Diffuse mode sensor



Model Number

ML7-8-200/25/103/115b

Diffuse mode sensor with 0.2 m fixed cable and 4-pin, M12 connector

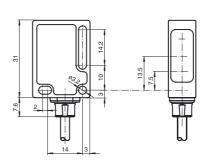
Features

- ٠ Miniature design
- Automatic adjustment of sensitivity via TEACH-IN
- ٠ Clearly visible function indicators
- Flashing power on LED in case of • short-circuit
- Not sensitive to ambient light
- Protected against mutual interference (no cross-talk)

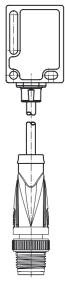
Product information

Small, robust, effective, and reliable - these are the properties of the ML7 sensor series. Due to their small size, number of versions, and two different lens positions, they are particularly suited for installation in tight spaces. The robust design and high quality of Pepperl+Fuchs mean they can also be used under harsh environmental conditions. The efficient technology, switching frequencies up to 1000 Hz, high resistance to ambient light, and 4-in-1 output make the series suitable for non-contact object detection.

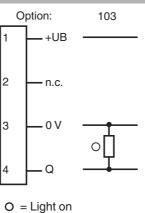
Dimensions







Electrical connection

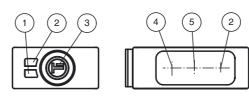


= Dark on

Pinout



Indicators/operating means



| 1 | Operating display | green |
|---|-----------------------|-------|
| 2 | Signal display yellow | |
| 3 | TEACH-IN button | |
| 4 | Emitter | |
| 5 | Receiver | |

Pepperl+Fuchs Group

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Mounting set consisting of bracket OMH-ML-01 sheet OMH-ML7-03, and faste-

Mounting set consisting of bracket OMH-ML-02 sheet OMH-ML7-03, and faste-

Other suitable accessories can be found at

Accessories

ning material

ning material OMH-ML7-01 Mounting bracket OMH-ML7-02 Mounting bracket OMH-ML7-03 Fixing plate

www.pepperl-fuchs.com

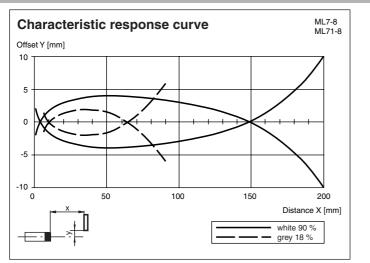
Montagekit OMH-ML7-01

Montagekit OMH-ML7-02

Technical data

| General specifications | | | | |
|--------------------------------------|---------------------|--|--|--|
| Detection range | | 20 200 mm | | |
| Adjustment range | | 60 200 mm | | |
| Reference target | | standard white, 100 mm x 100 mm | | |
| Light source | | LED | | |
| Light type | | modulated visible red light | | |
| Diameter of the light spot | | approx. 15 mm at a distance of 200 mm | | |
| Angle of divergence | | approx. 4.5 ° | | |
| Ambient light limit | | 40000 Lux | | |
| Functional safety related parameters | | | | |
| MTTF _d | | 1610 a | | |
| Mission Time (T _M) | | 20 a | | |
| Diagnostic Coverage (DC) | | 0 % | | |
| Indicators/operating means | | | | |
| Operation indicator | | LED green, flashes in case of short-circuit | | |
| Function indicator | | LED yellow, lights up with receiver lit | | |
| Control elements | | Teach-In key | | |
| Electrical specifications | | | | |
| Operating voltage | UB | 10 30 V DC , class 2 | | |
| Ripple | | max. 10 % | | |
| No-load supply current | l _o | < 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 | | |
| U U | | ≤ 1.5 V DC | | |
| Voltage drop | U _d f | 1000 Hz | | |
| Switching frequency Response time | 1 | 0.5 ms | | |
| • | | 0.0 113 | | |
| Ambient conditions | | 00 00 %C / 4 140 %E | | |
| Ambient temperature | | -20 60 °C (-4 140 °F) | | |
| Storage temperature | | -40 75 °C (-40 167 °F) | | |
| Mechanical specifications | | | | |
| Degree of protection | | IP67 / IP69K | | |
| Connection | | fixed cable 200 mm with M12 connector, 4-pin | | |
| Material | | DC (glass fiber reinforced Makralan) | | |
| Housing | | PC (glass-fiber-reinforced Makrolon) PMMA | | |
| Optical face Mass | | | | |
| | | approx. 30 g | | |
| Compliance with standards and ves | directi | - | | |
| Standard conformity | | | | |
| Product standard | | EN 60947-5-2:2007 IEC 60947-5-2:2007 | | |
| Standards | | EN 50178, UL 508 | | |
| Approvals and certificates | | | | |
| Protection class | | II, rated voltage \leq 250 V AC with pollution degree 1-2 according to IEC 60664-1 | | |
| UL approval | | cULus | | |
| CCC approval | | CCC approval / marking not required for products rated \leq 36 V | | |
| | | | | |

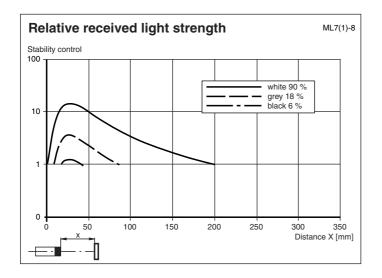
Curves/Diagrams



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TEACH-IN

Connect the sensor to operating voltage, the LED green lights up constantly. The sensor operates at max. sensitivity (delivery status) or with the last teached values.

- · Adjust the unit to the target.
- Press the TEACH-IN button as an acknowledge the green LED will switch off shortly for one time.
- Press the TEACH-IN button until both LED's green and yellow are blinking in parallel (2Hz). Release the TEACH-IN button now.
- While the green and yellow LEDs are blinking alternating (2Hz) the unit is in the internal set up procedure.
- TEACH-IN successful: Both LEDs green and yellow are on. The unit is ready to use and in switching mode now.
- TEACH-IN not successful: Both LEDs are flashing alternating (4Hz) for approx. 5 seconds. Afterwards the sensor returns to max. sensitivity setting. Please retry the TEACH-IN procedure beginning by step 1.

