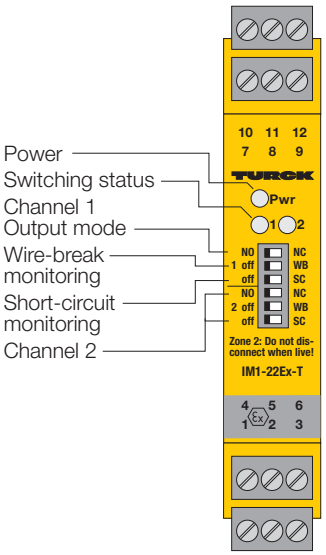


Isolating switching amplifier IM1-22Ex-T 2-channel

- **2-channel isolating switching amplifier with removeable terminal blocks**
- **Intrinsically safe input circuits EEx ia**
- **Area of application acc. to ATEX: II (1) GD, II 3 G**
- **Approved for installation in zone 2, however the device must be installed in a housing which complies with the requirements of EN 60079-15 with a minimum protection degree of IP54**
- **Functional safety up to SIL 2 (acc. to EN 61508)**
- **Input circuit monitoring for wire-break and short-circuit (can be disabled)**
- **Galvanic isolation between input circuits, output circuits and power supply**
- **Two transistor outputs for switching of voltages up to 30 VDC at a max. frequency of 5 kHz**
- **Selectable NO/NC output function**
- **Universal supply voltage (20...250 VAC/20...125 VDC)**
- **Device also available with cage-clamps, Type designation: IM1-22Ex-T-CC, Ident-no.: 7541235**

The isolating switching amplifier type IM1-22Ex-T is a dual channel device featuring intrinsically safe input circuits.

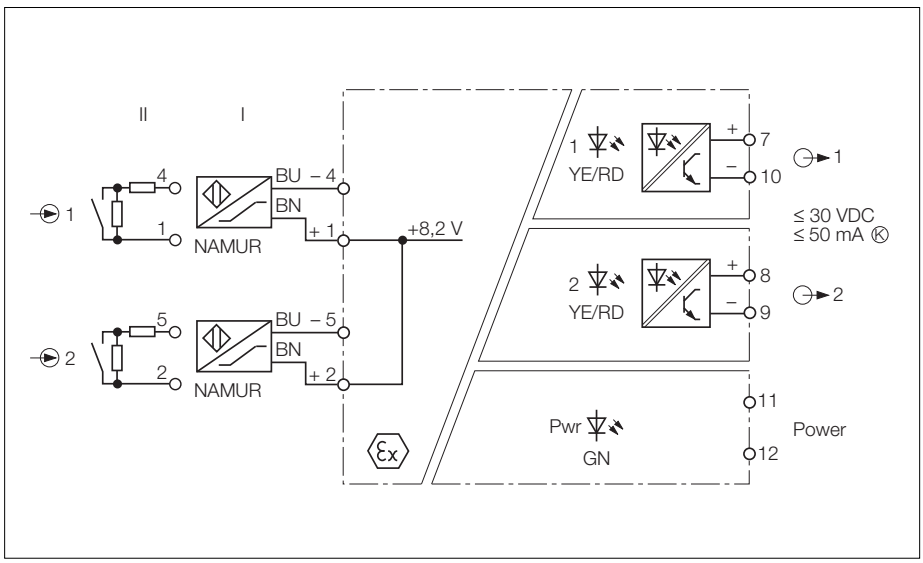
It can be connected to sensors according to EN 60947-5-6 (NAMUR), variable resistors or potential-free contacts.

The output circuit consists of two potential- free and short-circuit protected transistors, which are capable of switching voltages of 30 VDC at max. 5 kHz.

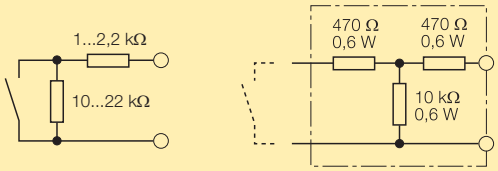
Three front panel programming switches select the output function (normally open mode = NO or normally closed mode = NC) and enable separate activation and de-activation of wire-break (WB) and short-circuit (SC) monitoring.

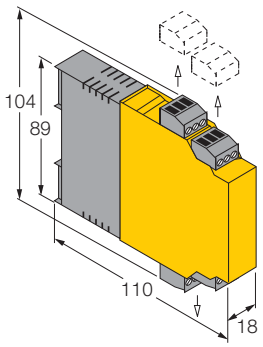
When using mechanical contacts as the input device, wire-break and short-circuit monitoring must be disabled or shunt resistors must be connected to the contacts (II). (See next page for contact configuration).

The green LED on the front cover indicates that the device is powered. The dual colour LED indicates the switching status (yellow) as well as fault conditions (red). When the input circuit monitoring feature is activated, red illuminates to indicate a fault in the input circuit and the respective output transistor is disabled.



Isolating switching amplifier IM1-22Ex-T

Type	IM1-22Ex-T
Ident-no.	7541232
Supply voltage U_B	20...250 VAC/20...125 VDC
Line frequency (AC)	40...70 Hz
Power/current consumption	≤ 3 W
Galvanic isolation	between input circuits, output circuits 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	8.2 V
– Current	8.2 mA
Switching threshold	1.55 mA
Hysteresis	typ. 0.2 mA
Wire-break threshold	≤ 0.1 mA
Short-circuit threshold	≥ 6 mA
Contact configuration Of mechanical switches with active input circuit monitoring function	 resistor module WM1, ident-no. 0912101
Output circuits	2 transistor outputs, potential-free, short-circuit protected
Switching voltage	≤ 30 VDC
Switching current per output	≤ 50 mA
Switching frequency	≤ 5 kHz
Voltage drop	≤ 1.3 V
Ex-Approval acc. to certificate of conformity	TÜV 04 ATEX 2553 / TÜV 06 ATEX 552968 X
Maximum nominal values	
– No load voltage U_0	≤ 9.6 V
– Short-circuit current I_0	≤ 11 mA
– Power P_0	≤ 26 mW
Maximum external inductances/capacitances	
– [EEx ia] IIC	1 mH/1.1 µF / 5 mH/0.83 µF / 10 mH/0.74 µF
– [EEx ia] IIB	2 mH/5,2 µF / 10 mH/3,8 µF / 20 mH/3,4 µF
– Ex nL IIC	1 mH/1,9 µF / 5 mH/1,4 µF / 10 mH/1,2 µF
– Ex nL IIB	1 mH/11 µF / 5 mH/7,5 µF / 10 mH/6,6 µF
Marking of devices	⟨Ex⟩ II (1) GD [EEx ia] IIC II 3 G Ex nA nC [nL] IIC/IIB T4
LED indications	
– Power	green
– Switching status/Fault indication	2 x yellow/red (dual colour LED)
Terminal housing	12-pole, 18 mm wide, Polycarbonate/ABS, flammability class V-0 per UL 94
Mounting	snap-on clamps for top-hat rail (DIN 50022) or screw terminals for panel mounting
Connection	removeable terminal blocks, reverse-polarity protected, screw connection, self-lifting
Connection profile	≤ 1 x 2.5 mm^2, 2 x 1.5 mm^2 or 2 x 1.0 mm^2 with wire sleeves
Degree of protection (IEC 60529/EN 60529)	IP20
Operating temperature	-25…+70 °C



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