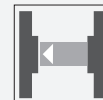




Thru-beam sensor

M100/MV100-6090/95/103



- Miniature design
- Slit aperture to shape the light in miniature sensors
- 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

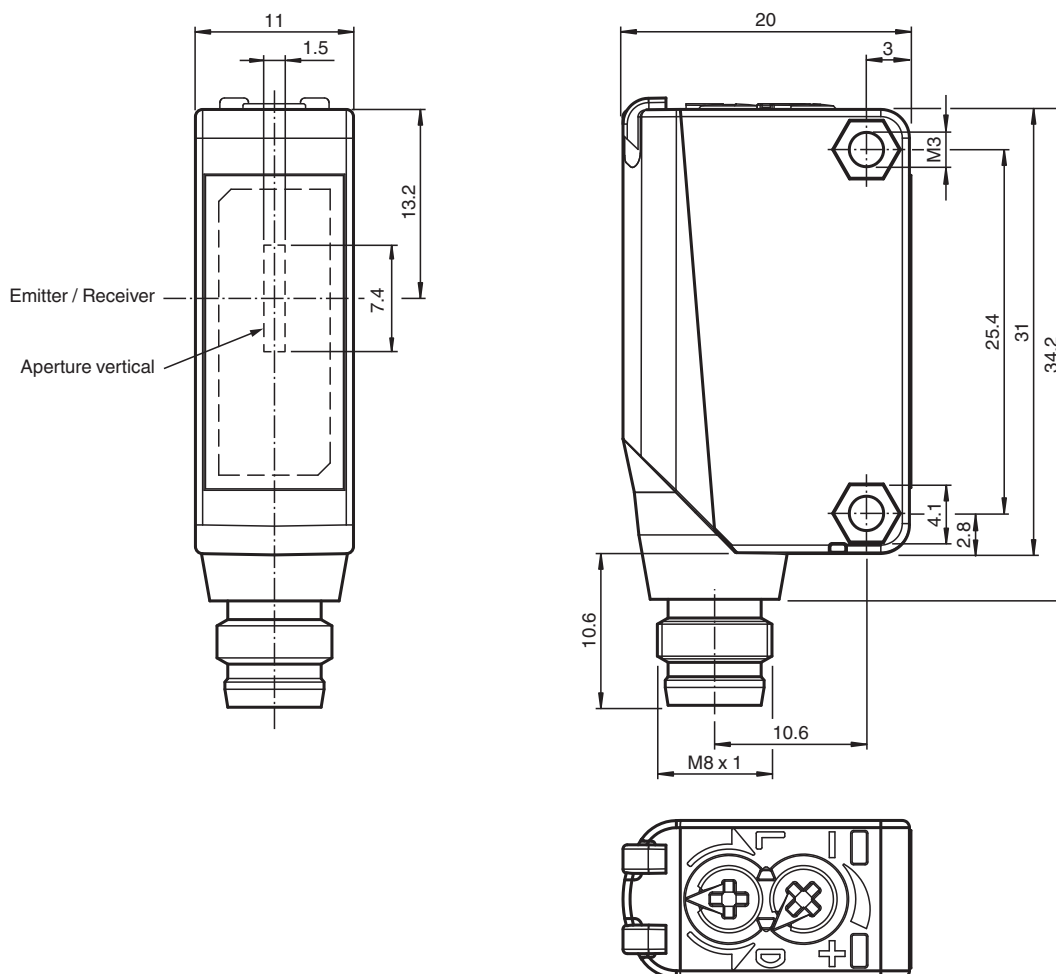
Thru-beam sensor



Function

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



Release date: 2020-08-13 Date of issue: 2020-08-13 Filename: 70118370_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

Technical Data

System components

Emitter	M100-6090/95/76a
Receiver	MV100-6090/95/103

General specifications

Effective detection range	0 ... 2.8 m
Threshold detection range	4 m
Light source	LED
Light type	modulated visible red light
Diameter of the light spot	approx. 0.3 m at a distance of 4 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-on/dark-on changeover switch

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
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		The switching type of the sensor is adjustable. The default setting is: light-on
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	1000 Hz
Response time		0.5 ms

Conformity

Product standard	EN 60947-5-2
------------------	--------------

Approvals and certificates

UL approval	cULus Listed, Class 2 Power Source or listed Power Supply with a limited voltage output with (maybe integrated) fuse (max. 3.3 A according UL248), Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

Ambient conditions

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

Mechanical specifications

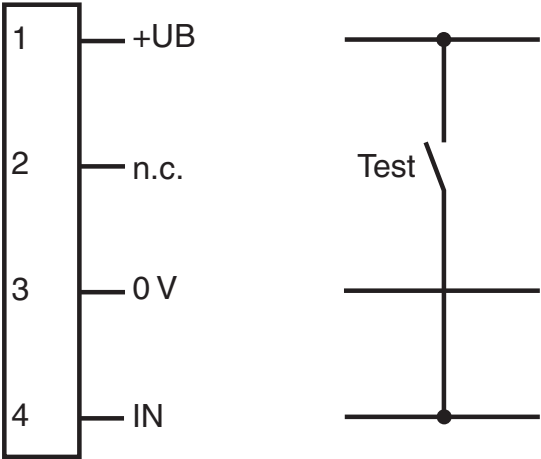
Housing width	11 mm
Housing height	31 mm
Housing depth	20 mm
Degree of protection	IP67
Connection	M8 x 1 connector, 4-pin
Material	
Housing	PC (Polycarbonate)

Technical Data

Optical face	PMMA
Mass	approx. 20 g (emitter and receiver)
Tightening torque, fastening screws	0.6 Nm

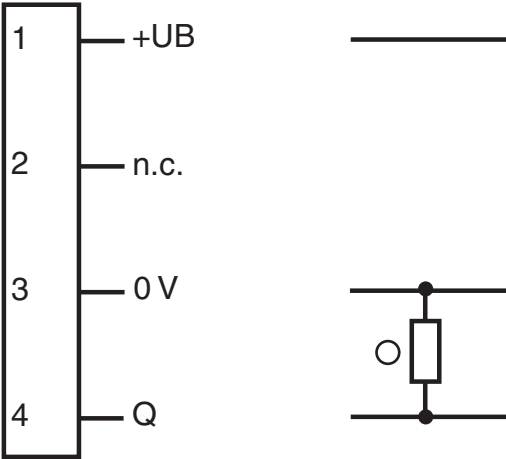
Connection Assignment

Transmitter



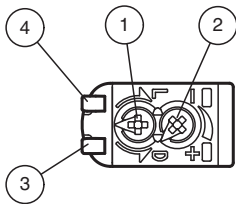
○ = Light on
● = Dark on

Receiver



103

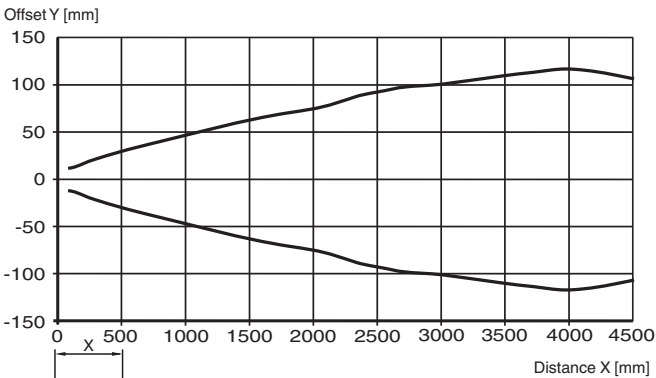
Assembly



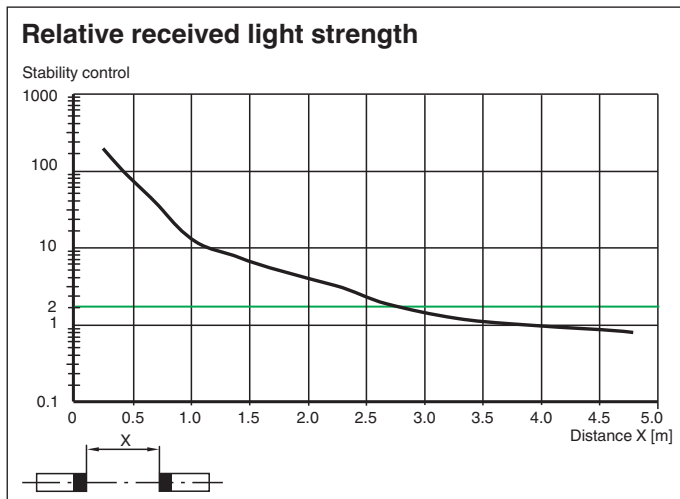
1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

Characteristic Curve

Characteristic response curve



Release date: 2020-08-13 Date of issue: 2020-08-13 Filename: 70118370_eng.pdf



Accessories

	OMH-ML100-S2	Mounting aid for ML100 series, mounting bracket
	OMH-ML100-09	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
	OMH-ML100-01	Mounting aid for ML100 series, mounting bracket
	OMH-ML100-02	Mounting aid for ML100 series, mounting bracket
	OMH-ML100-03	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
	OMH-ML100-04	Mounting aid for ML100 series, mounting bracket
	OMH-ML100-05	Mounting aid for ML100 series, mounting bracket
	OMH-F10-ML100	Mounting aid for ML100 series
	OMH-10	Mounting aid
	OMH-ML100-S1	Mounting bracket