

1) Optical axis emitter



## Basic features

|                               |                               |
|-------------------------------|-------------------------------|
| <b>Approval/Conformity</b>    | Ecolab<br>cULus<br>CE<br>WEEE |
| <b>Basic standard</b>         | IEC 60947-5-2                 |
| <b>Principle of operation</b> | Photoelectric sensor          |
| <b>Reference receiver</b>     | BOS R01E-...KE20-..           |
| <b>Series</b>                 | R01E                          |
| <b>Style</b>                  | Square<br>Connection 90°      |

## Environmental conditions

|                                |  |
|--------------------------------|--|
| <b>Ambient temperature</b>     | -5...55 °C   |
| <b>Contamination scale</b>     | 3  |
| <b>EN 60068-2-27, Shock</b>    | Half-sinus, 100 gn, 2 ms, 3x8000<br>Half-sinus, 30 gn, 11 ms, 3x6                        |
| <b>EN 60068-2-6, Vibration</b> | 10...55 Hz, amplitude 1 mm,<br>3x30 min<br>10...2000 Hz, amplitude 1 mm, 30<br>gn, 3x5 h |
| <b>IP rating</b>               | IP67   |
| <b>IP rating per DIN 40050</b> | Housing IP69K, Connector IP67  |

## Electrical connection

|  |  |
|--|--|
| <b>Cable diameter D</b>                  | 3.00 mm  |
| <b>Cable length L</b>                    | 0.2 m  |
| <b>Connection</b>                        | Cable with connector, M8x1-Male,<br>3-pin, 0.20 m, PUR |
| <b>Contact, surface protection</b>       | Gold plated  |
| <b>Polarity reversal protected</b>       | yes  |
| <b>Protection against device mix-ups</b> | yes  |

## Functional safety

|                     |         |
|---------------------|---------|
| <b>MTTF (40 °C)</b> | 548.1 a |
|---------------------|---------|

## Material

|                                 |                          |
|---------------------------------|--------------------------|
| <b>Housing material</b>         | Stainless steel (1.4404) |
| <b>Material jacket</b>          | PUR                      |
| <b>Material sensing surface</b> | PA                       |

## Electrical data

|  |             |
|--|-------------|
| <b>No-load current I<sub>o max.</sub> at U<sub>e</sub></b> | 10 mA       |
| <b>Operating voltage U<sub>b</sub></b>                     | 10...30 VDC |
| <b>Rated insulation voltage U<sub>i</sub></b>              | 75 V DC     |
| <b>Rated operating voltage U<sub>e</sub> DC</b>            | 24 V        |

## Mechanical data

|                      |                |
|----------------------|----------------|
| <b>Dimension</b>     | 20 x 32 x 9 mm |
| <b>Mounting part</b> | Screw M3       |

Photoelectric Sensors  
**BOS R01E-X-KS20-00,2-S49**  
Order Code: BOS021R

# BALLUFF

## Optical features

|                                |                     |
|--------------------------------|---------------------|
| Beam characteristic            | Divergent           |
| LED group per IEC 62471        | Exempt Group        |
| Light spot size                | Ø 3.0 mm Light exit |
| Light type                     | LED, red light      |
| Principle of optical operation | Through-beam sensor |

|                    |                         |
|--------------------|-------------------------|
| Smallest part typ. | 0.4 mm at 1 m. R0 = 2 m |
| Wave length        | 650 nm                  |

## Range/Distance

|                             |           |
|-----------------------------|-----------|
| Range                       | 0...2.2 m |
| Rated operating distance Sn | 2.2 m     |

## Remarks

Order accessories separately.

For additional information, refer to user's guide.

Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

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

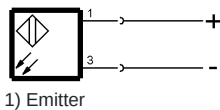
For more information about MTTF and B10d see MTTF / B10d Certificate

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

