OMRON

M18 Cylindrical Photoelectric

E3F2

Threaded Cylindrical M18 Size Sensors with Built-in Amplifier

- Rugged stainless and nickel plated brass versions
- Chemical resistant, ABS resin case type
- Polarized models
- Compact and space-saving
- Long detection distance (7 m)
- DC switching types with connectors for easy maintenance
- Wide operating voltage range (10 to 30 VDC, or 24 to 240 VAC)
- Short-circuit and reverse connection protection (DC switching type)
- UL, CSA listed and CE marked

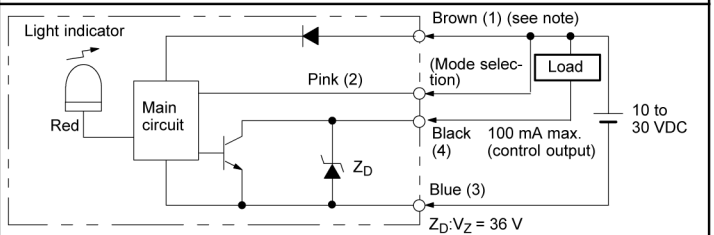
Specifications

■ DC SWITCHING MODELS

Part number		**E3F2-R2C4-□, E3F2-R2B4-□**	**E3F2-R2RC4-□, E3F2-R2RB4-□**		
Method of detection		Retroreflective			
		Non-polarized	Polarized		
Sensing range		2 m (6.56 ft)	2 m (6.56 ft)		
Standard target		56 x 56 mm			
Supply voltage		10-30 VDC 10% maximum permissible ripple, peak-to-peak			
Output		NPN or PNP open collector, 100 mA, residual voltage 2 V max. at 100 mA			
Current consumption		45 mA max.	25 mA max.		
Response time		2.5 ms max.			
Stabilization on Powerup		50 ms			
Ambient temperature	Operating	–25°C to 55°C (–13°F to 131°F) with no icing			
	Storage	–30°C to 70°C (–22°F to 158°F)			
Ambient light immunity		Incandescent: 3,000 ℓx; Sunlight: 10,000 ℓx			
Relative humidity	Operating	35% to 85% RH, no condensation			
	Storage	35% to 95% RH			
Insulation resistance		20 MΩ at 500 VDC			
Dielectric strength		1,000 VAC, 50/60 Hz for 1 min. between current carrying parts and case			
Vibration		10 to 55 Hz 1.5 mm double amplitude 1 hr each in X, Y, Z axes			
Shock		500 m/s^2 (approx. 50 G)			
Enclosure		IP67, NEMA 6 for metal versions; IP66 NEMA, 4 for plastic versions			
Light source		Infrared LED		Red LED	Infrared LED
Indicators		Power and light received LEDs			
Sensitivity adjustment		Fixed			Adjustable
Operation mode		Light-ON or Dark-ON selectable with control wire			
Weight	Metal	Pre-leaded 100 g; connector: 60 g			
	Plastic	Pre-leaded 85 g; connector: 40 g			
Circuit protection		Output short-circuit and reverse polarity			
Materials	Lens	Plastic			
	Housing	Plastic (ABS), nickel plated brass, stainless steel	Plastic	Nickel plated brass, stainless steel	Plastic (ABS), nickel plated brass, stainless steel
	Cable sheath	PVC			

Operation

■ OUTPUT CIRCUITS

Configuration	Model	Connection method	Output transistor	Output circuit
NPN pre-wired	E3F2-7C4 E3F2-7C4-M E3F2-7C4-C E3F2-7C4-S E3F2-R2C4 E3F2-R2RC4-M E3F2-R2RC4-C E3F2-R2RC4-S E3F2-DS10C4-N E3F2-DS10C4-M E3F2-DS10C4-C E3F2-DS10C4-S E3F2-DS30C4 E3F2-DS30C4-M E3F2-DS30C4-S	Connect the pink and brown wires or open the pink wire.	ON when light is incident. (Light-ON)	
		Connect the pink and blue wires.	ON when light is interrupted. (Dark-ON)