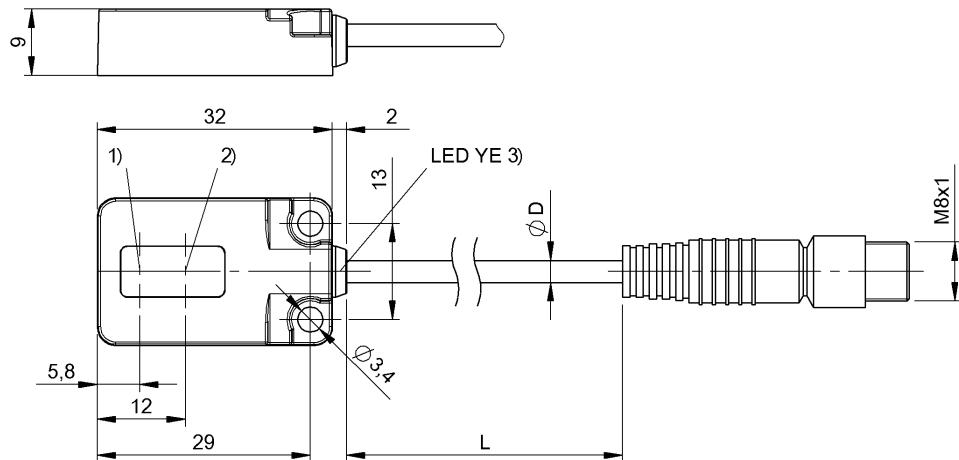


Photoelectric Sensors  
BOS R01E-UI-KH22-00,2-S49  
Order Code: BOS0265

**BALLUFF**



1) Optical axis emitter, 2) Optical axis receiver, 3) Output function

**CE** **ECOLAB®**



**UK**  
**CA**



#### Basic features

Approval/Conformity	cULus CE UKCA Ecolab WEEE
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Basic standard	IEC 60947-5-2
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Operating mode	SIO Mode IO-Link Mode
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Principle of operation	Photoelectric sensor
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Series	R01E
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Style	Square Connection 90°
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#### Display/Operation

Display	Limit range - LED yellow, flashing LED yellow: Light received
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Setting	Rated switching distance (S <sub>n</sub> ) Hysteresis
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#### Electrical connection

Cable diameter D	3.00 mm
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Cable length L	0.2 m
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Connection	Cable with connector, M8x1-Male, 3-pin, 0.20 m, PUR
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Contact, surface protection	Gold plated
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Polarity reversal protected	yes
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Protection against device mix-ups	yes
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Short-circuit protection	yes
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#### Electrical data

Load capacitance max. at U <sub>e</sub>	0.1 $\mu$ F
No-load current I <sub>o</sub> max. at U <sub>e</sub>	20 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	100 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Ready delay t <sub>v</sub> max.	10 ms
Residual current I <sub>r</sub> max.	50 $\mu$ A
Ripple max. (% of U <sub>e</sub> )	5 %
Switching frequency	500 Hz
Turn-off delay t <sub>off</sub> max.	1 ms
Turn-on delay t <sub>on</sub> max.	1 ms
Utilization category	DC-13
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	0.7 V

#### Environmental conditions

Ambient temperature	-5...55 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 100 gn, 2 ms, 3x8000 Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
EN 60068-2-6, Vibration	10...2000 Hz, amplitude 1 mm, 30 gn, 3x5 h 10...55 Hz, amplitude 1 mm, 3x30 min
IP rating	Housing IP69K, Connector IP67
IP rating per DIN 40050	Housing IP69K, Connector IP67

Functional safety

MTTF (40 °C) 466 a

IO-Link

IO-Link Profil IDs 0x0001 SSP0

Interface

Baud rate 38.4 kBaud  
Function class, smart sensor Switching signal channel  
Interface IO-Link 1.1  
Interface setting option BDC mode 1-pt./2-pt./window  
Process data IN Teaching active/inactive  
Limit range yes/no  
Switching state active/inactive  
Profile Smart Sensor  
Switching output PNP normally open (NO)

Material

Housing material 1.4404 stainless steel  
Material jacket PUR  
Material sensing surface PA

Remarks

Order accessories separately.

For additional information, refer to user's guide.

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.

Actuation object (target): gray card, 200 x 200, 90 % remission, lateral approach, approach direction vertical to lens axis plane.

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

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.

Mechanical data

Dimension 20 x 32 x 9 mm  
Mounting part Screw M3

Optical features

Ambient light max. 5000 Lux  
Beam characteristic Divergent  
LED group per IEC 62471 Exempt Group  
Light spot size Ø 3.0 mm Light exit  
Light type LED, red light  
Principle of optical operation Diffuse sensor, triangulation  
Special optical feature Background suppression  
Switching function, optical Light-on  
Wave length 650 nm

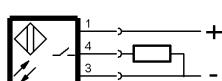
Range/Distance

Hysteresis H max. (% of Sr) 8.0 %  
Range 50...100 mm  
Rated operating distance Sn 100 mm Adjustable  
Repeat accuracy max. (% of Sr) 2 %  
Temperature drift max. (% of Sr) 10 %

Connector Drawings



Wiring Diagrams



Photoelectric Sensors  
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**BALLUFF**

Opto Symbols

