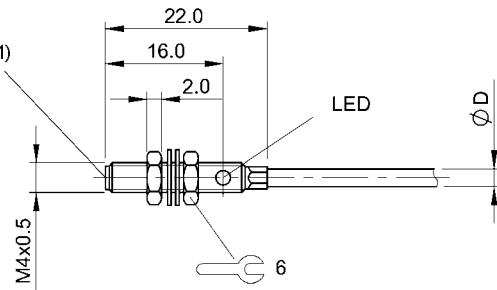


Inductive Sensors  
BES M04EC-POC10B-EP02  
Order Code: BES03Z9

**BALLUFF**



#### Basic features

Approval/Conformity	cULus CE UKCA 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	2 m
Conductor cross-section	0.10 mm <sup>2</sup>
Connection type	Cable, 2.00 m, PUR
Number of conductors	3
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

#### Electrical data

Load capacitance max. at Ue	0.15 µF
Min. operating current I <sub>m</sub>	0 mA
No-load current I <sub>0</sub> max., damped	2 mA
No-load current I <sub>0</sub> max., undamped	5 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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#### Interface

Switching output	PNP normally closed (NC)
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Material

Housing material	Stainless steel
Material jacket	PUR
Material sensing surface	PBT

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 %

Mechanical data

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

Remarks

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

EMC: Surge resistance

External protection circuit is required. Document 825345, Section 2.

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.

Wiring Diagrams

