E2E2-X□**C**□ **DC** 3-Wire Models

	Size	M12		M18		M30				
	Shielding	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded			
Item	Model	E2E2-X2C□	E2E2-X5MC□	E2E2-X5C□	E2E2-X10MC□	E2E2-X10C□	E2E2-X18MC□			
Sensing distance		2 mm±10%	5 mm±10%	5 mm±10%	10 mm±10%	10 mm±10%	18 mm±10%			
Set distance		0 to 1.6 mm	0 to 4 mm	0 to 4 mm	0 to 8 mm	0 to 8 mm	0 to 14 mm			
Differential travel		10% max. of sensing distance								
Sensing object		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to <i>Engineering Data</i> on page 5.)								
Standard sensing object		Iron, 12 × 12 × 1 mm	Iron, 15 × 15 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, 54 × 54 × 1 mm			
Response	e frequency *1	1.5 kHz	400 Hz	600 Hz	200 Hz	400 Hz	100 Hz			
Power supply voltage (operating voltage range) *2		12 to 24 VDC (10 to 30 VDC), ripple (p-p): 10% max.								
Leakage	current	13 mA max.								
Control Load current		NPN open-collector output, 200 mA max. (30 VDC max.)								
output	Residual voltage	2 V max. (Load current: 200 mA, Cable length: 2 m)								
Indicators Operation indicator (red)										
Operation (with sen- proaching	sing object ap-	C1 Models: NO C2 Models: NC Refer to the timing charts under <i>I/O Circuit Diagrams</i> on page 8 for details.								
Protectio	n circuits	Reverse polarity	protection, Surge	absorber, Load s	short-circuit protec	tion				
Ambient temperature		Operating/Storage: -40 to 85°C (with no icing or condensation)								
Ambient humidity		Operating/Storage: 35% to 95% (with no condensation)								
Temperature influence		$\pm 15\%$ max. of sensing distance at 23°C in the temperature range of -40 to 85 °C $\pm 10\%$ max. of sensing distance at 23°C in the temperature range of -25 to 70 °C								
Voltage influence		$\pm 1\%$ max. of sensing distance at rated voltage in the rated voltage $\pm 15\%$ range								
Insulation resistance		50 M Ω min. (at 500 VDC) between current-carrying parts and case								
Dielectric	strength	1,000 VAC, 50/60 Hz for 1 minute between current carry parts and case								
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions								
Shock resistance (destruction)		1,000 m/s² 10 times each in X, Y, and Z directions								
Degree of protection		IEC IP67, in-house standard for oil resistance								
Connection method		Pre-wired Models (Standard cable length: 2 m) and Connector Models								
Weight (packed state)		Approx. 75 g		Approx. 160 g		Approx. 220 g				
Materi- als	Case	Brass								
	Sensing surface	PBT								
	Clamping nuts	Nickel-plated brass								
Toothed washer		Zinc-plated iron								
Accessories		Instruction sheet								

^{*1.} The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing distance.

*2. A full-wave rectification power supply of 24 VDC ±20% (average value) can be used.

E2E2-X□**Y**□ **AC 2-Wire Models**

Size		M12		M18		M30				
	Shielding	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded			
Item	Model	E2E2-X2Y□	E2E2-X5MY□	E2E2-X5Y□	E2E2-X10MY□	E2E2-X10Y□	E2E2-X18MY□			
Sensing distance		2 mm±10%	5 mm±10%	5 mm±10%	10 mm±10%	10 mm±10%	18 mm±10%			
Set distance		0 to 1.6 mm	0 to 4 mm	0 to 4 mm	0 to 8 mm	0 to 8 mm	0 to 14 mm			
Differential travel		10% max. of sensing distance								
Sensing object		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to <i>Engineering Data</i> on page 5.)								
Standard sensing object		Iron, 12 × 12 × 1 mm	Iron, 15 × 15 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, 54 × 54 × 1 mm			
Response frequency		25 Hz								
Power supply voltage (operating voltage range) *1		24 to 240 VAC (20 to 264 VAC), 50/60 Hz								
Leakage current		1.7 mA max.								
Control	Load current *2	5 to 200 mA 5 to 300 mA								
output	Residual voltage	Refer to Engineering Data on page 5.								
Indicators	3	Operation indicator (red)								
Operation mode (with sensing object ap- proaching)		Y1 Models: NO Y2 Models: NC Refer to the timing charts under I/O Circuit Diagrams on page 8 for details.								
Ambient temperature *1, 2		Operating/Storage: –40 to 85°C (with no icing or condensation)								
Ambient humidity		Operating/Storage: 35% to 95% (with no condensation)								
Temperature influence		±15% max. of sensing distance at 23°C in the temperature range of –40 to 85°C, ±10% max. of sensing distance at 23°C in the temperature range of –25 to 70°C								
Voltage influence		\pm 1% max. of sensing distance at rated voltage in the rated voltage \pm 15% range								
Insulation resistance		50 MΩ min. (at 500 VDC) between current-carrying parts and case								
Dielectric strength		4,000 VAC, 50/60 Hz for 1 minute between current carry parts and case								
Vibration resistance (destruction)		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions								
Shock resistance (destruction)		1,000 m/s² 10 times each in X, Y, and Z directions								
Degree of protection		IEC IP67, in-house standard for oil resistance								
Connection method		Pre-wired Models (Standard cable length: 2 m) and Connector Models								
Weight (packed state)		Approx. 65 g Approx. 150 g Approx. 210 g								
Materi- als	Case	Brass								
	Sensing surface	PBT								
	Clamping nuts	Nickel-plated brass								
	Toothed washer	Zinc-plated iron								
Accessor	Accessories Instruction sheet									
*1 When our	nlying 24 VAC to any of	the chave medale m	alra arrea that tha ana	rating ambient tompo	ratura ranga ia at laas	+ 0E0C += 0E0C				

^{*1.} When supplying 24 VAC to any of the above models, make sure that the operating ambient temperature range is at least –25°C to 85°C.
*2. When using an M18 or M30 Connector Model at an ambient temperature between 70 and 85°C, make sure that the Sensor has a control output (load current) of 5 to 200 mA max.