



Model Number

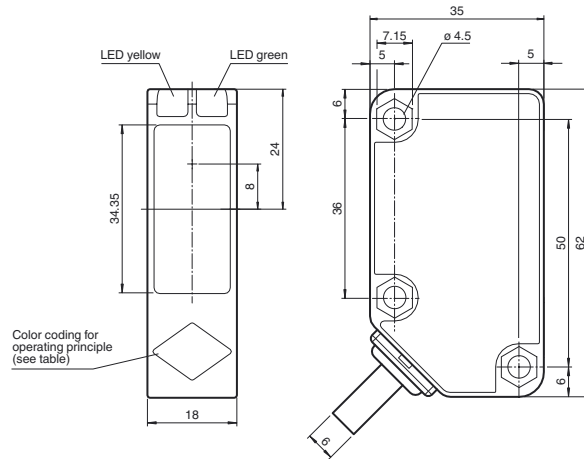
LD31/LV31/76a/115/136

Thru-beam sensor
with 2 m fixed cable

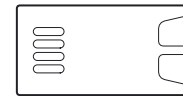
Features

- Highly visible LED
- Powerful push-pull output
- Compact and stable housing
- Protection class II

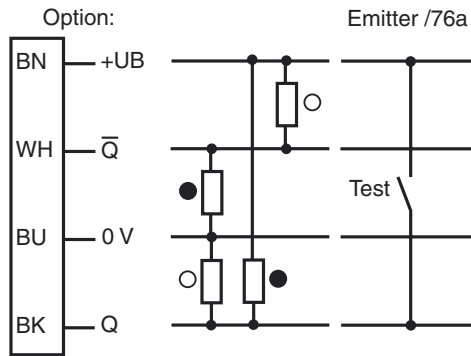
Dimensions



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



- = Light on
- = Dark on

Release date: 2014-05-08 13:13 Date of issue: 2014-05-14 187672_eng.xml

Technical data**System components**

Emitter	LD31/76a/115
Receiver	LV31/115/136

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: 1.5 ° , Receiver: 1.5 °
Ambient light limit	50000 Lux ; according EN 60947-5-2

Functional safety related parameters

MTTF _d	750 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	90 %

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 _B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	Emitter: ≤ 18 mA Receiver: ≤ 18 mA

Input

Test input	emitter deactivation at +U _B
------------	---

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	≤ 1.5 V
Switching frequency	f	≤ 250 Hz
Response time		≤ 2 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	Emitter: 2 m fixed cable , 3-wire Receiver: 2 m fixed cable , 4-wire

Material

Housing	Polycarbonate
Optical face	PMMA
Mass	Emitter: 98 g Receiver: 132 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

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
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
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

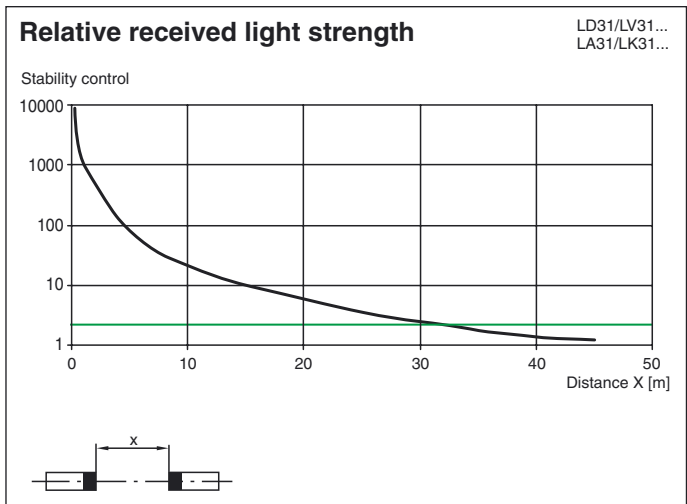
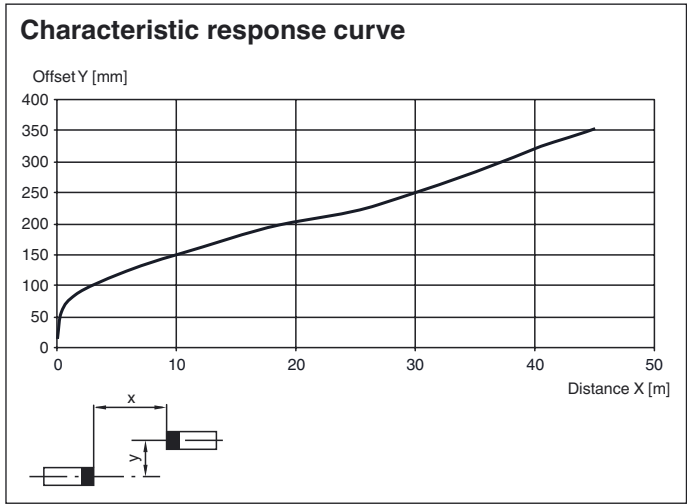
OMH-RL31-04
Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-RL31-05
Mounting bracket with M10 threaded rod

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

Additional accessories can be found in the Internet.

Curves/Diagrams



Release date: 2014-05-08 13:13 Date of issue: 2014-05-14 187672_eng.xml

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com