



**Model Number**

**ML8-8-HGU-220-RT/103/115b**

Convergent mode sensor  
with fixed cable and M12 connector, 4-pin

**Features**

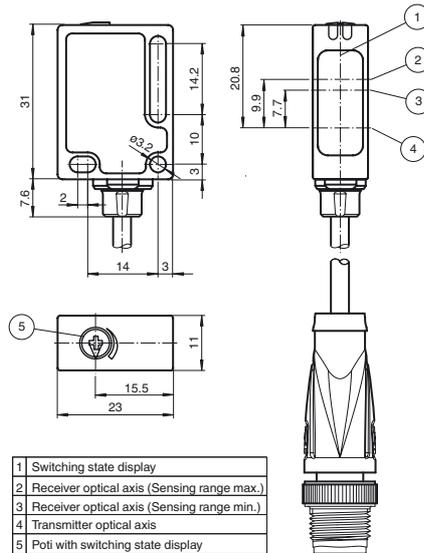
- Miniature design
- Background interference suppression
- Mechanical adjustable detection range
- Not sensitive to ambient light, even with switched energy saving lamps
- Flexible mounting possibilities due to slotted hole

**Product information**

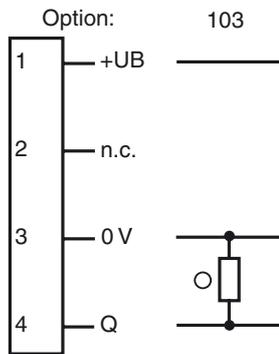
Small, robust and reliable, the ML8 series of miniature sensors is particularly suitable for non-contact detection of objects in confined spaces. The LED indicator is located behind the lens and provides reliable information on the sensor's operating status. The LED is always visible, even if the sensor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

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**Dimensions**

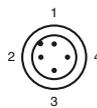


**Electrical connection**



○ = Light on  
● = Dark on

**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	5 ... 220 mm
Adjustment range	100 ... 220 mm
Reference target	standard white, 100 mm x 100 mm
Light source	LED , 645 nm
Light type	modulated visible red light
Diameter of the light spot	approx. 10 mm at detection range 220 mm
Angle of divergence	approx. 2.6 °
Ambient light limit	EN 60947-5-2

**Functional safety related parameters**

MTTF <sub>d</sub>	830 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
Control elements	Sensing range adjuster

**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

**Conformity**

Product standard	EN 60947-5-2
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**Ambient conditions**

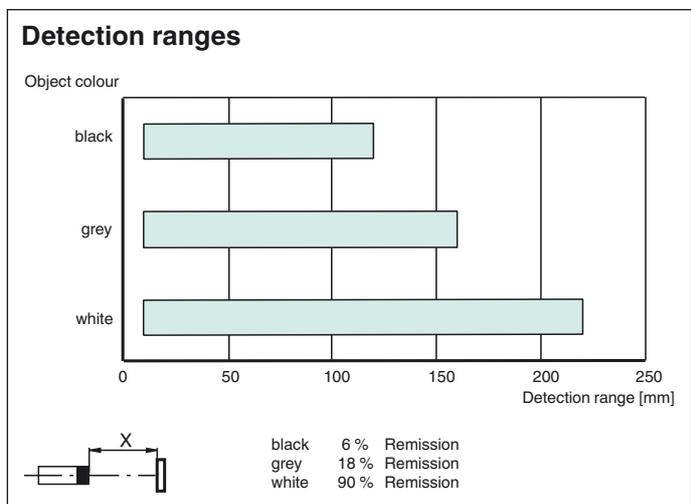
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

**Mechanical specifications**

Housing width	11 mm
Housing height	31 mm
Housing depth	23 mm
Degree of protection	IP65/IP67
Connection	fixed cable 300 mm with M12 connector, 4-pin
Material	
Housing	PC (glass-fiber-reinforced Makrolon)
Optical face	PMMA
Mass	approx. 20 g
Tightening torque, fastening screws	≤ 0.4 Nm

**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](http://www.pepperl-fuchs.com)