

1) Optical axis receiver, 3) Operating voltage, 4) Light reception/limit area, 5) Sn



### Basic features

<b>Approval/Conformity</b>	CE UKCA cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Photoelectric sensor
<b>Reference emitter</b>	BOS 12M-X-RS10-S4
<b>Series</b>	12M
<b>Style</b>	Cylinder Straight optics

### Display/Operation

<b>Adjuster</b>	Potentiometer 270°
<b>Display</b>	LED green: Power Short circuit - LED green, flashing LED yellow: Light received Limit range - LED yellow, flashing
<b>Setting</b>	Sensitivity (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>	0.2 µF
<b>No-load current I<sub>o</sub> max. at Ue</b>	15 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<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>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	1000 Hz
<b>Turn-off delay t<sub>off</sub> max.</b>	0.5 ms
<b>Turn-on delay t<sub>on</sub> max.</b>	0.5 ms
<b>Utilization category</b>	DC -13
<b>Voltage drop U<sub>d</sub> max. at I<sub>e</sub></b>	1.5 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>	1175 a
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### Interface

<b>Switching output</b>	PNP normally closed (NC) PNP normally open (NO) Pins 4-2
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Photoelectric Sensors  
**BOS 12M-PA-RE10-S4**  
Order Code: BOS024U

# BALLUFF

## Material

Housing material	Brass, nickel-plated
Material sensing surface	PMMA
Surface protection	nickel-plated

## Mechanical data

Dimension	Ø 12 x 60 mm
Mounting part	Nut M12x1
Tightening torque max.	7 Nm

## Optical features

Ambient light max.	10000 Lux
Light type	LED, red light
Principle of optical operation	Through-beam sensor (receiver)
Switching function, optical	Light-on dark-on

## Range/Distance

Range	0...8 m
Rated operating distance Sn	8 m Adjustable
Temperature drift max. (% of Sr)	10 %

## Remarks

Order accessories separately.

For additional information, refer to user's guide.

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

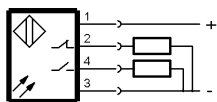
For more information about MTTF and B10d see MTTF / B10d Certificate

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

