



Model Number

LA31/LK31/25/31/115 SET2

Thru-beam sensor

Features

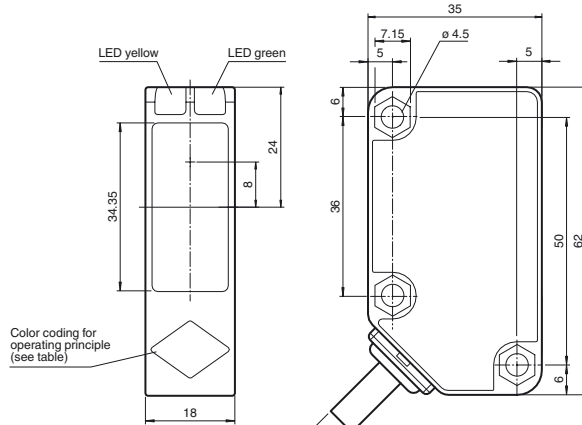
- Photoelectric sensor for detecting people, objects and vehicles
- Large construction with small housing
- Not sensitive to ambient light
- Version for universal voltages
- Relay output
- Version with accessories in scope of delivery

Product information

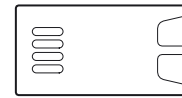
Series 31 is a range of cost-effective and, most importantly, reliable photoelectric sensors for standard applications in the fields of material handling and logistics, and for monitoring industrial doors, elevators, and automatic gates. The ultrasonic-welded plastic housing provides a high degree of protection, making these sensors ideal for tasks in harsh outdoor conditions. These sensors are currently the most compact "wide range power supply sensors" that can work with any DC and AC voltage between 24 V and 240 V. In addition to the robust technology, the sensors offer numerous product details that help the user with assembly, connection and operation.

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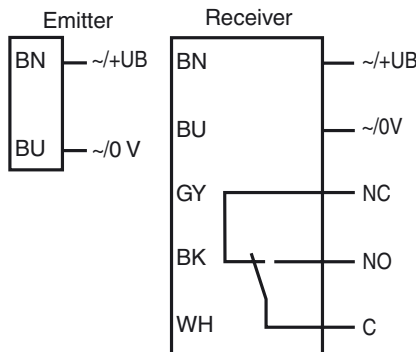
Dimensions



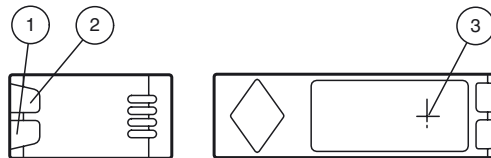
Operating principle	color
Retroreflective sensor with polarisation filter	green
Retroreflective sensor	blue
Diffusive mode sensor	white
Thru-beam sensor	grey
Diffusive mode sensor with background suppression	red



Electrical connection



Indicators/operating means



1	Operating display	green
2	Signal display	yellow
3	Emitter or receiver	

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
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
Accessories provided	2 x Mounting bracket OMH-RL31-05 and mounting materials

Functional safety related parameters

MTTF _d	790 a
Mission Time (T _M)	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 _B	24 ... 240 V AC 12 ... 240 V DC
No-load supply current	I ₀	Emitter: ≤ 40 mA Receiver: ≤ 3 mA
Power consumption	P ₀	Emitter: ≤ 1 VA Receiver: ≤ 1 VA

Output

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

Conformity

Product standard	EN 60947-5-2
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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 , 2-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

Standard conformity	
Standards	EN 62103

Approvals and certificates

EAC conformity	TR CU 020/2011 TR CU 004/2011
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)

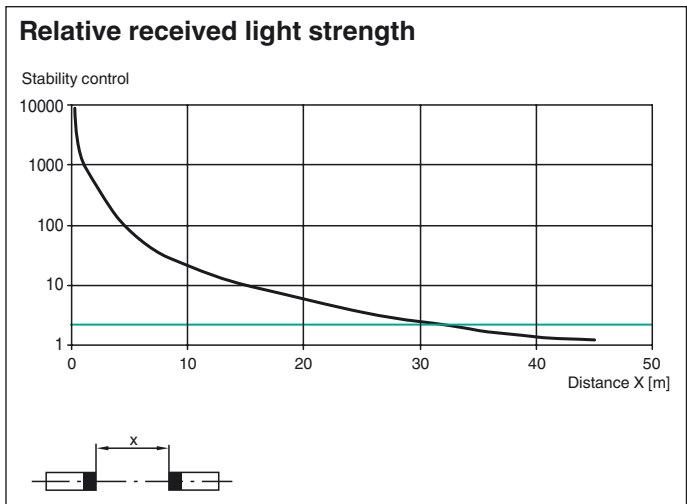
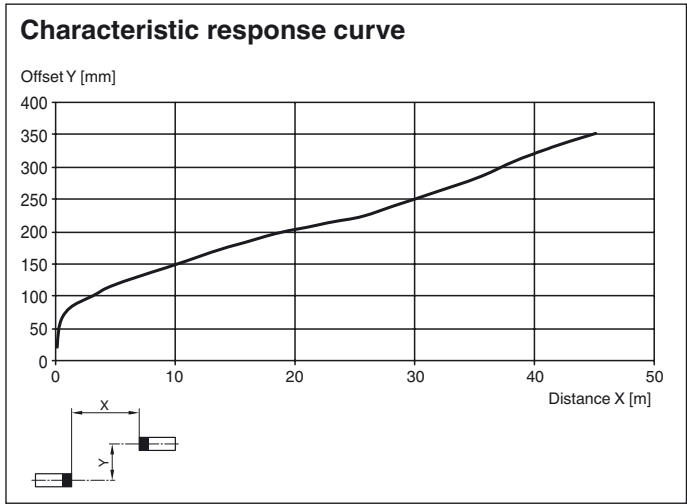
Typical applications

- Monitoring closing edges of automatic industrial doors and elevators
- Monitoring the swing range of automatic gates
- Detecting and tracking objects in material handling

Detection area



Curves/Diagrams



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

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