

1) Output function, 2) Operating voltage, 3) Sn, light/dark, 4) Optical axis receiver, 5) Optical axis emitter



Basic features

Application	Distance measurement
Approval/Conformity	CE cULus Ecolab WEEE
Basic standard	IEC 60947-5-2, IEC 60947-5-7
Principle of operation	Photoelectric distance sensor
Series	6K
Style	Square Connection 90°

Display/Operation

Adjuster	button
Display	Output function- LED yellow LED green: Power
Setting	Light-on/dark-on Factory setting (Reset) Switching distance, 2 values Output curve rising / falling Switching output Q Measuring range QA

Electrical connection

Connection	Connector, M8x1-Male, 4-pin
Polarity reversal protected	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at Ue	0.01 μ F
No-load current I ₀ max. at Ue	30 mA
Operating voltage U _b	13...30 VDC
Protection class	II
Rated operating current I _e	100 mA
Rated operating voltage U _e DC	24 V
Ready delay t _v max.	300 ms
Ripple max. (% of U _e)	10 %
Switching frequency	1000 Hz
Turn-off delay t _{off} max.	0.5 ms
Turn-on delay t _{on} max.	0.5 ms
Voltage drop U _d max. at I _e	2.4 V

Environmental conditions

Ambient temperature	-20...60 °C
EN 60068-2-27, Shock	Half-sinus, 30 g _n , 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 0.5 mm, 3x30 min
IP rating	IP67
IP rating per DIN 40050	IP69K

Functional safety

MTTF (40 °C)	391 a
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Interface

Analog output	Analog, voltage 1...10 V
Output characteristic	linear rising/falling
Switching output	PNP normally open/normally closed (NO/NC)

Material

Housing material	ABS
Material sensing surface	PMMA

Mechanical data

Dimension	12 x 41.5 x 21.6 mm
Mounting part	Screw M3

Optical features

Ambient light max.	5000 Lux
Beam characteristic	Divergent
Light spot size	Ø 9.5 mm at 100 mm
Light type	LED, red light
Principle of optical operation	Triangulation
Switching function, optical	Light/dark switching
Wave length	632 nm

Range/Distance

Accuracy	±1 % FS
Distance deviation 18 % max. (% of Sr)	7 %
Range	30...200 mm
Rated operating distance Sn	200 mm Adjustable
Repeat accuracy	0.5 %FS
Resolution	≤ 0.68 mm

Remarks

For additional information, refer to user's guide.

Order accessories separately.

Do not press key using a pointed tool.

When using as a UL product the ambient temperature Ta max. must not exceed 50°C.

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.

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

Reference object (target): gray card, 200 x 200, 18 % remission, axial approach.

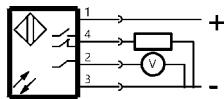
For more information about MTTF and B10d see MTTF / B10d Certificate

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.

Connector Drawings



Wiring Diagrams



Photoelectric Sensors
BOD 6K-RA03-S75
Order Code: BOD001R

BALLUFF

Opto Symbols

