

Triangulation sensor (BGS)

OBT15-R2F-E2-0,2M-V31

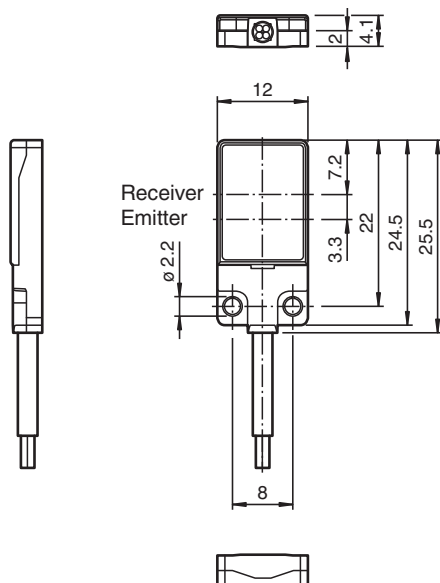


- Very flat design for direct mounting without mounting bracket
- Precision object detection, almost irrespective of the color
- Small parts detection from 0.1 mm
- Highly visible light spot, even on dark materials
- High degree of immunity to extraneous light

Triangulation sensor with background suppression for standard applications, flat design, space-saving M2 mounting, 15 mm sensing range, red light, light on, PNP output, with 0.2 m fixed cable and M8 plug, 4-pin



Dimensions



Technical Data

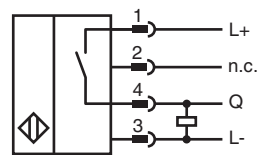
General specifications

Detection range	1 ... 15 mm
Reference target	standard white, 100 mm x 100 mm
Light source	LED
Light type	modulated visible red light , 630 nm
LED risk group labelling	exempt group
Black-white difference (6 %/90 %)	< 15 % at 15 mm
Angle deviation	approx. 2 °
Object size	typ. starts from 0.1 mm @ 14 mm

Technical Data

Diameter of the light spot		approx. 2.5 mm at a distance of 15 mm
Opening angle		approx. 5 °
Optical face		frontal
Ambient light limit		EN 60947-5-2 : 25000 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
No-load supply current	I ₀	< 15 mA
Protection class		III
Output		
Switching type		NO contact / light-on
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 _d	≤ 1.5 V DC
Switching frequency	f	approx. 1 kHz
Response time		500 µs
Conformity		
Product standard		EN 60947-5-2
Approvals and certificates		
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		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-20 ... 70 °C (-4 ... 158 °F)
Mechanical specifications		
Housing width		12 mm
Housing height		25.5 mm
Housing depth		4.1 mm
Degree of protection		IP67
Connection		200 mm fixed cable with 4-pin, M8x1 connector
Material		
Housing		PC (Polycarbonate) and Stainless steel
Optical face		PMMA
Cable		PUR
Mass		approx. 10 g
Tightening torque, fastening screws		0.25 Nm
Cable length		200 mm

Connection



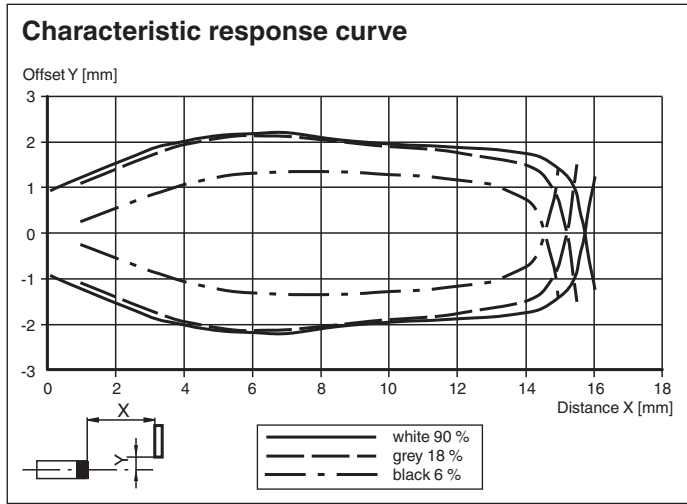
Connection Assignment



Wire colors in accordance with EN 60947-5-2

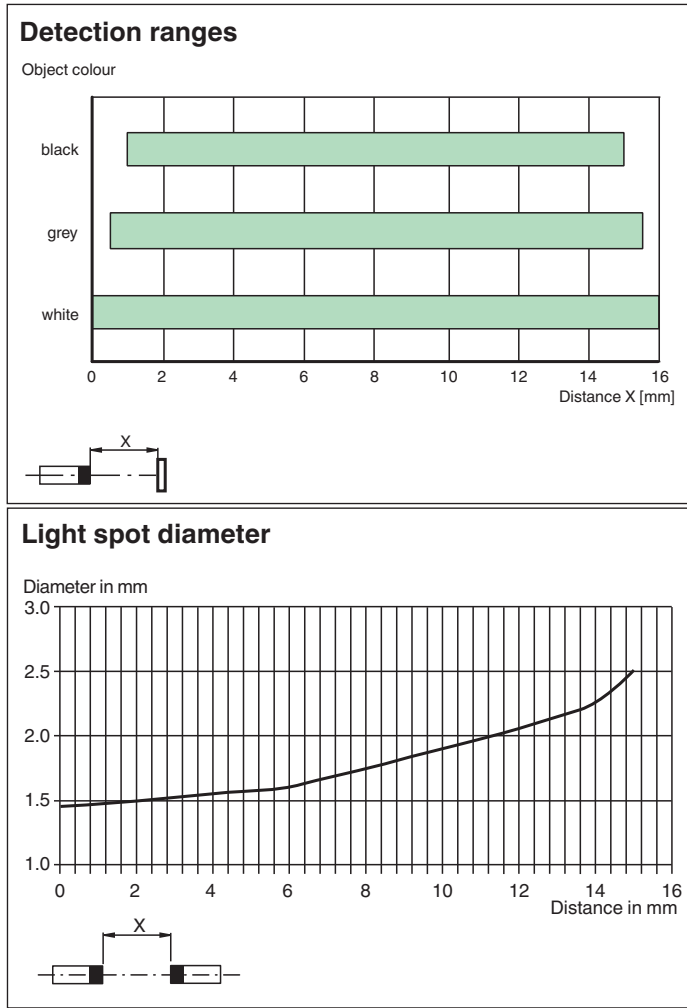
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Characteristic Curve



Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 263386_eng.pdf

Characteristic Curve



Accessories

	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

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