

# MV-PE5715

## Built-In Amplifier Photoelectric Sensor



### Introduction

MV-PE5715 photoelectric sensor is based on the time-of-flight principle. It is designed with a standard and compact structure to achieve high-speed response and long-range detection.

### Key Features

- Remains unaffected by material and color based on the time-of-flight principle.
- Provides a teach-in button with ease of use.
- Supports light-on/dark-on switch, PNP/NPN switch, and response time switch.

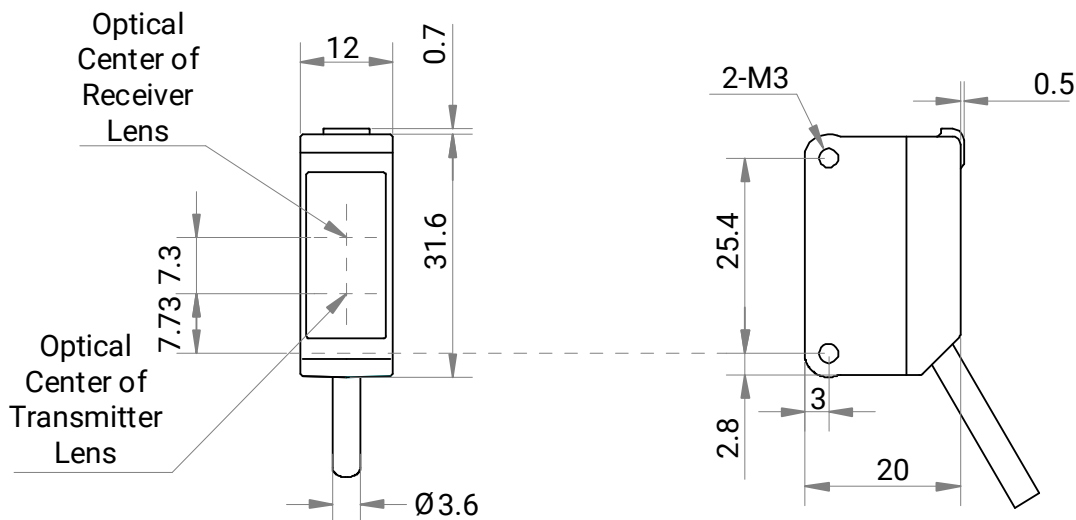
### Available Model

- MV-PE5715

### Applicable Industry

Robotics, logistics, and industrial manufacturing.

### Dimension



Unit: mm

## Specification

<b>Model</b>	<b>MV-PE5715</b>
<b>Parameter</b>	<b>Built-In Amplifier Photoelectric Sensor</b>
<b>Performance</b>	
<b>Detecting distance</b>	50 mm to 5000 mm
<b>Sensing target</b>	Standard reflector (100 mm × 100 mm) with reflectivity of 90%
<b>Output</b>	NPN/PNP switch and light-on/dark-on switch
<b>Light source</b>	Infrared laser 905 nm
<b>Response time</b>	500 μs/10 ms switch
<b>Laser safety class</b>	Class 1
<b>Method of setting up</b>	Single teach-in button
<b>Electrical feature</b>	
<b>Supply voltage</b>	12 VDC to 24 VDC ± 10%
<b>Residual voltage</b>	≤ 2 VDC
<b>Operating current</b>	≤ 35 mA @ 12V, ≤ 20 mA @ 24V
<b>Max. sink/source current</b>	≤ 100 mA
<b>Circuit protection</b>	Reverse polarity protection, overcurrent protection, and overvoltage protection
<b>Insulation resistance</b>	20 MΩ or more (between the terminal block for power supply and the housing)
<b>Withstand voltage</b>	1000 VAC, 1 min (between the terminal block for power supply and the housing)
<b>Mechanical</b>	
<b>Dimension</b>	20 mm × 12 mm × 31.6 mm (0.8" × 0.5" × 1.2")
<b>Weight</b>	Approx. 45 g (0.1 lb.) (including cable)
<b>Temperature</b>	Working temperature: -10 °C to 50 °C (14 °F to 122 °F) Storage temperature: -30 °C to 70 °C (-22 °F to 158 °F)
<b>Humidity</b>	35% RH to 85% RH
<b>Ambient illumination</b>	Sunlight: < 10000 lux Incandescent lamp: < 3000 lux
<b>Ingress protection</b>	IP67
<b>Material</b>	Housing: polycarbonate Lens: acrylic
<b>Indicator</b>	Operation indicator: orange Stability indicator: green
<b>Connecting method</b>	Cable lead-out (standard length: 2 m, 78.7")
<b>Vibration resistance</b>	10 Hz to 500 Hz, double amplitude 1.5 mm (0.1"), 2 hours in each of the X, Y, and Z directions
<b>Shock resistance</b>	500 m/s <sup>2</sup> , 3 times in each of the X, Y, and Z directions
<b>General</b>	
<b>Certification</b>	CE, RoHS

## Wiring Method

Model	NPN mode	PNP mode
<b>Wiring diagram</b>		

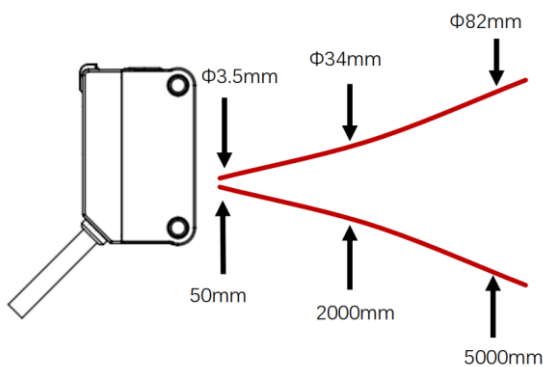
## Relationship of Detection Status and Indicators

	Output	Operation Indicator	Stability Indicator
Warm-up	N.C	1 Hz flashing	OFF
Non-teaching	N.C	1 Hz flashing	ON
Light-ON/LO	ON	ON <sup>1</sup>	ON
	OFF	OFF <sup>2</sup>	
Dark-ON/DO	OFF	OFF	ON
	ON	ON	

Note:

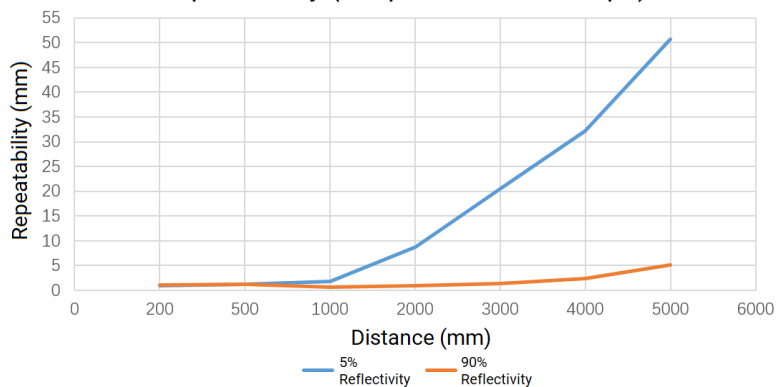
1. The operation indicator is ON: The amount of incident light entering the receiver is above the operating level.
2. The operation indicator is OFF: The amount of incident light entering the receiver is below the operating level.

## Spot Diameter



## Repeatability

Repeatability (Response Time: 500  $\mu\text{s}$ )



Repeatability (Response Time: 10 ms)

