



IND. CONT. EQ.  
 81U2  
 Class 2 Type 1



## Basic features

|                            |   |
|----------------------------|---|
| <b>Additional features</b> | Factor 1<br>Extended temperature range<br>Housing resistant to weld spatter |
| <b>Approval/Conformity</b> | CE<br>EAC<br>cULus<br>WEEE  |
| <b>Basic standard</b>      | IEC 60947-5-2   |
| <b>Scope of delivery</b>   | 2x nut M18x1  |
| <b>Trademark</b>           | Factor 1  |

## Display/Operation

|                           |     |
|---------------------------|-----|
| <b>Function indicator</b> | yes |
| <b>Power indicator</b>    | no  |

## Electrical connection

|  |                            |
|--|----------------------------|
| <b>Connection</b>                        | M12x1-Male, 3-pin, A-coded |
| <b>Electrical version</b>                | 3-wire                     |
| <b>Polarity reversal protected</b>       | yes                        |
| <b>Protection against device mix-ups</b> | yes                        |
| <b>Short-circuit protection</b>          | yes                        |

## Electrical data

|   |             |
|---|-------------|
| <b>Load capacitance max. at Ue</b>                  | 1 µF        |
| <b>Magnetic field strength, interference field</b>  | 100 kA/m    |
| <b>Min. operating current I<sub>m</sub></b>         | 0 mA        |
| <b>No-load current I<sub>o</sub> max., damped</b>   | 30 mA       |
| <b>No-load current I<sub>o</sub> max., undamped</b> | 25 mA       |
| <b>Operating voltage U<sub>b</sub></b>              | 10...30 VDC |
| <b>Output resistance R<sub>a</sub></b>              | 100.0 kOhm  |
| <b>Protection class</b>                             | II          |
| <b>Rated operating current I<sub>e</sub></b>        | 200 mA      |
| <b>Rated operating voltage U<sub>e</sub> DC</b>     | 24 V        |
| <b>Rated short circuit current</b>                  | 100 A       |
| <b>Ready delay t<sub>v</sub> max.</b>               | 10 ms       |
| <b>Ripple max. (% of U<sub>e</sub>)</b>             | 15 %        |
| <b>Switching frequency</b>                          | 2000 Hz     |
| <b>Utilization category</b>                         | DC -13      |
| <b>Voltage drop static max.</b>                     | 2 V         |

## Environmental conditions

|                                |                                   |
|--------------------------------|-----------------------------------|
| <b>Ambient temperature</b>     | -40...85 °C                       |
| <b>Contamination scale</b>     | 3                                 |
| <b>EN 60068-2-27, Shock</b>    | Half-sinus, 30 gn, 11 ms          |
| <b>EN 60068-2-6, Vibration</b> | 55 Hz, amplitude 1 mm, 3x30 min   |
| <b>Magnetic field immune</b>   | magnetic field immune (AC/DC)     |
| <b>Protection degree</b>       | IP67, IP68 according to BWN Pr 20 |

## Functional safety

|                     |       |
|---------------------|-------|
| <b>MTTF (40 °C)</b> | 240 a |
|---------------------|-------|

Inductive Sensors  
**BES M18ME-PSC80A-S04G-W10**  
**Order Code: BES05PR**



**Material**

|                                      |                    |
|--------------------------------------|--------------------|
| Housing material                     | Brass, PTFE coated |
| Housing material, surface protection | PTFE coated        |
| Material sensing surface             | PBT                |
| Surface protection                   | PTFE coated        |

**Mechanical data**

|                   |                    |
|-------------------|--------------------|
| Dimension         | Ø 18 x 46 mm       |
| Installation      | for flush mounting |
| Size              | M18x1              |
| Tightening torque | 15 Nm              |

**Output/Interface**

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

**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**

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**

