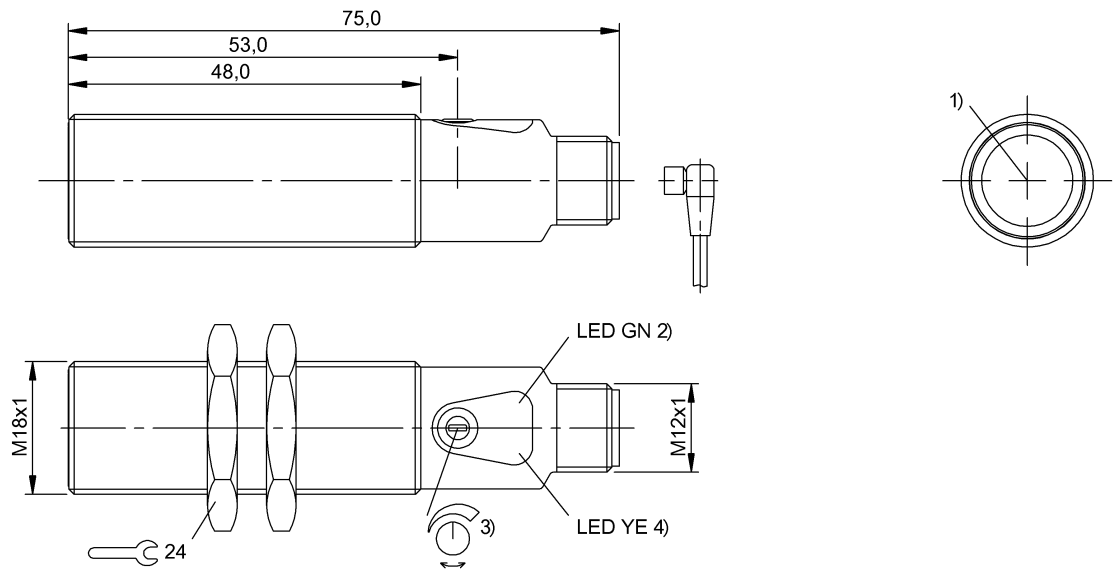


Photoelectric Sensors  
**BOS 18M-PA-RE21-S4**  
Order Code: BOS025A

**BALLUFF**



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



**Basic features**

|                        |                             |
|------------------------|-----------------------------|
| Approval/Conformity    | CE<br>UKCA<br>cULus<br>WEEE |
| Basic standard         | IEC 60947-5-2               |
| Principle of operation | Photoelectric sensor        |
| Reference emitter      | BOS 18M-...RS21-...         |
| Scope of delivery      | User manual<br>2x nut M18x1 |
| Series                 | 18M                         |
| Style                  | Cylinder<br>Straight optics |

**Display/Operation**

|          |                                                                                                                     |
|----------|---------------------------------------------------------------------------------------------------------------------|
| Adjuster | 1-turn potentiometer                                                                                                |
| Display  | LED green: Power<br>Error - LED green, flashing<br>LED yellow: Light received<br>Limit range - LED yellow, flashing |
| 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                        | 0.2 $\mu$ F |
| No-load current I <sub>o</sub> max. at Ue          | 14 mA       |
| Operating voltage U <sub>b</sub>                   | 10...30 VDC |
| Protection class                                   | II          |
| Rated insulation voltage U <sub>i</sub>            | 75 V DC     |
| Rated operating current I <sub>e</sub>             | 100 mA      |
| Rated operating voltage U <sub>e</sub> DC          | 24 V        |
| Ready delay t <sub>v</sub> max.                    | 20 ms       |
| Residual current I <sub>r</sub> max.               | 30 $\mu$ A  |
| Ripple max. (% of U <sub>e</sub> )                 | 15 %        |
| Switching frequency                                | 800 Hz      |
| Turn-off delay t <sub>off</sub> max.               | 0.63 ms     |
| Turn-on delay t <sub>on</sub> max.                 | 0.63 ms     |
| Utilization category                               | DC -13      |
| Voltage drop U <sub>d</sub> max. at I <sub>e</sub> | 2.5 V       |

**Environmental conditions**

|                         |                                                                                                 |
|-------------------------|-------------------------------------------------------------------------------------------------|
| Ambient temperature     | -5...55 °C                                                                                      |
| Contamination scale     | 3                                                                                               |
| EN 60068-2-27, Shock    | Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6<br>Half-sinus, 100 g <sub>n</sub> , 2 ms, 3x8000     |
| EN 60068-2-6, Vibration | 10...55 Hz, amplitude 1 mm, 3x30 min<br>10...2000 Hz, amplitude 1 mm, 30 g <sub>n</sub> , 3x5 h |
| IP rating               | IP67                                                                                            |

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

**BALLUFF**

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

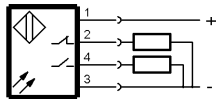
Order accessories separately.  
For additional information, refer to user's guide.  
The sensor is functional again after the overload has been eliminated.  
For more information about MTTF and B10d see MTTF / B10d Certificate

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

