



1) Optical axis, 2) Output function



### 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>	no
<b>Display</b>	Output function- LED yellow

### 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>	1000 Hz
<b>Turn-off delay <math>t_{off}</math> max.</b>	0.5 ms
<b>Turn-on delay <math>t_{on}</math> max.</b>	0.5 ms
<b>Voltage drop <math>U_d</math> max. at <math>I_e</math></b>	2 V

### Environmental conditions

<b>Ambient temperature</b>	-25...55 °C
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
<b>EN 60068-2-6, Vibration</b>	10...55 Hz, amplitude 0.5 mm, 3x30 min
<b>IP rating</b>	IP67

Photoelectric Sensors  
**BOS 18KF-PA-1N1R-S4-C**  
**Order Code: BOS00JW**



**Functional safety**

MTTF (40 °C)	838 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 71.5 mm
Mounting part	Nut M18x1 Screw M3
Tightening torque max.	1.5 Nm

**Optical features**

Ambient light max.	5000 Lux
Beam characteristic	Focused
Light spot size	Ø 20 mm at 100 mm
Light type	LED, red light
Principle of optical operation	Diffuse sensor, triangulation
Special optical feature	Fixed background suppression
Switching function, optical	Light-on
Wave length	660 nm

**Range/Distance**

Range	5...100 mm
Rated operating distance Sn	100 mm

**Remarks**

The sensor is functional again after the overload has been eliminated.  
 For additional information, refer to user's guide.  
 Order accessories separately.  
 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**