



1) Sensing surface



IND. CONT. EQ.
 81U2
 Class 2 Type 1

Basic features

Approval/Conformity	CE cULus EAC 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	5 m
Conductor cross-section	0.09 mm ²
Connection type	Cable, 5.00 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 U _e	0.5 µF
Min. operating current I _m	0 mA
No-load current I _o max., damped	10 mA
No-load current I _o max., undamped	8 mA
Operating voltage U _b	21.6...26.4 VDC
Output resistance R _a	Open emitter
Rated insulation voltage U _i	75 V DC
Rated operating current I _e	50 mA
Rated operating voltage U _e DC	24 V
Rated short circuit current	100 A
Ready delay t _v max.	20 ms
Residual current I _r max.	10 µA
Ripple max. (% of U _e)	10 %
Switching frequency	3000 Hz
Utilization category	DC -13
Voltage drop static max.	2.5 V

Environmental conditions

Ambient temperature	0...70 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
Protection degree	IP67

Functional safety

MTTF (40 °C)	735 a
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Material

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

Mechanical data

Dimension	Ø 3 x 33 mm
Installation	non-flush
Size	D3.0

Output/Interface

Switching output	PNP normally open (NO)
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Range/Distance

Assured operating distance Sa	2.3 mm
Hysteresis H max. (% of Sr)	20.0 %
Rated operating distance Sn	3 mm
Real switching distance sr	3 mm
Repeat accuracy max. (% of Sr)	15.0 %
Switching distance marking	■ ■
Temperature drift max. (% of Sr)	15 %
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.

EMC: For operating conditions with noise sources

External protection circuit is required. Document 825345.

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

ESD: EN 61000-4-2, 24 kV contact discharge

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

