

Basic features

Additional features	Weld immune Factor 1
Approval/Conformity	CE cULus WEEE UKCA
Base type deviation	Ceramic coating
Basic standard	IEC 60947-5-2
Trademark	Factor 1

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
Magnetic field strength, interference field	100 kA/m
Min. operating current I_m	0 mA
No-load current I_o max., damped	15 mA
No-load current I_o max., undamped	10 mA
Operating voltage U_b	10...30 VDC
Output resistance R_a	33.0 kOhm
Protection class	II
Rated insulation voltage U_i	250 V AC
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.	15 ms
Residual current I_r max.	80 µA
Ripple max. (% of U_e)	10 %
Switching frequency	2000 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
Magnetic field immune	magnetic field immune (AC/DC)

Interface

Switching output	PNP normally open (NO)
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Inductive Sensors
BES M12MF1-PSC30A-S04G-W01
Order Code: BES02K0



Material

Housing material	Brass, PTFE coated
Material sensing surface	Ceramic

Mechanical data

Dimension	Ø 12 x 50 mm
Installation	for flush mounting
Size	M12x1
Tightening torque	10 Nm

Range/Distance

Assured operating distance Sa	2.2 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	3 mm
Real switching distance sr	3 mm
Repeat accuracy max. (% of Sr)	5.0 %
Switching distance marking	■ ■
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

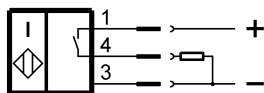
Remarks

The sensor is functional again after the overload has been eliminated.
 Sn: reduced by the coating thickness of 0.2 mm.

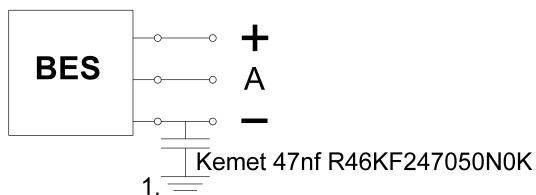
Connector Drawings



Wiring Diagrams



Installation remarks



1) Machine GND

Distance c	≥ 2 x d1
Distance b (Ferrous)	≥ 1.5 mm
Distance b (non-ferrous)	≥ 0 mm
Distance f	≥ 3 x Sn
Distance a	≥ 3 x d1