

General-purpose Threaded Capacitive Sensor



- Product lineup with M12, M18, and M30 models.
- Fixed sensing distance requires no sensitivity adjustment.



 Be sure to read *Safety Precautions* on page 5.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Ordering Information

Sensors [Refer to *Dimensions* on page 6.]

Appearance		Sensing distance		Output configuration	Model	
					Operation mode	
					NO	NC
Unshielded 	M12	 4 mm		DC 3-wire, NPN	E2K-X4ME1 2M	E2K-X4ME2 2M
				DC 3-wire, PNP	E2K-X4MF1 2M	E2K-X4MF2 2M
				AC 2-wire	E2K-X4MY1 2M	E2K-X4MY2 2M
	M18	 8 mm		DC 3-wire, NPN	E2K-X8ME1 2M	E2K-X8ME2 2M
				DC 3-wire, PNP	E2K-X8MF1 2M	E2K-X8MF2 2M
				AC 2-wire	E2K-X8MY1 2M	E2K-X8MY2 2M
	M30	 15 mm		DC 3-wire, NPN	E2K-X15ME1 2M	E2K-X15ME2 2M
				DC 3-wire, PNP	E2K-X15MF1 2M	E2K-X15MF2 2M
				AC 2-wire	E2K-X15MY1 2M	E2K-X15MY2 2M

Accessories (Order Separately)

Mounting Brackets

Refer to Y92□ for details.

Ratings and Specifications

Item	Model	E2K-X4ME□, E2K-X4MF□, E2K-X4MY□	E2K-X8ME□, E2K-X8MF□, E2K-X8MY□	E2K-X15ME□, E2K-X15MF□, E2K-X15MY□
Sensing distance		4mm ±10%	8 mm ±10%	15 mm ±10%
Set distance *1		0 to 2.8 mm	0 to 5.6 mm	0 to 10 mm
Differential travel		4% to 20% of sensing distance		
Detectable object		Conductors and dielectrics		
Standard sensing object		Grounded metal plate: 50 × 50 × 1 mm		
Response frequency		E and F Models: 100 Hz, Y Models: 10 Hz		
Power supply voltage*2 (operating voltage range)		E and F Models: 12 to 24 VDC (10 to 30 VDC) Y Models: 100 to 220 VAC (90 to 250 VAC)		
Current consumption		E and F Models: 15 mA max.		
Leakage current		Y Models: 2.2 mA max. (Refer to page 4.)		
Control output	Load current	E and F Models: 200 mA max. *2, Y Models: 10 to 200 mA		
	Residual voltage	E and F Models: 2 V max. (Load current: 200 mA, Cable length: 2 m), Y Models: Refer to <i>Engineering Data</i> on page 4.		
Indicators		E and F Models: Detection indicator (red), Y Models: Operation indicator (red)		
Operation mode (with sensing object approaching)		E1, F1, and Y1 Models: NO E2, F2, and Y2 Models: NC Refer to the timing charts under <i>I/O Circuit Diagrams</i> on page 4 for details.		
Protection circuits		E and F Models: Reverse polarity protection, Surge suppressor, load short-circuit protection, output reverse polarity protection, Y Models: Surge suppressor		
Ambient temperature range		Operating/Storage: -25 to 70°C (with no icing or condensation)		Operating/Storage: -10 to 55°C (with no icing or condensation)
Ambient humidity range		Operating/Storage: 35% to 95% (with no condensation)		
Temperature influence		±20% max. of sensing distance at 23°C in the operating temperature range		
Voltage influence		E and F Models: ±2% max. of sensing distance at rated voltage at rated voltage ±20% Y Models: ±2% max. of sensing distance at rated voltage at rated voltage ±10%		
Insulation resistance		50 MΩ min. (at 500 VDC) between current-carrying parts and case		
Dielectric strength		E and F Models: 1,000 VAC, 50/60 Hz for 1 min between current-carrying parts and case Y Models: 2,000 VAC, 50/60 Hz for 1 min 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: 500 m/s ² 3 times each in X, Y, and Z directions		
Degree of protection		IP66 (IEC), in-house standards: oil-resistant		
Connection method		Pre-wired Models (Standard cable length: 2 m)		
Weight (packed state)		Approx. 65 g	Approx. 145 g	Approx. 205 g
Materials	Case	Heat-resistant ABS		
	Sensing surface			
	Clamping nuts	Polyacetal		
Accessories		Instruction manual		

*1. The above values are sensing distances for the standard sensing object. Refer to *Engineering Data* on page 3 for other materials.

*2. E and F Models (DC switching models): A full-wave rectification power supply of 24 VDC ±20% (average value) can be used.