



Model Number

RLG28-55-7462

Retroreflective area sensor with 4-pin, M12 x 1 connector

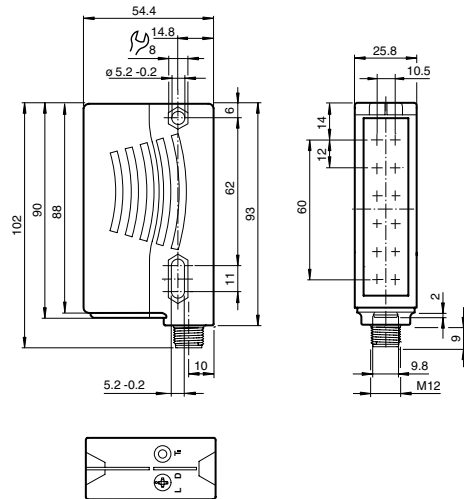
Features

- Retro-reflective area sensor with 6 light beams in standard photoelectric-sensor enclosure
- Connection compatibly replaces single beam photoelectric sensor
- Reliable detection of the front edge of the object irrespective of its shape and position
- Constant object detection from 12 mm within the entire detection area
- Reliable detection of all surfaces irrespective of the object texture
- Switches when contrast difference 10%
- Bright, highly visible transmitter beams, guarantee convenient alignment of the sensor

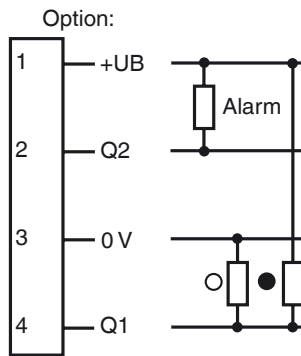
Product information

The RLG28 retro-reflective area sensor contains several transmitters and receivers in one housing and with a reflector positioned opposite forms a 60 mm detection area over a sensing range of 4 m. When the light beams are interrupted by an object, the switching function is triggered. The smallest detectable object size is 12 mm. The RLG28 switches at a 10% contrast difference with a response time of 1 ms.

Dimensions

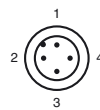


Electrical connection



○ = Light on
● = Dark on

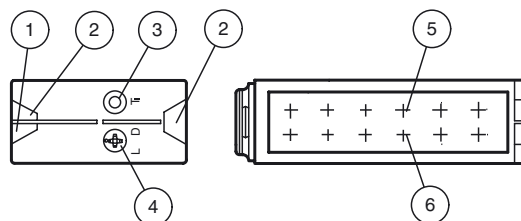
Pinout



Wire colors in accordance with EN 60947-5-2

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

Indicators/operating means



| | | |
|---|-------------------|--------|
| 1 | Operating display | green |
| 2 | Signal display | yellow |
| 3 | TEACH-IN button | |
| 4 | Light/dark switch | |
| 5 | Emitter | |
| 6 | Receiver | |

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Technical data**General specifications**

| | |
|----------------------------|---|
| Effective detection range | 0 ... 4 m |
| Reflector distance | Reflector A80: 0.4 ... 4 m , H85-2 reflector: 0.2 ... 4 m , Foil reflector OFR-100/100: 0.4 ... 3 m |
| Threshold detection range | 5.6 m |
| Sensing range | typical 60 mm , Object has to cover the redeflector completely in one dimension |
| Reference target | Reflector A80 H85-2 reflector Foil reflector OFR-100/100 |
| Light source | LED |
| Light type | modulated visible red light , 625 nm |
| Polarization filter | yes |
| Number of beams | 6 |
| Diameter of the light spot | approx. 220 mm at detection range 4 m |
| Angle of divergence | +/- 2.5 ° |
| Ambient light limit | 5000 Lux |
| Resolution | 12 mm |
| Readjustment | Receiver readjustment active after > 30 seconds |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 310 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|---------------------|---|
| Operation indicator | LED green, statically lit Power on Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) short-circuit : LED green flashing (approx. 4 Hz) |
| 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 Teach-In : LED yellow/green; equiphase flashing; 2,5 Hz |
| Control elements | rotary switch for light/dark , Teach-In key |

Electrical specifications

| | | |
|------------------------|----------------|----------------|
| Operating voltage | U _B | 12 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | max. 50 mA |

Output

| | | |
|-----------------------------|--|------------|
| Pre-fault indication output | 1 Push-pull output, active when there is sufficient operating reserve, inactive when there is not sufficient operating reserve, alternates for at least 10 seconds when the signal quality is poor (to check alignment and perform teach-in) | |
| Switching type | light/dark on, switchable | |
| Signal output | 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 100 mA | |
| Voltage drop | U _d | ≤ 2.5 V DC |
| Switching frequency | f | 230 Hz |
| Response time | | 1 ms |

Conformity

| | |
|------------------|--------------|
| Product standard | EN 60947-5-2 |
|------------------|--------------|

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -10 ... 40 °C (14 ... 104 °F) |
| Storage temperature | -40 ... 70 °C (-40 ... 158 °F) |

Mechanical specifications

| | |
|----------------------|--------------------------|
| Housing width | 25.8 mm |
| Housing height | 88 mm |
| Housing depth | 54.3 mm |
| Degree of protection | IP67 |
| Connection | 4-pin, M12 x 1 connector |
| Material | |
| Housing | Plastic ABS |
| Optical face | Plastic pane |
| Mass | 100 g |

Approvals and certificates

| | |
|--------------|--|
| UL approval | E87056 , cULus Listed , class 2 power supply , type rating 1 |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |

Notes**Mounting:**

Ensure that the red light transmitted by the sensor fully illuminates the reflector.
To ensure optimal detection, the entire 60 mm detection field must appear on the reflector.

Accessories**OMH-05**

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-07

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-21

Mounting bracket

OMH-RLK29-HW

Mounting bracket for rear wall mounting

OMH-K01

dove tail mounting clamp

REF-H85-2

Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

V1-G-2M-PVC

Female cordset, M12, 4-pin, PVC cable

V1-G-2M-PUR

Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

REF-A80

Reflector, rectangular 80 mm x 50 mm, self-adhesive

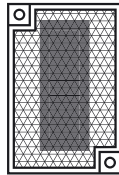
OFR-100/100

Reflective tape 100 mm x 100 mm

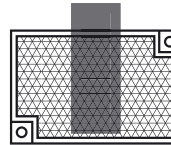
Additional accessories can be found in the Internet.

To check this illumination, look at the reflector from over the top of the sensor housing.

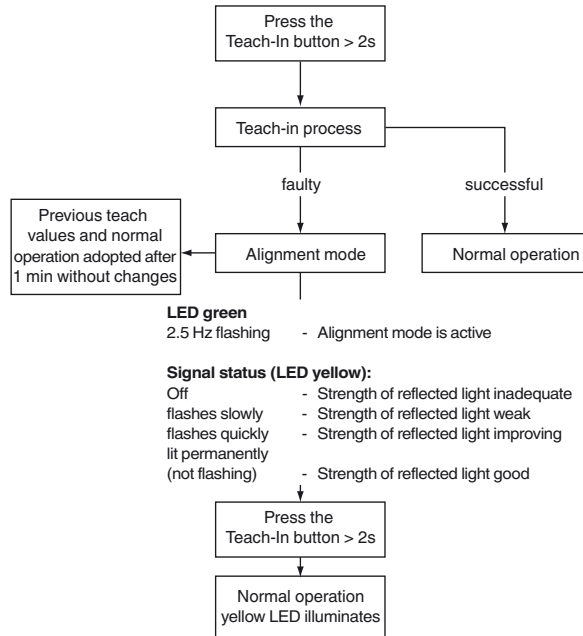
correct



incorrect



Teach-in:



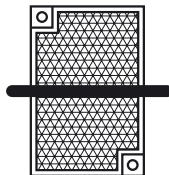
More stringent adjustment requirements: Ensure that the device is correctly aligned in the near range of 0.2 m ... 0.6 m.

Object detection after successful Teach-in

The target should be large enough so that the reflector is always completely covered in one dimension!

optimal

object = resolution



not optimal

object > resolution

