

1) Output function, 2) Operating voltage, 3) Sn, light/dark, 4) Optical axis receiver, 5) Optical axis emitter



### Basic features

<b>Approval/Conformity</b>	CE cULus EAC WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Photoelectric sensor
<b>Series</b>	6K
<b>Style</b>	Square Connection 90°

### Electrical data

<b>No-load current <math>I_0</math> max. at <math>U_e</math></b>	30 mA
<b>Operating voltage <math>U_b</math></b>	10...30 VDC
<b>Rated operating current <math>I_e</math></b>	100 mA
<b>Rated operating voltage <math>U_e</math> DC</b>	24 V
<b>Ripple max. (% of <math>U_e</math>)</b>	12 %
<b>Switching frequency</b>	1000 Hz
<b>Turn-off delay <math>t_{off}</math> max.</b>	0.5 ms
<b>Turn-on delay <math>t_{on}</math> max.</b>	0.5 ms
<b>Voltage drop <math>U_d</math> max. at <math>I_e</math></b>	2.4 V

### Display/Operation

<b>Adjuster</b>	button
<b>Display</b>	Output function- LED yellow LED green: Power
<b>Setting</b>	Rated switching distance (Sn) Light-on/dark-on Teach mode Stand./Dyn./Obj.

### Environmental conditions

<b>Ambient temperature</b>	-20...60 °C
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
<b>EN 60068-2-6, Vibration</b>	10...55 Hz, amplitude 0.5 mm, 3x30 min
<b>IP rating</b>	IP67
<b>IP rating per DIN 40050</b>	IP69K

### Electrical connection

<b>Connection</b>	Connector, M8x1-Male, 3-pin
<b>Polarity reversal protected</b>	yes
<b>Short-circuit protection</b>	yes

### Functional safety

<b>MTTF (40 °C)</b>	476 a
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### Interface

<b>Switching output</b>	PNP normally open/normally closed (NO/NC)
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Photoelectric Sensors  
**BOS 6K-PU-RH10-S49**  
**Order Code: BOS01KW**



**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
Beam characteristic	Focus, typical at 50 mm
Light spot size	5 x 5 mm at focal point
Light type	LED, red light
Principle of optical operation	Diffuse sensor, triangulation
Special optical feature	Background suppression
Switching function, optical	Light/dark switching
Wave length	640 nm

**Range/Distance**

Distance deviation 18 % max. (% of Sr)	5 %
Range	1...200 mm
Rated operating distance Sn	200 mm Adjustable

**Remarks**

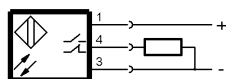
The sensor is functional again after the overload has been eliminated.  
 When using as a UL product the ambient temperature Ta max. must not exceed 50°C.  
 Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.  
 For additional information, refer to user's guide.  
 Order accessories separately.  
 Do not press key using a pointed tool.  
 Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.  
 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**

