



Model Number

MLV41-6/82b/92/103

Retroreflective sensor
with 4-pin, M12 x 1 connector

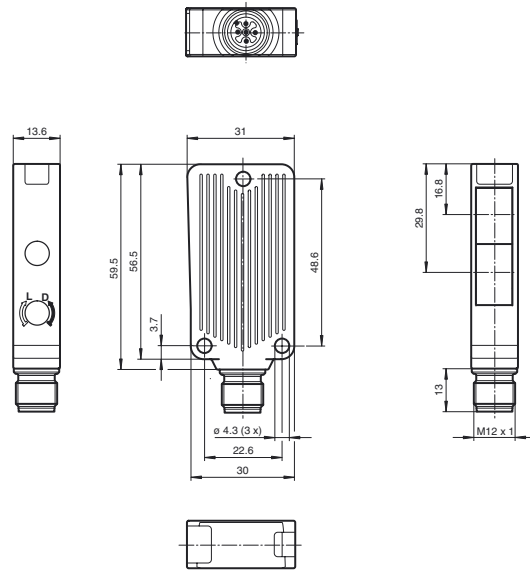
Features

- Rugged series in corrosion-resistant metal housing
- Extremely high switching frequency
- Clear and functional display concept for the operating modes
- Resistant against noise: reliable operation under all conditions
- Aluminum housing with high quality Delta-Seal coated

Product information

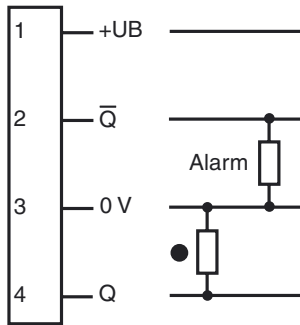
The unique and extremely popular design of the MLV41 series enables it be mounted correctly in confined areas and offers all the functions that are normally only found on larger phototelectric sensors. The MLV41 series comes with a range of functions grouped together under the VISO+ quality symbol. For 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



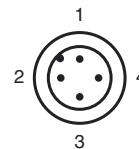
Electrical connection

Option: 82b/103

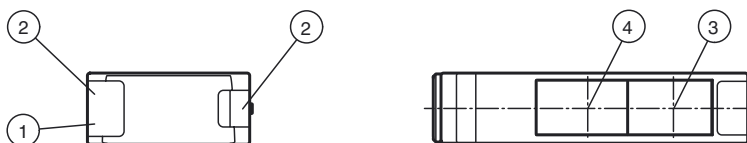


○ = Light on
● = Dark on

Pinout



Indicators/operating means



| | |
|---------------------------|----------------------------|
| 1 Operating display green | 3 Optical axis transmitter |
| 2 Function display yellow | 4 Optical axis receiver |

Release date: 2013-02-04 14:13 Date of issue: 2013-02-18 22:1588_eng.xml

Subject to modifications without notice

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Technical data**General specifications**

| | |
|----------------------------|---|
| Effective detection range | 0 ... 9.5 m |
| Reflector distance | Foil reflector 0.05 ... 3 m Retro-reflector 0.01 ... 9.5 m |
| Threshold detection range | 12 m |
| Reference target | OFR-22800/76 , H85-2 reflector |
| Light source | LED |
| Light type | modulated visible red light , 625 nm |
| Angle deviation | max. $\pm 1.5^\circ$ |
| Diameter of the light spot | approx. 300 mm at detection range 8.5 m |
| Angle of divergence | 1.5° |
| Optical face | frontal |
| Ambient light limit | 20000 Lux |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 940 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|-------------------|--|
| Operating display | LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz) |
| Function display | LED yellow, lights up when light beam is free, flashes when falling short of the stability control |
| Controls | none |

Electrical specifications

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

Output

| | | |
|-----------------------------|---|-----------------|
| Pre-fault indication output | 1 PNP function reserve output (alarm), short-circuit protected, protected from reverse polarity, open collector | |
| Signal output | 1 PNP output, short-circuit protected, reverse polarity protected, open collector | |
| 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 |

Ambient conditions

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

Mechanical specifications

| | |
|-------------------|------------------------------|
| Protection degree | IP67 |
| Connection | connector M12 x 1, 4-pin |
| Material | |
| Housing | aluminum , Delta-Seal coated |
| Optical face | glass pane |
| Connector | metal |
| Mass | 50 g |

Compliance with standards and directives

| | |
|---------------------------|---|
| Directive conformity | |
| EMC Directive 2004/108/EC | EN 60947-5-2:2007 |
| Standard conformity | |
| Product standard | EN 60947-5-2:2007 IEC 60947-5-2:2007 |

Approvals and certificates

| | |
|--------------|--|
| 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-09**

Mounting bracket for Sensors series MLV41 for M12 rod mounting

OMH-40

Mounting bracket

V1-G-2M-PUR

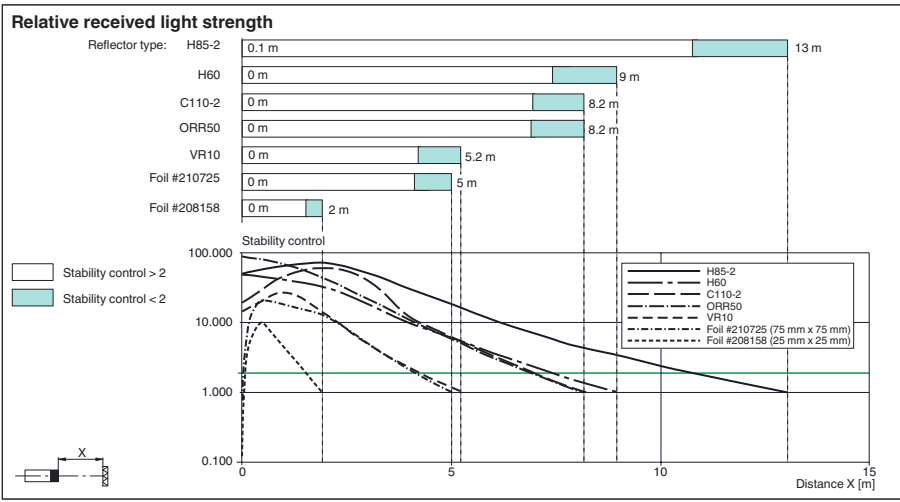
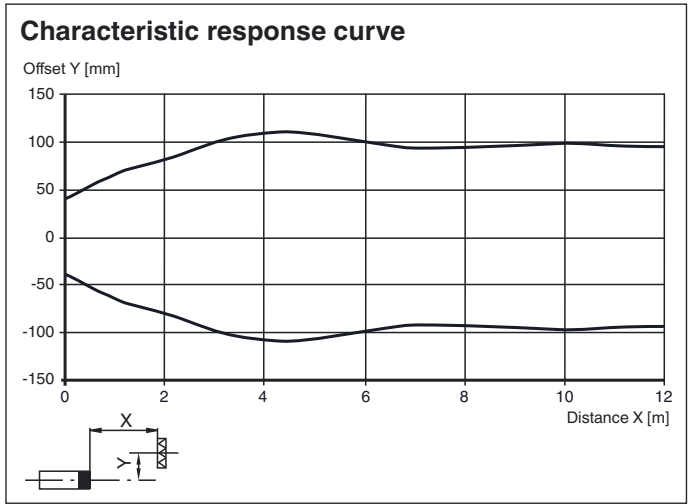
Cable socket, M12, 4-pin, PUR cable

V1-W-2M-PUR

Cable socket, M12, 4-pin, PUR cable

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

Curves/Diagrams



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