



**Model Number**

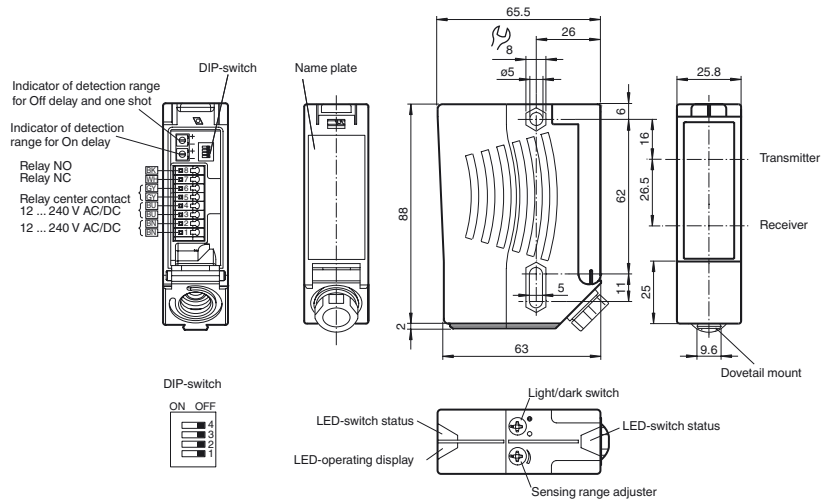
**RLK28-8-H-400-RT-Z/31/116**

Background suppression sensor with terminal compartment

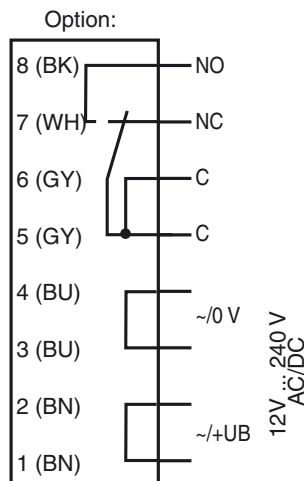
**Features**

- Universal series with highly versatile fields of use
- Resistant against noise: reliable operation under all conditions
- Good alignability due to red transmission LED
- Programmable time function GAN, GAB, IAB and GAN-IAB as double function
- Version for universal voltages

**Dimensions**



**Electrical connection**



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

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

|                                 |   |
|---------------------------------|---|
| Detection range                 | 20 ... 400 mm   |
| Detection range min.            | 20 ... 150 mm   |
| Detection range max.            | 20 ... 400 mm   |
| Adjustment range                | 150 ... 400 mm  |
| Background suppression          | max. + 10 % of the upper limit of the detection range |
| Light source                    | LED   |
| Light type                      | modulated visible red light , 660 nm                  |
| Black/White difference (6%/90%) | < 10 %  |
| Diameter of the light spot      | approx. 12 mm at a distance of 400 mm                 |
| Angle of divergence             | Emitter 1.2°,<br>Receiver 2°                          |
| Ambient light limit             | 50000 Lux   |

**Functional safety related parameters**

|                                |       |
|--------------------------------|-------|
| MTTF <sub>d</sub>              | 880 a |
| Mission Time (T <sub>M</sub> ) | 20 a  |
| Diagnostic Coverage (DC)       | 0 %   |

**Indicators/operating means**

|                     |   |
|---------------------|---|
| Operation indicator | LED green   |
| Function indicator  | 2 LEDs yellow<br>ON: object inside the scanning range<br>OFF: object outside the scanning range |
| Control elements    | Light/Dark switch   |
| Control elements    | Detection range adjuster  |

**Electrical specifications**

|                   |                |                    |
|-------------------|----------------|--------------------|
| Operating voltage | U <sub>B</sub> | 12 ... 240 V AC/DC |
| Power consumption | P <sub>0</sub> | ≤ 3.5 VA           |

**Output**

|                     |  |       |
|---------------------|--|-------|
| Switching type      | light/dark on, switchable (selectable, light/dark switching is only activated if the receiver has 'dark on' selected.)                                       |       |
| 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<br>adjustment interval 0.1 ... 10 s |       |

**Ambient conditions**

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -40 ... 60 °C (-40 ... 140 °F) |
| Storage temperature | -40 ... 75 °C (-40 ... 167 °F) |

**Mechanical specifications**

|                      |   |
|----------------------|---|
| 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 |
| Material             |   |
| Housing              | Plastic ABS   |
| Optical face         | Plastic pane  |
| Mass                 | 112 g   |

**Compliance with standards and directives**

|                      |   |
|----------------------|---|
| Directive conformity | Low Voltage Directive 2006/95/EC<br>EMC Directive 2004/108/EC |
| Standard conformity  |   |
| Product standard     | EN 60947-5-2:2007<br>IEC 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<br>Caution!<br>The protection class 2 is only valid when the terminal compartment is closed.   |
| UL approval      | cULus Listed<br><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)  |

**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-MLV11-K**

dove tail mounting clamp

**OMH-RLK29**

Mounting bracket

**OMH-RLK29-HW**

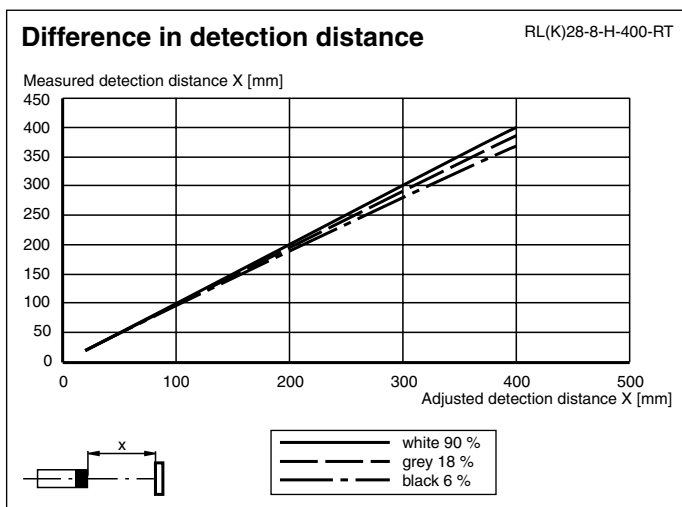
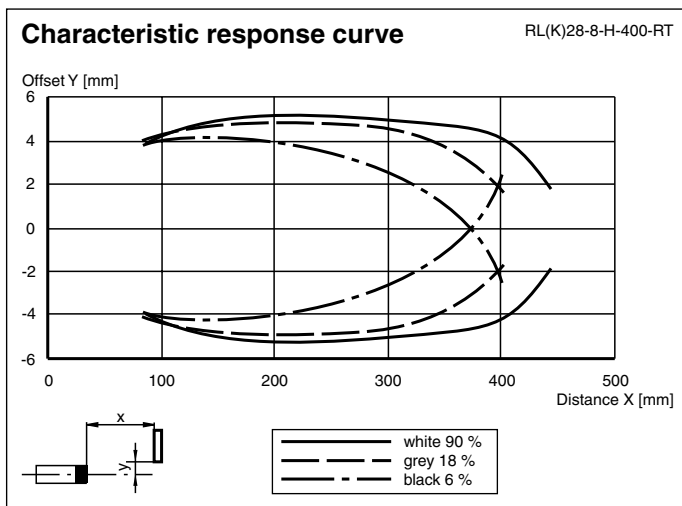
Mounting bracket for rear wall mounting

**OMH-RL28-C**

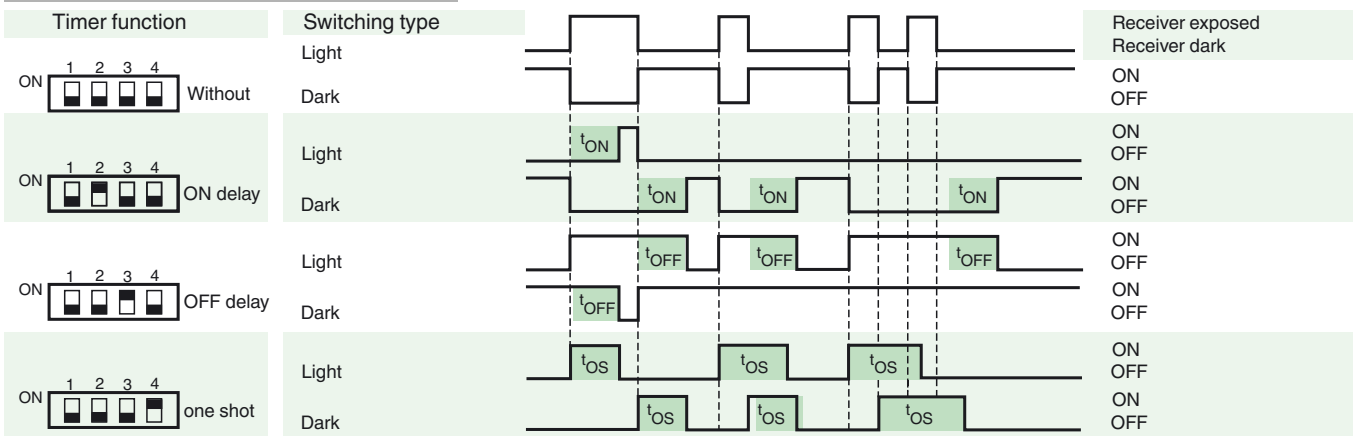
Weld slag cover model

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

Curves/Diagrams



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  |   |

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