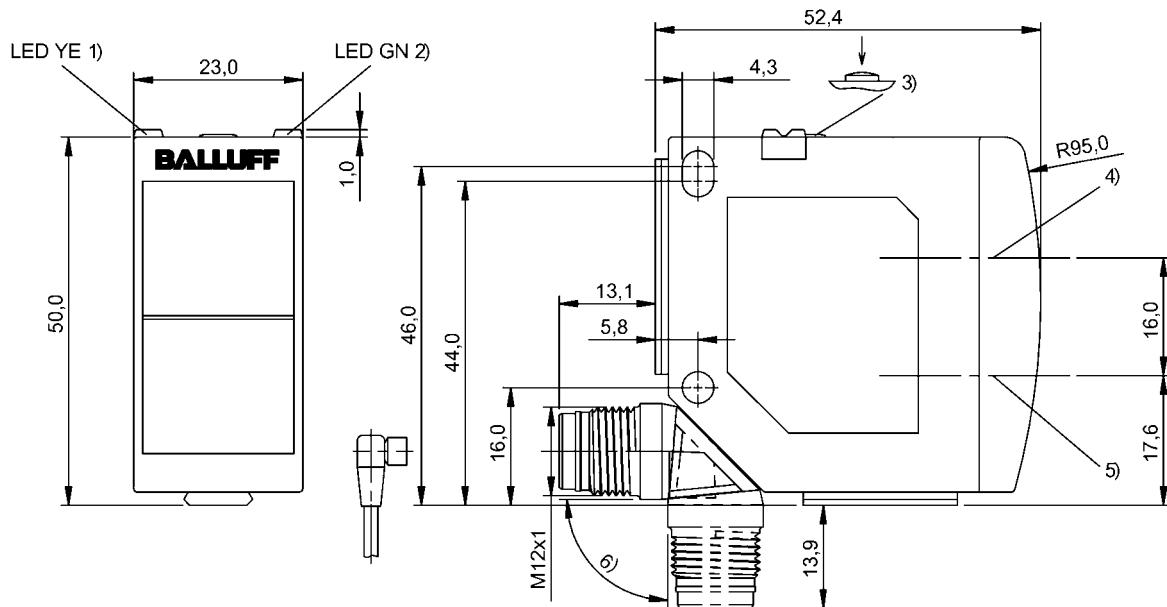


Photoelectric Sensors  
BOS 23K-PA-RD10-S4  
Order Code: BOS01FM

**BALLUFF**



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



#### Basic features

Approval/Conformity	Ecolab CE 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	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

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**Electrical data**

No-load current $Io$ max. at $Ue$	30 mA
Operating voltage $Ub$	10...30 VDC
Protection class	II
Rated insulation voltage $Ui$	75 V DC
Rated operating current $le$	100 mA
Rated operating voltage $Ue$ DC	24 V
Ready delay $tv$ max.	300 ms
Residual current $Ir$ max.	50 $\mu$ A
Ripple max. (% of $Ue$ )	10 %
Switching frequency	600 Hz
Turn-off delay $toff$ max.	0.83 ms
Turn-on delay $ton$ max.	0.83 ms
Utilization category	DC-13
Voltage drop $Ud$ max. at $le$	2 V

**Environmental conditions**

Ambient temperature	-20...60 °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	IP6x
IP rating per DIN 40050	IPx9K

**Functional safety**

MTTF (40 °C)	424 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
Beam characteristic	Focus, typical at 500 mm
LED group per IEC 62471	Exempt Group
Light spot size	15 x 15 mm at focal point
Light type	LED, red light
Principle of optical operation	Diffuse sensor, energetic
Switching function, optical	dark-on/light-on Light/dark switching
Wave length	640 nm

**Range/Distance**

Hysteresis $H$ max. (% of $Sn$ )	8.0 %
Range	0...2000 mm
Rated operating distance $Sn$	2 m Adjustable

**Remarks**

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

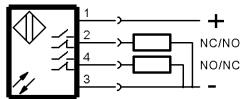
**Connector Drawings**



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### Wiring Diagrams



### Opto Symbols

