

1) Optical axis receiver



## Basic features

<b>Approval/Conformity</b>	Ecolab CE UKCA cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Photoelectric sensor
<b>Reference emitter</b>	BOS 18E-X-RS20-S4
<b>Series</b>	18E
<b>Style</b>	Cylinder Straight optics

## Display/Operation

<b>Adjuster</b>	no
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## Electrical connection

<b>Connection</b>	Connector, M12x1-Male, 4-pin
<b>Contact, surface protection</b>	Gold plated
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

## Electrical data

<b>Load capacitance max. at Ue</b>	0.1 µF
<b>No-load current I<sub>o</sub> max. at Ue</b>	30 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Rated insulation voltage U<sub>i</sub></b>	75 V DC
<b>Rated operating current I<sub>e</sub></b>	100 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24 V
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	400 Hz
<b>Turn-off delay t<sub>off</sub> max.</b>	1.25 ms
<b>Turn-on delay t<sub>on</sub> max.</b>	1.25 ms
<b>Utilization category</b>	DC -13
<b>Voltage drop U<sub>d</sub> max. at I<sub>e</sub></b>	2.5 V

## Environmental conditions

<b>Ambient temperature</b>	-25...70 °C
<b>Contamination scale</b>	3
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6 Half-sinus, 100 g <sub>n</sub> , 2 ms, 3x8000
<b>EN 60068-2-6, Vibration</b>	10...2000 Hz, amplitude 1 mm, 30 gn, 3x5 h 10...55 Hz, amplitude 1 mm, 3x30 min
<b>IP rating</b>	IP68/IP67
<b>IP rating per DIN 40050</b>	IPx9K

## Functional safety

<b>MTTF (40 °C)</b>	648 a
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Photoelectric Sensors  
**BOS 18E-PA-RE20-S4**  
Order Code: BOS01KM

**BALLUFF**

**Interface**

<b>Switching output</b>	PNP normally closed (NC) PNP normally open (NO) Pins 4-2
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**Material**

<b>Housing material</b>	1.4404 stainless steel
<b>Material sensing surface</b>	Glass

**Mechanical data**

<b>Dimension</b>	Ø 18 x 75 mm
<b>Mounting part</b>	Nut M18x1
<b>Tightening torque max.</b>	40 Nm

**Optical features**

<b>Ambient light max.</b>	10000 Lux
<b>Light type</b>	LED, red light
<b>Principle of optical operation</b>	Through-beam sensor (receiver)
<b>Switching function, optical</b>	dark-on/light-on

**Range/Distance**

<b>Range</b>	0...20 m
<b>Rated operating distance Sn</b>	20 m
<b>Temperature drift max. (% of Sr)</b>	10 %

**Remarks**

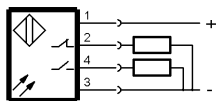
The sensor is functional again after the overload has been eliminated.  
For additional information, refer to user's guide.  
Order accessories separately.  
For more information about MTTF and B10d see MTTF / B10d Certificate

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**



**Opto Symbols**

