



**Model Number**

**M100/MV100-IR/76a/103/115**

Thru-beam sensor  
with 2 m fixed cable

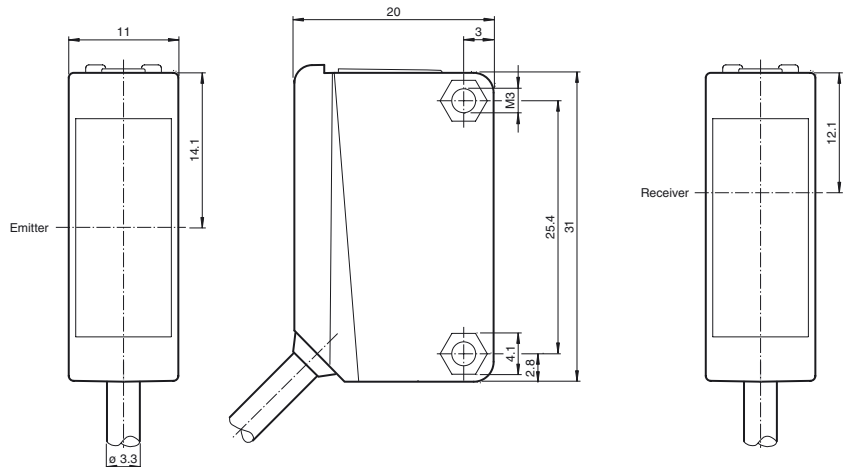
**Features**

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

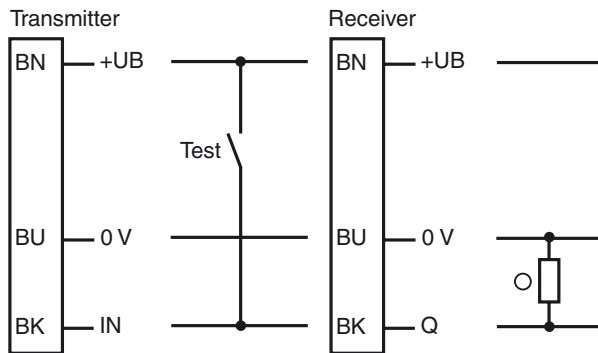
**Product information**

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**

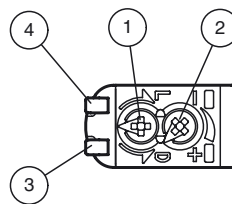


**Electrical connection**



- = 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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**Technical data****System components**

|          |                  |
|----------|------------------|
| Emitter  | M100-IR/76a/115  |
| Receiver | MV100-IR/103/115 |

**General specifications**

|                            |  |
|----------------------------|--|
| Effective detection range  | 0 ... 15 m   |
| Threshold detection range  | 20 m   |
| Light source               | IREDD  |
| Light type                 | modulated infrared light   |
| Approvals                  | CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure) |
| 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**

|                   |   |
|-------------------|---|
| Operating display | LED green: power on   |
| Function display  | Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the stability control ; OFF when light beam is interrupted |
| Controls          | sensitivity adjustment  |
| Controls          | Light/Dark switch   |

**Electrical specifications**

|                        |                |                                      |
|------------------------|----------------|--------------------------------------|
| Operating voltage      | U <sub>B</sub> | 10 ... 30 V DC , class 2             |
| Ripple                 |                | max. 10 %                            |
| No-load supply current | I <sub>0</sub> | Emitter: ≤ 15 mA<br>Receiver: ≤ 8 mA |

**Input**

|            |   |
|------------|---|
| Test input | emitter deactivation at +U <sub>B</sub> |
|------------|---|

**Output**

|                     |  |            |
|---------------------|--|------------|
| Switching type      | light/dark on, switchable  |            |
| Signal output       | 1 PNP output, short-circuit protected, protected from reverse polarity, 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**

|                   |                                      |
|-------------------|--------------------------------------|
| Protection degree | IP67                                 |
| Connection        | 2 m fixed cable                      |
| Material          |                                      |
| Housing           | PC (Polycarbonate)                   |
| Optical face      | PMMA                                 |
| Mass              | approx. 220 g (emitter and receiver) |

**Compliance with standards and directives**

|                           |              |
|---------------------------|--------------|
| Directive conformity      |              |
| EMC Directive 2004/108/EC | EN 60947-5-2 |
| Standard conformity       |              |
| Standards                 | UL 508       |

**Approvals and certificates**

|              |  |
|--------------|--|
| UL approval  | cULus Listed, Class 2 Power Source, Type 1 enclosure   |
| CCC approval | Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval. |

**Accessories**

**OMH-ML100-01**  
Mounting bracket

**OMH-ML100-02**  
Mounting bracket

**OMH-ML100-03**  
Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

**OMH-ML100-04**  
Mounting bracket

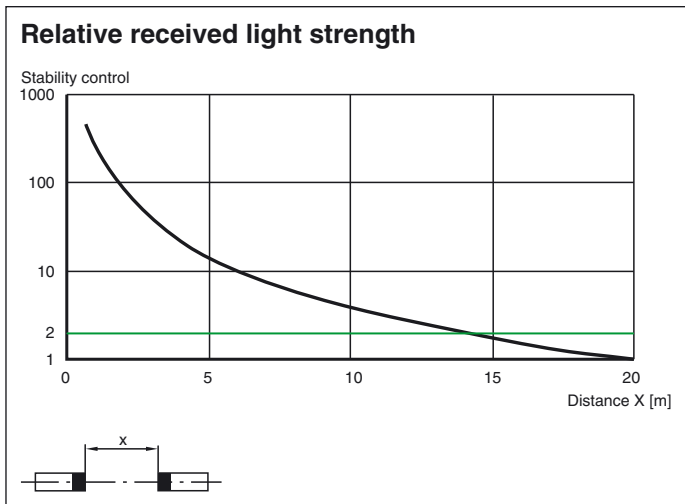
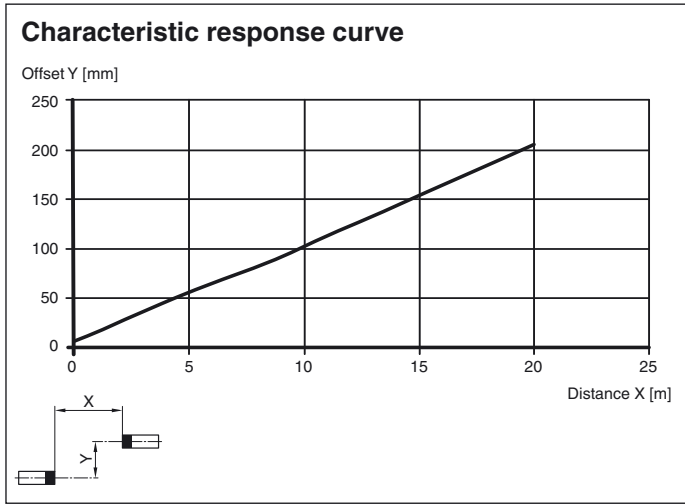
**OMH-ML100-05**  
Mounting bracket

**OMH-F10-ML100**  
Mounting aid for ML100 series

**OMH-10**  
Mounting aid

Additional accessories can be found in the Internet.

**Curves/Diagrams**



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