



Basic features

|                        |                                             |
|------------------------|---------------------------------------------|
| Approval/Conformity    | CE<br>UKCA<br>cULus<br>WEEE                 |
| Basic standard         | IEC 60947-5-2                               |
| Principle of operation | Inductive sensor                            |
| Scope of delivery      | Lockwashers D9x0.5 (2x), Nut<br>M5x0.5 (2x) |

Display/Operation

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

Electrical connection

|                                   |                      |
|-----------------------------------|----------------------|
| Cable diameter D                  | 3.15 mm              |
| Cable length L                    | 2 m                  |
| Conductor cross-section           | 0.15 mm <sup>2</sup> |
| Connection type                   | Cable, 2 m, Silicone |
| Electrical version                | 3-wire               |
| Number of conductors              | 3                    |
| Polarity reversal protected       | yes                  |
| Protection against device mix-ups | yes                  |
| Short-circuit protection          | yes                  |

Electrical data

|                                               |                |
|-----------------------------------------------|----------------|
| Load capacitance max. at U <sub>e</sub>       | 0.5 µF         |
| No-load current I <sub>o</sub> max., damped   | 5 mA           |
| No-load current I <sub>o</sub> max., undamped | 5 mA           |
| Operating voltage U <sub>b</sub>              | 10...30 VDC    |
| Output resistance R <sub>a</sub>              | Open collector |
| Rated insulation voltage U <sub>i</sub>       | 75 V DC        |
| Rated operating current I <sub>e</sub>        | 100 mA         |
| Rated operating voltage U <sub>e</sub> DC     | 24 V           |
| Rated short circuit current                   | 100 A          |
| Ready delay t <sub>v</sub> max.               | 50 ms          |
| Residual current I <sub>r</sub> max.          | 50 µA          |
| Ripple max. (% of U <sub>e</sub> )            | 10 %           |
| Switching frequency                           | 1.5 kHz        |
| Utilization category                          | DC -13         |
| Voltage drop static max.                      | 2 V            |

Environmental conditions

|                         |                                                                    |
|-------------------------|--------------------------------------------------------------------|
| Ambient temperature     | 0...135 °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<br>55 Hz, amplitude 2 mm, 3x30 min |
| IP rating               | IP67                                                               |

Functional safety

|              |        |
|--------------|--------|
| MTTF (40 °C) | 2280 a |
|--------------|--------|

Interface

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

Inductive Sensors  
BES M05ED-PSD08B-ES02-T  
Order Code: BES05RP

**BALLUFF**

Material

|                          |                        |
|--------------------------|------------------------|
| Housing material         | 1.4104 stainless steel |
| Material jacket          | Silicone               |
| Material sensing surface | Ceramic                |

Mechanical data

|                       |                    |
|-----------------------|--------------------|
| Dimension             | Ø 5 x 27 mm        |
| Installation          | for flush mounting |
| Pressure rating max.  | 10 bar             |
| Pressure rating, note | oil pressure rated |
| Size                  | M5x0.5             |
| Tightening torque     | 1.5 Nm             |

Range/Distance

|                                  |         |
|----------------------------------|---------|
| Assured operating distance Sa    | 0.58 mm |
| Hysteresis H max. (% of Sr)      | 15.0 %  |
| Rated operating distance Sn      | 0.8 mm  |
| Repeat accuracy max. (% of Sr)   | 10 %    |
| Temperature drift max. (% of Sr) | 10 %    |
| Tolerance Sr                     | ±10 %   |

Remarks

Derating 0°C≤T≤110°C: 100mA, 110°CSealing of the thread with a sealing tape made of PTFE.

The sensor is functional again after the overload has been eliminated.

Correction factor for damping material cast iron: 0.89...1.05

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.

Wiring Diagrams (Schematic)

