



Background suppression sensor RL31-8-H-800-RT/73c/136

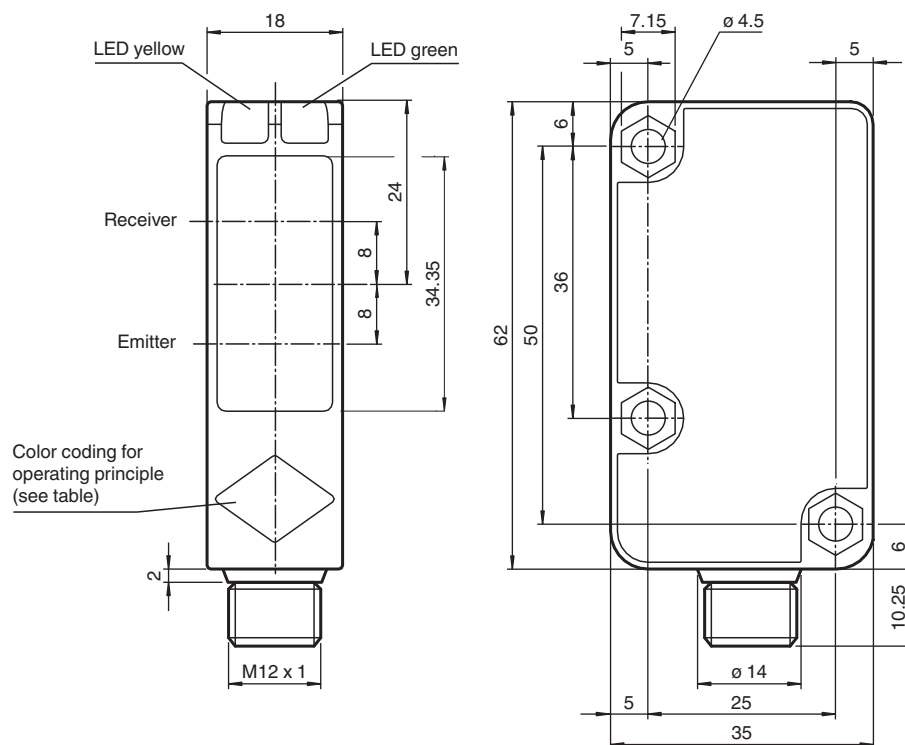


- Cost-optimized series for standard tasks
- Large construction with small housing
- High-visibility indicator LEDs
- Low sensitivity to target color
- PowerBeam transmitter LED

Triangulation sensor with background suppression for standard applications, large housing design, 800 mm adjustable detection range, red light, dark on, push-pull output, M12 plug



Dimensions



Operating principle	color
Retroreflective sensor with polarisation filter	green
Retroreflective sensor	blue
Diffusive mode sensor	white
Thru-beam sensor	grey
Diffusive mode sensor with background suppression	red



Sensing range adjuster

Technical Data

General specifications

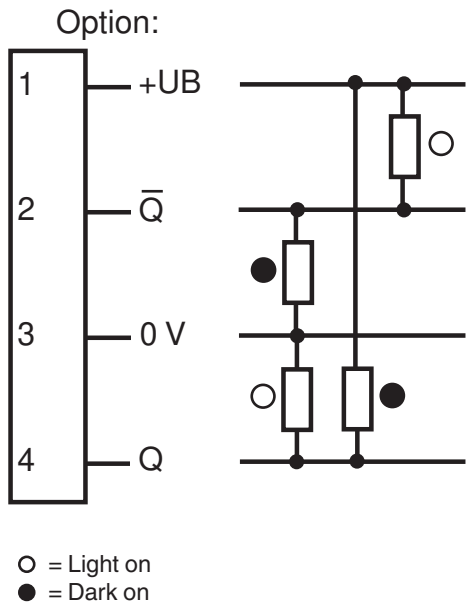
Detection range 50 ... 800 mm

Technical Data

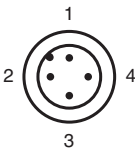
Detection range min.		50 ... 100 mm
Detection range max.		50 ... 800 mm
Adjustment range		100 ... 800 mm
Reference target		standard white, 100 mm x 100 mm
Light source		LED
Light type		modulated visible red light
Black-white difference (6 %/90 %)		< 5 %
Diameter of the light spot		approx. 25 mm at a distance of 800 mm
Opening angle		approx. 2 °
Ambient light limit		20000 Lux
Functional safety related parameters		
MTTF _d		580 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 ; ON: object inside the sensing range ; OFF: object outside the sensing range
Control elements		Sensing range adjuster
Electrical specifications		
Operating voltage	U _B	10 ... 30 V DC , class 2
Ripple		max. 10 %
No-load supply current	I ₀	max. 25 mA at 24 V supply voltage
Output		
Switching type		dark-on
Signal output		2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected
Switching voltage		max. 30 V DC
Switching current		max. 100 mA
Voltage drop	U _d	≤ 2 V DC
Switching frequency	f	200 Hz
Response time		2.5 ms
Conformity		
Product standard		EN 60947-5-2
Approvals and certificates		
EAC conformity		TR CU 020/2011
Protection class		II , rated insulation voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit basis insulation of input circuit according to EN 50178, rated insulation voltage 240 V AC
UL approval		cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-30 ... 55 °C (-22 ... 131 °F)
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications		
Housing width		18 mm
Housing height		62 mm
Housing depth		35 mm
Degree of protection		IP67
Connection		4-pin, M12 x 1 connector
Material		
Housing		Polycarbonate
Optical face		PMMA
Mass		25 g

Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 245693_eng.pdf

Connection Assignment



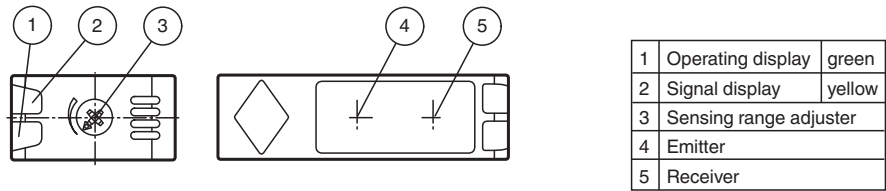
Connection Assignment



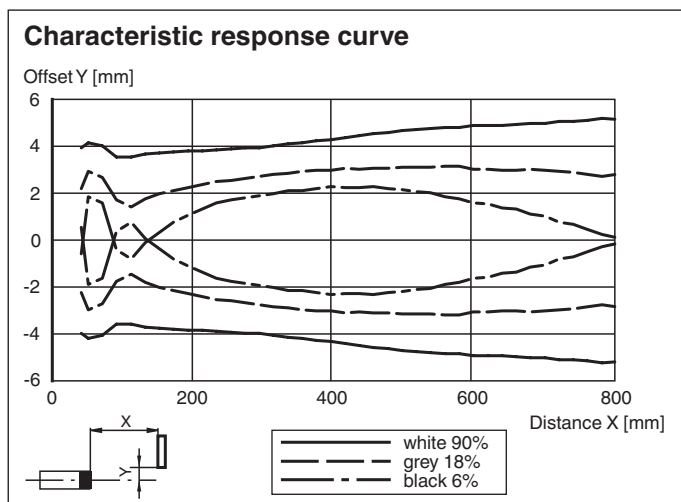
Wire colors in accordance with EN 60947-5-2

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

Assembly



Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 245693_eng.pdf



Accessories

	OMH-RL31-01	Mounting bracket
	OMH-RL31-02	Mounting bracket narrow
	OMH-RL31-03	Mounting bracket narrow
	OMH-RL31-04	Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm
	OMH-RL31-05	Mounting bracket for mounting on flat surfaces with 2 M4 screws
	OMH-RL31-06	Stainless steel mounting bracket with adjustable half clamp on the side
	V1-G-2M-PUR	Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable grey
	V1-W-2M-PUR	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey