



Model Number

RLG28-55/40a/73c/136

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

Features

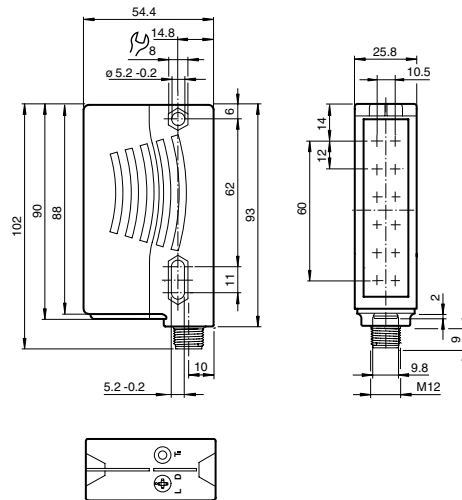
- Retro-reflective area sensor with 6 light beams in standard photoelectric-sensor enclosure
- Connection compatibly replaces single beam photoelectric sensor
- Reliable detection of the front edge of the object irrespective of its shape and position
- Constant object detection from 12 mm within the 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

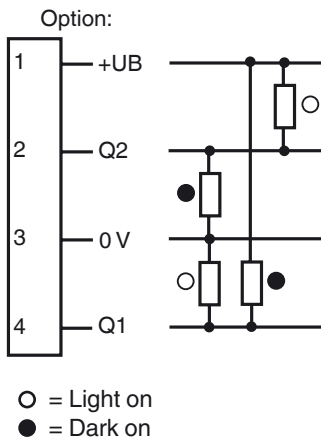
The RLG28 retro-reflective area sensor contains several transmitters and receivers in one housing and with a reflector positioned opposite forms a 60 mm detection area over a sensing range of 4 m.

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. An intelligent gain control compensates for effects such as dirt, misalignment, and temperature.

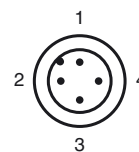
Dimensions



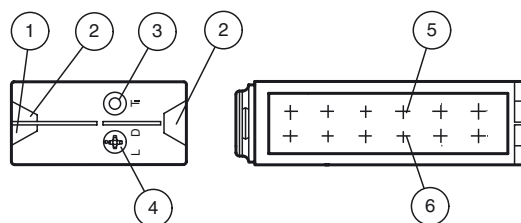
Electrical connection



Pinout



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 | H60 reflector: 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 | H60 reflector , 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 |

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 Changeover signal tracking: LED yellow, 1 Hz flashing / 2x flashing |
| Control elements | rotary switch for light/dark , Teach-In key |

Electrical specifications

| | | |
|------------------------|----------------|---|
| Operating voltage | U _B | 12 ... 30 V DC Power from Class 2 Power Source |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | max. 50 mA |

Output

| | | |
|---------------------|--|------------|
| Switching type | light/dark on, switchable | |
| Signal output | 2 push-pull (4 in 1) outputs, complementary, short-circuit proof, 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 |

Ambient conditions

| | |
|---------------------|--|
| Ambient temperature | -30 ... 60 °C (-22 ... 140 °F) -10 ... 40 °C (14 ... 104 °F) for inactive signal tracking |
| Storage temperature | -40 ... 70 °C (-40 ... 158 °F) |

Mechanical specifications

| | |
|----------------------|--------------------------|
| Degree of protection | IP67 |
| Connection | 4-pin, M12 x 1 connector |
| Material | |
| Housing | Plastic ABS |
| Optical face | Plastic pane |
| Mass | 100 g |

Compliance with standards and directives

| | |
|---------------------------|-------------------|
| Directive conformity | |
| EMC Directive 2004/108/EC | EN 60947-5-2:2007 |

Approvals and certificates

| | |
|------------------|--|
| Protection class | II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 , functional insulation acc. to DIN EN 50178 |
| UL approval | cULus Listed, Class 2 Power Source |
| 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-H60

Reflector, rectangular 40.5 mm x 60 mm, mounting holes

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

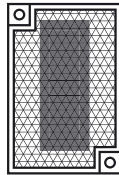
V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

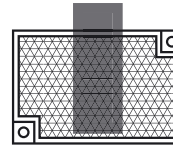
Additional accessories can be found in the Internet.

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

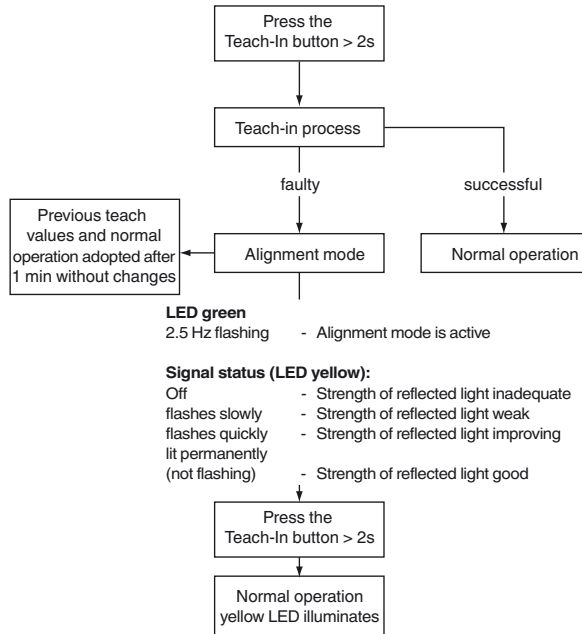
correct



incorrect



Teach-in:



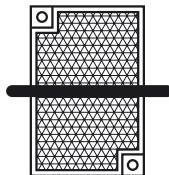
More stringent adjustment requirements: Ensure that the device is correctly aligned in the near range of 0.2 m ... 0.6 m.

Object detection after successful Teach-in

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

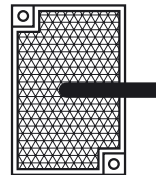
optimal

object = resolution



not optimal

object > resolution



Signal tracking:

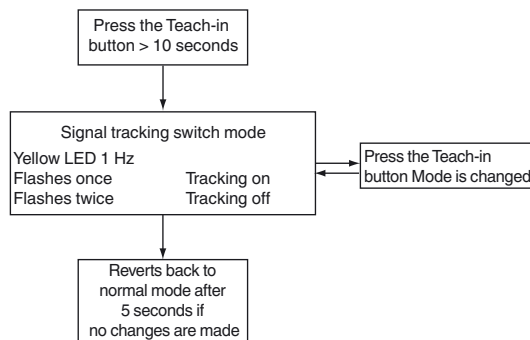
Active:

- At variable temperature
- Objects located in the light path that lie below the switching point. These objects result in a readjustment of the emitter. This allows these objects to be taught in or taught out.

Inactive:

- Function not available

To alter the signal tracking, press the Teach-in button for >10 seconds. The current status is displayed. Briefly pressing the Teach-in button changes the mode.



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