

1) Output function, 2) Operating voltage, 3) Sensitivity, light/dark, 4) Optical axis



### Basic features

Approval/Conformity	CE cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference reflector	BOS R-22
Series	6K
Style	Square Connection 90°

### Display/Operation

Adjuster	button
Display	Output function- LED yellow LED green: Power
Setting	Light-on/dark-on Sensitivity (Sn) Teach mode Stand./Dyn./Ref.

### Electrical connection

Connection	Connector, M8x1-Male, 4-pin
Polarity reversal protected	yes
Short-circuit protection	yes

### Electrical data

Input function	Same function as button Key disable on/off
No-load current $I_o$ max. at $U_e$	30 mA
Operating voltage $U_b$	10...30 VDC
Rated operating current $I_e$	100 mA
Rated operating voltage $U_e$ DC	24 V
Ripple max. (% of $U_e$ )	12 %
Switching frequency	4000 Hz
Turn-off delay $t_{off}$ max.	0.13 ms
Turn-on delay $t_{on}$ max.	0.13 ms
Voltage drop $U_d$ max. at $I_e$	2.4 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	IP67
IP rating per DIN 40050	IP69K

### Functional safety

MTTF (40 °C)	432 a
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### Interface

Switching output	PNP normally open/normally closed (NO/NC)
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Photoelectric Sensors  
**BOS 6K-PU-LK10-S75**  
**Order Code: BOS01M4**



**Material**

Housing material	ABS
Material sensing surface	PMMA

**Mechanical data**

Dimension	12 x 41.5 x 21.6 mm
Mounting part	Screw M3

**Optical features**

Ambient light max.	5000 Lux
Average power Po max.	390 µW
Beam characteristic	Collimated
Laser class per IEC 60825-1	1
Light spot size	Ø 2 mm at 2.5 m
Light type	Laser red light
Polarizing filter	yes
Principle of optical operation	Retroreflective sensor
Pulse duration t max.	3000 µs
Pulse frequency	5 kHz
Special optical feature	Coaxial optics
Switching function, optical	dark-on/light-on
Wave length	650 nm

**Range/Distance**

Range	0...4 m
Rated operating distance Sn	4 m Adjustable

**Remarks**

Do not press key using a pointed tool.

Order accessories separately.

For additional information, refer to user's guide.

Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

When using as a UL product the ambient temperature Ta max. must not exceed 50°C.

Actuation object (target): gray card, 200 x 200, 90 % remission, lateral approach, approach direction vertical to lens axis plane.

The sensor is functional again after the overload has been eliminated.

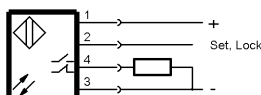
For more information about MTTF and B10d see MTTF / B10d Certificate

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**



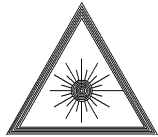
**Wiring Diagrams**



## Opto Symbols



## Warning Symbols



LASER CLASS 1 per IEC 60825-1