

Model Number

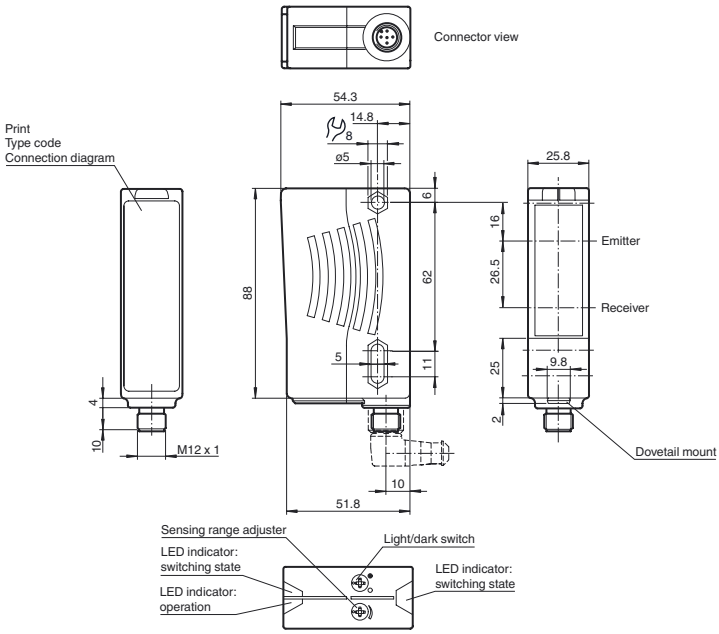
RL28-8-H-700-IR/47/105

Background suppression sensor
with 5-pin, M12 x 1 plastic connector

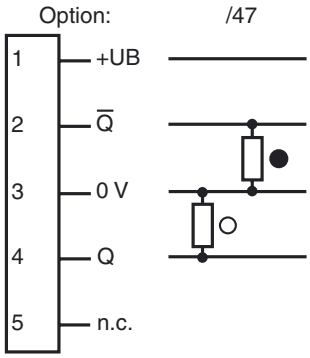
Features

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

Dimensions

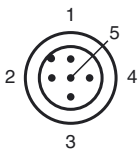


Electrical connection



○ = Light on
● = Dark on

Pinout



Release date: 2011-12-21 10:42 Date of issue: 2011-12-21 419614_eng.xml

Technical data

General specifications		
Detection range		20 ... 700 mm
Detection range min.		20 ... 200 mm
Detection range max.		20 ... 700 mm
Light source		IRED
Light type		modulated infrared light , 880 nm
Black/White difference (6 %/90 %)		< 8 %
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
Controls		Light/Dark switch
Controls		Detection range adjuster
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
Ambient conditions		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Storage temperature		-40 ... 75 °C (-40 ... 167 °F)
Mechanical specifications		
Protection degree		IP67
Connection		M12 x 1 connector, 5-pin
Material		
Housing		Plastic ABS
Optical face		plastic
Connector		plastic
Mass		70 g
Compliance with standards and directives		
Standard conformity		
Product standard		EN 60947-5-2:2007
Approvals and certificates		
Protection class		II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval		cULus
CCC approval		Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

Accessories

OMH-05
Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-07
Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-21
Mounting bracket

OMH-22
Mounting bracket

OMH-MLV11-K
dove tail mounting clamp

OMH-RLK29
Mounting bracket

OMH-RLK29-HW
Mounting bracket for rear wall mounting

OMH-RL28-C
Protective cover

Other suitable accessories can be found at www.pepperl-fuchs.com

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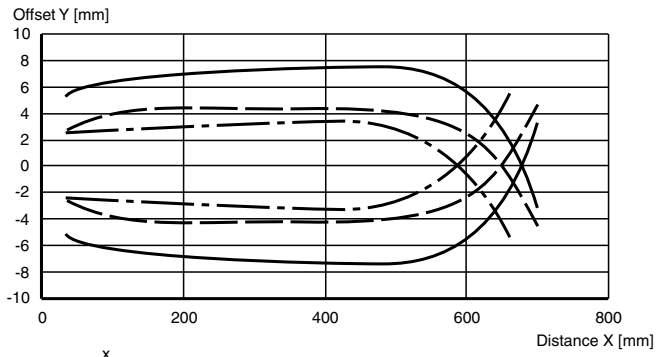
Curves/Diagrams

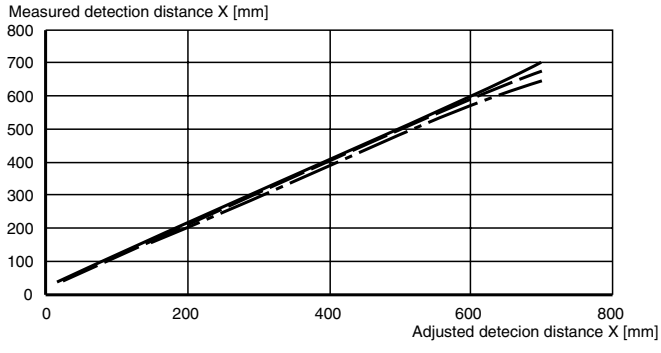
Characteristic response curve

RL(K)28-8-H-700-IR



Difference in detection distance

RL(K)28-8-H-700-IR



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

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