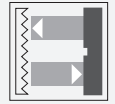




## Retroreflective sensor RLK28-55-LAS-Z/31/116



- Universal series with highly versatile fields of use
- Resistant against noise: reliable operation under all conditions
- Programmable time function GAN, GAB, IAB, as well as GAN-GAB and GAN-IAB as double function
- Laser version for long ranges
- Version with relay output

### Retroreflective sensor with polarization filter



### Function

The series 28 family of sensors can be universally used. It has a large range of models that allows it to be integrated into any automation environment. The sensors are contained in sturdy water resistant plastic housings with multiple fastening options and scratch resistant optical cover. Features such as a timer function, and functions including a light/dark switch, sensitivity adjuster and highly visible status LEDs make for less effort on the part of the user and streamline installation, setup and operation. Just about any task associated with positioning, moving, conveying and monitoring can be accomplished with these sensors.

### Safety Information

**CLASS 1  
LASER PRODUCT**  
IEC 60825-1: 2007 certified.  
Complies with 21 CFR  
1040.10 and 1040.11 except  
for deviations pursuant to  
Laser Notice No. 50,  
dated June 24, 2007

Release date: 2020-12-10 Date of issue: 2020-12-10 Filename: 134128\_eng.pdf

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

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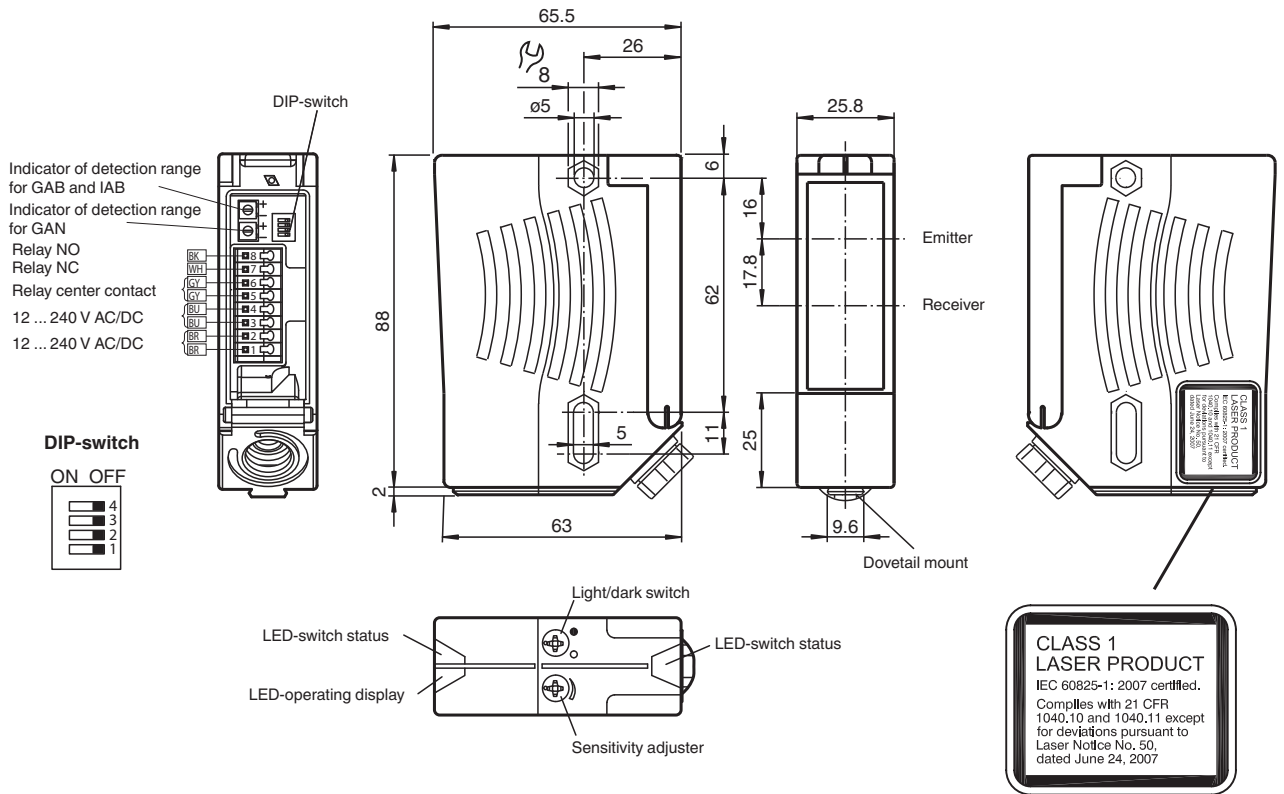
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Dimensions



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
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
Angle of divergence	Emitter: < 0.1 ° Receiver: < 2 °
Ambient light limit	50000 Lux
<b>Functional safety related parameters</b>	
MTTF <sub>d</sub>	450 a
Mission Time (T <sub>M</sub> )	20 a

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## Technical Data

Diagnostic Coverage (DC)		0 %
<b>Indicators/operating means</b>		
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) , Light-on/dark-on changeover switch
<b>Electrical specifications</b>		
Operating voltage	$U_B$	12 ... 240 V AC/DC
Power consumption	$P_0$	≤ 3.5 VA
<b>Output</b>		
Switching type		light/dark on switchable
Signal output		Relay, 1 alternator
Switching voltage		max. 250 V AC/DC
Switching current		max. 2 A
Switching power		DC: max. 50 W AC: max. 500 VA
Switching frequency	f	25 Hz
Response time		20 ms
Timer function		ON delay (GAN), OFF delay (GAB), one shot (IAB), ON delay-one shot (GAN-IAB), ON delay-OFF delay (GAN-GAB), programmable adjustment interval 0.1 ... 10 s
<b>Conformity</b>		
Product standard		EN 60947-5-2
Laser safety		EN 60825-1
<b>Approvals and certificates</b>		
EAC conformity		TR CU 020/2011 TR CU 004/2011
Protection class		II, rated insulation voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit insulated from control circuit in accordance with IEC 61140. Caution! The protection class 2 is only valid when the terminal compartment is closed.
UL approval		E87056 , cULus Listed <b>Caution:</b> This equipment is considered as open-type equipment. It must be mounted within an enclosure, that is suitably designed for protection against internal fire and personal injury resulting from accessibility to live parts according UL 508.
CCC approval		Certified by China Compulsory Certification (CCC)
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
<b>Ambient conditions</b>		
Ambient temperature		-10 ... 50 °C (14 ... 122 °F)
Storage temperature		-20 ... 75 °C (-4 ... 167 °F)
<b>Mechanical specifications</b>		
Housing width		25.8 mm
Housing height		88 mm
Housing depth		65.5 mm
Degree of protection		IP67
Connection		terminal compartment with 8 spring-loaded terminals for wire cross section 0.5 ... 1.5 mm <sup>2</sup> , Insulation stripping 7.5 ... 8.5 mm , M16 x 1.5 cable gland
<b>Material</b>		
Housing		Plastic ABS
Optical face		Plastic pane
Mass		112 g

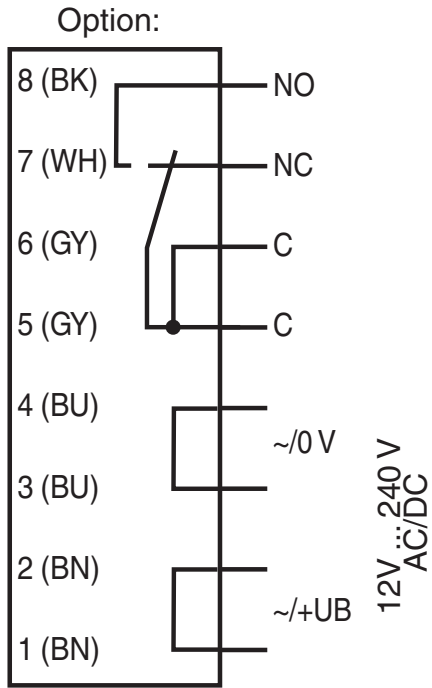
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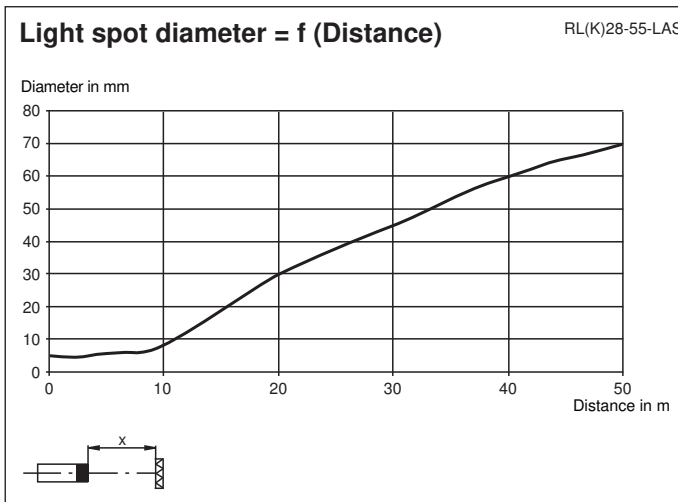
**PEPPERL+FUCHS**

**Connection Assignment**

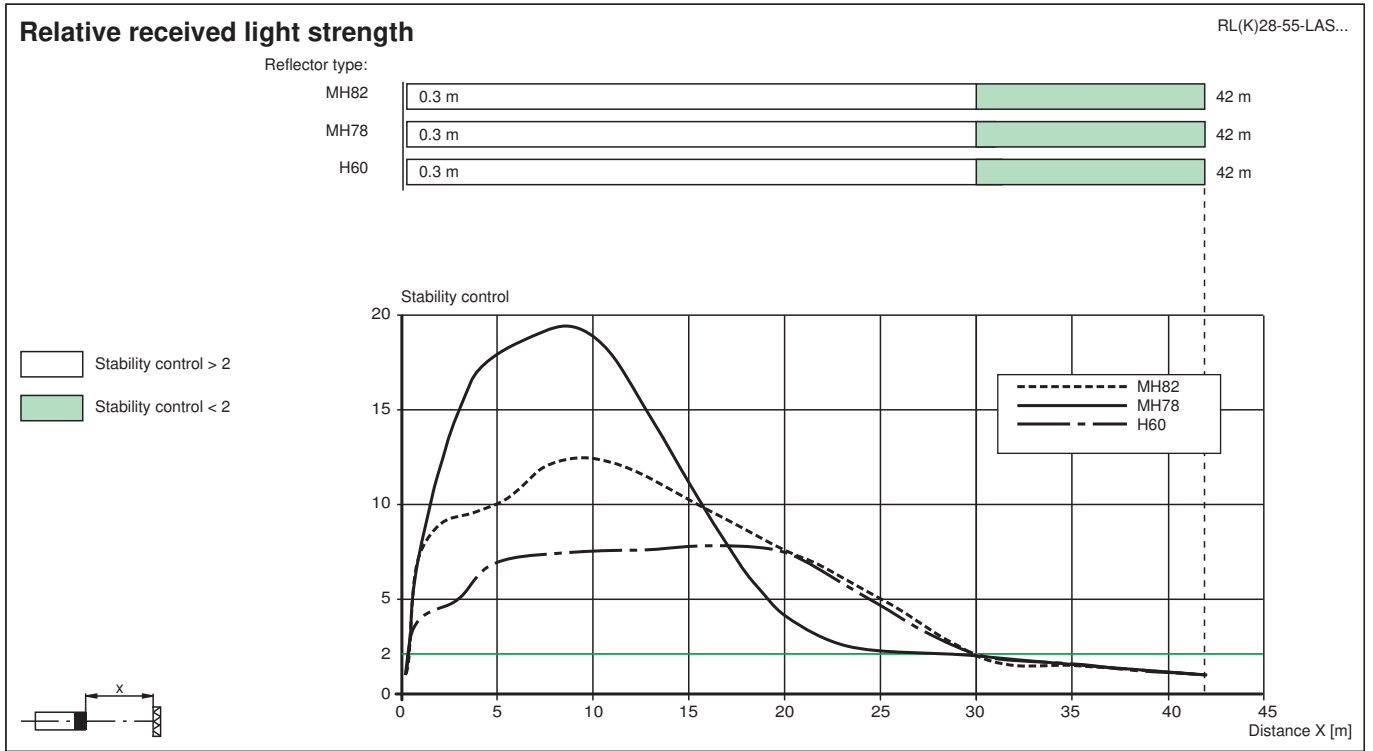


The relay-functions "NC" and "NO" bear on the switching mode "Dark-ON". This complies to the default setting of the light/dark switch (factory setting).

**Characteristic Curve**



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**Application**



**Accessories**

	<b>OMH-05</b>	Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm
	<b>OMH-21</b>	Mounting bracket
	<b>OMH-22</b>	Mounting bracket
	<b>OMH-RLK29</b>	Mounting bracket
	<b>OMH-RLK29-HW</b>	Mounting bracket for rear wall mounting

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## Accessories



OMH-RL28-C

Weld slag cover model

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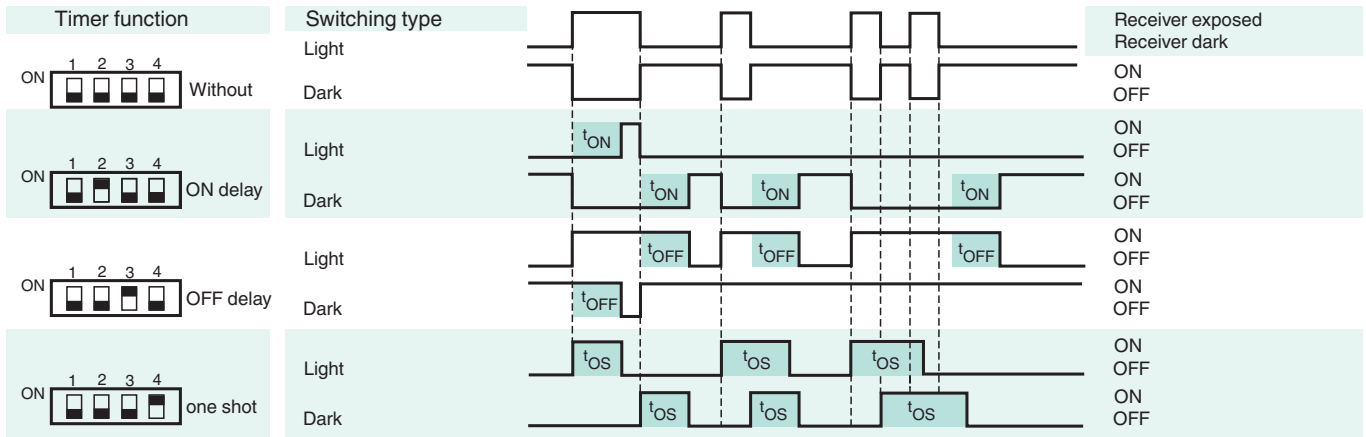
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## Timer functions



Time  $t_{ON}$ ,  $t_{OFF}$  and  $t_{OS}$  are adjustable from 0.1 to 10 seconds.  
 The Light-/Dark-Switch (Left, outer switch) is shown in the "Dark ON" position.

Type	Description	Notes
-Z	OFF delay timer	Adjustable time interval (0.1 s - 10 s)
	one shot timer	
	ON delay timer	
	ON delay timer / OFF delay timer	
	ON delay timer / one shot timer	

## Accessories

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

## Safety Information



**LASERLICHT**  
**LASER LIGHT**  
**LUMIÈRE LASER**

**NICHT IN DEN STRAHL BLICKEN**  
**DO NOT STARE INTO BEAM**  
**NE PAS REGARDER LE FAISCEAU**

**LASER KLASSE 2**  
**CLASS 2 LASER PRODUCT**  
**PRODUIT LASER CLASSE 2**

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

## Application

- Object tracking in material handling, and the packaging sector
- Material flow monitoring
- Bin occupancy check in storage technology
- Fine positioning in high-bay warehouses
- Presence and height monitoring on pallet conveyors
- Single-beam protection for automatic industrial gates and elevator doors

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- Protection at automatic gates

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