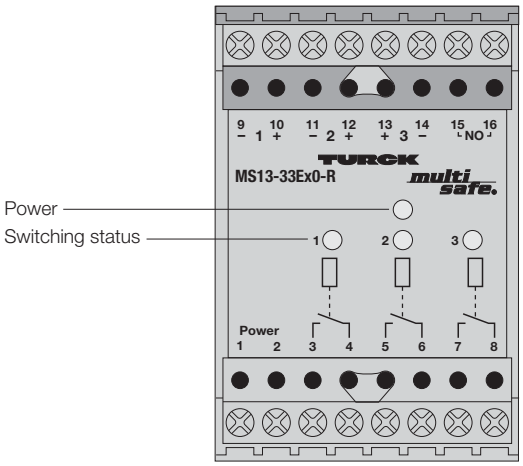


Isolating Switching Amplifier MS13-33Ex0-R 3-channel

- **3-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**
- **Input circuit monitoring for short-circuit and wire-break**
- **3 relay outputs, each with one NO contact**
- **Selectable NO/NC output function**
- **Universal supply voltage (20...250 VAC/20...125 VDC)**

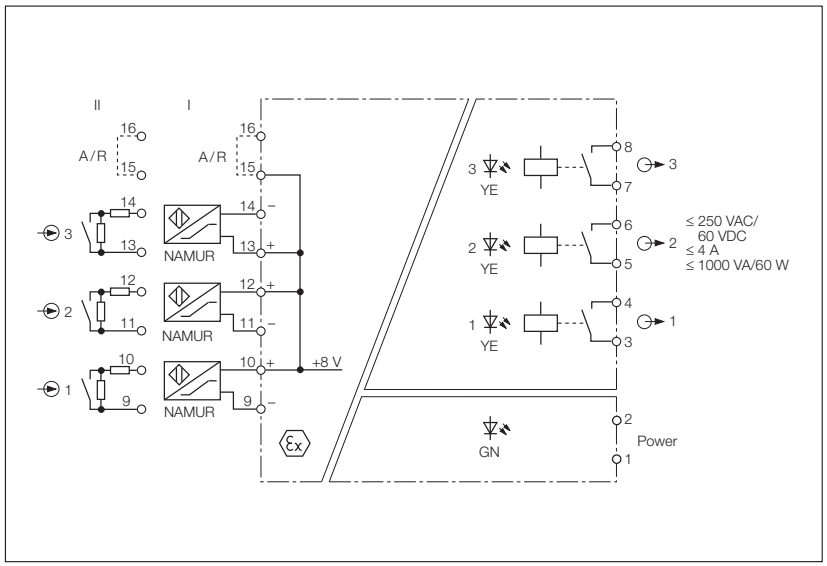
The MS13-33Ex0-R switching amplifier is a 3-channel device with intrinsically safe input circuits. They can be connected to sensors according to EN 60947-5-6 (NAMUR), variable resistors or potential-free contacts. Each output circuit features a relay with one NO contact.

The selected output mode applies to all three channels. Program for normally closed mode (NC/R) by leaving terminals 15/16 open or for normally open mode (NO/A) by linking terminals 15/16.

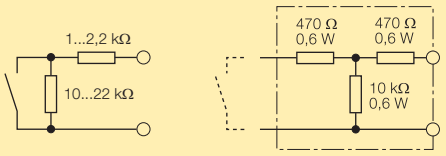
The input circuits are individually monitored for wire-break and short-circuit.

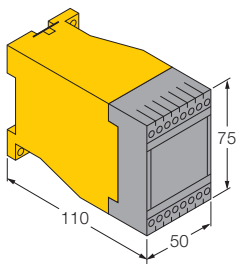
The green LED on the front cover indicates that the devices are powered. The yellow LEDs indicate the switching status of the outputs. The respective output turns off in a fault condition (green LED off).

When using mechanical contacts as input devices, resistors (II) must be added to the contacts. This will prevent the input monitoring circuit from recognising the mechanical contacts as a wire-break or short-circuit.



Isolating Switching Amplifier MS13-33Ex0-R

Type	MS13-33Ex0-R
Ident-no.	5333202
Supply voltage U_B	20...250 VAC/20...125 VDC
Line frequency (AC)	40...70 Hz
Power consumption	≤ 3 W
Galvanic isolation	between input circuit, output circuit and supply voltage for 250 V_{rms} test voltage 2.5 kV_{rms}
Input circuits	acc. to EN 60947-5-6 (NAMUR), intrinsically safe according to EN 50020
Operating characteristics	
– Voltage	8 V
– Current	4.5 mA
Switching threshold	1.55 mA
Hysteresis	0.2 mA
Wire-break threshold	≤ 0.1 mA
Short-circuit threshold	R_a approx. 200 Ω
Contact configuration	
Of mechanical switches with active input circuit monitoring function	 resistor module WM1, ident-no. 0912101
Output circuits	3 relay outputs
Contacts	1 NO contact, silver-alloy + 3 µm Au
Switching voltage	≤ 250 VAC/60 VDC
Switching current	≤ 4 A
Switching capacity	≤ 1000 VA/60 W
Switching frequency	≤ 10 Hz
Ex-approval acc. to certificate of conformity	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	⟨Ex⟩ II (1) GD [EEx ia] IIC I (M1) [EEx ia] I
LED indications	
– Power	green
– Switching status	3 x yellow
Housing	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	≤ 2 x 2.5 mm^2 or 2 x 1.5 mm^2 with wire sleeves
Degree of protection (IEC 60529/EN 60529)	IP20
Operating temperature	-25…+60 °C



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