



### Basic features

Approval/Conformity	cULus CE UKCA 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	0.5 $\mu$ F
Min. operating current I <sub>m</sub>	0 mA
No-load current I <sub>o</sub> max., damped	15 mA
No-load current I <sub>o</sub> max., undamped	9 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Output resistance R <sub>a</sub>	33.0 kOhm + D
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.	40 ms
Residual current I <sub>r</sub> max.	50 $\mu$ A
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	3500 Hz
Utilization category	DC -13
Voltage drop static max.	2.5 V

### Environmental conditions

Ambient temperature	-40...85 °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)	720 a
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Inductive Sensors  
**BES 516-118-S4-C**  
Order Code: **BES016E**

**BALLUFF**

**Interface**

**Switching output** NPN normally open/normally closed (NO/NC)

**Material**

**Housing material** Stainless steel  
**Material sensing surface** PBT

**Mechanical data**

**Dimension** Ø 12 x 70 mm  
**Installation** for flush mounting  
**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.

**Connector Drawings**



**Wiring Diagrams**

