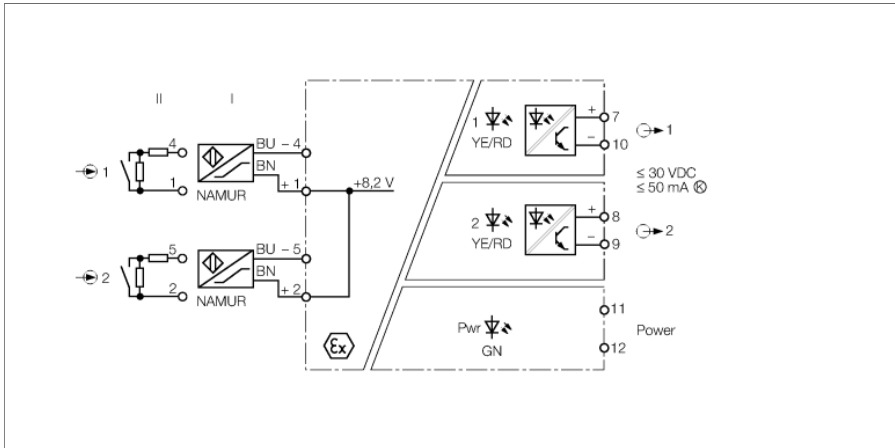


**Isolating switching amplifier  
2-channel  
IM1-22EX-T**



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

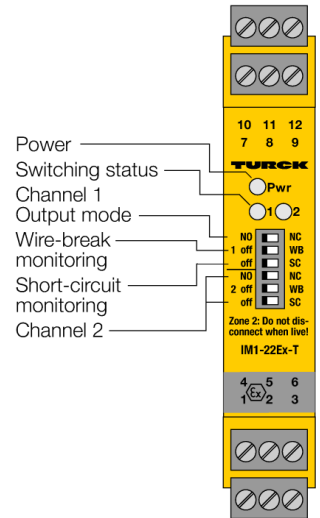
Sensors according to EN 60947-5-6 (NAMUR) can be connected to the device or potential-free contactors.

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.

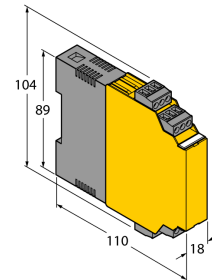


- Intrinsically safe input circuits Ex ia
- Installation in zone 2
- FM, NEPSI
- SIL2
- Application area acc. to ATEX: II (1) G, II (1) D; II G 3
- 2 transistor outputs
- Adjustable signal flow direction (NO/NC)
- Input circuit monitoring of wire-break/short-circuit (ON/OFF switchable)
- Removable terminal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

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

<b>Type</b>	IM1-22EX-T																					
Ident-No.	7541232																					
Ident-No (TUSA)	M7541232																					
<b>Nominal voltage</b>	Universal voltage supply unit																					
Operating voltage	20...250 VAC																					
Frequency	40...70 Hz																					
Operating voltage range	20...125 VDC																					
Power consumption	≤ 3 W																					
<b>NAMUR</b>	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																					
<b>Voltage drop</b>	≤ 2.5 V																					
Semiconductor output circuit(s)																						
Output circuits (digital)	2 x transistor (potential-free, short-circuit protected)																					
Switching voltage	≤ 30 VDC																					
Switching current per output	≤ 50 mA																					
Switching frequency	≤ 3000 Hz																					
<b>Galvanic separation</b>																						
Test voltage	2.5 kV																					
<b>Ex approval acc. to conformity certificate</b>	TÜV 04 ATEX 2553																					
Application area	II (1) G, II (1) D																					
Protection type	[Ex ia Ga] IIC; [Ex ia Da] IIIC																					
Max. output voltage $U_o$	≤ 9.6 V																					
Max. output current $I_o$	≤ 11 mA																					
Max. output power $P_o$	≤ 26 mW																					
Rated voltage	250 V																					
Characteristic	linear																					
Internal inductance/capacitance L/C,	Ci vernachlässigbar klein, Li= 65μH																					
External inductance/capacitance L <sub>e</sub> /C <sub>e</sub> ,																						
	<table border="1"> <thead> <tr> <th>Ex ia</th> <th colspan="3">IIC</th> <th colspan="3">IIB</th> </tr> </thead> <tbody> <tr> <td>Lo [mH]</td> <td>1</td> <td>5</td> <td>10</td> <td>2</td> <td>10</td> <td>20</td> </tr> <tr> <td>Co [μF]</td> <td>1,1</td> <td>0,83</td> <td>0,74</td> <td>5,2</td> <td>3,8</td> <td>3,4</td> </tr> </tbody> </table>	Ex ia	IIC			IIB			Lo [mH]	1	5	10	2	10	20	Co [μF]	1,1	0,83	0,74	5,2	3,8	3,4
Ex ia	IIC			IIB																		
Lo [mH]	1	5	10	2	10	20																
Co [μF]	1,1	0,83	0,74	5,2	3,8	3,4																
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 $U_o$	≤ 9.6 V																					
Max. output current $I_o$	≤ 11 mA																					
Max. output power $P_o$	≤ 26 mW																					
Characteristic	linear																					
External inductance/capacitance L <sub>e</sub> /C <sub>e</sub> ,	Ci vernachlässigbar klein, Li= 65 μH																					
External inductance/capacitance L <sub>e</sub> /C <sub>e</sub> ,																						
	<table border="1"> <thead> <tr> <th>Ex ia</th> <th colspan="3">IIC</th> <th colspan="3">IIB</th> </tr> </thead> <tbody> <tr> <td>Lo [mH]</td> <td>1</td> <td>5</td> <td>10</td> <td>2</td> <td>10</td> <td>20</td> </tr> <tr> <td>Co [μF]</td> <td>1,1</td> <td>0,83</td> <td>0,74</td> <td>5,2</td> <td>3,8</td> <td>3,4</td> </tr> </tbody> </table>	Ex ia	IIC			IIB			Lo [mH]	1	5	10	2	10	20	Co [μF]	1,1	0,83	0,74	5,2	3,8	3,4
Ex ia	IIC			IIB																		
Lo [mH]	1	5	10	2	10	20																
Co [μF]	1,1	0,83	0,74	5,2	3,8	3,4																
<b>Approval</b>	SIL 2																					
Approval																						
<b>Indication</b>																						
Operational readiness	green																					
Switching state	yellow																					
Error indication	red																					

**Dimensions**



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

---

**Mechanical Data**

Protection class	IP20
Ambient temperature	-25...+70 °C
Storage temperature	-40...80°C
Dimensions	104 x 18 x 110 mm
Weight	146 g
Mounting instruction	For mounting on DIN rail or mounting panel
Housing material	Polycarbonate/ABS
Electrical connection	4 x 3-pole removable terminal blocks, reverse polarity protected, screw connection
Terminal cross-section	1 x 2.5 mm <sup>2</sup> / 2 x 1.5 mm <sup>2</sup>

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

**Accessories**

Type code	Ident-No.	Short text	Dimension drawing
IM-CC-3X2BU/2BK	6900475	Cage clamp terminals for IM modules (Ex devices; width 18 mm); 2 blue/2 black, 3-pin, included in delivery.	