

1) Optical axis, 2) Output function, 3) stability/error, 4) 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>Series</b>	18KF
<b>Style</b>	Flat cylinder Straight optics
<b>Trademark</b>	Global

### Display/Operation

<b>Adjuster</b>	button
<b>Display</b>	Output function- LED yellow Error - LED green, flashing Stability - LED green
<b>Setting</b>	Rated switching distance (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>	30 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>	500 Hz
<b>Turn-off delay <math>t_{off}</math> max.</b>	1 ms
<b>Turn-on delay <math>t_{on}</math> max.</b>	1 ms
<b>Voltage drop <math>U_d</math> max. at <math>I_e</math></b>	2 V

Photoelectric Sensors  
**BOS 18KF-PA-1HA-S4-C**  
Order Code: BOS00JM

**BALLUFF**

Environmental conditions

Ambient temperature	-25...55 °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)	700 a
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Interface

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

Housing material	PBT
Material sensing surface	PMMA

Mechanical data

Dimension	Ø 18 x 96 mm
Mounting part	Screw M3 Nut M18x1
Tightening torque max.	1.5 Nm

Optical features

Ambient light max.	5000 Lux
Light spot size	Ø 8 mm at 100 mm
Light type	LED, red light
Principle of optical operation	Diffuse sensor, triangulation
Special optical feature	Background suppression
Switching function, optical	Light/dark switching
Wave length	630 nm

Range/Distance

Range	50...100 mm
Rated operating distance Sn	100 mm Adjustable

Remarks

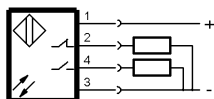
The sensor is functional again after the overload has been eliminated.  
Order accessories separately.  
For additional information, refer to user's guide.  
Do not press key using a pointed tool.  
Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.  
For more information 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

