

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



### Basic features

<b>Application</b>	Distance measurement
<b>Approval/Conformity</b>	CE UKCA cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2, IEC 60947-5-7
<b>Principle of operation</b>	Photoelectric distance sensor
<b>Series</b>	21M
<b>Style</b>	Square Connection can be rotated

### Electrical connection

<b>Connection</b>	Connector, M12x1-Male, 5-pin
<b>Contact, surface protection</b>	Gold plated
<b>Polarity reversal protected</b>	yes
<b>Short-circuit protection</b>	yes

### Display/Operation

<b>Adjuster</b>	Rotary switch 5 positions
<b>Display</b>	Output function Output 1 - LED yellow LED green: Power
<b>Setting</b>	Working range Rated switching distance (Sn)

Photoelectric Sensors  
**BOD 21M-LB04-S92**  
Order Code: BOD000T

**BALLUFF**

### Electrical data

Load capacitance max. at Ue	0.1 µF
Load resistance RL min. (Analog V)	2 kOhm
No-load current Io max. at Ue	50 mA
Operating voltage Ub	18...30 VDC
Rated insulation voltage Ui	75 V DC
Rated operating current Ie	100 mA
Rated operating voltage Ue DC	24 V
Ready delay tv max.	300 ms
Ripple max. (% of Ue)	15 %
Switching frequency	70 Hz
Turn-off delay toff max.	7 ms
Turn-on delay ton max.	7 ms
Utilization category	DC -13
Voltage drop Ud max. at Ie	2 V

### Environmental conditions

Ambient temperature	-10...50 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 0.5 mm, 3x30 min
IP rating	IP67

### Functional safety

MTTF (40 °C)	69 a
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### Interface

Analog output	Analog, current 4...20 mA
Output characteristic	linear increasing
Switching output	2x PNP/NPN NO/NC push-pull

### Remarks

Order accessories separately.

For additional information, refer to user's guide.

The sensor is functional again after the overload has been eliminated.

Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.

The push-pull switching outputs must not be connected in parallel.

Full accuracy after warmup phase

Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

### Material

Housing material	Zinc, Die casting
	Aluminium
Material sensing surface	Glass

### Mechanical data

Dimension	15 x 42.5 x 50 mm
Distance deviation 6 % max. (% of Sr)	1.5 %
Mounting part	Screw M4

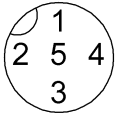
### Optical features

Ambient light max.	5000 Lux
Average power Po max.	1 mW
Beam characteristic	Collimated
Laser class per IEC 60825-1	2
Light spot size	1 x 6 mm at 500 mm
Light type	Laser red light
Principle of optical operation	Triangulation
Pulse duration t max.	3000 µs
Pulse power Pp max.	1.2 mW
Switching function, optical	Light/dark switching
Wave length	650 nm

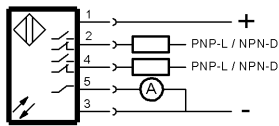
### Range/Distance

Accuracy	±3 % FS
Hysteresis H max. (% of Sr)	6.0 %
Range	20...500 mm, adjustable
Rated operating distance Sn	500 mm Adjustable
Repeat accuracy	1 % FS (< 200 mm) 3 % (200...500 mm)
Resolution	100...500 µm

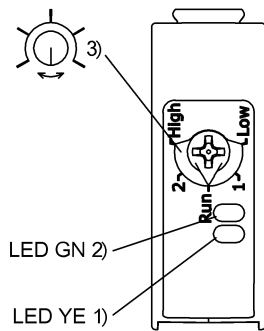
## Connector Drawings



## Wiring Diagrams



## Help Views

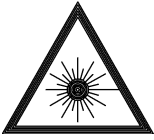


- 1) Output function
- 2) Stability
- 3) Teach-in Sn, WR

## Opto Symbols



## Warning Symbols



LASER BEAM - DO NOT STARE INTO THE LIGHT BEAM!

LASER CLASS 2 per IEC60825-1: 2003-10