



1) Sensing surface



Basic features

Approval/Conformity	cULus CE UKCA WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Inductive sensor

Display/Operation

Function indicator	yes
Power indicator	no

Electrical connection

Connection	M8x1-Male, 3-pin
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at Ue	1 µF
Min. operating current I _m	0 mA
No-load current I _o max., damped	6 mA
No-load current I _o max., undamped	2 mA
Operating voltage U _b	10...30 VDC
Output resistance R _a	Open drain
Rated insulation voltage U _i	75 V DC
Rated operating current I _e	100 mA
Rated operating voltage U _e DC	24 V
Rated short circuit current	100 A
Ready delay t _v max.	21 ms
Residual current I _r max.	10 µA
Ripple max. (% of U _e)	10 %
Switching frequency	5000 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 _n , 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 NPN normally open (NO)

Material

Housing material Stainless steel
 Material sensing surface PBT

Mechanical data

Dimension $\varnothing 5 \times 41$ mm
 Installation for flush mounting
 Mounting length 20.00 mm
 Size M5x0.5
 Tightening torque 1 Nm

Range/Distance

Assured operating distance S_a 1.21 mm
 Hysteresis H max. (% of S_r) 15.0 %
 Rated operating distance S_n 1.5 mm
 Real switching distance s_r 1.5 mm
 Repeat accuracy max. (% of S_r) 5.0 %
 Switching distance marking ■■
 Temperature drift max. (% of S_r) 10 %
 Tolerance S_r ± 10 %

Remarks

The sensor is functional again after the overload has been eliminated.
 EMC: Surge resistance
 External protection circuit is required. Document 825345, Section 2.
 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)

