

1) Output function/Error, 2) Operating voltage, 3) Sn, light/dark, 4) Optical axis receiver, 5) Optical axis emitter, 6) rotatable 270°



Basic features

Approval/Conformity	CE Ecolab cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference reflector	BOS R-22
Series	23K
Style	Square Connection can be rotated

Electrical connection

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

Display/Operation

Adjuster	button
Display	Output function- LED yellow LED green: Power Teach - LED yellow+green, alt. Error - LED yellow, flashing
Setting	Rated switching distance (Sn) Light-on/dark-on

Photoelectric Sensors
BOS 23K-PA-LR10-S4
Order Code: BOS01HJ

BALLUFF

Electrical data

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 μ A
Ripple max. (% of U_e)	10 %
Switching frequency	2000 Hz
Turn-off delay t_{off} max.	0.25 ms
Turn-on delay t_{on} max.	0.25 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)	357 a
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Interface

Switching output	PNP normally closed (NC) PNP normally open (NO)
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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
Average power P_o max.	390 μ W
Beam characteristic	Divergent
Blind zone	300 mm
Laser class per IEC 60825-1	1
Light spot size	17 x 19 mm at 14 m
Light type	Laser red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Pulse duration t max.	4.5 μ s
Pulse frequency	13.3 kHz
Pulse power P_p max.	3.0 mW
Switching function, optical	dark-on/light-on Light/dark switching
Wave length	655 nm

Range/Distance

Range	0...14 m
Rated operating distance S_n	14 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, approach direction vertical to lens axis plane.

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.

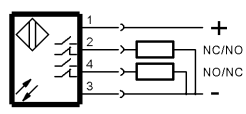
Connector Drawings



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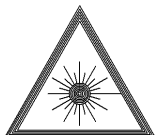
Wiring Diagrams



Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1