



Model Number

ML100-8-1000-RT/103/115b

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

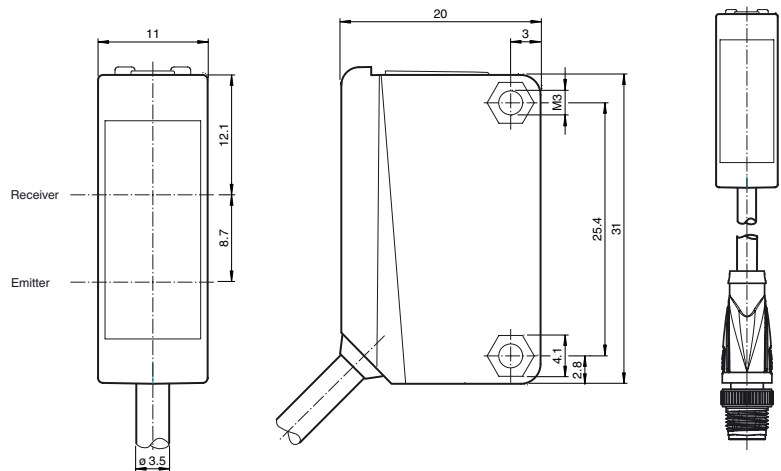
Features

- Miniature design
- Easy to use
- Very bright, highly visible light spot
- Full metal thread mounting
- Highly visible LEDs for Power ON and switching state
- Not sensitive to ambient light

Product information

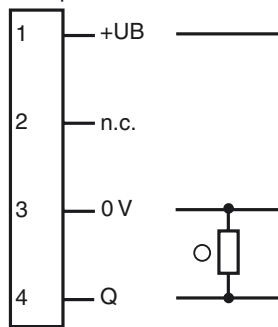
The ML100 series is characterized by its miniature housing with integral, all-metal threaded bushings. All versions are equipped with a visible red transmitter LED. This greatly simplifies installation and commissioning. The switching states are easily visible from all directions thanks to the highly visible LEDs.

Dimensions



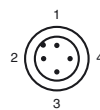
Electrical connection

Option: 103



○ = Light on
● = Dark on

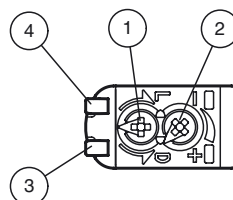
Pinout



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Indicators/operating means



1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

Release date: 2018-12-17 15:37 Date of issue: 2018-12-17 223590_eng.xml

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

Technical data**General specifications**

Detection range	0 ... 1000 mm
Adjustment range	100 ... 1000 mm
Reference target	standard white, 100 mm x 100 mm
Light source	LED
Light type	modulated visible red light
Polarization filter	no
Diameter of the light spot	approx. 75 mm at a distance of 1000 mm
Angle of divergence	approx. 2 °
Optical face	frontal
Ambient light limit	EN 60947-5-2:2007+A1:2012

Functional safety related parameters

MTTF _d	860 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Operation indicator	LED green: power on
Function indicator	LED yellow, lights up with receiver lit
Control elements	sensitivity adjustment
Control elements	Light-on/dark-on changeover switch

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I ₀	< 20 mA

Output

Switching type	The switching type of the sensor is adjustable. The default setting is: 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 , resistive load	
Voltage drop	U _d	≤ 1.5 V DC
Switching frequency	f	1000 Hz
Response time	0.5 ms	

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	20 mm
Degree of protection	IP67
Connection	300 mm fixed cable with 4-pin, M12 x 1 connector
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Mass	approx. 50 g
Cable length	0.3 m

Compliance with standards and directives

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2
Standard conformity	
Standards	UL 60947-5-2

Approvals and certificates

EAC conformity	TR CU 020/2011
UL approval	cULus Listed, Class 2 Power Source or listed Power Supply with a limited voltage output with (maybe integrated) fuse (max. 3.3 A according UL248), Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

Accessories**OMH-ML100-01**

Mounting aid for ML100 series, Mounting bracket

OMH-ML100-02

Mounting aid for ML100 series, Mounting bracket

OMH-ML100-03

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-ML100-04

Mounting aid for ML100 series, Mounting bracket

OMH-ML100-05

Mounting aid for ML100 series, Mounting bracket

OMH-F10-ML100

Mounting aid for ML100 series

OMH-10

Mounting aid

OMH-ML100-S1

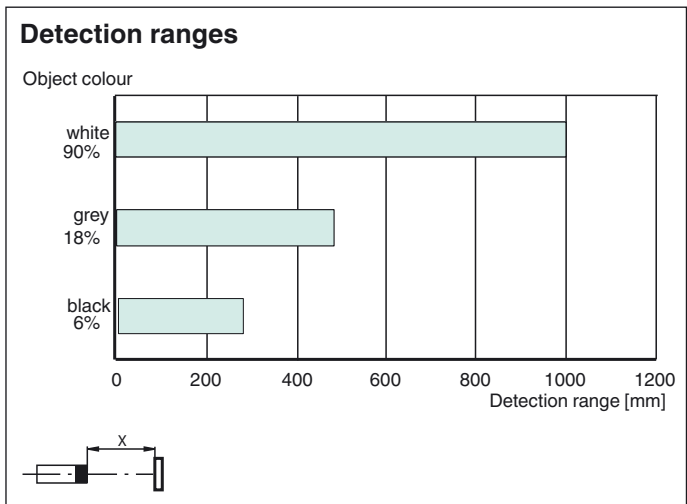
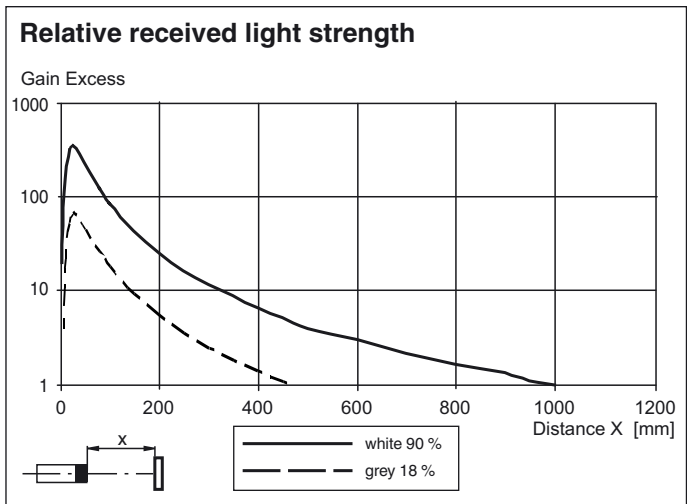
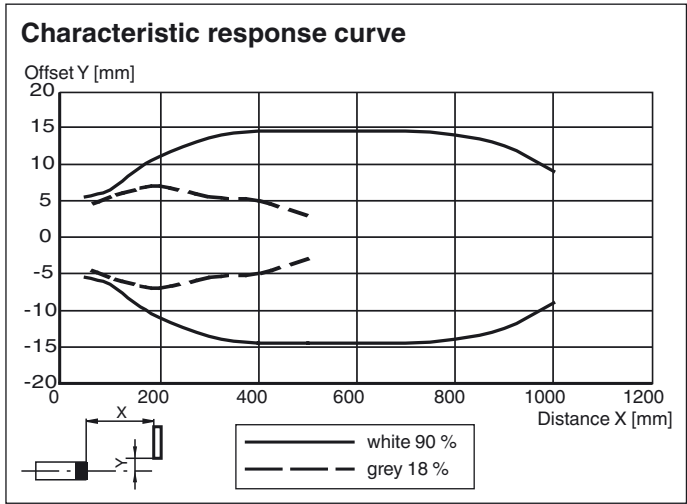
Mounting bracket

OMH-ML100-08

Mounting aid for ML100 series, Snap-in

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

Curves/Diagrams



Release date: 2018-12-17 15:37 Date of issue: 2018-12-17 223590_eng.xml

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