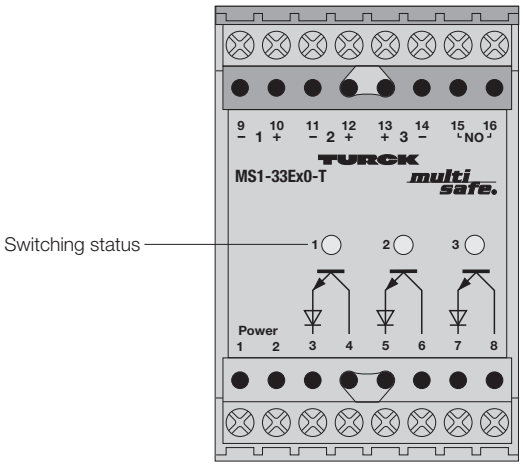


Isolating Switching Amplifier MS1-33Ex0-T 3-channel

- **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**
- **3 isolated short-circuit protected transistor outputs**
- **Selectable NO/NC output function**
- **Universal supply voltage (20...250 VAC/20...125 VDC)**

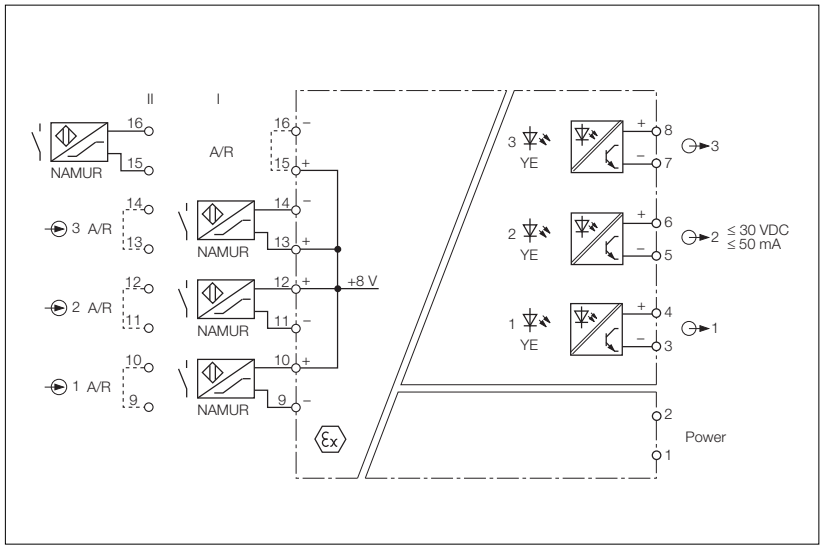
The MS1-33Ex0-T switching amplifiers are 3-channel devices with intrinsically safe input circuits. They can be connected to sensors according to EN 60947-5-6 (NAMUR), variable resistors or potential-free contacts. All three output circuits are provided with an isolated, short-circuit protected transistor output.

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

These units do not have input circuit monitoring. Therefore these devices provide an inexpensive alternative in systems which use NAMUR sensors or mechanical contacts.

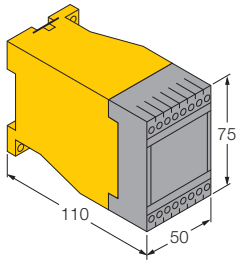
The MS1-33Ex0-T switching amplifier has an alternate configuration used to multiply outputs. This is achieved by connecting a single input device to terminals 15 and 16 (II). All three transistor outputs will then operate in parallel according to the selected output mode (each output is programmed by linking the appropriate input channels).

The yellow LEDs indicate the switching status of the outputs.



Isolating Switching Amplifier MS1-33Ex0-T

Type	MS1-33Ex0-T
Ident-no.	5413103
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	according 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
Output circuits	3 transistor outputs, potential-free, short-circuit protected
Switching voltage	≤ 30 VDC
Switching current per output	≤ 50 mA
Voltage drop	≤ 2.5 V
Switching frequency	≤ 2 kHz
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	Ⓔx II (1) GD [EEx ia] IIC I (M1) [EEx ia] I
LED indication	
– Switching status	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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