Proximity Sensor

E2S-W23 3M

Unshielded, Square type, DC Three-wires models, Sensing distance 2.5 mm ±15%, NO, NPN open collector, Pre-wired models, Sensing surface Top panel



Image

Ratings/Performance

As of July 16, 2020

Sensing head size	8 mm x 7.4 mm x 20 mm
Type	Square type, Unshielded
Power source	DC Three-wires models
Sensing distance	2.5 mm ±15%
Setting distance	0 to 1.9 mm
Differential distance	10% max. of sensing distance
Sensing object	Ferrous metal (Sensitivity lowers with non-ferrous metals.)
Standard sensing object	Iron 15 x 15 x 1 mm
Response frequency	1 kHz (Average value)
Power supply voltage	12 to 24 VDC ripple (p-p) 10% max.
Operating voltage range	10 to 30 VDC
Current consumption	at 24 VDC, no load: 13 mA max.
Control output (Output type)	NPN open collector
Control output (Switching capacity)	50 mA max. (30 VDC max.)
Indicator	Operation indicator (orange)
Operation mode	NO
Protective circuit	Power supply reverse polarity protection Surge suppressor
Ambient temperature (Operating)	-25 to 70 °C
Ambient temperature (Storage)	-40 to 85 °C
Ambient humidity (Operating)	35 to 90% RH
Ambient humidity (Storage)	35 to 95% RH
Temperature influence	±15% max. of sensing distance at 23 °C in the temperature range of -25 to 70 °C
Voltage influence	±2.5% max. of sensing distance at rated voltage in the rated voltage ±10% range

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E2S-W23 3M | OMRON Industrial Automation

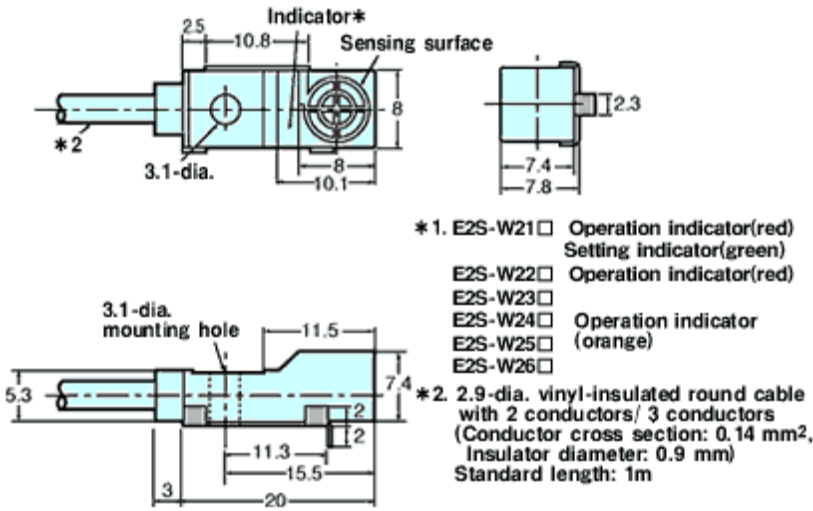
Insulation resistance	Between charged parts and the case: 5 MΩ min. at 500 VDC
Dielectric strength	Between charged parts and the case: 1,000 VAC 50/60 Hz 1 min
Vibration resistance	Destruction: 10 to 55 Hz, 1.5 mm double amplitude each in X, Y, and Z directions for 2 h
Shock resistance	Destruction: 500 m/s ² 3 times each in X, Y and Z directions
Degree of protection	IEC: IP67
Connection method	Pre-wired models (3 m)
Material	Case: Polyarylate
Accessories	Mounting Bracket

As of July 16, 2020

Dimensions

As of July 16, 2020

Dimensions

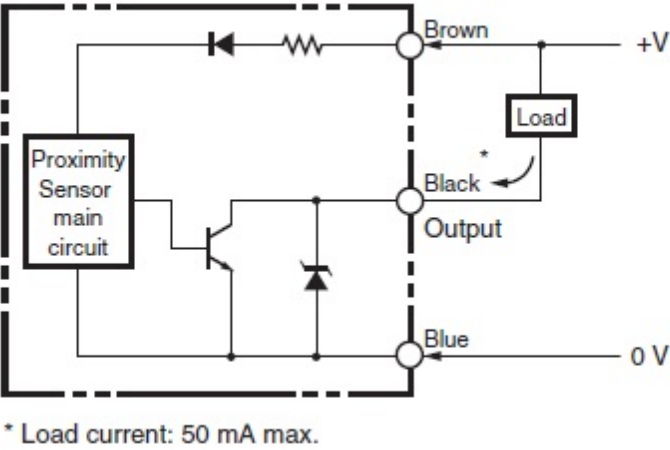


As of July 16, 2020

Output circuit

As of July 16, 2020

Output circuit



Timing chart

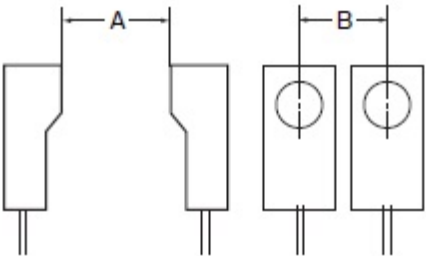
Operation mode	Timing Chart	
NO	Sensing object	Yes
		No
	Output transistor (Load)	ON
		OFF
	Operation indicator (orange)	ON
		OFF

As of July 16, 2020

Mutual interference

As of July 16, 2020

Mutual interference



A: 75 mm min., B: 25 mm min.

Different frequency

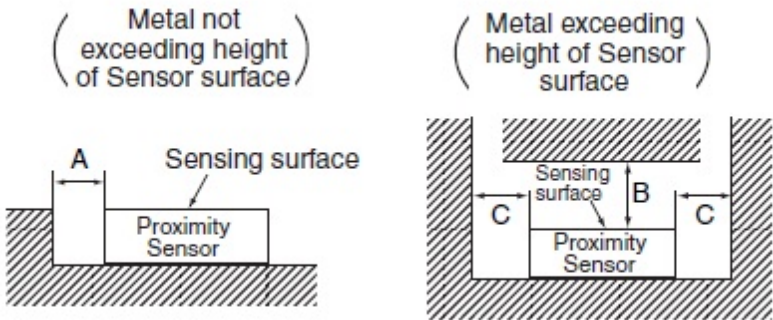
A: 50 mm min., B: 8 mm min.

As of July 16, 2020

Effects of surrounding metals

As of July 16, 2020

Effects of surrounding metals



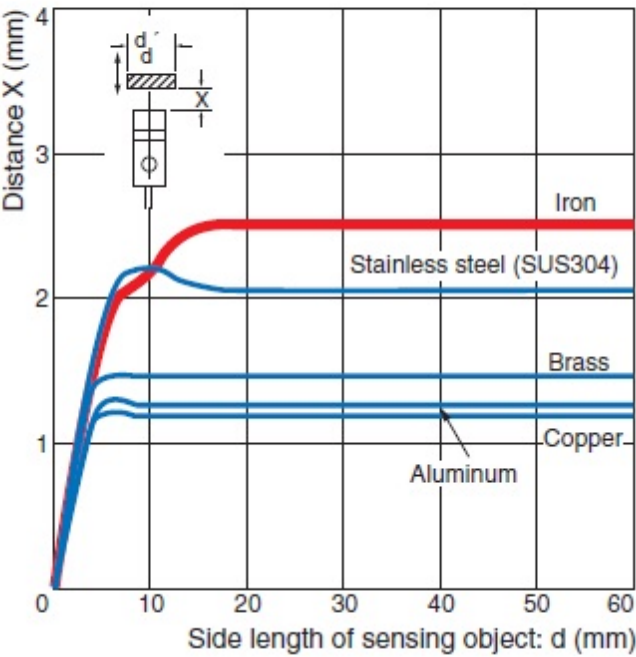
As of July 16, 2020

Characteristic chart

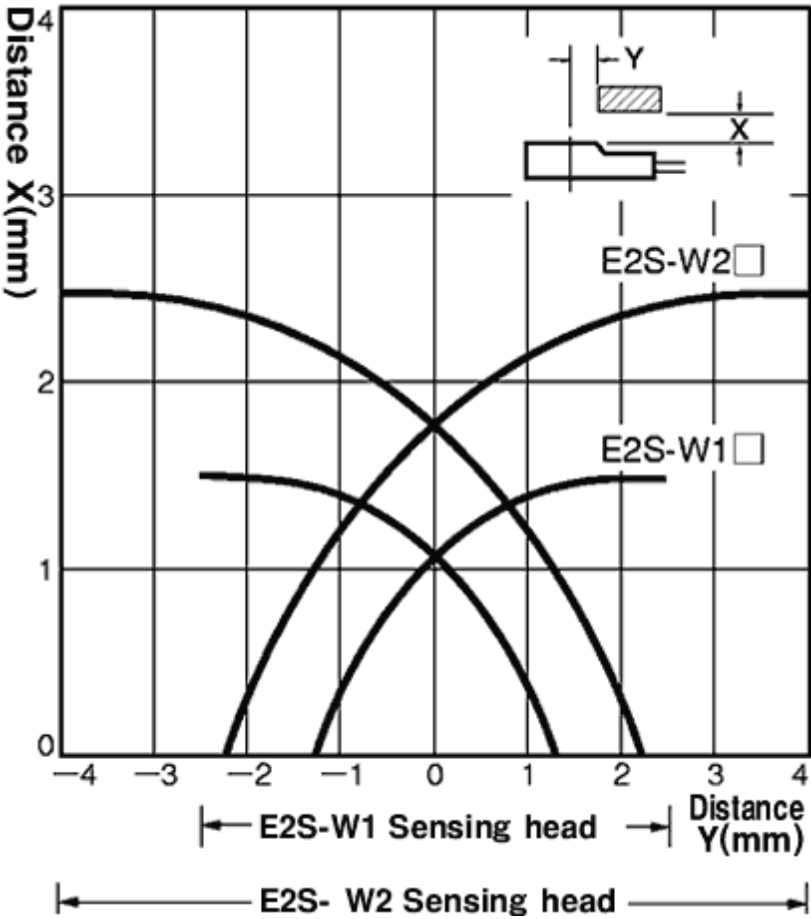
As of July 16, 2020

Sensing distance vs. size and material of sensing object

E2S-W2□/-Q2□



Sensing range



As of July 16, 2020