



Triangulation sensor (BGS) OBT120-R3-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

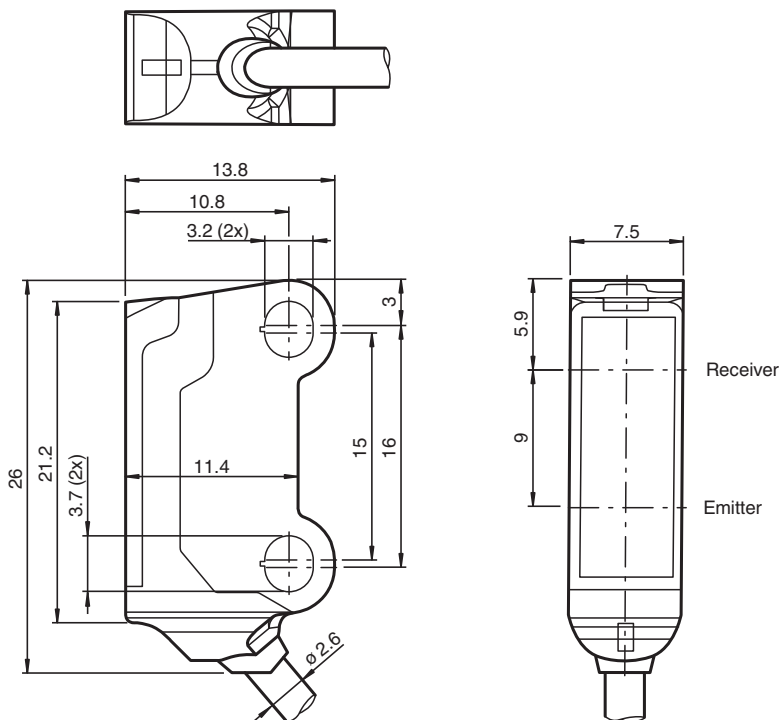
Triangulation sensor with background suppression for standard applications, miniature design, 120 mm adjustable sensing range, red light, light on, PNP output, 200 fixed cable with plug M8, 4-pin



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

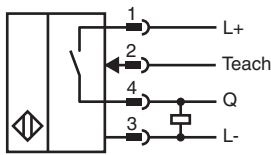
Detection range	1 ... 120 mm
Detection range min.	1 ... 20 mm
Detection range max.	1 ... 120 mm
Adjustment range	20 ... 120 mm

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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	
Mass	approx. 9 g	
Dimensions		
Height	26 mm	
Width	7.5 mm	
Depth	13.8 mm	
Cable length	200 mm	

Connection



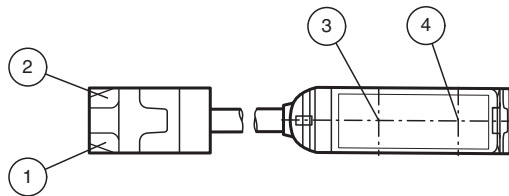
Connection Assignment



Wire colors in accordance with EN 60947-5-2

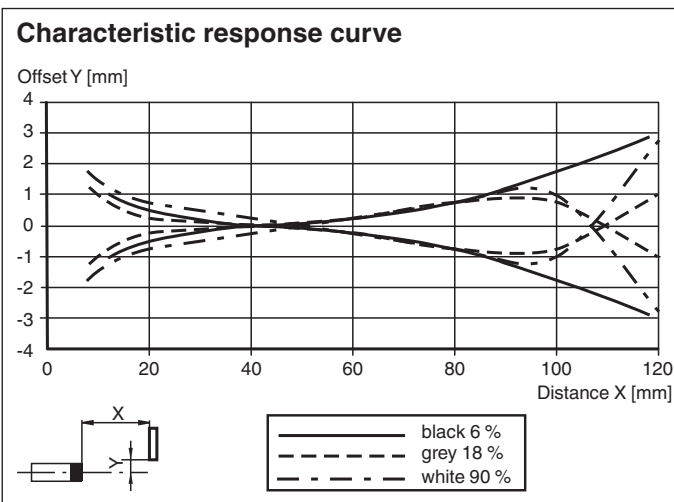
- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)

Indication



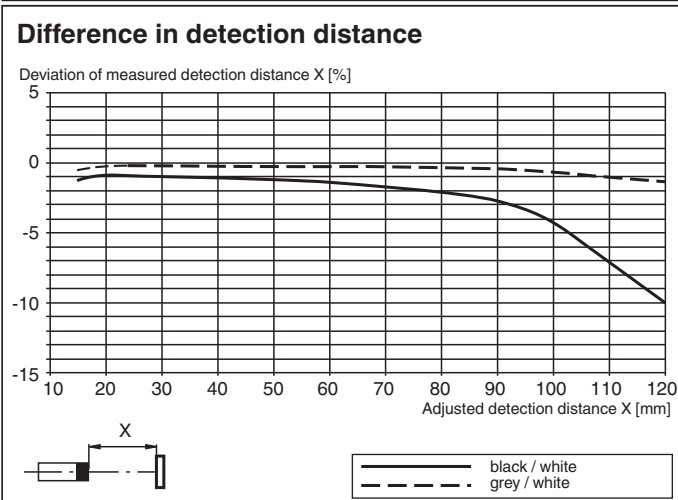
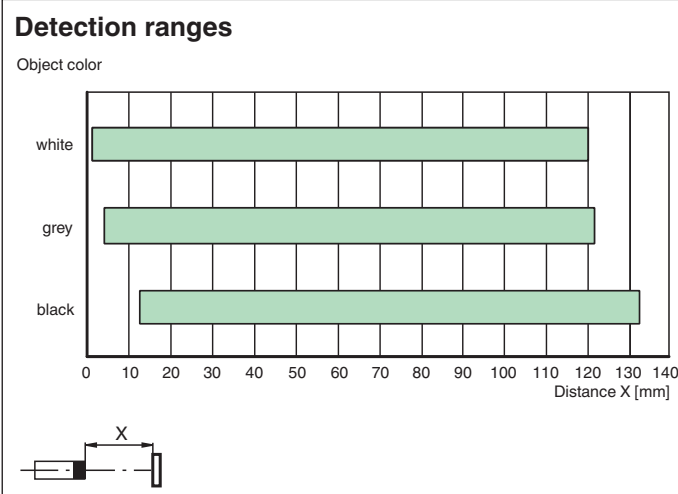
1	Operation indicator	green
2	Signal indicator	yellow
3	Emitter	
4	Receiver	

Characteristic Curve



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