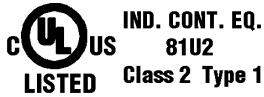


1) Optical axis, 2) Sn, 3) Output function



### Basic features

Approval/Conformity	CE cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Photoelectric sensor
Reference emitter	BOS 12M-XT-LS12-..
Series	12M
Style	Cylinder Straight optics

### Display/Operation

Adjuster	Potentiometer 270°
Display	Output function- LED yellow
Setting	Sensitivity (Sn)

### Electrical connection

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

### Electrical data

Load capacitance max. at Ue	0.1 µF
No-load current I <sub>o</sub> max. at Ue	15 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	200 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Ready delay t <sub>v</sub> max.	20 ms
Ripple max. (% of U <sub>e</sub> )	10 %
Switching frequency	1000 Hz
Turn-off delay t <sub>off</sub> max.	0.5 ms
Turn-on delay t <sub>on</sub> max.	0.5 ms
Utilization category	DC -13
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	2.5 V

### Environmental conditions

Ambient temperature	-10...50 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm, 3x30 min
Protection degree	IP67

### Functional safety

MTTF (40 °C)	251 a
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Photoelectric Sensors  
**BOS 12M-PA-LE10-S4**  
**Order Code: BOS00WF**



**Material**

Housing material	Brass
Material sensing surface	PMMA
Surface protection	nickel plated

**Mechanical data**

Dimension	Ø 12 x 70 mm
Minimum gap, typ.	0.5mm at 3m, R0= 6m (LS12)
Mounting	Nut M12x1
Tightening torque max.	15 Nm

**Optical features**

Ambient light max.	5000 Lux
Light type	Laser red light
Principle of optical operation	Through-beam sensor (receiver)
Smallest part typ.	50 µm at focal point, R0 = 3 m (LS11)
Switching function, optical	Light-on dark-on

**Output/Interface**

Switching output	PNP normally open (NO) PNP NC Pins 4-2
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**Range/Distance**

Range	0...30 m
Rated operating distance Sn	3 m Adjustable depends on emitter
Temperature drift max. (% of Sr)	compensated

**Remarks**

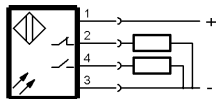
Order accessories separately.  
 The sensor is functional again after the overload has been eliminated.  
 Actuation object (target): gray card, 200 x 200, lateral approach.  
 For additional information, refer to user's guide.  
 For more information about MTTF and B10d see MTTF / B10d Certificate

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**

