



### Model Number

**M100/MV100-RT/76b/95/102**

Thru-beam sensor  
with 4-pin, M8 x 1 connector

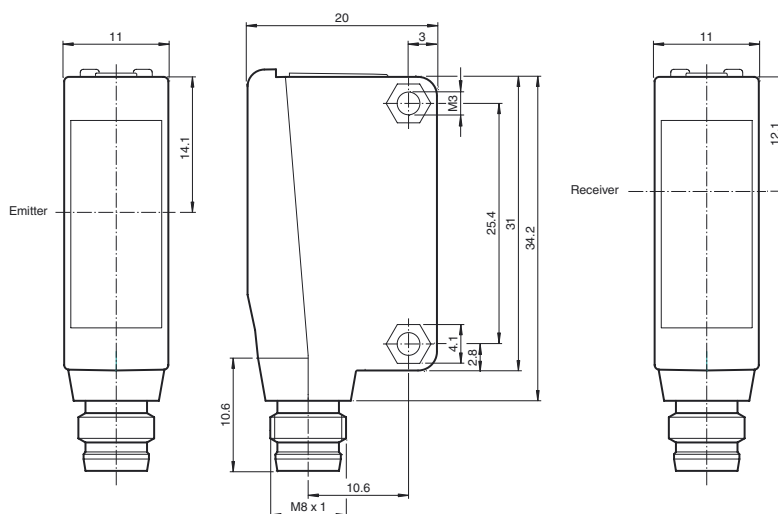
### Features

- 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

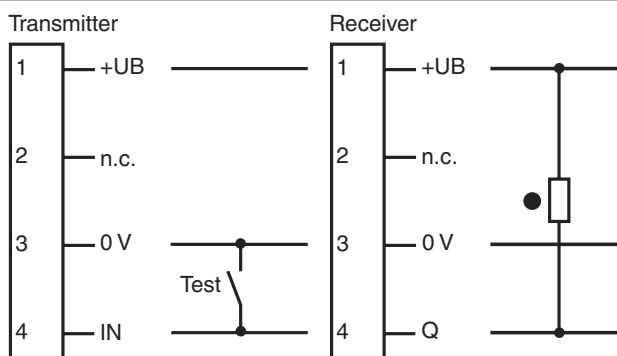
### Product information

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

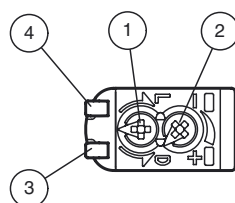


- = Light on  
● = Dark on

### Pinout



### Indicators/operating means



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

## Technical data

### System components

Emitter	M100-RT/76b/95
Receiver	MV100-RT/95/102

### General specifications

Effective detection range	0 ... 10 m
Threshold detection range	15 m
Light source	LED
Light type	modulated visible red light
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 <sub>d</sub>	860 a
Mission Time (T <sub>M</sub> )	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 <sub>B</sub>	10 ... 30 V DC , class 2
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	Emitter: ≤ 15 mA Receiver: ≤ 8 mA

### Input

Test input	emitter deactivation at 0 V
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### Output

Switching type	light/dark on, switchable	
Signal output	1 NPN 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 <sub>d</sub>	≤ 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

Degree of protection	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
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-ML100-08

Mounting aid

### OMH-F10-ML100

Mounting aid for ML100 series

### OMH-10

Mounting aid

### V31-WM-2M-PUR

Female cordset, M8, 4-pin, PUR cable

### V31-GM-2M-PUR

Female cordset, M8, 4-pin, PUR cable

### OMH-ML100-S1

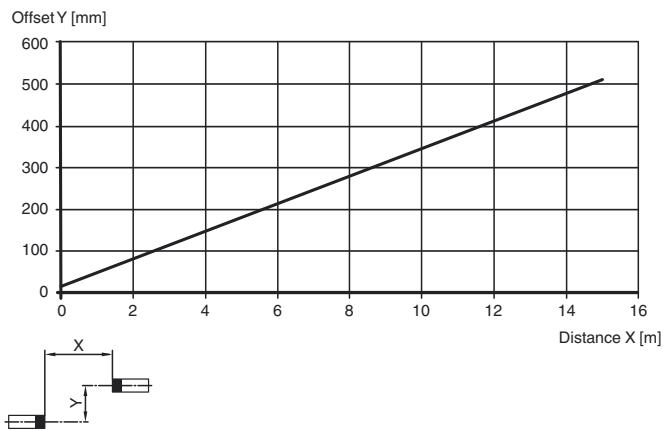
Mounting bracket

Additional accessories can be found in the Internet.



## Curves/Diagrams

## Characteristic response curve



## Relative received light strength

