



### Basic features

Additional features	Factor 1 Weld immune
Approval/Conformity	cULus CE WEEE
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 $U_e$	1 $\mu$ F
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
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 $\mu$ A
Ripple max. (% of $U_e$ )	10 %
Switching frequency	2500 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)

### Functional safety

MTTF (40 °C)	320 a
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Inductive Sensors  
**BES M18MF1-PSC50A-S04G-W**  
Order Code: BES02K9



**Interface**

Switching output PNP normally open (NO)

**Material**

Housing material Brass, PTFE coated  
Material sensing surface LCP/PTFE

**Mechanical data**

Dimension Ø 18 x 50 mm  
Installation for flush mounting  
Size M18x1  
Tightening torque 12 Nm

**Range/Distance**

Assured operating distance Sa 4 mm  
Hysteresis H max. (% of Sr) 15.0 %  
Rated operating distance Sn 5 mm  
Real switching distance sr 5 mm  
Repeat accuracy max. (% of Sr) 5.0 %  
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**

