



Model Number

ML8-8-H-100-RT/65a/103/143/162

Background suppression sensor with 4-pin, M8 x 1 connector

Features

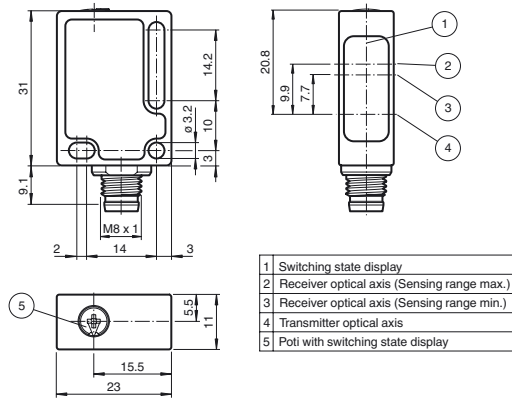
- Diffuse mode sensor with multiple light spots
- Specially designed for detecting critical objects such as PCBs
- Detects objects in front of a close background through precise background suppression
- Can be adapted to the application in question thanks to the adjustable detection range
- Precision object detection, almost irrespective of the color
- Not sensitive to ambient light, even with switched energy saving lamps

Product information

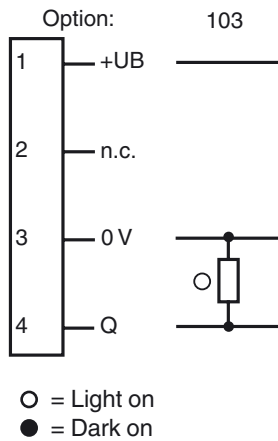
Small, robust and reliable, the ML8 series of miniature sensors is particularly suitable for non-contact detection of objects in confined spaces. The LED indicator is located behind the lens and provides reliable information on the sensor's operating status. The LED is always visible, even if the sensor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

Release date: 2019-11-26 15:36 Date of issue: 2019-11-26 218993_eng.xml

Dimensions



Electrical connection



Pinout

Wire colors in accordance with EN 60947-5-2

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

Technical data

General specifications

| | |
|---------------------------------|--|
| Detection range | 20 ... 100 mm |
| Detection range min. | 10 ... 25 mm |
| Detection range max. | 25 ... 100 mm |
| Adjustment range | 25 ... 100 mm |
| Reference target | standard white, 100 mm x 100 mm |
| Light source | LED |
| Light type | modulated visible red light , 640 nm |
| Black/White difference (6%/90%) | < 20 % |
| Diameter of the light spot | 2 light spots, 12 mm apart, spotsize 4 mm at a distance of 50 mm, 25 mm apart, spotsize 10 mm at a distance of 100 mm (outer spot to outer spot) |
| Ambient light limit | EN 60947-5-2 |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 794 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|--------------------|--|
| Function indicator | 2 LEDs yellow, light up in case of detection |
| Control elements | Sensing range adjuster |

Electrical specifications

| | | |
|------------------------|----------------|--------------------------|
| Operating voltage | U _B | 10 ... 30 V DC , class 2 |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | < 15 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 | |
| Voltage drop | U _d | ≤ 1.5 V DC |
| Switching frequency | f | 500 Hz |
| Response time | | 1 ms |

Conformity

| | |
|------------------|--------------|
| Product standard | EN 60947-5-2 |
|------------------|--------------|

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -20 ... 60 °C (-4 ... 140 °F) |
| Storage temperature | -40 ... 70 °C (-40 ... 158 °F) |

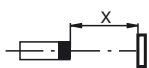
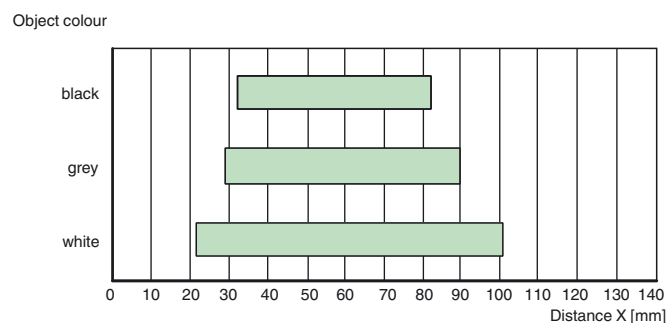
Mechanical specifications

| | |
|----------------------|--------------------------------------|
| Housing width | 23 mm |
| Housing height | 31 mm |
| Housing depth | 11 mm |
| Degree of protection | IP67 |
| Connection | M8 x 1 connector, 4-pin |
| Material | |
| Housing | PC (glass-fiber-reinforced Makrolon) |
| Optical face | PMMA |
| Connector | plastic |
| Mass | approx. 10 g |

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 |

Detection ranges



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 aid for ML7 and ML8 series, Mounting bracket

OMH-ML7-02

Mounting aid for ML7 and ML8 series, Mounting bracket

OMH-ML7-03

Mounting aid for ML7 and ML8 series, Fixing plate

V31-WM-2M-PUR

Female cordset single-ended, M8, 4-pin, PUR cable

V31-GM-2M-PUR

Female cordset single-ended, M8, 4-pin, PUR cable

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