



### Basic features

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

### Display/Operation

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

### Electrical connection

|                                   |                            |
|-----------------------------------|----------------------------|
| Connection                        | M12x1-Male, 4-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 I <sub>m</sub>         | 0 mA          |
| No-load current I <sub>o</sub> max., damped   | 5 mA          |
| No-load current I <sub>o</sub> max., undamped | 2 mA          |
| Operating voltage U <sub>b</sub>              | 10...30 VDC   |
| Output resistance R <sub>a</sub>              | 33.0 kOhm + D |
| Protection class                              | II            |
| Rated insulation voltage U <sub>i</sub>       | 250 V AC      |
| 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.               | 21 ms         |
| Residual current I <sub>r</sub> max.          | 10 µA         |
| Ripple max. (% of U <sub>e</sub> )            | 15 %          |
| Switching frequency                           | 1000 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 g <sub>n</sub> , 11 ms |
| EN 60068-2-6, Vibration | 55 Hz, amplitude 1 mm, 3x30 min       |
| IP rating               | IP68                                  |

### Functional safety

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

### Interface

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

Inductive Sensors  
**BES M12MG-PSC80F-S04G**  
**Order Code: BES004N**



**Material**

|                                 |                           |
|---------------------------------|---------------------------|
| <b>Housing material</b>         | Brass, Nickel-free coated |
| <b>Material sensing surface</b> | PBT                       |

**Mechanical data**

|                          |              |
|--------------------------|--------------|
| <b>Dimension</b>         | Ø 12 x 60 mm |
| <b>Installation</b>      | non-flush    |
| <b>Size</b>              | M12x1        |
| <b>Tightening torque</b> | 10 Nm        |

**Range/Distance**

|   |        |
|---|--------|
| <b>Assured operating distance Sa</b>    | 6.4 mm |
| <b>Hysteresis H max. (% of Sr)</b>      | 15.0 % |
| <b>Rated operating distance Sn</b>      | 8 mm   |
| <b>Real switching distance sr</b>       | 8 mm   |
| <b>Repeat accuracy max. (% of Sr)</b>   | 5.0 %  |
| <b>Switching distance marking</b>       | ■ ■    |
| <b>Temperature drift max. (% of Sr)</b> | 10 %   |
| <b>Tolerance Sr</b>                     | ±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**

