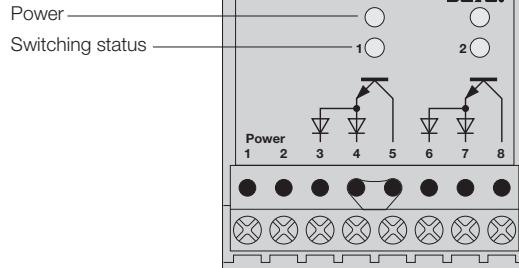


## Isolating Switching Amplifier MS13-22Ex0-T 2-channel



1

- **2-channel isolating switching amplifier**
- **Intrinsically safe input circuits EEx ia**
- **Area of application according to ATEX: II (1) GD, I (M1)**
- **Galvanic isolation between input circuits, output circuits and supply voltage**
- **2 isolated transistor outputs, short-circuit and reverse polarity protected**
- **Input circuit monitoring for short-circuit and wire-break**
- **Selectable NO/NC output function**
- **Universal supply voltage (20...250 VAC/20...125 VDC)**

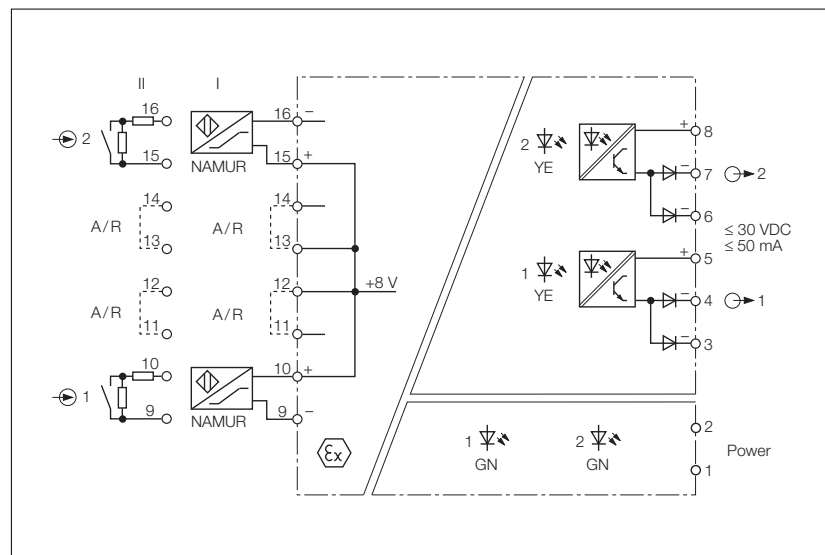
The MS13-22Ex0-T switching amplifiers are dual channel devices with intrinsically safe input circuits. They can be connected to sensors according to EN 60947-5-6 (NAMUR), variable resistors or potential-free contacts. Each output circuit has one isolated, short-circuit and reverse polarity protected transistor output.

The output of each channel is programmable for normally open mode (with jumper) or normally closed mode (without jumper). Program channel 1 for NO/A mode with a jumper between terminals 11 and 12. Leave terminals 11 and 12 open for NC/R mode. Terminals 13 and 14 perform the same functions for channel 2.

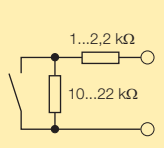
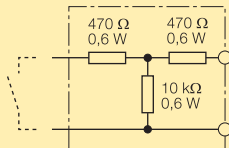
The green LED on the front cover indicates that the devices are powered. The yellow LEDs indicate the switching status of the outputs.

The input circuits are monitored for wire-break and short-circuit conditions. The respective output is disabled during an input fault condition and its corresponding green LED turns off.

When using mechanical contacts as the input device, shunt resistors (II) must be connected to the contacts. This will prevent the switching amplifier from recognising the contacts as a wire-break or fault.



## Isolating Switching Amplifier MS13-22Ex0-T

<b>Type</b>	MS13-22Ex0-T
Ident-no.	54 22302
<b>Supply voltage</b> $U_B$	20...250 VAC/20...125 VDC
Line frequency (AC)	40...70 Hz
Power consumption	$\leq 3$ W
Galvanic isolation	between input circuit, output circuit and supply voltage for 250 V <sub>rms</sub> test voltage 2.5 kV <sub>rms</sub>
<b>Input circuits</b>	acc. to EN 60947-5-6 (NAMUR), intrinsically safe according to EN 50020
Operating characteristics	
– Voltage	8 V
– Current	8 mA
Switching threshold	1.55 mA
Hysteresis	0.2 mA
Wire-break threshold	$\leq 0.1$ mA
Short-circuit threshold	R <sub>s</sub> approx. 200 Ω
<b>Contact configuration</b>	
Of mechanical switches with active input circuit monitoring function	  <p>resistor module WM1, ident-no. 0912101</p>
<b>Output circuits</b>	2 potential-free transistor outputs, short-circuit and reverse polarity protected
Switching voltage	$\leq 30$ VDC
Switching current	$\leq 50$ mA per channel
Voltage drop	$\leq 2.5$ V
Switching frequency	$\leq 2$ kHz
<b>Ex-approval acc. to certificate of conformity</b>	DMT 01 ATEX E 119
Maximum nominal values	
– No load voltage $U_0$	11.0 V
– Short-circuit current $I_0$	55 mA
– Power $P_0$	150 mW
– Safety voltage $U_m$	250 VAC/125VDC
Max. external inductances/capacitances $L_0/C_0$	
– [EEx ia] IIC	1 mH/500 nF
– [EEx ia] IIB	3 mH/2500 nF
– [EEx ia] I	10 mH/10 μF
Marking of device	Ⓢ II (1) GD [EEx ia] IIC I (M1) [EEx ia] I
<b>LED indications</b>	
– Power	green
– Switching status	2 x yellow
<b>Housing</b>	50 mm wide, Polycarbonate/ABS
Mounting	panel mounting or snap-on clamps for top-hat rail (DIN 50022)
Connection	2 x 8 self-lifting pressure plates
Connection profile	$\leq 2 \times 2.5$ mm <sup>2</sup> or $2 \times 1.5$ mm <sup>2</sup> with wire sleeves
Degree of protection (IEC 60529/EN 60529)	IP20
Operating temperature	-25...+60 °C

