



### Basic features

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

### 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 $U_e$       | 0.5 $\mu$ F   |
| Min. operating current $I_m$         | 0 mA          |
| No-load current $I_o$ max., damped   | 3 mA          |
| No-load current $I_o$ max., undamped | 10 mA         |
| Operating voltage $U_b$              | 10...30 VDC   |
| Output resistance $R_a$              | 33.0 kOhm + D |
| Protection class                     | II            |
| Rated insulation voltage $U_i$       | 250 V AC      |
| Rated operating current $I_e$        | 200 mA        |
| Rated operating voltage $U_e$ DC     | 24 V          |
| Rated short circuit current          | 100 A         |
| Ready delay $t_v$ max.               | 20 ms         |
| Residual current $I_r$ max.          | 10 $\mu$ A    |
| Ripple max. (% of $U_e$ )            | 15 %          |
| Switching frequency                  | 700 Hz        |
| Utilization category                 | DC -13        |
| Voltage drop static max.             | 2.5 V         |

### Environmental conditions

|                         |                                       |
|-------------------------|---------------------------------------|
| Ambient temperature     | -40...85 °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) | 830 a |
|--------------|-------|

### Interface

|                  |                          |
|------------------|--------------------------|
| Switching output | PNP normally closed (NC) |
|------------------|--------------------------|

Inductive Sensors  
**BES M18EI-POC80B-S04G**  
Order Code: **BES02FZ**



**Material**

|                          |                        |
|--------------------------|------------------------|
| Housing material         | 1.4404 stainless steel |
| Material sensing surface | PBT                    |

**Mechanical data**

|                   |                    |
|-------------------|--------------------|
| Dimension         | Ø 18 x 65 mm       |
| Installation      | for flush mounting |
| Size              | M18x1              |
| Tightening torque | 45 Nm              |

**Range/Distance**

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

**Remarks**

Flush: See installation instructions for inductive sensors with extended range 939221.

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**

