



Model Number

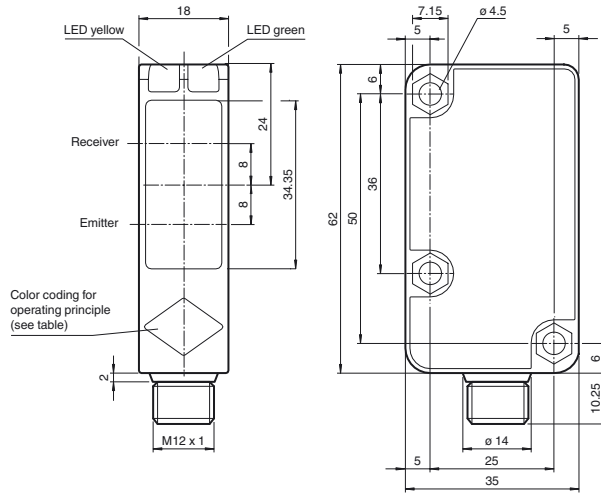
RL31-8-H-800-IR/73c/136

Background suppression sensor with 4-pin, M12 x 1 connector

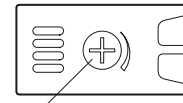
Features

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

Dimensions

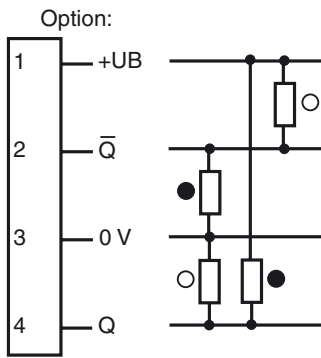


Operating principle	color
Retroreflective sensor with polarisation filter	green
Retroreflective sensor	blue
Diffusive mode sensor	white
Thru-beam sensor	grey
Diffusive mode sensor with background suppression	red



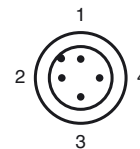
Sensing range adjuster

Electrical connection

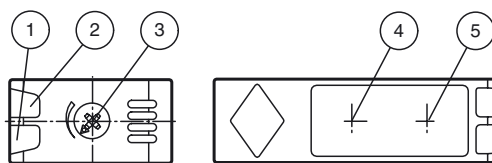


- = Light on
- = Dark on

Pinout



Indicators/operating means



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

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Technical data**General specifications**

Detection range	50 ... 800 mm
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 infrared light
Black/White difference (6%/90%)	< 5 %
Diameter of the light spot	approx. 30 mm at a distance of 800 mm
Angle of divergence	approx. 2.5 °
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	Detection range adjuster

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
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

Ambient conditions

Ambient temperature	-30 ... 55 °C (-22 ... 131 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

Mechanical specifications

Degree of protection	IP67
Connection	4-pin, M12 x 1 connector
Material	
Housing	Polycarbonate
Optical face	PMMA
Mass	25 g

Compliance with standards and directives

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2:2007
Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Standards	UL 508:2013 EN 62471:2008

Approvals and certificates

Protection class	II , rated insulation voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval	cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure)

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 ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-RL31-05
Mounting bracket with M10 threaded rod

OMH-RL31-06
Stainless steel mounting bracket with adjustable half clamp on the side

V1-G-2M-PUR
Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR
Female cordset, M12, 4-pin, PUR cable

Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams

