



1) Sensing surface



#### Basic features

Approval/Conformity	CE
	UKCA
	cULus
	WEEE
Basic standard	IEC 60947-5-2

#### Display/Operation

Function indicator	yes
Power indicator	no

#### Electrical connection

Cable diameter D	2.40 mm
Cable length L	0.3 m
Connection	M8x1-Male, 3-pin
Connection type	Cable with connector, 0.30 m, PUR
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

#### Electrical data

Load capacitance max. at U <sub>e</sub>	0.15 µF
Min. operating current I <sub>m</sub>	0 mA
No-load current I <sub>o</sub> max., damped	5 mA
No-load current I <sub>o</sub> max., undamped	2 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Output resistance R <sub>a</sub>	Open drain
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	100 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Rated short circuit current	100 A
Ready delay t <sub>v</sub> max.	25 ms
Residual current I <sub>r</sub> max.	10 µA
Ripple max. (% of U <sub>e</sub> )	10 %
Switching frequency	3500 Hz
Utilization category	DC -13
Voltage drop static max.	2 V

#### Environmental conditions

Ambient temperature	-25...70 °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	IP67

#### Functional safety

MTTF (40 °C)	305 a
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Inductive Sensors  
BES M04EC-PSC10B-EP00,3-GS49  
Order Code: BES040R

**BALLUFF**

Interface

Switching output PNP normally open (NO)

Material

Housing material Stainless steel  
Material jacket PUR  
Material sensing surface PBT

Mechanical data

Dimension Ø 4 x 22 mm  
Installation for flush mounting  
Size M4x0.5  
Tightening torque 0.8 Nm

Range/Distance

Assured operating distance Sa 0.8 mm  
Hysteresis H max. (% of Sr) 15.0 %  
Rated operating distance Sn 1 mm  
Real switching distance sr 1 mm  
Repeat accuracy max. (% of Sr) 5.0 %  
Switching distance marking ■■  
Temperature drift max. (% of Sr) 10 %  
Tolerance Sr ±10 %

Remarks

EMC: Surge resistance  
External protection circuit is required. Document 825345, Section 2.  
The sensor is functional again after the overload has been eliminated.  
The temperature drift can be below -15°C and above +60°C, up to 15% of Sr.  
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)

