

Model Number

M100/MV100-RT/76a/95/103

Thru-beam sensor
with 4-pin M8 connector

Features

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

Description

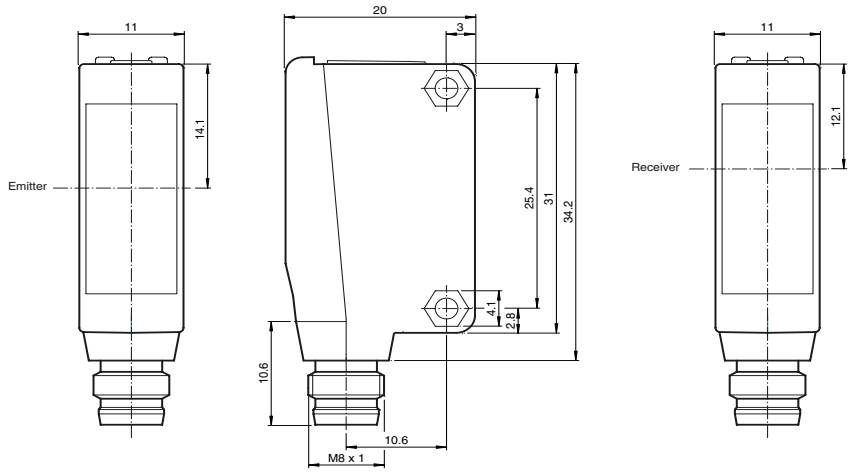
The ML100 series is characterized by its miniature housing with integral, all-metal threaded bushings. All versions are equipped with a visible red transmitter LED. This greatly simplifies installation and commissioning. The switching states are easily visible from all directions thanks to the highly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

Accessories

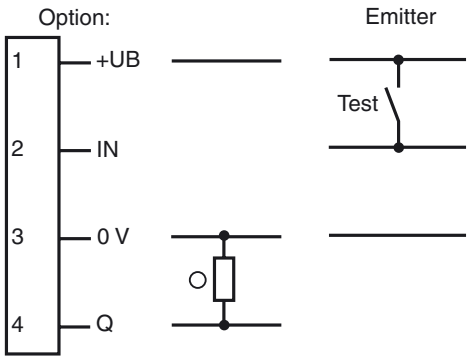
OMH-10
Mounting aid

Additional accessories can be found in the Internet.

Dimensions



Electrical connection

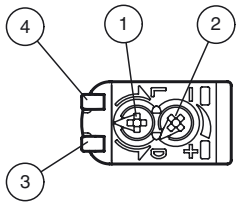


○ = Light on
● = Dark on

Pinout



Indicators/operating means



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

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Technical data

System components		
Emitter		M100-RT/76a/95
Receiver		MV100-RT/95/103
General specifications		
Effective detection range		0 ... 10 m
Threshold detection range		15 m
Light source		LED
Light type		modulated visible red light
Approvals		CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure)
Diameter of the light spot		approx. 1 m at a distance of 15 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		
Operating display		LED green: power on
Function display		Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the stability control ; OFF when light beam is interrupted
Controls		sensitivity adjustment
Controls		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 proof, protected from reverse polarity, 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		
Protection degree		IP67
Connection		M8 x 1 connector, 4-pin
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA
Mass		approx. 20 g (emitter and receiver)
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

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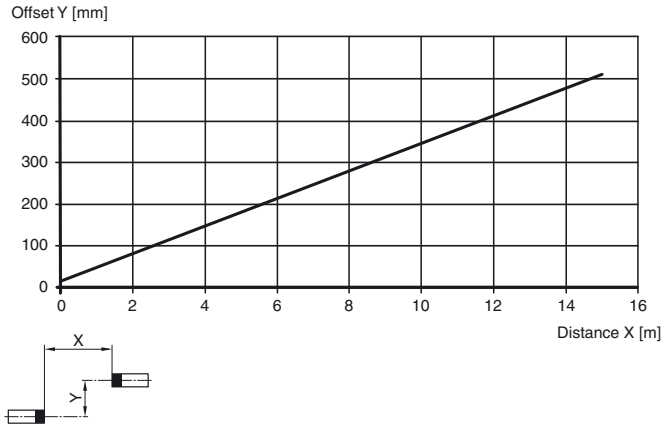
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USA: +1 330 486 0001 fa-info@us.pepperl-fuchs.com
Germany: +49 621 776-4411 fa-info@pepperl-fuchs.com
Singapore: +65 6779 9091 fa-info@sg.pepperl-fuchs.com

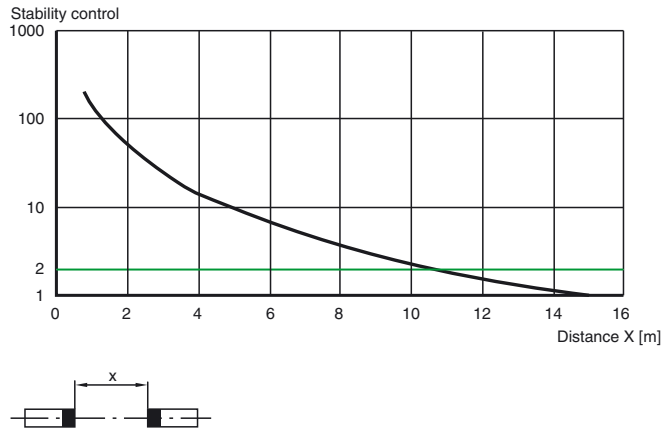
PEPPERL+FUCHS
SENSING YOUR NEEDS

Curves / Diagrams

Characteristic response curve



Relative received light strength



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