



1) Sensing surface



#### Basic features

Additional features	Factor 1
Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Trademark	Factor 1

#### Display/Operation

Function indicator	yes
Power indicator	yes

#### Electrical connection

Connection	M12x1-Male, 4-pin, A-coded
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

#### Electrical data

Load capacitance max. at $U_e$	1 $\mu$ F
Magnetic field strength, interference field	100 kA/m
Min. operating current $I_m$	0 mA
No-load current $I_0$ max., damped	20 mA
No-load current $I_0$ max., undamped	15 mA
Operating voltage $U_b$	10...30 VDC
Output resistance $R_o$	33.0 kOhm + D
Protection class	II
Rated insulation voltage $U_i$	250 V AC
Rated operating current $I_e$	200 mA
Rated operating voltage $U_e$ DC	24 V
Rated short circuit current	100 A
Ready delay $t_{vmax}$	30 ms
Residual current $I_r$ max.	80 $\mu$ A
Ripple max. (% of $U_e$ )	15 %
Switching frequency	400 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 <sub>n</sub> , 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67
Magnetic field immune	magnetic field immune (AC/DC)

Functional safety

MTTF (40 °C)	520 a
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Interface

Switching output	PNP normally open (NO)
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Material

Housing material	PBT
Material sensing surface	PBT

Mechanical data

Dimension	40 x 40 x 62 mm
Installation	for flush mounting
Size	40x40

Range/Distance

Assured operating distance Sa	11.9 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	15 mm
Real switching distance sr	15 mm
Repeat accuracy max. (% of Sr)	5.0 %
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

Remarks

Switching distance and tolerance data apply to the sensing surface location shown.

Sn: reduced by the coating thickness of 0.3 mm.

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

LED 1: Function

LED 2: Operating voltage

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

