



**Model Number**

**M100/MV100-IR/76b/102/115**

Thru-beam sensor  
with 2 m fixed cable

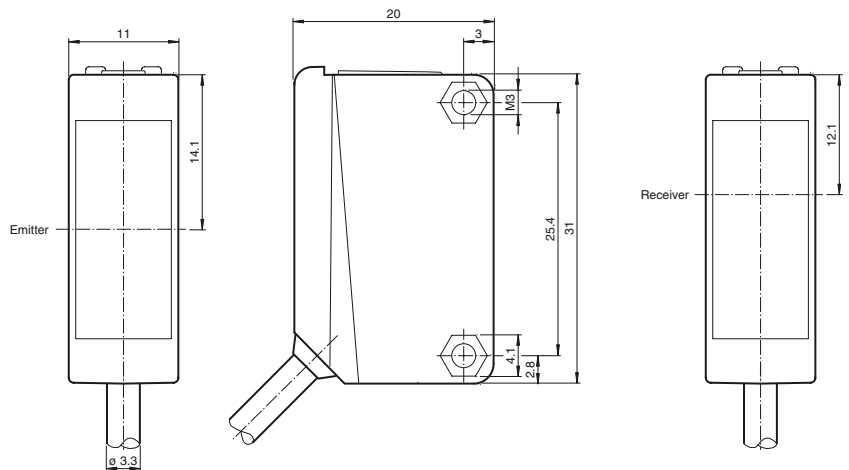
**Features**

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

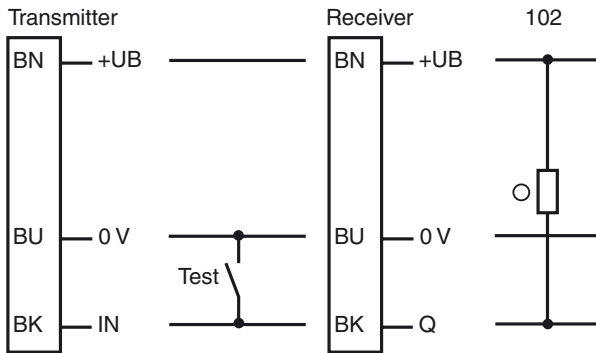
**Product information**

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**

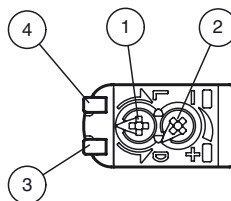


**Electrical connection**



- = Light on
- = Dark on

**Indicators/operating means**



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

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

**Technical data****System components**

|          |                  |
|----------|------------------|
| Emitter  | M100-IR/76b/115  |
| Receiver | MV100-IR/102/115 |

**General specifications**

|                            |                                     |
|----------------------------|-------------------------------------|
| Effective detection range  | 0 ... 15 m                          |
| Threshold detection range  | 20 m                                |
| Light source               | LED                                 |
| Light type                 | modulated infrared light            |
| Diameter of the light spot | approx. 1.5 m at a distance of 20 m |
| Angle of divergence        | approx. 2 °                         |
| Optical face               | frontal                             |
| Ambient light limit        | EN 60947-5-2                        |

**Functional safety related parameters**

|                                |       |
|--------------------------------|-------|
| MTTF <sub>d</sub>              | 860 a |
| Mission Time (T <sub>M</sub> ) | 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 <sub>B</sub> | 10 ... 30 V DC                       |
| Ripple                 |                | max. 10 %                            |
| No-load supply current | I <sub>0</sub> | Emitter: ≤ 15 mA<br>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 <sub>d</sub>  | ≤ 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                          | 2 m fixed cable                      |
| Material                            |                                      |
| Housing                             | PC (Polycarbonate)                   |
| Optical face                        | PMMA                                 |
| Mass                                | approx. 100 g (emitter and receiver) |
| Tightening torque, fastening screws | 0.6 Nm                               |
| Cable length                        | 2 m                                  |

**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-ML100-01**

Mounting aid for ML100 series, Mounting bracket

**OMH-ML100-02**

Mounting aid for ML100 series, Mounting bracket

**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-F10-ML100**

Mounting aid for ML100 series

**OMH-10**

Mounting aid

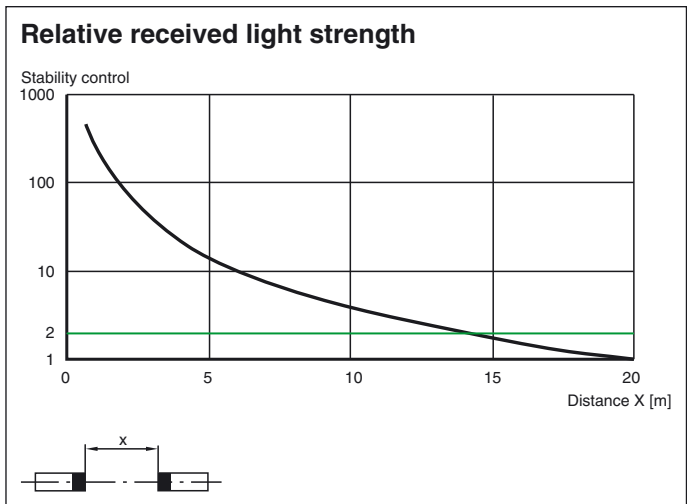
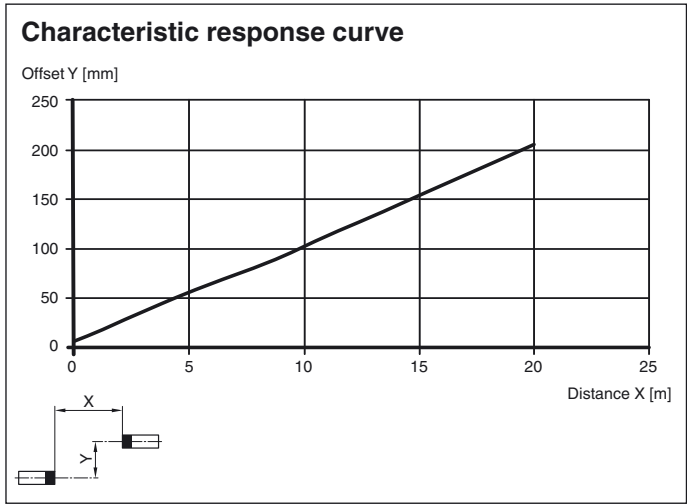
**OMH-ML100-08**

Mounting aid for ML100 series, Snap-in

Additional accessories can be found in the Internet.



Curves/Diagrams



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