



Model Number

MLV12-54-2563/49/124

Fire protection retroreflective sensor with 4-pin or 5-pin M12 connector, 90° adjustable position

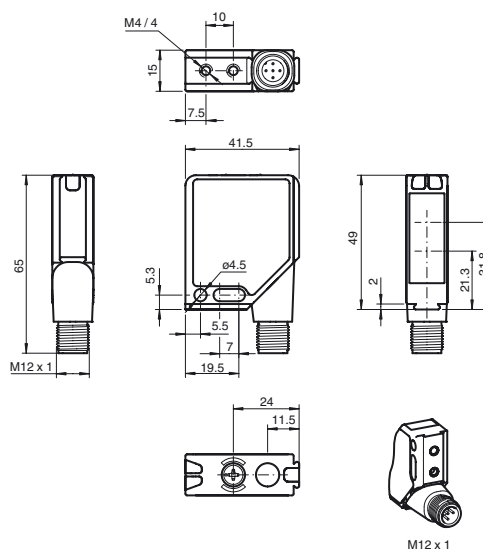
Features

- Small fire protection photoelectric sensor for safety devices on fire barriers
- Approval in accordance with VdS Test Report FSA and externally monitored manufacture (Ü Symbol)
- High protection against contact
- Not sensitive to ambient light, even with switched energy saving lamps

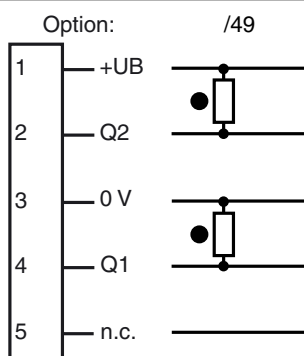
Product information

It is essential that fire is not allowed to spread in buildings should it break out. Fire protection regulations therefore prescribe fire barriers. These include fire doors, industrial fire doors and fire dampers, which are generally kept closed at all times. In areas where doors are left open, such as heavily traveled passageways and corridors, a self-closing mechanism must be automatically triggered in case of fire. However, the door must not close when persons or objects are in the closing area. Legislation consequently requires monitoring with appropriate safety devices. The technical challenge is to ignore the smoke and at the same time reliably detect objects in it. These certified photoelectric sensors fulfill this function.

Dimensions

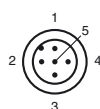


Electrical connection



○ = Light on
● = Dark on

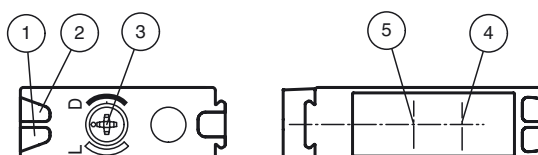
Pinout



Wire colors in accordance with EN 60947-5-2

| | | |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |
| 5 | GY | (gray) |

Indicators/operating means



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

Technical data

General specifications

| | |
|----------------------------|----------------------------------|
| Effective detection range | 0 ... 2.1 m (with H60 reflector) |
| Reflector distance | 0.2 ... 2.1 m |
| Reference target | H60 reflector |
| Light source | LED 645 nm |
| Light type | modulated visible red light |
| Diameter of the light spot | approx. 70 mm |
| Angle of divergence | 1.5 ° |
| Ambient light limit | 50000 Lux |

Indicators/operating means

| | |
|---------------------|--|
| Operation indicator | LED green, flashes in case of short-circuit |
| Function indicator | 2 LEDs yellow, light up when light beam is free, flash when falling short of the stability control, off when light beam is interrupted |
| Control elements | rotary switch for light/dark |

Electrical specifications

| | | |
|------------------------|-------|--|
| Operating voltage | U_B | 10 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | I_0 | max. 40 mA |
| Protection class | | II, rated voltage \leq 300 V AC with pollution degree 1-2 according to IEC 60664-1 |

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 | ≤ 40 Hz |
| Response time | 10 ms | |

Standard conformity

| | |
|-----------|---|
| Standards | EN 60947-5-2 smoke insensitive up to 2 dB/m (EN 54-12) |
|-----------|---|

Ambient conditions

| | |
|---------------------|--|
| Ambient temperature | -40 ... 60 °C (-40 ... 140 °F) |
| Storage temperature | -40 ... 75 °C (-40 ... 167 °F) |
| Relative humidity | 30% ... 85% non-condensing ; Non-icing |

Mechanical specifications

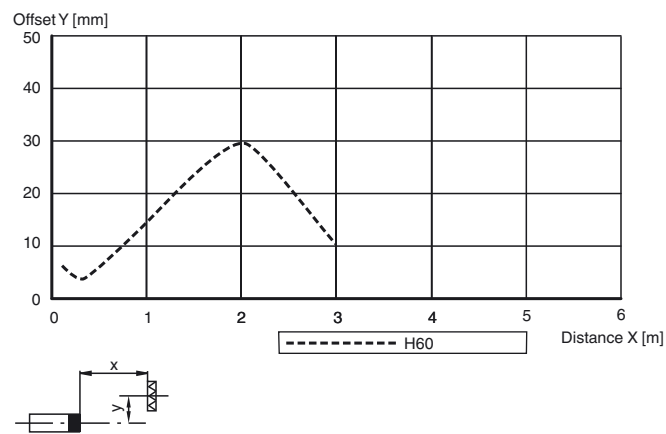
| | |
|----------------------|---|
| Degree of protection | IP67 |
| Connection | 5-pin M12 x 1 connector with metal thread, 90° rotatable |
| Material | |
| Housing | Frame: nickel plated, die cast zinc, Laterals: glass-fiber reinforced plastic PC |
| Optical face | Plastic pane |
| Mass | 60 g |

Approvals and certificates

| | |
|--------------|--|
| UL approval | cULus Listed, Class 2 Power Source, Type 1 enclosure |
| CCC approval | CCC approval / marking not required for products rated \leq 36 V |
| Approvals | VdS/DIBt certificate of compliance No. 25020 |

Curves/Diagrams

Characteristic response curve



Typical applications

- Securing hold-open devices on fire barriers in the vicinity of track-based conveyor systems
- Reliable object detection for doorway monitoring with fire barriers in the vicinity of track-based conveyor systems, even in smoky conditions

Detection area



Accessories

REF-H60-2

Reflector with mounting holes

OMH-MLV12-HWG

Mounting bracket for series MLV12 sensors

OMH-MLV12-HWK

Mounting bracket for series MLV12 sensors

OMH-06

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

OMH-K01

dove tail mounting clamp

OMH-K02

dove tail mounting clamp

OMH-K03

dove tail mounting clamp

V15-G-2M-PUR

Female cordset, M12, 5-pin, PUR cable

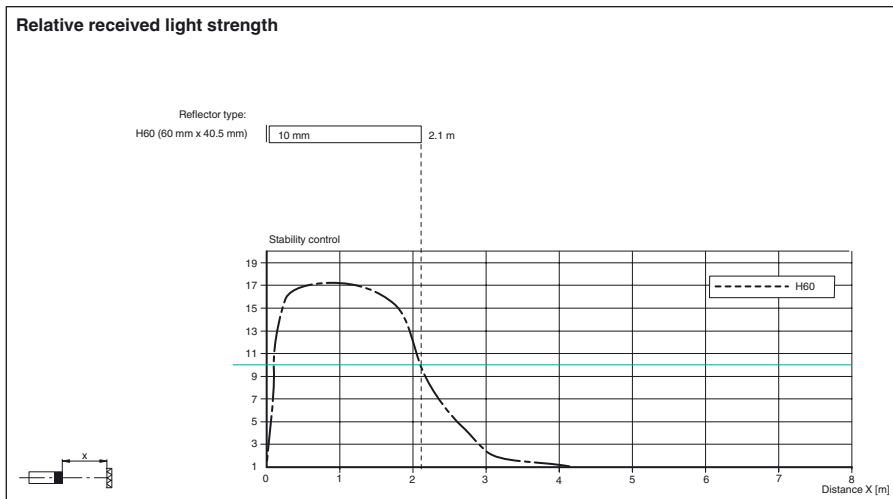
V15-G-PG9

Female connector, M12, 5-pin, field attachable

V1-G-BK10M-PUR-U

Female cordset, M12, 4-pin, PUR cable

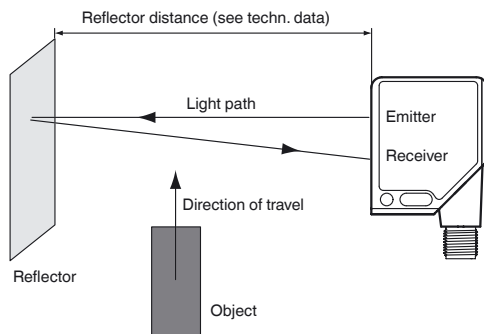
Other suitable accessories can be found at www.pepperl-fuchs.com



Functional principle

The MLV12-54-2563 is a diffuse-mode photoelectric sensor with polarization filter. The diffuse-mode photoelectric sensor is an emitter and a receiver in a single housing. The emitted light is reflected back to the receiver by a reflector. When the light beam is interrupted, the switching function is triggered.

Characteristics



Marking

Due to its high excess gain, the MLV12-54-2563 diffuse-mode photoelectric sensor is suitable as a safety device for hold-open devices on fire barriers. The safety functionality has been tested by VdS (German Association of Property Insurers) (Test Report FSA 07009).

The MLV12-54-2563 diffuse-mode photoelectric sensor detects objects and is also insensitive to defined smoke levels (test fires 2 to 5).

The MLV12-54-2563 diffuse-mode photoelectric sensor is used as a safety device with a range of 0.2 m to 2.1 m onto the H60 reflector.