

厚度10mm的節省空間安裝型

- 放大器內藏式，檢測距離10mm，厚度10mm，節省空間
效率出色的扁平型設計
- 除金屬外，亦可檢測水、油、玻璃、塑膠等非金屬
- 可直接安裝至金屬表面上

勝特力材料 886-3-5753170
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CE

種類

(標有◎符號的機型為標準庫存機型。)

形狀	檢測距離	輸出規格	型號/動作模式	
			NO	NC
扁平型 非隔離	10mm	直流3線式NPN	◎E2K-F10MC1型	E2K-F10MC2型
	4~10mm		E2K-F10MC1-A型	E2K-F10MC2-A型

E2K-L型

對應廣泛多樣的管道直徑。
採用靜電容量方式，不受管道、液體顏色影響

- 旁通管安裝型
- 對應8~11mm、12~26mm等廣泛多樣的管道直徑
- 採放大器內藏式，可節省空間



種類

(標有◎符號的機型為標準庫存機型。)

檢測方式	適用管徑	輸出規格 / 動作模式		型號
靜電容量方式	φ8 ~ 11mm	NPN 集極開路輸出	NO	◎E2K-L13MC1 型
	φ12 ~ 26mm			◎E2K-L26MC1 型

近接開關

感測技術
指南

圓柱型

方型

放大器分離/
轉接型

靜電容量型

其他

相關設備

參考

E2K-C

E2K-X

E2K-F

E2K-L

E2KQ-X

E2J

Flat type

E2K-F

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*Low-profiled Capacitive
 Proximity Sensor providing
 Flexible Installation*



Ordering Information

Shape	Sensing distance	Output specifications	Operating status	Model
Flat type Unshielded	10 mm	DC 3-wire NPN	NO *	E2K-F10MC1

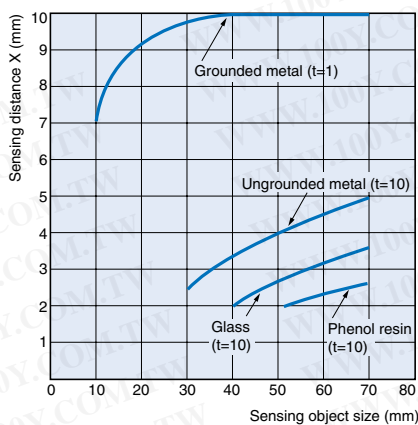
* NC models available (E2K-F10MC2)

Rating/Performance

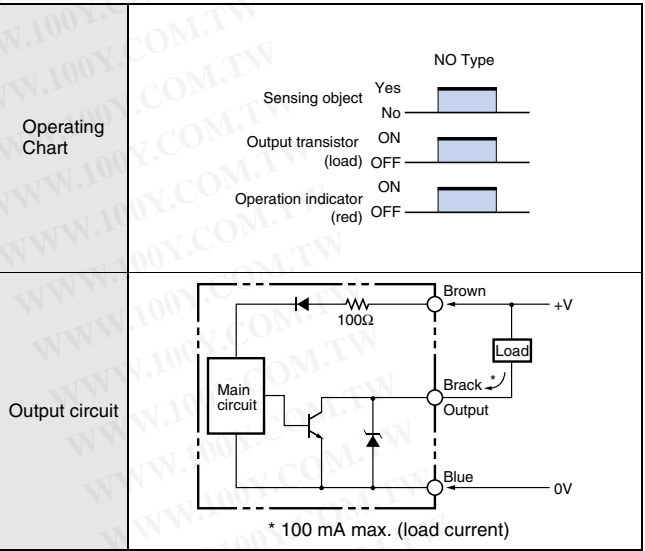
Item		E2K-F10MC1
Sensing distance		10 mm $\pm 10\%$
Setting distance		0 to 7.5 mm
Differential distance		15% max. sensing distance
Sensing object		Conductors and dielectrics
Standard sensing object		with grounded metal: 50 x 50 x 1 mm
Response frequency		100 Hz
Rated supply voltage (operating voltage)		12 to 24 VDC (10 to 30 VDC), ripple (p-p): 10% max.
Current consumption		10 mA max. (24VDC)
Control output	Switching capacity	NPN open collector 100 mA max. (under 30 VDC)
	Residual voltage	1.5 V max. (under load current of 100 mA with cable length of 2 m)
Indicator lamp		Detection indicator (red LED)
Operating status (with sensing object approaching)		NO
Protective circuits		Reverse connection protection, surge absorber
Ambient temperature		Operating/Storage: -10°C to 55°C (with no icing or condensation)
Ambient humidity		Operating/Storage: 35% to 95%RH
Temperature influence		$\pm 15\%$ max. of sensing distance at 23°C within the temperature range of -10°C and 55°C
Voltage influence		$\pm 2.5\%$ max. of sensing distance within a range of $\pm 10\%$ of rated supply voltage
Insulation resistance		50 M Ω min. (at 500 VDC) between energized parts and case
Dielectric strength		500 VAC 50/60 Hz for 1 min between energized part and case
Vibration resistance		Malfunction: 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 for 3 times each in X, Y, and Z directions
Protective structure		IEC 60529 IP66
Connection method		Pre-wired models (standard length: 2 m)
Weight (Packed state)		Approx. 35 g
Material	Case	Heat-resistant ABS resin
	Sensing surface	
Accessories		Instruction manual

Characteristic data (typical)

Sensing Distance vs. Sensing Object



Output Circuit Diagram



Precautions

Correct Use

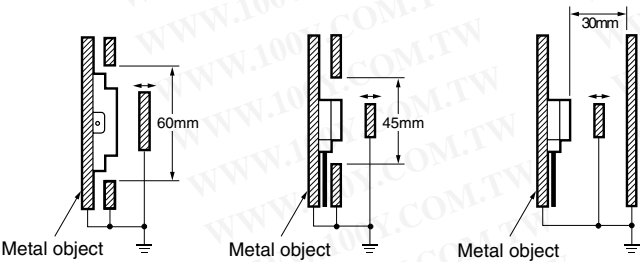
Design

Sensing Object Material

E2K-F can detect almost any type of object. The sensing distance of E2K-F, however, will vary with the electrical characteristics of the object, such as the conductance and inductance of the object, as well as the water content and capacity of the object. The maximum sensing distance of E2K-F will be available if the object is made of grounded metal. There are objects that cannot be detected indirectly. Therefore test E2K-F in a trial operation with the objects before using E2K-F in actual applications.

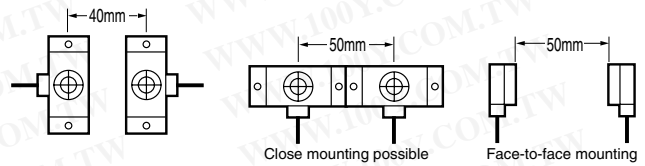
Effects of Surrounding Metal

Separate E2K-F from ambient metals as shown below.



Mutual Interference

If installing more than one E2K-F face to face or side by side, separate them as shown below.



Effect of High-frequency Electro-magnetic Field

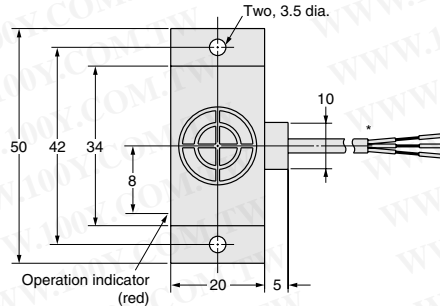
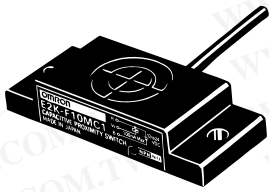
E2K-F may malfunction if an ultrasonic washer, high-frequency generator, transceiver, or inverter are nearby. For a typical measure, refer to the "Noise" with Common precautions of a photoelectric sensor in Rear B-page.

Wiring Considerations

The characteristics of E2K-F will not change if the cord is extended. Keep in mind that voltage drops may occur due to the cord extension, thus, ensure that the total cord length does not exceed 200 m.

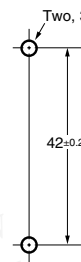
Dimensions (Unit: mm)

E2K-F



* 2.9-dia. three conductors vinyl-insulated round cable
(cross-sectional area of conductors: 0.14 mm²;
insulation diameter: 0.9 mm)
Standard length: 2 m

Mounting Holes



CAD file

E2K_02

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