Dimensions

Model Number

MLV41-55/40a/92/102/126b

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 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.
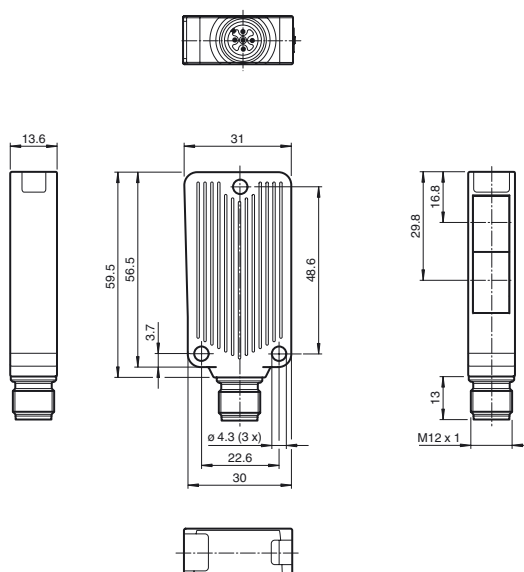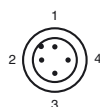
Electrical connection

Option: 102/126b
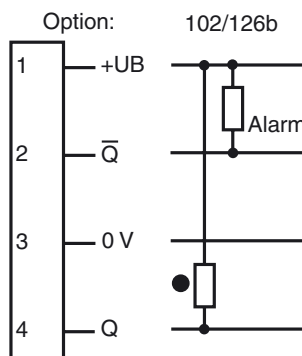
O = Light on
● = Dark on

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
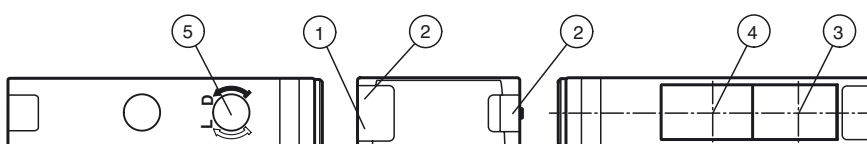
1	Operating display green	3	Optical axis transmitter	5	Light/dark switch
2	Function display yellow	4	Optical axis receiver		

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

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Technical data

General specifications

Effective detection range	0 ... 8 m
Reflector distance	0.1 ... 8 m
Threshold detection range	10 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light , 625 nm
Polarization filter	yes
Angle deviation	max. ± 1.5 °
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

$MTTF_d$		844 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	rotary switch for light/dark

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 NPN function reserve output (alarm), short-circuit protected, reverse polarity protected, open collector
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
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

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

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

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

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

Distance X [m]
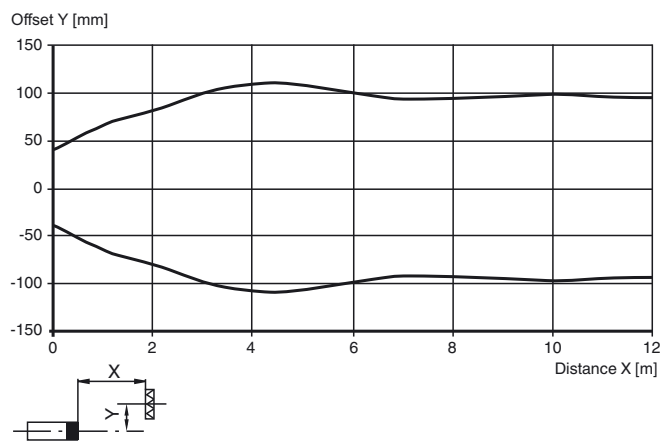
Relative received light strength

Reflector type:

Reflector	Range
H85-2	0.5 m — 10.2 m
C110-2	0.5 m — 6.9 m
H60	0.5 m — 6.6 m
ORR50	0.5 m — 5.6 m
VR10	0.5 m — 3 m

□ Stability control > 2
▨ Stability control < 2

Stability control

H85-2
H60
C110-2
ORR50
VR10

Distance X [m]

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