

1) Optical axis, 2) Output function, 3) Sn



### Basic features

<b>Approval/Conformity</b>	CE cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Photoelectric sensor
<b>Reference reflector</b>	BOS R-1
<b>Series</b>	18KF
<b>Style</b>	Flat cylinder Straight optics
<b>Trademark</b>	Global

### Display/Operation

<b>Adjuster</b>	Potentiometer 270°
<b>Display</b>	Output function- LED yellow
<b>Setting</b>	Sensitivity (Sn)

### Electrical connection

<b>Connection</b>	Connector, M12x1-Male, 4-pin
<b>Polarity reversal protected</b>	yes
<b>Short-circuit protection</b>	yes

### Electrical data

<b>No-load current <math>I_0</math> max. at <math>U_e</math></b>	35 mA
<b>Operating voltage <math>U_b</math></b>	10...30 VDC
<b>Rated insulation voltage <math>U_i</math></b>	75 V DC
<b>Rated operating current <math>I_e</math></b>	100 mA
<b>Rated operating voltage <math>U_e</math> DC</b>	24 V
<b>Ripple max. (% of <math>U_e</math>)</b>	8 %
<b>Switching frequency</b>	1500 Hz
<b>Turn-off delay <math>t_{off}</math> max.</b>	0.33 ms
<b>Turn-on delay <math>t_{on}</math> max.</b>	0.33 ms
<b>Voltage drop <math>U_d</math> max. at <math>I_e</math></b>	2 V

Photoelectric Sensors  
**BOS 18KF-NA-1LQP-S4-C**  
Order Code: BOS00HY

**BALLUFF**

**Environmental conditions**

Ambient temperature	-10...50 °C
EN 60068-2-27, Shock	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 0.5 mm, 3x30 min
IP rating	IP67

**Functional safety**

MTTF (40 °C)	739 a
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**Interface**

Switching output	NPN normally closed (NC) NPN normally open (NO) Pins 4-2
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**Material**

Housing material	PBT
Material sensing surface	PMMA

**Mechanical data**

Dimension	Ø 18 x 81.5 mm
Mounting part	Screw M3 Nut M18x1
Tightening torque max.	1.5 Nm

**Optical features**

Ambient light max.	5000 Lux
Average power Po max.	390 µW
Blind zone	100 mm
Laser class per IEC 60825-1	1
Light type	Laser red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Pulse duration t max.	6.0 µs
Pulse frequency	25 kHz
Switching function, optical	dark-on
Wave length	650 nm

**Range/Distance**

Range	0...16 m
Rated operating distance Sn	16 m Adjustable

**Remarks**

Order accessories separately.

For additional information, refer to user's guide.

Polarizing filters prevent spurious switching due to reflecting and shiny parts.

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

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

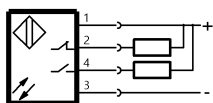
For more information about MTTF and B10d see MTTF / B10d Certificate

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**



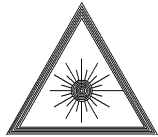
**Wiring Diagrams**



## Opto Symbols



## Warning Symbols



LASER CLASS 1 per IEC 60825-1