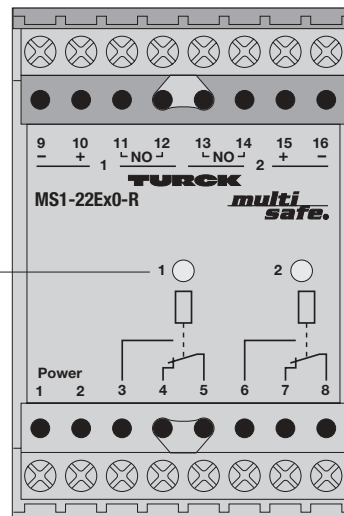


# Isolating Switching Amplifier MS1-22Ex0-R 2-channel

Switching status



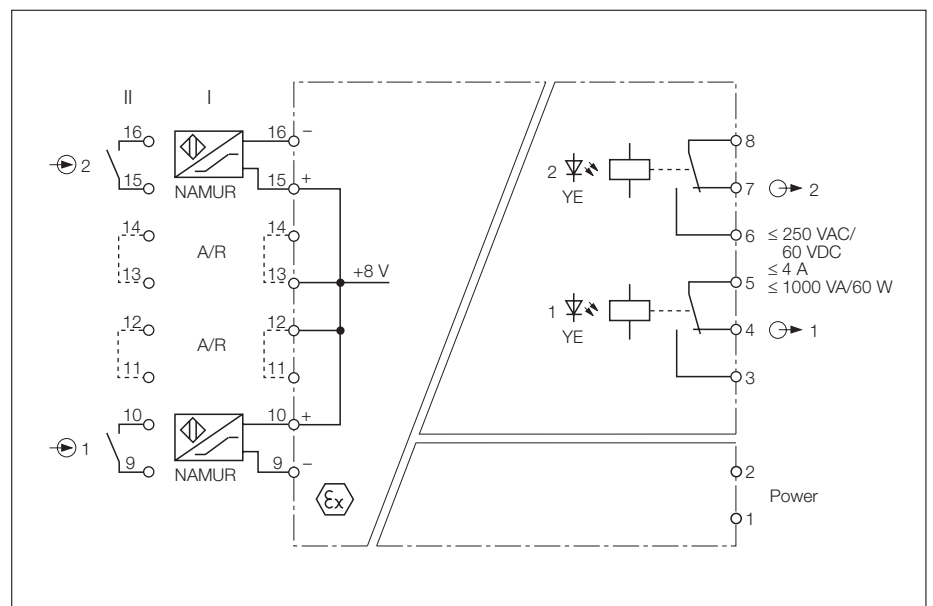
- **2-channel isolating switching amplifier**
- **Intrinsically safe input circuits EEx ia**
- **Area of application according to ATEX: II (1) GD, I (M1)**
- **Galvanic isolation between input circuits, output circuits and supply voltage**
- **2 relay outputs, each with one SPDT contact**
- **Selectable NO/NC output function of each channel**
- **Universal supply voltage (20...250 VAC/20...125 VDC)**

The MS1-22Ex0-R is a dual channel switching amplifier 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 a relay with an SPDT contact.

The output function of each channel is programmable for normally open (NO/A) mode (link terminals) or normally closed (NC/R) mode (leave terminals open). Use terminals 11/12 to program channel 1 and terminals 13/14 for channel 2.

This unit does not have input circuit monitoring. Therefore, this device provides an inexpensive alternative in systems which use NAMUR sensors (I) or mechanical contacts (II).

The yellow LEDs indicates the status of the outputs.



## Isolating Switching Amplifier MS1-22Ex0-R

|                                                      |                                                                                                                         |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Type</b>                                          | MS1-22Ex0-R                                                                                                             |
| Ident-no.                                            | 5312403                                                                                                                 |
| <b>Supply voltage</b> $U_B$                          | 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 <sub>rms</sub><br>test voltage 2.5 kV <sub>rms</sub> |
| <b>Input circuits</b>                                | 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                                                                                                                  |
| <b>Output circuits</b>                               | 2 relay outputs                                                                                                         |
| Contacts                                             | 1 SPDT 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                                                                                                                 |
| <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 indication</b>                                |                                                                                                                         |
| – Switching status                                   | yellow                                                                                                                  |
| <b>Housing</b>                                       | 50 mm wide, Polycarbonate/ABS                                                                                           |
| Mounting                                             | panel mounting or snap-on clamps<br>for top-hat rail (DIN 50022)                                                        |
| Connection                                           | 2 x 8 self-lifting pressure plates                                                                                      |
| Connection profile                                   | ≤ 2 x 2.5 mm <sup>2</sup> or 2 x 1.5 mm <sup>2</sup><br>with wire sleeves                                               |
| Degree of protection (IEC 60529/EN 60529)            | IP20                                                                                                                    |
| Operating temperature                                | -25...+60 °C                                                                                                            |

