



### Model Number

**ML8-55/25/103/115b/138**

Retroreflective sensor  
with 0.3 m fixed cable and M12 connector, 4-  
pin

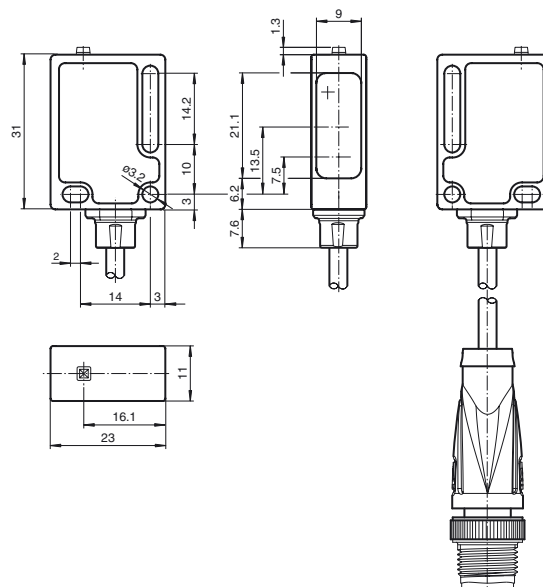
### Features

- Cost-optimized series for standard tasks
- Miniature design
- Tamper-proof, no operating controls
- 2-way LED indicator for switch status
- Flexible use with versatile mounting opportunities

### Product information

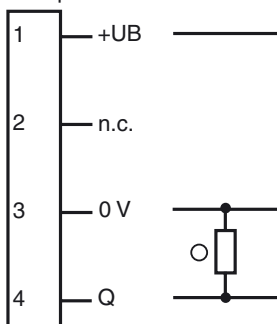
Small, robust and reliable, the ML8 series of miniature sensors is particularly suitable for non-contact detection of objects in confined spaces. The LED indicator is located behind the lens and provides reliable information on the sensor's operating status. The LED is always visible, even if the sensor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

### Dimensions



### Electrical connection

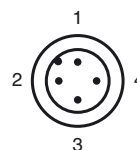
Option: 103



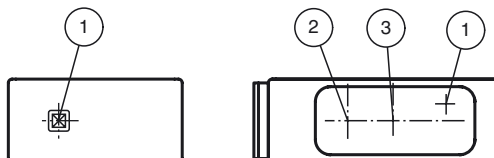
○ = Light on

● = Dark on

### Pinout



### Indicators/operating means



1	Switching state	yellow
2	Emitter	
3	Receiver	

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

Effective detection range	0 ... 3 m
Reflector distance	0.02 ... 3 m
Threshold detection range	3.5 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light
Diameter of the light spot	approx. 180 mm at a distance of 3.5 m
Angle of divergence	approx. 3 °
Ambient light limit	40000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	2340 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Function display	LED yellow: switching state
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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>	< 12 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
Response time	1.8 ms	

**Ambient conditions**

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)

**Mechanical specifications**

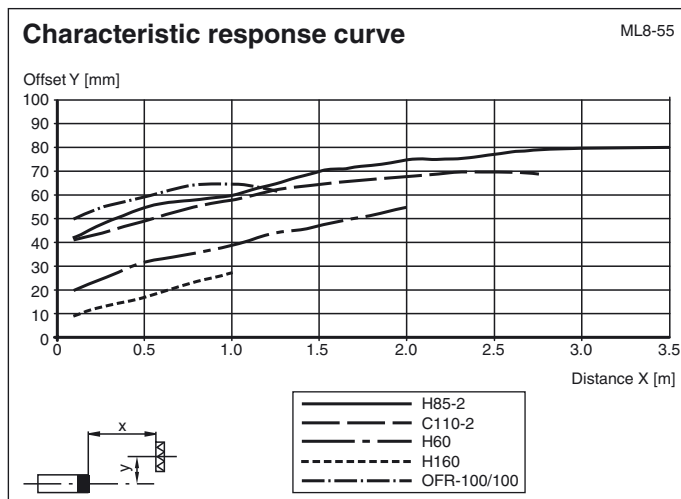
Protection degree	IP67
Connection	fixed cable 300 mm with M12 connector, 4-pin
Material	
Housing	PC (glass-fiber-reinforced Makrolon)
Optical face	PMMA
Mass	approx. 30 g

**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**

Protection class	II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

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

