Dimensions

Model Number

MLV41-8-H-350-RT/59/71/136

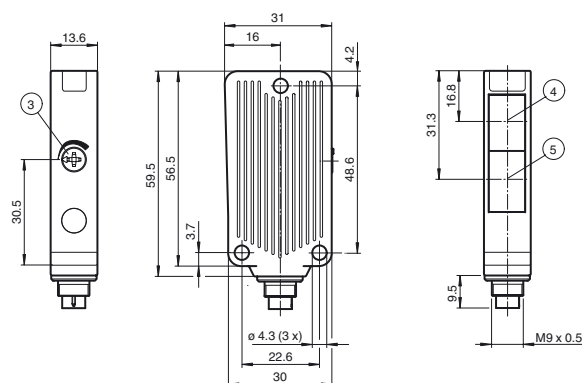Background suppression sensor
with 4-pin, M9 x 0.5 connector

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
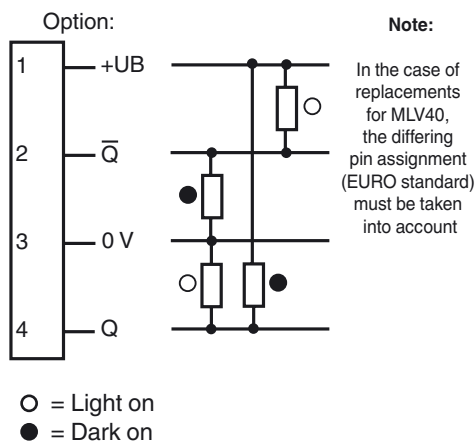- Clear and functional display concept for the operating modes

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. 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:

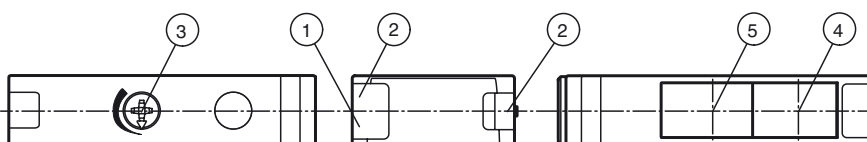**Note:**

In the case of replacements for MLV40, the differing pin assignment (EURO standard) must be taken into account

○ = 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	Sensing range adjuster	5	Optical axis receiver
2	Function display yellow	4	Optical axis transmitter		

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

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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

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	2 LEDs yellow ON: object inside the scanning range OFF: object outside the scanning range
Control elements	Sensing 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

Conformity

Product standard	EN 60947-5-2

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	with 4-pin, M9 metal 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-40
Mounting bracket

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

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

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

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

Distance X [mm]

	white 90 %
	grey 18 %
	black 6 %
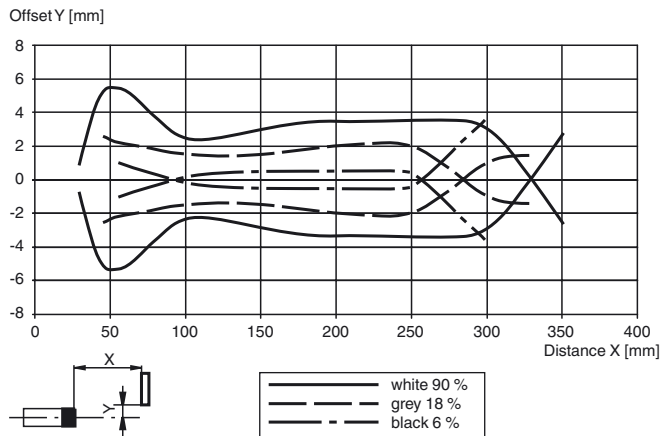
Difference in detection distance

Measured detection distance Y [mm]

Adjusted detection distance X [mm]

	white 90 %
	grey 18 %
	black 6 %

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