MV-PE5313/-P

Built-In Amplifier Photoelectric Sensor

CE RoHS

Introduction

MV-PE5313/-P photoelectric sensor adopts specialized chips, offering advantages like simplicity and reliability. It supports stable detection of transparent objects. The sensor contains a trimmer to adjust sensitivity, and supports light-on/dark-on switch.

Key Features

- Provides an infrared spot, and contains a trimmer to adjust sensitivity.
- Adapts to complex light environment with anti-interference capability.
- Supports stable detection of transparent objects.

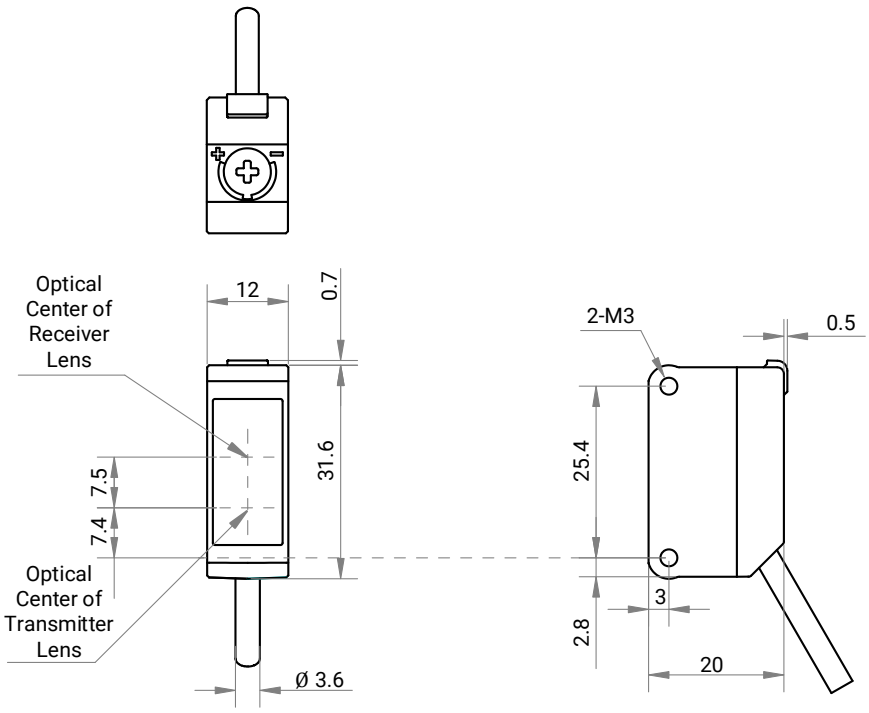
Available Model

- PNP type: MV-PE5313-P
- NPN type: MV-PE5313

Applicable Industry

Robotics, logistics, and industrial manufacturing.

Dimension

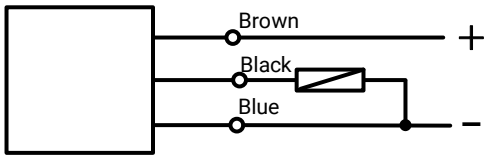
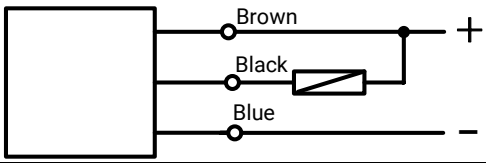


Unit: mm

Specification

Model / Parameter	MV-PE5313-P	MV-PE5313
	Built-In Amplifier Photoelectric Sensor	
Performance		
Detecting distance	0.1 m to 1 m	
Sensing target	Opaque object, semi-transparent object, and transparent object above Φ75 mm	
Output	PNP (supports light-on/dark-on switch)	NPN (supports light-on/dark-on switch)
Light source	Infrared LED 850 nm	
Response time	≤ 500 μs	
Repeatability (perpendicular to sensing axis)	≤ 0.5 mm	
Sensitivity adjustment	Trimmer (200°)	
Electrical feature		
Supply voltage	12 VDC to 24 VDC ± 10%, including Ripple (P-P) 10% or less	
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/s², 3 times in each of the X, Y, and Z directions	
General		
Certification	CE, RoHS	

Wiring Method

Model	MV-PE5313-P	MV-PE5313
Wiring diagram		

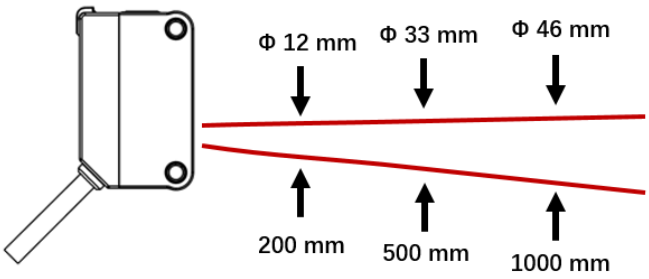
Relationship of Detection Status and Indicators

	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]	
	Stable, no incident light			ON
Dark-ON/DO	Stable, incident light	OFF	OFF	ON
	Unstable, incident light			OFF
	Unstable, no incident light	ON	ON	
	Stable, no incident light			ON

Note:

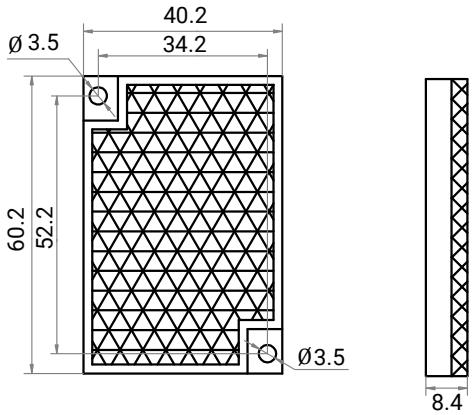
1. The operation indicator is ON: The amount of incident light entering the receiver is above the operating level.
2. The operation indicator is OFF: The amount of incident light entering the receiver is below the operating level.

Spot Diameter



Retroreflector

Model: PA-R001



Unit: mm

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