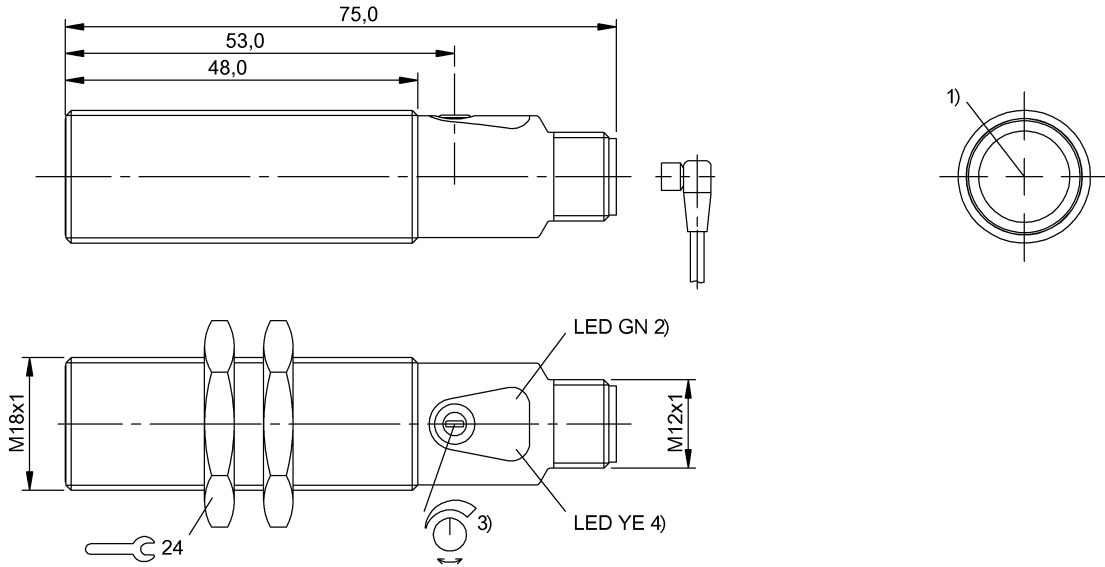


Photoelectric Sensors  
**BOS 18M-PA-RE21-S4**  
**Order Code: BOS025A**

**BALLUFF**



1) Optical axis, 2) Operating voltage/Error, 3) Sn, 4) Light reception/limit area



**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 18M-...-RS21-...
<b>Scope of delivery</b>	User manual 2x nut M18x1
<b>Series</b>	18M
<b>Style</b>	Cylinder Straight optics

**Display/Operation**

<b>Adjuster</b>	1-turn potentiometer
<b>Display</b>	LED green: Power Error - 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>	14 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>	20 ms
<b>Residual current I<sub>r</sub> max.</b>	30 µA
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	800 Hz
<b>Turn-off delay t<sub>off</sub> max.</b>	0.63 ms
<b>Turn-on delay t<sub>on</sub> max.</b>	0.63 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 gn, 11 ms, 3x6 Half-sinus, 100 gn, 2 ms, 3x8000
<b>EN 60068-2-6, Vibration</b>	10...55 Hz, amplitude 1 mm, 3x30 min 10...2000 Hz, amplitude 1 mm, 30 gn, 3x5 h
<b>IP rating</b>	IP67

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**Functional safety**

MTTF (40 °C) 1208 a

**Interface**

Switching output PNP normally closed (NC)  
 PNP normally open (NO) Pins 4-2

**Material**

Housing material Brass, nickel-plated  
 Housing material, surface protection nickel-plated  
 Material sensing surface Glass, anti-glare  
 Surface protection nickel-plated

**Mechanical data**

Dimension Ø 18 x 75 mm  
 Mounting part Nut M18x1  
 Tightening torque max. 15 Nm  
 30 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...20 m  
 Rated operating distance Sn 20 m Adjustable

**Remarks**

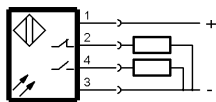
Order accessories separately.  
 For additional information, refer to user's guide.  
 The sensor is functional again after the overload has been eliminated.  
 For more information about MTTF and B10d see MTTF / B10d Certificate

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**

