



Model Number

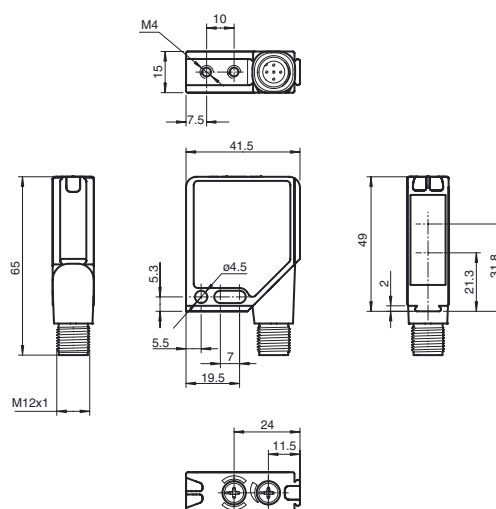
MLV12-54/49/124

Retroreflective sensor
with metal connector M12; 5-pin, 90°
convertible

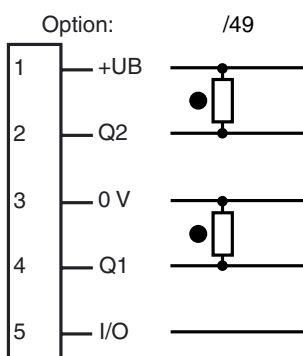
Features

- Robust photoelectric sensor series in a widely used standard housing
- Resistant against noise: reliable operation under all conditions
- Clear and functional display concept for the operating modes
- High level of stability thanks to the metal housing frame
- Tightly sealed thanks to welded plastic components
- Suitable for operation at low temperatures down to -40 °C

Dimensions

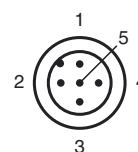


Electrical connection

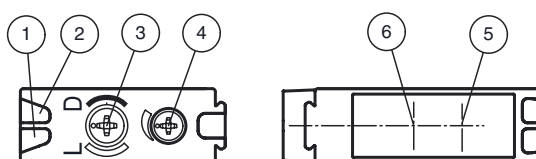


○ = Light on
● = Dark on

Pinout



Indicators/operating means



| | | |
|---|-----------------------|--------|
| 1 | Operating display | green |
| 2 | Switch state | yellow |
| 3 | Light/dark switch | |
| 4 | Sensitivity adjuster | |
| 5 | Optical axis emitter | |
| 6 | Optical axis receiver | |

**Technical data****General specifications**

| | |
|----------------------------|---|
| Effective detection range | 0 ... 6.5 m |
| Reflector distance | 0.01 ... 6.5 m |
| Threshold detection range | 9 m |
| Reference target | H85-2 reflector |
| Light source | LED |
| Light type | modulated visible red light , 660 nm |
| Diameter of the light spot | approx. 170 mm at detection range 6.5 m |
| Angle of divergence | 1.5 ° |
| Ambient light limit | |
| Continuous light | 50000 Lux |
| Modulated light | 5000 Lux |

Functional safety related parameters

| | |
|--------------------------------|--------|
| MTTF _d | 1000 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|-------------------|--|
| Operating display | LED green, flashes in case of short-circuit |
| Function display | 2 LEDs yellow, light up when light beam is free, flash when falling short of the stability control, off when light beam is interrupted |
| Controls | rotary switch for light/dark, sensitivity adjuster |

Electrical specifications

| | | |
|------------------------|----------------|----------------|
| Operating voltage | U _B | 10 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | max. 40 mA |

Output

| | | |
|---------------------|---|------------|
| Switching type | light/dark on switchable | |
| Signal output | 1 NPN and 1 PNP output, direct switching, short-circuit protected, reverse polarity protected, open collector | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 0.2 A | |
| Voltage drop | U _d | ≤ 2.5 V DC |
| Switching frequency | f | 1000 Hz |
| Response time | 0.5 ms | |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -40 ... 60 °C (-40 ... 140 °F) |
| Storage temperature | -40 ... 75 °C (-40 ... 167 °F) |

Mechanical specifications

| | |
|-------------------|---|
| Protection degree | IP67 |
| Connection | Metal connector, M12, 5-pin, 90° rotatable |
| Material | |
| Housing | Frame: nickel plated, die cast zinc, Laterals: glass-fiber reinforced plastic PC |
| Optical face | Plastic pane |
| Mass | 60 g |

Compliance with standards and directives

| | |
|-----------------------------|--|
| Standard conformity | |
| Product standard | EN 60947-5-2:2007 IEC 60947-5-2:2007 |
| Shock and impact resistance | IEC / EN 60068. half-sine, 40 g in each X, Y and Z directions |
| Vibration resistance | IEC / EN 60068-2-6. Sinus. 10 -150 Hz, 5 g in each X, Y and Z directions |

Approvals and certificates

| | |
|------------------|---|
| Protection class | II, rated voltage ≤ 300 V AC with pollution degree 1-2 according to IEC 60664-1 |
| UL approval | cULus |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |

Accessories**OMH-MLV12-HWG**

Mounting bracket for series MLV12 sensors

OMH-MLV12-HWK

Mounting bracket for series MLV12 sensors

OMH-K01

dove tail mounting clamp

OMH-K02

dove tail mounting clamp

OMH-K03

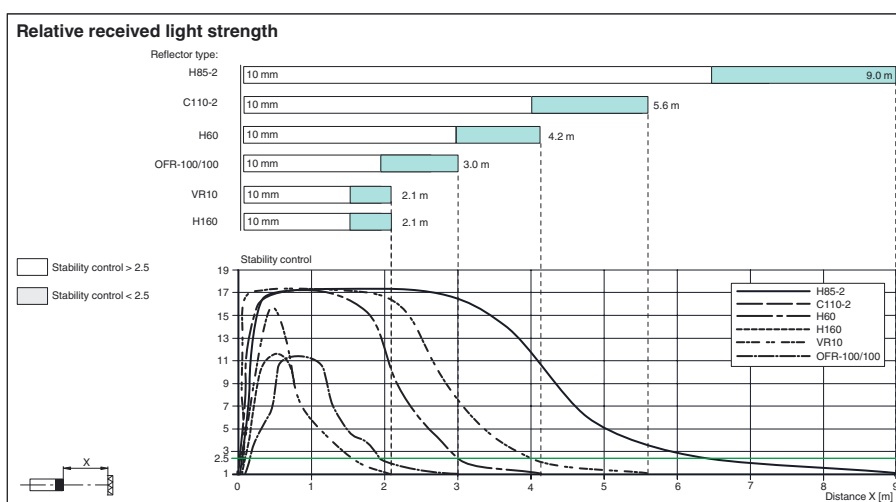
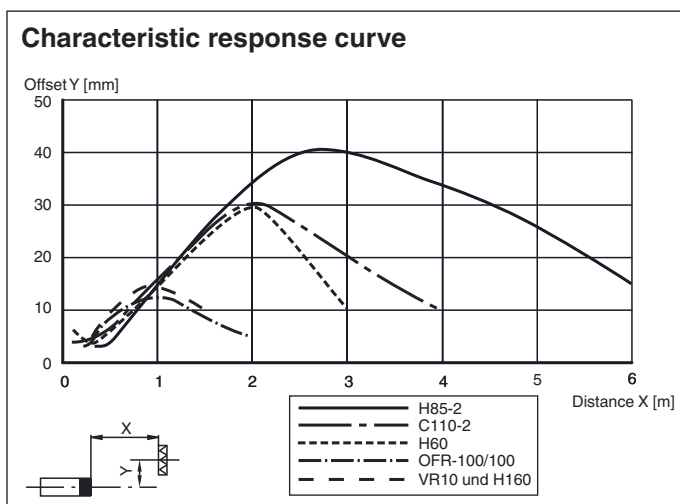
dove tail mounting clamp

OMH-06

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams



Additional Information

Conventional use

The reflex light beam switch contains the emitter and receiver in a single housing. The light from transmitter is beamed back from a reflector to the receiver. If an object interrupts the light beam the switching function is initiated.

Mounting instructions

The sensor can be fastened over the through-holes directly or with a support angle or clamping components (this are not contained in the scope of supply).

The base surface must be flat to avoid distorting the housing during mounting. It is advisable to secure the bolts and screws with washers to prevent misalignment.

Adjustment instructions

Connect the sensor to operating voltage, the LED green lights up constantly.

Mount suitable reflector opposite light beam switch and align roughly.

The exact adjustment takes by swivelling the sensor horizontally and vertically. With optimum light reception the yellow LED lights up constantly. They flash if setting is inexact.

Object detection check

Move the object into the light beam. If the object is recorded, the yellow LED switch off. If it does not switch off, reduce the sensitivity with the potentiometer until the switches off. It should lights up constantly on again when the object is removed.

Lustration

The yellow LED flashes if reception deteriorates (e.g. soiled lenses.)

We recommend that you clean the optical interfaces and check the plug- and screw connections at regular intervals.