



Triangulation sensor (BGS)

OB120-R2-E2-0,2M-V31-P



- Ultra-small housing design
- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Highly visible light spot, even on dark materials
- Precision object detection, almost irrespective of the color
- Adjustable sensing range

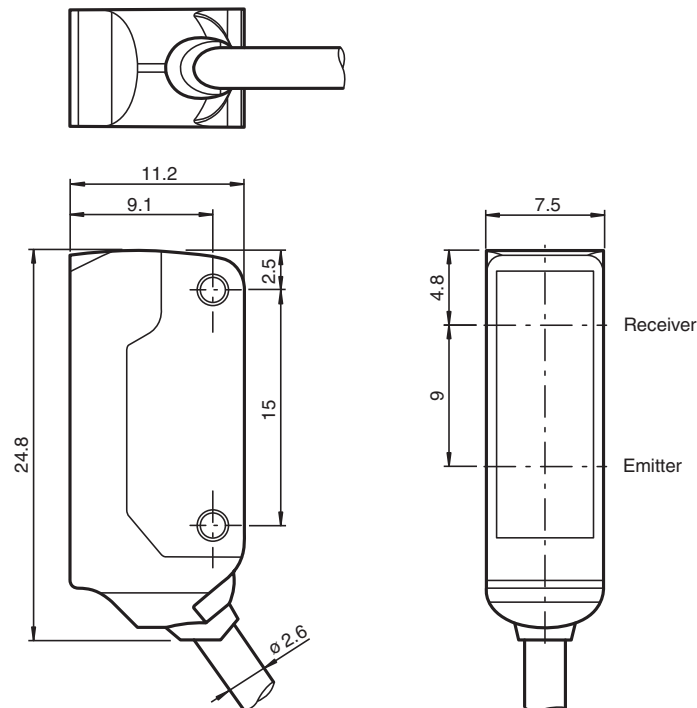
Triangulation sensor with background suppression for standard applications, miniature design, 120 mm adjustable sensing range, red light, light on, PNP output, 200 fixed cable with plug M8, 4-pin



Function

The nano sensor has been developed for a broad range of applications. It offers excellent durability and is exceptionally easy to install. The housing is compact and, with its 45° cable outlet, can be installed in the smallest spaces. New functional principles and functionality open up a range of new options.

Dimensions



Technical Data

General specifications

Detection range	1 ... 120 mm
Detection range min.	1 ... 20 mm
Detection range max.	1 ... 120 mm
Adjustment range	20 ... 120 mm

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

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Technical Data

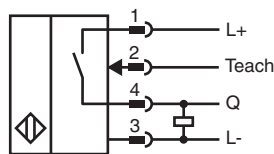
Reference target	standard white, 100 mm x 100 mm	
Light source		LED
Light type		modulated visible red light
LED risk group labelling		exempt group
Black-white difference (6 %/90 %)		< 10 % at 120 mm
Diameter of the light spot		approx. 10 mm at a distance of 120 mm
Opening angle		approx. 6 °
Optical face		frontal
Ambient light limit		EN 60947-5-2 : 5000 Lux
Functional safety related parameters		
MTTF _d		782 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: Power on flashing (approx. 4 Hz) Short circuit/overload indication
Function indicator		LED yellow ON: lights when object is detected Start teach in: LED green/yellow in-phase flashing 2.5 Hz End teach in: LED green/yellow alternate flashing 2.5 Hz
Electrical specifications		
Operating voltage	U _B	12 ... 24 V DC , class 2
No-load supply current	I ₀	< 25 mA
Protection class		III
Input		
Control input		external Teach-In
Output		
Switching type		PNP normally open / light on
Signal output		1 PNP output, short-circuit protected, reverse polarity protected, open collector
Switching voltage		max. 24 V DC
Switching current		max. 50 mA , resistive load
Voltage drop	U _d	≤ 1.5 V DC
Switching frequency	f	approx. 500 Hz
Response time		1000 µs
Conformity		
Product standard		EN 60947-5-2
Approvals and certificates		
UL approval		E87056 , cURus Recognized Class 2 power source
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 55 °C (-13 ... 131 °F)
Storage temperature		-30 ... 70 °C (-22 ... 158 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		200 mm fixed cable with 4-pin, M8x1 connector
Material		
Housing		PC/ABS and TPU
Optical face		Plastic
Cable		PUR
Installation		Fixing screws , 2 x M2 allen head screws included with delivery
Mass		approx. 9 g
Dimensions		
Height		24 mm
Width		7.5 mm
Depth		11.2 mm

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Technical Data

Cable length	200 mm
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Connection



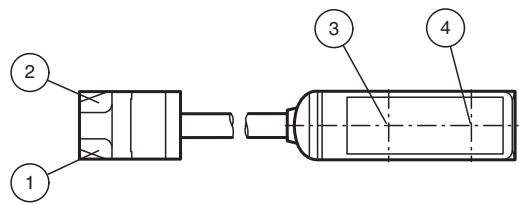
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

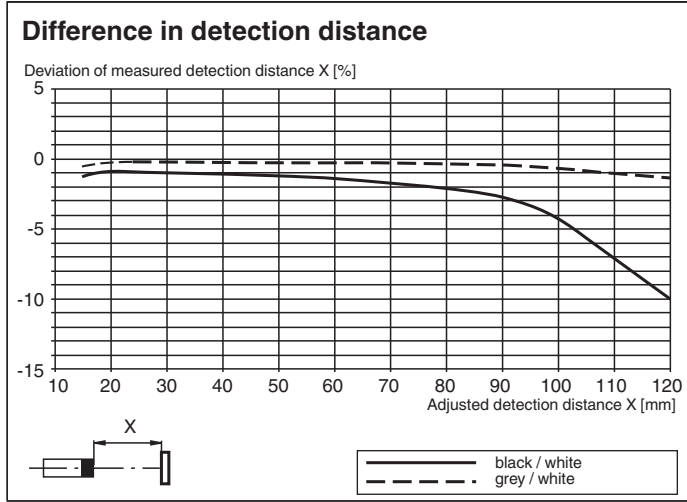
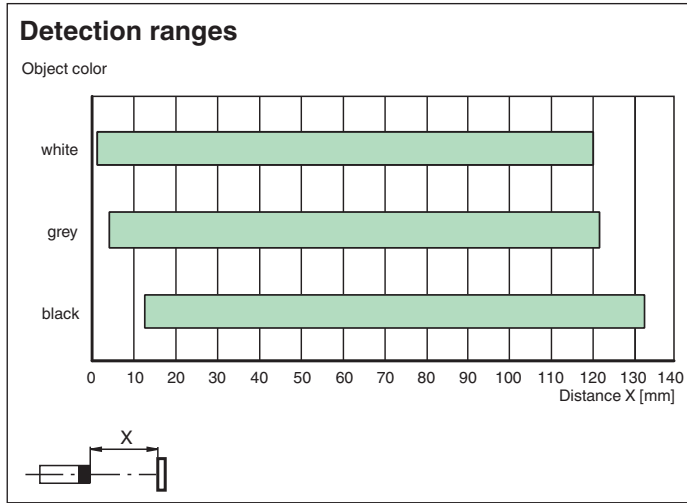
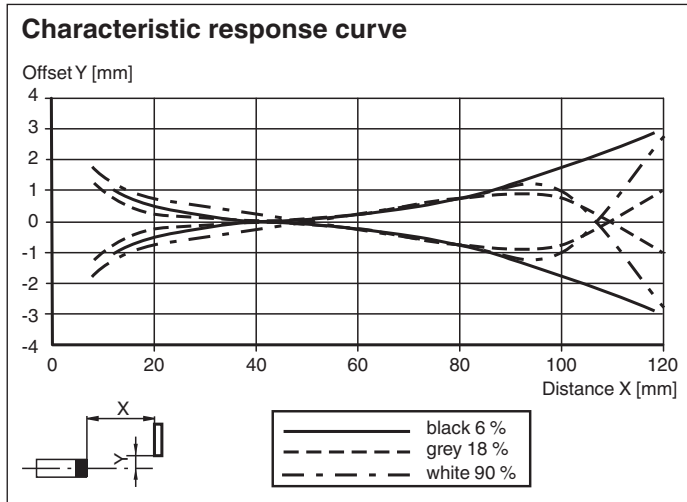
Indication



1	Operation indicator	green
2	Signal indicator	yellow
3	Emitter	
4	Receiver	

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Characteristic Curve



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