



1) O-Ring with thrust ring



**Basic features**

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

**Display/Operation**

<b>Function indicator</b>	no
<b>Power indicator</b>	no

**Electrical connection**

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

**Electrical data**

<b>Load capacitance max. at Ue</b>	1 µF
<b>Min. operating current I<sub>m</sub></b>	0 mA
<b>No-load current I<sub>o</sub> max., damped</b>	10 mA
<b>No-load current I<sub>o</sub> max., undamped</b>	2 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Output resistance R<sub>a</sub></b>	33.0 kOhm
<b>Rated insulation voltage U<sub>i</sub></b>	75 V DC
<b>Rated operating current I<sub>e</sub></b>	200 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24 V
<b>Rated short circuit current</b>	100 A
<b>Ready delay t<sub>v</sub> max.</b>	10 ms
<b>Residual current I<sub>r</sub> max.</b>	80 µA
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	1000 Hz
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	1.5 V

**Environmental conditions**

<b>Ambient temperature</b>	-25...80 °C
<b>Contamination scale</b>	3
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 1 mm, 3x30 min
<b>IP rating</b>	IP68

**Functional safety**

<b>MTTF (40 °C)</b>	1120 a
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Inductive Sensors  
**BES 516-300-S281-S4-D**  
Order Code: BHS0037

**BALLUFF**

**Interface**

Switching output NPN normally open (NO)

**Material**

Housing material 1.4104 stainless steel  
Material sensing surface EP  
Support ring material PTFE

**Range/Distance**

Assured operating distance Sa 1.2 mm  
Hysteresis H max. (% of Sr) 15.0 %  
Rated operating distance Sn 1.5 mm  
Real switching distance sr 1.5 mm  
Repeat accuracy max. (% of Sr) 5.0 %  
Temperature drift max. (% of Sr) 10 %  
Tolerance Sr  $\pm 10$  %

**Mechanical data**

Dimension  $\varnothing 12 \times 69$  mm  
Installation for flush mounting  
Mounting part M12x1  
Pressure rating max. 500 bar  
Pressure rating, note oil pressure rated  
Sealing ring, size  $5.3 \times 2.4$  mm  
Size M12x1  
Tightening torque 15 Nm  $\pm 10$  %

**Remarks**

Installation Instructions 614804  
EMC: Surge resistance  
External protection circuit is required. Document 825345, Section 2.  
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**

