



### Basic features

<b>Additional features</b>	Selective ferrous
<b>Approval/Conformity</b>	CE EAC cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Target material</b>	Selective ferrous

### Display/Operation

<b>Function indicator</b>	yes
<b>Power indicator</b>	yes

### Electrical connection

<b>Connection</b>	M12x1-Male, 4-pin, A-coded
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	no
<b>Short-circuit protection</b>	yes

### Electrical data

<b>Min. operating current <math>I_m</math></b>	0 mA
<b>No-load current <math>I_o</math> max., damped</b>	10 mA
<b>No-load current <math>I_o</math> max., undamped</b>	10 mA
<b>Operating voltage <math>U_b</math></b>	10...30 VDC
<b>Rated insulation voltage <math>U_i</math></b>	75 V DC
<b>Rated operating current <math>I_e</math></b>	200 mA
<b>Rated operating voltage <math>U_e</math> DC</b>	24 V
<b>Rated short circuit current</b>	100 A
<b>Ready delay <math>t_v</math> max.</b>	20 ms
<b>Residual current <math>I_r</math> max.</b>	10 $\mu$ A
<b>Ripple max. (% of <math>U_e</math>)</b>	15 %
<b>Switching frequency</b>	15 Hz
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	2 V

### Environmental conditions

<b>Ambient temperature</b>	-40...70 °C
<b>Contamination scale</b>	3
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 1 mm, 3x30 min
<b>IP rating</b>	IP67

### Functional safety

<b>MTTF (40 °C)</b>	990 a
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### Interface

<b>Switching output</b>	PNP normally open (NO)
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Inductive Sensors  
**BES M18EG1-PSC50S-S04G-S**  
**Order Code: BES02Z9**



**Material**

<b>Housing material</b>	Stainless steel
<b>Material sensing surface</b>	Stainless steel

**Mechanical data**

<b>Dimension</b>	Ø 18 x 65 mm
<b>Installation</b>	for flush mounting
<b>Size</b>	M18x1
<b>Tightening torque</b>	30 Nm

**Range/Distance**

<b>Assured operating distance Sa</b>	4.1 mm
<b>Hysteresis H max. (% of Sr)</b>	10.0 %
<b>Rated operating distance Sn</b>	5 mm
<b>Real switching distance sr</b>	5 mm
<b>Repeat accuracy max. (% of Sr)</b>	5.0 %
<b>Temperature drift max. (% of Sr)</b>	10 %
<b>Tolerance Sr</b>	±10 %

**Remarks**

EMC: Achieves severity level only with shielded connector BKSS19-14-... Connect shield to both ends.

The sensor is functional again after the overload has been eliminated.

Ferrous - Detects ferromagnetic steel

Non-Ferrous metals (such as aluminum, copper, brass) and austenitic steel are ignored.

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**

