



## 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 $\mu$ F
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 k $\Omega$ m
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 $\mu$ A
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	1000 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	PNP normally open (NO)
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Inductive Sensors  
BES M12MD1-PSC60B-S04G  
Order Code: BES02WM

**BALLUFF**

Material

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

Mechanical data

Dimension	Ø 12 x 45 mm
Installation	quasi-flush
Mounting length	29.50 mm
Size	M12x1
Tightening torque	10 Nm

Range/Distance

Assured operating distance Sa	4.8 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	6 mm
Real switching distance sr	6 mm
Repeat accuracy max. (% of Sr)	5.0 %
Switching distance marking	■■■
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

Remarks

Quasi-flushed: See installation instructions for inductive sensors with extended range 825356.  
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)

