



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.

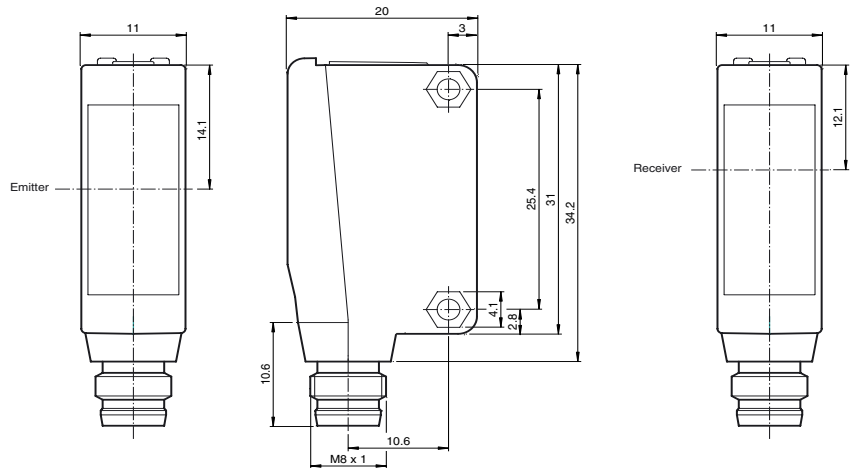
Accessories

OMH-10

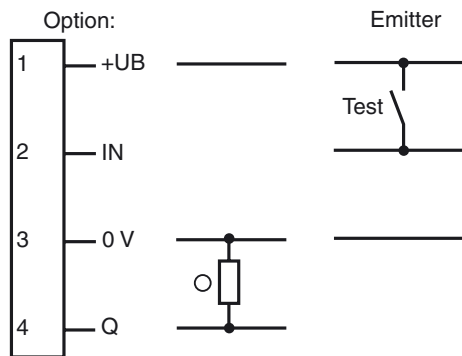
Mounting aid

Additional accessories can be found in the Internet.

Dimensions



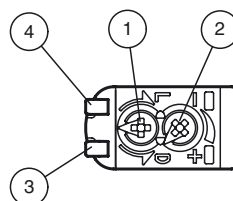
Electrical connection



Pinout



Indicators/operating means



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

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Subject to modifications without notice

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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
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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

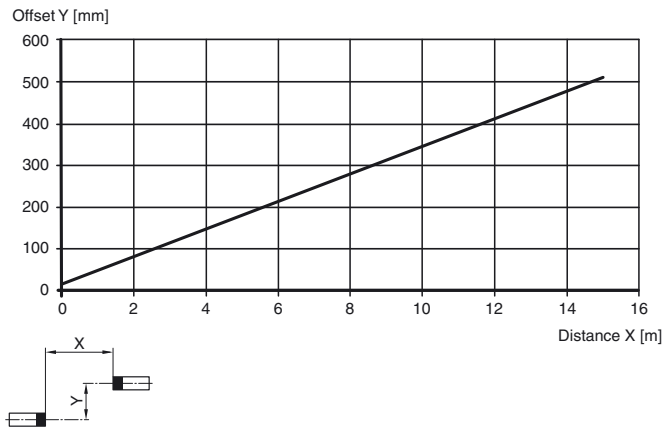
Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2
Standard conformity	
Standards	UL 508

Approvals and certificates

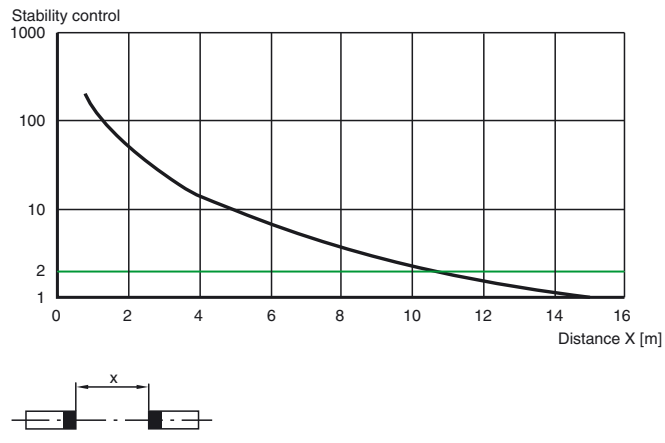
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
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Curves / Diagrams

Characteristic response curve



Relative received light strength



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