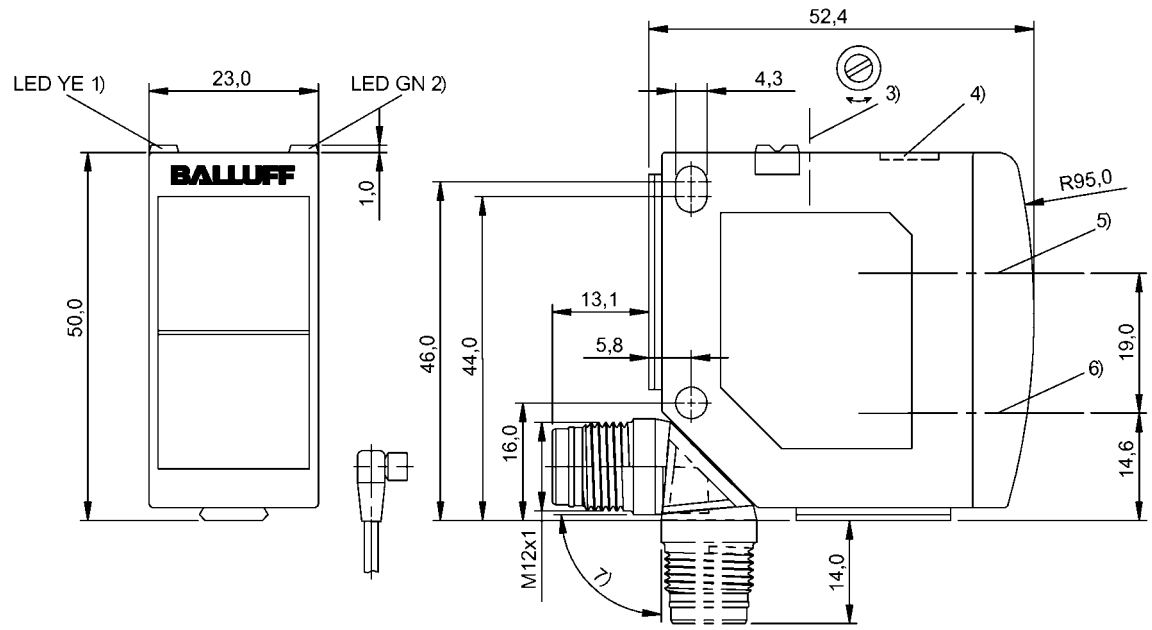


Photoelectric Sensors
BOS 23K-PA-LH20-S4
Order Code: BOS01FT



1) Output function/Error, 2) Operating voltage, 3) Sn, 4) Bar display for switching distance, 5) Optical axis receiver, 6) Optical axis emitter, 7) rotatable 270°



Basic features

Approval/Conformity	CE Ecolab cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
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	Adjusting screw
Display	Output function- LED yellow LED green: Power Error - LED yellow, flashing Switching distance - bar display
Setting	Rated switching distance (Sn)

Photoelectric Sensors
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BALLUFF

Electrical data

Border range energetic	1200 mm
No-load current I _o max. at U _e	30 mA
Operating voltage U _b	12...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 µA
Ripple max. (% of U _e)	10 %
Switching frequency	1000 Hz
Turn-off delay t _{off} max.	0.5 ms
Turn-on delay t _{on} max.	0.5 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)	360 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	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.	1 mW
Beam characteristic	Collimated
Laser class per IEC 60825-1	1
Light spot size	2.5 x 3.5 mm at 800 mm
Light type	Laser red light
Principle of optical operation	Diffuse sensor, triangulation
Pulse duration t max.	0.7 µs
Pulse frequency	8 kHz
Pulse power P _p max.	140.0 mW
Special optical feature	Background suppression
Switching function, optical	Light-on dark-on
Wave length	655 nm

Range/Distance

Distance deviation 18 % max. (% of S _r)	20 %
Hysteresis H max. (% of S _r)	8.0 %
Range	5...800 mm
Rated operating distance S _n	800 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.

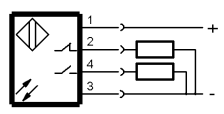
Connector Drawings



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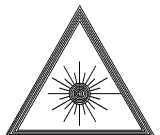
Wiring Diagrams



Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1