



### Basic features

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

### Display/Operation

Function indicator	yes
Power indicator	no

### Electrical connection

Connection	M12x1-Male, 3-pin, A-coded
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

### Electrical data

Load capacitance max. at Ue	1.5 µF
Min. operating current I <sub>m</sub>	0 mA
No-load current I <sub>o</sub> max., damped	11 mA
No-load current I <sub>o</sub> max., undamped	7 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Output resistance R <sub>a</sub>	47.0 kOhm
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.	35 ms
Residual current I <sub>r</sub> max.	100 µA
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	600 Hz
Utilization category	DC -13
Voltage drop static max.	1.3 V

### Environmental conditions

Ambient temperature	-25...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, according to BWN Pr 20

### Functional safety

MTTF (40 °C)	625 a
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### Interface

Switching output	NPN normally open (NO)
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Inductive Sensors  
**BES M12MF1-NSC10F-S04G**  
Order Code: BES02WN



### Material

Housing material	Brass, Nickel-free coated
Material sensing surface	PBT

### Mechanical data

Dimension	Ø 12 x 60 mm
Installation	non-flush
Size	M12x1
Tightening torque	10 Nm

### Range/Distance

Assured operating distance Sa	8 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	10 mm
Real switching distance sr	10 mm
Repeat accuracy max. (% of Sr)	5.0 %
Switching distance marking	■■■
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

