



**Model Number**

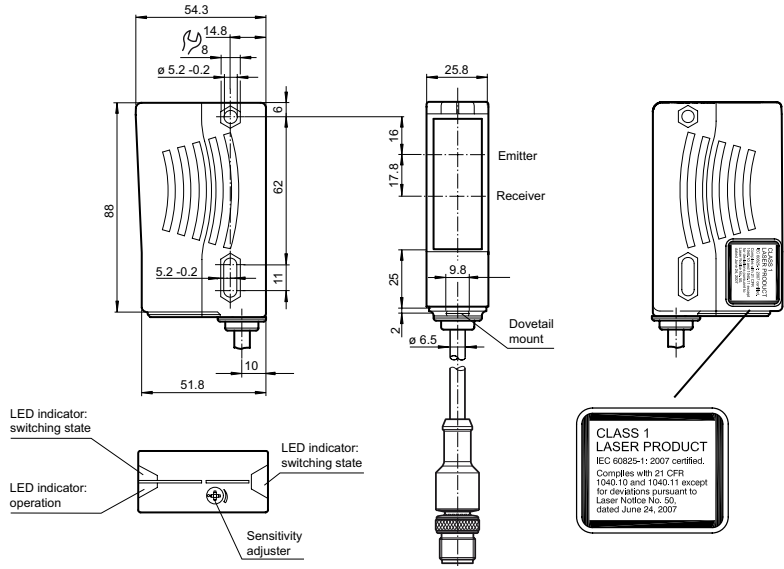
**RL28-55-LAS-2840/47/115b**

Retroreflective sensor  
with fixed cable

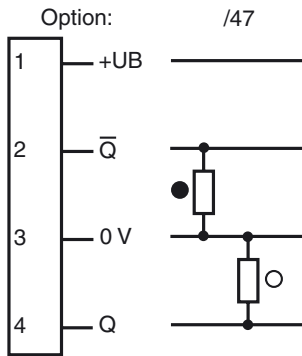
**Features**

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

**Dimensions**



**Electrical connection**



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Subject to modifications without notice

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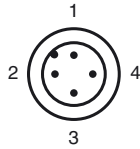
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○ = Light on

● = Dark on

**Pinout****Accessories****OMH-05**

Mounting aid for round steel  $\varnothing$  12 mm or sheet 1.5 mm ... 3 mm

**OMH-07**

Mounting aid for round steel  $\varnothing$  12 mm or sheet 1.5 mm ... 3 mm

**OMH-21**

Mounting bracket

**OMH-22**

Mounting bracket

**OMH-RLK29**

Mounting bracket

**OMH-MLV11-K**

dove tail mounting clamp

**OMH-RLK29-HW**

Mounting bracket for rear wall mounting

**OMH-RL28-C**

Protective cover

**REFLEKTOR MH82**

Reflector with Micro-structure, rectangular 82 mm x 60 mm, mounting holes

Suitable reflectors and cable sockets can be found in the Internet

**Technical data****General specifications**

Effective detection range	0 ... 30 m
Reflector distance	0.3 ... 30 m
Threshold detection range	42 m
Reference target	MH82 reflector
Light source	laser diode
Light type	modulated visible red light
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 $\mu$ s
Repetition rate	approx. 6 kHz ... 20 kHz
max. pulse energy	4 nJ
Approvals	CE, cULus
Diameter of the light spot	approx. 45 mm at 30 m
Angle of divergence	Emitter: < 0.1 ° Receiver: < 2 °
Ambient light limit	50000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	1000 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Operating display	LED green
Function display	2 LEDs yellow, light up when light beam is free, flash when falling short of the stability control, off when light beam is interrupted
Controls	sensitivity adjustment (Adjustment to < 25% of the effective operating range)

**Electrical specifications**

Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	≤ 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 <sub>d</sub>	≤ 2.5 V DC
Switching frequency	f	1000 Hz
Response time		0.5 ms

**Ambient conditions**

Ambient temperature	-10 ... 50 °C (14 ... 122 °F)
Storage temperature	-20 ... 75 °C (-4 ... 167 °F)

**Mechanical specifications**

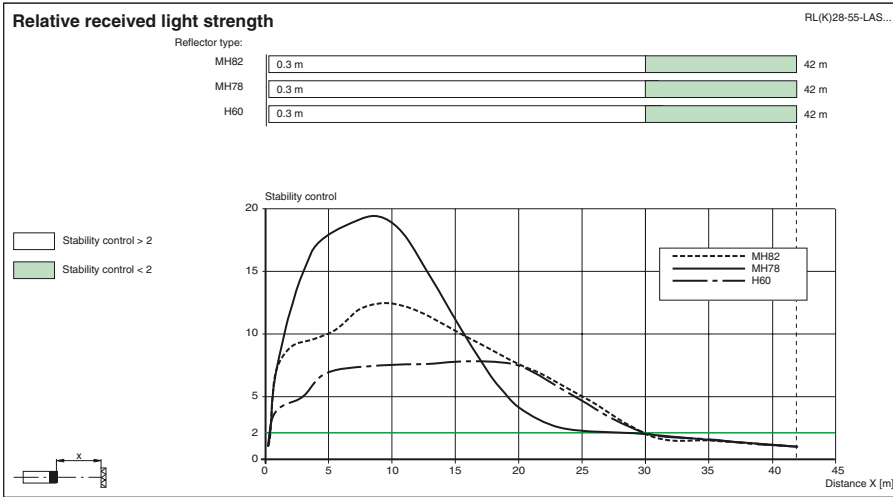
Protection degree	IP67
Connection	fixed cable 230 mm with M12 x 1 male connector, 4-pin
Material	
Housing	Plastic ABS
Optical face	Plastic pane
Mass	80 g

**Compliance with standards and directives**

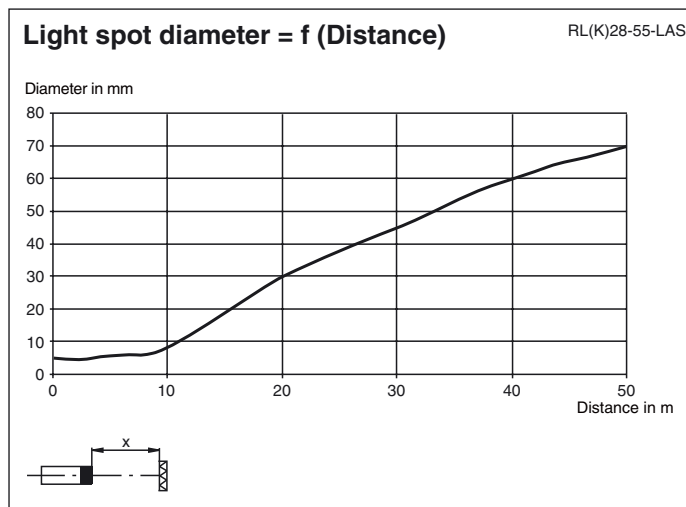
Directive conformity	EMC Directive 2004/108/EC
Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Laser class	IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007

**Approvals and certificates**

CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.
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**Curves/Diagrams**



**Laser notice laser class 1**

- 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.
- The warning accompanies the device and should be attached in immediate proximity to the device.
- Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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