

1) Optical axis receiver, 2) Optical axis emitter, 3) Sensitivity, 4) Output function, 5) Light-on/dark-on, 6) stability



Basic features

| | |
|------------------------|-----------------------------|
| Approval/Conformity | cULus CE WEEE UKCA |
| Basic standard | IEC 60947-5-2 |
| Principle of operation | Photoelectric sensor |
| Reference reflector | BOS R-22 |
| Series | 5K |
| Style | Square Connection 45° |
| Trademark | Global |

Display/Operation

| | |
|----------|--|
| Adjuster | Potentiometer 270° (2x) |
| Display | Output function- LED yellow Stability - LED green |
| Setting | Sensitivity (Sn) Light-on/dark-on |

Electrical connection

| | |
|-----------------------------|----------------------|
| Cable diameter D | 3.50 mm |
| Cable length L | 2 m |
| Conductor cross-section | 0.20 mm ² |
| Connection | Cable, 2.00 m, PVC |
| Number of conductors | 3 |
| Polarity reversal protected | yes |
| Short-circuit protection | yes |

Electrical data

| | |
|---|-------------|
| No-load current I _o max. at U _e | 35 mA |
| Operating voltage U _b | 10...30 VDC |
| Rated operating current I _e | 100 mA |
| Rated operating voltage U _e DC | 24 V |
| Ripple max. (% of U _e) | 10 % |
| Switching frequency | 2000 Hz |
| Turn-off delay t _{off} max. | 0.25 ms |
| Turn-on delay t _{on} max. | 0.25 ms |
| Voltage drop U _d max. at I _e | 1.5 V |

Photoelectric Sensors
BOS 5K-PU-LR10-02
Order Code: BOS01JT

BALLUFF

Environmental conditions

| | |
|-------------------------|---|
| Ambient temperature | -10...55 °C |
| EN 60068-2-27, Shock | Half-sinus, 50 g _n , 11 ms, 3x10 |
| EN 60068-2-6, Vibration | 10...55 Hz, amplitude 1.5 mm, 3x2 h |
| IP rating | IP67 |

Functional safety

| | |
|--------------|-----|
| MTTF (40 °C) | 3 a |
|--------------|-----|

Interface

| | |
|------------------|---|
| Switching output | PNP normally open/normally closed (NO/NC) |
|------------------|---|

Material

| | |
|--------------------------|-----------|
| Housing material | PC PBT |
| Material jacket | PVC |
| Material sensing surface | PMMA |

Mechanical data

| | |
|------------------------|-----------------------|
| Dimension | 10.8 x 32.7 x 19.5 mm |
| Mounting part | Screw M3 |
| Tightening torque max. | 0.5 Nm |

Optical features

| | |
|-----------------------------------|------------------------|
| Ambient light max. | 5000 Lux |
| Average power P _o max. | 390 µW |
| Beam characteristic | Divergent |
| Blind zone | 300 mm |
| Laser class per IEC 60825-1 | 1 |
| Light spot size | Ø 5 mm at 3 m |
| Light type | Laser red light |
| Polarizing filter | yes |
| Principle of optical operation | Retroreflective sensor |
| Pulse duration t max. | 1.4 µs |
| Pulse frequency | 20 kHz |
| Pulse power P _p max. | 4.5 mW |
| Switching function, optical | dark-on/light-on |
| Wave length | 650 nm |

Range/Distance

| | |
|---|-----------------|
| Range | 0...10 m |
| Rated operating distance S _n | 10 m Adjustable |

Remarks

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

For additional information, refer to user's guide.

Polarizing filters prevent spurious switching due to reflecting and shiny parts.

Order accessories separately.

Actuation object (target): gray card, 200 x 200, 90 % remission, lateral approach, approach direction vertical to lens axis plane.

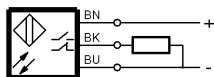
When using as a UL product the ambient temperature T_a max. must not exceed 50°C.

To meet the EMC requirements of EN 60947-5-2 the mounting bracket must not be grounded.

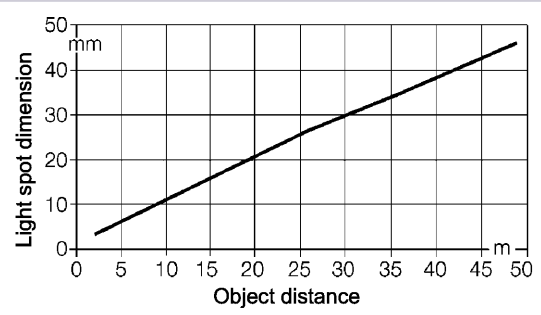
For more information about MTTF and B10d see MTTF / B10d Certificate

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.

Wiring Diagrams



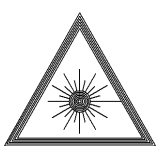
Technical Drawings



Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1