

1) Output function/Error, 2) Power/setting mode, 3) Sn, light/dark, 4) Optical axis, 5) rotatable 270°, 6) Alignment good/limit area



**Basic features**

<b>Approval/Conformity</b>	Ecolab CE cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Photoelectric sensor
<b>Reference emitter</b>	BOS 23K-XT-LS11-S4
<b>Series</b>	23K
<b>Style</b>	Square Connection can be rotated

**Display/Operation**

<b>Adjuster</b>	button
<b>Display</b>	Output function- LED yellow Orientation good - LED red LED green: Power Teach - LED yellow+green, alt. Setting NO/NC - LED green, flashing Error - LED yellow, flashing Limit range - LED red, flashing
<b>Setting</b>	Rated switching distance (Sn) Light-on/dark-on

**Electrical connection**

<b>Connection</b>	Connector, M12x1-Male, 4-pin
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

Photoelectric Sensors  
**BOS 23K-PU-LE10-S4**  
Order Code: BOS016L

**BALLUFF**

**Electrical data**

Input function	Key disable on/off Same function as button
No-load current $I_0$ max. at $U_e$	30 mA
Operating voltage $U_b$	10...30 VDC
Protection class	II
Rated insulation voltage $U_i$	75 V DC
Rated operating current $I_e$	100 mA
Rated operating voltage $U_e$ DC	24 V
Ready delay $t_v$ max.	300 ms
Residual current $I_r$ max.	50 $\mu$ A
Ripple max. (% of $U_e$ )	10 %
Switching frequency	3500 Hz
Turn-off delay $t_{off}$ max.	0.15 ms
Turn-on delay $t_{on}$ max.	0.15 ms
Utilization category	DC -13
Voltage drop $U_d$ max. at $I_e$	2 V

**Environmental conditions**

Ambient temperature	-20...60 °C
EN 60068-2-27, Shock	Half-sinus, 30 $g_n$ , 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 0.5 mm, 3x30 min
IP rating	IP6x
IP rating per DIN 40050	IPx9K

**Functional safety**

MTTF (40 °C)	494 a
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**Interface**

Switching output	PNP normally open/normally closed (NO/NC)
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**Material**

Housing material	PC ABS
Material sensing surface	PMMA

**Mechanical data**

Dimension	23 x 51 x 52.4 mm
Mounting part	Screw M4
Tightening torque max.	1.5 Nm

**Optical features**

Ambient light max.	5000 Lux
Light type	Laser red light
Principle of optical operation	Through-beam sensor (receiver)
Switching function, optical	dark-on/light-on

**Range/Distance**

Range	0...30 m
Rated operating distance $S_n$	30 m Adjustable

**Remarks**

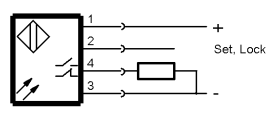
The sensor is functional again after the overload has been eliminated.  
Actuation object (target): gray card, 200 x 200, 90 % remission, lateral approach  
Teach-in also possible when object is in motion.  
For additional information, refer to user's guide.  
Order accessories separately.  
Do not press key using a pointed tool.  
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

