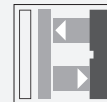# Triangulation sensor (BGS)

OBT15-R3-E0

- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Extremely small light spot for very high switching point accuracy
- Highly visible light spot, even on dark materials
- Precision object detection, almost irrespective of the color

Triangulation sensor with background suppression for standard applications, miniature design, 15 mm detection range, red light, light on, NPN output, fixed cable

CE c$\mathcal{RU}$us EAC UK CA

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
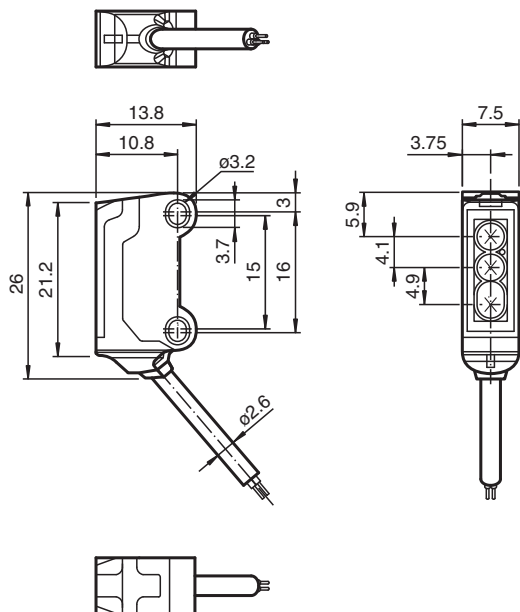
Technical Data

General specifications

Detection range	2 ... 15 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 %)	< 5 % at 15 mm
Angle deviation	approx. 2 °
Diameter of the light spot	approx. 2 mm at a distance of 15 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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Technical Data

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: Power on flashing: Short circuit/overload indication
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

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

Approvals and certificates

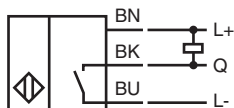|		
EAC conformity		TR CU 020/2011
UL approval		cULus Recognized, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated ≤36 V

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	26 mm
Housing depth	13.8 mm
Degree of protection	IP67
Connection	2 m fixed cable
Material	
Housing	PC/ABS and TPU
Optical face	glass
Cable	PUR
Mass	approx. 20 g
Cable length	2 m

Connection

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

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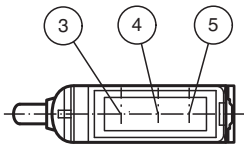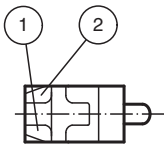
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver 1	
5	Receiver 2	

Characteristic Curve

Characteristic response curve

Offset Y [mm]

- - - - grey 18 %

Distance X [mm]

Detection ranges

Object colour

- black
- grey
- white

Distance X [mm]
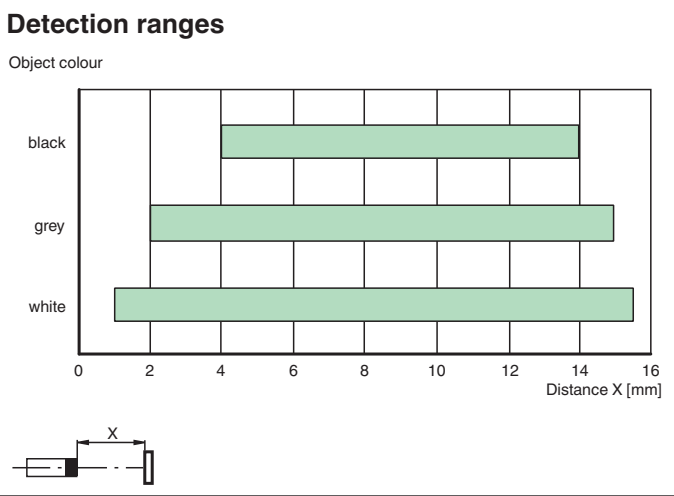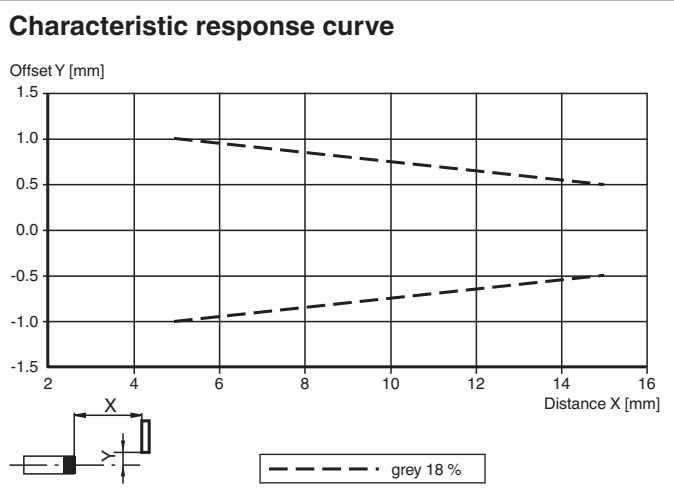
Accessories

	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

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