



Retroreflective sensor RL28-55-LAS-2840/47/115b

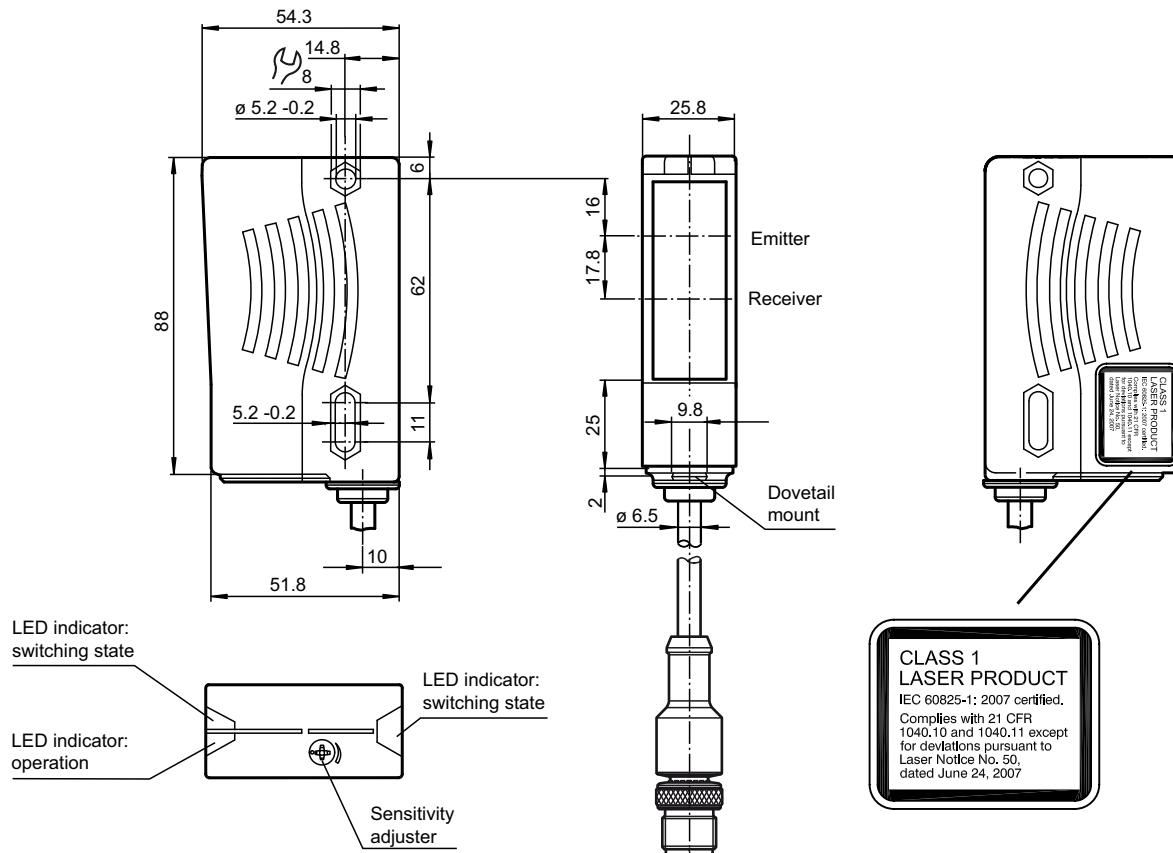


- Visible red light, pulsed LASER light
- High operating range
- Ultra bright LEDs for power on, weak signal indication and switching state
- Not sensitive to ambient light, even with switched energy saving lamps
- Protection class II

Retroreflective sensor with polarization filter



Dimensions



Technical Data

General specifications

Effective detection range	0 ... 30 m
Reflector distance	0.3 ... 30 m

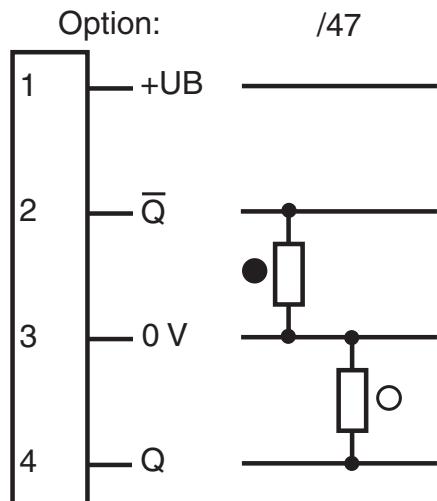
Technical Data

Threshold detection range	42 m	
Reference target	MH82 reflector	
Light source	laser diode	
Light type	modulated visible red light	
Polarization filter	yes	
Laser nominal ratings		
Note	LASER LIGHT , DO NOT STARE INTO BEAM	
Laser class	1	
Wave length	650 nm	
Beam divergence	< 1.5 mrad	
Pulse length	approx. 4.5 µs	
Repetition rate	approx. 6 kHz ... 20 kHz	
max. pulse energy	4 nJ	
Diameter of the light spot	approx. 45 mm at 30 m	
Opening angle	Emitter: < 0.1 ° Receiver: < 2 °	
Ambient light limit	50000 Lux	
Functional safety related parameters		
MTTF _d	560 a	
Mission Time (T _M)	20 a	
Diagnostic Coverage (DC)	0 %	
Indicators/operating means		
Operation indicator	LED green	
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	
Control elements	sensitivity adjustment (Adjustment to < 25% of the effective operating range)	
Electrical specifications		
Operating voltage	U _B	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I ₀	≤ 35 mA
Protection class		II, rated insulation voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
Output		
Switching type	light-on	
Signal output		2 PNP, complementary, short-circuit protected, reverse polarity protected , open collectors
Switching voltage		max. 30 V DC
Switching current		max. 200 mA
Voltage drop	U _d	≤ 2.5 V DC
Switching frequency	f	1000 Hz
Response time		0.5 ms
Conformity		
Product standard	EN 60947-5-2	
Laser safety		EN 60825-1
Approvals and certificates		
Protection class		II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval		E87056 , cULus Listed , class 2 power supply , type rating 1
FDA approval		IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007
Ambient conditions		
Ambient temperature		-10 ... 50 °C (14 ... 122 °F)
Storage temperature		-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications		
Housing width	25.8 mm	
Housing height		88 mm

Technical Data

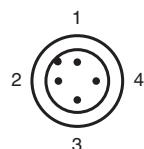
Housing depth	54.3 mm
Degree of protection	IP67
Connection	fixed cable 230 mm with M12 x 1 male connector, 4-pin
Material	
Housing	Plastic ABS
Optical face	Plastic pane
Mass	80 g

Connection



○ = Light on
 ● = Dark on

Connection Assignment



Wire colors in accordance with EN 60947-5-2

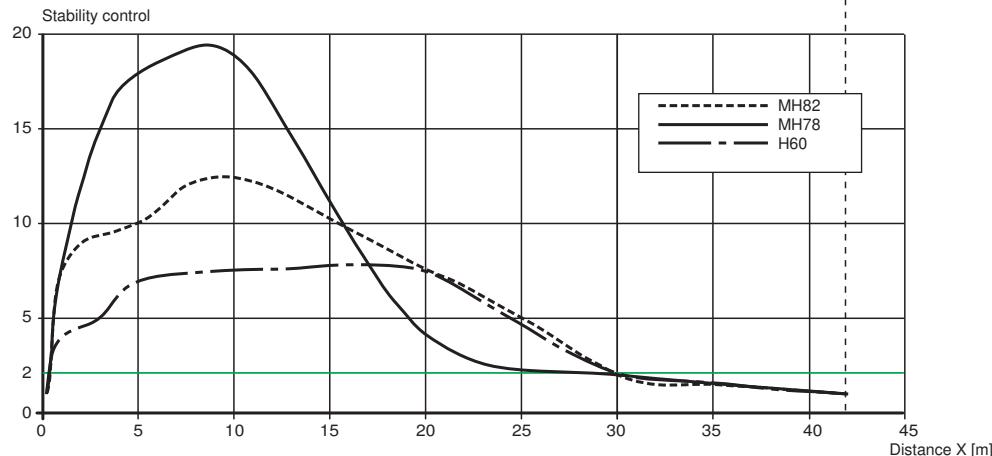
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Relative received light strength

RL(K)28-55-LAS...

Reflector type:

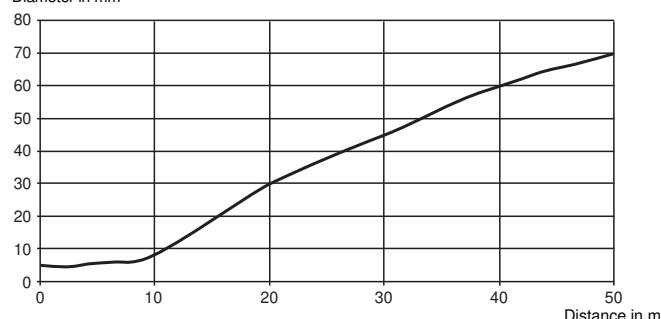
MH82	0.3 m	42 m
MH78	0.3 m	42 m
H60	0.3 m	42 m



Light spot diameter = f (Distance)

RL(K)28-55-LAS

Diameter in mm



Safety Information

Laser Class 1 Information

The irradiation can lead to irritation especially in a dark environment. Do not point at people!

Maintenance and repairs should only be carried out by authorized service personnel!

Attach the device so that the warning is clearly visible and readable.

Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 181737_eng.pdf

Accessories

	OMH-05	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
	OMH-21	Mounting bracket: mounting aid for sensors in the RL* series
	OMH-22	Mounting aid for RL* series
	OMH-RLK29-HW	Mounting bracket for rear wall mounting

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

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Accessories

	OMH-RL28-C	Weld slag cover model
	REF-MH82	Reflector with Micro-structure, rectangular 82 mm x 60 mm, mounting holes