

MV-PE5801(-P)

Built-In Amplifier Photoelectric Sensor



Introduction

MV-PE5801(-P) photoelectric sensor is based on definite reflective principle, and supports stable detection. It supports sensitivity adjustment and light-on/dark-on switch.

Key Features

- Provides a red spot for ease of alignment.
- Supports stable detection of transparent, highly reflective, and tilted objects.
- Easy to use.

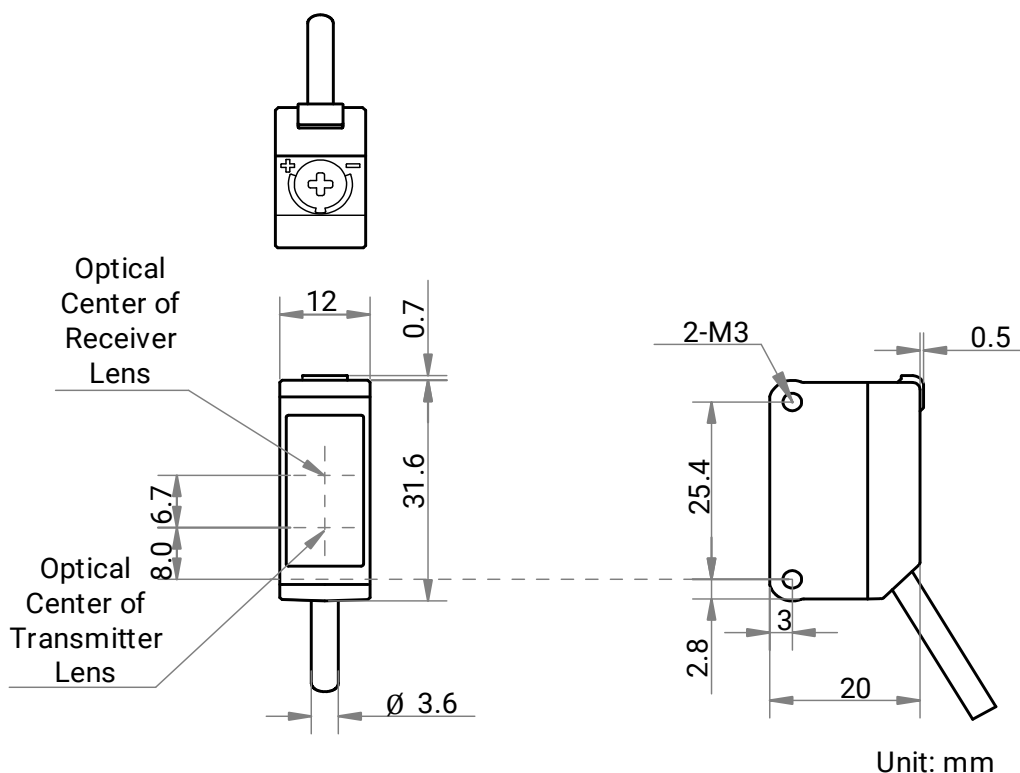
Available Model

- NPN type: MV-PE5801
- PNP type: MV-PE5801-P

Applicable Industry

Robotics, logistics, and industrial manufacturing.

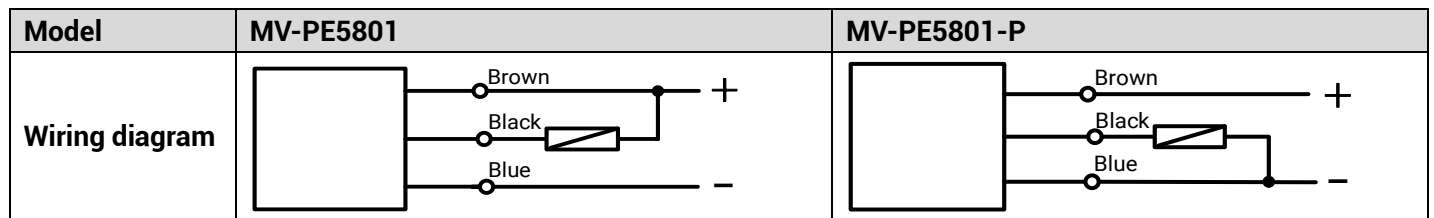
Dimension



Specification

	Model	MV-PE5801	MV-PE5801-P
Parameter		Built-In Amplifier Photoelectric Sensor	
Performance			
Detecting distance		5 mm to 50 mm	
Sensing target		White paper (100 mm × 100 mm)	
Output		NPN (supports light-on/dark-on switch)	PNP (supports light-on/dark-on switch)
Light source		Red LED 650 nm	
Response time		≤ 500 μs	
Hysteresis		< 10% of set distance	
Sensitivity adjustment		Trimmer (200°)	
Electrical feature			
Supply voltage		12 VDC to 24 VDC ± 10%	
Residual voltage		≤ 2 VDC	
Operating current		≤ 20 mA	
Max. sink/source current		≤ 100 mA	
Circuit protection		Reverse polarity protection, output short-circuit-protection, and output reverse polarity protection	
Insulation resistance		20 MΩ or more (between the terminal block for power supply and the housing)	
Withstand voltage		1000 VAC, 1 min (between the terminal block for power supply and the housing)	
Mechanical			
Dimension		20 mm × 12 mm × 31.6 mm (0.8" × 0.5" × 1.2")	
Weight		Approx. 45 g (0.1 lb.) (including cable)	
Temperature		Working temperature: -25 °C to 55 °C (-13 °F to 131 °F) Storage temperature: -30 °C to 70 °C (-22 °F to 158 °F)	
Humidity		35% RH to 85% RH	
Ambient illumination		Sunlight: < 10000 lux Incandescent lamp: < 3000 lux	
Ingress protection		IP67	
Material		Housing: polycarbonate Lens: acrylic	
Indicator		Operation indicator: orange Stability indicator: green	
Connecting method		Cable lead-out (standard length: 2 m, 78.7")	
Vibration resistance		10 Hz to 500 Hz, double amplitude 1.5 mm (0.1"), 2 hours in each of the X, Y, and Z directions	
Shock resistance		500 m/s ² , 3 times in each of the X, Y, and Z directions	
General			
Certification		CE, RoHS	

Wiring Method



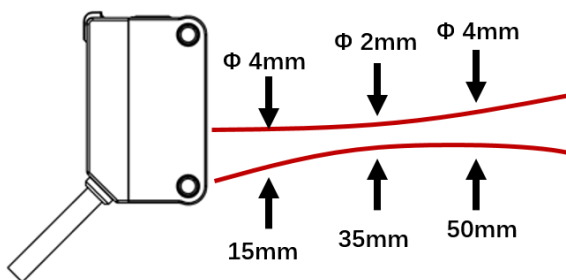
Relationship of Detection Status and Indicators

	Detection Status	Output	Operation Indicator	Stability Indicator
Light-ON/LO	Stable, incident light	ON	ON ¹	ON
	Unstable, incident light			OFF
	Unstable, no incident light	OFF	OFF ²	ON
	Stable, no incident light			ON
Dark-ON/DO	Stable, incident light	OFF	OFF	ON
	Unstable, incident light			OFF
	Unstable, no incident light	ON	ON	OFF
	Stable, no incident light			ON

Note:

1. The operation indicator is ON: The amount of incident light entering the receiver is above the operating level.
2. The operation indicator is OFF: The amount of incident light entering the receiver is below the operating level.

Spot Diameter



Angular Characteristics

