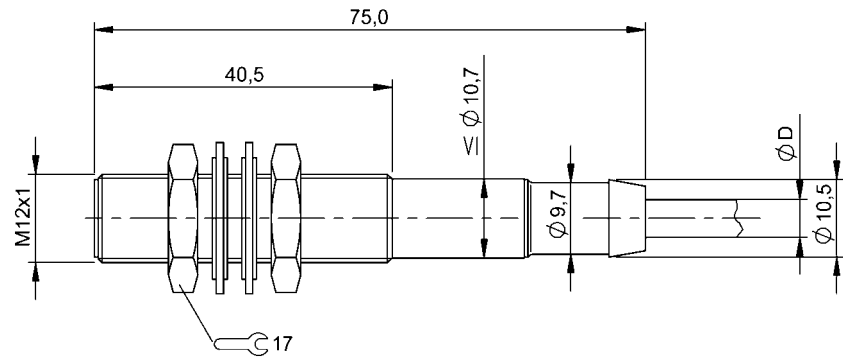


Inductive Sensors  
BES 516-325-SA19-05  
Order Code: BES02HW



Basic features

|                     |                                              |
|---------------------|----------------------------------------------|
| Approval/Conformity | CE<br>UKCA<br>cULus<br>WEEE                  |
| Base type deviation | KA, sensing surface, PAI, pressure rated, Ta |
| Basic standard      | IEC 60947-5-2                                |

Display/Operation

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

Electrical connection

|                                   |                         |
|-----------------------------------|-------------------------|
| Cable diameter D                  | 6.70 mm                 |
| Cable length L                    | 5 m                     |
| Conductor cross-section           | 0.50 mm <sup>2</sup>    |
| Connection type                   | Cable, 5.00 m, Silicone |
| Number of conductors              | 3                       |
| Polarity reversal protected       | yes                     |
| Protection against device mix-ups | no                      |
| Short-circuit protection          | no                      |

Electrical data

|                                               |              |
|-----------------------------------------------|--------------|
| Load capacitance max. at Ue                   | 1 $\mu$ F    |
| Min. operating current I <sub>m</sub>         | 0 mA         |
| No-load current I <sub>o</sub> max., damped   | 25 mA        |
| No-load current I <sub>o</sub> max., undamped | 12 mA        |
| Operating voltage U <sub>b</sub>              | 10...30 VDC  |
| Output resistance R <sub>a</sub>              | 2.2 kOhm + D |
| Rated insulation voltage U <sub>i</sub>       | 75 V DC      |
| Rated operating current I <sub>e</sub>        | 200 mA       |
| Rated operating voltage U <sub>e</sub> DC     | 24 V         |
| Rated short circuit current                   | 100 A        |
| Ready delay t <sub>v</sub> max.               | 10 ms        |
| Residual current I <sub>r</sub> max.          | 80 $\mu$ A   |
| Ripple max. (% of U <sub>e</sub> )            | 15 %         |
| Switching frequency                           | 1000 Hz      |
| Utilization category                          | DC -13       |
| Voltage drop static max.                      | 1.8 V        |

Environmental conditions

|                         |                                       |
|-------------------------|---------------------------------------|
| Ambient temperature     | -25...120 °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) | 595 a |
|--------------|-------|

Interface

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

Material

|                          |                      |
|--------------------------|----------------------|
| Housing material         | Brass, nickel-plated |
| Material jacket          | Silicone             |
| Material sensing surface | PEEK                 |

Mechanical data

|                   |                    |
|-------------------|--------------------|
| Dimension         | Ø 12 x 75 mm       |
| Installation      | for flush mounting |
| Mounting length   | 40.50 mm           |
| Size              | M12x1              |
| Tightening torque | 10 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)   | 5.0 %  |
| Temperature drift max. (% of Sr) | 10 %   |
| Tolerance Sr                     | ±10 %  |

Remarks

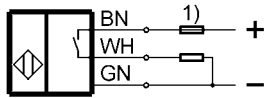
Ta 70 °C...120 °C: Ie = 200 - (Ta-70)

Recommendation: After a short circuit check the device for proper function.

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



1) For SCP see electrical data