



### Basic features

<b>Additional features</b>	Factor 1 Extended temperature range Housing resistant to weld spatter
<b>Approval/Conformity</b>	CE UKCA cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Scope of delivery</b>	2x nut M18x1
<b>Trademark</b>	Factor 1

### Display/Operation

<b>Function indicator</b>	yes
<b>Power indicator</b>	no

### Electrical connection

<b>Connection</b>	M12x1-Male, 3-pin, A-coded
<b>Electrical version</b>	3-wire
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

### 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>	100.0 kOhm
<b>Protection class</b>	II
<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>	50 ms
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	2000 Hz
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	2 V

### Environmental conditions

<b>Ambient temperature</b>	-40...85 °C
<b>Contamination scale</b>	3
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 1 mm, 3x30 min
<b>IP rating</b>	IP67, IP68, according to BWN Pr 20
<b>Magnetic field immune</b>	magnetic field immune (AC/DC)

### Functional safety

<b>MTTF (40 °C)</b>	240 a
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### Interface

Switching output PNP normally open (NO)

### Material

Housing material Brass, PTFE coated  
 Material sensing surface PBT

### Mechanical data

Dimension Ø 18 x 56 mm  
 Installation non-flush  
 Mounting length 30 mm  
 Size M18x1  
 Tightening torque 15 Nm

### Range/Distance

Assured operating distance Sa 9.7 mm  
 Hysteresis H max. (% of Sr) 15.0 %  
 Rated operating distance Sn 12 mm  
 Real switching distance sr 12 mm  
 Repeat accuracy max. (% of Sr) 5.0 %  
 Switching distance marking ■■  
 Temperature drift max. (% of Sr) 10 %  
 Tolerance Sr 10 %

### Remarks

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

