



## Background suppression sensor SBL-8-H-600-IR-4022



- Background suppression sensor for roller conveyors
- For installation between the rollers on a roller conveyor
- Very small black-white difference
- Adjustable detection range
- Direction of plug coding offset by 90° compared to IEC 60947-5-2

Congested track scanner, background suppression sensor, 600 mm adjustable detection range, infrared light, dark on, 1 PNP output, M12 plug

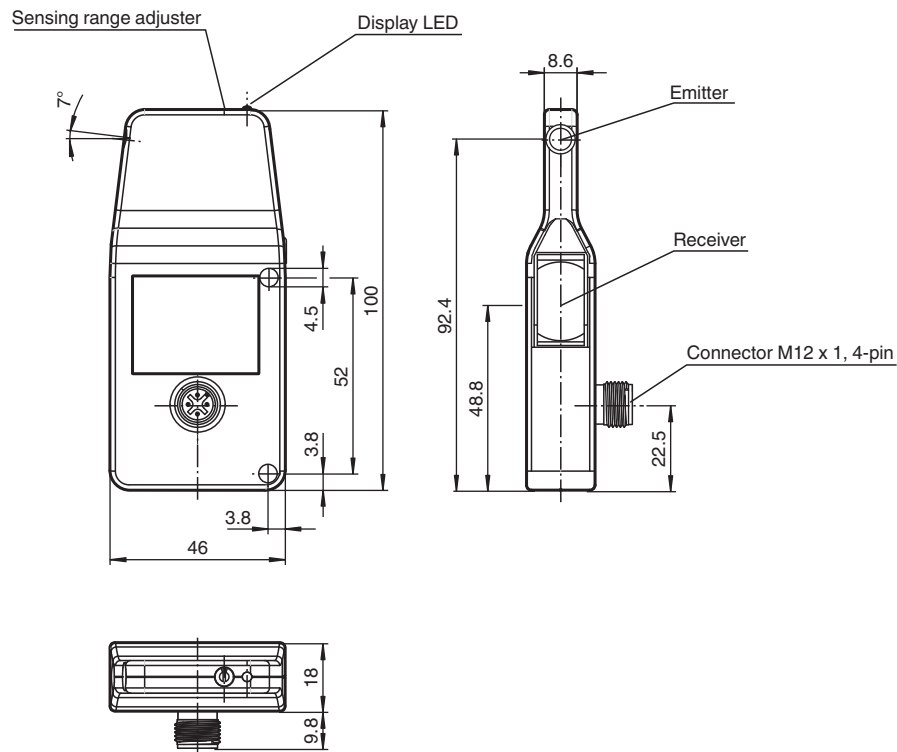


### Function

Sensors of the SBL series are used to easily control material flow on roller conveyors in material handling and other branches. The SBL series is a precise background suppression sensor according to the 3 element method. The sensor features superior background suppression and a very good ambient light immunity.

Material and transport container of all colors and opacities are reliably detected. The special design allows the sensor to be mounted between the rollers of a roller conveyor or any other conveying unit. Mounting between the rollers is easy and protects the sensor.

## Dimensions



## Technical Data

### General specifications

Detection range	15 ... 600 mm
Detection range min.	15 ... 250 mm
Detection range max.	15 ... 600 mm
Adjustment range	250 ... 600 mm
Reference target	standard white 200 mm x 200 mm
Light source	IRED
Light type	modulated infrared light , 880 nm
Black-white difference (6 %/90 %)	< 15 %
Diameter of the light spot	approx. 40 mm at detection range 600 mm
Ambient light limit	continuous light 30000 Lux , Fluorescent lamp 5000 Lux

### Functional safety related parameters

MTTF <sub>d</sub>	1100 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Indicators/operating means

Function indicator	LED yellow: lights when object is detected
Control elements	Sensing range adjuster

### Electrical specifications

Operating voltage	U <sub>B</sub>	24 VDC -20% +10%
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	max. 20 mA

Release date: 2022-03-30 Date of issue: 2022-03-30 Filename: 223833\_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

 PEPPERL+FUCHS

## Technical Data

### Output

Switching type	dark-on
Signal output	1 PNP, short-circuit protected, reverse polarity protected
Switching voltage	max. 30 V DC
Switching current	max. 200 mA
Switching frequency	f 100 Hz
Response time	5 ms

### Conformity

Product standard	EN 60947-5-2
------------------	--------------

### Compliance with standards and directives

Standard conformity	
Shock and impact resistance	IEC / EN 60068. half-sine, 40 g in each X, Y and Z directions
Vibration resistance	IEC / EN 60068-2-6. Sinus. 10 -1000 Hz, 10 g in each X, Y and Z directions

### Approvals and certificates

EAC conformity	TR CU 020/2011
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated $\leq 36$ V

### Ambient conditions

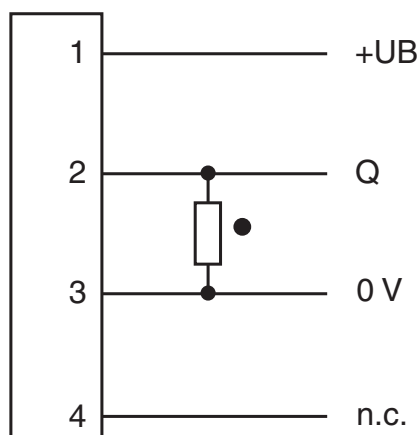
Ambient temperature	-20 ... 50 °C (-4 ... 122 °F)
Storage temperature	-30 ... 60 °C (-22 ... 140 °F)

### Mechanical specifications

Housing width	18 mm
Housing height	100 mm
Housing depth	46 mm
Degree of protection	IP65
Connection	4-pin, M12 x 1 connector
Material	
Housing	plastic
Optical face	plastic lens
Mass	approx. 50 g

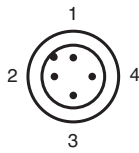
## Connection Assignment

### SBL-8-H



- = Light on  
● = Dark on

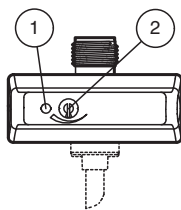
## Connection Assignment



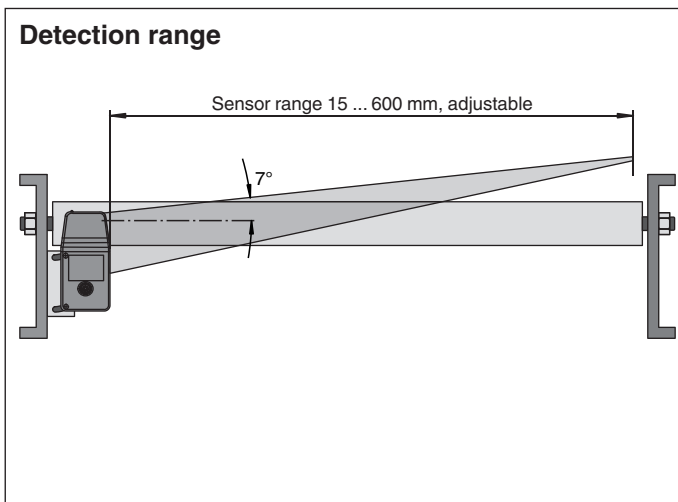
Wire colors in accordance with EN 60947-5-2

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

## Assembly



1	Signal display	yellow
2	Sensing range adjuster	



Release date: 2022-03-30 Date of issue: 2022-03-30 Filename: 223833\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

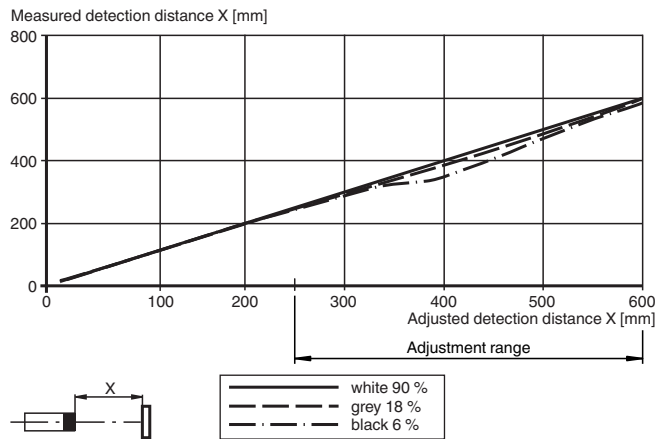
USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

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







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

## Characteristic Curve

### Difference in detection distance



## Accessories

	<b>OMH-SBL-01</b>	Mounting bracket for sensors of SBL series
	<b>V1-G-2M-PVC</b>	Female cordset single-ended M12 straight A-coded, 4-pin, PVC cable grey
	<b>V1-G-5M-PVC</b>	Female cordset single-ended M12 straight A-coded, 4-pin, PVC cable grey
	<b>V1-W-2M-PUR</b>	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey
	<b>V1-W-5M-PUR</b>	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey
	<b>V1S-TEE-V1/V1S</b>	T-Splitter M12 plug to M12 plug / M12 socket 4-pin A-coded

## Accessories

**Note:**

Use a screwdriver to adjust the sensing range. We strongly recommend to use the screwdriver given in the accessories section.