



1) Pressure resistant area



Basic features

Approval/Conformity	cULus CE UKCA 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 _o max., damped	6 mA
No-load current I _o max., undamped	2 mA
Operating voltage U _b	10...30 VDC
Output resistance R _a	100.0 kOhm
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.	23 ms
Residual current I _r max.	10 µA
Ripple max. (% of U _e)	10 %
Switching frequency	500 Hz
Utilization category	DC -13
Voltage drop static max.	2 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)	770 a
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Inductive Sensors
BES M12EI-NSC40B-S04G-S
Order Code: BES02N8

BALLUFF

Interface

Switching output NPN normally open (NO)

Material

Housing material Stainless steel

Material sensing surface Stainless steel

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 20 Nm ±10 %

Range/Distance

Assured operating distance Sa 3.2 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 ±10 %

Remarks

EMC: Surge resistance

External protection circuit is required. Document 825345, Section 2.

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)

