



## Triangulation sensor (BGS) OBT60-R3-E0-0,2M-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

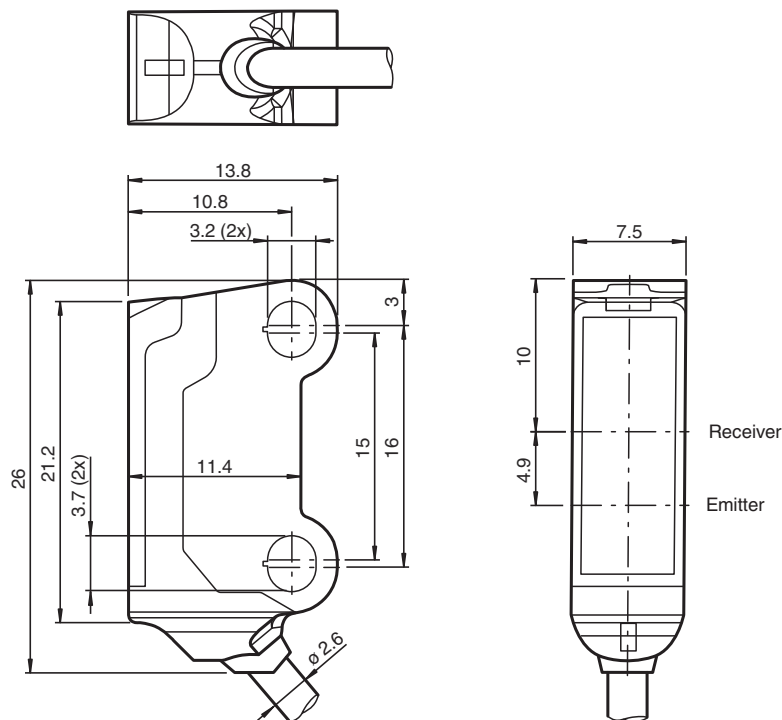
Triangulation sensor with background suppression for standard applications, miniature design, 60 mm adjustable sensing range, red light, light on, NPN output, 200 fixed cable with plug M8, 4-pin



### 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

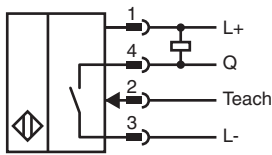
Detection range	1 ... 60 mm
Detection range min.	1 ... 15 mm
Detection range max.	1 ... 60 mm
Adjustment range	15 ... 60 mm

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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%)	< 5 % at 60 mm	
Diameter of the light spot	approx. 6 mm at a distance of 60 mm	
Opening angle	approx. 6 °	
Optical face	frontal	
Ambient light limit	EN 60947-5-2 : 5000 Lux	
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>	764 a	
Mission Time (T <sub>M</sub> )	20 a	
Diagnostic Coverage (DC)	0 %	
<b>Indicators/operating means</b>		
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	
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	12 ... 24 V DC , class 2
No-load supply current	I <sub>0</sub>	< 25 mA
Protection class	III	
<b>Input</b>		
Control input	external Teach-In	
<b>Output</b>		
Switching type	NPN normally open / light on	
Signal output	1 NPN 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 <sub>d</sub>	≤ 1.5 V DC
Switching frequency	f	approx. 500 Hz
Response time	1000 μs	
<b>Conformity</b>		
Product standard	EN 60947-5-2	
<b>Approvals and certificates</b>		
UL approval	E87056 , cURus Recognized Class 2 power source	
CCC approval	CCC approval / marking not required for products rated ≤36 V	
<b>Ambient conditions</b>		
Ambient temperature	-25 ... 55 °C (-13 ... 131 °F)	
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)	
<b>Mechanical specifications</b>		
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	
<b>Dimensions</b>		
Height	26 mm	
Width	7.5 mm	
Depth	13.8 mm	
Cable length	200 mm	

## Connection



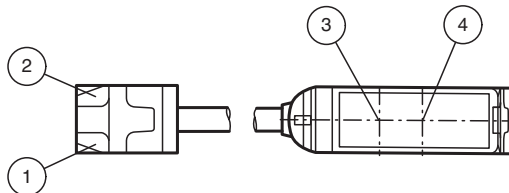
## Connection Assignment



Wire colors in accordance with EN 60947-5-2

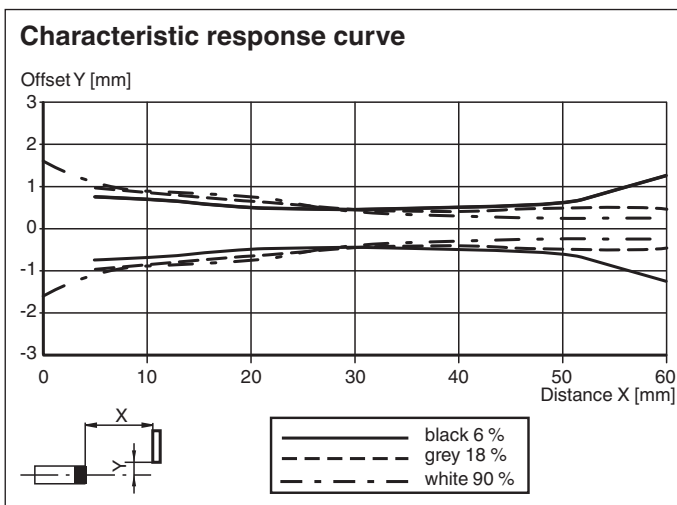
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

## Indication



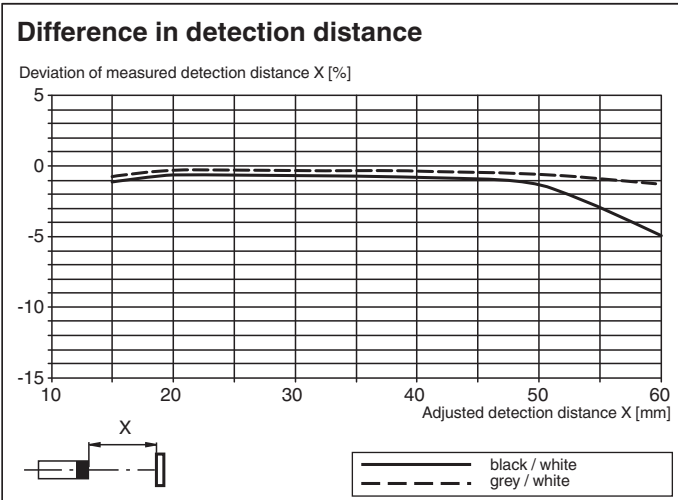
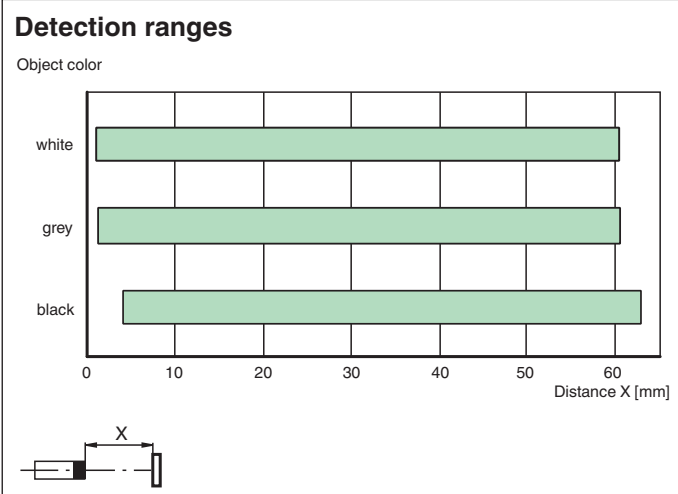
1	Operation indicator	green
2	Signal indicator	yellow
3	Emitter	
4	Receiver	

## Characteristic Curve



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