



Background suppression sensor

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

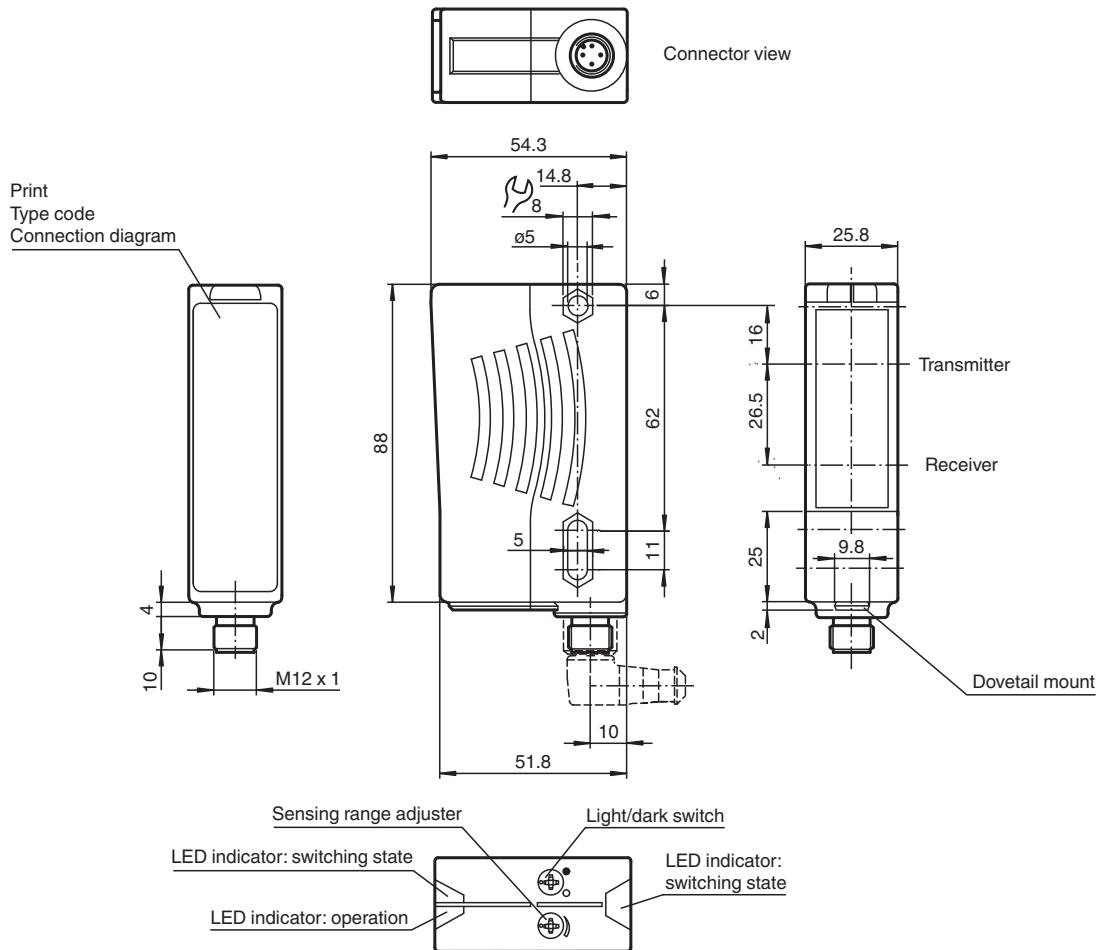


- Ultra bright LEDs for power on and switching state
- Good alignability due to red transmission LED
- Not sensitive to ambient light, even with switched energy saving lamps
- Waterproof, degree of protection IP67
- Protection class II

Background suppression sensor



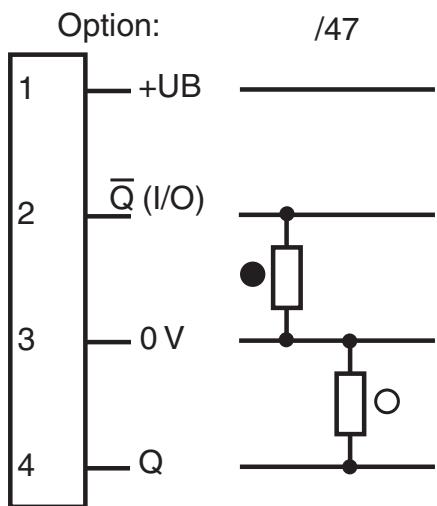
Dimensions



Technical Data

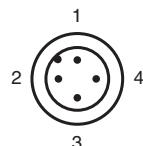
General specifications		
Detection range	20 ... 700 mm	
Detection range min.	20 ... 200 mm	
Detection range max.	20 ... 700 mm	
Background suppression	max. + 10 % of the upper limit of the detection range	
Light source	LED	
Light type	modulated visible red light , 660 nm	
Black-white difference (6 %/90 %)	< 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 _d	720 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	10 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	≤ 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	

Connection Assignment



○ = Light on
 ● = Dark on

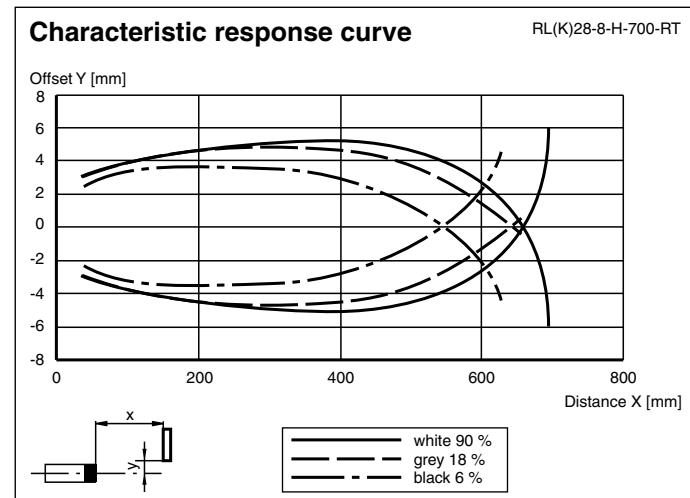
Connection Assignment



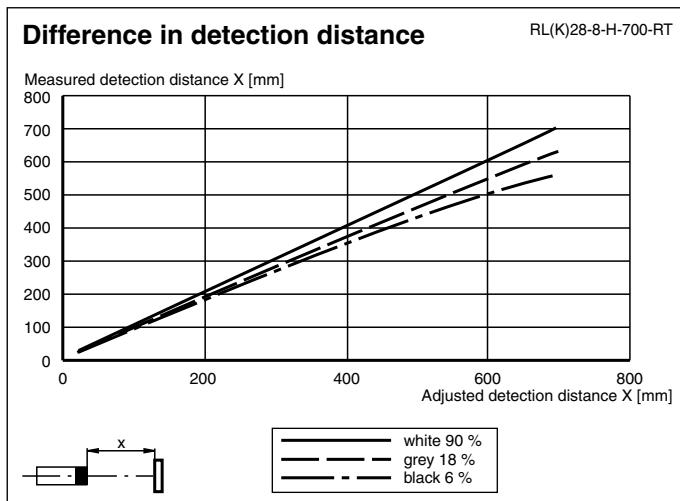
Wire colors in accordance with EN 60947-5-2

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

Characteristic Curve



Characteristic Curve



Application



Accessories

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

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