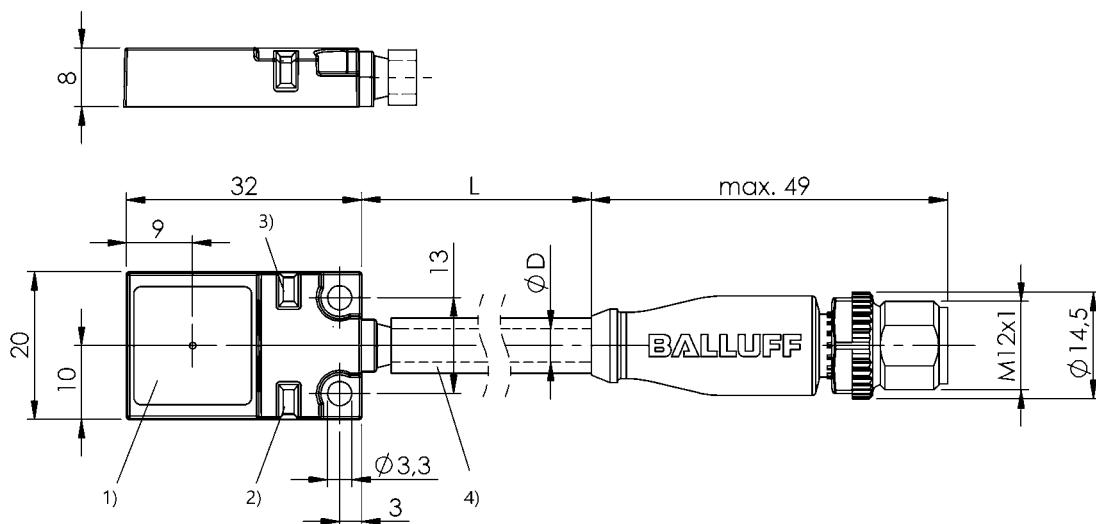


## Inductive Sensors

BES R01ZC-PSC50B-BZ00,2-GS04-W13

Order Code: BES048N

**BALLUFF**

1) Sensing surface, 2) LED green, 3) LED yellow, 4) Silicon tube D=7mm



## Basic features

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Additional features               | Housing resistant to weld spatter |
| Approval/Conformity               | CE<br>UKCA<br>cULus<br>WEEE       |
| Basic standard                    | IEC 60947-5-2                     |
| Display/Operation                 |                                   |
| Function indicator                | yes                               |
| Power indicator                   | yes                               |
| Electrical connection             |                                   |
| Cable diameter D                  | 3.80 mm                           |
| Cable length L                    | 0.2 m                             |
| Connection                        | M12x1-Male, 4-pin, A-coded        |
| Connection type                   | Cable with connector, 0.20 m, TPU |
| Polarity reversal protected       | yes                               |
| Protection against device mix-ups | yes                               |
| Short-circuit protection          | yes                               |

## Electrical data

|   |               |
|---|---------------|
| Load capacitance max. at Ue                   | 1 $\mu$ F     |
| Magnetic field strength, interference field   | 100 kA/m      |
| Min. operating current I <sub>m</sub>         | 0 mA          |
| No-load current I <sub>o</sub> max., damped   | 15 mA         |
| No-load current I <sub>o</sub> max., undamped | 15 mA         |
| Operating voltage U <sub>b</sub>              | 10...30 VDC   |
| Output resistance R <sub>a</sub>              | 33.0 kOhm + D |
| Rated insulation voltage U <sub>i</sub>       | 75 V DC       |
| Rated operating current I <sub>e</sub>        | 200 mA        |
| Rated operating voltage U <sub>e</sub> DC     | 24 V          |
| Rated short circuit current                   | 100 A         |
| Ready delay t <sub>v</sub> max.               | 20 ms         |
| Residual current I <sub>r</sub> max.          | 80 $\mu$ A    |
| Ripple max. (% of U <sub>e</sub> )            | 10 %          |
| Switching frequency                           | 100 Hz        |
| Utilization category                          | DC-13         |
| Voltage drop static max.                      | 2.5 V         |

## Environmental conditions

|                         |                                       |
|-------------------------|---------------------------------------|
| Ambient temperature     | -25...70 °C                           |
| Contamination scale     | 3                                     |
| EN 60068-2-27, Shock    | Half-sinus, 30 g <sub>n</sub> , 11 ms |
| EN 60068-2-6, Vibration | 55 Hz, amplitude 1 mm, 3x30 min       |
| IP rating               | IP67                                  |
| Magnetic field immune   | magnetic field immune (AC/DC)         |

## Functional safety

|              |       |
|--------------|-------|
| MTTF (40 °C) | 880 a |
|--------------|-------|

**Interface**

Switching output PNP normally open (NO)

**Material**

|                          |                                  |
|--------------------------|----------------------------------|
| Housing material         | Zinc, Die casting, partly coated |
| Material jacket          | TPU                              |
| Material sensing surface | ceramic coated                   |

**Range/Distance**

|                                  |        |
|----------------------------------|--------|
| Assured operating distance Sa    | 4 mm   |
| Hysteresis H max. (% of Sr)      | 15.0 % |
| Rated operating distance Sn      | 5 mm   |
| Real switching distance sr       | 5 mm   |
| Repeat accuracy max. (% of Sr)   | 5.0 %  |
| Temperature drift max. (% of Sr) | 10 %   |
| Tolerance Sr                     | ±10 %  |

**Mechanical data**

|              |                    |
|--------------|--------------------|
| Dimension    | 32 x 20 x 8 mm     |
| Installation | for flush mounting |
| Size         | 32x20x8            |

**Remarks**

Cable with silicone protective tube

LED yellow: Function

LED green: Power

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**