

MV-PE5501(-P)

Built-In Amplifier Photoelectric Sensor



CE RoHS

Introduction

MV-PE5501(-P) photoelectric sensor adopts specialized chips. It provides a super small round spot, and is suitable for precision manufacturing and scenarios with specialized requirements.

Key Features

- Provides super small round spot.
- Optimized for small workpieces and uneven surfaces with high reflectivity.
- Adapts to complex light environment with anti-interference capability.

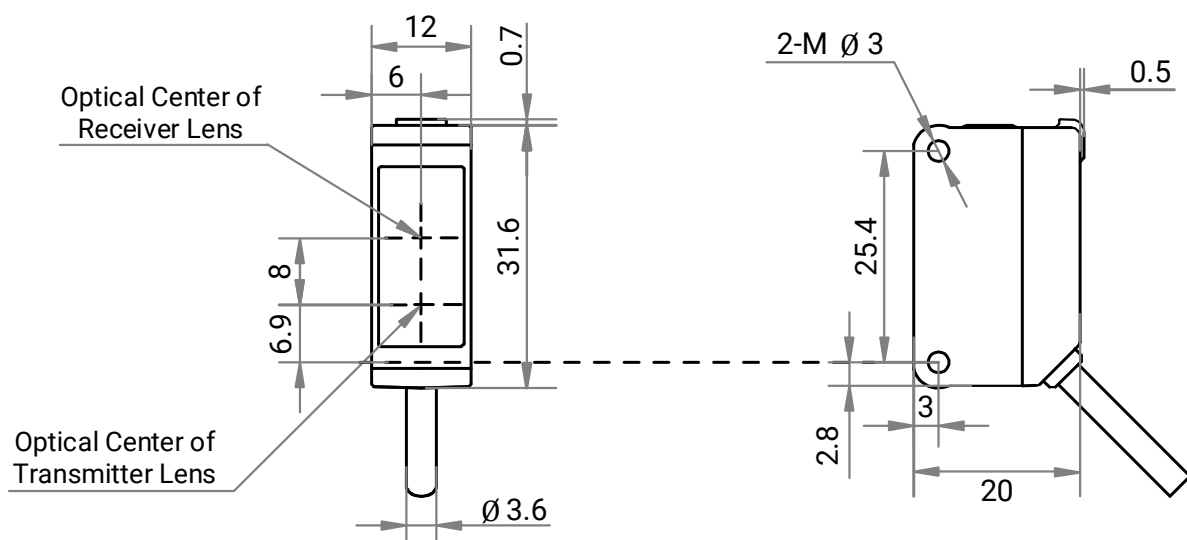
Available Model

- NPN type: MV-PE5501
- PNP type: MV-PE5501-P

Applicable Industry

Robotics and consumer electronics manufacturing.

Dimension



Unit: mm

Specification

Model	MV-PE5501	MV-PE5501-P
Parameter	Built-In Amplifier Photoelectric Sensor	
Performance		
Detecting distance	5 mm to 100 mm	
Sensing target	Standard reflector (100 mm × 100 mm) with reflectivity of 5%	
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	
Distance setting adjustment	Multi-turn trimmer	
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, overcurrent protection, and overvoltage 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

Model	MV-PE5501	MV-PE5501-P
Wiring diagram		

*The pink wire connected to the “-” terminal is for BGS function, while connected to the “+” terminal is for FGS function.

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

