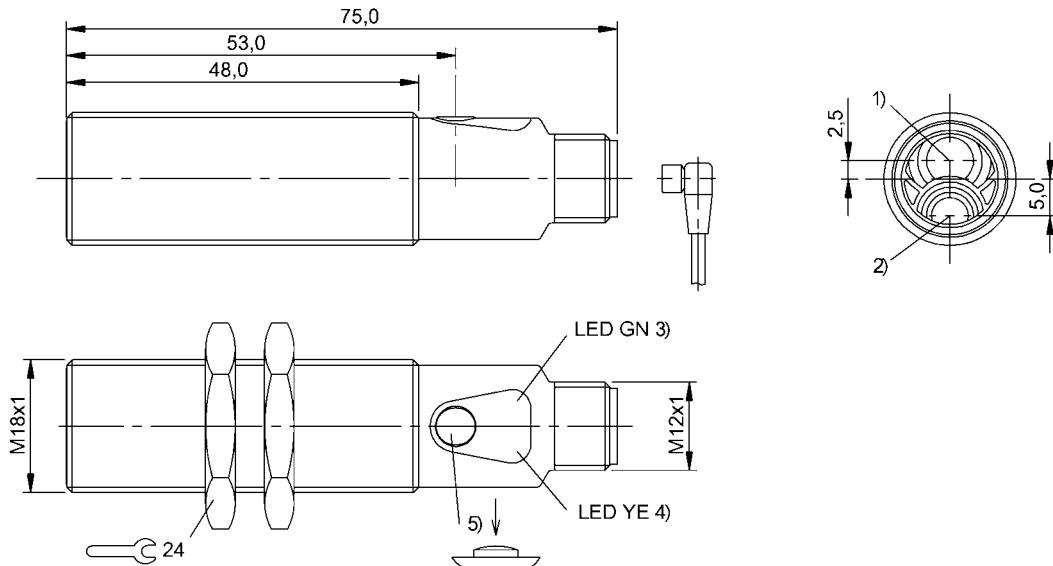


Photoelectric Sensors
BOS 18M-PUV-RD30-S4
Order Code: BOS01J8

BALLUFF



1) Optical axis receiver, 2) Optical axis emitter, 3) Power/short-circuit, 4) Light reception/limit area, 5) Sn



Basic features

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

Display/Operation

| | |
|----------|---|
| Adjuster | button |
| Display | LED green: Power Limit range - LED yellow, flashing Short circuit - LED green, flashing LED yellow: Light received |
| Setting | Rated switching distance (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 μ F |
| No-load current I ₀ max. at Ue | 40 mA |
| Operating voltage U _b | 10...30 VDC |
| Protection class | II |
| Rated insulation voltage U _i | 75 V DC |
| Rated operating current I _e | 100 mA |
| Rated operating voltage U _e DC | 24 V |
| Ripple max. (% of U _e) | 15 % |
| Switching frequency | 1000 Hz |
| Turn-off delay t _{off} max. | 0.5 ms |
| Turn-on delay t _{on} max. | 0.5 ms |
| Utilization category | DC-13 |
| Voltage drop U _d max. at I _e | 2.5 V |

Environmental conditions

| | |
|-------------------------|--|
| Ambient temperature | -5...55 °C |
| Contamination scale | 3 |
| EN 60068-2-27, Shock | Half-sinus, 30 g _n , 11 ms, 3x6 |
| EN 60068-2-6, Vibration | 10...55 Hz, amplitude 1 mm, 3x30 min |
| IP rating | IP67 |

Functional safety

| | |
|--------------|-------|
| MTTF (40 °C) | 468 a |
|--------------|-------|

Interface

| | |
|---------------------------------------|---|
| Supplementary output | PNP stability output |
| Switch function, supplementary output | Normally closed (NC) |
| Switching output | PNP normally open/normally closed (NO/NC) |

Material

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

Mechanical data

| | |
|------------------------|----------------|
| Dimension | Ø 18 x 75 mm |
| Mounting part | Nut M18x1 |
| Tightening torque max. | 15 Nm 30 Nm |

Remarks

Order accessories separately.

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

Reference object (target): gray card, 200 x 200, 90 % remission, axial 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.

Optical features

| | |
|--------------------------------|---------------------------|
| Ambient light max. | 10000 Lux |
| Beam characteristic | Divergent |
| LED group per IEC 62471 | Risk group 1 |
| Light spot size | Ø 50 mm at 600 mm |
| Light type | LED, red light |
| Principle of optical operation | Diffuse sensor, energetic |
| Switching function, optical | Light/dark switching |
| Wave length | 626 nm |

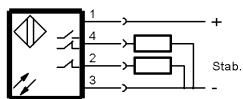
Range/Distance

| | |
|----------------------------------|-------------------|
| Hysteresis H max. (% of Sr) | 10.0 % |
| Range | 0...500 mm |
| Rated operating distance Sn | 500 mm Adjustable |
| Temperature drift max. (% of Sr) | 10 % |

Connector Drawings



Wiring Diagrams



Opto Symbols

