Inductive Sensors
BES 516-327-S4-C
Order Code: BES01EE

Basic features

Approval/Conformity
- CE
- cULus
- EAC
- 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 Ue: 1 µF
- Min. operating current I_m: 0 mA
- No-load current I_0 max., damped: 25 mA
- No-load current I_0 max., undamped: 12 mA
- Operating voltage U_b: 10...30 VDC
- Output resistance R_a: 2.2 kOhm + D + LED
- 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 µA
- Ripple max. (% of U_e): 15 %
- Switching frequency: 300 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): 990 a

Internet: www.balluff.com
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Material

<table>
<thead>
<tr>
<th>Housing material</th>
<th>Brass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material sensing surface</td>
<td>PA 12</td>
</tr>
<tr>
<td>Surface protection</td>
<td>nickel plated</td>
</tr>
</tbody>
</table>

Mechanical data

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Ø 30 x 83 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation</td>
<td>for flush mounting</td>
</tr>
<tr>
<td>Size</td>
<td>M30x1.5</td>
</tr>
<tr>
<td>Tightening torque</td>
<td>35 Nm</td>
</tr>
</tbody>
</table>

Output/Interface

| Switching output   | PNP normally open (NO) |

Range/Distance

<table>
<thead>
<tr>
<th>Assured operating distance Sa</th>
<th>8.1 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hysteresis H max. (% of Sr)</td>
<td>15.0 %</td>
</tr>
<tr>
<td>Rated operating distance Sn</td>
<td>10 mm</td>
</tr>
<tr>
<td>Real switching distance sr</td>
<td>10 mm</td>
</tr>
<tr>
<td>Repeat accuracy max. (% of Sr)</td>
<td>5.0 %</td>
</tr>
<tr>
<td>Temperature drift max. (% of Sr)</td>
<td>10 %</td>
</tr>
<tr>
<td>Tolerance Sr</td>
<td>±10 %</td>
</tr>
</tbody>
</table>

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

![Connector Drawings](image)

Wiring Diagrams

![Wiring Diagrams](image)