



Basic features

|                        |                    |
|------------------------|--------------------|
| Approval/Conformity    | CE<br>WEEE<br>UKCA |
| Basic standard         | IEC 60947-5-2      |
| Principle of operation | Inductive sensor   |

Display/Operation

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

Electrical connection

|                                   |                      |
|-----------------------------------|----------------------|
| Cable diameter D                  | 3.0 mm               |
| Cable length L                    | 5 m                  |
| Conductor cross-section           | 0.22 mm <sup>2</sup> |
| Connection type                   | Cable, 5.0 m, PTFE   |
| 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>       | 9 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 | 5 mA        |
| Operating voltage U <sub>b</sub>              | 10...30 VDC |
| Rated operating current I <sub>e</sub>        | 50 mA       |
| Rated operating voltage U <sub>e</sub> DC     | 24 V        |
| Ready delay t <sub>v</sub> max.               | 60 ms       |
| Residual current I <sub>r</sub> max.          | 15 µA       |
| Ripple max. (% of U <sub>e</sub> )            | 10 %        |
| Switching frequency                           | 600 Hz      |
| Utilization category                          | DC -13      |
| Voltage drop static max.                      | 1.3 V       |

Environmental conditions

|                         |                                       |
|-------------------------|---------------------------------------|
| Ambient temperature     | 0...140 °C                            |
| 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               | IP50                                  |

Functional safety

|              |        |
|--------------|--------|
| MTTF (40 °C) | 1342 a |
|--------------|--------|

Interface

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

Inductive Sensors  
BES M08EM-PSD20B-ET05-T  
Order Code: BES05FN

**BALLUFF**

Material

|                          |                 |
|--------------------------|-----------------|
| Housing material         | Stainless steel |
| Material jacket          | PTFE            |
| Material sensing surface | LCP             |

Mechanical data

|                   |                    |
|-------------------|--------------------|
| Dimension         | Ø 8 x 60 mm        |
| Installation      | for flush mounting |
| Mounting length   | 53.0 mm            |
| Size              | M8x1               |
| Tightening torque | 8 Nm               |

Range/Distance

|                                |        |
|--------------------------------|--------|
| Assured operating distance Sa  | 1.6 mm |
| Hysteresis H max. (% of Sr)    | 15.0 % |
| Rated operating distance Sn    | 2 mm   |
| Real switching distance sr     | 2 mm   |
| Repeat accuracy max. (% of Sr) | 2.26 % |
| Switching distance marking     | ■ ■    |
| Tolerance Sr                   | ±15 %  |

Wiring Diagrams (Schematic)

