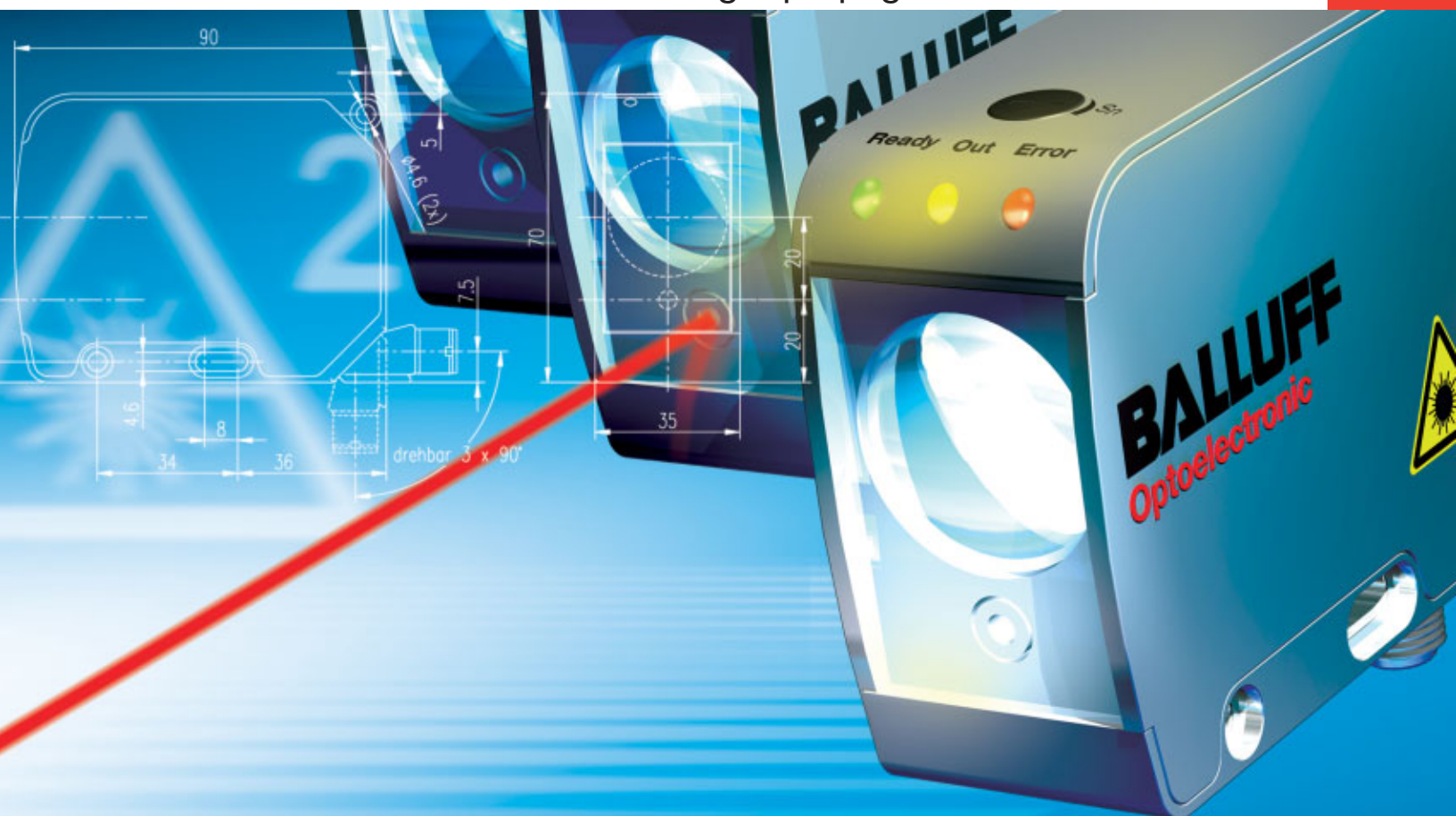


BALLUFF

Distance Sensor BOD 63M

... with light propagation time measurement



Precision measurement and sensing in one unit – **BOD 63M Distance Sensor** with time of flight measurement rounds out the Balluff product family of distance sensors for the most demanding applications.

The BOD 63M in a rugged metal housing has a working range of 500...6000 mm and is an ideal supplement to the BOD 26K (45...85 mm) and BOD 66M (200...2000 mm) families. It features adjustable background suppression and an analog output of 0...10 V or 4...20 mA.

A multi-turn potentiometer is used for calibrating the sensor. The highly focused, easily visible and precise laser red light enables long range sensing with very low gray shift value changes and hysteresis.

With a variety of output circuits, this innovative sensor is used in applications where traditional approaches run into technological or cost limits. This includes sensing in difficult environments such as when sensing is required "from outside" of processes characterized by high temperatures or in robotic cells. Furthermore these sensors are virtually unaffected by reflective or color properties of the target object.

Features

- The principle of measuring the propagation time of light allows for greater ranges than with sensors using triangulation or energetic diffuse technologies
- Small laser spot for detecting small objects over large distances
- Virtually unaffected by the reflective properties of the object within a particular sensing range
- Background suppression (HGA) is adjustable over the entire working range
- Discrete sensing and alarm outputs

Applications

- Precise detection over large distances (e. g., installation constraints or when local temperatures are very high)
- Detecting objects with changing colors, reflective surfaces or at unfavorable angles to the light beam
- Flexible solutions for position sensing, level control, distance or height measurement, quality assurance

Laser safety regulation

The emitter corresponds to Laser safety class 2 per EN 60825-1:2001-11. Therefore, no additional safety measures are required.



The device must be mounted so that the laser warning label is easily visible.





Class II Laser

Photoelectric Sensors

BOD 63M
Distance Sensor

Series

Working range

BOD 63M

500...6000 mm

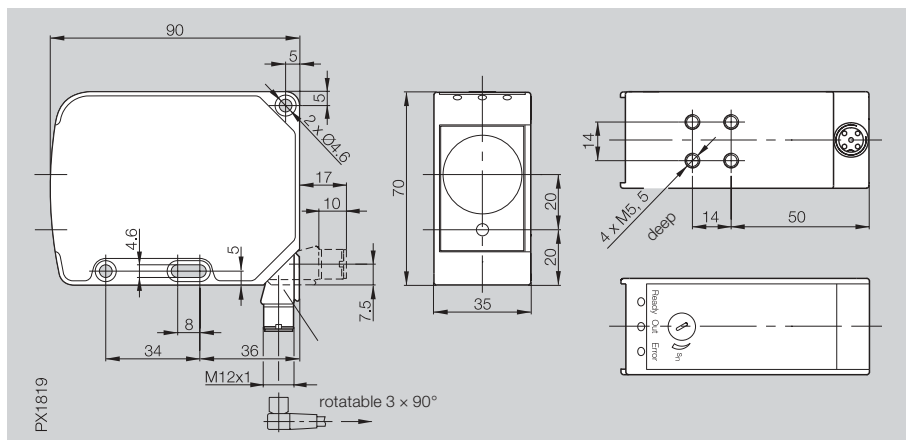
BOD 63M

500...6000 mm



Diffuse

PNP	500...6000 mm	HGA
NPN	500...6000 mm	HGA
Supply voltage U_B		
No-load supply current I_0 max.		
Analog output		
Switching output		
Switching type		
Alarm output		
Output current	switching output alarm output	
Voltage drop U_d at I_e		
Settings		
Emitter light source		
Pulse power P_p		
Average power P		
Wavelength		
Pulse width t		
Pulse repetition frequency f		
Light spot diameter		
Resolution		
Gray value shift		
Repeatability		
Temperature drift		
Linearity		
Switching hysteresis		
On/off delay		
Response time		
Operating frequency f (standard)		
Supply voltage indicator		
Output function indicator		
Stability indicator		
Connection		
Housing material		
Lens material		
Weight (incl. holder)		
Degree of protection per IEC 60529		
Protected against polarity reversal		
Short circuit protected		
Permissible ambient light		
Ambient temperature range T_a		

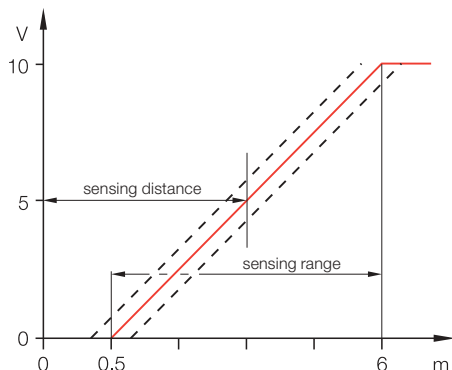


BOD 63M-LA01-S115	BOD 63M-LB01-S115
BOD 63M-LA11-S115	BOD 63M-LB11-S115
15...30 Vdc	15...30 Vdc
≤ 100 mA	≤ 100 mA
voltage 0...10 V	current 4...20 mA
PNP	PNP
light-on	light-on
PNP dark-on	PNP dark-on
200 mA	200 mA
200 mA	200 mA
≤ 2.5 V	≤ 2.5 V
4-turn potentiometer	4-turn potentiometer
Class II red light laser-EN 60825-1:2001-11	Class II red light laser-EN 60825-1:2001-11
< 65 mW	< 65 mW
< 0.8 mW	< 0.8 mW
650...670 nm	650...670 nm
8 ns	8 ns
2 MHz	2 MHz
5 mm at 3 m	5 mm at 3 m
10 mm at 6 m	10 mm at 6 m
≤ 2 mm	≤ 2 mm
≤ 1.5 %	≤ 1.5 %
≤ 10 mm	≤ 10 mm
≤ 2 mm/°C	≤ 2 mm/°C
1 %	1 %
≤ 20 mm	≤ 20 mm
≤ 70 ms	≤ 70 ms
≤ 5 ms	≤ 5 ms
≥ 100 Hz	≥ 100 Hz
LED green	LED green
LED yellow	LED yellow
LED red	LED red
M12 connector, 8-pin	M12 connector, 8-pin
anodized aluminum	anodized aluminum
glass	glass
260 g	260 g
IP 65	IP 65
yes	yes
yes	yes
≤ 10 kLux	≤ 10 kLux
-10...+55 °C	-10...+55 °C

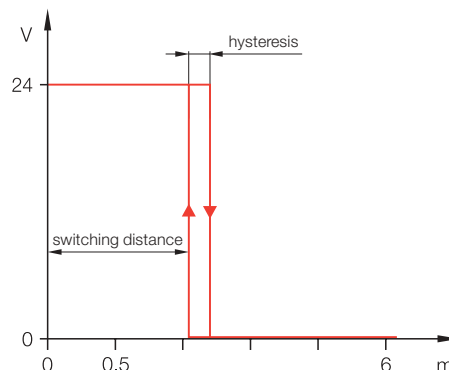


Connector orientation

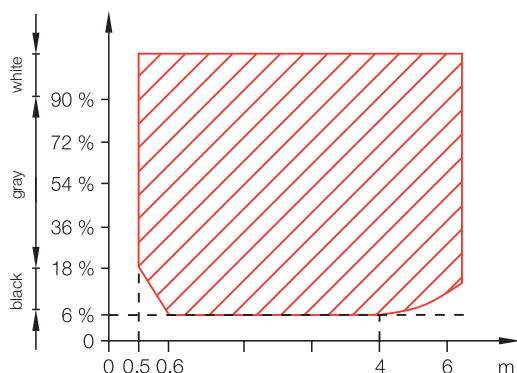
Analog output



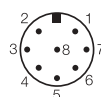
Switching output



Measuring range as a function of object reflection

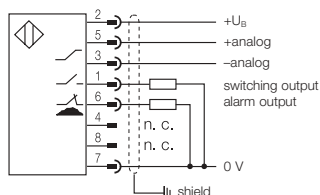


Connector diagram



Pin configuration	Wire color	
1	white	switching output
2	brown	+U _B
3	green	-analog output
4	yellow	n. c.
5	gray	+analog output
6	pink	alarm output
7	blue	-U _B 0 V
8	red	n. c.
knurled ring	braided shield	shield

Wiring diagram



Recommended accessories

please order separately

Connector
C04 AET-00-PB-050MS

Mounting bracket
BOD 63-HW-1



Standard models BOD 63M	Analog output		Switching output		Switching type
	voltage	current	PNP	NPN	
BOD 63M-LA01-S115	x		x		x
BOD 63M-LB01-S115		x	x		x
BOD 63M-LA11-S115	x			x	x
BOD 63M-LB11-S115		x		x	x

NOTE: Other sensing configurations available, consult factory for details.



Gordy's Sensors

5772 Smaller Rd, Johnstown, OH 43031 Phone: (740) 967-2283 Fax: (740) 967-2855
Website: www.gordyssensors.com or Email: sales@gordyssensors.com