



1) Pressure resistant area



#### Basic features

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Inductive sensor

#### 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
No-load current I <sub>o</sub> max., damped	15 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.	100 ms
Residual current I <sub>r</sub> max.	10 µA
Ripple max. (% of U <sub>e</sub> )	10 %
Switching frequency	500 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 <sub>n</sub> , 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

#### Functional safety

MTTF (40 °C)	330 a
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Inductive Sensors  
BES M12EI-PSC40B-S04G-S03  
Order Code: BES056A

**BALLUFF**

Interface

Switching output PNP normally open (NO)

Material

Housing material Stainless steel, coated, PTFE  
Material sensing surface Stainless steel/coated/PTFE

Mechanical data

Dimension Ø 12 x 65 mm  
Installation for flush mounting  
Mounting length 49.50 mm  
Pressure rating max. 60 bar  
Pressure rating, note Pressure-resistant  
Size M12x1  
Tightening torque 10 Nm

Range/Distance

Assured operating distance Sa 3 mm  
Hysteresis H max. (% of Sr) 15.0 %  
Rated operating distance Sn 4 mm  
Real switching distance sr 4 mm  
Repeat accuracy max. (% of Sr) 5.0 %  
Switching distance marking ■■  
Temperature drift max. (% of Sr) 10 %  
Tolerance Sr ±15 %

Remarks

When installing in non-ferromagnetic metals, the distance x must be considered. This dimension x is described in the document "BES 2SN STEELFACE". Since the nuts supplied are made of non-ferromagnetic metal, the specified dimension x also applies here. Mounting, where the nuts are close to the active surface, is not intended.

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 (Schematic)

