

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



Basic features

Application	Distance measurement
Basic standard	IEC 60947-5-2, IEC 60947-5-7
Principle of operation	Photoelectric distance sensor
Series	63M
Style	Square Connection can be rotated

Display/Operation

Display	Output function- LED yellow Ready - LED green Error - LED red
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Electrical connection

Connection	Connector, M12x1-Male, 8-pin
Contact, surface protection	Gold plated
Polarity reversal protected	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at Ue	0.47 µF
Mean life expectancy	100,000 h, 25 °C
No-load current I_o max. at Ue	75 mA
Operating voltage U_b	15...30 VDC
Protection class	II
Rated insulation voltage U_i	75 V DC
Rated operating current I_e	200 mA
Rated operating voltage U_e DC	24 V
Ready delay t_v max.	20 ms
Residual current I_r max.	10 µA
Ripple max. (% of U_e)	15 %
Switching frequency	250 Hz
Utilization category	DC -13
Voltage drop U_d max. at I_e	2 V

Photoelectric Sensors
BOD 63M-LB04-S115
Order Code: BOD0011



Environmental conditions

Ambient temperature	-10...60 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g _n , 11 ms, 3x6
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

Functional safety

MTTF (40 °C)	173 a
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Interface

Analog output	Analog, current 4...20 mA
Output characteristic	linear increasing
Supplementary output	Error output PNP
Switching output	2x PNP normally open (NO)

Material

Housing material	Aluminium, Die casting, Painted
Material sensing surface	Glass
Surface protection	Painted

Mechanical data

Dimension	35 x 70 x 90 mm
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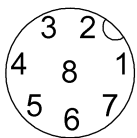
Optical features

Ambient light max.	10000 Lux
Average power Po max.	1 mW
Beam characteristic	Collimated
Laser class per IEC 60825-1	2
Light spot size	Ø 10 mm at 6 m
Light type	Laser red light
Principle of optical operation	Light time-of-flight
Pulse duration t max.	0.007 µs
Pulse frequency	2050 kHz
Pulse power Pp max.	70.0 mW
Switching function, optical	Light-on
Wave length	660 nm

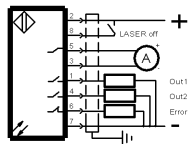
Range/Distance

Accuracy	±1 % FS
Distance deviation 18 % max. (% of Sr)	1.5 %, S = 1000...6000 mm
Hysteresis H max. (% of Sr)	0.3 %
Range	200...6000 mm
Rated operating distance Sn	6 m Adjustable
Repeat accuracy	0.033 %FS
Repeat accuracy max. (% of Sr)	0.2 %
Reproducibility	±2 mm
Resolution	≤ 1.0 mm
Temperature drift max. (% of Sr)	0.9 %

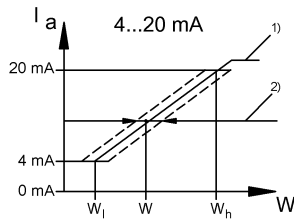
Connector Drawings



Wiring Diagrams

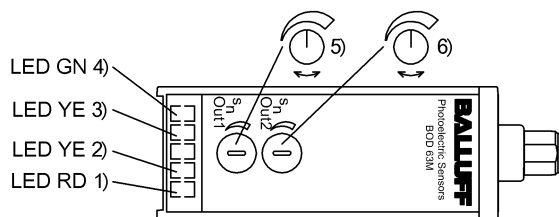


Technical Drawings



- 1) Analog output curve
- 2) Output curve deviation

Help Views

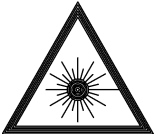


- 1) stability
- 2) Output function
- 3) Output function
- 4) Operating voltage
- 5) Sn Out1
- 6) Sn Out2

Opto Symbols



Warning Symbols



LASER BEAM - DO NOT STARE INTO THE LIGHT BEAM!

LASER CLASS 2 per IEC60825-1: 2003-10