



Model Number

MLV41-6/82b/92/103

Retroreflective sensor
with 4-pin, M12 x 1 connector

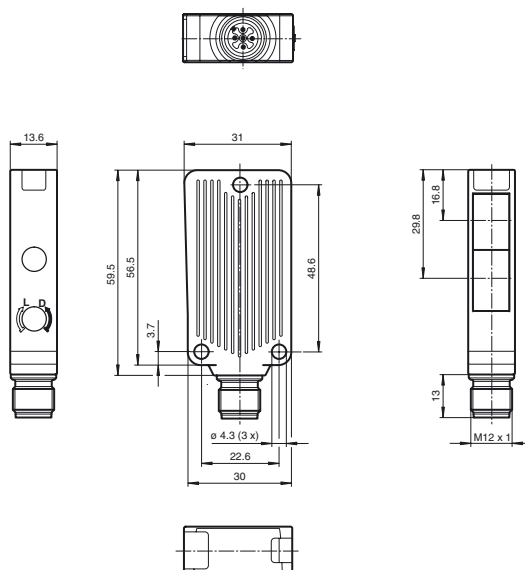
Features

- Rugged series in corrosion-resistant metal housing
- Extremely high switching frequency
- Clear and functional display concept for the operating modes
- Resistant against noise: reliable operation under all conditions
- Aluminum housing with high quality Delta-Seal coated

Product information

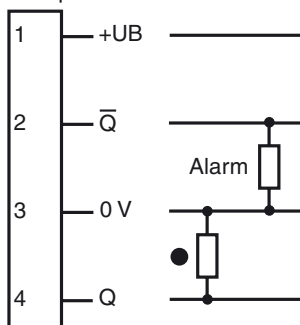
The unique and extremely popular design of the MLV41 series enables it be mounted correctly in confined areas and offers all the functions that are normally only found on larger phototelectric sensors. The MLV41 series comes with a range of functions. For example, highly visible status LEDs on the front 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



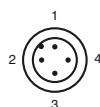
Electrical connection

Option: 82b/103



○ = Light on
● = Dark on

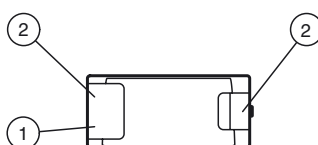
Pinout



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	3	Optical axis transmitter
2	Function display yellow	4	Optical axis receiver

**Technical data****General specifications**

Effective detection range	0 ... 9.5 m
Reflector distance	Foil reflector 0.05 ... 3 m Retro-reflector 0.01 ... 9.5 m
Threshold detection range	12 m
Reference target	OFR-22800/76 , H85-2 reflector
Light source	LED
Light type	modulated visible red light , 625 nm
Polarization filter	no
Angle deviation	max. $\pm 1.5^\circ$
Diameter of the light spot	approx. 300 mm at detection range 8.5 m
Angle of divergence	1.5°
Optical face	frontal
Ambient light limit	20000 Lux

Functional safety related parameters

MTTF _d	940 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Operation indicator	LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz)
Function indicator	LED yellow, lights up when light beam is free, flashes when falling short of the stability control
Control elements	none

Electrical specifications

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

Output

Pre-fault indication output	1 PNP function reserve output (alarm), short-circuit protected, protected from reverse polarity, open collector
Signal output	1 PNP output, 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

Conformity

Product standard	EN 60947-5-2
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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

Approvals and certificates

UL approval	cULus Listed 57M3 (Only in association with UL Class 2 power supply; 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

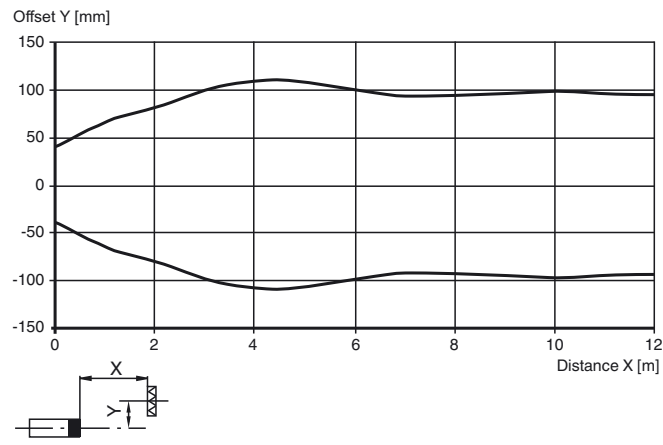
V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

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

Curves/Diagrams

Characteristic response curve



Relative received light strength

