

Background suppression sensor RL31-8-H-800-RT/115/136

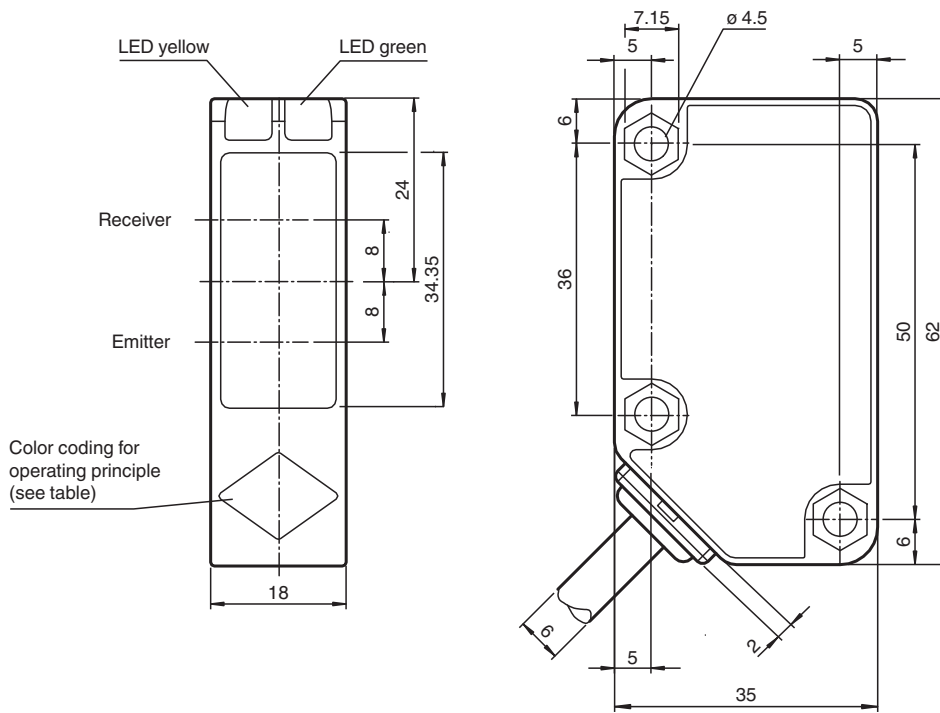


- Cost-optimized series for standard tasks
- Large construction with small housing
- High-visibility indicator LEDs
- PowerBeam transmitter LED
- Low sensitivity to target color

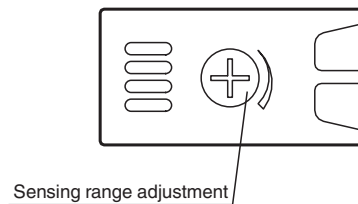
Triangulation sensor with background suppression for standard applications, large housing design, 800 mm adjustable detection range, red light, dark on, push-pull output, fixed cable



Dimensions



Operating principle	color
Retroreflective sensor	green
Retroreflective sensor without polarization filter	blue
Diffuse type sensor	white
Thru-beam sensor	grey
Convergent beam sensor	red



Technical Data

General specifications

Detection range 50 ... 800 mm

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 245696_eng.pdf

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

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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		
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		2 m fixed cable , 4-wire
Material		
Housing		Polycarbonate
Optical face		PMMA
Mass		133 g

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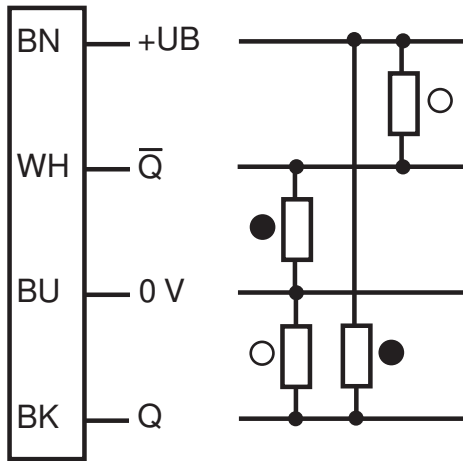
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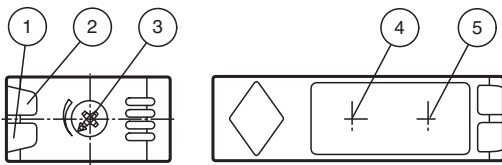
Connection Assignment

Option:



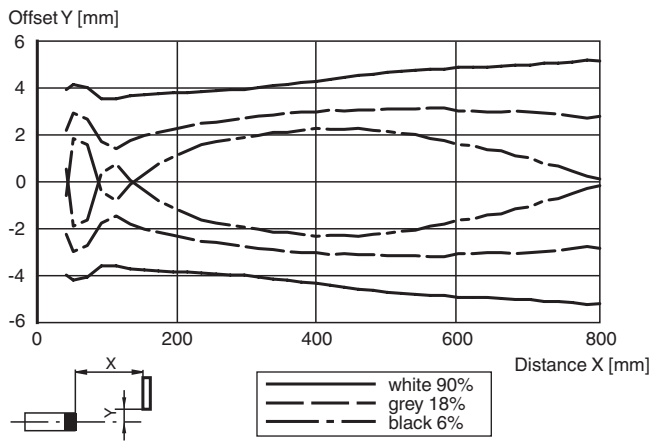
○ = Light on
● = Dark on

Assembly



1	Operating display	green
2	Signal display	yellow
3	Sensing range adjuster	
4	Emitter	
5	Receiver	

Characteristic response curve






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Accessories

	OMH-RL31-01	Mounting bracket
	OMH-RL31-02	Mounting bracket narrow
	OMH-RL31-03	Mounting bracket narrow

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Accessories

	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