



### Basic features

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

### Display/Operation

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

### Electrical connection

|                                   |                            |
|-----------------------------------|----------------------------|
| Connection                        | M12x1-Male, 4-pin, A-coded |
| Polarity reversal protected       | yes                        |
| Protection against device mix-ups | yes                        |
| Short-circuit protection          | yes                        |

### Electrical data

|                                      |                                 |
|--------------------------------------|---------------------------------|
| Load capacitance max. at $U_e$       | 1 $\mu$ F                       |
| Min. operating current $I_m$         | 0 mA                            |
| No-load current $I_o$ max., damped   | 30 mA                           |
| No-load current $I_o$ max., undamped | 20 mA                           |
| Operating voltage $U_b$              | 10...30 VDC                     |
| Output resistance $R_a$              | 2.2 kOhm + D + LED/4.7 kOhm + D |
| Protection class                     | II                              |
| Rated insulation voltage $U_i$       | 250 V AC                        |
| Rated operating current $I_e$        | 200 mA                          |
| Rated operating voltage $U_e$ DC     | 24 V                            |
| Rated short circuit current          | 100 A                           |
| Ready delay $t_v$ max.               | 30 ms                           |
| Residual current $I_r$ max.          | 80 $\mu$ A                      |
| Ripple max. (% of $U_e$ )            | 15 %                            |
| Switching frequency                  | 100 Hz                          |
| Utilization category                 | DC -13                          |
| Voltage drop static max.             | 2.5 V                           |

### Environmental conditions

|                         |                                 |
|-------------------------|---------------------------------|
| Ambient temperature     | -25...70 °C                     |
| Contamination scale     | 3                               |
| EN 60068-2-27, Shock    | Half-sinus, 30 gn, 11 ms        |
| EN 60068-2-6, Vibration | 55 Hz, amplitude 1 mm, 3x30 min |
| Protection degree       | IP68                            |

### Functional safety

|              |        |
|--------------|--------|
| MTTF (40 °C) | 1015 a |
|--------------|--------|

Inductive Sensors  
**BES 516-125-S4-C**  
Order Code: BES0173



### Material

|                          |               |
|--------------------------|---------------|
| Housing material         | Brass         |
| Material sensing surface | PA 12         |
| Surface protection       | nickel plated |

### Mechanical data

|                   |              |
|-------------------|--------------|
| Dimension         | Ø 30 x 83 mm |
| Installation      | non-flush    |
| Size              | M30x1.5      |
| Tightening torque | 40 Nm        |

### Output/Interface

|                  |   |
|------------------|---|
| Switching output | PNP normally open/normally closed (NO/NC) |
|------------------|---|

### Range/Distance

|                                  |         |
|----------------------------------|---------|
| Assured operating distance Sa    | 12.2 mm |
| Hysteresis H max. (% of Sr)      | 15.0 %  |
| Rated operating distance Sn      | 15 mm   |
| Real switching distance sr       | 15 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.

### Connector Drawings



### Wiring Diagrams

