

Model Number

MLV41-8-H-350-RT/59/92/136

Background suppression sensor
with 4-pin, M12 x 1 connector

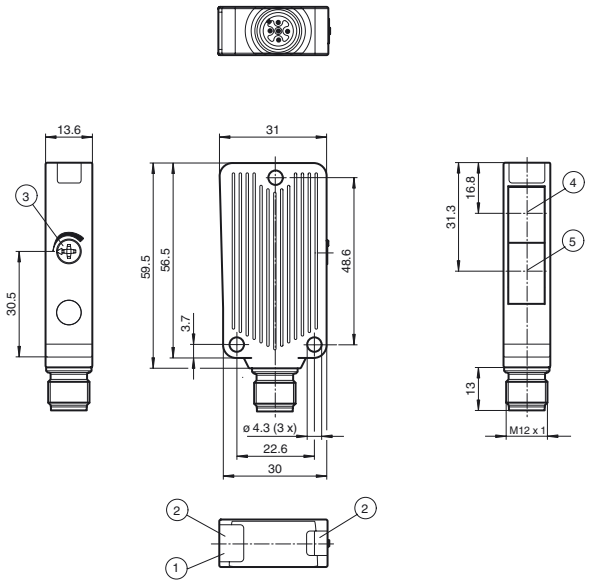
Features

- Rugged series in corrosion-resistant metal housing
- Reliable detection of all surfaces, independent of color and structure
- Minimal black/white difference
- Precision background suppression, adjustable
- Extremely high switching frequency
- Clear and functional display concept for the operating modes

Product information

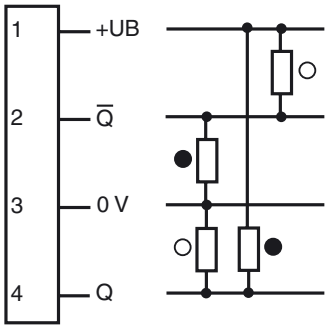
The unique and extremely popular design of the MLV41 series enables it be mounted correctly in confined areas and offers all the functions that are normally only found on larger phototelectric sensors. The MLV41 series comes with a range of functions grouped together under the VISO+ quality symbol. For 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



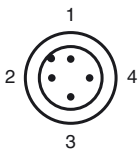
Electrical connection

Option:

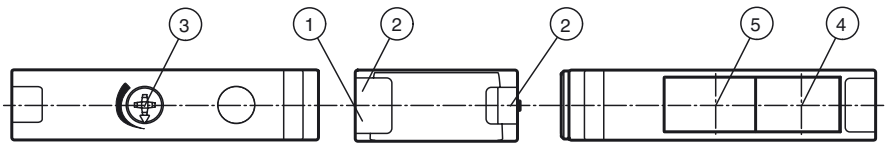


○ = Light on
● = Dark on

Pinout



Indicators/operating means



1	Operating display green	3	Sensing range adjuster	5	Optical axis receiver
2	Function display yellow	4	Optical axis transmitter		

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Technical data

General specifications		
Detection range		50 ... 350 mm , adjustable
Detection range min.		10 ... 50 mm
Detection range max.		30 ... 350 mm
Adjustment range		50 ... 350 mm
Background suppression		+ 10 % of the upper limit of the detection range
Light source		LED
Light type		modulated visible red light , 660 nm
Black/White difference (6 %/90 %)		< 15 % at 350 mm
Diameter of the light spot		approx. 8 mm at 350 mm sensor range
Angle of divergence		1.5 °
Ambient light limit		40000 Lux
Functional safety related parameters		
$MTTF_d$		1260 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operating display		LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz)
Function display		2 LEDs yellow ON: object inside the scanning range OFF: object outside the scanning range
Controls		Detection range adjuster
Electrical specifications		
Operating voltage	U_B	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I_0	max. 25 mA
Output		
Signal output		2 push-pull (4 in 1) outputs, complementary, short-circuit proof, reverse polarity protected
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		
Protection degree		IP67
Connection		connector M12 x 1, 4-pin
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		
Protection class		II, rated voltage ≤ 50 V AC with pollution degree 1-2 according to IEC 60664-1 , functional insulation acc. to DIN EN 50178
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-40
Mounting bracket

OMH-09
Mounting bracket for Sensors series MLV41 for M12 rod mounting

V1-G-2M-PUR
Cable socket, M12, 4-pin, PUR cable

V1-W-2M-PUR
Cable socket, M12, 4-pin, PUR cable

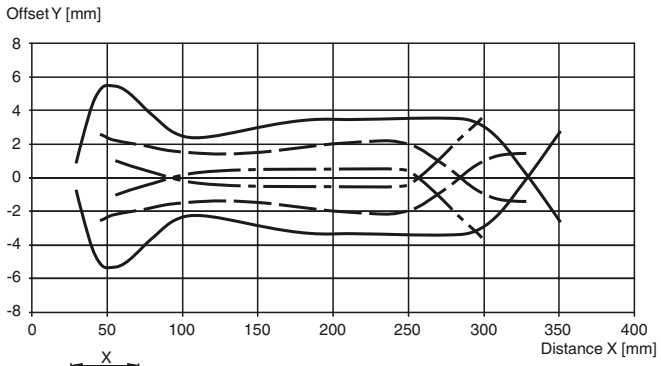
Other suitable accessories can be found at www.pepperl-fuchs.com

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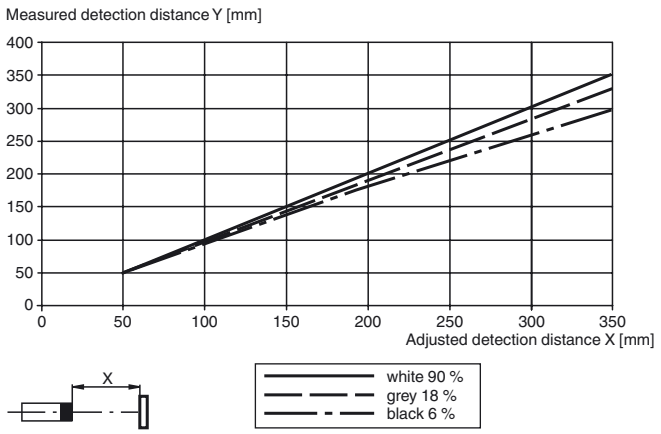
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PEPPERL+FUCHS SENSING YOUR NEEDS

Curves/Diagrams

Characteristic response curve



Difference in detection distance



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