



Triangulation sensor (BGS) OBT43-R102-2P1-IO



- Miniature design with versatile mounting options
- Best background suppressor in its class
- Precision object detection, almost irrespective of the color
- Extended temperature range
-40 °C ... 60 °C
- High degree of protection IP69K
- IO-Link interface for service and process data

Triangulation sensor with background suppression



IO-Link

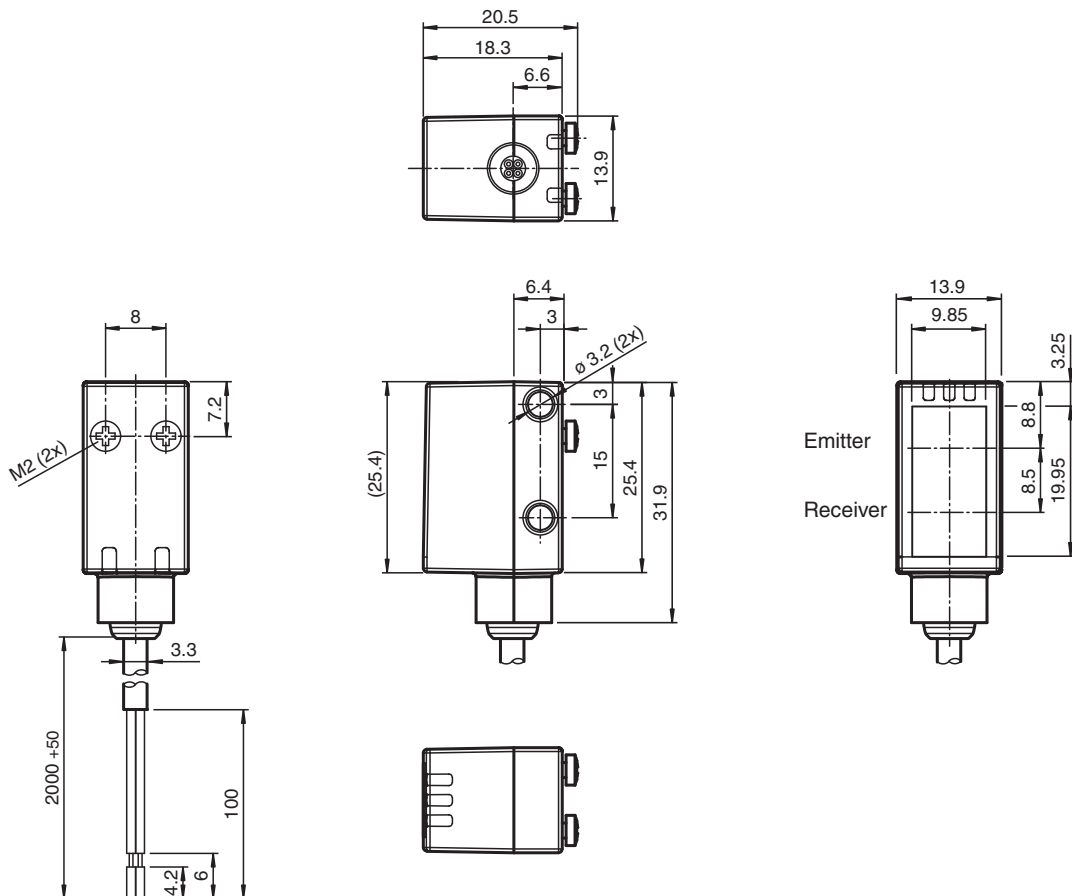
Function

The miniature optical sensors are the first devices of their kind to offer an end-to-end solution in a small single standard design — from thru-beam sensor through to a distance measurement device. As a result of this design, the sensors are able to perform practically all standard automation tasks.

The DuraBeam laser sensors are durable and can be used in the same way as a standard sensor.

The use of Multi Pixel Technology gives the standard sensors a high level of flexibility and enables them to adapt more effectively to their operating environment.

Dimensions



Technical Data

General specifications

Detection range	10 ... 40 mm
Detection range max.	10 ... 43 mm
Background suppression	starts from 43 mm
Light source	LED
Light type	modulated visible red light
LED risk group labelling	exempt group
Black-white difference (6 %/90 %)	approx. 1 mm
Diameter of the light spot	approx. 3 mm at 40 mm
Angle of divergence	approx. 5 °
Ambient light limit	EN 60947-5-2 : 40000 Lux

Functional safety related parameters

MTTF _d	600 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Operation indicator	LED green: constantly on - power on flashing (4Hz) - short circuit flashing with short break (1 Hz) - IO-Link mode
Function indicator	LED yellow: constantly on - object detected constantly off - object not detected

Electrical specifications

Operating voltage	U _B	10 ... 30 V 18 ... 30 V (IO-Link)
Ripple		max. 10 %
No-load supply current	I ₀	max. 25 mA (at 24 V)
Protection class		III

Interface

Interface type		IO-Link
IO-Link revision		1.1
Device profile		Identification & Diagnosis - I&D Smart Sensor - SSP 0
Process data		Input 1 Bit - switching signal 1 Bit output 2 Bit - Emitter deactivation 1 Bit - evaluation freeze 1 Bit
Vendor ID		1 (0x0001)
Device ID		1115425 (0x110521)
Transfer rate		COM2 (38.4 kBit/s)
Min. cycle time		2.3 ms
SIO mode support		yes
Compatible master port type		Class A

Output

Switching type		C/Q - Pin4: NPN normally closed / dark-on, PNP normally open / light-on, IO-Link /Q - Pin2: NPN normally open / light-on, PNP normally closed / dark-on
Signal output		2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected, overvoltage protected
Switching voltage		max. 30 V DC
Switching current		max. 100 mA , resistive load
Usage category		DC-12 and DC-13
Voltage drop	U _d	≤ 1.5 V DC
Switching frequency	f	1000 Hz
Response time		0.5 ms

Conformity

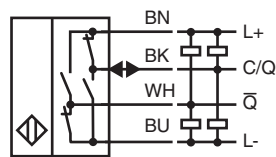
Communication interface		IEC 61131-9 / IO-Link V1.1.2
-------------------------	--	------------------------------

Release date: 2021-09-02 Date of issue: 2021-09-02 Filename: 267075-100614_eng.pdf

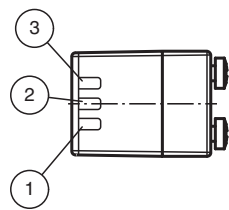
Technical Data

Product standard	EN 60947-5-2
Approvals and certificates	
UL approval	E87056 , cULus Listed , class 2 power supply , type rating 1
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F) , fixed cable -25 ... 60 °C (-13 ... 140 °F) , movable cable not appropriate for conveyor chains
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications	
Housing width	13.9 mm
Housing height	31.9 mm
Housing depth	18.3 mm
Degree of protection	IP67 / IP69 / IP69K
Connection	2 m fixed cable
Material	
Housing	PC (Polycarbonate)
Optical face	Float glass
Mass	approx. 36 g
Cable length	2 m

Connection



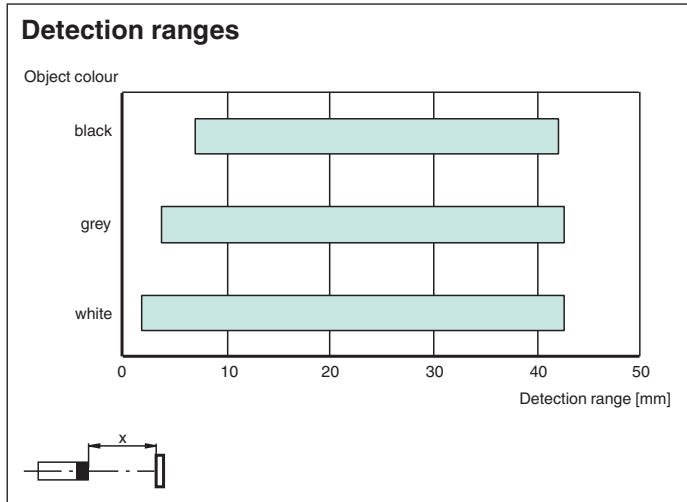
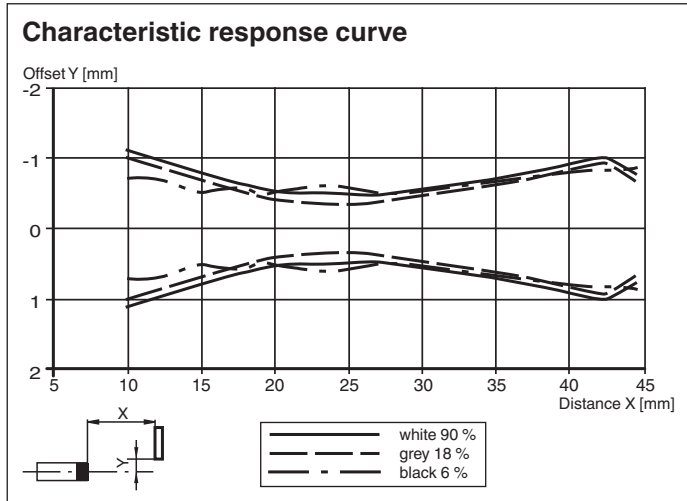
Assembly



1	Operating indicator / dark on
2	Signal indicator
3	Operating indicator / light on

Release date: 2021-09-02 Date of issue: 2021-09-02 Filename: 267075-100614_eng.pdf

Characteristic Curve



Accessories

	IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
---	-----------------------------	--