

1) Optical axis receiver, 2) Output function



## Basic features

Approval/Conformity	CE UKCA cULus Ecolab WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference emitter	BOS R01E-X-KS20-..
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	0.2 m
Connection	Cable with connector, M8x1-Male, 3-pin, 0.20 m, PUR
Contact, surface protection	Gold plated
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 <sub>o</sub> max. at Ue	10 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.	150 ms
Residual current I <sub>r</sub> max.	50 µA
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, 30 g <sub>n</sub> , 11 ms, 3x6 Half-sinus, 100 g <sub>n</sub> , 2 ms, 3x8000
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min 10...2000 Hz, amplitude 1 mm, 30 g <sub>n</sub> , 3x5 h
IP rating	IP67
IP rating per DIN 40050	Housing IP69K, Connector IP67

## Functional safety

MTTF (40 °C)	2536 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  
 Light type LED, red light  
 Principle of optical operation Through-beam sensor  
 Smallest part typ. 0.4 mm at 1 m. R0 = 2 m  
 Switching function, optical dark-on

**Range/Distance**

Range 0...2.2 m  
 Rated operating distance Sn 2.2 m  
 Temperature drift max. (% of Sr) 10 %

**Remarks**

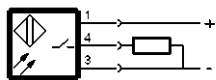
The sensor is functional again after the overload has been eliminated.  
 Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.  
 For additional information, refer to user's guide.  
 Order accessories separately.  
 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 (Schematic)**



**Opto Symbols**

