



Model Number

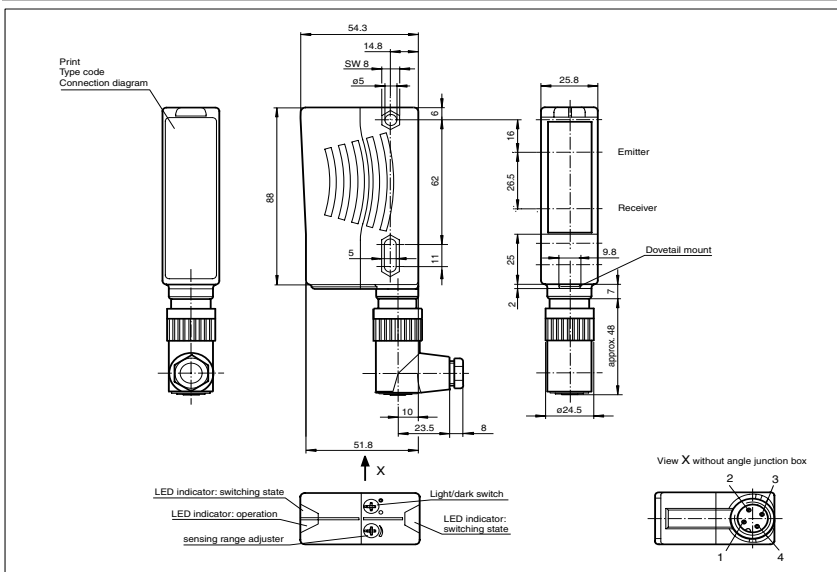
RL28-8-H-700-IR/47/74

Background suppression sensor
with 4-pin, M18 x 1 plastic connector

Features

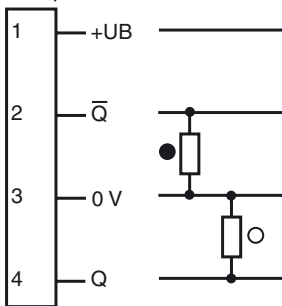
- Ultra bright LEDs for power on and switching state
- Minimal black-white difference through the infrared transmission LED
- Not sensitive to ambient light, even with energy saving lamps
- Waterproof, protection class IP67
- Protection class II

Dimensions



Electrical connection

Option: /47



○ = Light on
● = Dark on

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Subject to modifications without notice

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Technical data

General specifications

Detection range	20 ... 700 mm
Detection range min.	20 ... 200 mm
Detection range max.	20 ... 700 mm
Light source	IREL, 880 nm
Black/White difference (6%/90%)	< 8 %
Approvals	CE, cULus
Light type	infrared, modulated light
Diameter of the light spot	approx. 24 mm at a distance of 700 mm
Angle of divergence	transmitter 2° receiver 2°
Ambient light limit	50000 Lux

Functional safety related parameters

MTTF _d	1130 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Operating display	LED green
Function display	2 LEDs yellow on: object inside the scanning range off: object outside the scanning range
Operating elements	Light/dark switch
Operating elements	Detection range adjuster

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Protection class		II , rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
Ripple		10 %
No-load supply current	I ₀	≤ 40 mA

Output

Switching type	Light/dark ON, switchable	
Signal output	2 pnp, antivalent, short-circuit proof, protected against reverse polarity , open collectors	
Switching voltage	max. 30 V DC	
Switching current	max. 200 mA	
Switching frequency	f	250 Hz
Response time		2 ms

Standard conformity

Standards	EN 60947-5-2
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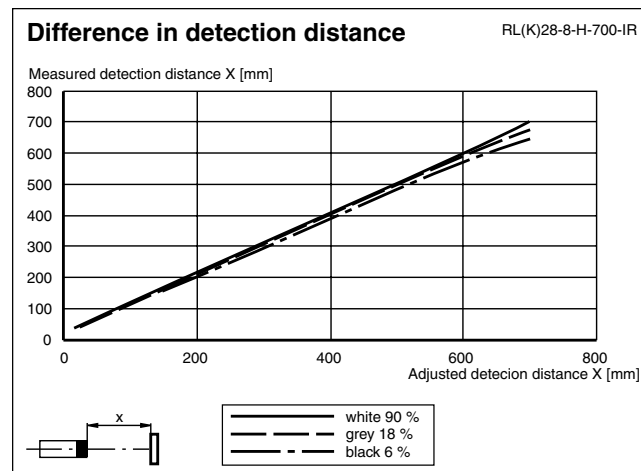
Ambient conditions

Ambient temperature	-40 ... 60 °C (233 ... 333 K)
Storage temperature	-40 ... 75 °C (233 ... 348 K)

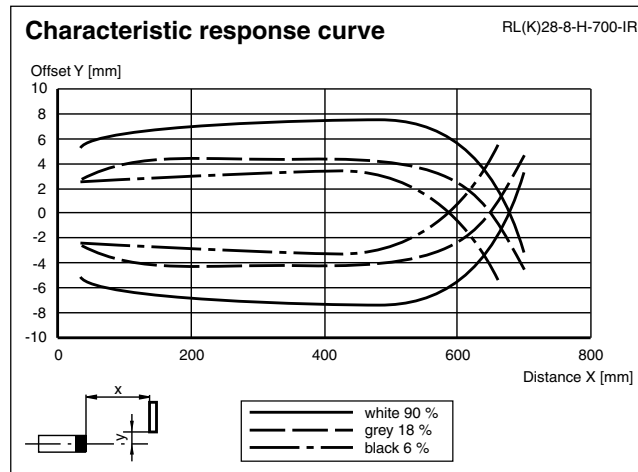
Mechanical specifications

Protection degree	IP67
Connection	plastic connector M18 , 4-pin with unwired angled cable socket
Material	
Housing	Plastic ABS
Optical face	plastic
Mass	70 g

Curves/Diagrams



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Additional information

Mounting instructions:

There are two bore holes for mounting the sensor with M5 bolts. The base surface must be flat to avoid distorting the housing during mounting. It is advisable to secure the bolts with spring washers so that the sensor does not become misaligned.

Outdoor installation:

The sensor must be protected against rain and splash-water, possibly must a cover be installed.

Adjustment:

Adjust the sensor on the background. After the connecting to the power supply the green LED illuminates. In case the yellow LEDs illuminate too, the detection range needs to be reduced with the detection range adjuster, until the yellow LEDs is switched off. If the object is moved into the detection range the yellow LEDs illuminates.

Driving inductive loads:

If the sensor are used to drive inductive loads, the following safety procedures must be carried out:
For operating voltage of 10 ... 30V DC: fit a protection diode, max. 200 mA