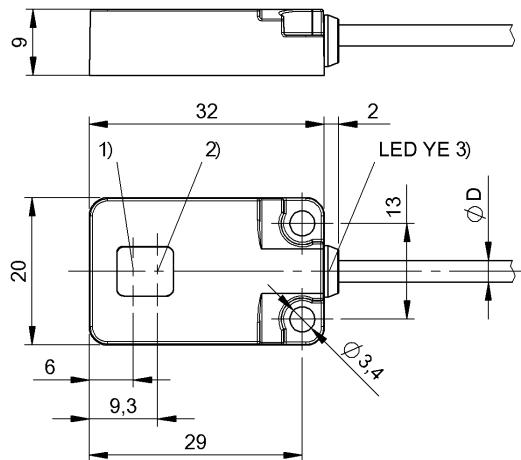


Photoelectric Sensors
BOS R01E-PS-KR20-02
Order Code: BOS021M

BALLUFF



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

CE ECOLAB®



Basic features

Approval/Conformity	CE UKCA cULus Ecolab WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference reflector	BOS R-9
Series	R01E
Style	Square Connection 90°

Display/Operation

Display	Limit range - LED yellow, flashing LED yellow: Light received
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Electrical connection

Cable diameter D	3.00 mm
Cable length L	2 m
Conductor cross-section	0.14 mm ²
Connection	Cable, 2.00 m, PUR
Number of conductors	3
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at Ue	0.05 µF
No-load current I ₀ max. at Ue	10 mA
Operating voltage U _b	10...30 VDC
Rated insulation voltage U _i	75 V DC
Rated operating current I _e	100 mA
Rated operating voltage U _{e DC}	24 V
Ready delay t _v max.	150 ms
Residual current I _r max.	50 µA
Switching frequency	500 Hz
Turn-off delay t _{off} max.	1 ms
Turn-on delay t _{on} max.	1 ms
Utilization category	DC-13
Voltage drop U _d max. at I _e	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 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min 10...2000 Hz, amplitude 1 mm, 30 gn, 3x5 h
IP rating	IP67
IP rating per DIN 40050	IP69K

Functional safety

MTTF (40 °C)	466 a
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Interface

Switching output PNP normally open (NO)

Material

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

Mechanical data

Dimension 20 x 32 x 9 mm
Mounting part Screw M3

Optical features

Ambient light max. 5000 Lux
Beam characteristic Divergent
Blind zone 25 mm
LED group per IEC 62471 Exempt Group
Light spot size Ø 3.0 mm Light exit
Light type LED, red light
Polarizing filter yes
Principle of optical operation Retroreflective sensor
Switching function, optical dark-on
Wave length 650 nm

Range/Distance

Range 1 m
Rated operating distance Sn 1 m
Temperature drift max. (% of Sr) 10 %

Remarks

Order accessories separately.

For additional information, refer to user's guide.

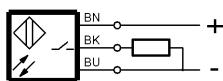
Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

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.

Wiring Diagrams



Opto Symbols

