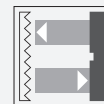




# Retroreflective sensor

## RL28-55-3018/35/44/47/115b

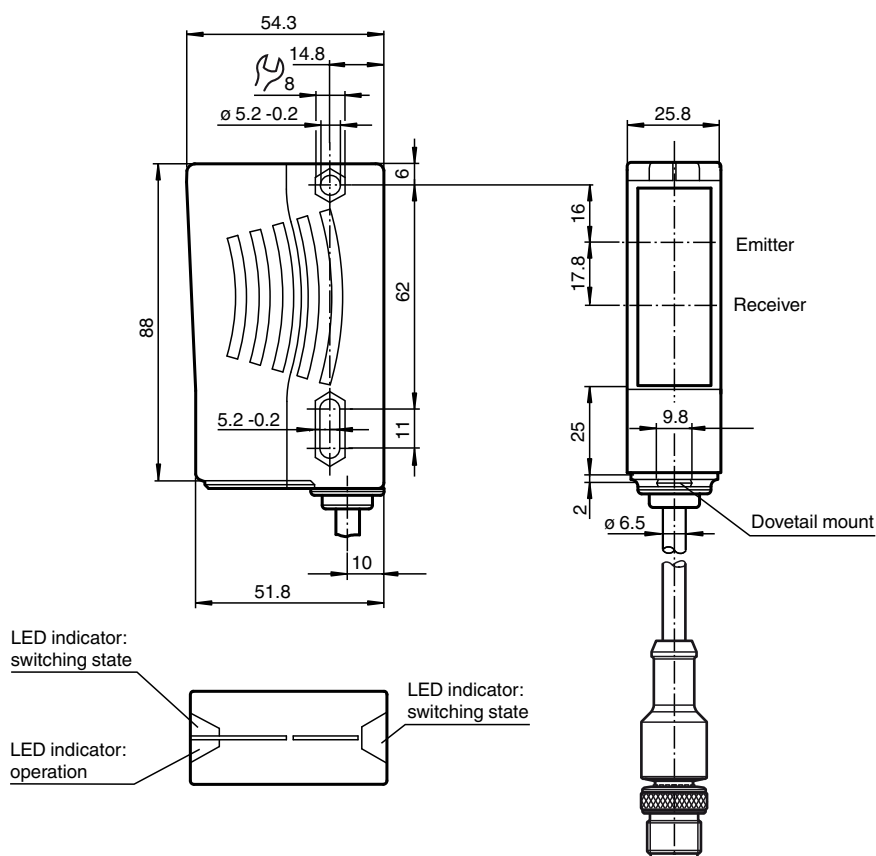


- Clearly visible LEDs for Power ON, switching state and weak signal indication
- Not sensitive to ambient light, even with switched energy saving lamps
- Waterproof, degree of protection IP67
- Protection class II

Retroreflective sensor with polarization filter



## Dimensions



## Technical Data

### General specifications

|                           |               |
|---------------------------|---------------|
| Effective detection range | 0 ... 20 m    |
| Reflector distance        | 0.05 ... 20 m |

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

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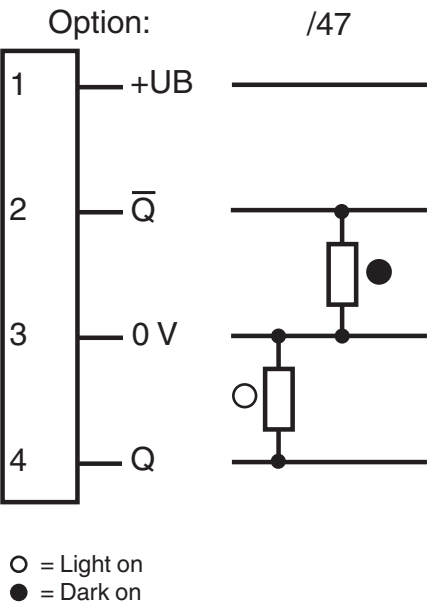
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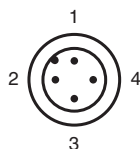
## Technical Data

|                                             |                                                                                                                                        |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Threshold detection range                   | 26 m                                                                                                                                   |
| Reference target                            | H85-2 reflector                                                                                                                        |
| Light source                                | LED                                                                                                                                    |
| Light type                                  | modulated visible red light , 660 nm                                                                                                   |
| Polarization filter                         | yes                                                                                                                                    |
| Diameter of the light spot                  | approx. 350 mm at a distance of 20 m                                                                                                   |
| Opening angle                               | emitter 1.2°<br>receiver 2°                                                                                                            |
| Ambient light limit                         | 80000 Lux                                                                                                                              |
| <b>Functional safety related parameters</b> |                                                                                                                                        |
| MTTF <sub>d</sub>                           | 950 a                                                                                                                                  |
| Mission Time (T <sub>M</sub> )              | 20 a                                                                                                                                   |
| Diagnostic Coverage (DC)                    | 0 %                                                                                                                                    |
| <b>Indicators/operating means</b>           |                                                                                                                                        |
| Operation indicator                         | LED green                                                                                                                              |
| Function indicator                          | 2 LEDs yellow, light up when light beam is free, flash when falling short of the stability control, off when light beam is interrupted |
| <b>Electrical specifications</b>            |                                                                                                                                        |
| Operating voltage                           | U <sub>B</sub> 10 ... 30 V DC                                                                                                          |
| Ripple                                      | 10 %                                                                                                                                   |
| No-load supply current                      | I <sub>0</sub> ≤ 40 mA                                                                                                                 |
| <b>Output</b>                               |                                                                                                                                        |
| Switching type                              | light-on                                                                                                                               |
| Signal output                               | 2 PNP, complementary, short-circuit protected, reverse polarity protected , open collectors                                            |
| Switching voltage                           | max. 30 V DC                                                                                                                           |
| Switching current                           | max. 200 mA                                                                                                                            |
| Switching frequency                         | f 250 Hz                                                                                                                               |
| Response time                               | 2 ms                                                                                                                                   |
| <b>Conformity</b>                           |                                                                                                                                        |
| Product standard                            | EN 60947-5-2                                                                                                                           |
| <b>Approvals and certificates</b>           |                                                                                                                                        |
| Protection class                            | II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1                                                        |
| UL approval                                 | E87056 , cULus Listed , class 2 power supply , type rating 1                                                                           |
| <b>Ambient conditions</b>                   |                                                                                                                                        |
| Ambient temperature                         | -40 ... 60 °C (-40 ... 140 °F)                                                                                                         |
| Storage temperature                         | -40 ... 60 °C (-40 ... 140 °F)                                                                                                         |
| <b>Mechanical specifications</b>            |                                                                                                                                        |
| Housing width                               | 25.8 mm                                                                                                                                |
| Housing height                              | 88 mm                                                                                                                                  |
| Housing depth                               | 54.3 mm                                                                                                                                |
| Degree of protection                        | IP67                                                                                                                                   |
| Connection                                  | with 0.3 m fixed cable and M12 connector, 4-pin                                                                                        |
| <b>Material</b>                             |                                                                                                                                        |
| Housing                                     | Plastic ABS                                                                                                                            |
| Optical face                                | plastic                                                                                                                                |
| Mass                                        | 70 g                                                                                                                                   |

Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

Accessories

|                                                                                     |                     |                                                               |
|-------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------|
|  | <b>OMH-05</b>       | Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm |
|  | <b>OMH-21</b>       | Mounting bracket: mounting aid for sensors in the RL* series  |
|  | <b>OMH-22</b>       | Mounting aid for RL* series                                   |
|  | <b>OMH-RLK29-HW</b> | Mounting bracket for rear wall mounting                       |
|  | <b>OMH-RL28-C</b>   | Weld slag cover model                                         |