



Background suppression sensor ML4.2-8-H-20-IR-4549



- Dual sensor with two Light spots
- Precise background suppression
- Very small black-white difference
- Highly visible LEDs for Power-On, switching status, short-circuit, and undervoltage
- Metal-reinforced fastening holes
- Tamper-proof version with no adjustments
- Push-pull output

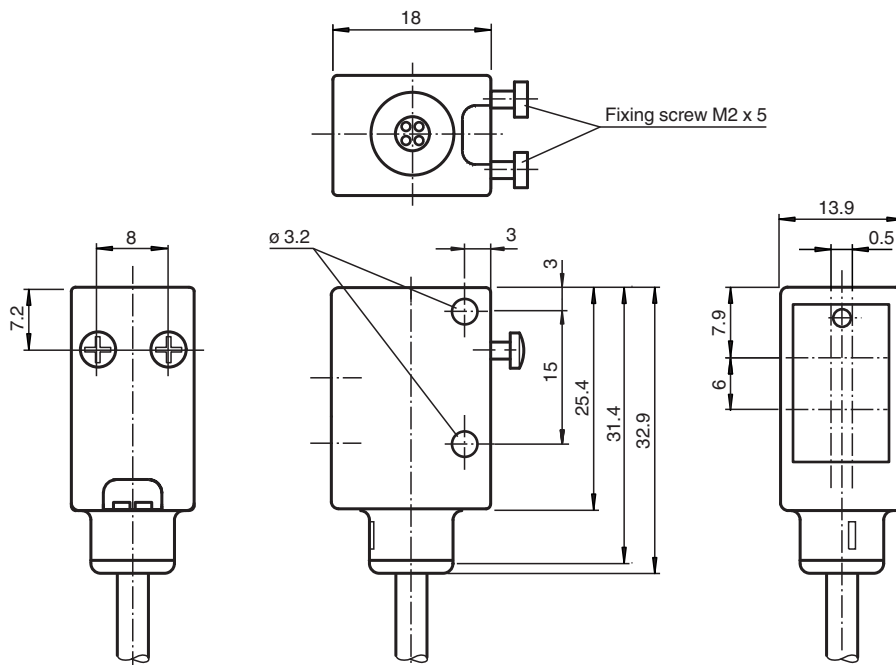
Background suppression sensor



Function

The ML100 series is characterized by its miniature housing with integral, all-metal threaded bushings. All versions are equipped with a visible red transmitter LED. This greatly simplifies installation and commissioning. The switching states are easily visible from all directions thanks to the highly visible LEDs.

Dimensions



Technical Data

General specifications

Detection range	7 ... 20 mm
Detection range max.	5 ... 25 mm
Background suppression	starts from 25 mm
Light source	2 IRED
Light type	modulated infrared light , 880 nm
Black-white difference (6 %/90 %)	approx. 1 mm
Diameter of the light spot	2 light spots: size 2.5 mm distance 5 mm at 20 mm
Angle of divergence	approx. 5 °
Ambient light limit	
Continuous light	40000 Lux
Modulated light	5000 Lux

Functional safety related parameters

MTTF _d	1940 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 when object is detected

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	< 20 mA

Output

Switching type		light/dark on electrically switchable
Signal output		Push-pull output, short-circuit protected, 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	500 Hz
Response time		1 ms

Conformity

Product standard	EN 60947-5-2
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Compliance with standards and directives

Standard conformity	
Shock and impact resistance	IEC / EN 60068. half-sine, 40 g in each X, Y and Z directions
Vibration resistance	IEC / EN 60068-2-6. Sinus. 10 -150 Hz, 5 g in each X, Y and Z directions

Approvals and certificates

CE conformity	yes
UL approval	cULus Listed
CCC approval	CCC approval / marking not required for products rated ≤36 V

Ambient conditions

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-20 ... 75 °C (-4 ... 167 °F)

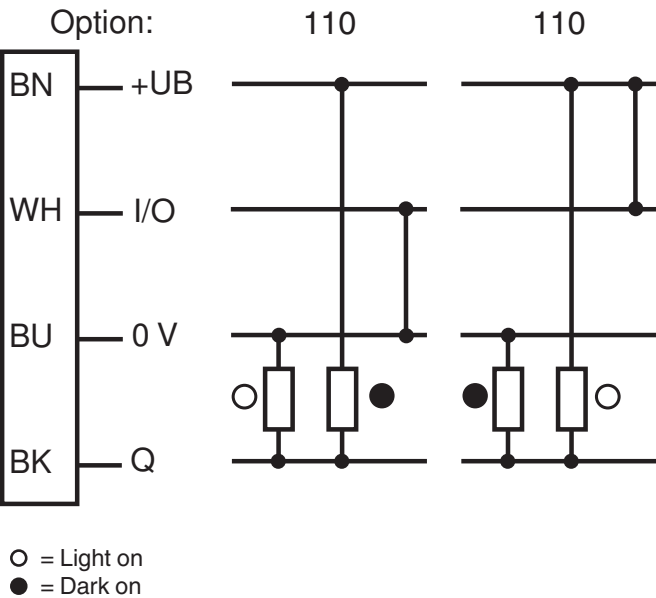
Mechanical specifications

Housing width	13.9 mm
Housing height	31.4 mm
Housing depth	18 mm
Degree of protection	IP67 / IP69K
Connection	2 m fixed cable
Material	

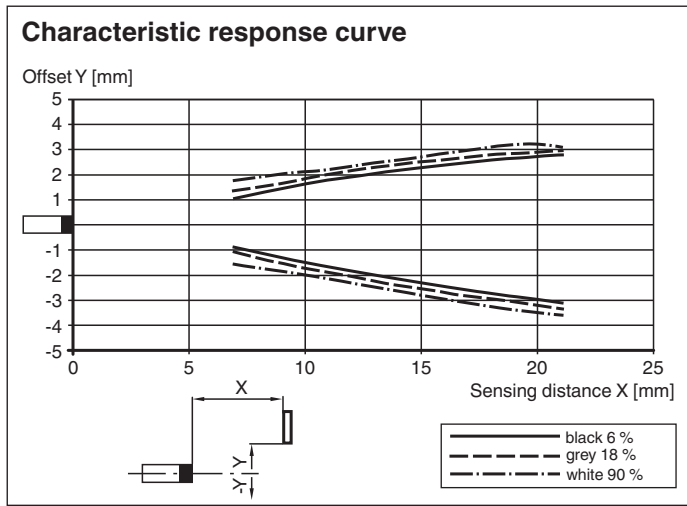
Technical Data

Housing	ABS
Optical face	glass pane
Cable	PUR
Mass	approx. 50 g

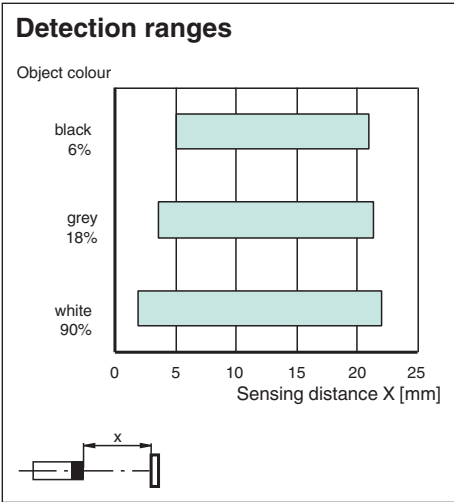
Connection Assignment



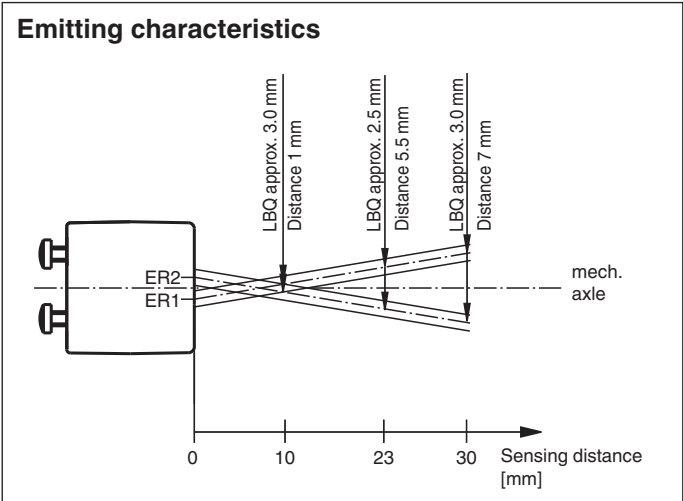
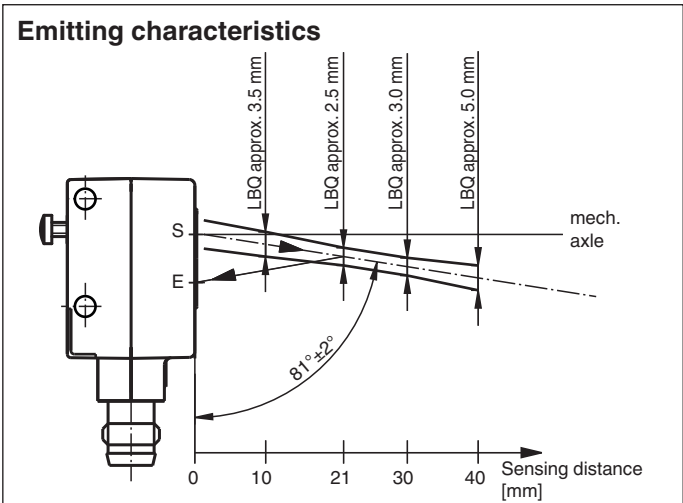
Characteristic Curve



Release date: 2021-09-29 Date of issue: 2021-09-29 Filename: 220405_eng.pdf



Characteristic Curve



Accessories

	OMH-4.1	Mounting Clamp
	OMH-ML6	Mounting bracket

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Accessories

	OMH-ML6-U	Mounting bracket
	OMH-ML6-Z	Mounting bracket
	V31-GM-2M-PVC	Female cordset single-ended M8 straight A-coded, 4-pin, PVC cable grey
	V31-WM-2M-PVC	Female cordset single-ended M8 angled A-coded, 4-pin, PVC cable grey