



Model Number

M41-F2/MV41-F2/76a/82b/92/103

Thru-beam sensor
with 4-pin, M12 x 1 connector

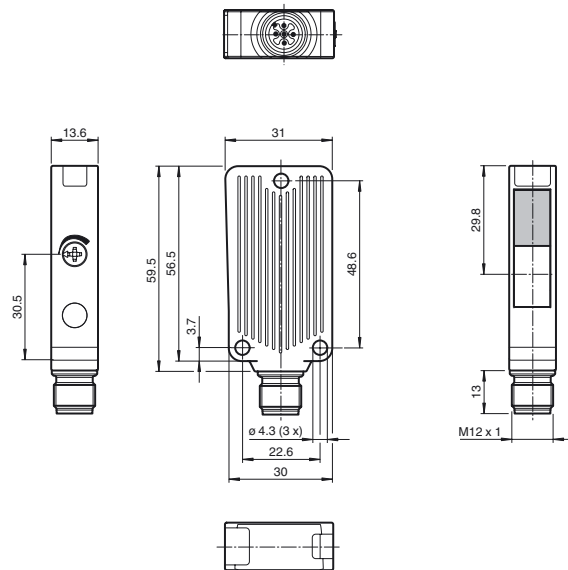
Features

- Rugged series in corrosion-resistant metal housing
- Long sensor range with high power mode
- Resistant against noise: reliable operation under all conditions
- Clear and functional display concept for the operating modes
- Aluminum housing with high quality Delta-Seal coated
- Scratch-resistant and solvent resistant glass lens

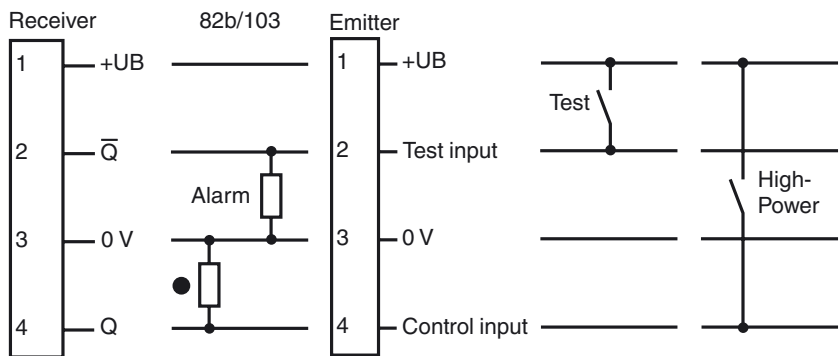
Product information

The unique and extremely popular design of the MLV41 series enables it be mounted correctly in confined areas and offers all the functions that are normally only found on larger photoelectric sensors. The MLV41 series comes with a range of functions. For example, highly visible status LEDs on the front and back, resistance to ambient light, crosstalk protection and universally applicable output stages that permit every possible switching logic and polarity to be realized. The enhanced resistance to ambient light ensures reliable operation even where modern energy-saving lamps with electronic ballasts are in use. The same applies where multiple devices are present, i.e. the use of a number of sensors in the same vicinity causes no problems.

Dimensions

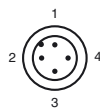


Electrical connection



○ = Light on
● = Dark on

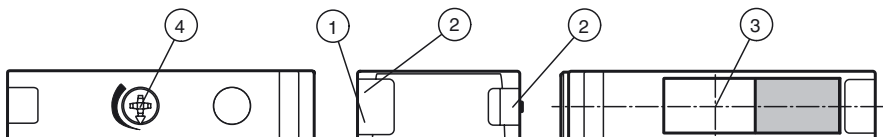
Pinout



Wire colors in accordance with EN 60947-5-2

- 1 BN (brown)
- 2 WH (white)
- 3 BU (blue)
- 4 BK (black)

Indicators/operating means



1	Operating display green	2	Function display yellow	3	Optical axis
4	Sensitivity adjustment (only receiver)				

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Technical data**System components**

Emitter	M41-F2/76a/92
Receiver	MV41-F2/82b/92/103

General specifications

Effective detection range	0 ... 16 m
Threshold detection range	normal mode: 25 m High power mode: 35 m (Control input at UB+)
Light source	normal mode: LED High power mode: LED+IRED
Light type	normal mode: modulated visible red light High power mode: Red and infrared, modulated light
Diameter of the light spot	approx. 500 mm at detection range 16 m
Angle of divergence	approx. 1.5 °
Optical face	frontal
Ambient light limit	50000 Lux

Functional safety related parameters

MTTF _d	844 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 (receiver)

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC , class 2
Ripple		max. 10 %
No-load supply current	I ₀	max. 30 mA

Input

Test input	emitter deactivation at +U _B (emitter)
Control input	High power mode activation with +UB (emitter)

Output

Pre-fault indication output	1 PNP, inactive when falling short of the stability control	
Switching type	dark on	
Signal output	1 PNP, short-circuit protected, reverse polarity protected, open collector	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Voltage drop	U _d	≤ 2.5 V DC
Switching frequency	f	1000 Hz
Response time		0.5 ms

Ambient conditions

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

Mechanical specifications

Housing width	31 mm
Housing height	56.5 mm
Housing depth	13.6 mm
Degree of protection	IP67
Connection	4-pin, M12 x 1 connector
Material	
Housing	Aluminum , Delta-Seal coated
Optical face	glass pane
Connector	metal
Mass	50 g (device)

Compliance with standards and directives

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2:2007
Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
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

Accessories**OMH-09**

Mounting bracket for Sensors series MLV41 for M12 rod mounting

OMH-40

Mounting bracket

V1-G-2M-PUR

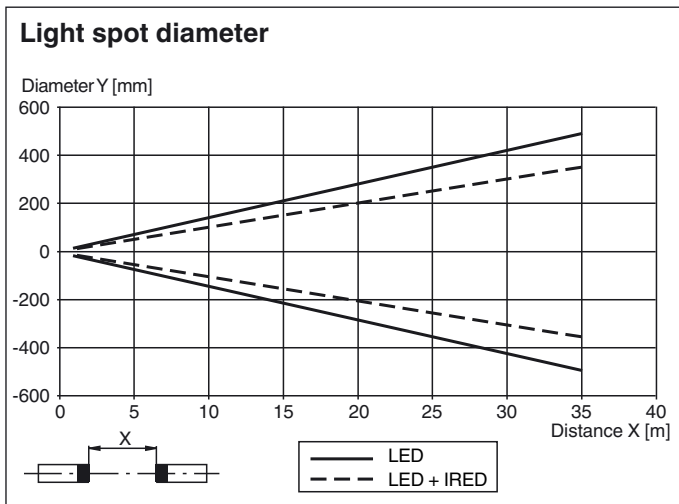
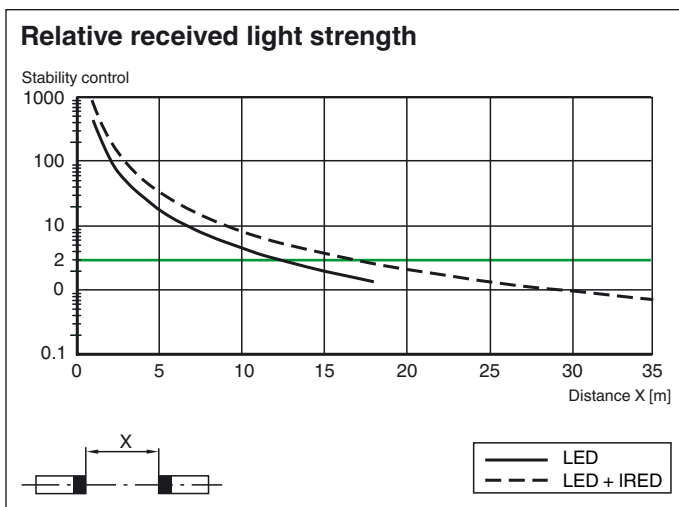
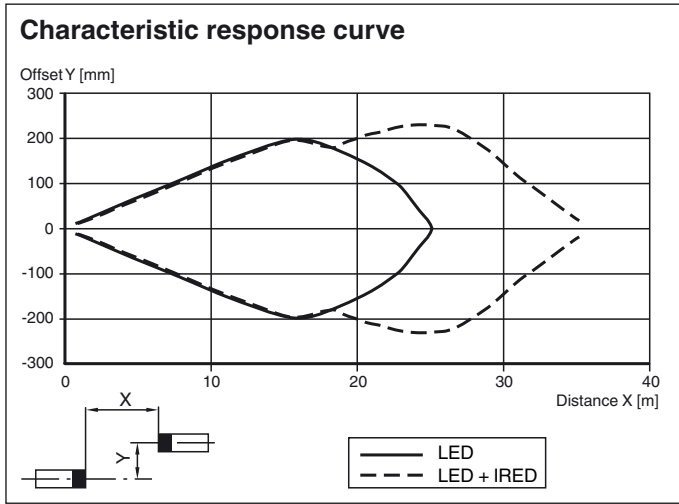
Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams



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