

# Background suppression sensor

## RL23-8-H-1000-IR/47/92/104

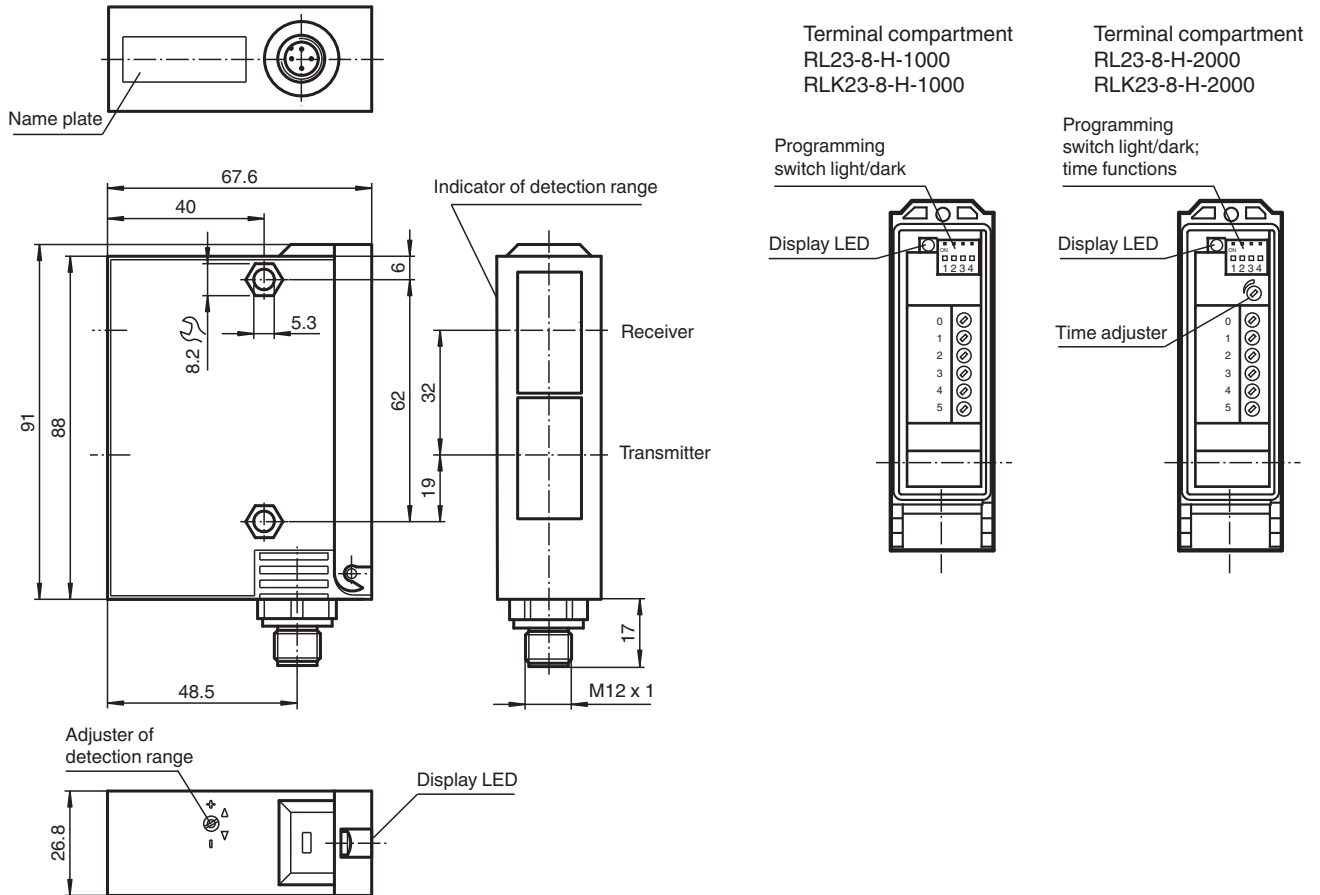


- Adjustable background suppression
- Infrared light
- Sturdy plastic housing
- Optical surface made of scratch-resistant glass
- Protected against mutual interference (no cross-talk)

Background suppression sensor



### Dimensions



Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 419448\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

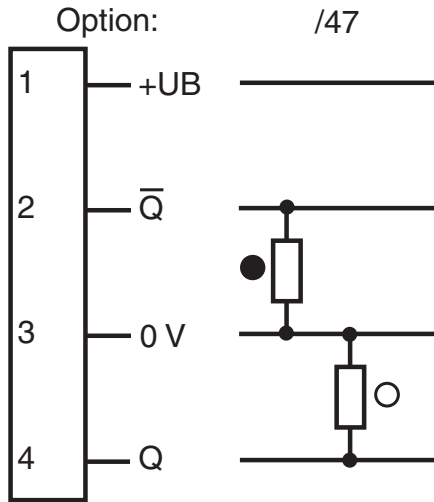
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PF PEPPERL+FUCHS**

## Technical Data

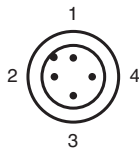
<b>General specifications</b>		
Detection range		50 ... 1000 mm
Detection range min.		50 ... 150 mm
Detection range max.		50 ... 1000 mm
Light source		IREd
Light type		modulated infrared light
Black-white difference (6 %/90 %)		< 10 %
Diameter of the light spot		25 mm at 1000 mm sensor range
Opening angle		1.5 °
Ambient light limit		12000 Lux
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		540 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		60 %
<b>Indicators/operating means</b>		
Function indicator		LED yellow, lights up with receiver lit
Control elements		Programming switch for light/dark switching
Control elements		Sensing range adjuster
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		10 %
No-load supply current	I <sub>0</sub>	100 mA
<b>Output</b>		
Switching type		light/dark on
Signal output		2 PNP, complementary, short-circuit protected, reverse polarity protected
Switching voltage		30 V DC
Switching current		max. 200 mA
Switching frequency	f	10 Hz
Response time		50 ms
<b>Conformity</b>		
Product standard		EN 60947-5-2
<b>Approvals and certificates</b>		
UL approval		cULus
CCC approval		CCC approval / marking not required for products rated ≤36 V
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-20 ... 75 °C (-4 ... 167 °F)
<b>Mechanical specifications</b>		
Housing width		26.8 mm
Housing height		91 mm
Housing depth		67.6 mm
Degree of protection		IP65
Connection		4-pin, M12 x 1 connector
<b>Material</b>		
Housing		Terluran® GV15
Optical face		glass
Mass		180 g

**Connection Assignment**



○ = Light on  
 ● = Dark on

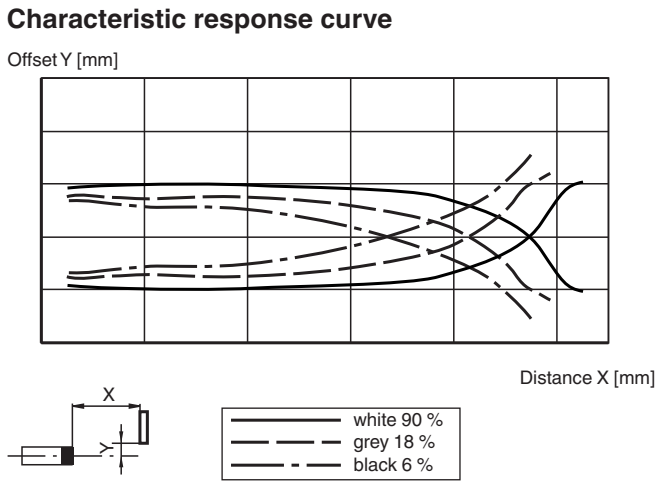
**Connection Assignment**



Wire colors in accordance with EN 60947-5-2

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

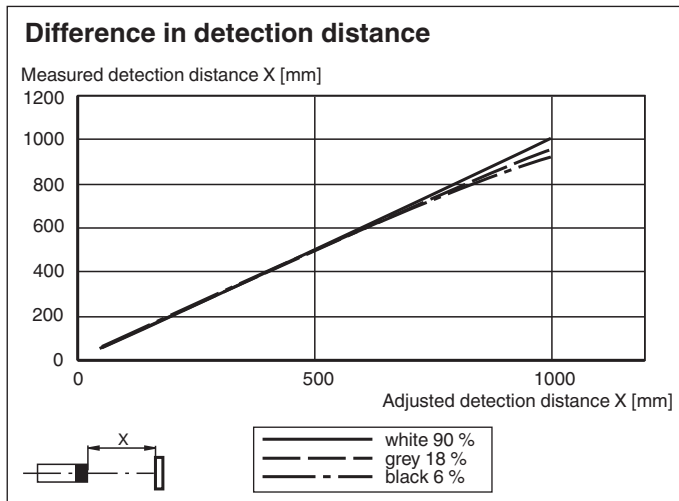
**Characteristic Curve**







Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 419448\_eng.pdf

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

## Characteristic Curve



## 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

**Light-on/dark-on changeover switch**

 <p>ON 1 2 3 4</p>	<p>Dark on</p>
 <p>ON 1 2 3 4</p>	<p>Light on</p>

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 419448\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com