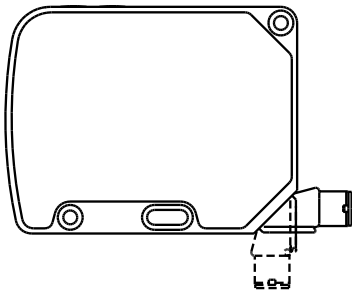


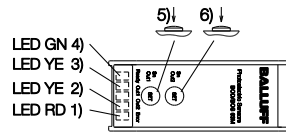
Optoelectronic Sensors

Laser Distance Sensor BOD 63M-LI06-S4 with IO-Link



Product Part Number
BOD 63M-LI06-S4

Display and operating elements



- 1) Stability indicator (red)
- 2) Output function indicator OUT 2 (yellow)
- 3) Output function indicator OUT 1 (yellow)
- 4) Power on indicator (green)
- 5) SET-button for switching distance 1 (OUT1)
- 6) SET-button for switching distance 2 (OUT2)

Safety Advisory

Laser Protection Regulations



The emitter corresponds to Laser Class 2 according to IEC 60825-1. This means that no additional precautions need to be taken for operation. The device should be installed so that the laser warning label is easily visible.

These devices may not be used in applications where the safety of persons depends on device function.



The CE Mark verifies that our products meet the requirements of the current EMC Directive. Testing in our EMC Laboratory, which is accredited by DATech for Testing of Electromagnetic Compatibility, has shown that these Balluff products satisfy the EMC requirements of the following Generic Standards: EN 61 000-6-4 (Emission) and EN 61 000-6-2 (Noise Immunity)

Application

Only for NFPA 79 applications (machines with a supply voltage of maximum 600 volts). Device shall be connected only by using any R/C (CYJV2) cord, having suitable ratings.

Principle of operation

The BOD 63M measures distances which are output over the IO-Link interface. The sensor also has one adjustable switching output.

The BOD 63M works according to the principle of time of flight. A light pulse is sent out, reflected from the object and received again. The time of flight of this light pulse is measured and converted into a digital distance signal.

Fig. 1: Display and operating elements

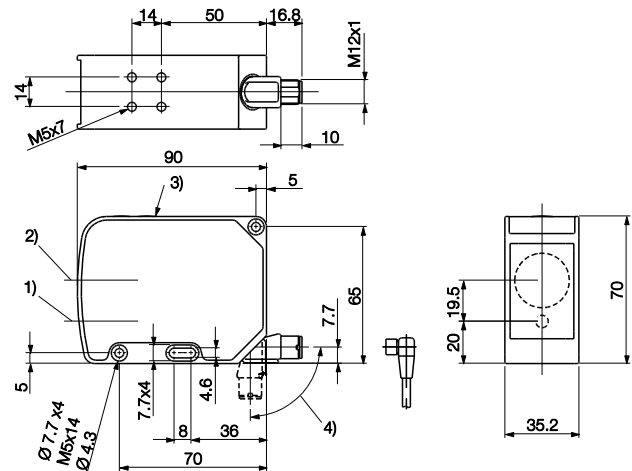
The **green LED** indicates the ready state of the sensor. The **yellow LED** "OUT 1" indicates the „active“ state of switching output 1.

The **yellow LED** "OUT 2" indicates the „active“ state of switching output 2.

The **red LED** indicates that the intensity of the signal for reliable operation is not sufficient.

The **SET** buttons are used to set the switching distances of the sensor independently of each other.

Installation



- 1) Optical axis of emitter
- 2) Optical axis of receiver
- 3) Display and control panel
- 4) rotatable by 270°

Fig. 5: Dimensions

Connections

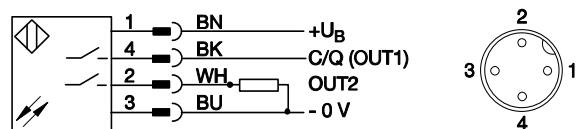


Fig. 2: Wiring diagram, connector pins

Measuring range

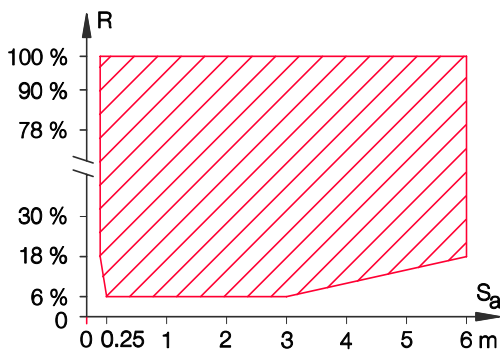


Fig. 6: Measuring range as a function of object reflection

Measuring accuracy

The sensor does not attain its full accuracy until operating temperature is reached, i.e. some time after power-on. The duration of this warm-up phase depends on ambient conditions.

Accessories

Connecting cable:	BKS-B 19-1/GS4-PU-... for operating in IO-Link mode BKS-B 19-3... for operating in SIO mode For high-noise environments a shielded cable is recommended: BKS-S 19-14-PU-05 with RSC 4/7 connector
Mounting bracket:	BOD 63-HW-1

Technical data

Optical

Working distance	200...6000 mm
Emitter light type	Laser red light, pulsed, can be turned off (only in IO-Link mode)
Laser Class acc. IEC 60825-1	2
Pulse power P_p	< 70 mW
Average power P	< 1 mW
Wavelength	660 nm
Pulse width t	7 ns
Pulse repetition frequency f	2 MHz
Light spot diameter	
at range 200 mm	10 mm
at range 6000 mm	10 mm
Resolution	≤ 1 mm
Gray value shift	≤ 1.5 %
Repeat accuracy	≤ ±4 mm
Temperature drift	≤ 1.5 mm/K
Switching hysteresis	≤ 15 mm
Utilization category	DC 13

Electrical

Supply voltage V_s	18...30 V DC
No-load current I_0 max.	≤ 90 mA
Rated operating current	200 mA
Switching outputs	2, PNP/N.O. (only in SIO mode)
Error signal	Yes (only in IO-Link mode)
Button lock	Yes (only in IO-Link mode)
Voltage drop V_d at I_e	≤ 2.5 V
Switchpoint settings	Teach-In/IO-Link

IO-Link data

Baud rate	38.4 kbaud
Linearity	≤ ±1%
Repeat accuracy	≤ ±4 mm
Temperature drift	≤ 1.5 mm/K
Measuring range	200...6000 mm → 00C8H – 1770H
Min. process data cycle	≤ 16.5 ms

Mechanical

Connection type	Connector, M12x1 4-pin
Housing material	Al alloy
Lens material	Glass
Weight (incl. holder)	260 g
Contamination class	3

Time (SIO-mode)

Ready delay	≤ 50 ms
Switching frequency	≥ 150 Hz
On-delay	≤ 3.4 ms
Off-delay	≤ 3.4 ms

Indicators

Power	Green LED
Output function	2x yellow LED
Error	Red LED

Ambient

Degree of protection	IP 67
Protection class	II
Reverse polarity protected	Yes
Short circuit protected	Yes
Permissible ambient light	≤ 10 kLux
Ambient temperature T_a	-10...+60 °C



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