



**Model Number**

**ML8-8-H-30-RT/103/143/162**

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

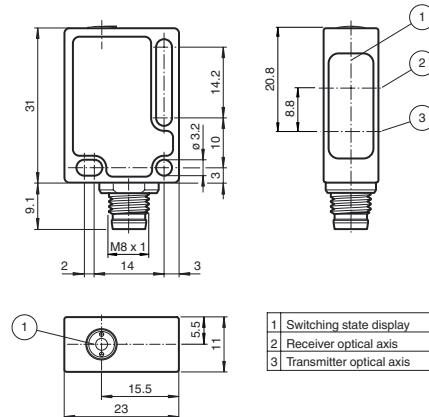
**Features**

- 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
- Precision object detection, almost irrespective of the color
- Tamper-proof, no operating controls
- Plug and Play
- Not sensitive to ambient light, even with switched energy saving lamps

**Product information**

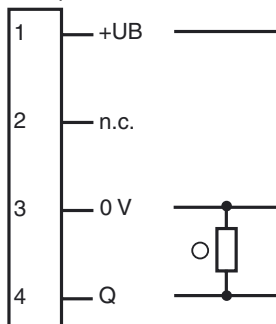
Small, robust and reliable, the ML8 series of miniature sensors is particularly suitable for non-contact detection of objects in confined spaces. The LED indicator is located behind the lens and provides reliable information on the sensor's operating status. The LED is always visible, even if the sensor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

**Dimensions**



**Electrical connection**

Option: 103



○ = Light on  
● = Dark on

**Pinout**



Release date: 2014-08-15 08:33 Date of issue: 2014-08-15 20:43:09\_eng.xml

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

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**Technical data****General specifications**

Detection range	15 ... 30 mm
Reference target	standard black, 100 mm x 100 mm
Light source	LED
Light type	modulated visible red light , 640 nm
Black/White difference (6%/90%)	< 10 %
Diameter of the light spot	3 light spots, 12 mm apart (outer spot to outer spot), spotsize 3.5 mm at a distance of 30 mm (outer spot to outer spot)
Ambient light limit	EN 60947-5-2

**Functional safety related parameters**

MTTF <sub>d</sub>	794 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Function indicator	2 LEDs yellow, light up in case of detection
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**Electrical specifications**

Operating voltage	U <sub>B</sub>	10 ... 30 V DC , class 2
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	< 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 <sub>d</sub>	≤ 1.5 V DC
Switching frequency	f	500 Hz
Response time		1 ms

**Ambient conditions**

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

**Mechanical specifications**

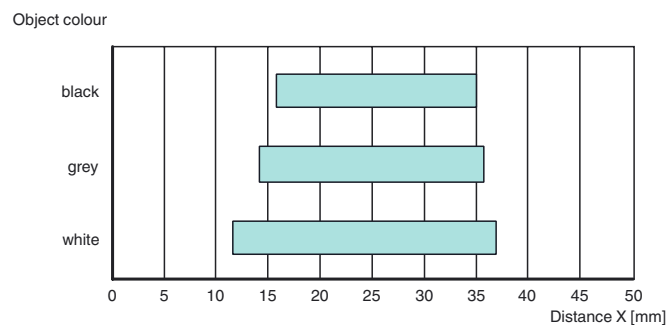
Degree of protection	IP67
Connection	M8 x 1 connector, 4-pin
Material	
Housing	PC (glass-fiber-reinforced Makrolon)
Optical face	PMMA
Connector	plastic
Mass	approx. 10 g

**Compliance with standards and directives**

Directive conformity	EMC Directive 2004/108/EC
Standard conformity	
Product standard	EN 60947-5-2:2007
Degree of protection	EN 60529
Standards	EN 50178, UL 508

**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 bracket

**OMH-ML7-02**

Mounting bracket

**OMH-ML7-03**

Fixing plate

**V31-WM-2M-PUR**

Female cordset, M8, 4-pin, PUR cable

**V31-GM-2M-PUR**

Female cordset, M8, 4-pin, PUR cable

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)