



Basic features

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

Display/Operation

Function indicator	yes
Power indicator	no

Electrical connection

Connection	M8x1-Male, 3-pin
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at Ue	1 μ F
Min. operating current I _m	0 mA
No-load current I _o max., damped	10 mA
No-load current I _o max., undamped	5 mA
Operating voltage U _b	12...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.	30 ms
Residual current I _r max.	20 μ A
Ripple max. (% of U _e)	15 %
Switching frequency	700 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)	880 a
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Interface

Switching output	NPN normally open (NO)
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Inductive Sensors
BES M08MI-NSC20B-S49G
Order Code: BES002U

BALLUFF

Material

Housing material	Brass, nickel-plated
Material sensing surface	PA 12

Mechanical data

Dimension	Ø 8 x 59 mm
Installation	for flush mounting
Mounting length	50.00 mm
Size	M8x1
Tightening torque	3 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 %
Switching distance marking	■ ■
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

Remarks

EMC: For operating conditions with noise sources
External protection circuit is required. Document 825345.
Flush: See installation instructions for inductive sensors with extended range 825357.
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)

