The MS13-12Ex0-T switching amplifier is a single channel device with an intrinsically safe input circuit. The output circuit has two isolated, short-circuit and reverse polarity protected transistor outputs.

The output is programmable for normally open mode (NO/A) or normally closed mode (NC/R). Select NO mode by installing a jumper between terminals 11 and 12. Leave terminals 11 and 12 open for NC mode.

Linking terminals 15 and 16 changes the function of one relay (terminals 8, 7, 6) to provide a common output fault alarm (II).

During an input fault, the alarm output is disabled (transistor not conducting, green LED off). When no faults are in any of the input circuits and the power is on, the alarm output is enabled (transistor conducting, green LED on).

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

This unit features wire-break and short-circuit monitoring of the input circuit. The input circuit monitoring function can be disabled by linking terminals 13 and 14.
Isolating Switching Amplifiers

**Type**
- MS13-12Ex0-T/230VAC
- MS13-12Ex0-T/24VDC

**Supply Voltage** $U_b$
- Line frequency/ripple $W_{pp}$: 184...250 VAC, 48...62 Hz
- $\leq 3.5$ VA between input circuit, output circuit and supply voltage for 250 Vrms, test voltage 2.5 kVrms
- $20...28$ VDC, $\leq 10$ %, $\leq 3.6$ W between input circuit, output circuit and supply voltage for 250 Vrms, test voltage 2.5 kVrms

**Ident-No.**
- 54 450 00
- 54 450 07

**Operating characteristics Input Circuits**
- acc. to EN 50227 (NAMUR), intrinsically safe according to EN 50020
- $8$ V
- $8$ mA
- $1.55$ mA
- $0.2$ mA
- $\leq 0.1$ mA
- $R_a$ approx. 200 Ω

**Operating characteristics Output Circuits**
- 2 pnp transistor outputs, potential-free, short-circuit and reverse polarity protected
- $\leq 30$ VDC
- $\leq 50$ mA
- $\leq 2.5$ V
- $\leq 2$ kHz

**Ex-Approval acc. to Certificate of Conformity**
- BVS 94.C.2006 X
- BVS 94.C.2006 X

**Maximum nominal values**
- No load voltage $U_0$: $11.0$ V
- Short-circuit current $I_k$: $14$ mA
- $[EEx ia]$ IIC: $1$ mH/600 nF
- $[EEx ib]$ IIC: $-$

**LED Indications**
- Power "ON": green
- Status indication: yellow

**Housing**
- 50 mm wide, Polycarbonate/ABS panel mounting or snap-on clamps for top-hat rail (DIN 50022)
- Connection profile: $2 \times 2.5$ mm² or $2 \times 1.5$ mm² with wire sleeves
- IP20
- -25...+60 °C