



**Model Number**

**M8/MV8/76a/102/143**

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

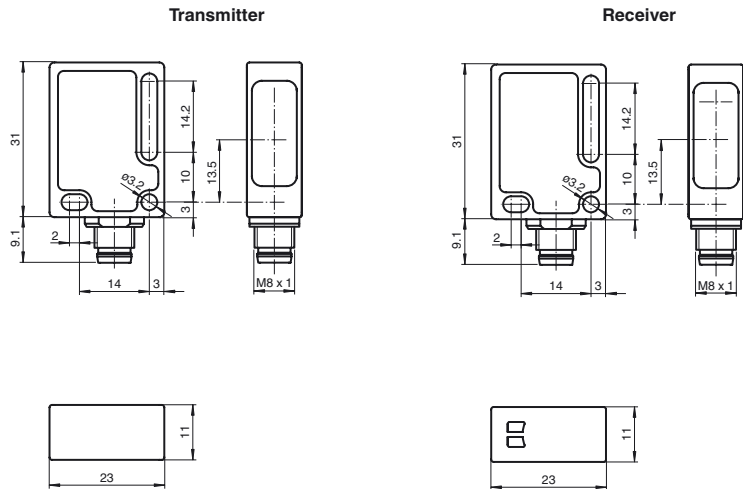
**Features**

- Cost-optimized series for standard tasks
- Miniature design with versatile mounting options
- Tamper-proof, no operating controls

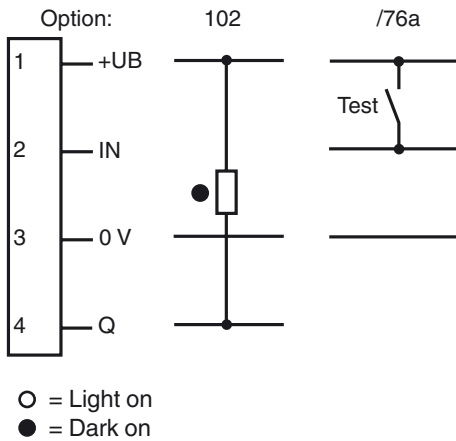
**Product information**

Small, robust and reliable, the ML8 series of miniature sensors is particularly suitable for non-contact detection of objects in confined spaces. The LED indicator is located behind the lens and provides reliable information on the sensor's operating status. The LED is always visible, even if the sensor is completely embedded. Flexible mounting options and fixed preset detection ranges simplify setup and operation.

**Dimensions**



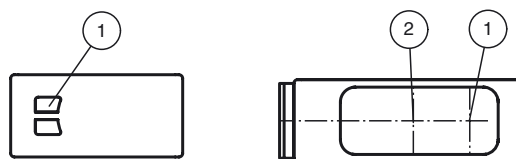
**Electrical connection**



**Pinout**



**Indicators/operating means**



1	Functional display	yellow
2	Optical axis	

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

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**Technical data****System components**

Emitter	M8/76a/143
Receiver	MV8/102/143

**General specifications**

Effective detection range	0 ... 3.5 m
Threshold detection range	4.5 m
Light source	LED
Light type	modulated visible red light , 660 nm
Target size	min. 7 mm
Diameter of the light spot	approx. 180 mm at a distance of 3.5 m
Angle of divergence	approx. 3 °
Ambient light limit	40000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	1090 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Function display	Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the stability control
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**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: ≤ 17 mA Receiver: ≤ 15 mA

**Input**

Test input	emitter deactivation at +U <sub>B</sub>
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**Output**

Switching type	dark on	
Signal output	1 NPN output, short-circuit protected, reverse polarity protected, open collector	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Voltage drop	U <sub>d</sub>	≤ 1.5 V DC
Switching frequency	f	1000 Hz
Response time		0.5 ms

**Ambient conditions**

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)

**Mechanical specifications**

Protection degree	IP67
Connection	M8 x 1 connector, 4-pin
Material	
Housing	PC (glass-fiber-reinforced Makrolon)
Optical face	PMMA
Connector	plastic
Mass	approx. 20 g (emitter and receiver)

**Compliance with standards and directives**

Directive conformity	EMC Directive 2004/108/EC
Standard conformity	
Product standard	EN 60947-5-2:2007
Protection degree	EN 60529
Standards	EN 50178, UL 508

**Approvals and certificates**

Protection class	II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

**Accessories****Montagekit OMH-ML7-01**

Mounting set consisting of bracket OMH-ML-01 sheet OMH-ML7-03, and fastening material

**Montagekit OMH-ML7-02**

Mounting set consisting of bracket OMH-ML-02 sheet OMH-ML7-03, and fastening material

**OMH-ML7-01**

Mounting bracket

**OMH-ML7-02**

Mounting bracket

**OMH-ML7-03**

Fixing plate

**V31-WM-2M-PUR**

4-pin, M8 socket, PUR cable

**V31-WM-2M-PVC**

M8, 4-pin socket, PVC cable

**V31-GM-2M-PVC**

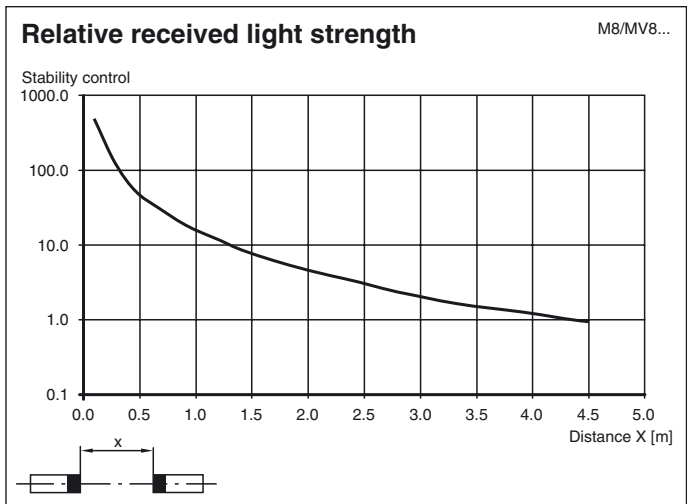
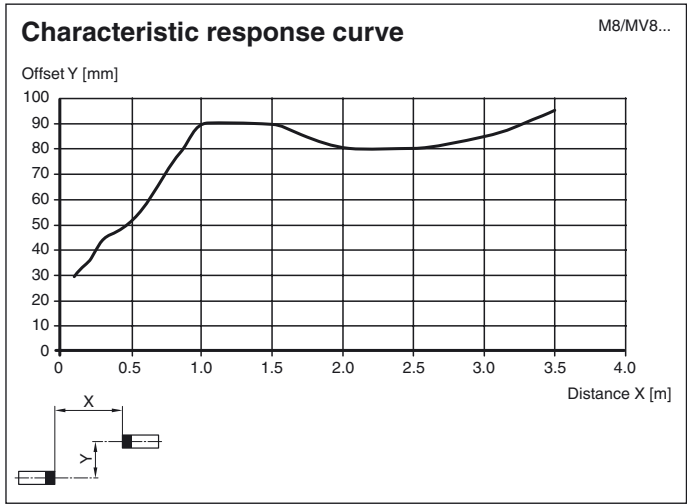
M8, 4-pin socket, PVC cable

**V31-GM-2M-PUR**

4-pin, M8 socket, PUR cable

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

Curves/Diagrams



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