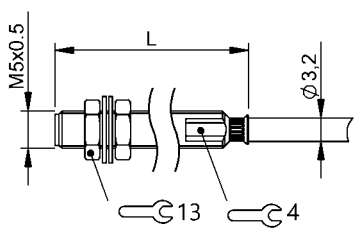


Inductive Sensors  
BES M05ED-PSD08B-ES02-T  
Order Code: BES05RP



Basic features

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

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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≤Ta≤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

