

1) Optical axis receiver, 2) Optical axis emitter, 3) Power/short-circuit, 4) Output function/Error, 5) Sn



**Basic features**

<b>Approval/Conformity</b>	cULus CE UKCA WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Photoelectric sensor
<b>Series</b>	18M
<b>Style</b>	Cylinder Straight optics

**Display/Operation**

<b>Adjuster</b>	10-turn potentiometer
<b>Display</b>	Output function- LED yellow LED green: Power Error - LED yellow, flashing Short circuit - LED green, flashing
<b>Setting</b>	Rated switching distance (Sn)

**Electrical connection**

<b>Connection</b>	Connector, M12x1-Male, 4-pin
<b>Contact, surface protection</b>	Gold plated
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

**Electrical data**

<b>Load capacitance max. at Ue</b>	0.1 µF
<b>No-load current I<sub>o</sub> max. at Ue</b>	40 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Protection class</b>	II
<b>Rated insulation voltage U<sub>i</sub></b>	75 V DC
<b>Rated operating current I<sub>e</sub></b>	100 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24 V
<b>Ready delay t<sub>v</sub> max.</b>	200 ms
<b>Residual current I<sub>r</sub> max.</b>	10 µA
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	500 Hz
<b>Turn-off delay t<sub>off</sub> max.</b>	1 ms
<b>Turn-on delay t<sub>on</sub> max.</b>	1 ms
<b>Utilization category</b>	DC -13
<b>Voltage drop U<sub>d</sub> max. at I<sub>e</sub></b>	2.5 V

**Environmental conditions**

<b>Ambient temperature</b>	-5...55 °C
<b>Contamination scale</b>	3
<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 1 mm, 3x30 min
<b>IP rating</b>	IP67

**Functional safety**

<b>MTTF (40 °C)</b>	563 a
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Photoelectric Sensors  
**BOS 18M-PSV-RH23-S4**  
**Order Code: BOS01J2**



**Interface**

<b>Supplementary output</b>	Error output PNP
<b>Switch function, supplementary output</b>	Normally closed (NC)
<b>Switching output</b>	PNP normally open (NO)

**Material**

<b>Housing material</b>	Brass
<b>Material sensing surface</b>	Glass

**Mechanical data**

<b>Dimension</b>	Ø 18 x 75 mm
<b>Mounting part</b>	Nut M18x1
<b>Tightening torque max.</b>	15 Nm 30 Nm

**Optical features**

<b>Ambient light max.</b>	10000 Lux
<b>Beam characteristic</b>	Divergent
<b>LED group per IEC 62471</b>	Exempt Group
<b>Light spot size</b>	10 x 10 mm at 150 mm
<b>Light type</b>	LED, red light
<b>Principle of optical operation</b>	Diffuse sensor, triangulation
<b>Special optical feature</b>	Background suppression
<b>Switching function, optical</b>	Light-on
<b>Wave length</b>	630 nm

**Range/Distance**

<b>Distance deviation 18 % max. (% of Sr)</b>	8 %
<b>Hysteresis H max. (% of Sr)</b>	5.0 %
<b>Range</b>	30...150 mm
<b>Rated operating distance Sn</b>	150 mm Adjustable
<b>Repeat accuracy max. (% of Sr)</b>	1.0 %

**Remarks**

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

For additional information, refer to user's guide.

Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.

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.

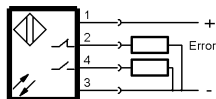
For more information about MTTF and B10d see MTTF / B10d Certificate

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

