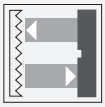


Retroreflective sensor

RLK31-54/25/31/115 SET



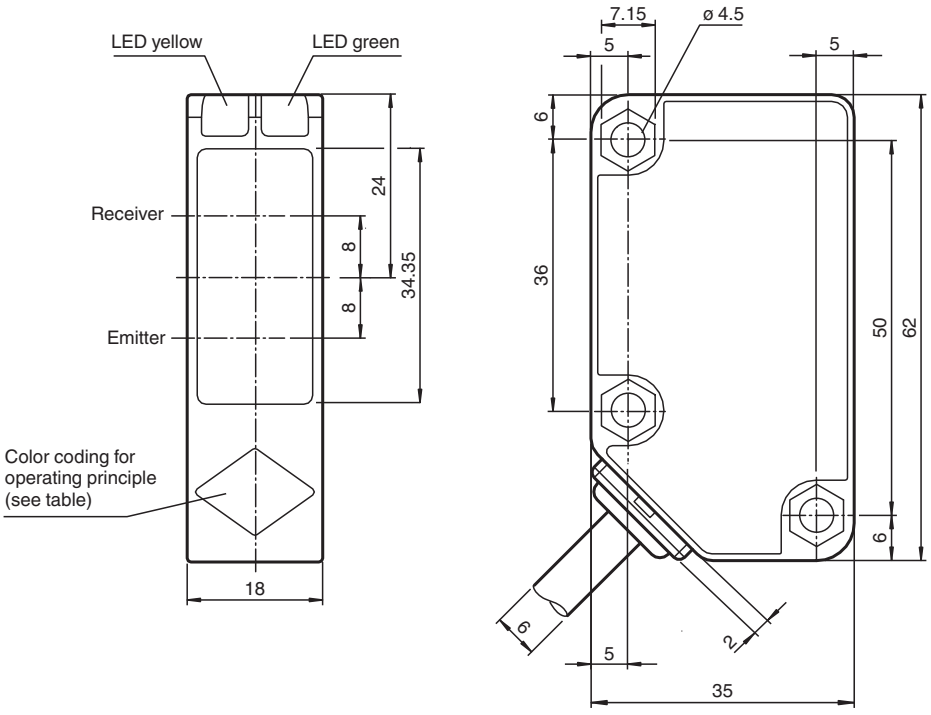
- Photoelectric sensor for detecting people, objects and vehicles
- Large construction with small housing
- Not sensitive to ambient light
- Version for universal voltages
- Relay output
- Version with accessories in scope of delivery

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



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

General specifications		
Effective detection range		0 ... 9000 mm
Reflector distance		20 ... 9000 mm
Threshold detection range		12 m
Reference target		reflector C110-2
Light source		LED
Light type		modulated visible red light , 630 nm
Diameter of the light spot		approx. 200 mm at a distance of 6 m
Angle of divergence		3 °
Ambient light limit		50000 Lux
Accessories provided		reflector C110-2 OMH-RL31-01 mounting bracket with 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	≤ 40 mA
Power consumption	P_0	≤ 2 VA
Output		
Switching type		light-on
Signal output		Relay, 1 alternator
Switching voltage		max. 240 V AC
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
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		
Degree of protection		IP67
Connection		2 m fixed cable
Material		
Housing		Polycarbonate
Optical face		PMMA
Mass		154 g

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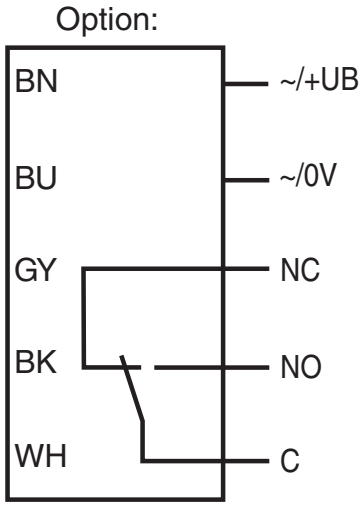
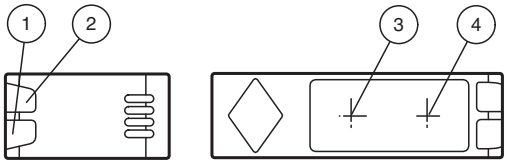
Connection Assignment



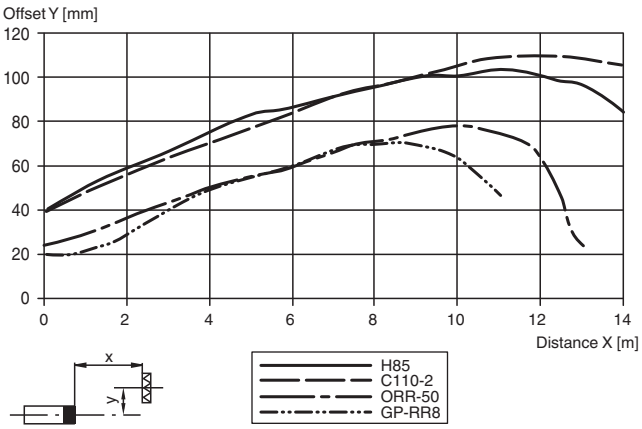
Assembly



1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

Characteristic Curve

Characteristic response curve



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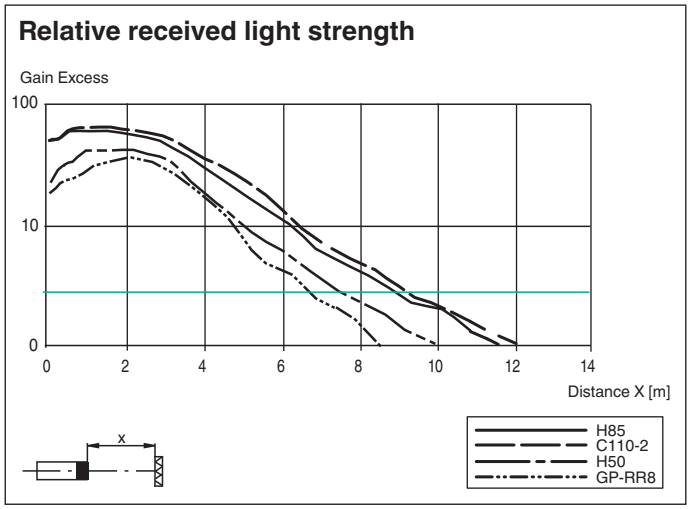
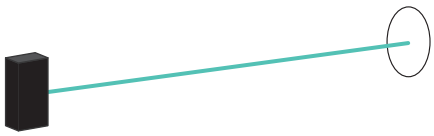


Application



Accessories

	**REF-H50**	Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap
	**REF-H60-2**	Reflector with mounting holes
	**REF-H85-2**	Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes
	**REF-H160**	Reflector, rectangular 60 mm x 18 mm, mounting holes
	**REF-H180**	Reflector, rectangular 182 mm x 42 mm, mounting holes
	**REF-C110-2**	Reflector, round ø 84 mm, central mounting hole
	**OFR-100/100**	Reflective tape 100 mm x 100 mm
	**Reflector Weather Cap**	Weather hood for series reflector

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Accessories

Other suitable accessories can be found at www.pepperl-fuchs.com

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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