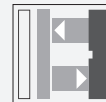




Background suppression sensor

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



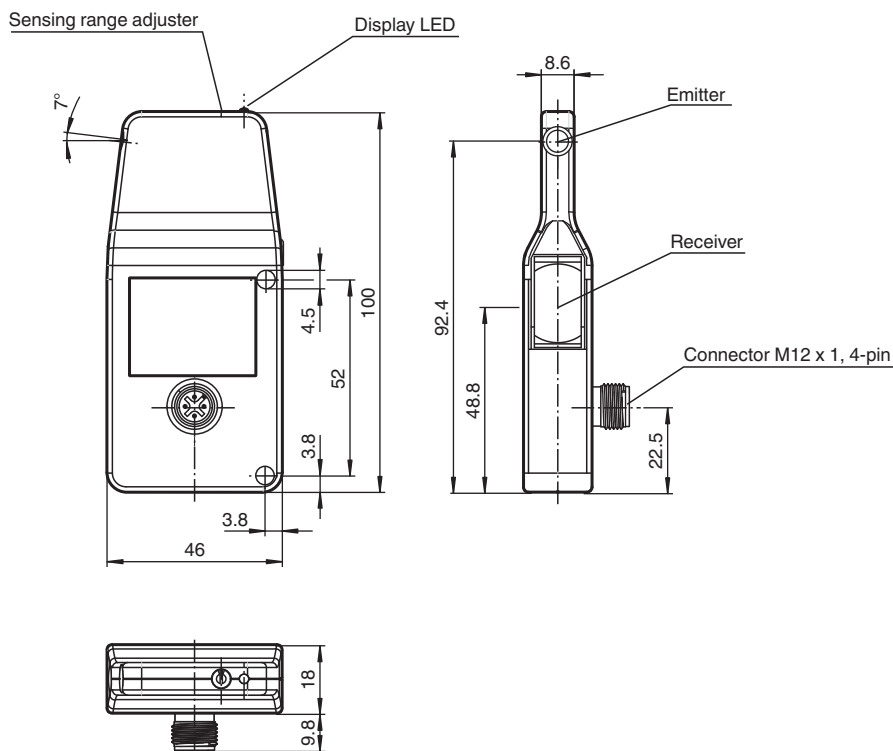
Function

Sensors of the SBL serie 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	IREC
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 _d	1100 a
Mission Time (T _M)	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 _B	24 VDC -20% +10%
Ripple		max. 10 %
No-load supply current	I ₀	max. 20 mA

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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
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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 ≤36 V

Ambient conditions

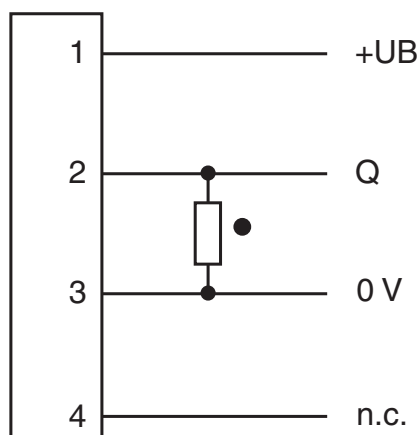
Ambient temperature	-20 ... 50 °C (-4 ... 122 °F)
Storage temperature	-30 ... 60 °C (-22 ... 140 °F)

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

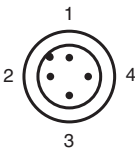
Connection Assignment

SBL-8-H



○ = Light on
● = Dark on

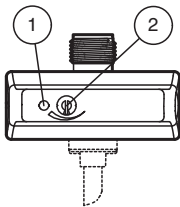
Connection Assignment



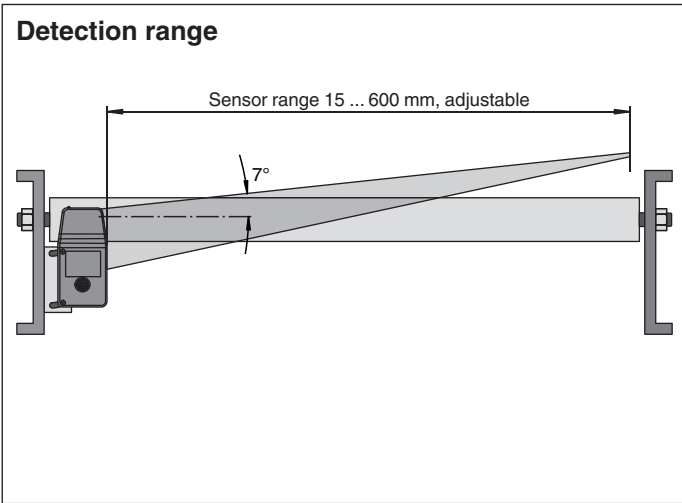
Wire colors in accordance with EN 60947-5-2

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

Assembly



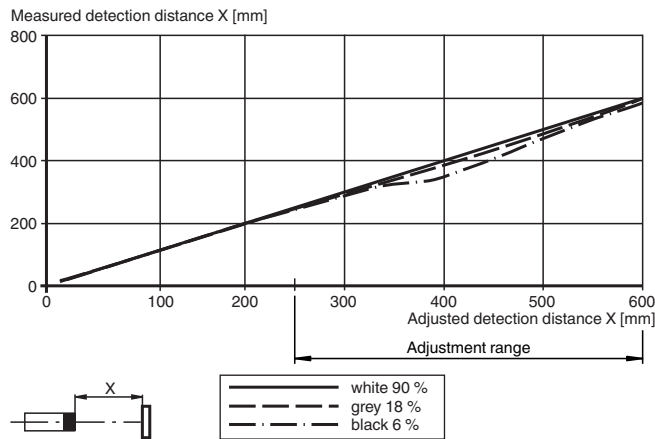
1	Signal display	yellow
2	Sensing range adjuster	



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Characteristic Curve

Difference in detection distance



Accessories

	OMH-SBL-01	Mounting bracket for sensors of SBL series
	V1-G-2M-PVC	Female cordset single-ended M12 straight A-coded, 4-pin, PVC cable grey
	V1-G-5M-PVC	Female cordset single-ended M12 straight A-coded, 4-pin, PVC cable grey
	V1-W-2M-PUR	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey
	V1-W-5M-PUR	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey
	V1S-TEE-V1/V1S	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.