



## Triangulation sensor (BGS)

OBT50-R2-E3-0,2M-V31



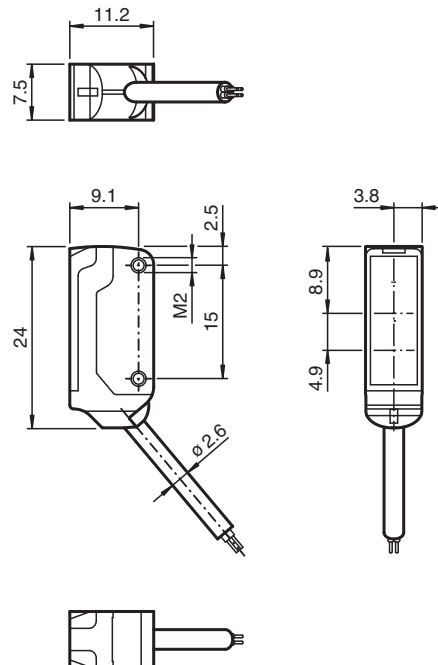
- Ultra-small housing design
- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Highly visible light spot, even on dark materials
- Precision object detection, almost irrespective of the color
- Extremely long detection range paves the way for new applications

Triangulation sensor with background suppression for standard applications, miniature design, 50 mm detection range, red light, light on, PNP output, fixed cable



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

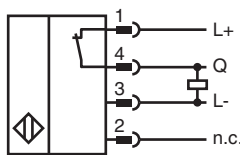


## Technical Data

<b>General specifications</b>		
Detection range		3 ... 50 mm
Reference target		standard white, 100 mm x 100 mm
Light source		LED
Light type		modulated visible red light , 630 nm
Black-white difference (6 %/90 %)		< 15 % at 50 mm
Angle deviation		approx. 2 °
Diameter of the light spot		approx. 3.5 mm at a distance of 50 mm
Opening angle		approx. 2 °
Optical face		frontal
Ambient light limit		EN 60947-5-2 : 30000 Lux
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		800 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Indicators/operating means</b>		
Operation indicator		LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)
Function indicator		LED yellow ON: lights when object is detected
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	10 ... 30 V DC , class 2
No-load supply current	I <sub>0</sub>	< 10 mA
Protection class		III
<b>Output</b>		
Switching type		NC contact
Signal output		1 PNP output, short-circuit protected, reverse polarity protected, open collector
Switching voltage		max. 30 V DC
Switching current		max. 50 mA , resistive load
Voltage drop	U <sub>d</sub>	≤ 1.5 V DC
Switching frequency	f	approx. 800 Hz
Response time		600 μs
<b>Conformity</b>		
Product standard		EN 60947-5-2
<b>Approvals and certificates</b>		
EAC conformity		TR CU 020/2011
UL approval		E87056 , cULus Recognized, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated ≤36 V
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 60 °C (-13 ... 140 °F)
Storage temperature		-30 ... 70 °C (-22 ... 158 °F)
<b>Mechanical specifications</b>		
Housing width		7.5 mm
Housing height		24 mm
Housing depth		11.2 mm
Degree of protection		IP67
Connection		200 mm fixed cable with 4-pin, M8x1 connector
<b>Material</b>		
Housing		PC/ABS and TPU
Optical face		glass
Cable		PUR
Installation		Fixing screws , 2 x M2 allen head screws included with delivery
Mass		approx. 20 g
Cable length		200 mm

Release date: 2022-06-03 Date of issue: 2022-06-03 Filename: 259086\_eng.pdf

Connection



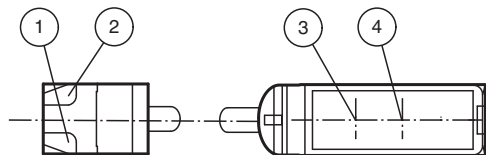
Connection Assignment



Wire colors in accordance with EN 60947-5-2

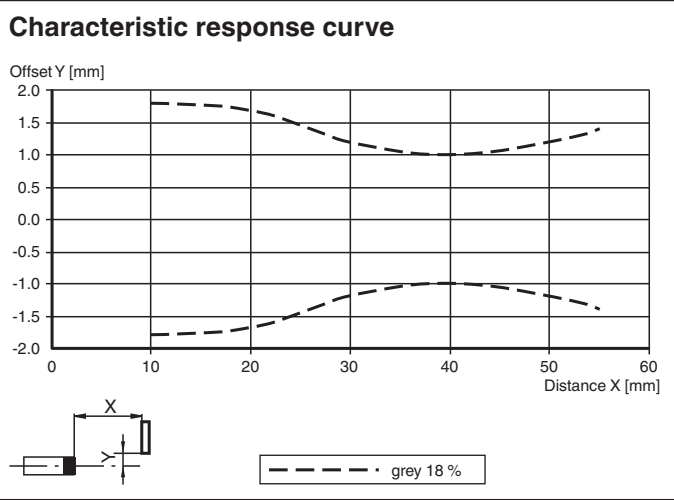
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Assembly



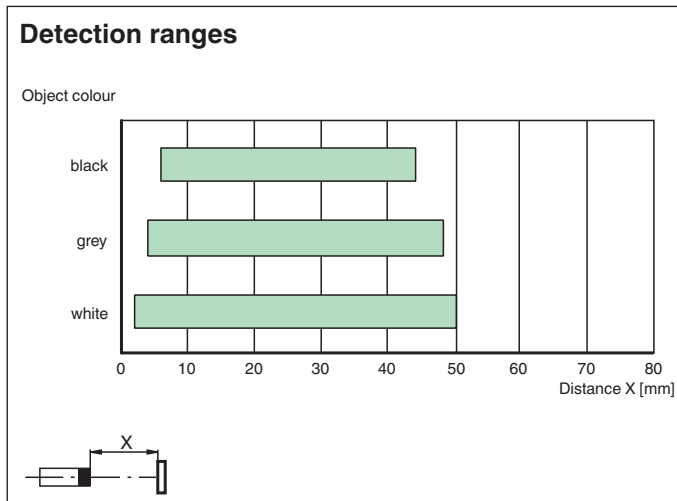
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

Characteristic Curve









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## Characteristic Curve



## Accessories

	<b>MH-R2-01</b>	Mounting aid for R2 series, Mounting bracket
	<b>MH-R2-02</b>	Mounting aid for R2 series, Mounting bracket
	<b>MH-R2-03</b>	Mounting aid for R2 series, Mounting bracket
	<b>MH-R2-04</b>	Mounting aid for R2 series, Mounting bracket
	<b>V31-GM-2M-PUR</b>	Female cordset single-ended M8 straight A-coded, 4-pin, PUR cable grey
	<b>V31-WM-2M-PUR</b>	Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey