

Flat Proximity Sensor

E2K-F

CSM_E2K-F_DS_E_5_3

Flat Capacitive Sensor with a Thickness of Only 10 mm



- Flat Sensor with excellent space efficiency.
(Model with built-in Amplifier is only 10 mm thick.)
- Direct mounting onto a metallic surface is possible.



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

 Be sure to read *Safety Precautions* on page 3.

Ordering Information

Sensors [Refer to *Dimensions* on page 4.]

Appearance	Sensing distance	Output configuration	Model/Operation mode	
			NO	NC
Flat Unshielded 	 10 mm	DC 3-wire NPN	E2K-F10MC1 2M	E2K-F10MC2 2M
	 10 mm [4 to 10 mm *]		E2K-F10MC1-A 2M	E2K-F10MC2-A 2M

* Adjustable range

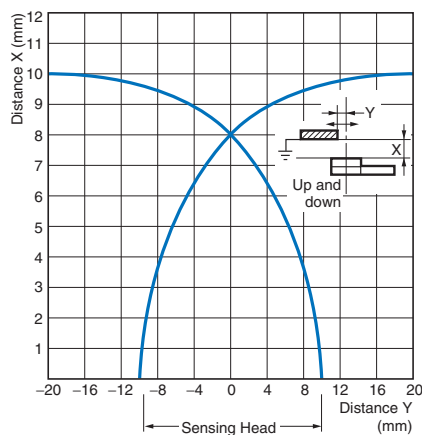
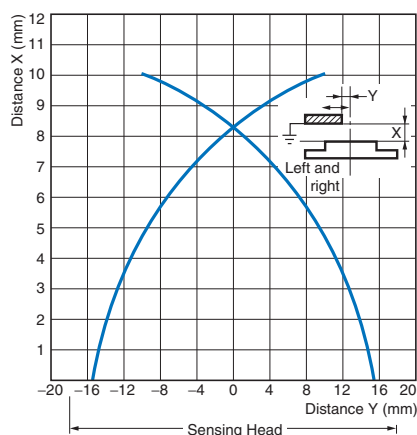
Ratings and Specifications

Item		Model	E2K-F10MC□-A	E2K-F10MC□
Sensing distance			10 mm (Sensing distance adjustable range: 4 to 10 mm)	10 mm $\pm 10\%$
Set distance			0 to 7.5 mm *	
Differential travel			15% max. of sensing distance	
Detectable object			Conductors and dielectrics	
Standard sensing object			Grounded metal plate: 50 × 50 × 1 mm	
Response frequency			100 Hz	
Power supply voltage (operating voltage range)			12 to 24 VDC (10 to 30 VDC), ripple (p-p): 10% max.	
Current consumption			10 mA max. at 24 VDC	
Control output	Load current		NPN open collector, 100 mA max. (at 30 VDC)	
	Residual voltage		1.5 V max. (Load current: 100 mA, Cable length: 2 m)	
Indicators			Detection indicator (red)	
Number of turns of sensitivity adjustment			12 turns	—
Operation mode (with sensing object approaching)			NO (Refer to the timing charts under <i>I/O Circuit Diagrams</i> on page 3 for details.)	
Protection circuits			Reverse polarity protection, Surge suppressor	
Ambient temperature range			Operating/Storage: -10 to 55°C (with no icing or condensation)	
Ambient humidity range			Operating/Storage: 35% to 95%	Operating/Storage: 35% to 95%
Temperature influence			$\pm 15\%$ max. of sensing distance at 23°C in the temperature range of -10 to 55°C	
Voltage influence			$\pm 2.5\%$ max. of sensing distance at rated voltage at rated voltage $\pm 10\%$	
Insulation resistance			50 M Ω min. (at 500 VDC) between current-carrying parts and case	
Dielectric strength			500 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			IP64 (IEC)	IP66 (IEC)
Connection method			Pre-wired Models (Standard cable length: 2 m)	
Weight (packed state)			Approx. 35 g	
Materials	Case		Heat-resistant ABS	
	Sensing surface			
Accessories			Instruction manual	

* The value for the E2K-F10MC□-A is when it is adjusted to 10 mm.

Engineering Data (Reference Value)

Sensing Area (Grounded Metal Plate)



Influence of Sensing Object Size and Material

