



**Model Number**

**RLG28-55-4921/115b/136**

Retroreflective area sensor with 300 mm fixed cable and 4-pin, M12 x 1 connector

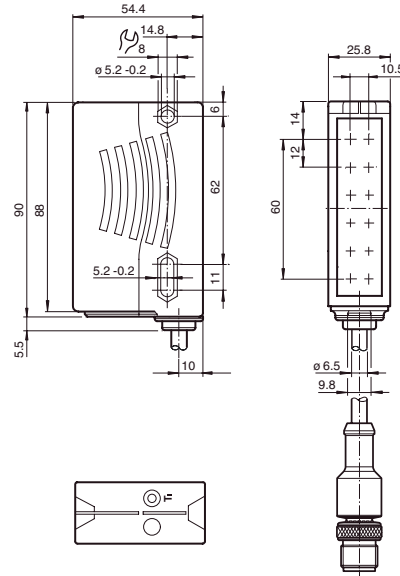
**Features**

- 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

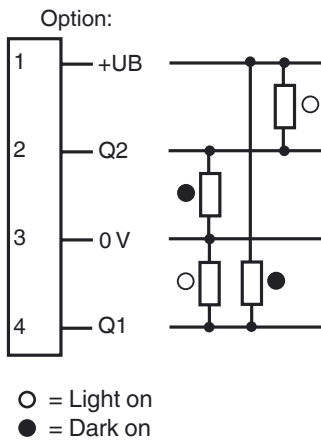
**Product information**

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.

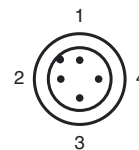
**Dimensions**



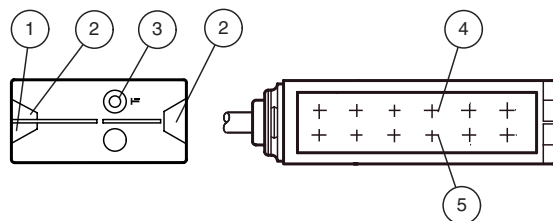
**Electrical connection**



**Pinout**



**Indicators/operating means**



1	Operating display	green
2	Signal display	yellow
3	TEACH-IN button	
4	Emitter	
5	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 reflector 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
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 to 4 m Detection/capture range: 60 mm (no foreground suppression) 5 mm to 1 m Detection/capture range: 55 mm (foreground suppression: 150 mm in front of the sensor; 50 mm in front of the reflector) 5 mm to 1.5 m Detection/capture range: 40 mm (foreground suppression: 150 mm in front of the sensor; 50 mm in front of the reflector)

**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	Teach-In key

**Electrical specifications**

Operating voltage	U <sub>B</sub>	12 ... 30 V DC Power from Class 2 Power Source
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	max. 50 mA

**Output**

Switching type	light/dark on	
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

**Ambient conditions**

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

**Mechanical specifications**

Degree of protection	IP67
Connection	300 mm fixed cable with M12 x 1, 4-pin 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

**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

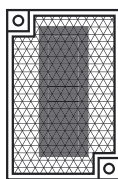
Additional accessories can be found in the Internet.

**Notes**

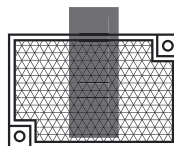
**Mounting:**

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

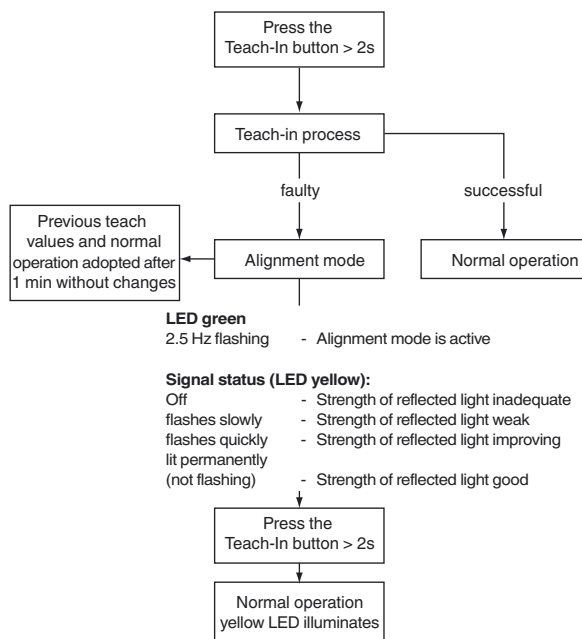
**correct**



**incorrect**



**Teach-in:**



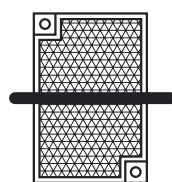
More stringent adjustment requirements: Ensure that the device is correctly aligned in the near range of 0.2 m ... 0.6 m.

**Object detection after successful Teach-in**

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

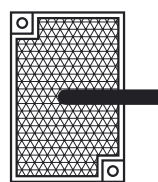
**optimal**

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.

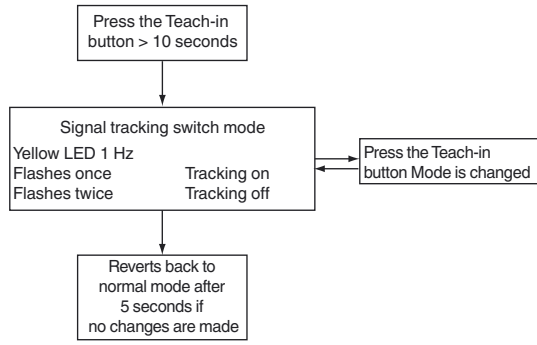
Inactive:

- 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 chan-

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ges the mode.



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