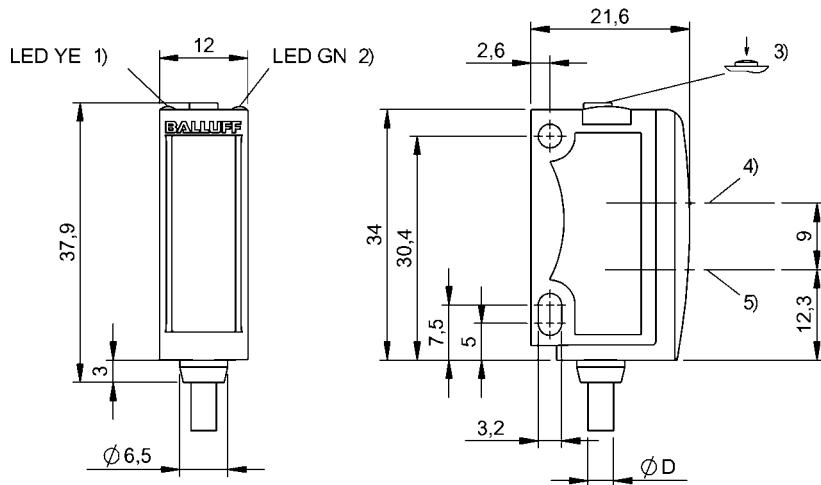


Photoelectric Sensors  
BOS 6K-NU-RH10-02  
Order Code: BOS01L1

**BALLUFF**



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



#### Basic features

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

#### Display/Operation

Adjuster	button
Display	Output function- LED yellow LED green: Power
Setting	Light-on/dark-on Rated switching distance (Sn) Teach mode Stand./Dyn./Obj.

#### Electrical connection

Cable diameter D	3.50 mm
Cable length L	2 m
Conductor cross-section	0.14 mm <sup>2</sup>
Connection	Cable, 2.00 m, PVC
Number of conductors	4
Polarity reversal protected	yes
Short-circuit protection	yes

#### Electrical data

Input function	Key disable on/off Same function as button
No-load current $I_0$ max. at $U_e$	30 mA
Operating voltage $U_b$	10...30 VDC
Rated operating current $I_e$	100 mA
Rated operating voltage $U_e$ DC	24 V
Ripple max. (% of $U_e$ )	12 %
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 <sub>n</sub> , 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)	476 a
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#### Interface

Switching output	NPN normally open/normally closed (NO/NC)
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#### Material

Housing material	ABS
Material jacket	PVC
Material sensing surface	PMMA

#### Mechanical data

Dimension	12 x 37.9 x 21.6 mm
Mounting part	Screw M3

#### Optical features

Ambient light max.	5000 Lux
Beam characteristic	Focus, typical at 50 mm
Light spot size	5 x 5 mm at focal point
Light type	LED, red light
Principle of optical operation	Diffuse sensor, triangulation
Special optical feature	Background suppression
Switching function, optical	Light/dark switching
Wave length	640 nm

#### Range/Distance

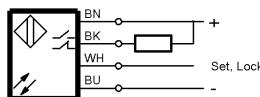
Distance deviation 18 % max. (% of Sr)	5 %
Range	1...200 mm
Rated operating distance Sn	200 mm Adjustable

#### Remarks

The sensor is functional again after the overload has been eliminated.  
When using as a UL product the ambient temperature Ta max. must not exceed 50°C.  
For additional information, refer to user's guide.  
Order accessories separately.  
Do not press key using a pointed tool.  
Reference object (target): gray card, 200 x 200, 90 % 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.

#### Wiring Diagrams



#### Opto Symbols

