## Model Number

**ML100-8-HW-350-RT/103/115**

Background evaluation sensor
with fixed cable

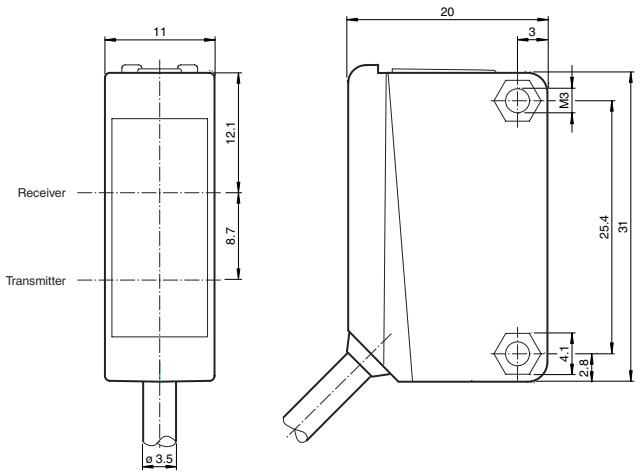
## Features

- User-friendliest photoelectric sensor series for standard applications
- Miniature design
- Background evaluation uses background as reference for detection of difficult targets
- Simplest alignment and commissioning thanks to ultrabright transmitter LED
- Clear and functional display concept for the operating modes
- Full metal thread mounting

## Product information

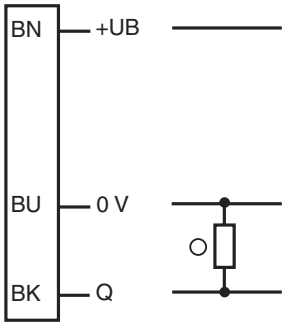
The ML100 series is characterized by its miniature housing with integral, all-metal threaded bushings. All versions are equipped with a visible red transmitter LED. This greatly simplifies installation and commissioning. The switching states are easily visible from all directions thanks to the highly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

## Dimensions



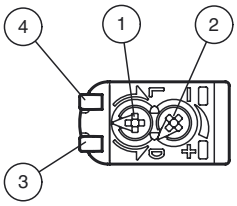

## Electrical connection

Option: 103




○ = Light on
● = Dark on

## Indicators/operating means




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

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## Technical data

| | | |
|---|---|---|
| **General specifications** | | |
| Detection range | | 5 ... 350 mm |
| Adjustment range | | 30 ... 350 mm |
| Light source | | LED |
| Light type | | modulated visible red light |
| Diameter of the light spot | | approx. 20 mm at a distance of 350 mm |
| Angle of divergence | | approx. 4 ° |
| 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 | | LED yellow ON: sensor detects background |
| Control elements | | Detection range adjuster |
| Control elements | | Light/Dark switch |
| **Electrical specifications** | | |
| Operating voltage | $U_B$ | 10 ... 30 V DC , class 2 |
| Ripple | | max. 10 % |
| No-load supply current | $I_0$ | < 20 mA |
| **Output** | | |
| Switching type | | light/dark on, switchable |
| 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 | $U_d$ | ≤ 1.5 V DC |
| Switching frequency | f | 500 Hz |
| Response time | | 1 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. 50 g |
| Cable length | | 2 m |
| **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 | CCC approval / marking not required for products rated ≤36 V |
| Approvals | CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure) |

## Accessories

**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

**OMH-ML100-S1**
Mounting bracket

**OMH-ML100-08**
Mounting aid

Other suitable accessories can be found at www.pepperl-fuchs.com

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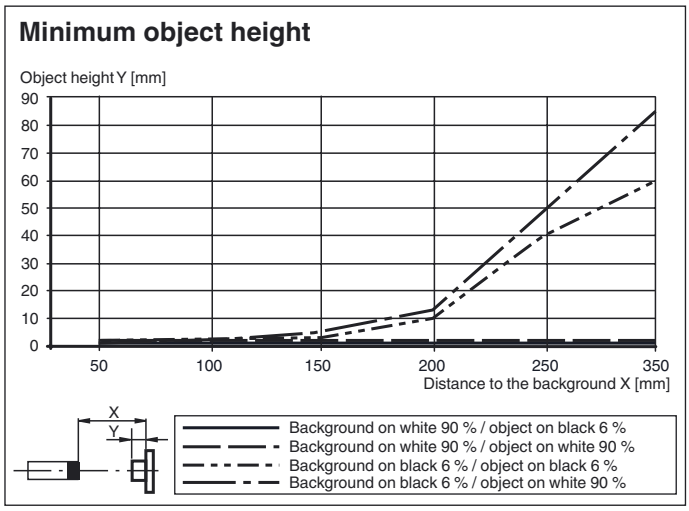
## Curves/Diagrams




## Notes

1. Set up the sensor to the background object.
2. Rotate the detection range adjuster clockwise until the yellow LED turns ON.
3. Continue to rotate the detection range adjuster clockwise until the yellow LED turns OFF.
4. Now counter-clockwise rotate the detection range adjuster just until the yellow LED turns ON again.

Preferably the background should be light or white.
Object should move transversely to the sensor.
The background should not vary in height.

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