Model Number

RLG28-55/40a/73c/136

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

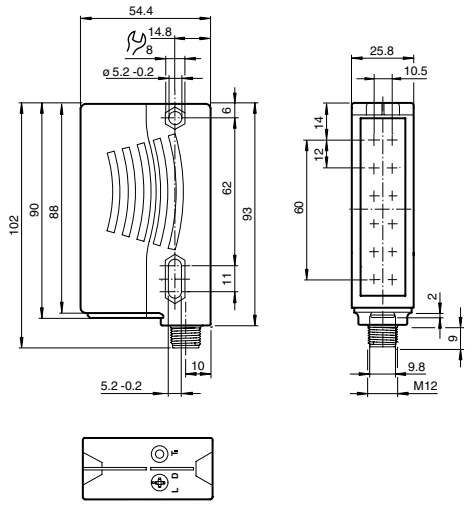
Features

- 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

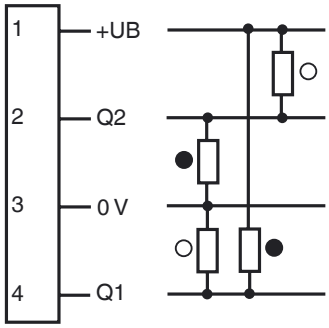
The RLG28 retro-reflective area sensor contains several transmitters and receivers in one housing and with a reflector positioned opposite forms a 60 mm detection area over a sensing range of 4 m.
When the light beams are interrupted by an object, the switching function is triggered. The smallest detectable 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



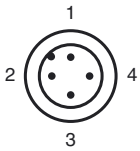
Electrical connection

Option:

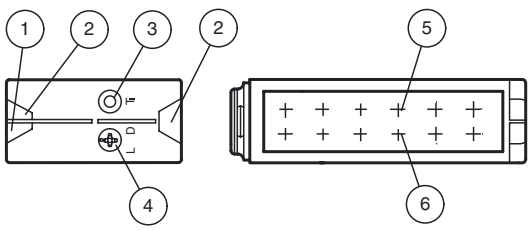


○ = Light on
● = Dark on

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 refelector 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.

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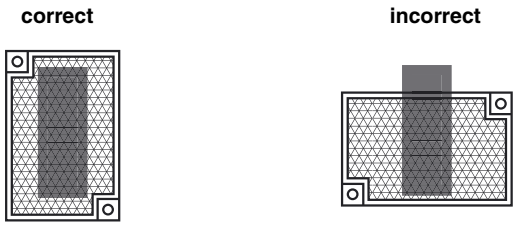
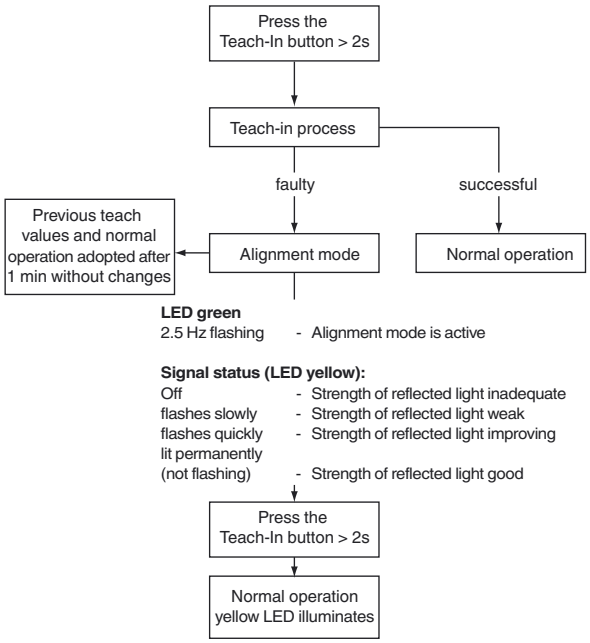
To check this illumination, look at the reflector from over the top of the sensor housing.



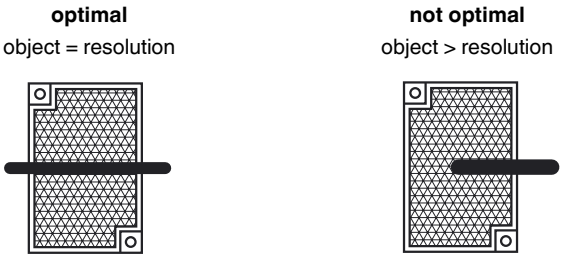
Teach-in:



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!



Signal tracking:

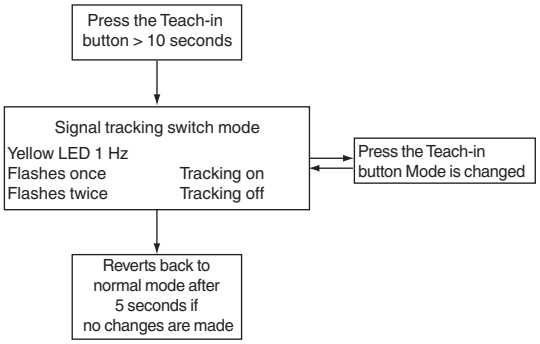
Active:

- 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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