

All Metal Sensing Inductive Prox

E2EV

One Sensor Detects All Kinds of Metal at Equal Distance

- Ideal for use on conveyors with work pieces of different metals
- Detects aluminum and copper at the same distance as iron and stainless steel
- Offers up to three times the detection distance for aluminum compared to conventional inductive sensors
- Shielded for flush mounting in metal
- Prewired with 2 meters (6.56 ft) of cable



Ordering Information

■ SENSORS

Sensing head	Detecting distance	Output			
		NPN-NO	NPN-NC	PNP-NO	PNP-NC
M12	2 mm (0.08 in)	E2EV-X2C1	E2EV-X2C2	E2EV-X2B1	E2EV-X2B2
M18	5 mm (0.20 in)	E2EV-X5C1	E2EV-X5C2	E2EV-X5B1	E2EV-X5B2
M30	10 mm (0.39 in)	E2EV-X10C1	E2EV-X10C2	E2EV-X10B1	E2EV-X10B2

■ ACCESSORIES

Description		Part number
Mounting brackets	Fits M12 size sensors	Y92E-B12
	Fits M18 size sensors	Y92E-B18
	Fits M30 size sensors	Y92E-B30
Protective covers for shielded sensors	Fits M12 size sensors	Y92E-E12-2
	Fits M18 size sensors	Y92E-E18-2
	Fits M30 size sensors	Y92E-E30-2

■ REPLACEMENT PARTS

Description		Part number
Mounting hardware including one pair of metal nuts and washers	Fits M12 size sensors (supplied with each sensor)	M12-MHWS
	Fits M18 size sensors (supplied with each sensor)	M18-MHWS
	Fits M30 size sensors (supplied with each sensor)	M30-MHWS

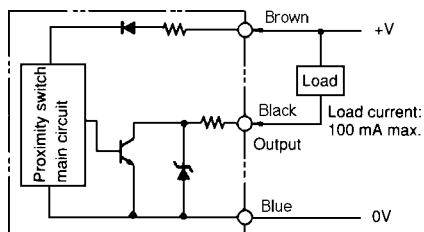
Specifications

Part number			E2EV-X2□□	E2EV-X5□□	E2EV-X10□□
Sensor type			Inductive		
Body		Size	M12	M18	M30
		Type	Shielded		
Supply voltage			10 to 30 VDC, max. ripple 10% peak-to-peak		
Current consumption			15 mA max.		
Detectable object type			Ferrous and non-ferrous metals		
Effective detecting distance (with standard target)			2 mm ±10% (0.08 in)	5 mm ±10% (0.20 in)	10 mm ±10% (0.39 in)
Usable detecting range (with standard target)			0 to 1.4 mm (0 to 0.06 in)	0 to 3.5 mm (0 to 0.14 in)	0 to 7 mm (0 to 0.28 in)
Standard target size aluminum, L x W x H)			12 x 12 x 1 mm (0.47 x 0.47 x 0.04 in)	18 x 18 x 1 mm (0.71 x 0.71 x 0.04 in)	30 x 30 x 1 mm (1.18 x 1.18 x 0.04 in)
Differential travel			10% max. of effective detecting distance		
Control output	DC solid- state	Type	NPN-NO (E2EV-X□C1) NPN-NC (E2EV-X□C2) PNP-NO (E2EV-X□B1) PNP-NC (E2EV-X□B2)		
		Max. load	100 mA max.		
		Max. on-state voltage drop	2 VDC (See graph in Engineering Data section)		
Response frequency			150 Hz	70 Hz	70 Hz
Circuit protection			Output short circuit, surge voltage, reverse polarity		
Indicators			Target present (red LED)		
Materials		Housing	Nickel-plated brass		
		Sensing face	ABS		
Mounting			Two M12 nuts included.	Two M18 nuts included.	Two M30 nuts included.
			Bracket Y92E-B12 optional.	Bracket Y92E-B18 optional.	Bracket Y92E-B30 optional.
Connections		Prewired	3-conductor cable, 2 m (6.56 ft) length		
Weight			120 g (4.23 oz.)	140 g (5.5 oz.)	190 g (7.5 oz.)
Enclosure ratings		UL	—		
		NEMA	1, 3, 4, 6, 12, 13		
		IEC 144	IP67		
Approvals		UL	—		
		CSA	—		
Ambient operating temperature			-10° to 55°C (14° to 131°F)		
Vibration			10 to 55 Hz, 1.5 mm (0.06 in) double amplitude for 2 hours each in X, Y, and Z directions		
Shock			Approx. 100 G's, 10 times each in X, Y, and Z directions		

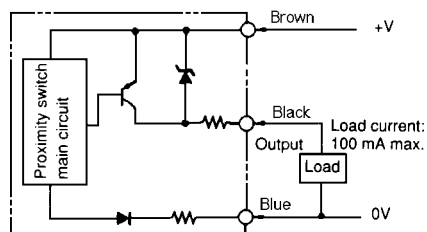
Operation

■ OUTPUT CIRCUIT DIAGRAMS AND CONNECTIONS

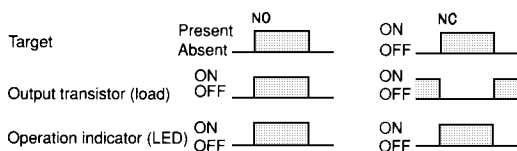
NPN Output Type



PNP Output Type



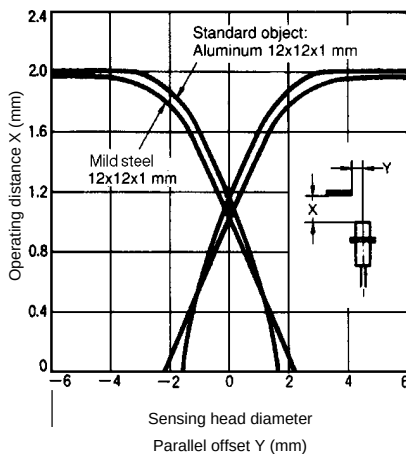
■ TIMING CHARTS



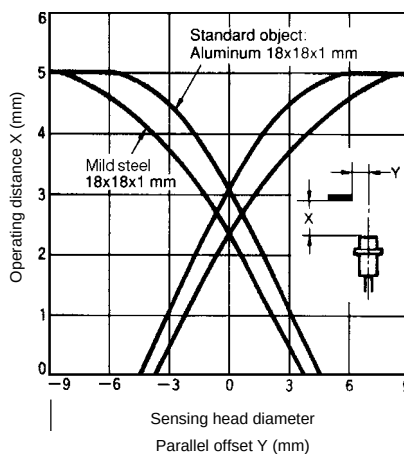
Engineering Data

■ OPERATING RANGE

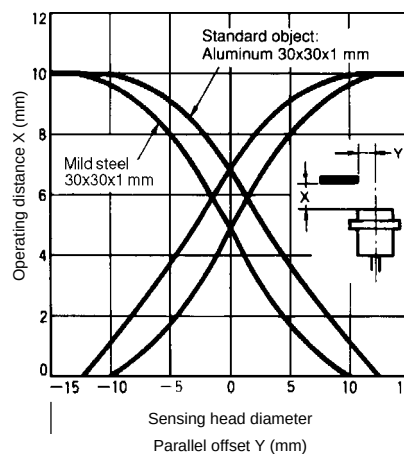
E2EV-X2□□



E2EV-X5□□

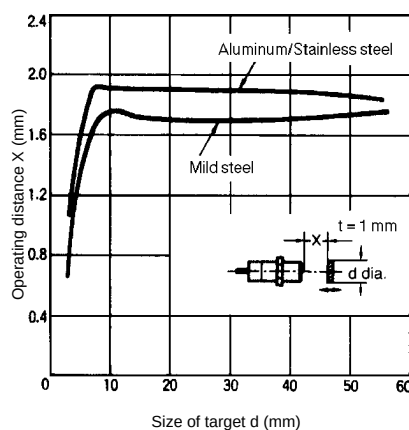


E2EV-X10□□

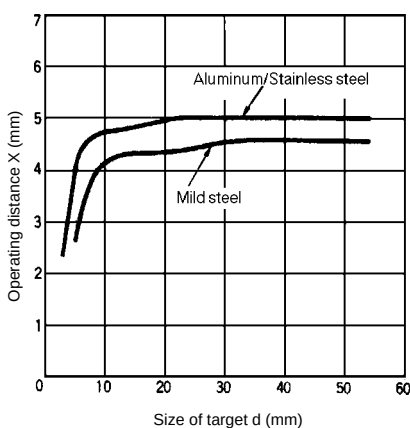


■ SENSING DISTANCE vs. SIZE AND MATERIAL OF TARGET

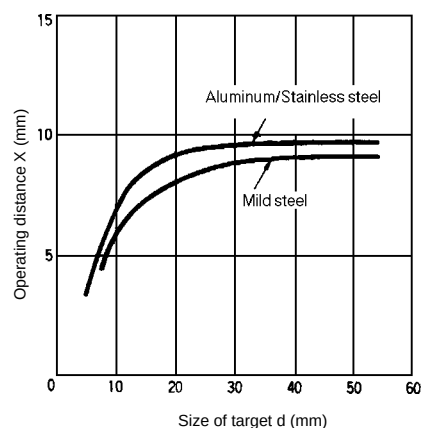
E2EV-X2□□



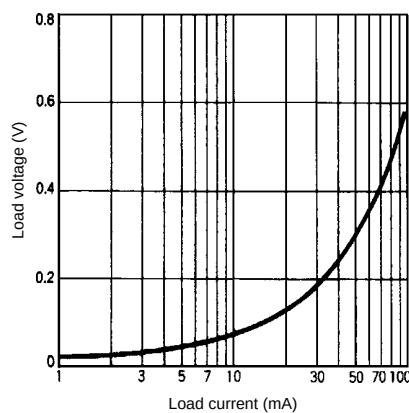
E2EV-X5□□



E2EV-X10□□



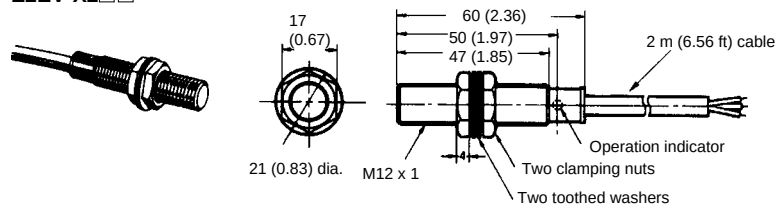
■ ON-STATE VOLTAGE DROP



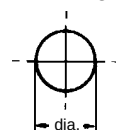
Dimensions

Unit: mm (inch)

E2EV-X2□□

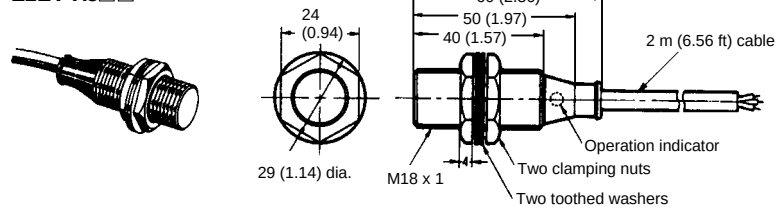


Mounting holes

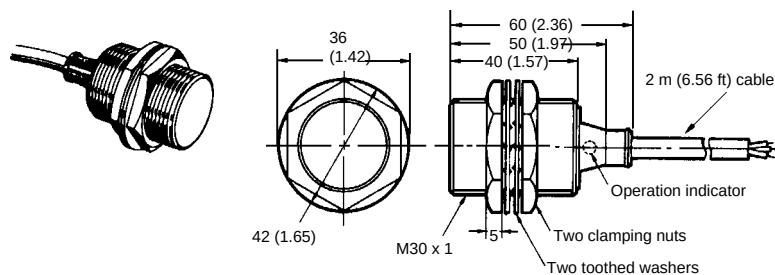


Model	Diameter
E2EV-X2□□	12.5 mm (0.49 in)
E2EV-X5□□	18.5 mm (0.73 in)
E2EV-X10□□	30.5 mm (1.20 in)

E2EV-X5□□



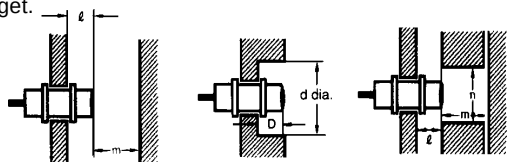
E2EV-X10□□



Precautions

■ EFFECTS OF SURROUNDING METALS

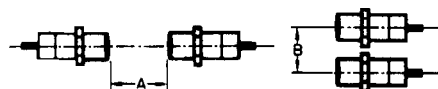
When mounting a proximity sensor flush with a metallic panel, provide the minimum distance shown. This prevents the sensor from being affected by metallic objects other than the target.



Model	E2EV-X2□□	E2EV-X5□□	E2EV-X10□□
l	0	0	0
d	12 mm (0.47 in)	18 mm (0.71 in)	30 mm (1.18 in)
D	0	0	0
m	8 mm (0.31 in)	20 mm (0.79 in)	40 mm (1.57 in)
n	18 mm (0.71 in)	27 mm (1.06 in)	45 mm (1.77 in)

■ MUTUAL INTERFERENCE

To prevent mutual interference between two sensors mounted opposite or parallel to each other, be sure to space the two sensors at a distance greater than that shown here.



Model	A	B
E2EV-X2□□	30 mm (1.18 in)	20 mm (0.79 in)
E2EV-X5□□	50 mm (1.97 in)	35 mm (1.38 in)
E2EV-X10□□	100 mm (3.94 in)	70 mm (2.76 in)

OMRON

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