



Retroreflective sensor ML100-55/25/95/103/154



- No controls
- Miniature design
- Easy to use
- Clearly visible LEDs for Power ON, switching state and weak signal indication
- Very bright, highly visible light spot
- Full metal thread mounting
- Not sensitive to ambient light

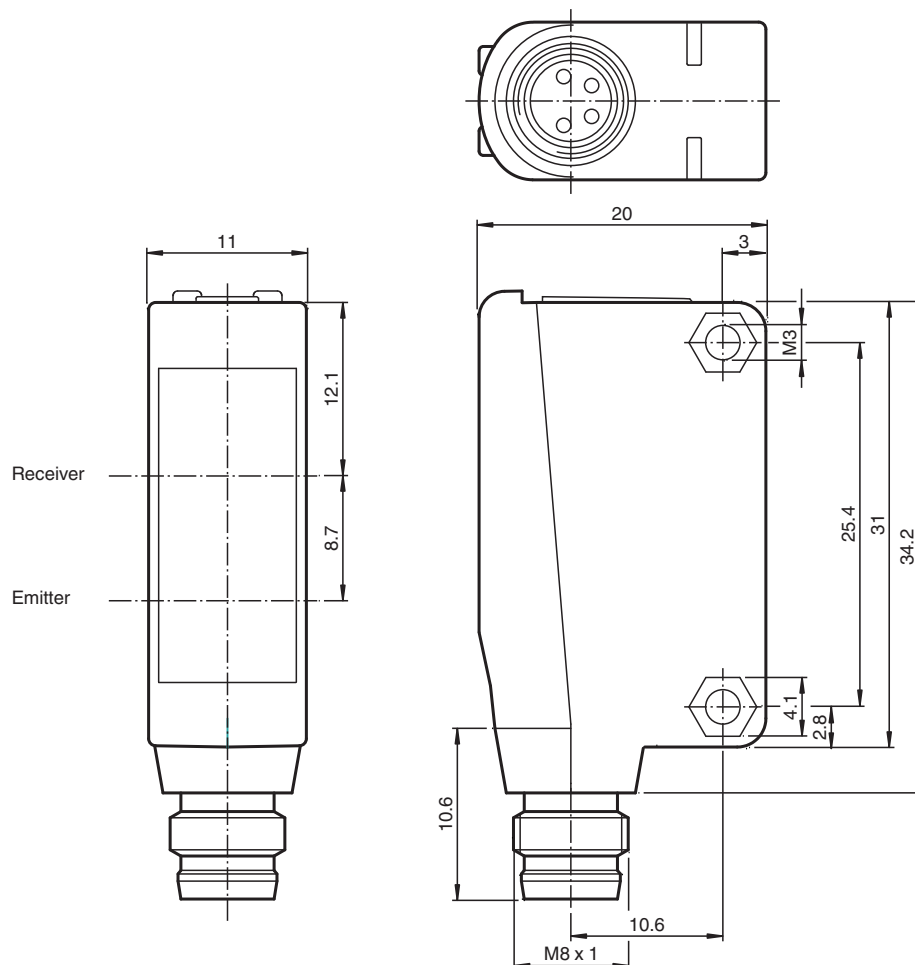
Retroreflective sensor with polarization filter, plastic housing, 5 m detection range, red light, light on, DC version, PNP output, M8 plug



Function

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



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

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Technical Data

| General specifications | | |
|--------------------------------------|----------------|---|
| Effective detection range | | 0 ... 5 m |
| Reflector distance | | 0.01 ... 5 m |
| Threshold detection range | | 7 m |
| Reference target | | H50 reflector |
| Light source | | LED |
| Light type | | modulated visible red light |
| Polarization filter | | yes |
| Diameter of the light spot | | approx. 500 mm at a distance of 7 m |
| Angle of divergence | | approx. 4 ° |
| Optical face | | frontal |
| Ambient light limit | | EN 60947-5-2:2007+A1:2012 |
| 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 up when receiving the light beam ; flashes when falling short of the stability control; OFF when light beam is interrupted |
| Electrical specifications | | |
| Operating voltage | U _B | 10 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | < 20 mA |
| Output | | |
| Switching type | | 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 _d | ≤ 1.5 V DC |
| Switching frequency | f | 1000 Hz |
| Response time | | 0.5 ms |
| Conformity | | |
| Product standard | | EN 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 |
| Ambient conditions | | |
| Ambient temperature | | -30 ... 60 °C (-22 ... 140 °F) |
| Storage temperature | | -40 ... 70 °C (-40 ... 158 °F) |
| Mechanical specifications | | |
| Housing width | | 11 mm |
| Housing height | | 31 mm |
| Housing depth | | 20 mm |
| Degree of protection | | IP67 |
| Connection | | Connector M8 x 1 , 4-pin |
| Material | | |
| Housing | | PC (Polycarbonate) |
| Optical face | | PMMA |
| Mass | | approx. 50 g |
| Tightening torque, fastening screws | | 0.6 Nm |

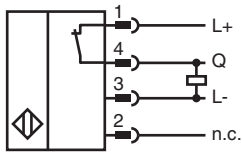
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Connection



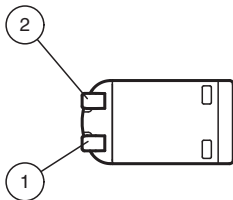
Connection Assignment



Wire colors in accordance with EN 60947-5-2

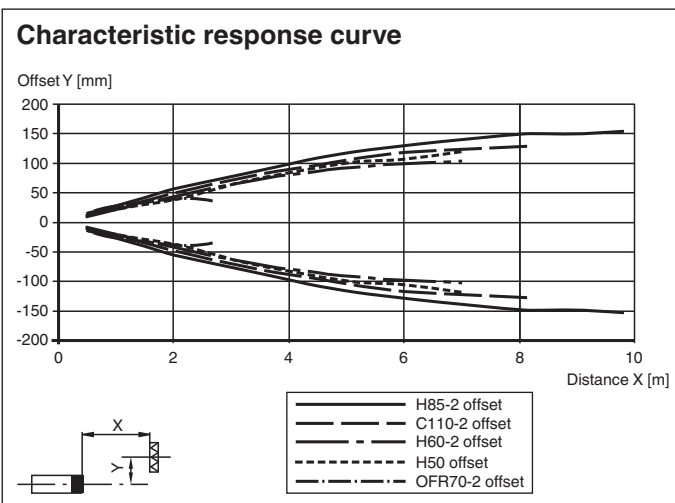
- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)

Assembly

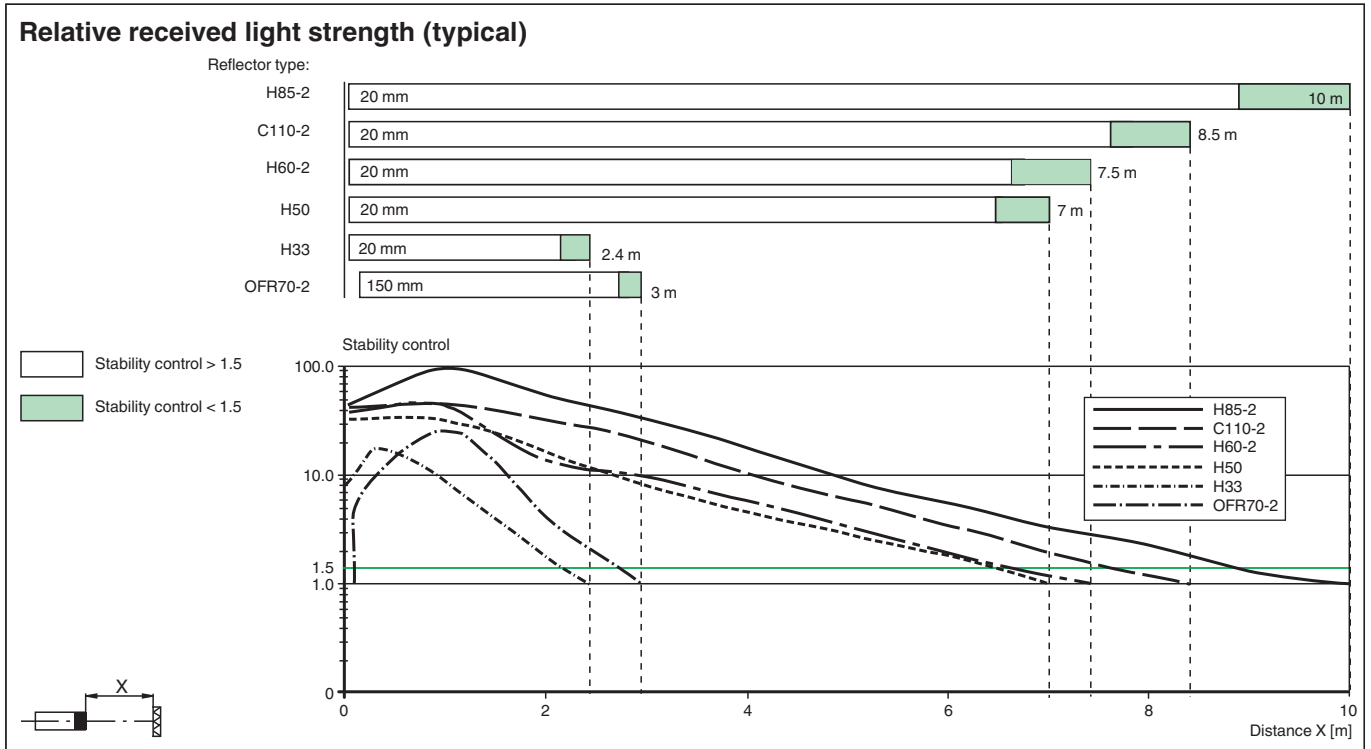


| | | |
|---|-------------------|--------|
| 1 | Signal display | yellow |
| 2 | Operating display | green |

Characteristic Curve



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





Accessories

| | | |
|--|----------------------|---|
| | OMH-ML100-09 | Mounting aid for round steel \varnothing 12 mm or sheet 1.5 mm ... 3 mm |
| | OMH-F10-ML100 | Mounting aid for ML100 series |
| | OMH-ML100-01 | Mounting aid for ML100 series, mounting bracket |
| | OMH-ML100-03 | Mounting aid for round steel \varnothing 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-10 | Mounting aid |
| | REF-H85-2 | Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes |
| | REF-C110-2 | Reflector, round \varnothing 84 mm, central mounting hole |
| | REF-H60-2 | Reflector with mounting holes |
| | REF-H50 | Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap |
| | REF-H33 | Reflector with screw fixing |

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Accessories

| | | |
|---|----------------------|--|
|  | OFR-70-2 | Reflective tape 70 mm x 70 mm |
|  | V31-WM-2M-PUR | Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey |
|  | V31-GM-2M-PUR | Female cordset single-ended M8 straight A-coded, 4-pin, PUR cable grey |
|  | OMH-ML100-08 | Mounting aid for ML100 series, Snap-in |