



1) Sensing surface



Basic features

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

Display/Operation

Function indicator	yes
Power indicator	no

Electrical connection

Cable diameter D	3.00 mm
Cable length L	0.2 m
Connection	M8x1-Male, 3-pin
Connection type	Cable with connector, 0.20 m, PUR
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_m	0 mA
No-load current I_o max., damped	12 mA
No-load current I_o max., undamped	4 mA
Operating voltage U_b	10...30 VDC
Output resistance R_a	33.0 kOhm + D
Rated insulation voltage U_i	75 V DC
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.	10 ms
Residual current I_r max.	80 µA
Ripple max. (% of U_e)	15 %
Switching frequency	5000 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 g _n , 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

Functional safety

MTTF (40 °C)	830 a
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Inductive Sensors
BES 516-300-S166-S49-00,2
Order Code: BES03J9

BALLUFF

Interface

Switching output PNP normally open (NO)

Material

Housing material Zinc, Die casting
Material jacket PUR
Material sensing surface PBT

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 %

Mechanical data

Dimension 40 x 8 x 8 mm
Installation for flush mounting
Size 8x8

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

