



# Thru-beam sensor

## LA31/LK31/25/31/115

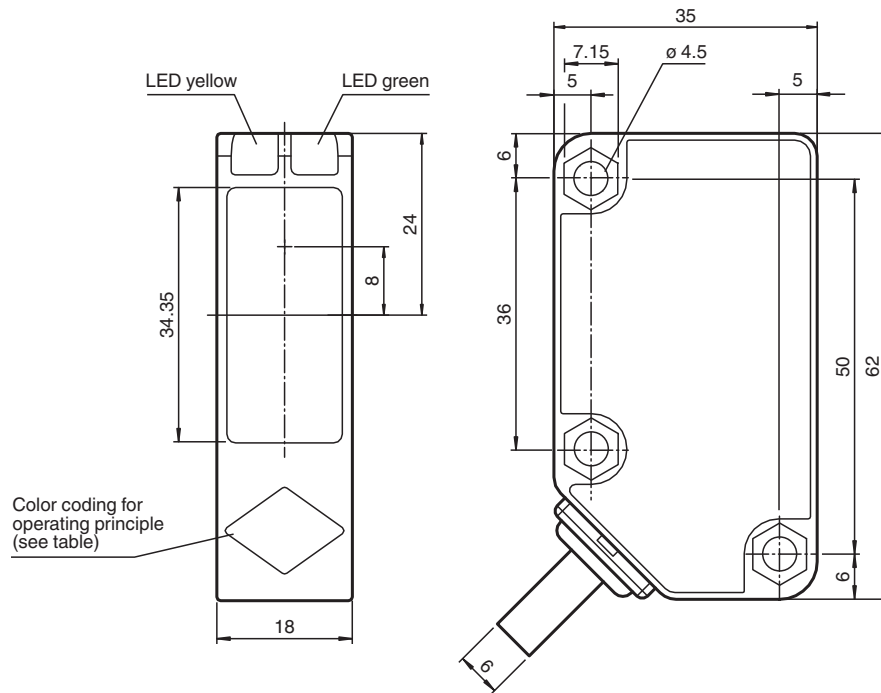


- Cost-optimized series for standard tasks
- Large construction with small housing
- Highly visible LED
- Version for universal voltages
- Relay output
- Wide range of mounting options

Thru-beam sensor, 30 m detection range, red light, light on, AC/DC version, relays output, fixed cable

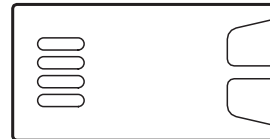


### Dimensions



Color coding for operating principle (see table)

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



### Technical Data

#### System components

Emitter	LA31/115
Receiver	LK31/25/31/115

#### General specifications

Effective detection range	0 ... 30 m
Threshold detection range	43 m

Release date: 2023-10-13 Date of issue: 2023-10-13 Filename: 186501\_eng.pdf

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 1111  
fa-info@de.pepperl-fuchs.com

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

**pf** PEPPERL+FUCHS

## Technical Data

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
Opening angle		Emitter: 0.5 ° , Receiver: 1.5 °
Ambient light limit		50000 Lux ; according to EN 60947-5-2
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		620 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Indicators/operating means</b>		
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
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	24 ... 240 V AC 12 ... 240 V DC
No-load supply current	I <sub>0</sub>	Emitter: ≤ 20 mA Receiver: ≤ 20 mA
Power consumption	P <sub>0</sub>	Emitter: ≤ 1 VA Receiver: ≤ 1 VA
<b>Output</b>		
Switching type		light-on
Signal output		Relay, 1 alternator
Switching voltage		max. 250 V AC/DC
Switching current		max. 3 A
Switching power		DC: max. 150 W AC: max. 750 VA
Switching frequency	f	≤ 20 Hz
Response time		≤ 25 ms
<b>Conformity</b>		
Product standard		EN 60947-5-2
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN 62103
<b>Approvals and certificates</b>		
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		Certified by China Compulsory Certification (CCC)
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 55 °C (-13 ... 131 °F)
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
<b>Mechanical specifications</b>		
Housing width		18 mm
Housing height		62 mm
Housing depth		35 mm
Degree of protection		IP67
Connection		Emitter: 2 m fixed cable , 2-wire Receiver: 2 m fixed cable , 5-wire
Material		
Housing		Polycarbonate
Optical face		PMMA

Release date: 2023-10-13 Date of issue: 2023-10-13 Filename: 186501\_eng.pdf

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 1111  
fa-info@de.pepperl-fuchs.com

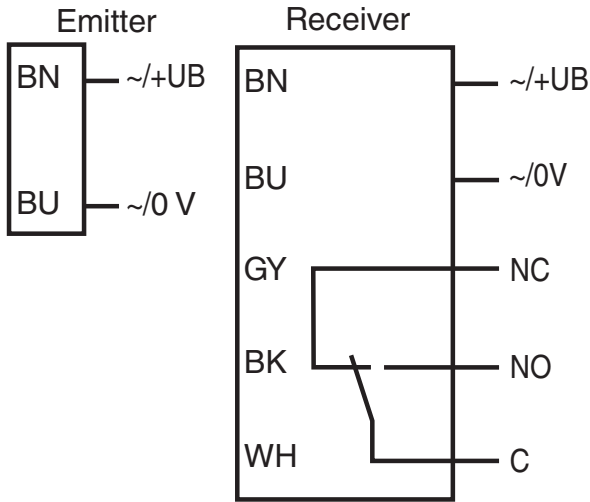
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

 PEPPERL+FUCHS

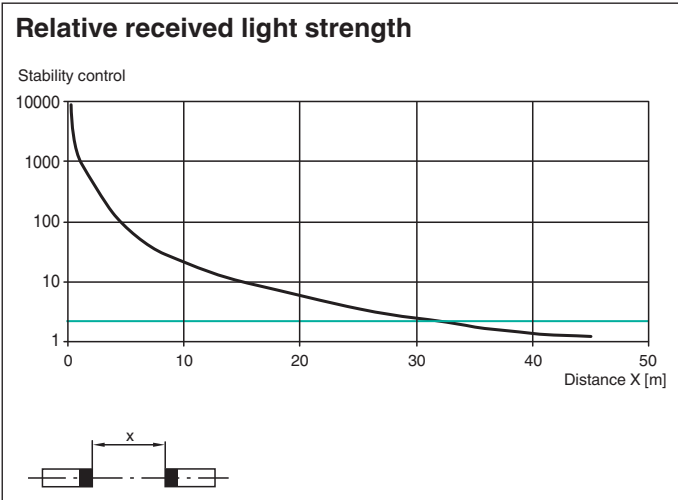
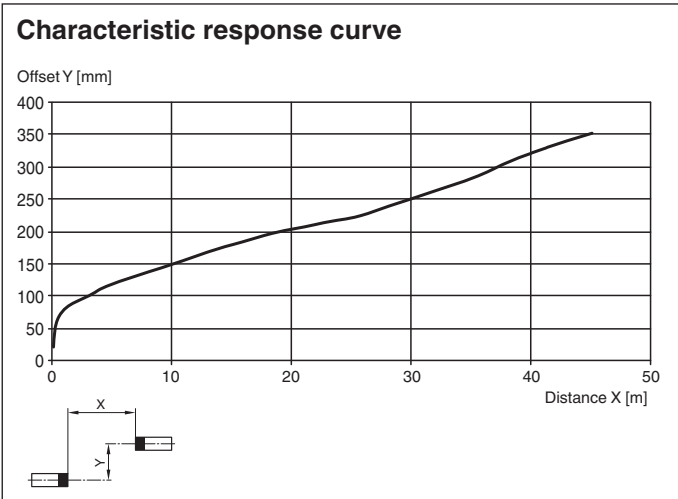
**Technical Data**

Mass	Emitter: 116 g Receiver: 131 g
------	-----------------------------------

**Connection Assignment**









**Characteristic Curve**



Release date: 2023-10-13 Date of issue: 2023-10-13 Filename: 186501\_eng.pdf

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

## Accessories

	<b>OMH-RL31-01</b>	Mounting bracket
	<b>OMH-RL31-02</b>	Mounting bracket narrow
	<b>OMH-RL31-03</b>	Mounting bracket narrow
	<b>OMH-RL31-04</b>	Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm
	<b>OMH-RL31-06</b>	Stainless steel mounting bracket with adjustable half clamp on the side
	<b>OMH-RL31-05</b>	Mounting bracket for mounting on flat surfaces with 2 M4 screws