



Model Number

ML8-8-H-140-RT/25/65a/103/115b

Background suppression sensor with fixed cable and M12 connector, 4-pin

Features

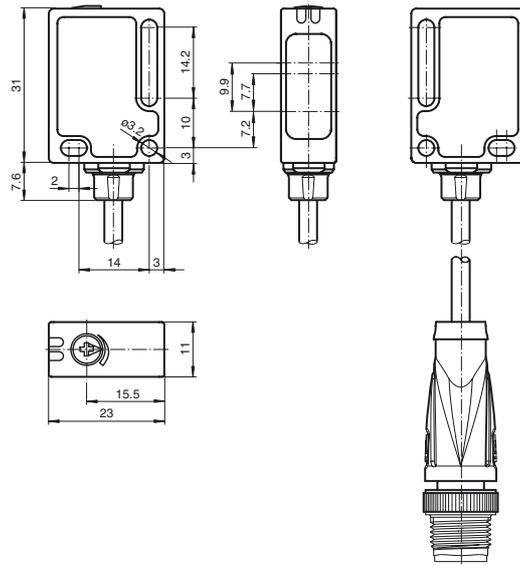
- Miniature design
- Minimal black-white difference
- Flexible mounting possibilities due to slotted hole
- Not sensitive to ambient light, even with switched energy saving lamps
- Protection class II

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.

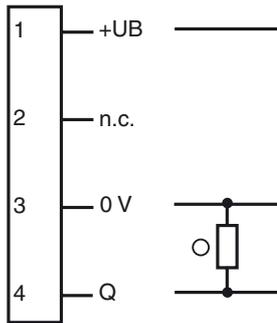
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Dimensions



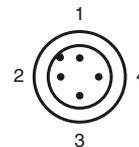
Electrical connection

Option: 103

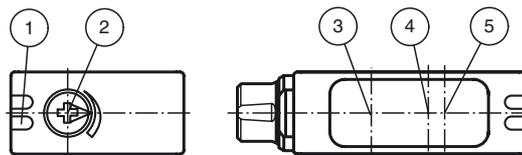


○ = Light on
● = Dark on

Pinout



Indicators/operating means



1	Functional display	yellow
2	Detection range adjuster	
3	Optical axis Emitter	
4	Optical axis Receiver min.	
5	Optical axis Receiver max.	

Technical data**General specifications**

Detection range	5 ... 140 mm
Detection range min.	5 ... 25 mm
Detection range max.	13 ... 140 mm
Adjustment range	25 ... 140 mm
Reference target	standard white, 100 mm x 100 mm
Light source	LED
Light type	modulated visible red light
Black/White difference (6%/90%)	< 15 %
Diameter of the light spot	approx. 5 mm at detection range 120 mm
Ambient light limit	30000 Lux

Functional safety related parameters

MTTF _d	2090 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Function indicator	LED yellow: lights when object is detected
Control elements	Detection range adjuster

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC, class 2
Ripple		max. 10 %
No-load supply current	I ₀	< 20 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	
Switching frequency	f	200 Hz
Response time		2.5 ms

Ambient conditions

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

Mechanical specifications

Degree of protection	IP65
Connection	fixed cable 300 mm with M12 connector, 4-pin
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
Degree of protection	EN 60529
Standards	EN 50178, UL 508

Approvals and certificates

Protection class	II, rated voltage ≤ 50 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

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

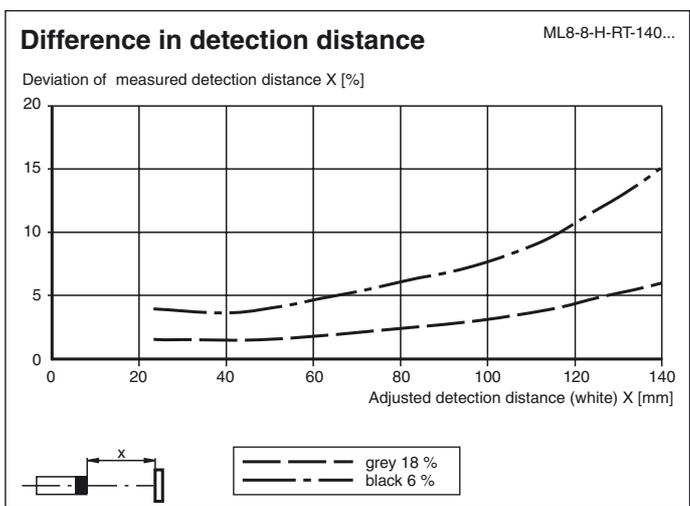
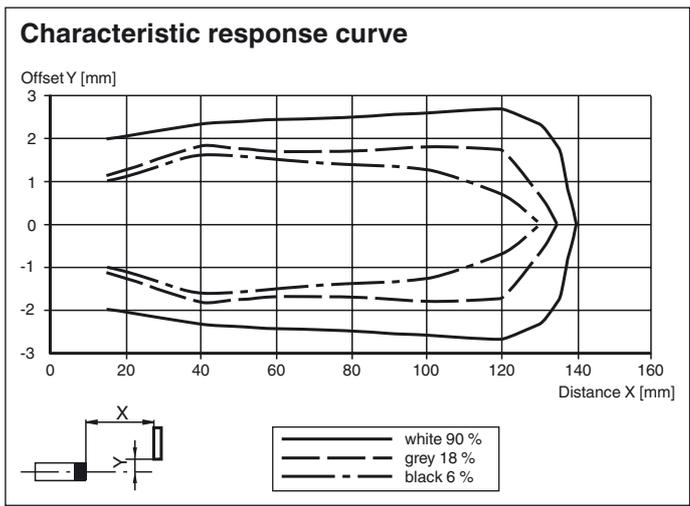
Mounting bracket

OMH-ML7-03

Fixing plate

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

Curves/Diagrams



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