## Model Number

**MLV41-8-H-350-RT/25/92/136**

Background suppression sensor
with 4-pin, M12 x 1 connector

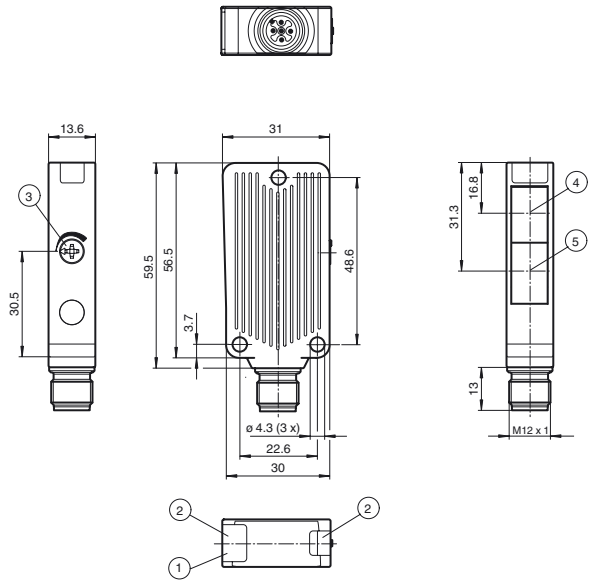
## Features

- Rugged series in corrosion-resistant metal housing
- Reliable detection of all surfaces, independent of color and structure
- Minimal black-white difference
- Precision background suppression, adjustable
- Extremely high switching frequency
- Clear and functional display concept for the operating modes

## Product information

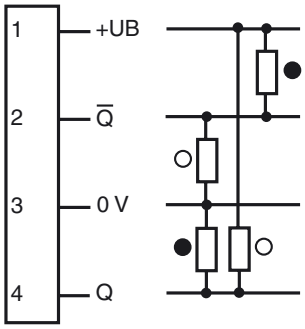
The unique and extremely popular design of the MLV41 series enables it be mounted correctly in confined areas and offers all the functions that are normally only found on larger photoelectric sensors. The MLV41 series comes with a range of functions. For example, highly visible status LEDs on the front and back, resistance to ambient light, crosstalk protection and universally applicable output stages that permit every possible switching logic and polarity to be realized. The enhanced resistance to ambient light ensures reliable operation even where modern energy-saving lamps with electronic ballasts are in use. The same applies where multiple devices are present, i.e. the use of a number of sensors in the same vicinity causes no problems.

## Dimensions



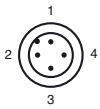

## Electrical connection

Option:




○ = Light on
● = Dark on

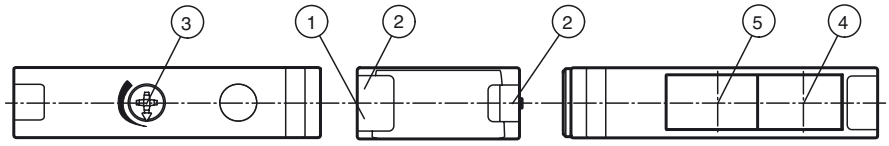
## Pinout




Wire colors in accordance with EN 60947-5-2

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

## Indicators/operating means




| | | | | | |
|---|---|---|---|---|---|
| 1 | Operating display green | 3 | Sensing range adjuster | 5 | Optical axis receiver |
| 2 | Function display yellow | 4 | Optical axis transmitter | | |

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## Technical data

| | | |
|---|---|---|
| **General specifications** | | |
| Detection range | | 50 ... 350 mm , adjustable |
| Detection range min. | | 10 ... 50 mm |
| Detection range max. | | 30 ... 350 mm |
| Adjustment range | | 50 ... 350 mm |
| Background suppression | | + 10 % of the upper limit of the detection range |
| Light source | | LED |
| Light type | | modulated visible red light , 660 nm |
| Black/White difference (6 %/90 %) | | < 15 % at 350 mm |
| Diameter of the light spot | | approx. 8 mm at 350 mm sensor range |
| Angle of divergence | | 1.5 ° |
| Ambient light limit | | 40000 Lux |
| **Functional safety related parameters** | | |
| $MTTF_d$ | | 1260 a |
| Mission Time ($T_M$) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| **Indicators/operating means** | | |
| Operation indicator | | LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz) |
| Function indicator | | 2 LEDs yellow<br>ON: object inside the scanning range<br>OFF: object outside the scanning range |
| Control elements | | Sensing range adjuster |
| **Electrical specifications** | | |
| Operating voltage | $U_B$ | 10 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | $I_0$ | max. 25 mA |
| **Output** | | |
| Signal output | | 2 push-pull (4 in 1) outputs, complementary, short-circuit proof, reverse polarity protected |
| Switching voltage | | max. 30 V DC |
| Switching current | | max. 100 mA |
| Voltage drop | $U_d$ | ≤ 2.5 V DC |
| Switching frequency | f | 1000 Hz |
| Response time | | 0.5 ms |
| **Conformity** | | |
| Product standard | | EN 60947-5-2 |
| **Ambient conditions** | | |
| Ambient temperature | | -40 ... 60 °C (-40 ... 140 °F) |
| Storage temperature | | -40 ... 75 °C (-40 ... 167 °F) |
| **Mechanical specifications** | | |
| Housing width | | 31 mm |
| Housing height | | 56.5 mm |
| Housing depth | | 13.6 mm |
| Degree of protection | | IP67 |
| Connection | | 4-pin, M12 x 1 connector |
| Material | | |
| Housing | | Aluminum , Delta-Seal coated |
| Optical face | | glass pane |
| Connector | | metal |
| Mass | | 50 g |

| | |
|---|---|
| **Approvals and certificates** | |
| Protection class | II, rated voltage ≤ 50 V AC with pollution degree 1-2 according to IEC 60664-1 , functional insulation acc. to DIN EN 50178 |
| UL approval | cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure) |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |

## Accessories

**OMH-40**
Mounting bracket

**OMH-09**
Mounting bracket for Sensors series MLV41 for M12 rod mounting

**V1-G-2M-PUR**
Female cordset, M12, 4-pin, PUR cable

**V1-W-2M-PUR**
Female cordset, M12, 4-pin, PUR cable

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

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".
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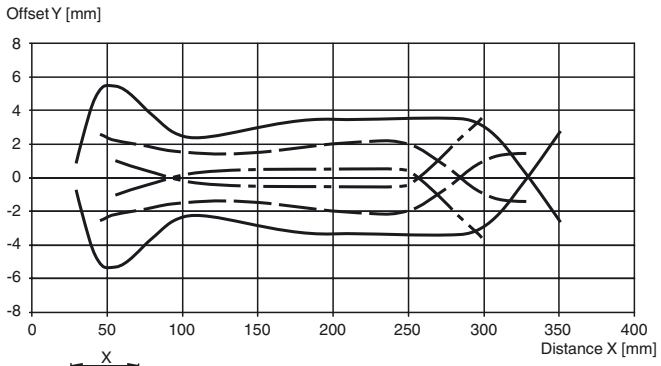
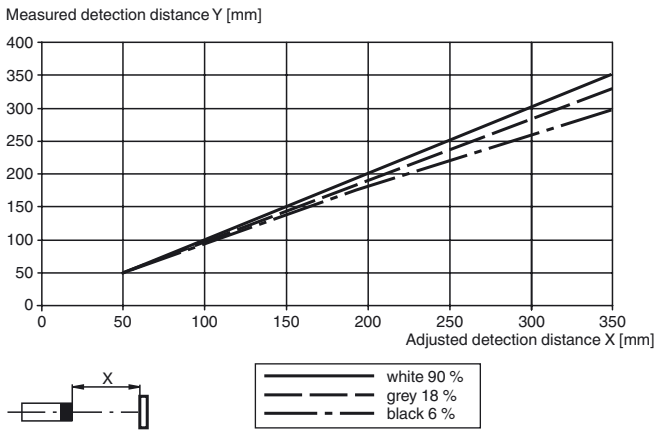
## Curves/Diagrams

### Characteristic response curve




### Difference in detection distance

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