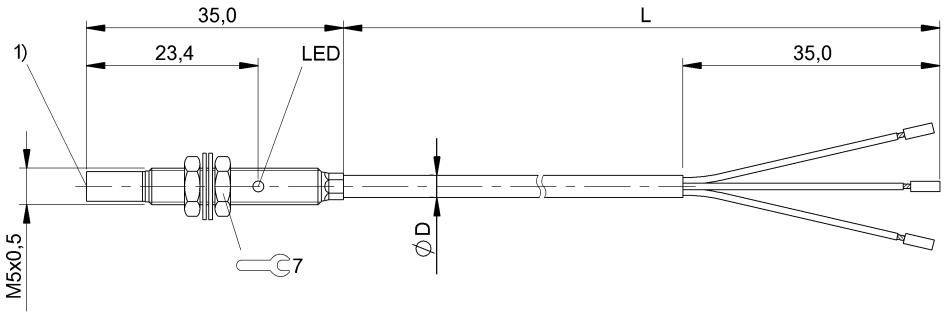
Inductive Sensors

BES M05ED-PSC50F-EP02
Order Code: BES013E



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	3.00 mm
Cable length L	2 m
Conductor cross-section	0.14 mm²
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	0.5 µF
Min. operating current Im	0 mA
No-load current Io max., damped	10 mA
No-load current Io max., undamped	8 mA
Operating voltage Ub	10...30 VDC
Output resistance Ra	Open collector
Rated insulation voltage Ui	75 V DC
Rated operating current Ie	100 mA
Rated operating voltage Ue DC	24 V
Rated short circuit current	100 A
Ready delay tv max.	20 ms
Residual current Ir max.	10 µA
Ripple max. (% of Ue)	10 %
Switching frequency	3000 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

Functional safety

MTTF (40 °C)	735 a

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Interface

Switching output	PNP normally open (NO)

Material

Housing material	Stainless steel
Material jacket	PUR
Material sensing surface	PET-C

Mechanical data

Dimension	Ø 5 x 35 mm
Installation	non-flush
Size	M5x0.5
Tightening torque	1 Nm

Range/Distance

Assured operating distance Sa	4.05 mm
Hysteresis H max. (% of Sr)	20.0 %
Rated operating distance Sn	5 mm
Real switching distance sr	5 mm
Repeat accuracy max. (% of Sr)	10.0 %
Switching distance marking	■■■
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

Remarks

Cannot be flush mounted: see installation instructions for inductive sensors with extended switching distance 939224. Avoid pressure and contact in the area of the clear zone cap.
The sensor is functional again after the overload has been eliminated.
EMC: For operating conditions with noise sources
External protection circuit is required. Document 825345.
When using an AC bridge, an electrolytic capacitor ≥10µF/40V parallel to Vs is recommended.
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

