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

The dual-channel isolating switching amplifier IM1-22EX-T is equipped with an intrinsically safe input circuit.

Sensors according to EN 60947-5-6 (NA-MUR) can be connected to the device or potential-free contactors.

The output circuits feature two potential-free and short-circuit protected transistors.

Six front panel switches are available to set the output mode separately for each channel (NO/NC mode), as well as to enable/disable wire-break (WB) and short-circuit (SC) monitoring separately.

When using mechanical contacts, wire-break and short-circuit monitoring must be switched off or the contact must be wired with resistors (II) (see circuit diagram).

The green LED indicates operational readiness. The switching status of the corresponding output is indicated yellow by the two color LED. In the event of input circuit errors the dual color LED changes to red, provided the input circuit monitoring function is activated. Thereupon the related output transistor is de-energized.

- Intrinsically safe input circuits Ex ia
- Installation in zone 2
- FM, NEPSI
- SIL2
- Application area acc. to ATEX: II (1) G, II (1) D; II G 3
- 2 transistor outputs
- Adjustable signal flow direction (NO/NC)
- Input circuit monitoring of wire-break/short-circuit (ON/OFF switchable)
- Removable terminal blocks
- Galvanic separation of input circuits, output circuits and power supply
Isolating switching amplifier
2-channel
IM1-22EX-T

Type: IM1-22EX-T
Ident-No.: 7541232
Ident-No (TUSA): M7541232

Nominal voltage
- Universal voltage supply unit

Operating voltage: 20...250 VAC
Frequency: 40...70 Hz
Operating voltage range: 20...125 VDC
Power consumption: ≤ 3 W

NAMUR
- EN 60947-5-6

No-load voltage: 8.2 VDC
Short-circuit current: 8.2 mA
Input resistance: 1 kΩ
Cable resistance: ≤ 50 Ω
Switch-on threshold: 1.55 mA
Switch-off threshold: 1.75 mA
Wire breakage threshold: ≤ 0.1 mA
Short-circuit threshold: ≥ 6 mA
Voltage drop: ≤ 2.5 V

Semiconductor output circuit(s)
- 2 x transistor (potential-free, short-circuit protected)
Output circuits (digital)
- ≤ 30 VDC
Switching voltage
- ≤ 50 mA
Switching current per output
- ≤ 3000 Hz

Galvanic separation
Test voltage: 2.5 kV

Ex approval acc. to conformity certificate
- TÜV 04 ATEX 2553

Application area: II (1) G, II (1) D
Protection type: [Ex ia Ga] IIC; [Ex ia Da] IIIIC
Max. output voltage U
- ≤ 9.6 V
Max. output current I
- ≤ 11 mA
Max. output power P
- ≤ 26 mW
Rated voltage: 250 V
Characteristic: linear
Internal inductance/capacitance L/C
- Ci vernachlässigbar klein, Li= 65 µH
External inductance/capacitance L/C

<table>
<thead>
<tr>
<th>Ex ia</th>
<th>IIC</th>
<th>IIB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lo [mH]</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Co [µF]</td>
<td>1.1</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Ex approval acc. to conformity certificate
- TÜV 06 ATEX 552968 X

Application area: II 3 G
Protection class for belonging equipment: Ex nA [ic Gc] IIC/IIB T4
Max. output voltage U
- ≤ 9.6 V
Max. output current I
- ≤ 11 mA
Max. output power P
- ≤ 26 mW
Characteristic: linear
External inductance/capacitance L/C
- Ci vernachlässigbar klein, Li= 65 µH
External inductance/capacitance L/C

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Approval: SIL 2

Indication
- Operational readiness: green
- Switching state: yellow
- Error indication: red
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**Mechanical Data**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection class</td>
<td>IP20</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-25…+70 °C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40…80°C</td>
</tr>
<tr>
<td>Dimensions</td>
<td>104 x 18 x 110 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>146 g</td>
</tr>
<tr>
<td>Mounting instruction</td>
<td>For mounting on DIN rail or mounting panel</td>
</tr>
<tr>
<td>Housing material</td>
<td>Polycarbonate/ABS</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>4 x 3-pole removable terminal blocks, reverse polarity protected, screw connection</td>
</tr>
<tr>
<td>Terminal cross-section</td>
<td>1 x 2.5 mm² / 2 x 1.5 mm²</td>
</tr>
</tbody>
</table>
## Isolating switching amplifier
### 2-channel
#### IM1-22EX-T

### Accessories

<table>
<thead>
<tr>
<th>Type code</th>
<th>Ident-No.</th>
<th>Short text</th>
<th>Dimension drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM-CC-3X2BU/2BK</td>
<td>6900475</td>
<td>Cage clamp terminals for IM modules (Ex devices; width 18 mm): 2 blue/2 black, 3-pin, included in delivery.</td>
<td><img src="image" alt="Dimension drawing" /></td>
</tr>
</tbody>
</table>