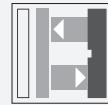




Triangulation sensor (BGS)

OBT80-R3-E3-0,2M-V31



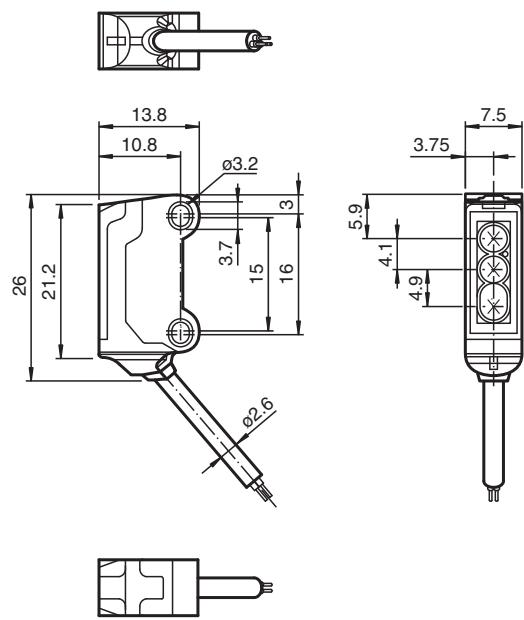
- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Highly visible light spot, even on dark materials
- Precision object detection, almost irrespective of the color
- Extremely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

Triangulation sensor with background suppression for standard applications, ultra-small design, 80 mm sensing range, red light, PNP output, 0.2 m fixed cable with M8 plug



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



Release date: 2022-06-03 Date of issue: 2022-06-03 Filename: 70105615_eng.pdf

Technical Data

General specifications

Detection range	15 ... 80 mm
Reference target	standard black, 100 mm x 100 mm
Light source	LED
Light type	modulated visible red light , 630 nm
Black-white difference (6 %/90 %)	< 20 %
Angle deviation	approx. 2 °
Diameter of the light spot	approx. 5 mm at a distance of 80 mm
Opening angle	approx. 2 °
Optical face	frontal
Ambient light limit	EN 60947-5-2 : 30000 Lux

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

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 PEPPERL+FUCHS

Technical Data

Functional safety related parameters

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

Operation indicator	LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)
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Function indicator	LED yellow ON: lights when object is detected
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Electrical specifications

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

Switching type	NC contact
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Signal output	1 PNP output, short-circuit protected, reverse polarity protected, open collector
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Switching voltage	max. 30 V DC
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Switching current	max. 50 mA , resistive load
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Voltage drop	U _d	≤ 1.5 V DC
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Switching frequency	f	approx. 800 Hz
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Response time	600 µs
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Conformity

Product standard	EN 60947-5-2
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Approvals and certificates

EAC conformity	TR CU 020/2011
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UL approval	E87056 , cULus Recognized, Class 2 Power Source
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CCC approval	CCC approval / marking not required for products rated ≤36 V
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Ambient conditions

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

Housing width	7.5 mm
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Housing height	26 mm
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Housing depth	13.8 mm
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Degree of protection	IP67
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Connection	200 mm fixed cable with 4-pin, M8x1 connector
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Material	
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Housing	PC/ABS and TPU
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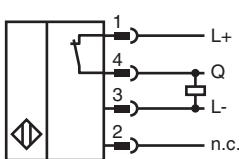
Optical face	glass
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Cable	PUR
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Mass	approx. 20 g
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Cable length	200 mm
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Connection



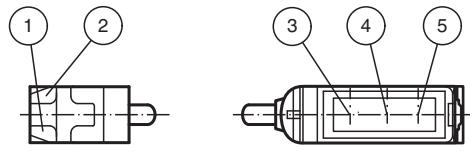
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

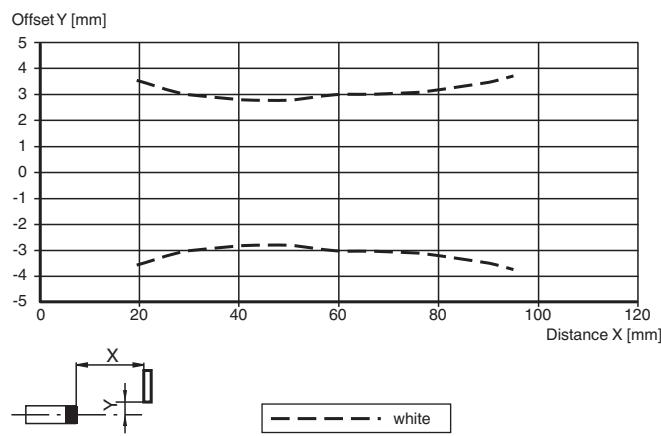
Assembly



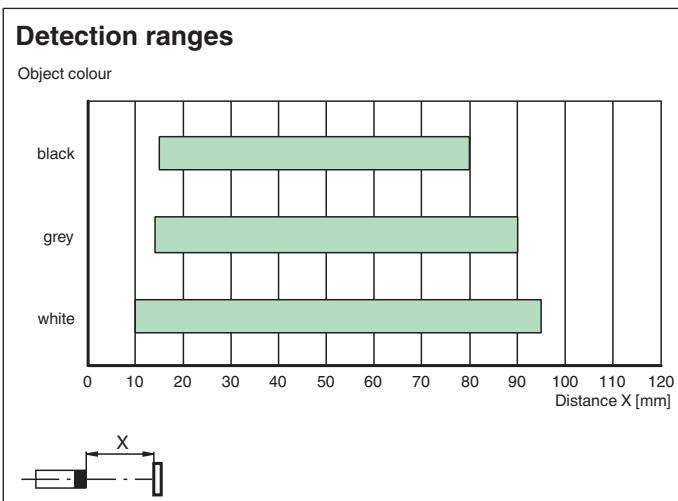
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver 1	
5	Receiver 2	

Characteristic Curve

Characteristic response curve



Characteristic Curve



Accessories

	MH-R3-01	Mounting aid for sensors from the R3 series, mounting bracket
	MH-R3-02	Mounting aid for sensors from the R3 series, mounting bracket
	MH-R3-03	Mounting aid for sensors from the R3 series, mounting bracket
	MH-R3-04	Mounting aid for sensors from the R3 series, mounting bracket
	V31-GM-2M-PUR	Female cordset single-ended M8 straight A-coded, 4-pin, PUR cable grey
	V31-WM-2M-PUR	Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey