Model Number

RLK31-54/25/31/115 SET2
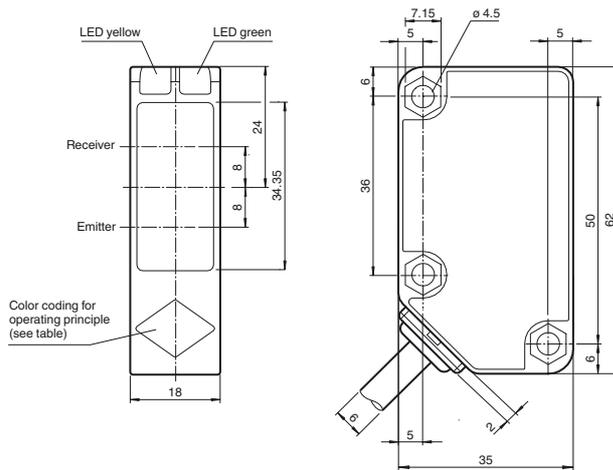
Retroreflective sensor

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.

Dimensions

LED yellow, LED green, Receiver, Emitter, Color coding for operating principle (see table)
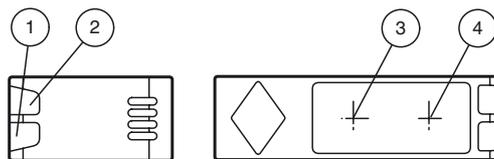
Operating principle	color
Retroreflective sensor with polarisation filter	green
Retroreflective sensor	blue
Diffusive mode sensor	white
Thru -beam sensor	grey
Diffusive mode sensor with background suppression	red

Electrical connection

Option:

BN	~/+UB
BU	~/0V
GY	NC
BK	NO
WH	C
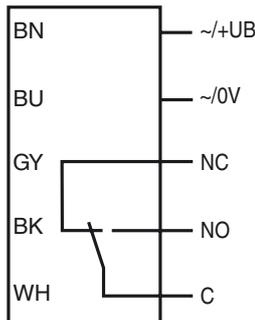
Indicators/operating means

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

Release date: 2020-03-16 11:09   Date of issue: 2020-03-16   213222_eng.xml

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

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PEPPERL+FUCHS   **1**

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-RL31-05 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

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

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

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 180 mm x 40 mm, mounting holes

REF-C110-2
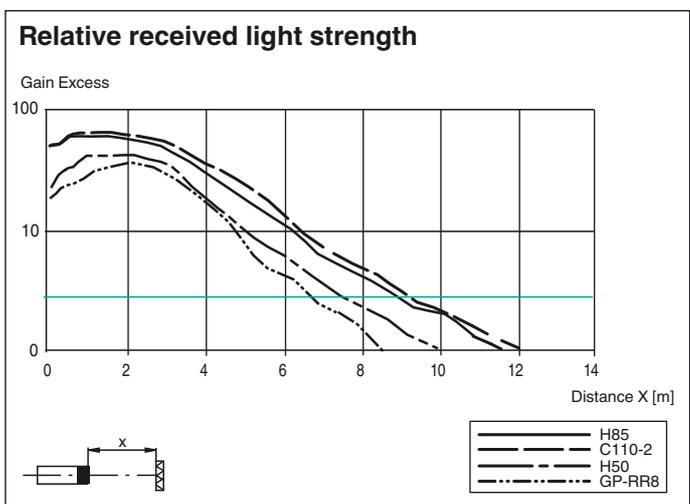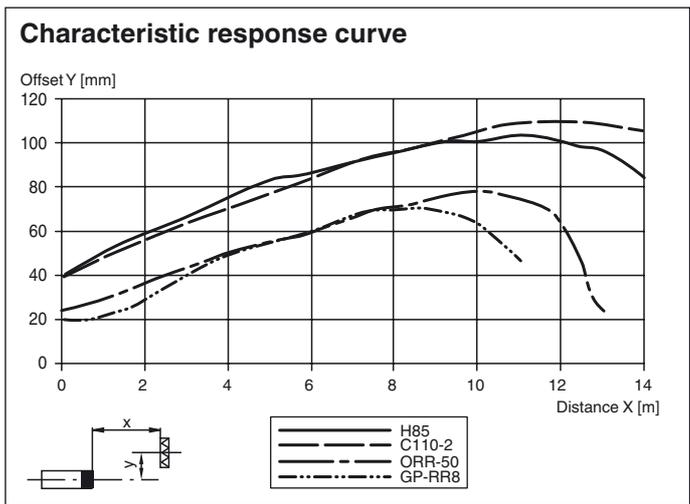Reflector, round ø 84 mm, central mounting hole

OFR-100/100
Reflective tape 100 mm x 100 mm

Reflector Weather Cap
Weather hood for series reflector

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

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

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

Distance X [m]

——	H85
– – –	C110-2
–·–·–	ORR-50
–··–··–	GP-RR8

Relative received light strength

Gain Excess

Distance X [m]

——	H85
– – –	C110-2
–·–·–	H50
–··–··–	GP-RR8

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

PEPPERL+FUCHS **3**