



Triangulation sensor (BGS)

OBT50-R2-E0



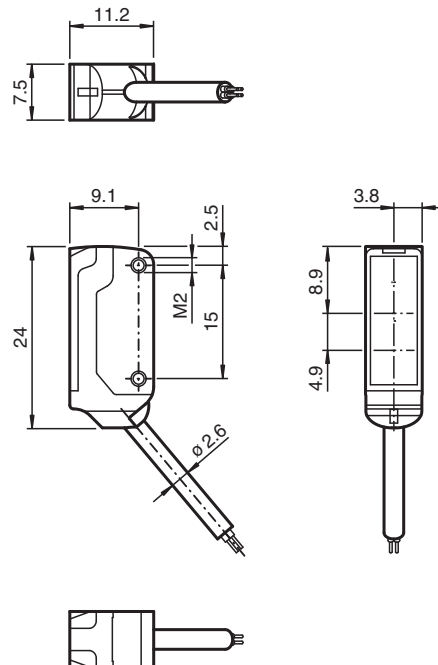
- Ultra-small housing design
- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Highly visible light spot, even on dark materials
- Precision object detection, almost irrespective 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, NPN 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

General specifications

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

Functional safety related parameters

MTTF _d	800 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

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

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC , class 2
No-load supply current	I ₀	< 10 mA
Protection class		III

Output

Switching type	NO contact	
Signal output		1 NPN 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 _d	≤ 1.5 V DC
Switching frequency	f	approx. 800 Hz
Response time	600 μs	

Conformity

Product standard	EN 60947-5-2
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Approvals and certificates

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

Ambient conditions

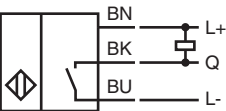
Ambient temperature	-25 ... 60 °C (-13 ... 140 °F)
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)

Mechanical specifications

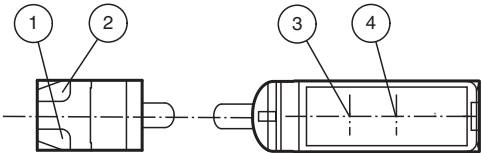
Housing width	7.5 mm
Housing height	24 mm
Housing depth	11.2 mm
Degree of protection	IP67
Connection	2 m fixed cable
Material	
Housing	PC/ABS and TPU
Optical face	glass
Cable	PUR
Installation	Fixing screws , 2 x M2 allen head screws included with delivery
Mass	approx. 20 g
Cable length	2 m

Release date: 2022-06-03 Date of issue: 2022-06-03 Filename: 225921_eng.pdf

Connection



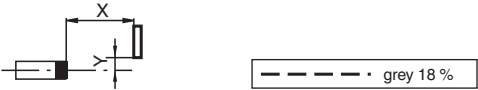
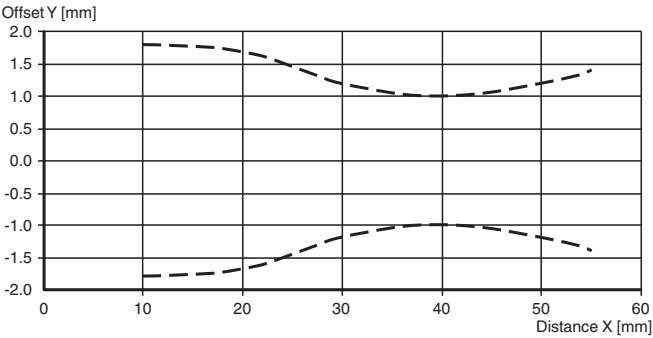
Assembly



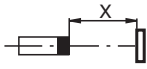
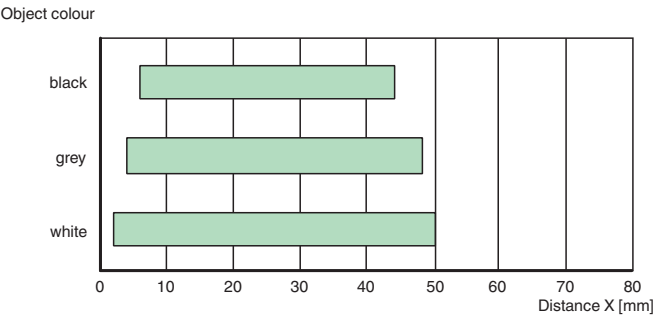
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

Characteristic Curve

Characteristic response curve



Detection ranges



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

Accessories

	MH-R2-01	Mounting aid for R2 series, Mounting bracket
	MH-R2-02	Mounting aid for R2 series, Mounting bracket
	MH-R2-03	Mounting aid for R2 series, Mounting bracket
	MH-R2-04	Mounting aid for R2 series, Mounting bracket