Model Number

ML8-8-H-100-RT/65/103/115a/162

Background suppression sensor

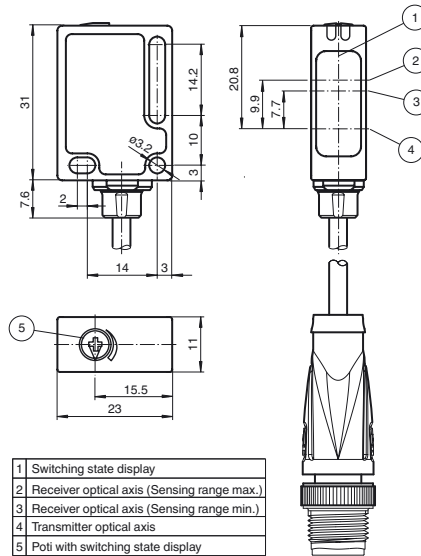With fixed cable and M8 device plug, 3-pin

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
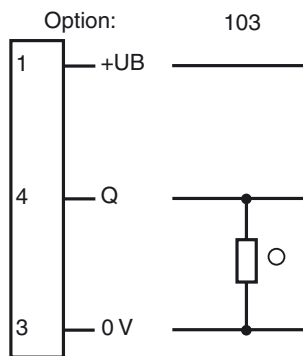
Product information

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.

Dimensions

1	Switching state display
2	Receiver optical axis (Sensing range max.)
3	Receiver optical axis (Sensing range min.)
4	Transmitter optical axis
5	Poti with switching state display

Electrical connection

Option: 103

○ = Light on
● = Dark on

Pinout

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS   **1**

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)

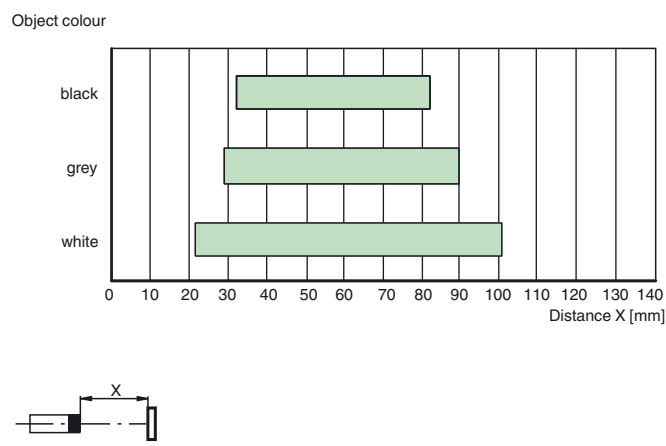### Mechanical specifications

Housing width	11 mm
Housing height	31 mm
Housing depth	23 mm
Degree of protection	IP65 / IP67
Connection	fixed cable 250 mm with M8 connector, 3-pin
Material	
Housing	PC (glass-fiber-reinforced Makrolon)
Optical face	PMMA
Connector	plastic
Mass	approx. 30 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

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

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

Detection ranges

Object colour

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

Release date: 2019-11-26 15:36   Date of issue: 2019-11-26   235192_eng.xml