Model Number
ML8-55/103/115
Retroreflective sensor with 2 m fixed cable

Features
- Cost-optimized series for standard tasks
- Miniature design
- Tamper-proof, no operating controls
- Yellow LED indicator behind the front panel
- Flexible use with versatile mounting opportunities

Product information
Small, robust and reliable, the ML8 series of miniature sensors is particularly suitable for non-contact detection of objects in confined spaces. The LED indicator is located behind the lens and provides reliable information on the sensor’s operating status. The LED is always visible, even if the sensor is completely embedded. Flexible mounting options and fixed preset detection ranges simplify setup and operation.

Dimensions

Electrical connection

Option: 103

<table>
<thead>
<tr>
<th>Option</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN</td>
<td>+UB</td>
</tr>
<tr>
<td>WH</td>
<td>n.c.</td>
</tr>
<tr>
<td>BU</td>
<td>0 V</td>
</tr>
<tr>
<td>BK</td>
<td>Q</td>
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</table>

Indicators/operating means

1. Switching state: yellow
2. Emitter
3. Receiver
Retroreflective sensor with polarization filter

ML8-55/103/115

**Technical data**

**General specifications**
- Effective detection range: 0 ... 3 m
- Reflector distance: 0.02 ... 3 m
- Threshold detection range: 3.5 m
- Reference target: H85-2 reflector
- Light source: LED
- Light type: modulated visible red light
- Diameter of the light spot: approx. 180 mm at a distance of 3.5 m
- Angle of divergence: approx. 3°
- Ambient light limit: 40000 Lux

**Functional safety related parameters**
- MTTFd: 2340 a
- Mission Time (TM): 20 a
- Diagnostic Coverage (DC): 0 %

**Indicators/operating means**
- Function display: LED yellow: switching state

**Electrical specifications**
- Operating voltage: $U_B$ = 10 ... 30 V DC, class 2
- Ripple: max. 10 %
- No-load supply current: $I_0$ < 12 mA

**Output**
- Switching type: dark 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
- Voltage drop: $U_d$ ≤ 1.5 V DC
- Response time: 1.8 ms

**Ambient conditions**
- Ambient temperature: -20 ... 60 °C (-4 ... 140 °F)
- Storage temperature: -40 ... 75 °C (-40 ... 167 °F)

**Mechanical specifications**
- Protection degree: IP67
- Connection: 2 m fixed cable
- Housing: PC (glass-fiber-reinforced Makrolon)
- Optical face: PMMA
- Mass: approx. 50 g

**Compliance with standards and directives**
- Standard conformity
- Protection degree: EN 60529
- Standards: EN 50178, UL 508

**Approvals and certificates**
- Protection class: II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
- UL approval: cULus Listed, Class 2 Power Source, Type 1 enclosure
- CCC approval: CCC approval / marking not required for products rated ≤36 V

**Curves/Diagrams**

Characteristic response curve

![Characteristic response curve](image)

**Accessories**

- **Montagekit OMH-ML7-01**
  Mounting set consisting of bracket OMH-ML-01 sheet OMH-ML7-03, and fastening material

- **Montagekit OMH-ML7-02**
  Mounting set consisting of bracket OMH-ML-02 sheet OMH-ML7-03, and fastening material

- **OMH-ML7-01**
  Mounting bracket

- **OMH-ML7-02**
  Mounting bracket

- **OMH-ML7-03**
  Fixing plate

Other suitable accessories can be found at www.pepperl-fuchs.com
**Retroreflective sensor with polarization filter ML8-55/103/115**

**Release date:** 2013-04-18 15:52
**Date of issue:** 2013-05-13

### Relative received light strength

<table>
<thead>
<tr>
<th>Reflector type</th>
<th>Stability control &gt; 1.5</th>
<th>Stability control &lt; 1.5</th>
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<tbody>
<tr>
<td>H85-2</td>
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<td>CY19-9</td>
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<td>H160</td>
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</table>

**Distance X [m]:**
- 3.5 m
- 2.6 m
- 0.02 m
- 0.02 m
- 0.02 m
- 0.02 m
- 2.0 m
- 1.25 m
- 1.0 m

**Relative received light strength:**
- 10.0
- 5.0
- 1.0

**Distance in [in]:**
- 3.5 in
- 2.6 in
- 0.02 in
- 0.02 in
- 0.02 in
- 0.02 in
- 2.0 in
- 1.25 in
- 1.0 in