



**Model Number**

**ML100-8-1000-RT/95/103**

Diffuse mode sensor  
with 4-pin, M8 x 1 connector

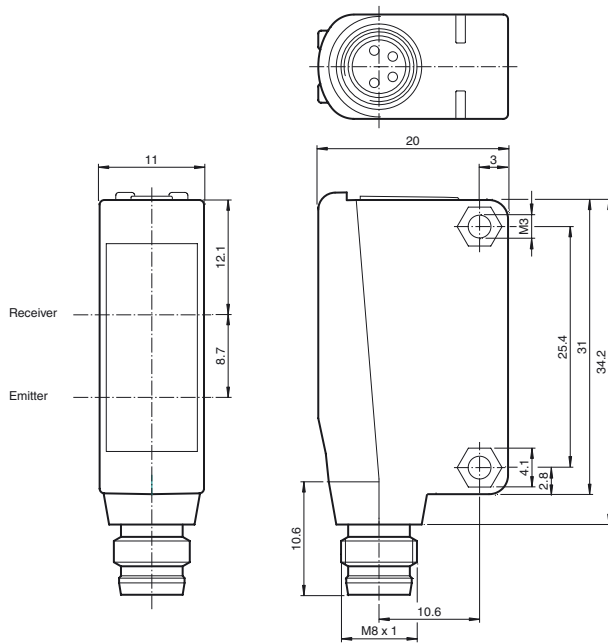
**Features**

- 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

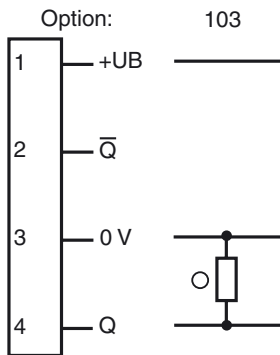
**Product information**

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**

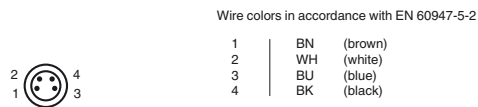


**Electrical connection**

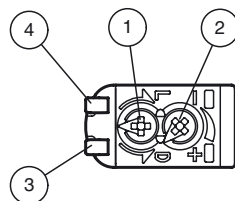


- = Light on
- = Dark on

**Pinout**



**Indicators/operating means**



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

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**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            |
| Polarization filter        | no                                     |
| 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 60947-5-2:2007+A1:2012              |

**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  | LED yellow, lights up with receiver lit |
| 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> | < 20 mA        |

**Output**

|                     |   |            |
|---------------------|---|------------|
| Switching type      | The switching type of the sensor is adjustable. The default setting is: light on  |            |
| Signal output       | 1 PNP 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   | 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**

|                      |                               |
|----------------------|-------------------------------|
| Degree of protection | 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 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-F10-ML100**

Mounting aid for ML100 series

**OMH-10**

Mounting aid

**V31-WM-2M-PUR**

Female cordset, M8, 4-pin, PUR cable

**V31-GM-2M-PUR**

Female cordset, M8, 4-pin, PUR cable

**OMH-ML100-S1**

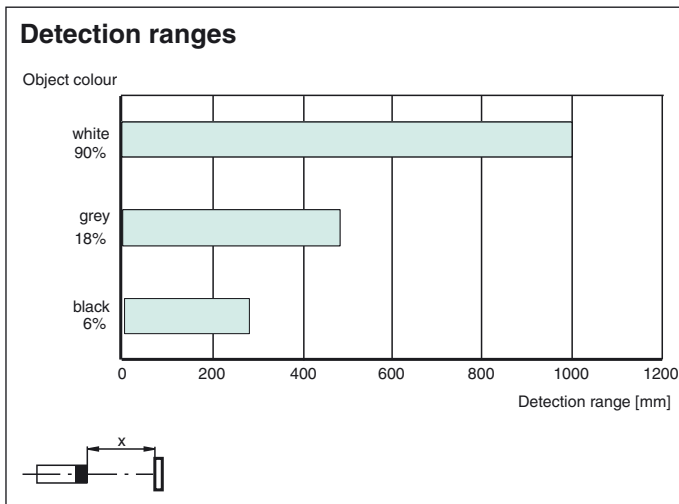
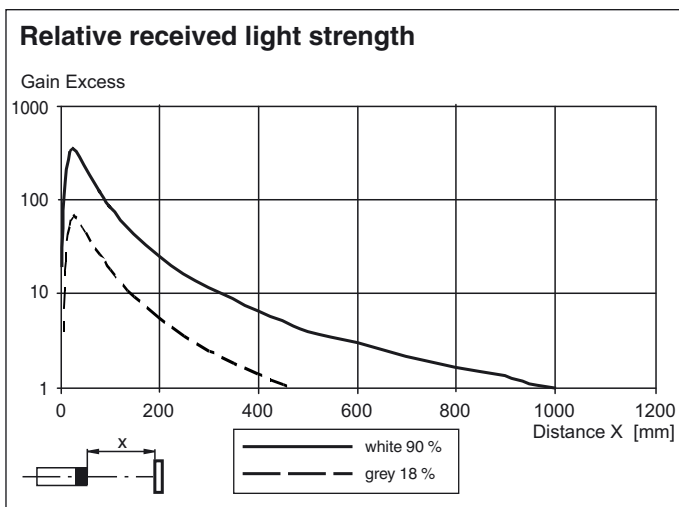
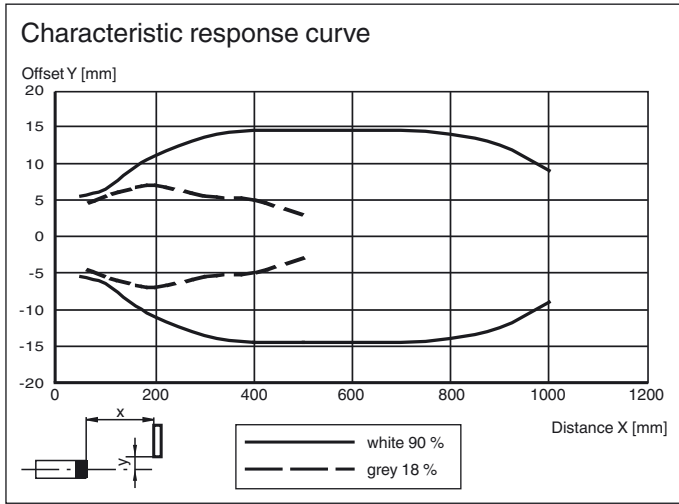
Mounting bracket

**OMH-ML100-08**

Mounting aid for ML100 series, Snap-in

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

Curves/Diagrams



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