

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



#### Basic features

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Series	18KF
Style	Flat cylinder Straight optics
Trademark	Global

#### Display/Operation

Adjuster	Potentiometer 270°
Display	Output function- LED yellow
Setting	Rated switching distance (Sn)

#### Electrical connection

Connection	Connector, M12x1-Male, 4-pin
Polarity reversal protected	yes
Short-circuit protection	yes

#### Electrical data

No-load current $I_0$ max. at $U_e$	35 mA
Operating voltage $U_b$	10...30 VDC
Rated insulation voltage $U_i$	75 V DC
Rated operating current $I_e$	100 mA
Rated operating voltage $U_e$ DC	24 V
Ripple max. (% of $U_e$ )	8 %
Switching frequency	1000 Hz
Turn-off delay $t_{off}$ max.	0.33 ms
Turn-on delay $t_{on}$ max.	0.33 ms
Voltage drop $U_d$ max. at $I_e$	2 V

Photoelectric Sensors  
**BOS 18KF-PA-1LOC-S4-C**  
Order Code: BOS00JP

**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	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 81.5 mm
Mounting part	Nut M18x1
	Screw M3

Tightening torque max.

1.5 Nm

Optical features

Ambient light max.	5000 Lux
Average power Po max.	390 µW
Beam characteristic	Divergent
Laser class per IEC 60825-1	1
Light spot size	Ø 1 mm at 150 mm
Light type	Laser red light
Principle of optical operation	Diffuse sensor, energetic
Pulse duration t max.	6.0 µs
Pulse frequency	25 kHz
Switching function, optical	Light-on
Wave length	650 nm

Range/Distance

Range	0...350 mm
Rated operating distance Sn	350 mm, Adjustable

Remarks

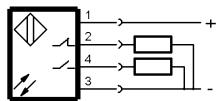
The sensor is functional again after the overload has been eliminated.  
Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.  
For additional information, refer to user's guide.  
Order accessories separately.  
For more information about MTTF and B10d see MTTF / B10d Certificate

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



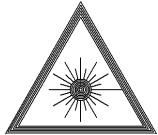
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Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1