

1) Optical axis receiver



### Basic features

Approval/Conformity	CE UKCA cULus Ecolab WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference emitter	BOS 18E-X-RS30-S4
Series	18E
Style	Cylinder Straight optics

### Display/Operation

Adjuster	no
----------	----

### Electrical connection

Connection	Connector, M12x1-Male, 4-pin
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	0.1 µF
No-load current I <sub>o</sub> max. at Ue	30 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
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	400 Hz
Turn-off delay t <sub>off</sub> max.	1.25 ms
Turn-on delay t <sub>on</sub> max.	1.25 ms
Utilization category	DC -13
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	2.5 V

### Environmental conditions

Ambient temperature	-25...60 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 100 gn, 2 ms, 3x8000
EN 60068-2-6, Vibration	10...2000 Hz, amplitude 1 mm, 30 gn, 3x5 h
IP rating	IP68/IP67
IP rating per DIN 40050	IPx9K

### Functional safety

MTTF (40 °C)	648 a
--------------	-------

### Interface

Switching output	PNP normally closed (NC) PNP normally open (NO) Pins 4-2
------------------	---

Photoelectric Sensors  
**BOS 18E-PA-RE30-S4**  
Order Code: BOS023W

# BALLUFF

## Material

Housing material	1.4404 stainless steel
Material sensing surface	PMMA

## Mechanical data

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

## Optical features

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

## Range/Distance

Range	0...20 m
Rated operating distance $S_n$	20 m
Temperature drift max. (% of $S_r$ )	10 %

## Remarks

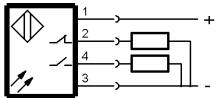
Order accessories separately.  
The sensor is functional again after the overload has been eliminated.  
For additional information, refer to user's guide.  
For more information about MTTF and B10d see MTTF / B10d Certificate

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

