

1) Optical axis receiver, 2) Optical axis emitter, 3) Operating voltage, 4) Light reception/limit area



Basic features

| | |
|------------------------|-----------------------------|
| Approval/Conformity | CE UKCA cULus WEEE |
| Basic standard | IEC 60947-5-2 |
| Principle of operation | Photoelectric sensor |
| Series | 12M |
| Style | Cylinder Straight optics |
| Trademark | Global |

Display/Operation

| | |
|----------|--|
| Adjuster | no |
| Display | LED green: Power Limit range - LED yellow, flashing LED yellow: Light received |

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 U_e | 0.2 μ F |
| Operating voltage U_b | 10...30 VDC |
| 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 | 1.5 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) | 2362 a |
|--------------|--------|

Interface

| | |
|------------------|------------------------------|
| Switching output | PNP normally open (NO) Pin 4 |
|------------------|------------------------------|

Photoelectric Sensors
BOS 12M-PS-RD12-S4
Order Code: BOS01TU



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 15 Nm |

Optical features

| | |
|--------------------------------|---------------------------|
| Ambient light max. | 10000 Lux |
| Beam characteristic | Divergent |
| LED group per IEC 62471 | Exempt Group |
| Light spot size | 22 x 22 mm at 200 mm |
| Light type | LED, red light |
| Principle of optical operation | Diffuse sensor, energetic |
| Switching function, optical | Light-on |
| Wave length | 650 nm |

Range/Distance

| | |
|---|------------|
| Hysteresis H max. (% of Sr) | 10.0 % |
| Range | 1...200 mm |
| Rated operating distance S _n | 200 mm |
| Temperature drift max. (% of Sr) | 10 % |

Remarks

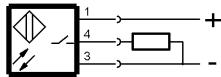
Order accessories separately.
 For additional information, refer to user's guide.
 Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.
 The sensor is functional again after the overload has been eliminated.
 For more information about MTTF and B10d see MTTF / B10d Certificate

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

