



**Model Number**

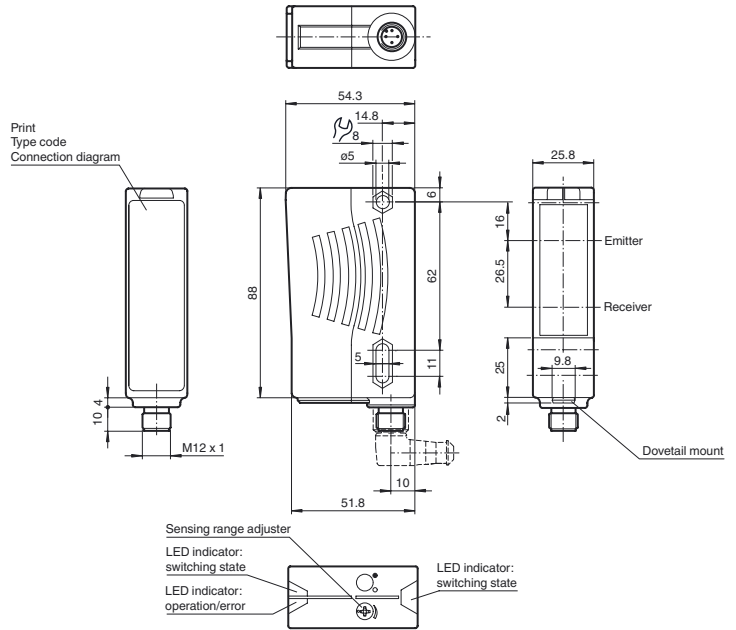
**RL28-8-H-2000-IR-B3B/73c**

Background suppression sensor with 4-pin, M12 x 1 plastic connector

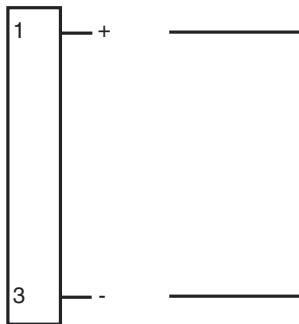
**Features**

- Sensor with AS interface according to Spec. 2.11
- Ultra bright LEDs for power on and switching state
- Not sensitive to ambient light, even with switched energy saving lamps
- Waterproof, protection degree IP67
- Protection class II

**Dimensions**

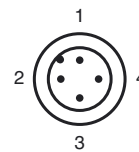


**Electrical connection**



- = Light on
- = Dark on

**Pinout**



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Subject to modifications without notice

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**Technical data****General specifications**

Detection range	20 ... 2000 mm
Detection range min.	20 ... 200 mm
Detection range max.	20 ... 2000 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 %)	< 40 %
Diameter of the light spot	approx. 70 mm at a distance of 2000 mm
Angle of divergence	transmitter 2° receiver 2°
Ambient light limit	50000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	1480 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	60 %

**Indicators/operating means**

Operating display	dual-LED green/red green: AS-Interface voltage, normal operation red: communication error or address 0 red/green flashing: peripherie fault
Function display	2 LEDs yellow ON: object inside the scanning range OFF: object outside the scanning range
Controls	Detection range adjuster

**Electrical specifications**

Operating voltage	U <sub>B</sub>	26.5 ... 31.6 V via AS-Interface network , min. 18.5 V
No-load supply current	I <sub>0</sub>	≤ 40 mA

**Input**

Test input	Data bit D2: 0: emitter on 1: emitter off
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**Output**

Switching type	light/dark on switchable via AS-i bus system	
Signal output	AS-Interface	
Switching frequency	f	250 Hz
Response time	2 ms	
Timer function	Impulsed off-delay IAB, 50 ms, switchable via AS-Interface	

**Ambient conditions**

Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)

**Mechanical specifications**

Protection degree	IP67
Connection	connector M12 x 1, 4-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
Standards	EN 50295 AS-i Complete Spec 2.11

**Approvals and certificates**

Protection class	II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

**Accessories****VBP-HH1-V3.0-KIT**

AS-Interface Handheld with accessory

**VBP-HH1**

Handheld programming device

**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**

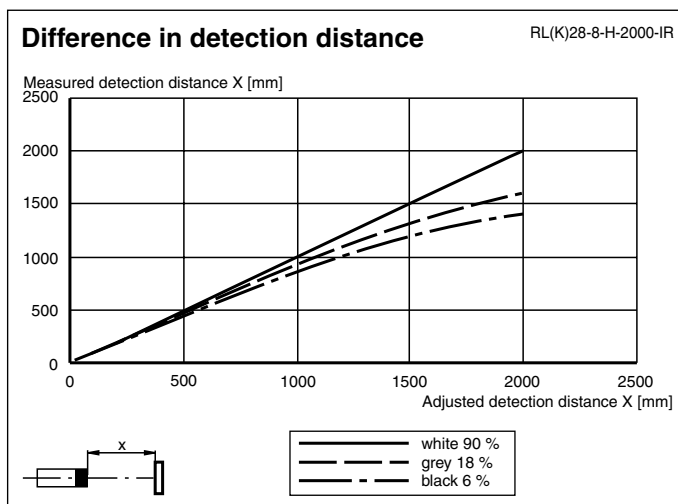
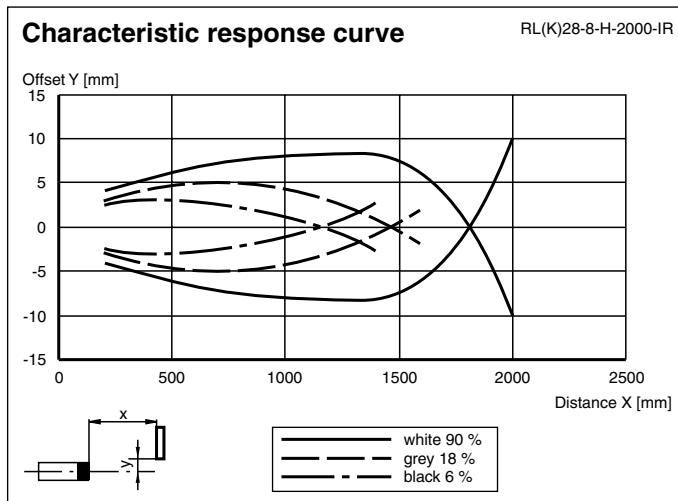
Mounting bracket for rear wall mounting

**OMH-RL28-C**

Protective cover

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

## Curves/Diagrams



## AS-Interface programming

<F id="261">Address preset to 00, can be changed via Busmaster or programming devices

IO-Code 3

ID-Code A

ID2 1

- **Data bit**

- <F id="263">Bitfunction

- D0 Switch output (0=object detected, 1=no object detected) applies to P1=0

- D1 not used

- D2 Test function (0=emitter ON, 1=emitter OFF)

- D3 not used

- **Parameter bit**

- <F id="263">Bitfunction (1/0)

- P0 not used

- P1 Light/dark-changeover switch (0=DS, 1=HS)

- P2 Time function IAB, 50 ms (0=time ON, 1=time OFF)

- P3 not used