



Model Number

ML7-8-H-140-RT/65a/115b/120

Background suppression sensor with fixed cable and M12 connector, 4-pin

Features

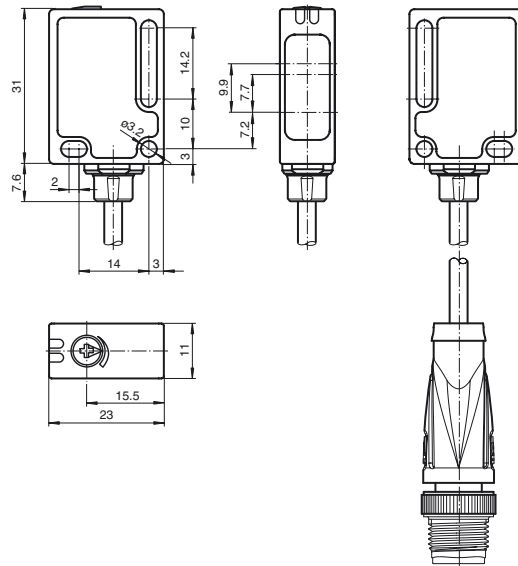
- Miniature design
- Reliable detection of all surfaces, independent of color and structure
- Minimal black-white difference
- Precision background suppression, adjustable
- Clearly visible function indicators
- Short circuit and low voltage indicator
- Certified by ECOLAB

Product information

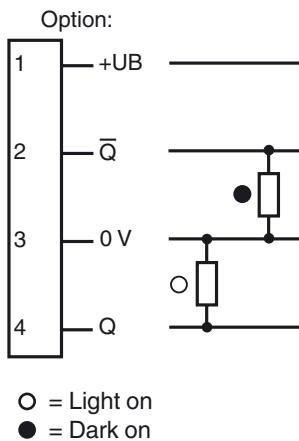
Small, robust, effective, and reliable - these are the properties of the ML7 sensor series. Due to their small size, number of versions, and two different lens positions, they are particularly suited for installation in tight spaces. The robust design and high quality of Pepperl+Fuchs mean they can also 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.

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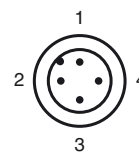
Dimensions



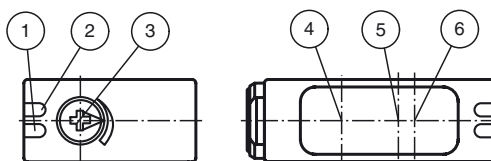
Electrical connection



Pinout



Indicators/operating means



| | | |
|---|------------------------|--------|
| 1 | Operating display | green |
| 2 | Signal display | yellow |
| 3 | Sensing range adjuster | |
| 4 | Emitter | |
| 5 | Receiver TW min. | |
| 6 | Receiver TW max. | |

Technical data**General specifications**

| | |
|---------------------------------|--|
| Detection range | 5 ... 140 mm |
| Detection range min. | 5 ... 25 mm |
| Detection range max. | 13 ... 140 mm |
| Adjustment range | 25 ... 140 mm |
| Reference target | standard white, 100 mm x 100 mm |
| Light source | LED |
| Light type | modulated visible red light |
| Black/White difference (6%/90%) | < 10 % |
| Diameter of the light spot | approx. 5 mm at detection range 120 mm |

Functional safety related parameters

| | |
|--------------------------------|--------|
| MTTF _d | 1580 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|---------------------|--|
| Operation indicator | LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz) |
| Function indicator | LED yellow: lights when object is detected |
| Control elements | Detection range adjuster |

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 | |
| Signal output | 2 PNP, complementary, short-circuit protected, reverse polarity protected | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 100 mA | |
| Switching frequency | f | 1 kHz |
| Response time | | 500 μs |

Ambient conditions

| | |
|---------------------|--------------------------------|
| 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 | |
| Housing | PC (glass-fiber-reinforced Makrolon) |
| Optical face | PMMA |
| Mass | approx. 10 g |

Compliance with standards and directives

| | |
|---------------------|---|
| Standard conformity | |
| Product standard | EN 60947-5-2:2007 IEC 60947-5-2:2007 |

Approvals and certificates

| | |
|------------------|--|
| Protection class | II, rated voltage ≤ 50 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 ≤36 V |

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

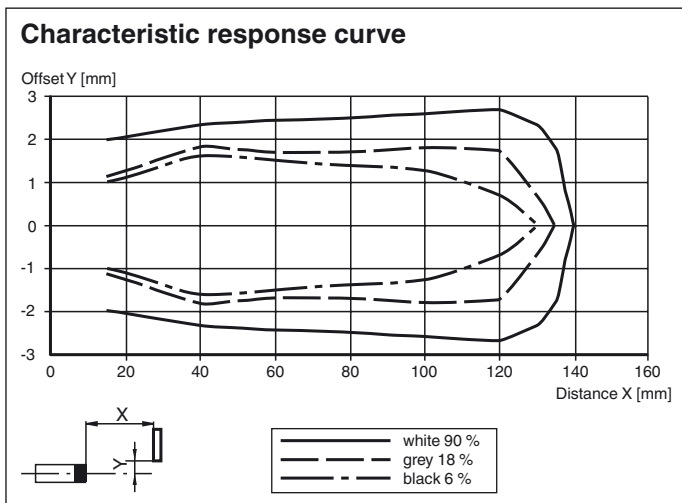
Mounting bracket

OMH-ML7-03

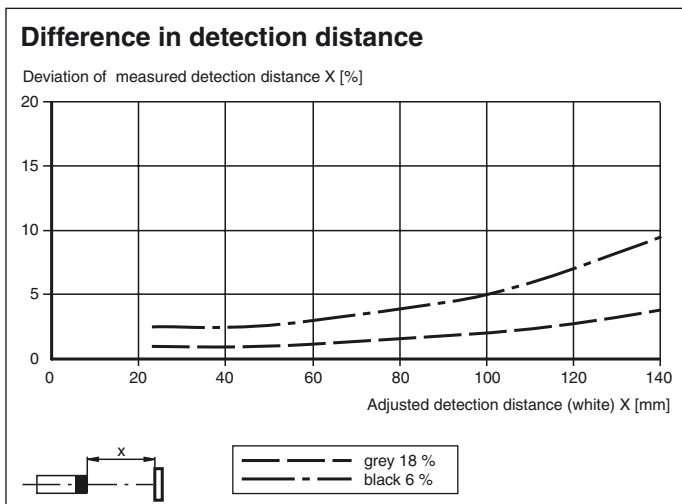
Fixing plate

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

Curves/Diagrams



Curves/Diagrams



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

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