



Model Number

M41/MV41/76a/82b/92/103

Thru-beam sensor
with 4-pin, M12 x 1 connector

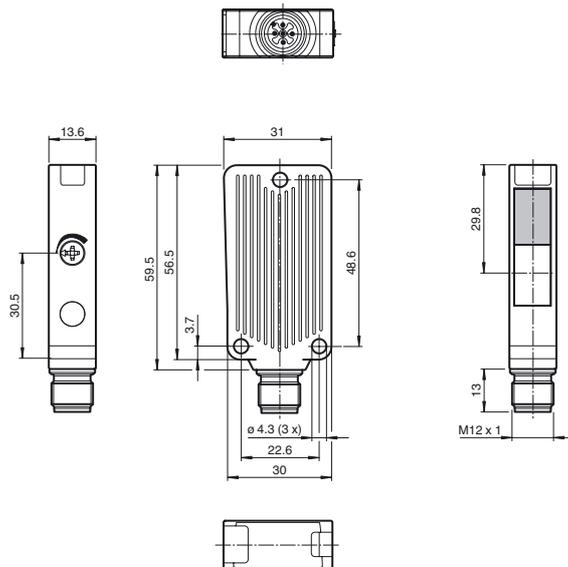
Features

- Rugged series in corrosion-resistant metal housing
- Long sensor range with high power mode
- Resistant against noise: reliable operation under all conditions
- Clear and functional display concept for the operating modes
- Aluminum housing with high quality Delta-Seal coated
- Scratch-resistant and solvent resistant glass lens

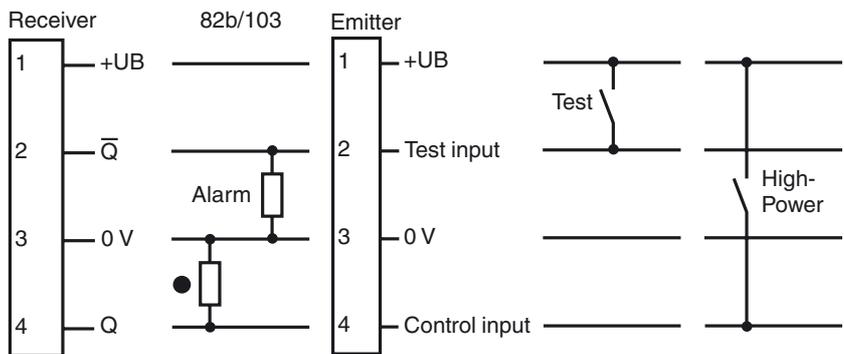
Product information

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. 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

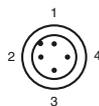


Electrical connection



- = Light on
- = Dark on

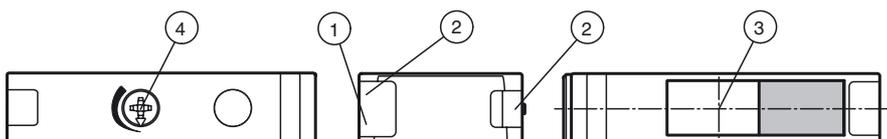
Pinout



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 | 2 | Function display yellow | 3 | Optical axis |
| 4 | Sensitivity adjustment (only receiver) | | | | |

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Technical data**System components**

| | |
|----------|-----------------|
| Emitter | M41/76a/92 |
| Receiver | MV41/82b/92/103 |

General specifications

| | |
|----------------------------|---|
| Effective detection range | 0 ... 16 m |
| Threshold detection range | normal mode: 25 m High power mode: 35 m (Control input at UB+) |
| Light source | normal mode: LED High power mode: LED+IRED |
| Light type | normal mode: modulated visible red light High power mode: Red and infrared, modulated light |
| Diameter of the light spot | approx. 500 mm at detection range 16 m |
| Angle of divergence | approx. 1.5 ° |
| Optical face | frontal |
| Ambient light limit | 50000 Lux |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 844 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|---------------------|---|
| Operation indicator | LED green: power on |
| Function indicator | Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the stability control ; OFF when light beam is interrupted |
| Control elements | sensitivity adjustment (receiver) |

Electrical specifications

| | | |
|------------------------|----------------|--------------------------|
| Operating voltage | U _B | 10 ... 30 V DC , class 2 |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | max. 30 mA |

Input

| | |
|---------------|---|
| Test input | emitter deactivation at +U _B (emitter) |
| Control input | High power mode activation with +UB (emitter) |

Output

| | | |
|-----------------------------|--|------------|
| Pre-fault indication output | 1 PNP, inactive when falling short of the stability control | |
| Switching type | dark on | |
| Signal output | 1 PNP, 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

| | |
|----------------------|------------------------------|
| 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 (device) |

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 |
| Standards | UL 508 |

Approvals and certificates

| | |
|--------------|--|
| UL approval | cULus Listed, Class 2 Power Source, 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

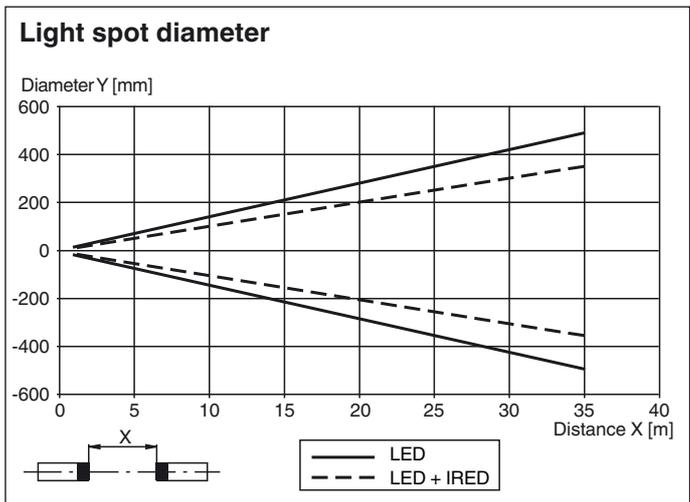
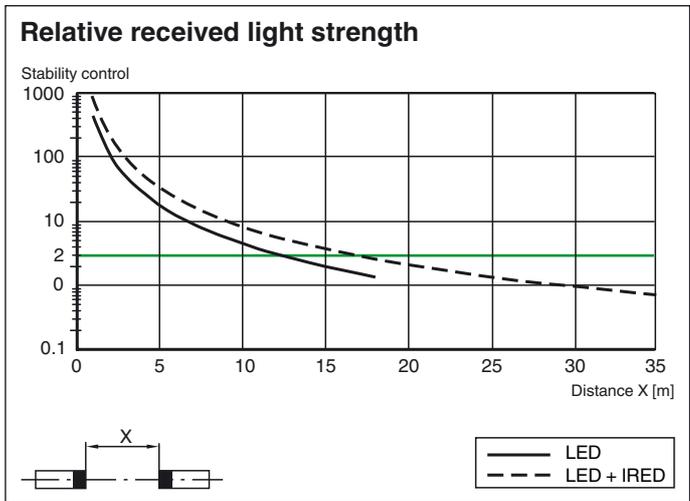
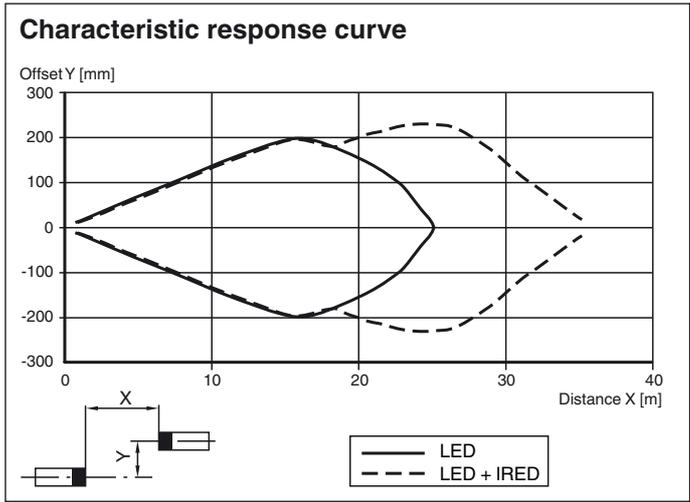
Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

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

Curves/Diagrams



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".