Model Number

M100/MV100-RT/35/76a/103/115

Thru-beam sensor
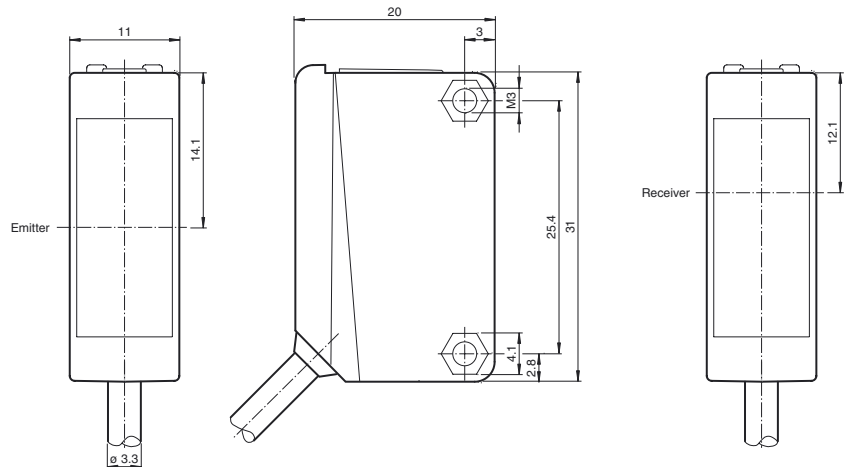with 2 m fixed cable

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
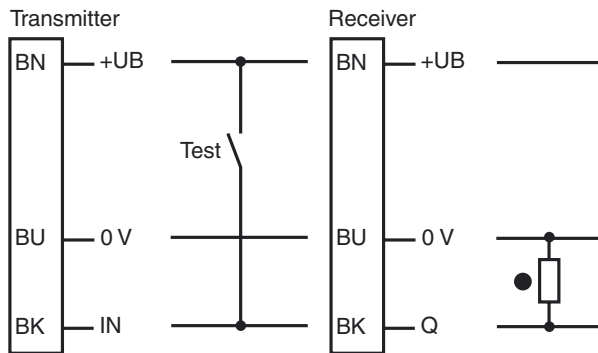- Not sensitive to ambient light

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.
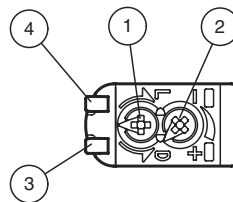
Dimensions

Electrical connection

○ = Light on
● = Dark on

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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1

Technical data

System components	
Emitter	M100-RT/35/76a/115
Receiver	MV100-RT/35/103/115
General specifications	
Effective detection range	0 ... 20 m
Threshold detection range	30 m
Light source	LED
Light type	modulated visible red light
Diameter of the light spot	approx. 2 m at a distance of 30 m
Angle of divergence	approx. 2 °
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	Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the stability control ; OFF when light beam is interrupted
Control elements	sensitivity adjustment
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	Emitter: ≤ 15 mA Receiver: ≤ 8 mA
Input	
Test input	emitter deactivation at +U_B
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
Voltage drop U_d	≤ 1.5 V DC
Switching frequency f	250 Hz
Response time	2 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	2 m fixed cable
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Mass	approx. 100 g (emitter and receiver)
Cable length	2 m
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-ML100-01
Mounting bracket

OMH-ML100-02
Mounting bracket

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
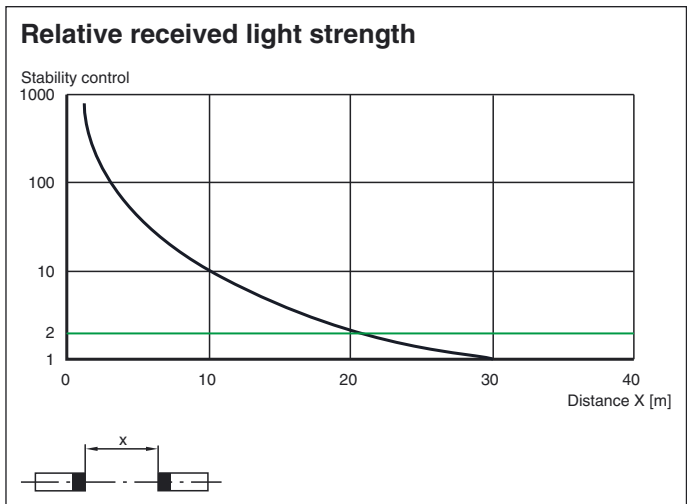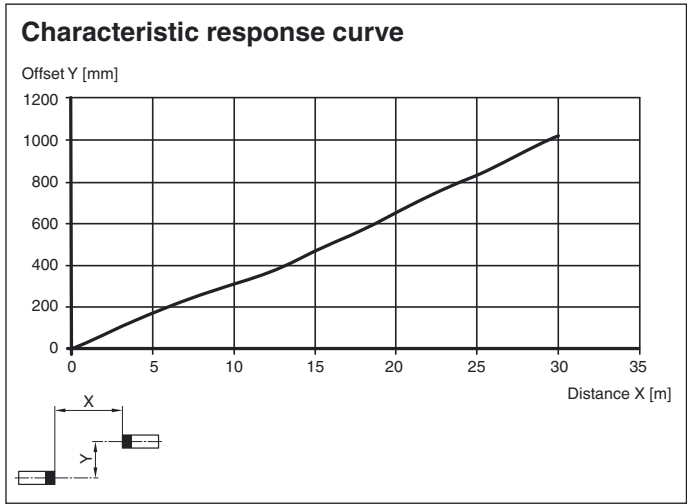
OMH-F10-ML100
Mounting aid for ML100 series

OMH-10
Mounting aid

OMH-ML100-S1
Mounting bracket

OMH-ML100-08
Mounting aid

Additional accessories can be found in the Internet.

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

Distance X [m]

Relative received light strength

Stability control

Distance X [m]

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