Model Number

ML8-8-H-30-RT/102/115/162

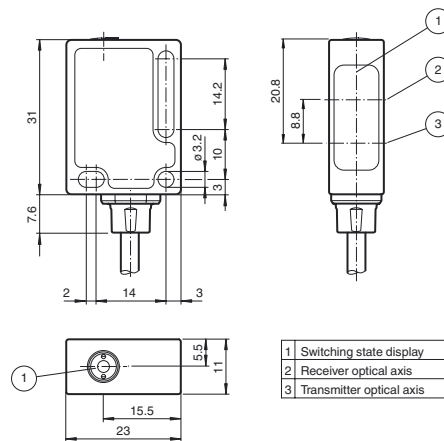Background suppression sensor
with 2 m fixed cable

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
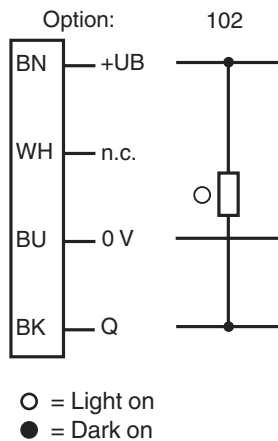- Not sensitive to ambient light, even with switched energy saving lamps

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

1	Switching state display
2	Receiver optical axis
3	Transmitter optical axis

Electrical connection

Option: 102

BN	+UB
WH	n.c.
BU	0 V
BK	Q

○ = Light on
● = Dark on

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
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

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 NPN 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

Ambient conditions

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

Mechanical specifications

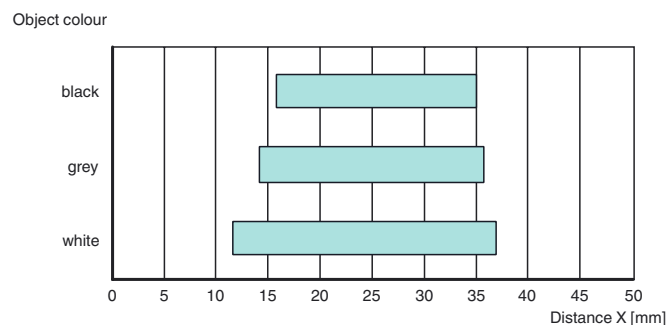|	
Protection degree	IP67
Connection	2 m fixed cable
Material	
Housing	PC (glass-fiber-reinforced Makrolon)
Optical face	PMMA
Mass	approx. 50 g

Compliance with standards and directives

Directive conformity	EMC Directive 2004/108/EC
Standard conformity	
Product standard	EN 60947-5-2:2007
Protection degree	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

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

Detection ranges

Object colour

Object colour	
black	
grey	
white	

Distance X [mm]

X

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

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