E2E2

CSM_E2E2_DS_E_4_3

Proximity Sensor with a Long Screw Length

- Increased tightening strength. Cable protectors provided as a standard feature.
- Increased indicator visibility. A milled section for wrench grip on all models.

⚠ Be sure to read *Safety Precautions* on page 9.

Ordering Information

Sensors

DC 2-Wire Models

Appearance		Sensing distance	Model	
			Operation mode	
			NO	NC
Shielded	M12	3 mm	E2E2-X3D1 2M *	E2E2-X3D2 2M
	M18	7 mm	E2E2-X7D1 2M *	E2E2-X7D2 2M
	M30	10 mm	E2E2-X10D1 2M *	E2E2-X10D2 2M
Unshielded	M12	8 mm	E2E2-X8MD1 2M *	E2E2-X8MD2 2M
	M18	14 mm	E2E2-X14MD1 2M *	E2E2-X14MD2 2M
	M30	20 mm	E2E2-X20MD1 2M *	E2E2-X20MD2 2M

* Models with different frequencies are also available. The model numbers are E2E2-X□D15 (example: E2E2-X3D15).

DC 3-Wire Models

Appearance		Sensing distance	Model	
			Operation mode	
			NO	NC
Shielded	M12	2 mm	E2E2-X2C1 2M	E2E2-X2C2 2M
	M18	5 mm	E2E2-X5C1 2M	E2E2-X5C2 2M
	M30	10 mm	E2E2-X10C1 2M	E2E2-X10C2 2M
Unshielded	M12	5 mm	E2E2-X5MC1 2M	E2E2-X5MC2 2M
	M18	10 mm	E2E2-X10MC1 2M	E2E2-X10MC2 2M
	M30	18 mm	E2E2-X18MC1 2M	E2E2-X18MC2 2M

AC 2-Wire Models

Appearance		Sensing distance	Model	
			Operation mode	
			NO	NC
Shielded	M12	2 mm	E2E2-X2Y1 2M	E2E2-X2Y2 2M
	M18	5 mm	E2E2-X5Y1 2M	E2E2-X5Y2 2M
	M30	10 mm	E2E2-X10Y1 2M	E2E2-X10Y2 2M
Unshielded	M12	5 mm	E2E2-X5MY1 2M	E2E2-X5MY2 2M
	M18	10 mm	E2E2-X10MY1 2M	E2E2-X10MY2 2M
	M30	18 mm	E2E2-X18MY1 2M	E2E2-X18MY2 2M

Accessories (Order Separately)

Mounting Brackets
Protective Covers
Sputter Protective Covers

Ratings and Specifications

E2E2-X□D□ DC 2-Wire Models

Item	Size	M12		M18		M30	
	Shielding	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
	Model	E2E2-X3D□	E2E2-X8MD□	E2E2-X7D□	E2E2-X14MD□	E2E2-X10D□	E2E2-X20MD□
Sensing distance		3 mm±10%	8 mm±10%	7 mm±10%	14 mm±10%	10 mm±10%	20 mm±10%
Set distance *1		0 to 2.4 mm	0 to 6.4 mm	0 to 5.6 mm	0 to 11.2 mm	0 to 8 mm	0 to 16 mm
Differential travel		10% max. of sensing distance					
Sensing object		Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to *Engineering Data* on page 5.)					
Standard sensing object		Iron, 12 × 12 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, 54 × 54 × 1 mm
Response frequency *2		1 kHz	800 Hz	500 Hz	400 Hz		100 Hz
Power supply voltage (operating voltage range)		12 to 24 VDC (10 to 30 VDC), ripple (p-p): 10% max.					
Leakage current		0.8 mA max.					
Control output	Switching capacity	3 to 100 mA					
	Residual voltage	3 V max. (Load current: 100 mA, Cable length: 2 m)					
Indicators		D1 Models: Operation indicator (red) and setting indicator (green) D2 Models: Operation indicator (red)					
Operation mode (with sensing object approaching)		D1 Models: NO D2 Models: NC	Refer to the timing charts under *I/O Circuit Diagrams* on page 8 for details.				
Protection circuits		Surge absorber, Load short-circuit protection					
Ambient temperature		Operating/Storage: –25 to 70°C (with no icing or condensation)					
Ambient humidity		Operating/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		50 MΩ min. (at 500 VDC) between current-carrying parts and case					
Dielectric strength		1000 VAC, 50/60 Hz for 1 minute between current-carrying 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/s^2 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)					
Weight (packed state)		Approx. 65 g		Approx. 150 g		Approx. 210 g	
Materials	Case	Brass					
	Sensing surface	PBT					
	Clamping nuts	Nickel-plated brass					
	Toothed washer	Zinc-plated iron					
Accessories		Instruction sheet					

*1. Use the E2E2 within the range in which the setting indicator (green LED) is ON (except D2 Models).
*2. 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.