



1) Sensing surface, 2) LED yellow, 3) LED green, 4) Silicon tube D=7mm



**Basic features**

<b>Additional features</b>	Factor 1 Housing resistant to weld spatter Weld immune
<b>Approval/Conformity</b>	CE UKCA cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Inductive sensor
<b>Trademark</b>	Factor 1

**Electrical data**

<b>Load capacitance max. at Ue</b>	1 µF
<b>Magnetic field strength, interference field</b>	100 kA/m
<b>Min. operating current I<sub>m</sub></b>	0 mA
<b>No-load current I<sub>o</sub> max., damped</b>	30 mA
<b>No-load current I<sub>o</sub> max., undamped</b>	25 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Output resistance R<sub>a</sub></b>	33.0 kOhm + D
<b>Rated insulation voltage U<sub>i</sub></b>	75 V DC
<b>Rated operating current I<sub>e</sub></b>	200 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24 V
<b>Rated short circuit current</b>	100 A
<b>Ready delay t<sub>v</sub> max.</b>	30 ms
<b>Residual current I<sub>r</sub> max.</b>	10 µA
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	20 Hz
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	2 V

**Display/Operation**

<b>Function indicator</b>	yes
<b>Power indicator</b>	yes

**Electrical connection**

<b>Cable diameter D</b>	3.80 mm
<b>Cable length L</b>	0.3 m
<b>Conductor cross-section</b>	0.25 mm <sup>2</sup>
<b>Connection</b>	M12x1-Male, 4-pin, A-coded
<b>Connection type</b>	Cable with connector, 0.30 m, PUR
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

**Environmental conditions**

<b>Ambient temperature</b>	-25...70 °C
<b>Contamination scale</b>	3
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms Half-sinus, 100 g <sub>n</sub> , 2 ms, 3x8000
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 1 mm, 3x30 min 30 g, 10...2000 Hz
<b>IP rating</b>	IP67
<b>Magnetic field immune</b>	magnetic field immune (AC/DC)

### Functional safety

MTTF (40 °C) 335 a

### Interface

Switching output PNP normally open (NO)

### Material

Housing material Stainless steel, PTFE coated  
 Material jacket PUR  
 Material sensing surface Stainless steel, W51 ceramic coating

### Mechanical data

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

### 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 %

### 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.

### Connector Drawings



### Wiring Diagrams (Schematic)

