



# Background suppression sensor

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

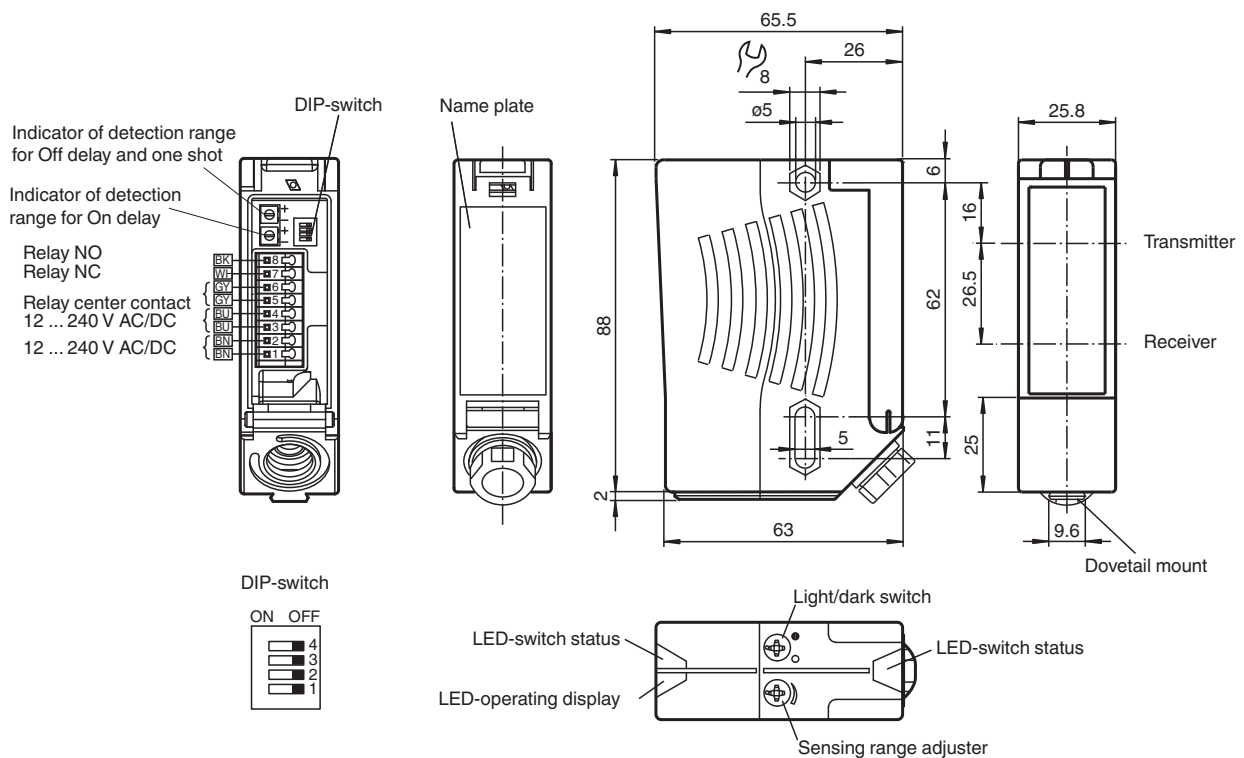


- Universal series with highly versatile fields of use
- Resistant against noise: reliable operation under all conditions
- Good alignability due to red transmission LED
- Programmable time function GAN, GAB, IAB and GAN-IAB as double function
- Version for universal voltages

Background suppression sensor



## Dimensions



Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 134132\_eng.pdf

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

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**PEPPERL+FUCHS**

## 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
Opening angle	Emitter 1.2°, Receiver 2°
Ambient light limit	50000 Lux

### Functional safety related parameters

MTTF <sub>d</sub>	620 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 ON: object inside the scanning range OFF: object outside the scanning range
Control elements	Sensing range adjuster , Light-on/dark-on changeover switch

### 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 adjustment interval 0.1 ... 10 s

### Conformity

Product standard	EN 60947-5-2
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### Approvals and certificates

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)

### Ambient conditions

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

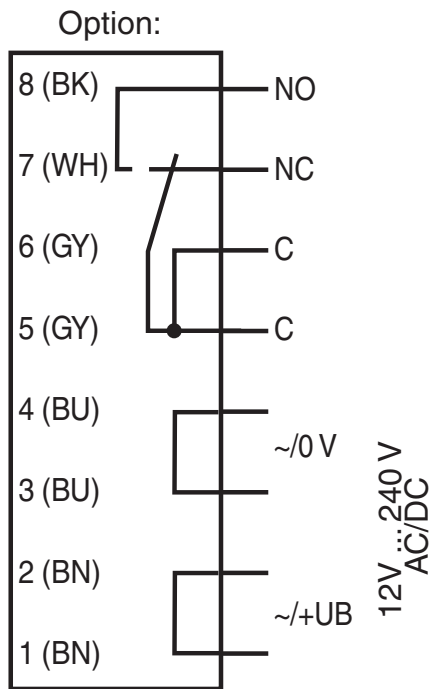
### Mechanical specifications

Housing width	25.8 mm
Housing height	88 mm
Housing depth	65.5 mm

Technical Data

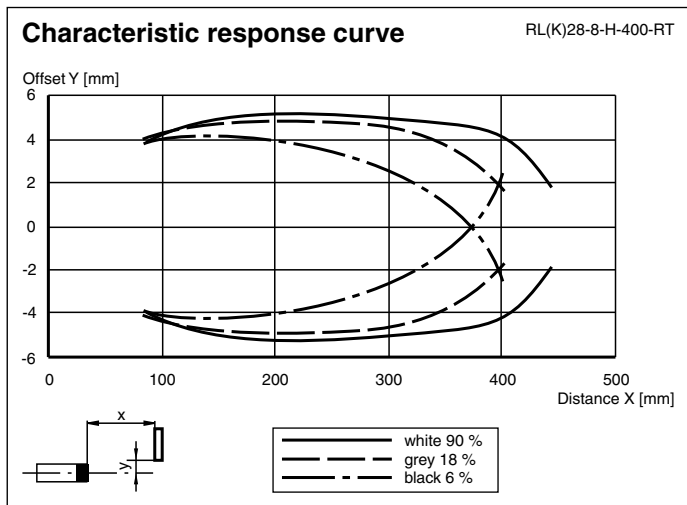
Degree of protection	IP67	
Connection		terminal compartment with 8 spring-loaded terminals for wire cross section 0.5 ... 1.5 mm², insulation stripping 7.5 ... 8.5 mm, M16 x 1.5 cable gland
Material		
Housing		Plastic ABS
Optical face		Plastic pane
Mass		112 g

Connection Assignment



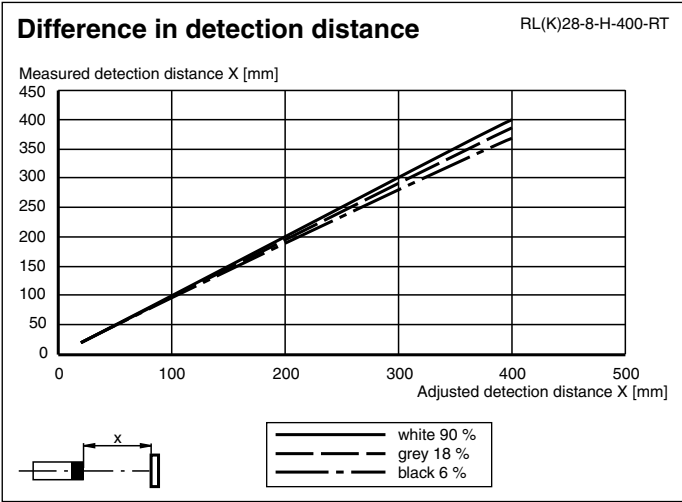
The relay-functions "NC" and "NO" bear on the switching mode "Light-ON". This complies to the default setting of the light/dark switch, located on top of the housing (factory setting).

Characteristic Curve









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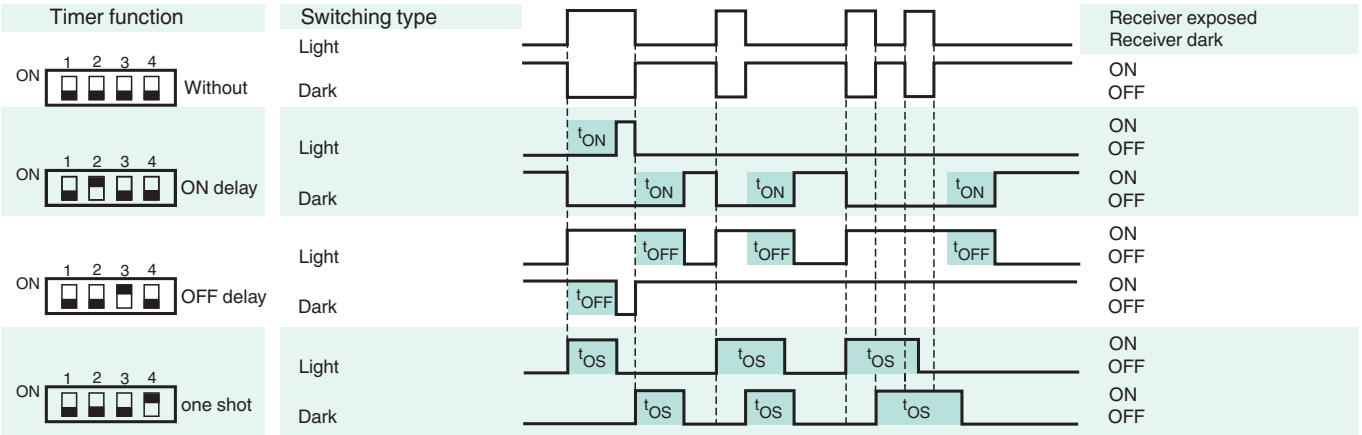
Characteristic Curve



Accessories

	<b>OMH-05</b>	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
	<b>OMH-21</b>	Mounting bracket: mounting aid for sensors in the RL* series
	<b>OMH-22</b>	Mounting aid for RL* series
	<b>OMH-RLK29</b>	Mounting bracket
	<b>OMH-RLK29-HW</b>	Mounting bracket for rear wall mounting
	<b>OMH-RL28-C</b>	Weld slag cover model

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	