



1) Sensing surface, 2) LED yellow, 3) LED green



Basic features

Additional features	Factor 1 Housing resistant to weld spatter Weld immune
Approval/Conformity	CE cULus EAC WEEE
Basic standard	IEC 60947-5-2
Trademark	Factor 1

Display/Operation

Function indicator	yes
Power indicator	yes

Electrical connection

Cable diameter D	3.80 mm
Cable length L	0.3 m
Conductor cross-section	0.14 mm ²
Connection	M12x1-Male, 3-pin, A-coded
Connection type	Cable with connector, 0.30 m, TPE
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	1 µF
Magnetic field strength, interference field	100 kA/m
Min. operating current I_m	0 mA
No-load current I_o max., damped	30 mA
No-load current I_o max., undamped	25 mA
Operating voltage U_b	10...30 VDC
Output resistance R_a	33.0 kOhm + D
Rated insulation voltage U_i	75 V DC
Rated operating current I_e	200 mA
Rated operating voltage U_e DC	24 V
Rated short circuit current	100 A
Ready delay t_v max.	30 ms
Residual current I_r max.	10 µA
Ripple max. (% of U_e)	15 %
Switching frequency	80 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 gn, 11 ms Half-sinus, 100 gn, 2 ms, 3x8000
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min 30 g, 10...2000 Hz
Magnetic field immune	magnetic field immune (AC/DC)
Protection degree	IP67

Functional safety

MTTF (40 °C)	335 a
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Material

Housing material	Stainless steel (1.4404), PTFE coated, weld spatter resistant
Material jacket	TPE
Material sensing surface	Stainless steel (1.4404), W51 ceramic coating
Surface protection	PTFE coated weld spatter resistant

Output/Interface

Switching output	PNP normally open (NO)
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Range/Distance

Assured operating distance Sa	4 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	5 mm
Real switching distance sr	5 mm
Repeat accuracy max. (% of Sr)	5.0 %
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

Mechanical data

Dimension	32 x 20 x 8 mm
Installation	for flush mounting
Size	32x20x8

Remarks

LED yellow: Function
 LED green: Power
 The sensor is functional again after the overload has been eliminated.
 Optical irregularities on the coating have no effect on function.
 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

