



# Background suppression sensor

## RL28-8-H-700-RT/47/73c

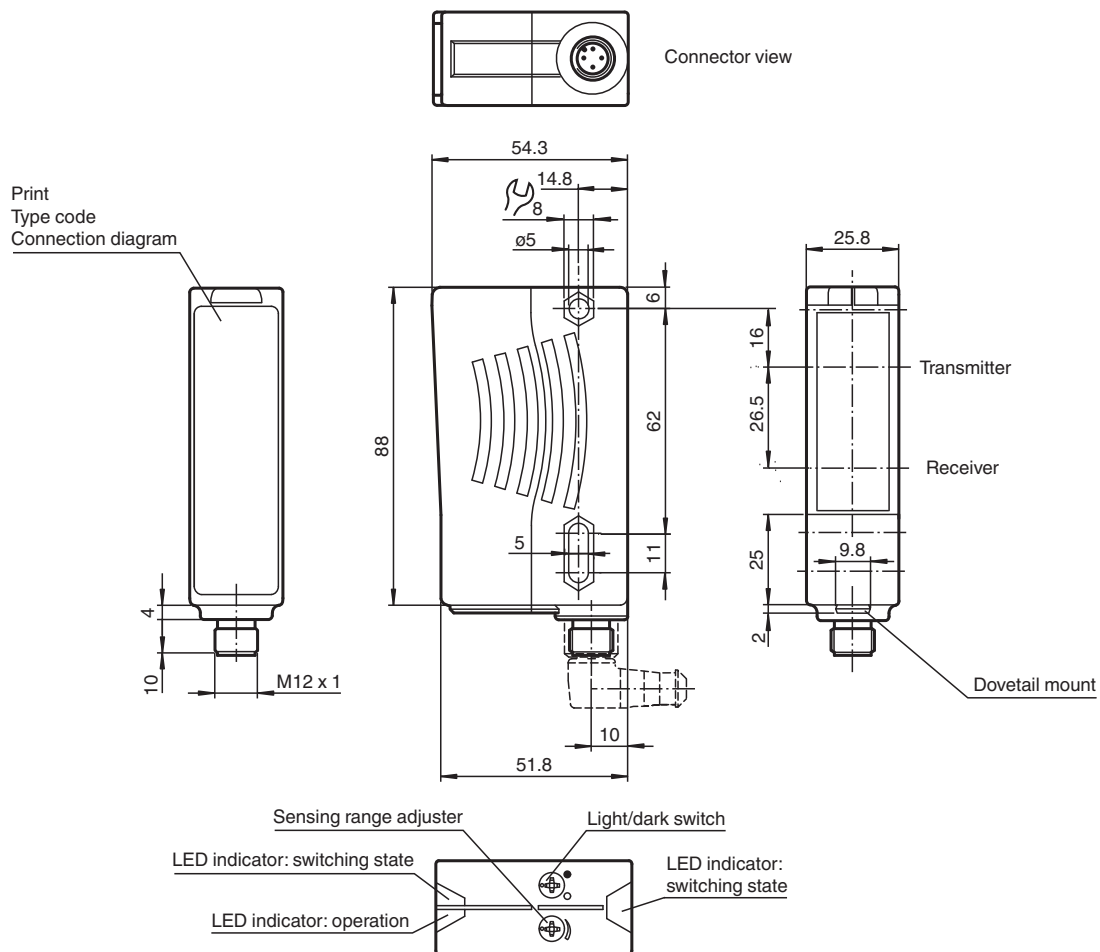


- Ultra bright LEDs for power on and switching state
- Good alignability due to red transmission LED
- Not sensitive to ambient light, even with switched energy saving lamps
- Waterproof, degree of protection IP67
- Protection class II

### Background suppression sensor



### Dimensions



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

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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
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 %)	< 20 %
Diameter of the light spot	approx. 15 mm at a distance of 700 mm
Angle of divergence	Emitter 1.2°, Receiver 2°
Ambient light limit	50000 Lux
Functional safety related parameters	
MTTF <sub>d</sub>	720 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> 10 ... 30 V DC
Ripple	10 %
No-load supply current	I <sub>0</sub> ≤ 40 mA
Output	
Switching type	light/dark on switchable
Signal output	2 PNP, complementary, short-circuit protected, reverse polarity protected , open collectors
Switching voltage	max. 30 V DC
Switching current	max. 200 mA
Switching frequency	f 250 Hz
Response time	2 ms
Conformity	
Product standard	EN 60947-5-2
Approvals and certificates	
EAC conformity	TR CU 020/2011
Protection class	II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval	E87056 , cULus Listed , class 2 power supply , type rating 1
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)
Mechanical specifications	
Housing width	25.8 mm
Housing height	88 mm
Housing depth	54.3 mm
Degree of protection	IP67
Connection	4-pin, M12 x 1 connector
Material	
Housing	Plastic ABS
Optical face	plastic
Connector	plastic
Mass	70 g

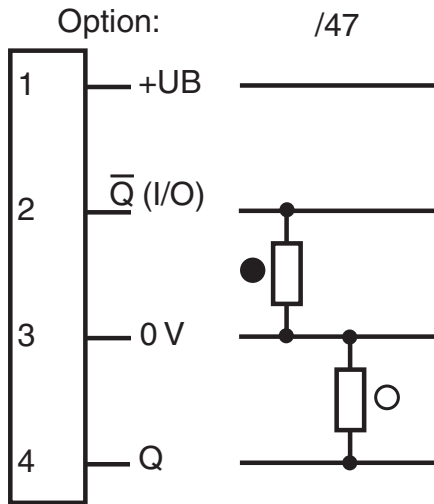
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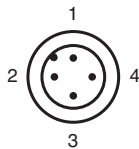
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**Connection Assignment**



○ = Light on  
 ● = Dark on

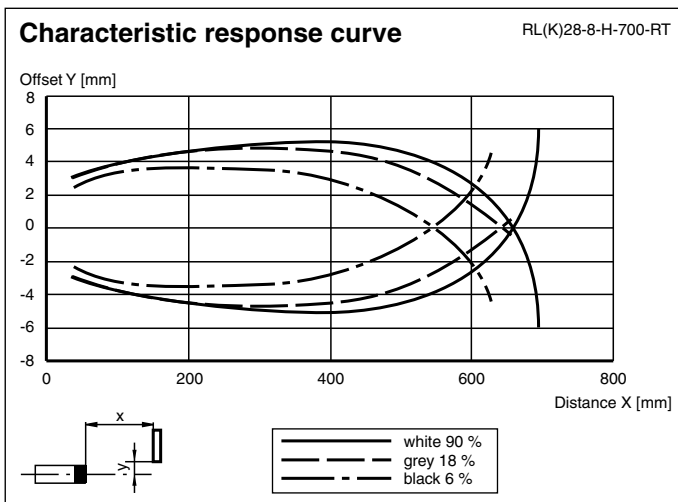
**Connection Assignment**



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

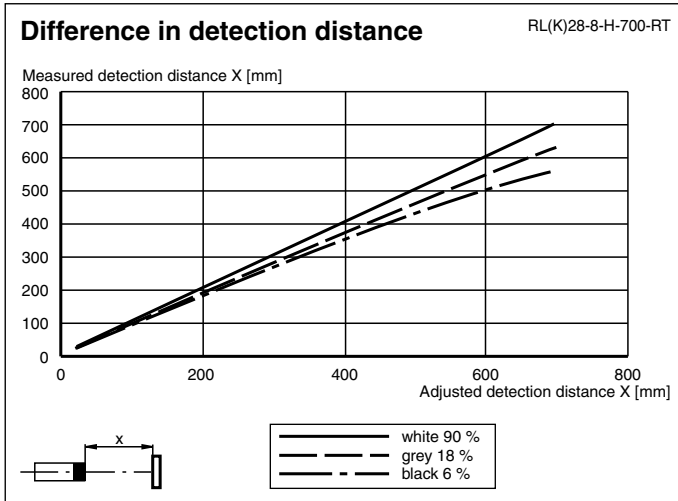
**Characteristic Curve**



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## Characteristic Curve



## Application



## Accessories

	<b>OMH-05</b>	Mounting aid for round steel $\varnothing$ 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-HW</b>	Mounting bracket for rear wall mounting
	<b>OMH-RL28-C</b>	Weld slag cover model

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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 V DC ... 30 V DC: fit a protection diode, max. 200 mA