Model Number

ML100-8-HGU-100-RT/95/103/162

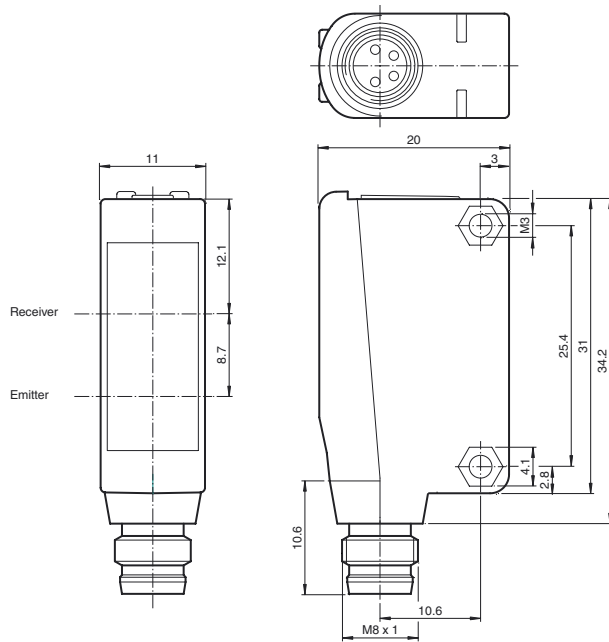Convergent mode sensor
with 4-pin, M8 x 1 connector

Features

- Miniature design
- Diffuse mode sensor with long, narrow light spot
- Easy to use
- Very bright, highly visible light spot
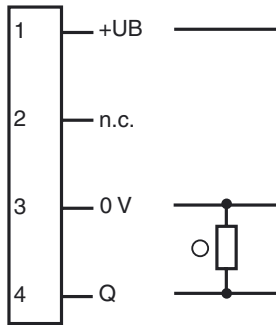- Full metal thread mounting

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

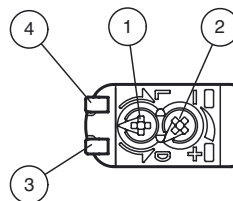## Electrical connection

Option: 103

○ = Light on
● = Dark on

Pinout

Indicators/operating means

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

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".
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www.pepperl-fuchs.com   fa-info@us.pepperl-fuchs.com fa-info@de.pepperl-fuchs.com   fa-info@sg.pepperl-fuchs.com

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Technical data

General specifications

Detection range	10 ... 100 mm
Adjustment range	30 ... 100 mm
Reference target	standard black, 100 mm x 100 mm
Light source	LED
Light type	modulated visible red light
Polarization filter	no
Diameter of the light spot	approx. 6 mm x 60 mm at 100 mm
Angle of divergence	Emitter: 3.5 ° vertical ; 30 ° horizontal
Optical face	frontal
Ambient light limit	EN 60947-5-2

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 when object is detected
Control elements	Detection range adjuster
Control elements	Light/Dark switch

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/dark on, switchable
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	500 Hz
Response time		1 ms

Ambient conditions

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

Mechanical specifications

Degree of protection	IP67
Connection	connector M8 x 1 , 4-pin
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Mass	approx. 10 g

Compliance with standards and directives

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2
Standard conformity	
Standards	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
Approvals	CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure)

Accessories

OMH-ML100-03
Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-ML100-04
Mounting bracket

OMH-ML100-05
Mounting bracket

OMH-F10-ML100
Mounting aid for ML100 series

OMH-10
Mounting aid

V31-GM-2M-PUR
Female cordset, M8, 4-pin, PUR cable

V31-WM-2M-PUR
Female cordset, M8, 4-pin, PUR cable
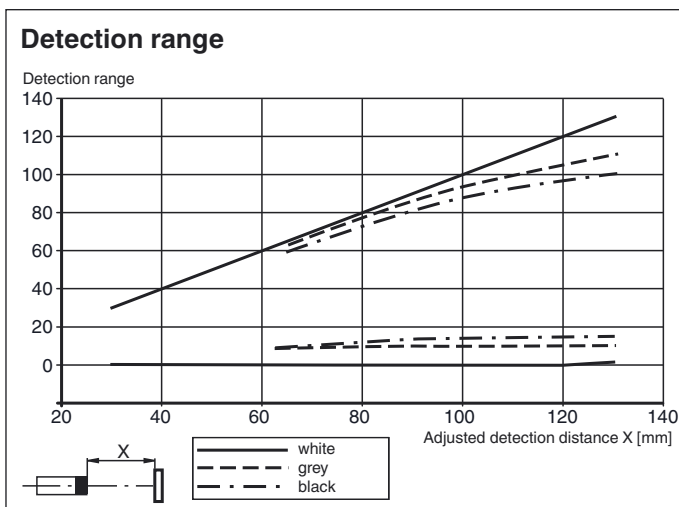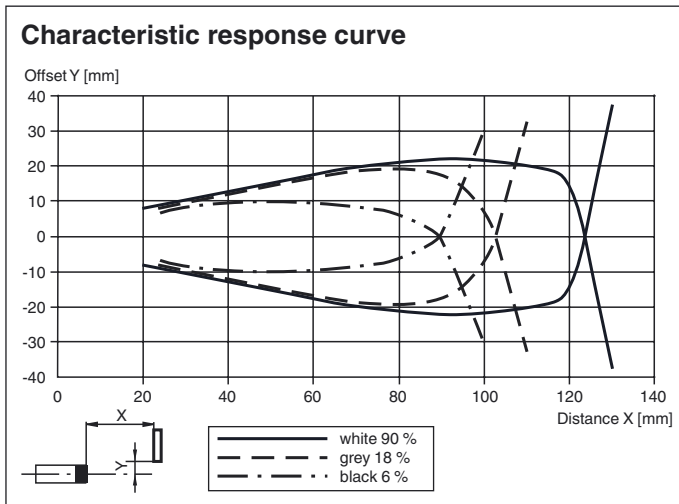
OMH-ML100-S1
Mounting bracket

OMH-ML100-08
Mounting aid

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

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

Distance X [mm]

white 90 %
grey 18 %
black 6 %

Detection range

Detection range

Adjusted detection distance X [mm]

white
grey
black

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