



## Background suppression sensor

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



- 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

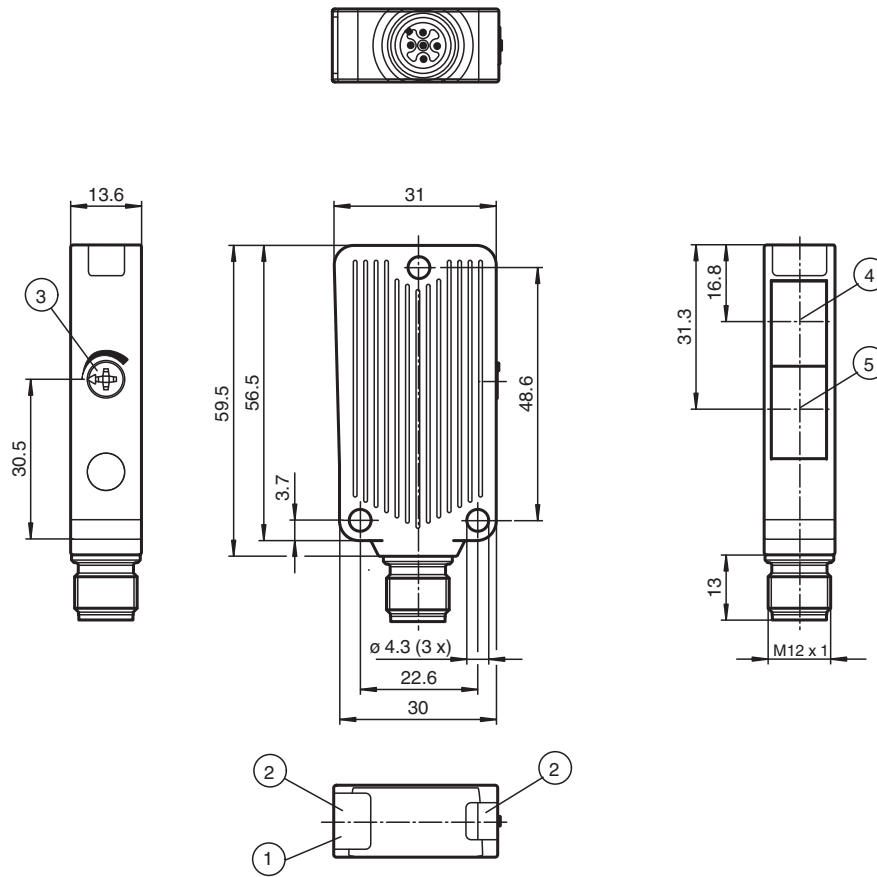
Background suppression sensor in corrosion-resistant metal housing, 350 mm adjustable detection range, red light, 2 push-pull outputs, M12 plug



### 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

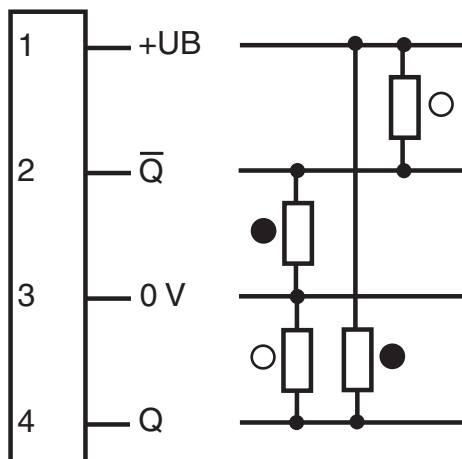
Operation indicator	LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz)
Function indicator	2 LEDs yellow ON: object inside the scanning range OFF: object outside the scanning range
Control elements	Sensing 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		
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	$U_d$	$\leq 2.5$ V DC
Switching frequency	$f$	1000 Hz
Response time		0.5 ms
Conformity		
Product standard		EN 60947-5-2
Approvals and certificates		
Protection class		II, rated voltage $\leq 50$ 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 $\leq 36$ 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		4-pin, M12 x 1 connector
Material		
Housing		Aluminum, Delta-Seal coated
Optical face		glass pane
Connector		metal
Mass		50 g

## Connection

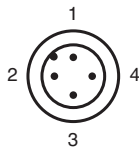
Option:



○ = Light on  
● = Dark on

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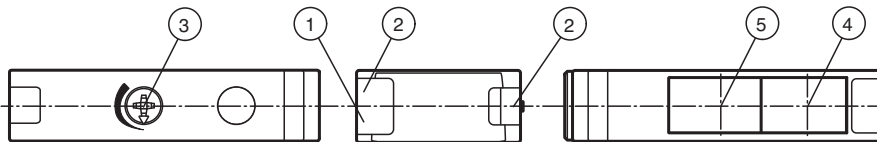
## Connection Assignment



Wire colors in accordance with EN 60947-5-2

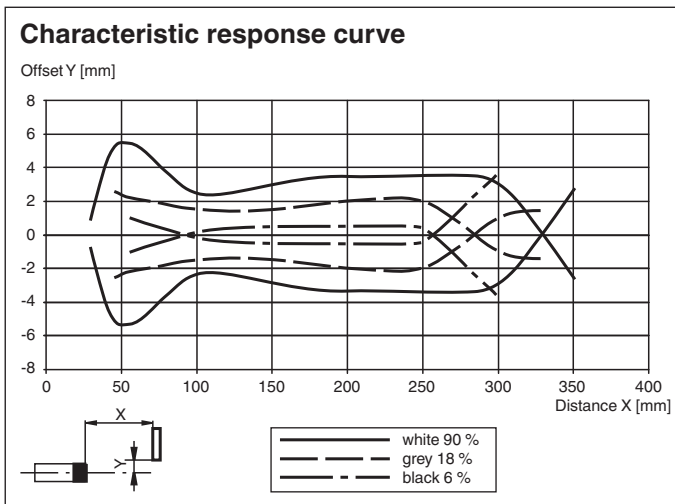
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

## Assembly



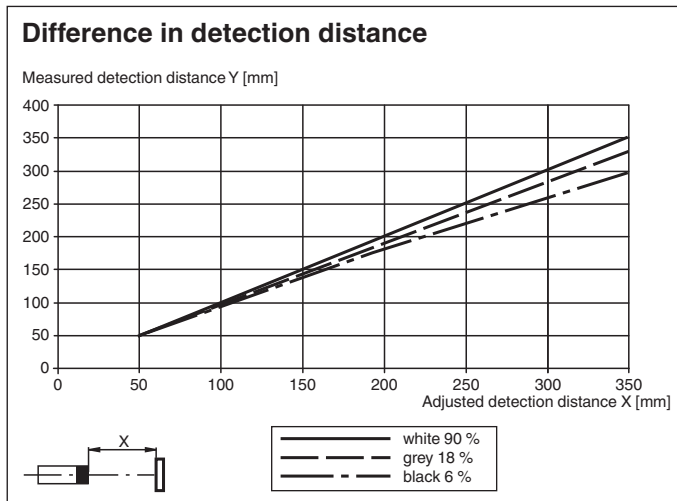
1	Operating display green	3	Sensing range adjuster	5	Optical axis receiver
2	Function display yellow	4	Optical axis transmitter		

## Characteristic Curve







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## Characteristic Curve



## Accessories

	<b>OMH-40</b>	Mounting bracket
	<b>OMH-09</b>	Mounting bracket for Sensors series MLV41 for M12 rod mounting
	<b>V1-G-2M-PUR</b>	Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable grey
	<b>V1-W-2M-PUR</b>	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey