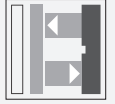




## Background suppression sensor MLV41-8-H-350-RT/40a/98/110



- 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

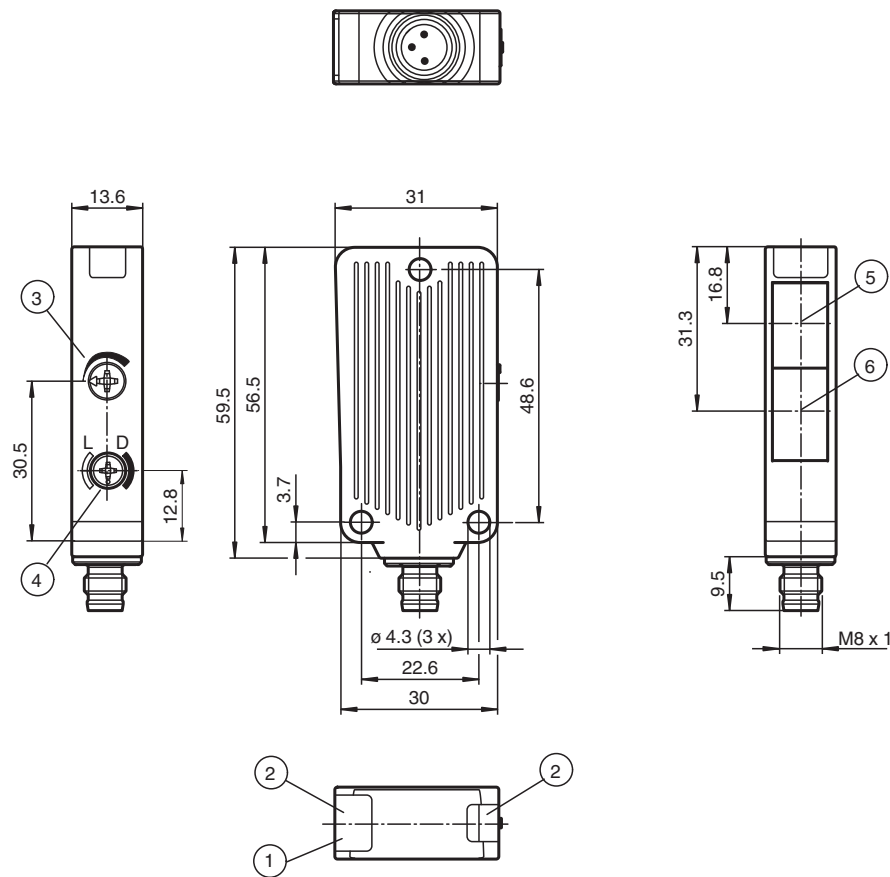
Background suppression sensor in corrosion-resistant metal housing, 350 mm adjustable detection range, red light, light/dark on, push-pull output, fixed cable with M8 plug



### Function

The unique and extremely popular design of the MLV41 series enables it to 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



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
Opening angle		1.5 °
Ambient light limit		40000 Lux
Functional safety related parameters		
MTTF <sub>d</sub>		1260 a
Mission Time (T <sub>M</sub> )		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

## Technical Data

### Electrical specifications

Operating voltage	$U_B$	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	$I_0$	max. 25 mA

### Output

Switching type	light/dark on switchable	
Signal output		1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected
Switching voltage		max. 30 V DC
Switching current		max. 100 mA
Voltage drop	$U_d$	$\leq 2.5$ V DC
Switching frequency	$f$	1000 Hz
Response time		0.5 ms

### Conformity

Product standard	EN 60947-5-2
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### 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 $\leq 36$ V

### Ambient conditions

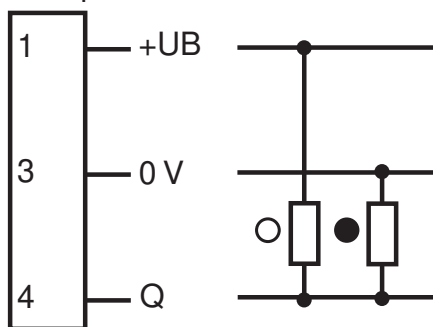
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)

### Mechanical specifications

Housing width	31 mm
Housing height	56.5 mm
Housing depth	13.6 mm
Degree of protection	IP67
Connection	M8 x 1 connector, 3-pin
Material	
Housing	Aluminum , Delta-Seal coated
Optical face	glass pane
Connector	metal
Mass	50 g

## Connection Assignment

Option:



○ = Light on  
● = Dark on

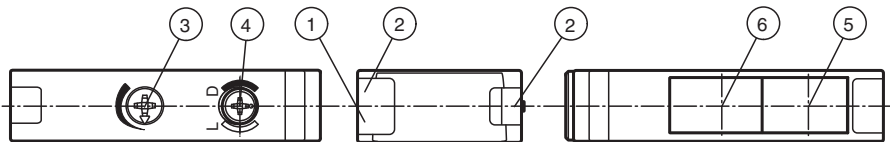
Connection Assignment



Wire colors in accordance with EN 60947-5-2

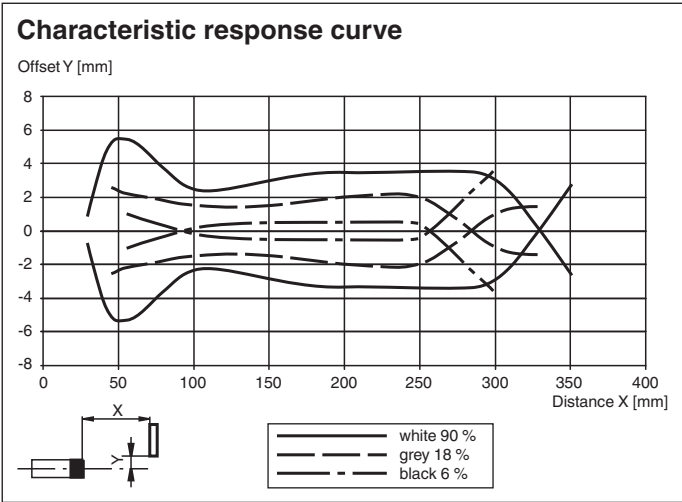
1	BN	(brown)
3	BU	(blue)
4	BK	(black)

Assembly



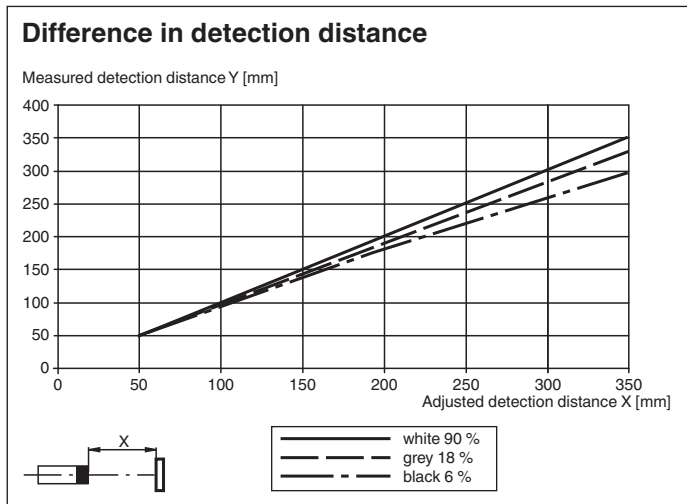
1	Operating display green	3	Sensing range adjuster	5	Optical axis transmitter
2	Function display yellow	4	Bright/dark switch	6	Optical axis receiver

Characteristic Curve






Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 189638\_eng.pdf

Characteristic Curve



Accessories

	<b>OMH-40</b>	Mounting bracket
	<b>OMH-09</b>	Mounting bracket for Sensors series MLV41 for M12 rod mounting
	<b>V3-WM-2M-PUR</b>	Female cordset single-ended M8 angled A-coded, 3-pin, PUR cable grey