



### Model Number

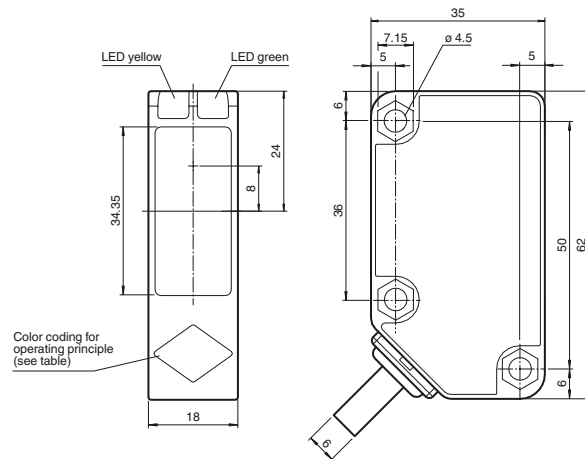
**LD31/LV31/25/38/115**

Thru-beam sensor  
with 2 m fixed cable

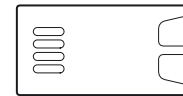
### Features

- Operating voltage DC
- Highly visible LED
- Protection class II
- Relay output
- Compact and stable housing

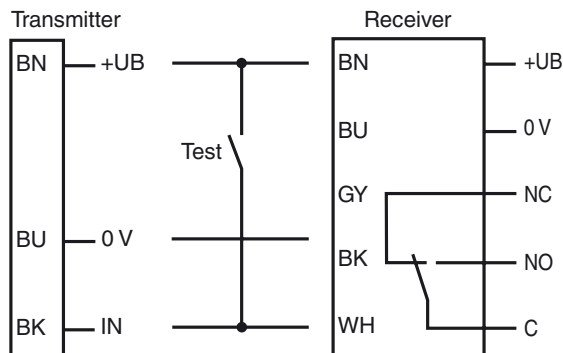
### Dimensions



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



### Electrical connection



## Technical data

### System components

Emitter	LD31/76a/115
Receiver	LV31/25/38/115

### General specifications

Effective detection range	0 ... 30 m
Threshold detection range	43 m
Light source	LED
Light type	modulated visible red light , 630 nm
Alignment aid	LED yellow: 1. LED illuminates: Sufficient light signal received, emitter and receiver alignment is correct 2. LED flashes: Reaching switching point 3. LED off: Light beam is interrupted or the alignment is out
Diameter of the light spot	approx. 800 mm at a distance of 30 m
Angle of divergence	Emitter: 0.5 ° , Receiver: 1.5 °
Ambient light limit	50000 Lux ; according EN 60947-5-2

### Functional safety related parameters

MTTF <sub>d</sub>	620 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Indicators/operating means

Operation indicator	LED green: power on
Function indicator	LED yellow: 1. LED lit constantly: signal > 2 x switching point (function reserve) 2. LED flashes: signal between 1 x switching point and 2 x switching point 3. LED off: signal < switching point

### Electrical specifications

Operating voltage	U <sub>B</sub>	12 ... 30 V DC
No-load supply current	I <sub>0</sub>	Emitter: ≤ 18 mA Receiver: ≤ 20 mA

### Input

Test input	emitter deactivation at +U <sub>B</sub>
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### Output

Switching type	light on
Signal output	Relay, 1 alternator
Switching voltage	max. 30 V DC
Switching current	max. 1 A
Switching frequency	f ≤ 20 Hz
Response time	≤ 25 ms

### Ambient conditions

Ambient temperature	-25 ... 55 °C (-13 ... 131 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

### Mechanical specifications

Degree of protection	IP67
Connection	Emitter: 2 m fixed cable , 3-wire Receiver: 2 m fixed cable , 5-wire
Material	
Housing	Polycarbonate
Optical face	PMMA
Mass	Emitter: 116 g Receiver: 131 g

### Compliance with standards and directives

Directive conformity	EMC Directive 2004/108/EC
Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Standards	EN 62103

### Approvals and certificates

Protection class	II , rated 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
CCC approval	CCC approval / marking not required for products rated ≤36 V

## 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

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

## Curves/Diagrams

