



**Basic features**

<b>Additional features</b>	Factor 1 Weld immune
<b>Approval/Conformity</b>	CE WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Trademark</b>	Factor 1

**Display/Operation**

<b>Function indicator</b>	yes
<b>Power indicator</b>	no

**Electrical connection**

<b>Connection</b>	M12x1-Male, 4-pin, A-coded
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

**Electrical data**

<b>Load capacitance max. at Ue</b>	1 µF
<b>Min. operating current Im</b>	0 mA
<b>No-load current Io max., damped</b>	15 mA
<b>No-load current Io max., undamped</b>	15 mA
<b>Operating voltage Ub</b>	10...30 VDC
<b>Protection class</b>	II
<b>Rated insulation voltage Ui</b>	250 V AC
<b>Rated operating current Ie</b>	200 mA
<b>Rated operating voltage Ue DC</b>	24 V
<b>Rated short circuit current</b>	100 A
<b>Ready delay tv max.</b>	15 ms
<b>Residual current Ir max.</b>	80 µA
<b>Ripple max. (% of Ue)</b>	10 %
<b>Switching frequency</b>	2000 Hz
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	2.5 V

**Environmental conditions**

<b>Ambient temperature</b>	-25...70 °C
<b>Contamination scale</b>	3
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 gn, 11 ms
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 1 mm, 3x30 min
<b>IP rating</b>	IP67

**Interface**

<b>Switching output</b>	NPN normally open (NO)
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**Material**

<b>Housing material</b>	Brass, Chrome-plated
<b>Material sensing surface</b>	PA 12

Inductive Sensors  
**BES M12MD1-NSC80E-S04G**  
Order Code: BES02YU

**BALLUFF**

**Mechanical data**

Dimension	Ø 12 x 50 mm
Installation	non-flush
Size	M12x1
Tightening torque	10 Nm

**Range/Distance**

Assured operating distance Sa	6.5 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	8 mm
Real switching distance sr	8 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.

**Connector Drawings**



**Wiring Diagrams**

