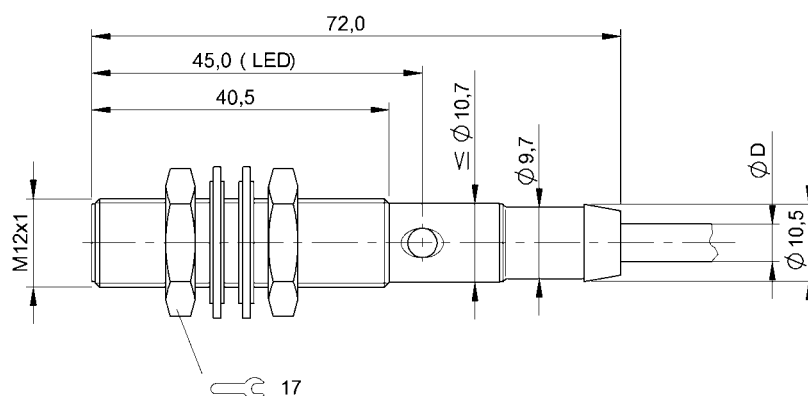


## Inductive Sensors

BES 516-325-AO-C-PU-05

Order Code: BES01AY

**BALLUFF**

## Basic features

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

## Display/Operation

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

## Electrical connection

|                                   |                      |
|-----------------------------------|----------------------|
| Cable diameter D                  | 4.60 mm              |
| Cable length L                    | 5 m                  |
| Conductor cross-section           | 0.34 mm <sup>2</sup> |
| Connection type                   | Cable, 5.00 m, PUR   |
| 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>       | 1 µF        |
| Min. operating current I <sub>m</sub>         | 0 mA        |
| No-load current I <sub>o</sub> max., damped   | 6 mA        |
| No-load current I <sub>o</sub> max., undamped | 2 mA        |
| Operating voltage U <sub>b</sub>              | 10...30 VDC |
| Output resistance R <sub>a</sub>              | 100.0 kOhm  |
| Protection class                              | II          |
| Rated insulation voltage U <sub>i</sub>       | 250 V AC    |
| 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.               | 21 ms       |
| Residual current I <sub>r</sub> max.          | 10 µA       |
| Ripple max. (% of U <sub>e</sub> )            | 15 %        |
| Switching frequency                           | 3000 Hz     |
| Utilization category                          | DC -13      |
| Voltage drop static max.                      | 1.5 V       |

## Environmental conditions

|                         |                                       |
|-------------------------|---------------------------------------|
| Ambient temperature     | -25...70 °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) | 850 a |
|--------------|-------|

## Interface

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

Material

|                          |                 |
|--------------------------|-----------------|
| Housing material         | Stainless steel |
| Material jacket          | PUR             |
| Material sensing surface | PA 12           |

Mechanical data

|                   |                    |
|-------------------|--------------------|
| Dimension         | Ø 12 x 72 mm       |
| Installation      | for flush mounting |
| Mounting length   | 40.50 mm           |
| Size              | M12x1              |
| Tightening torque | 20 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

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.

Wiring Diagrams

