

Description

<p>E3 F - D S 10 C 1</p> <ul style="list-style-type: none"> Operation mode <ul style="list-style-type: none"> 1: NO 2: NC 4: NO+NC Output <ul style="list-style-type: none"> A: AC (2-wire) type B: PNP type C: NPN type Sensing distance Measuring unit <ul style="list-style-type: none"> None: m S: cm Reflection mode <ul style="list-style-type: none"> None: Through-beam R: Retro-reflective D: Diffuse reflective Case material <ul style="list-style-type: none"> F: Plastic FJ: Metal Photoelectric sensor 	<p>E3F-DS10, E3F-DS30 (Diameter:Φ18, length: 60mm)</p>	<p>E3F-DS5, E3F-DS70 (Diameter:Φ12/30, length: 30/88mm)</p>
	<p>E3FJ-DS10, E3FJ-DS30 (Diameter:Φ18, length: 65mm)</p>	

Specification

Power Supply Voltage	DC(NPN, PNP, 2-wire) type: DC6-36V AC type: 90-250V 50/60Hz
Current consumption	DC(NPN, PNP, 2-wire) type: 8mA/12V, 15mA/24V AC type: 7V max.
Response frequency	DC: 2.5ms AC: 30ms
Control output	DC(NPN, PNP) type: 300mA max. DC(2-wire) type:3-100mA max. AC type: 10-300mA max.
Protection circuits	DC(NPN, PNP, 2-wire) type: Load short-circuit protection AC type: Surge suppressor
Ambient illumination	Incandescent lamp: 3,000 lx max. Sunlight: 10,000 lx max.
Ambient temperature	-25 to 65°C (with no icing)
Ambient humidity	35% to 95% RH
Temperature influence	±15% max. of sensing distance at 23°C in the temperature range of -25 to 65°C
Voltage influence	±15% max. of sensing distance at rated voltage in the rated voltage ±15% range
Residual voltage	DC(NPN, PNP) type: 1V max. DC(2-wire) type:3V max. AC(2-wire) type: 7V max.
Insulation resistance	50mΩ min. (at 500VDC) between current-carrying parts and case(Load current: 100mA max., Cable length: 2m)
Dielectric strength	DC(NPN, PNP, 2-wire) type: 1,000VAC, 50/60Hz for 1 minute between current-carrying parts and case AC(2-wire) type: 2,000VAC, 50/60Hz for 1 minute between current-carrying parts and case
Vibration resistance	Destruction : 10 to 55Hz, 1.5mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance	Destruction : 500m/s(about 50g) 10 times each in X, Y, and Z directions
Degree of protection	IP54~IP67
Materials	Case: E3F with Heat-resistant ABS, E3FJ with Nickel-plated brass Sensing surface: Heat-resistant ABS

Model

Model		E3F-DS10, E3F-DS30(With distance adjustable)			E3F-DS5, E3F-DS70(With distance adjustable)			
Diameter		Φ18			Φ12 or Φ30			
Reflection type		Diffuse reflective	Retro-reflective	Through-beam	Diffuse reflective	Retro-reflective	Through-beam	
DC type	NPN	NO	E3F-DS10C1 E3F-DS30C1	E3F-R2C1	E3F-5C1	E3F-DS5C1 E3F-DS70C1	E3F-R4C1	E3F-2C1 E3F-10C1
		NC	E3F-DS10C2 E3F-DS30C2	E3F-R2C2	E3F-5C2	E3F-DS5C2 E3F-DS70C2	E3F-R4C2	E3F-2C2 E3F-10C2
		NO+NC	E3F-DS10C4 E3F-DS30C4	E3F-R2C4	/	E3F-DS70C4	E3F-R4C4	/
	PNP	NO	E3F-DS10B1 E3F-DS30B1	E3F-R2B1	E3F-5B1	E3F-DS5B1 E3F-DS70B1	E3F-R4B1	E3F-2B1 E3F-10B1
		NC	E3F-DS10B2 E3F-DS30B2	E3F-R2B2	E3F-5B2	E3F-DS5B2 E3F-DS70B2	E3F-R4B2	E3F-2B2 E3F-10B2
		NO+NC	E3F-DS10B4 E3F-DS30B4	E3F-R2B4	/	E3F-DS70B4	E3F-R4B4	/
AC type	2 wire	NO	E3F-DS10A1 E3F-DS30A1	E3F-R2A1	E3F-5A1	E3F-DS5A1 E3F-DS70A1	E3F-R4A1	E3F-10A1
		NC	E3F-DS10A2 E3F-DS30A2	E3F-R2A2	E3F-5A2	E3F-DS70A2	E3F-R4A2	E3F-10A2
Sensing distance		10cm±15% 30cm±15%	2m±15%	≤5m±15%	5cm±15% 70cm±15%	4m±15%	2m±15% ≤15m±15%	
Sensing object		Reflective object	Opaque	Opaque	Reflective object	Opaque	Opaque	
Standard sensing object		White paper 5*5cm	Reflectors TD-02	Any object 5*5cm	White paper 5*5cm	Reflectors TD-02	Any object 5*5cm	

Model		E3FJ-DS10, E3FJ-DS30			
Diameter		Φ18			
Reflection type		Diffuse reflective	Retro-reflective	Through-beam	
DC type	NPN	NO	E3FJ-DS10C1 E3FJ-DS30C1	E3FJ-R2C1	E3FJ-5C1
		NC	E3FJ-DS10C2 E3FJ-DS30C2	E3FJ-R2C2	E3FJ-5C2
		NO+NC	E3FJ-DS10C4 E3FJ-DS30C4	E3FJ-R2C4	/
	PNP	NO	E3FJ-DS10B1 E3FJ-DS30B1	E3FJ-R2B1	E3FJ-5B1
		NC	E3FJ-DS10B2 E3FJ-DS30B2	E3FJ-R2B2	E3FJ-5B2
		NO+NC	E3FJ-DS10B4 E3FJ-DS30B4	E3FJ-R2B4	/
AC type	2 wire	NO	E3FJ-DS10A1 E3FJ-DS30A1	E3FJ-R2A1	E3FJ-5A1
		NC	E3FJ-DS10A2 E3FJ-DS30A2	E3FJ-R2A2	E3FJ-5A2
Sensing distance		10cm±15% 30cm±15%	2m±15%	≤5m±15%	
Sensing object		Reflective object	Opaque	Opaque	
Standard sensing object		White paper 5*5cm	Reflectors TD-02	Any object 5*5cm	

Wiring Diagram

<p>DC 3 wire NPN type NO or NC</p> <p>Max 300mA</p>	<p>DC 3 wire PNP type NO or NC</p> <p>Max 300mA</p>	<p>AC 2 wire type NO or NC</p> <p>Max 300mA</p>	<p>DC 4 wire NPN type NO+NC</p> <p>Max 300mA</p>
<p>DC 4 wire PNP type NO+NC</p> <p>Max 300mA</p>	<p>AC/DC Through-beam</p>		

Dimension(mm)

	E3F	M12×1	64±0.5	42±0.5	7.5	16	(18)
		M18×1	70±0.5	56±0.5	8.5	21.5	(23.5)
		M30×1.5	102±0.5	64±0.5	10	35	(40)
		E3FJ	M18×1	72±0.5	47±0.5	4	24