



Model Number

M100/MV100-RT/35/76b/98/102

Thru-beam sensor
with 3-pin, M8 x 1 connector

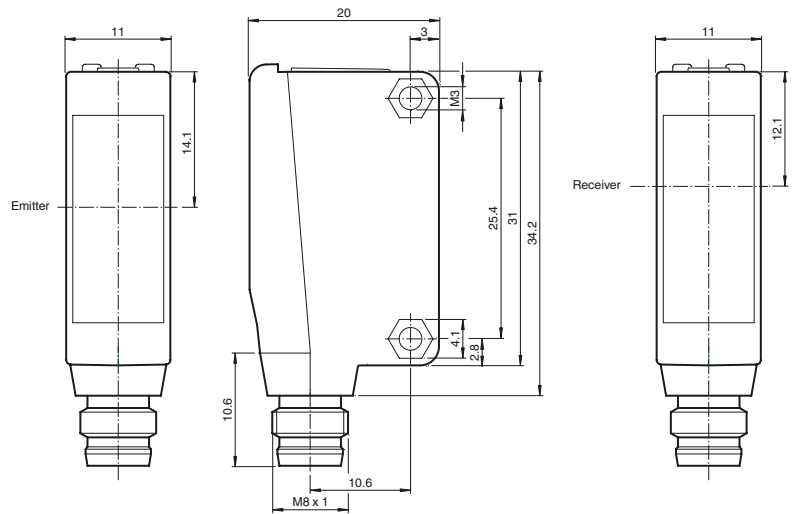
Features

- Miniature design
- Easy to use
- Very bright, highly visible light spot
- Full metal thread mounting
- Highly visible LEDs for Power ON and switching state
- Not sensitive to ambient light

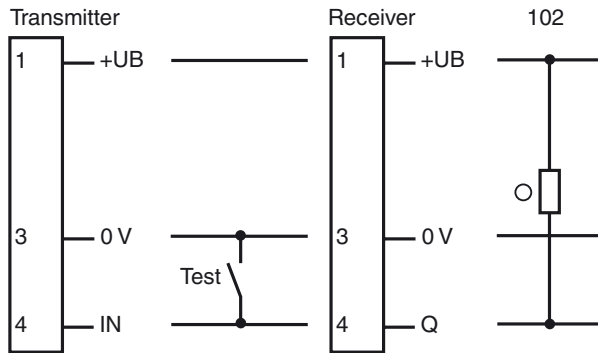
Product information

The ML100 series is characterized by its miniature housing with integral, all-metal threaded bushings. All versions are equipped with a visible red transmitter LED. This greatly simplifies installation and commissioning. The switching states are easily visible from all directions thanks to the highly visible LEDs.

Dimensions



Electrical connection



- = Light on
- = Dark on

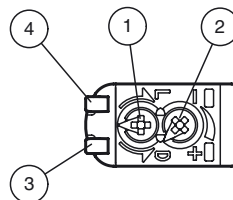
Pinout



Wire colors in accordance with EN 60947-5-2

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

Indicators/operating means



| | | |
|---|----------------------|--------|
| 1 | Light-Dark-switching | |
| 2 | Sensitivity adjuster | |
| 3 | Signal display | yellow |
| 4 | Operating display | green |

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Technical data**System components**

| | |
|----------|--------------------|
| Emitter | M100-RT/35/76b/98 |
| Receiver | MV100-RT/35/98/102 |

General specifications

| | |
|----------------------------|-----------------------------------|
| Effective detection range | 0 ... 20 m |
| Threshold detection range | 30 m |
| Light source | LED |
| Light type | modulated visible red light |
| Diameter of the light spot | approx. 2 m at a distance of 30 m |
| Angle of divergence | approx. 2 ° |
| Optical face | frontal |
| Ambient light limit | EN 60947-5-2 |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 860 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 |
| Control elements | Light-on/dark-on changeover switch |

Electrical specifications

| | | |
|------------------------|----------------|--------------------------------------|
| Operating voltage | U _B | 10 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | Emitter: ≤ 15 mA Receiver: ≤ 8 mA |

Input

| | |
|------------|-----------------------------|
| Test input | emitter deactivation at 0 V |
|------------|-----------------------------|

Output

| | | |
|---------------------|---|------------|
| Switching type | The switching type of the sensor is adjustable. The default setting is: light on | |
| Signal output | 1 NPN output, short-circuit protected, reverse polarity protected, open collector | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 100 mA , resistive load | |
| Voltage drop | U _d | ≤ 1.5 V DC |
| Switching frequency | f | 250 Hz |
| Response time | | 2 ms |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -30 ... 60 °C (-22 ... 140 °F) |
| Storage temperature | -40 ... 70 °C (-40 ... 158 °F) |

Mechanical specifications

| | |
|-------------------------------------|-------------------------------------|
| Degree of protection | IP67 |
| Connection | M8 x 1 connector, 3-pin |
| Material | |
| Housing | PC (Polycarbonate) |
| Optical face | PMMA |
| Mass | approx. 20 g (emitter and receiver) |
| Tightening torque, fastening screws | 0.6 Nm |

Compliance with standards and directives

| | |
|---------------------------|---------------------------|
| Directive conformity | |
| EMC Directive 2004/108/EC | EN 60947-5-2:2007+A1:2012 |
| Standard conformity | |
| Standards | UL 60947-5-2 |

Approvals and certificates

| | |
|--------------|---|
| UL approval | cULus Listed, Class 2 Power Source or listed Power Supply with a limited voltage output with (maybe integrated) fuse (max. 3.3 A according UL248), Type 1 enclosure |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |

Accessories**OMH-ML100-03**

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

OMH-ML100-04

Mounting aid for ML100 series, Mounting bracket

OMH-ML100-05

Mounting aid for ML100 series, Mounting bracket

OMH-ML100-08

Mounting aid for ML100 series, Snap-in

OMH-F10-ML100

Mounting aid for ML100 series

OMH-10

Mounting aid

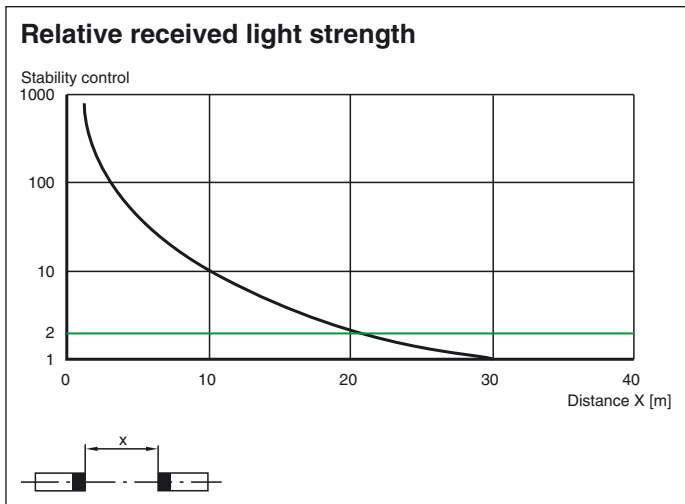
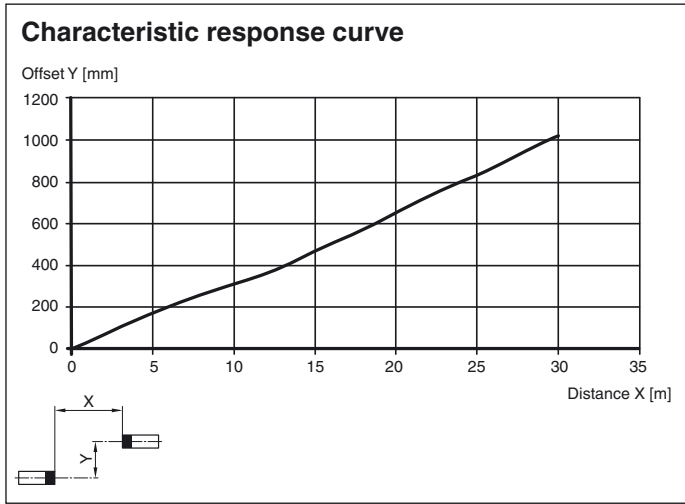
V3-WM-2M-PUR

Cable socket, M8, 3-pin, PUR cable

Additional accessories can be found in the Internet.



Curves/Diagrams



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

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