



Retroreflective sensor RL31-54/73c/136



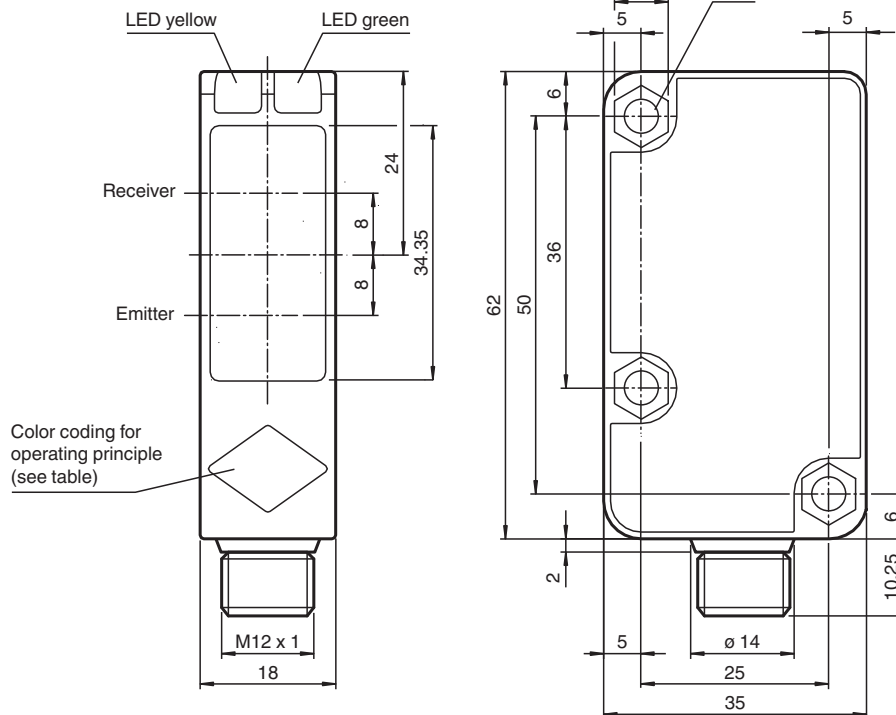
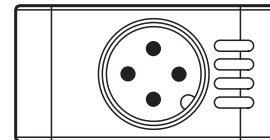
- Compact and stable housing
- Glare protected with polarization filter
- Highly visible LED
- Powerful push-pull output
- Protection class II

Retroreflective sensor with polarization filter, plastic housing, 9 m detection range, red light, dark on, DC version, 2 push-pull outputs, no control elements, M12 plug



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 |



Technical Data

General specifications

Effective detection range 0 ... 9000 mm

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 183811_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

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Technical Data

| | | |
|---|----------------|---|
| 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 |
| Polarization filter | | yes |
| Diameter of the light spot | | approx. 200 mm at a distance of 6 m |
| Opening angle | | 3 ° |
| Ambient light limit | | 50000 Lux ; according to EN 60947-5-2 |
| Functional safety related parameters | | |
| MTTF _d | | 920 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 | 10 ... 30 V DC |
| Ripple | | 10 % |
| No-load supply current | I ₀ | ≤ 20 mA |
| Output | | |
| Switching type | | dark-on |
| Signal output | | 2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected |
| Switching voltage | | max. 30 V DC |
| Switching current | | max. 100 mA |
| Voltage drop | U _d | ≤ 1.5 V |
| Switching frequency | f | ≤ 500 Hz |
| Response time | | ≤ 1 ms |
| Conformity | | |
| Product standard | | EN 60947-5-2 |
| Approvals and certificates | | |
| Protection class | | II , rated insulation 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 |
| UL approval | | cULus Listed, Class 2 Power Source, Type 1 enclosure |
| CCC approval | | CCC approval / marking not required for products rated ≤36 V |
| Ambient conditions | | |
| Ambient temperature | | -30 ... 55 °C (-22 ... 131 °F) |
| Storage temperature | | -40 ... 70 °C (-40 ... 158 °F) |
| Mechanical specifications | | |
| Housing width | | 18 mm |
| Housing height | | 62 mm |
| Housing depth | | 35 mm |
| Degree of protection | | IP67 |
| Connection | | 4-pin, M12 x 1 connector |
| Material | | |
| Housing | | plastic |
| Optical face | | PMMA |
| Mass | | 24 g |

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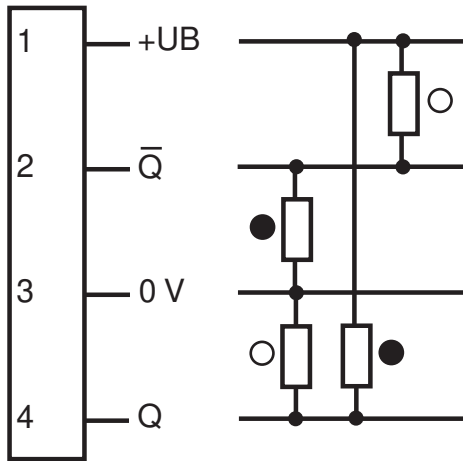
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fa-info@sg.pepperl-fuchs.com

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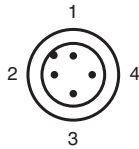
Connection Assignment

Option:



- = Light on
- = Dark on

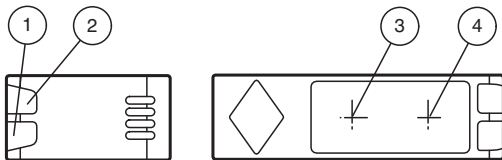
Connection Assignment



Wire colors in accordance with EN 60947-5-2

- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)

Assembly

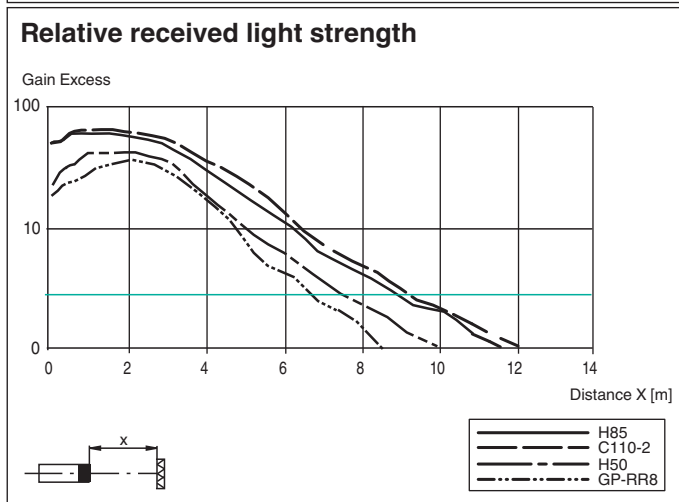
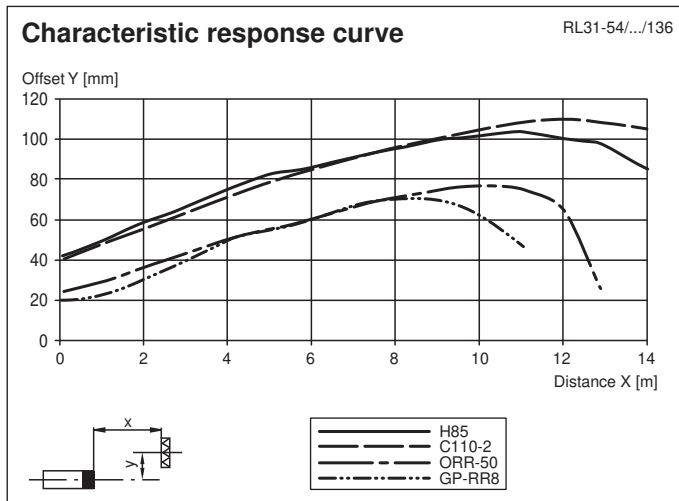


| | | |
|---|-------------------|--------|
| 1 | Operating display | green |
| 2 | Signal display | yellow |
| 3 | Emitter | |
| 4 | Receiver | |

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Characteristic Curve



Accessories

| | | |
|--|--------------------|---|
| | OMH-RL31-01 | Mounting bracket |
| | OMH-RL31-02 | Mounting bracket narrow |
| | OMH-RL31-03 | Mounting bracket narrow |
| | OMH-RL31-04 | Mounting aid for round steel \varnothing 12 mm or sheet 1.5 mm ... 3 mm |
| | OMH-RL31-05 | Mounting bracket for mounting on flat surfaces with 2 M4 screws |
| | OMH-RL31-06 | Stainless steel mounting bracket with adjustable half clamp on the side |
| | V1-G-2M-PUR | Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable grey |
| | V1-W-2M-PUR | Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey |

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