



Model Number

RLK28-55-LAS-Z/31/116

Retroreflective sensor with terminal compartment

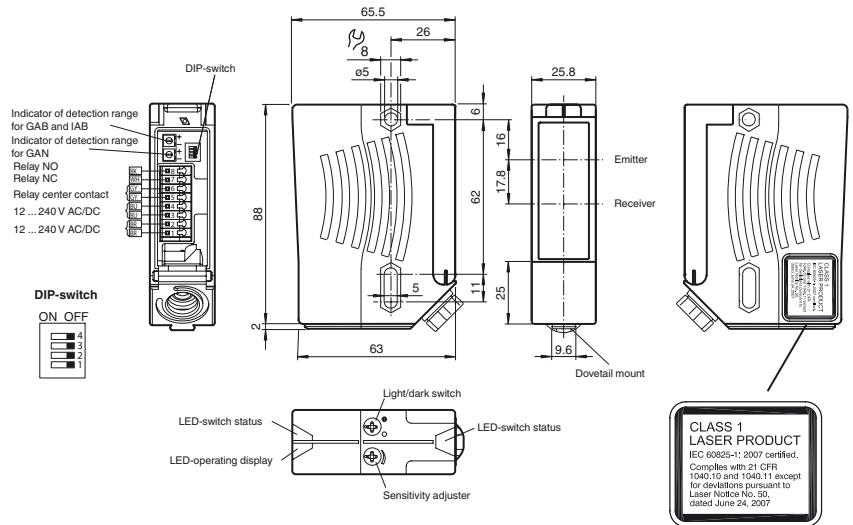
Features

- 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

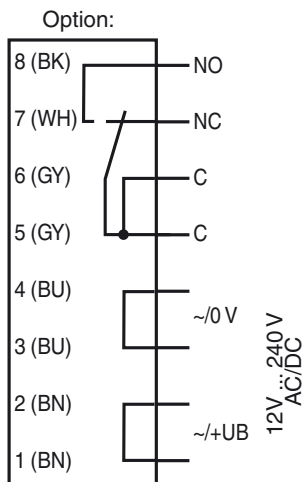
Product information

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.

Dimensions



Electrical connection



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).

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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 |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 450 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) , Light-on/dark-on changeover switch |

Electrical specifications

| | | |
|-------------------|----------------|--------------------|
| Operating voltage | U _B | 12 ... 240 V AC/DC |
| Power consumption | P ₀ | ≤ 3.5 VA |

Output

| | | |
|---------------------|---|-------|
| 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 | |

Conformity

| | |
|------------------|--------------|
| Product standard | EN 60947-5-2 |
| Laser safety | EN 60825-1 |

Ambient conditions

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

Mechanical specifications

| | |
|----------------------|--|
| 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 ² , Insulation stripping 7.5 ... 8.5 mm , M16 x 1.5 cable gland |
| Material | |
| Housing | Plastic ABS |
| Optical face | Plastic pane |
| Mass | 112 g |

Approvals and certificates

| | |
|------------------|---|
| 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. |

Laserlabel**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

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-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

Weld slag cover model

Other suitable accessories can be found at www.pepperl-fuchs.com

UL approval

E87056 , cULus Listed **Caution:** 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 to UL 508.

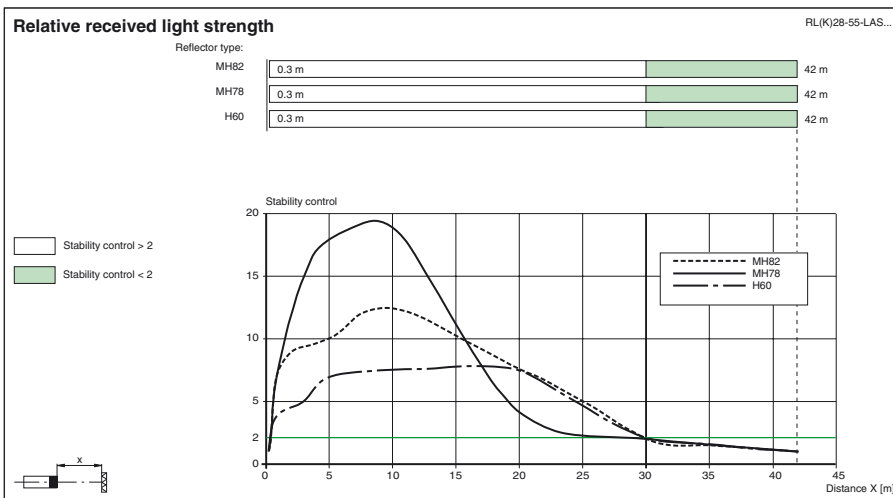
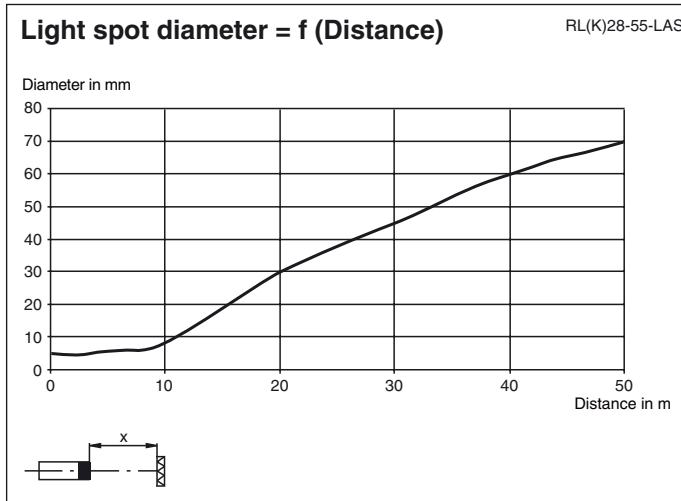
CCC approval

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

Curves/Diagrams



Timer functions

| Timer function | Switching type | Timing diagram | Receiver status |
|----------------------|----------------|---|------------------|
| ON 1 2 3 4 Without | Light | [Timing diagram showing light pulses] | Receiver exposed |
| ON 1 2 3 4 ON delay | Dark | [Timing diagram showing dark periods with t _{ON} delay] | Receiver dark |
| ON 1 2 3 4 OFF delay | Light | [Timing diagram showing light pulses with t _{OFF} delay] | ON |
| ON 1 2 3 4 one shot | Dark | [Timing diagram showing dark periods with t _{OS} one shot] | OFF |

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.

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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 4411
fa-info@de.pepperl-fuchs.com

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

| 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 | |

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.