

## ■ Model Number Legend

E2A□-□□□□□-□-□□-□□  
 1 2 3 4 5 6 7 8 9 10 11 12

**Example:** E2A-M12LS04-M1-B1 Standard, M12, long barrel, shielded, Sn=4 mm, M12 connector, PNP-NO  
 E2A-M08KN04-WP-B1 5M Standard, M8, short barrel, non-shielded, Sn=4 mm, pre-wired PVC cable, PNP-NO, cable length=5 m

### 1. Basic name

E2A

### 2. Sensing technology

Blank: Standard double distance

### 3. Housing shape and material

M: Cylindrical, metric threaded, brass

S: Cylindrical, metric threaded, stainless steel

### 4. Housing size

08: 8 mm

12: 12 mm

18: 18 mm

30: 30 mm

### 5. Barrel length

K: Standard length

L: Long body

### 6. Shield

S: Shielded

N: Non-shielded

### 7. Sensing distance

Numeral: Sensing distance: e.g. 02=2 mm, 16=16 mm

### 8. Kind of connection

WP: Pre-wired, PVC

M1: M12 connector (4-pole)

M3: M8 connector (4-pole)

M5: M8 connector (3-pole)

### 9. Power source and output

B: DC, 3-wire, PNP open collector

C: DC, 3-wire, NPN open collector

D: DC, 2-wire

E: DC, 3-wire, NPN voltage output

F: DC, 3-wire, PNP voltage output

### 10. Operation mode

1: Normally open (NO)

2: Normally closed (NC)

### 11. Specials (e.g., cable material, oscillating frequency)

### 12. Cable length

Blank: Connector type

Numeral: Cable type

# Specifications

## ■ DC 3-wire Models

Item	Size Type	M8		M12	
		Shielded	Non-shielded	Shielded	Non-shielded
		E2A-M08□S02-M1-B1 E2A-M08□S02-M1-B2 E2A-M08□S02-M1-C1 E2A-M08□S02-M1-C2 E2A-S08□S02-□□-B1 E2A-S08□S02-□□-B2 E2A-S08□S02-□□-C1 E2A-S08□S02-□□-C2	E2A-M08□N04-M1-B1 E2A-M08□N04-M1-B2 E2A-M08□N04-M1-C1 E2A-M08□N04-M1-C2 E2A-S08□N04-□□-B1 E2A-S08□N04-□□-B2 E2A-S08□N04-□□-C1 E2A-S08□N04-□□-C2	E2A-M12□S04-□□-B1 E2A-M12□S04-□□-B2 E2A-M12□S04-□□-C1 E2A-M12□S04-□□-C2	E2A-M12□N08-□□-B1 E2A-M12□N08-□□-B2 E2A-M12□N08-□□-C1 E2A-M12□N08-□□-C2
<b>Sensing distance</b>	2 mm ± 10%	4 mm ± 10%	4 mm ± 10%	8 mm ± 10%	
<b>Setting distance</b>	0 to 1.6 mm	0 to 3.2 mm	0 to 3.2 mm	0 to 6.4 mm	
<b>Differential travel</b>	10% max. of sensing distance				
<b>Target</b>	Ferrous metal (The sensing distance decreases with non-ferrous metal.)				
<b>Standard target (mild steel ST37)</b>	8×8×1 mm	12×12×1 mm	12×12×1 mm	24×24×1 mm	
<b>Response frequency (See note 1.)</b>	1,500 Hz	1,000 Hz	1,000 Hz	800 Hz	
<b>Power supply voltage (operating voltage range)</b>	12 to 24 VDC. Ripple (p-p): 10% max. (10 to 32 VDC)				
<b>Current consumption (DC 3-wire)</b>	10 mA max.				
<b>Output type</b>	-B models: PNP open collector -C models: NPN open collector				
<b>Control output</b>	<b>Load current (See note 2.)</b>	200 mA max. (32 VDC max.)			
	<b>Residual voltage</b>	2 V max. (under load current of 200 mA with cable length of 2 m)			
<b>Indicator</b>	Operation indicator (Yellow LED)				
<b>Operation mode (with sensing object approaching)</b>	-B1/-C1 models: NO -B2/-C2 models: NC For details, refer to the timing charts.				
<b>Protection circuit</b>	Power source circuit reverse polarity protection, Surge suppressor, Short-circuit protection		Output reverse polarity protection, Power source circuit reverse polarity protection, Surge suppressor, Short-circuit protection		
<b>Ambient air temperature</b>	Operating: -40°C to 70°C, Storage: -40°C to 85°C (with no icing or condensation)				
<b>Temperature influence (See note 2.)</b>	±10% max. of sensing distance at 23°C within temperature range of -25°C to 70°C ±15% max. of sensing distance at 23°C within temperature range of -40°C to 70°C				
<b>Ambient humidity</b>	Operating: 35% to 95%, Storage: 35% to 95%				
<b>Voltage influence</b>	±1% max. of sensing distance in rated voltage range ±15%				
<b>Insulation resistance</b>	50 MΩ min. (at 500 VDC) between current carry parts and case				
<b>Dielectric strength</b>	1,000 VAC at 50/60 Hz for 1 min between current carry parts and case				
<b>Vibration resistance</b>	10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y and Z directions				
<b>Shock resistance</b>	500 m/s <sup>2</sup> , 10 times each in X, Y and Z directions		1,000 m/s <sup>2</sup> , 10 times each in X, Y and Z directions		
<b>Standard and listings (See note 3.)</b>	IEC60529: IP67, Degree of protection EN60947-5-2: EMC				
<b>Connection method</b>	-WP models: Pre-wired models (Standard length: 2 m) -M1 models: M12 4-pin connector models -M5 models: M8 3-pin connector models				
<b>Weight (packaged)</b>	<b>Pre-wired model</b>	Approx. 65 g		Approx. 85 g	
	<b>M12 connector model</b>	M12 connector models: Approx. 20 g M8 connector models: Approx. 15 g		Approx. 35 g	
<b>Material</b>	<b>Case</b>	Stainless steel or brass-nickel plated		Brass-nickel plated	
	<b>Sensing surface</b>	PBT			
	<b>Cable</b>	PVC			
	<b>Clamping nut</b>	Brass-nickel plated			

**Note 1.** The response frequency is an average value. Measurement conditions are as follows: standard target, a distance of twice the standard target distance between targets, and a setting distance of half the sensing distance.

**2.** When using any model at an ambient temperature between -40°C and -25°C and a power voltage between 30 and 32 VDC, use a load current of 100 mA max.,

**3.** For USA and CANADA : use class 2 circuit only.