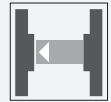




Thru-beam sensor LA31/LK31/25/31/115 SET



- 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

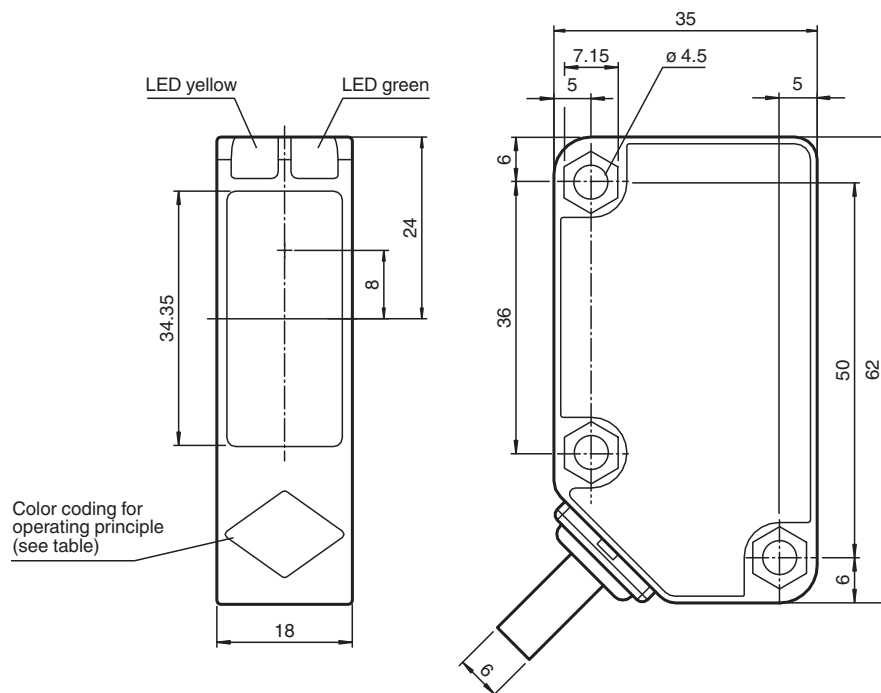
Mid-range photoelectric sensors for detecting people, objects, and vehicles



Function

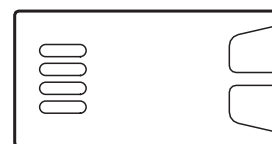
Series 31 is a range of cost-effective and, most importantly, reliable photoelectric sensors for standard applications in the fields of material handling and logistics, and for monitoring industrial doors, elevators, and automatic gates. The ultrasonic-welded plastic housing provides a high degree of 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.

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



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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-RL31-01 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
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)
Ambient conditions			
Ambient temperature			-25 ... 55 °C (-13 ... 131 °F)
Storage temperature			-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications			

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

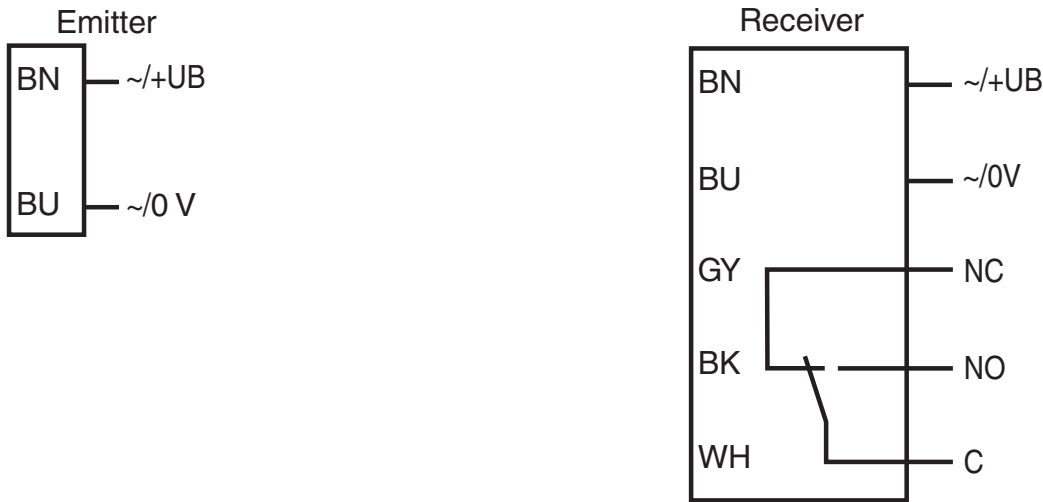
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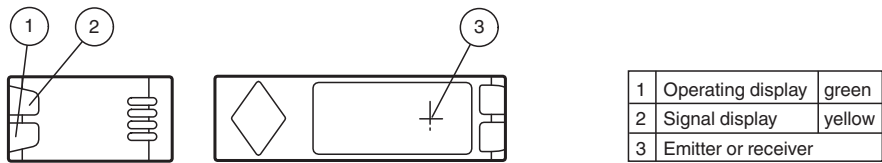
Technical Data

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

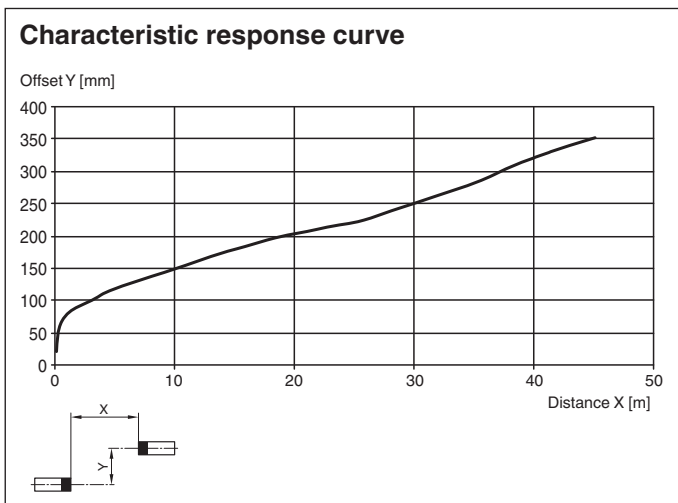
Connection Assignment



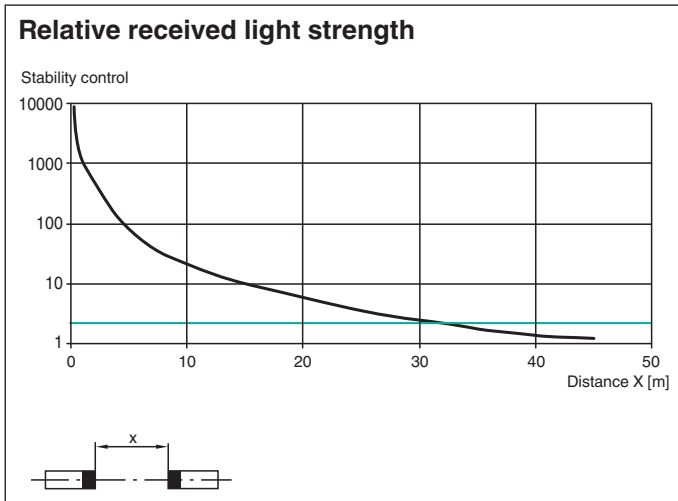
Assembly



Characteristic Curve



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Application



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Application

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

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