



1) O-Ring with thrust ring



IND. CONT. EQ.  
 81U2  
 Class 2 Type 1

### Basic features

Approval/Conformity	CE cULus EAC WEEE
Basic standard	IEC 60947-5-2
Thrust ring, part number	705918

### Display/Operation

Function indicator	no
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	0.5 µF
Min. operating current I <sub>m</sub>	0 mA
No-load current I <sub>o</sub> max., damped	10 mA
No-load current I <sub>o</sub> max., undamped	10 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Output resistance R <sub>a</sub>	33.0 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.	20 µA
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	1000 Hz
Utilization category	DC -13
Voltage drop static max.	1.5 V

### Environmental conditions

Ambient temperature	-25...80 °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)	720 a
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**Inductive Sensors**  
**BES 516-100-S45-S4-D**  
**Order Code: BHS0001**



**Material**

Gasket, material	FPM 70
Housing material	Stainless steel
Material sensing surface	EP
Support ring material	PTFE

**Mechanical data**

Dimension	Ø 12 x 78 mm
Installation	for flush mounting
Mounting	M12x1
Pressure rating max.	500 bar
Pressure rating, note	oil pressure rated
Sealing ring, part number	636594
Sealing ring, size	5.85 x 2.4 mm
Size	M12x1
Tightening torque	15 Nm ±10 %

**Output/Interface**

Switching output	PNP normally open/normally closed (NO/NC)
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**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	±10 %

**Remarks**

The sensor is functional again after the overload has been eliminated.  
 With connector, e.g. BKS-S 20-... total length = switch length +18 mm.  
 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**

