CE  cULus LISTED

## Model Number

**ML100-8-H-350-RT/102/115**

Background suppression sensor
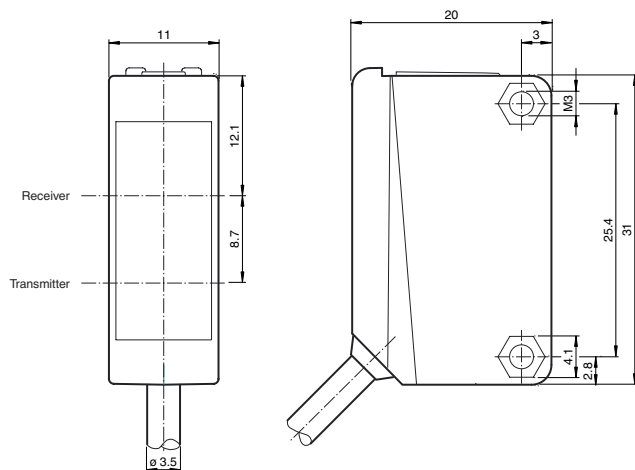with 2 m fixed cable

## 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
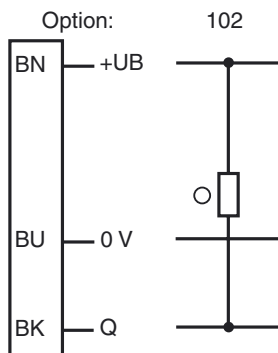- Not sensitive to ambient light

## 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.
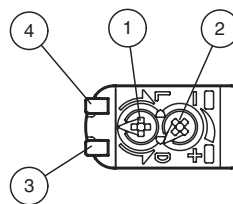
## Dimensions

Receiver

Transmitter

## Electrical connection

Option:   102

BN — +UB
BU — 0 V
BK — Q

○ = Light on
● = Dark on

## Indicators/operating means

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

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

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## Technical data

### General specifications

| | |
|---|---|
| Detection range | 5 ... 350 mm |
| Detection range min. | 5 ... 30 mm |
| Detection range max. | 5 ... 350 mm |
| Adjustment range | 30 ... 350 mm |
| Reference target | standard white, 100 mm x 100 mm |
| Light source | LED |
| Light type | modulated visible red light |
| Polarization filter | no |
| Black/White difference (6 %/90 %) | < 18 % at 350 mm |
| 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: lights when object is detected |
| 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 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 | $U_d$ | ≤ 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-ML100-01**
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**
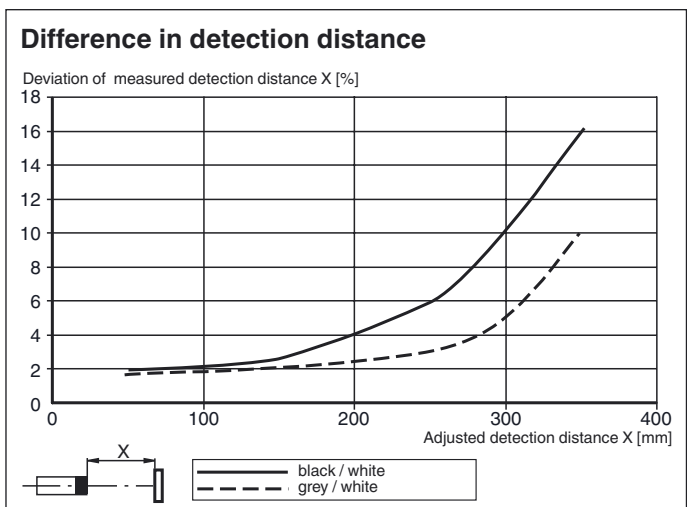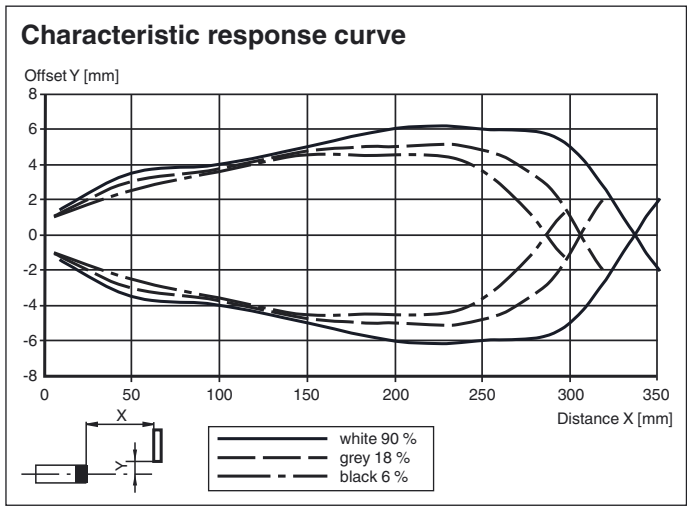Mounting aid for ML100 series

**OMH-10**
Mounting aid

**OMH-ML100-S1**
Mounting bracket

**OMH-ML100-08**
Mounting aid

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

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

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## Curves/Diagrams

### Characteristic response curve

Offset Y [mm]



Distance X [mm]

| | |
|---|---|
| —— | white 90 % |
| — · — | grey 18 % |
| — ·· — | black 6 % |

### Difference in detection distance

Deviation of measured detection distance X [%]



Adjusted detection distance X [mm]

| | |
|---|---|
| —— | black / white |
| - - - | grey / white |

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