



**Model Number**

**RLG28-55/40a/73c/136**

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

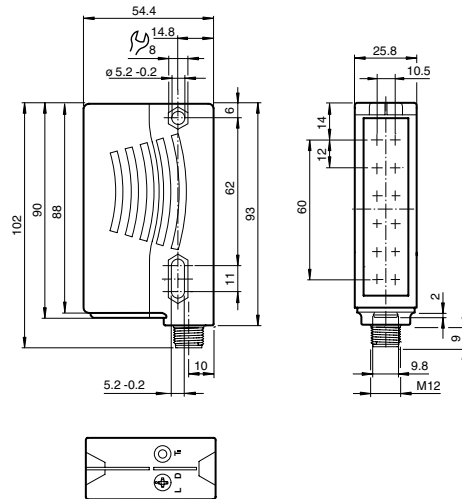
**Features**

- 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

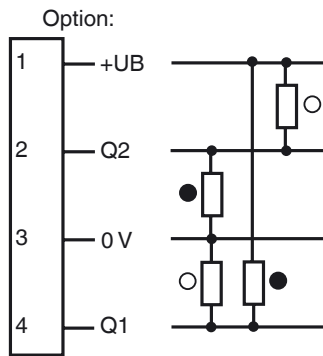
**Product information**

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**

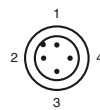


**Electrical connection**



○ = Light on  
● = Dark on

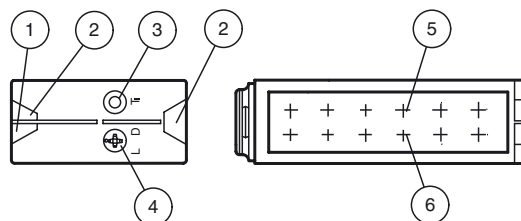
**Pinout**



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

**Functional safety related parameters**

MTTF <sub>d</sub>	310 a
Mission Time (T <sub>M</sub> )	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 <sub>B</sub>	12 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	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 <sub>d</sub>	≤ 2.5 V DC
Switching frequency	f	230 Hz
Response time		1 ms

**Conformity**

Product standard	EN 60947-5-2
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**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**

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	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-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

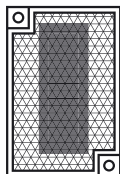
**REF-A80**

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

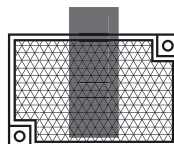
Additional accessories can be found in the Internet.

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

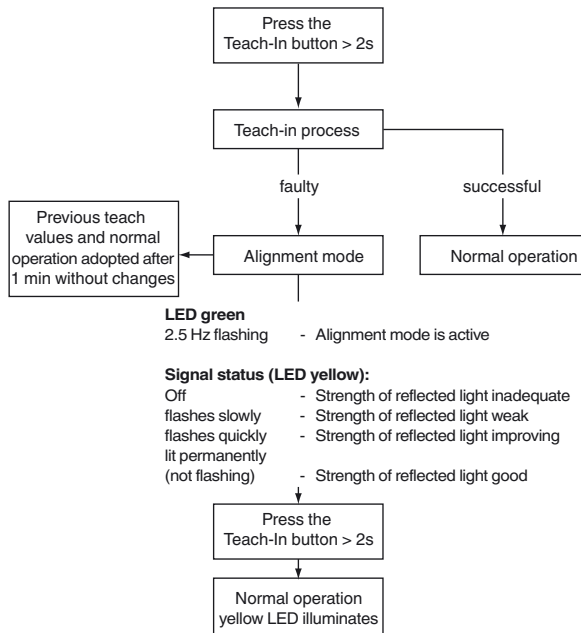
correct



incorrect



**Teach-in:**



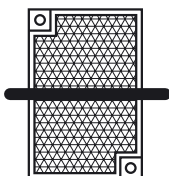
More stringent adjustment requirements: Ensure that the device is correctly aligned in the near range of 0.2 m ... 0.6 m.

**Object detection after successful Teach-in**

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

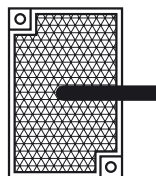
optimal

object = resolution



not optimal

object > resolution



**Signal tracking:**

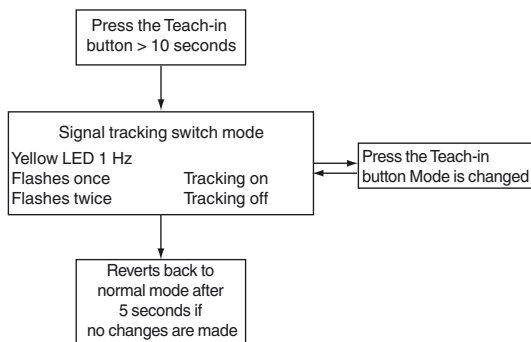
Active:

- 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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