

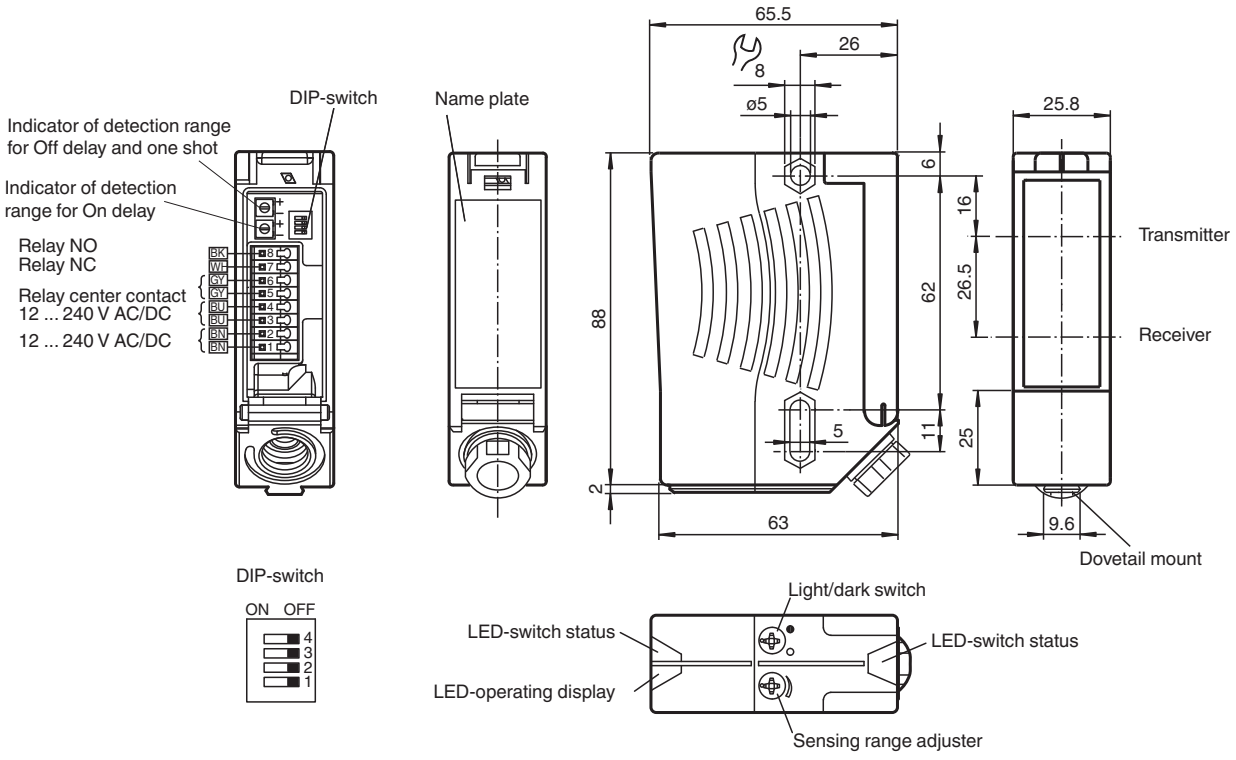
Background suppression sensor

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

- Universal series with highly versatile fields of use
- Resistant against noise: reliable operation under all conditions
- Minimal black-white difference through the infrared transmission LED
- Programmable time function GAN, GAB, IAB and GAN-IAB as double function
- Version for universal voltages

Background suppression sensor

Dimensions



Technical Data

General specifications	
Detection range	20 ... 400 mm
Detection range min.	20 ... 150 mm
Detection range max.	20 ... 400 mm

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Technical Data

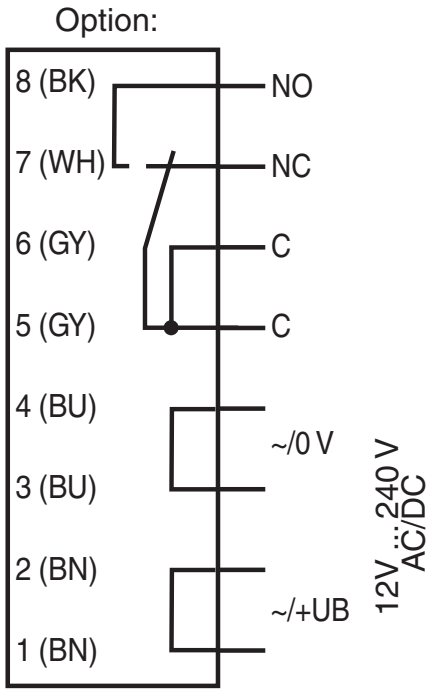
Adjustment range		150 ... 400 mm
Background suppression		max. + 10 % of the upper limit of the detection range
Light source		IRED
Light type		modulated infrared light , 880 nm
Black-white difference (6 %/90 %)		< 5 %
Diameter of the light spot		approx. 14 mm at a distance of 400 mm
Opening angle		transmitter 2° receiver 2°
Ambient light limit		50000 Lux
Functional safety related parameters		
$MTTF_d$		620 a
Mission Time (T_M)		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_B	12 ... 240 V AC/DC
Power consumption	P_0	≤ 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
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 **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 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		
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
Optical face		Plastic pane
Mass		112 g

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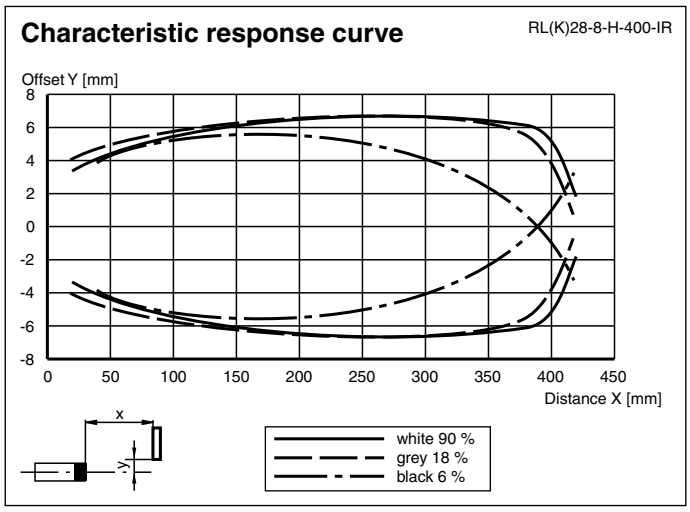
Dimensions		
Height		88 mm
Width		25.8 mm
Depth		65.5 mm

Connection Assignment



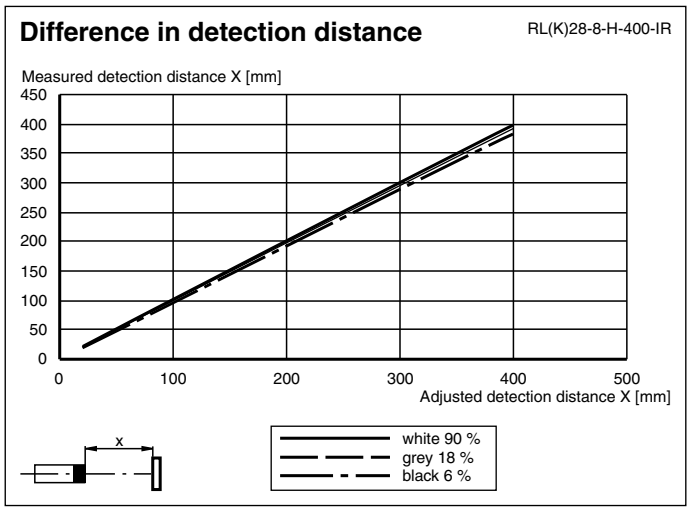
The relay-functions "NC" and "NO" bear on the switching mode "Light-ON".
This complies to the default setting of the light/dark switch, located on top of the housing (factory setting).

Characteristic Curve



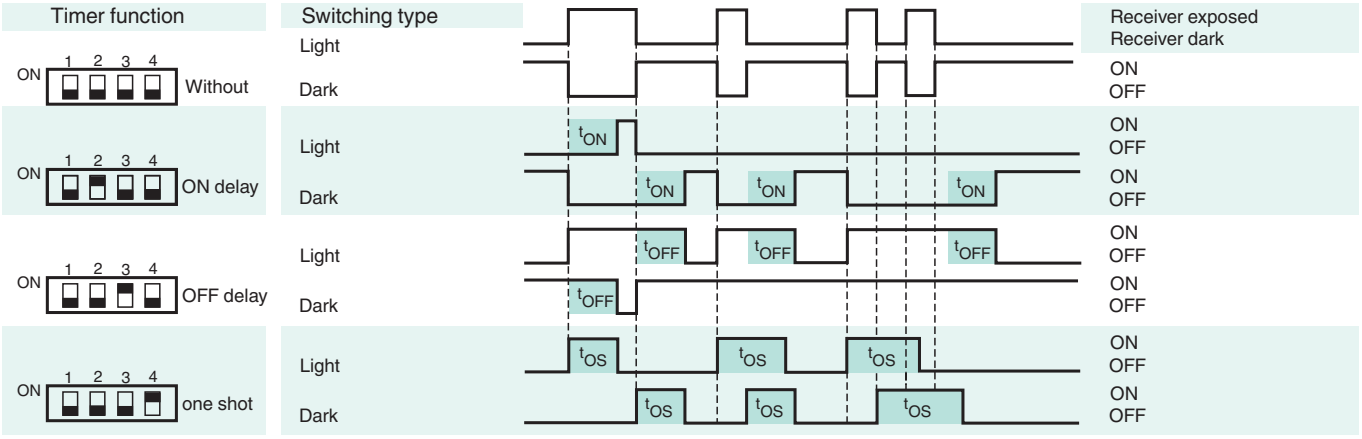
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Timer functions



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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