



### Model Number

**ML100-8-1000-RT/95/102**

Diffuse mode sensor  
with 4-pin M8 connector

### Features

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

### Description

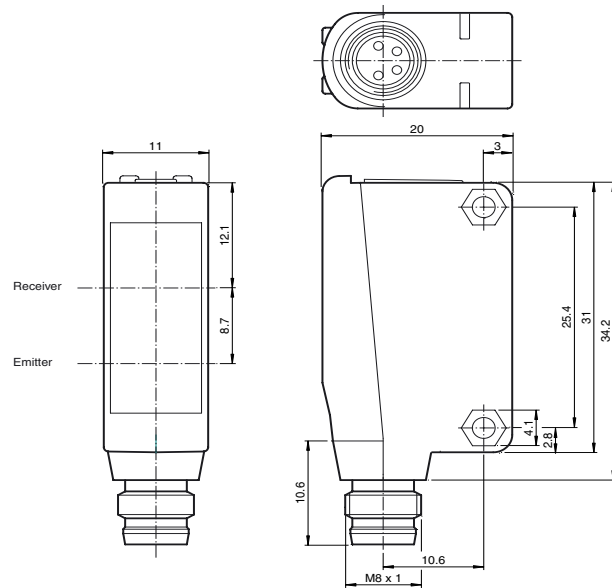
The ML100 series is characterized by its miniature housing with integral, all-metal threaded bushings. All versions are equipped with a visible red transmitter LED. This greatly simplifies installation and commissioning. The switching states are easily visible from all directions thanks to the highly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

### Accessories

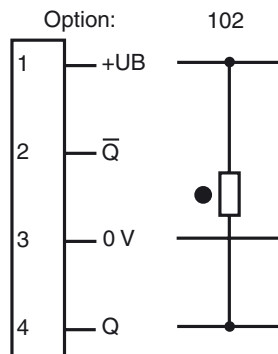
**OMH-10**  
Mounting aid

Additional accessories can be found in the Internet.

### Dimensions



### Electrical connection

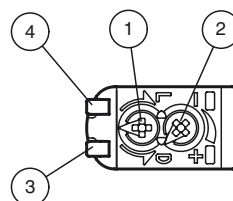


○ = Light on  
● = Dark on

### Pinout



### Indicators/operating means



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

## Technical data

### General specifications

|                            |                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------|
| Detection range            | 0 ... 1000 mm                                                                              |
| Adjustment range           | 100 ... 1000 mm                                                                            |
| Reference target           | standard white, 100 mm x 100 mm                                                            |
| Light source               | LED                                                                                        |
| Light type                 | modulated visible red light                                                                |
| Approvals                  | CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure) |
| Diameter of the light spot | approx. 75 mm at a distance of 1000 mm                                                     |
| 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  | LED yellow, lights up with receiver lit |
| 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> | < 20 mA                  |

### Output

|                     |                                                                                    |            |
|---------------------|------------------------------------------------------------------------------------|------------|
| Switching type      | light/dark on, switchable                                                          |            |
| Signal output       | 1 NPN output, short-circuit proof, protected from reverse polarity, open collector |            |
| Switching voltage   | max. 30 V DC                                                                       |            |
| Switching current   | max. 100 mA                                                                        |            |
| Voltage drop        | U <sub>d</sub>                                                                     | ≤ 1.5 V DC |
| Switching frequency | f                                                                                  | 1000 Hz    |
| Response time       | 0.5 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        | Male connector M8 x 1 , 4-pin |
| Material          |                               |
| Housing           | PC (Polycarbonate)            |
| Optical face      | PMMA                          |
| Mass              | approx. 10 g                  |

### 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 |
|-------------|------------------------------------------------------|

## Curves / Diagrams

