



**Basic features**

|                     |                            |
|---------------------|----------------------------|
| Approval/Conformity | CE<br>cULus<br>EAC<br>WEEE |
| Basic standard      | IEC 60947-5-2              |
| Trademark           | Global                     |

**Display/Operation**

|                    |     |
|--------------------|-----|
| Function indicator | yes |
| Power indicator    | no  |

**Electrical connection**

|                                   |                            |
|-----------------------------------|----------------------------|
| Connection                        | M12x1-Male, 3-pin, A-coded |
| Polarity reversal protected       | yes                        |
| Protection against device mix-ups | yes                        |
| Short-circuit protection          | yes                        |

**Electrical data**

|                                   |               |
|-----------------------------------|---------------|
| Load capacitance max. at Ue       | 1 µF          |
| Min. operating current Im         | 0 mA          |
| No-load current Io max., damped   | 5 mA          |
| No-load current Io max., undamped | 2 mA          |
| Operating voltage Ub              | 10...30 VDC   |
| Output resistance Ra              | 33.0 kOhm + D |
| Protection class                  | II            |
| Rated insulation voltage Ui       | 250 V AC      |
| Rated operating current Ie        | 200 mA        |
| Rated operating voltage Ue DC     | 24 V          |
| Rated short circuit current       | 100 A         |
| Ready delay tv max.               | 21 ms         |
| Residual current Ir max.          | 10 µA         |
| Ripple max. (% of Ue)             | 15 %          |
| Switching frequency               | 2500 Hz       |
| Utilization category              | DC -13        |
| Voltage drop static max.          | 1.5 V         |

**Environmental conditions**

|                         |                                 |
|-------------------------|---------------------------------|
| Ambient temperature     | -25...70 °C                     |
| Contamination scale     | 3                               |
| EN 60068-2-27, Shock    | Half-sinus, 30 gn, 11 ms        |
| EN 60068-2-6, Vibration | 55 Hz, amplitude 1 mm, 3x30 min |
| Protection degree       | IP68                            |

**Functional safety**

|              |       |
|--------------|-------|
| MTTF (40 °C) | 640 a |
|--------------|-------|

Inductive Sensors  
**BES M12MI-PSC40B-S04G**  
Order Code: BES0068

**BALLUFF**

**Material**

|                          |                    |
|--------------------------|--------------------|
| Housing material         | Brass              |
| Material sensing surface | PBT                |
| Surface protection       | Nickel-free coated |

**Mechanical data**

|                   |                    |
|-------------------|--------------------|
| Dimension         | Ø 12 x 65 mm       |
| Installation      | for flush mounting |
| Size              | M12x1              |
| Tightening torque | 10 Nm              |

**Output/Interface**

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

**Range/Distance**

|                                  |        |
|----------------------------------|--------|
| Assured operating distance Sa    | 3.2 mm |
| Hysteresis H max. (% of Sr)      | 15.0 % |
| Rated operating distance Sn      | 4 mm   |
| Real switching distance sr       | 4 mm   |
| Repeat accuracy max. (% of Sr)   | 5.0 %  |
| Switching distance marking       | ■ ■    |
| Temperature drift max. (% of Sr) | 10 %   |
| Tolerance Sr                     | ±10 %  |

**Remarks**

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**

