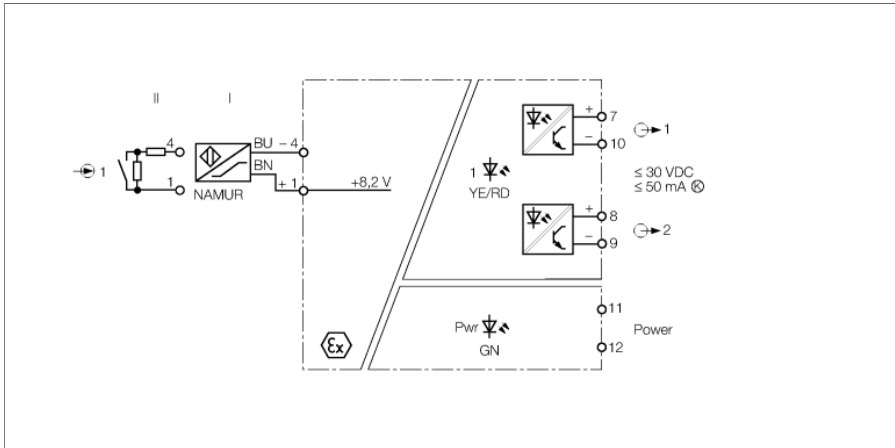


# Isolating switching amplifier

## 1-channel

### IM1-12EX-T



The 1-channel IM1-12EX-T isolating switching amplifier is equipped with an intrinsically safe input circuit.

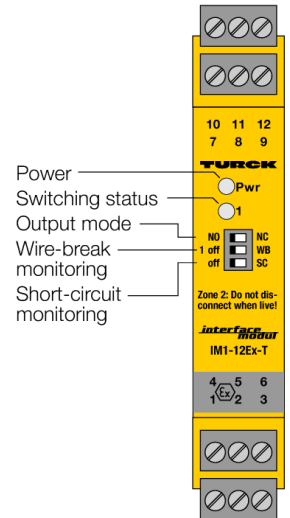
Sensors according to EN 60947-5-6 (NAMUR) or potential-free contactors can be connected to the device.

The output circuits feature 2 potential-free and short-circuit proof transistors.

The output mode (working or quiescent current behavior, i.e. NO/NC) can be set via three switches on the front. The switching state of channel 1 is thereby transmitted to outputs 1 and 2.

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

The Pwr LED lights green to indicate operational readiness. The 2-color LED 1 lights yellow to indicate the switching status of the output. In the event of an input circuit error, the 2-color LED turns red, with the input circuit monitoring switched on. Thereupon the output transistors are blocked.



- 2 transistor outputs, short-circuit proof, potential-free and reverse-polarity protected
- Output mode adjustable (NO/NC mode)
- Input circuits monitored for wire-break/short-circuit (ON/OFF switchable)
- SIL 2
- Complete galvanic isolation
- Input reverse-polarity protected
- ATEX, IECEx, UL,  $\text{FM}_{us}$ , CSA, TR CU, NEPSI, KOSHA, TIIS, CCOE, INMETRO
- Installation in zone 2

## Dimensions



Type	IM1-12EX-T
ID	7541227
<b>Nominal voltage</b>	
Nominal voltage	Universal voltage supply unit
Operating voltage	20...250 VAC
Frequency	40...70 Hz
Operating voltage $U_s$	20...125 VDC
Power consumption	$\leq 3$ W
<b>NAMUR input</b>	
NAMUR	EN 60947-5-6
Input circuit monitoring	on/off switchable
No-load voltage	8.2 VDC
Short-circuit current	8.2 mA
Input resistance	1 k $\Omega$
Cable resistance	$\leq 50$ $\Omega$
Switch-on threshold	1.75 mA
Switch-off threshold	1.55 mA
Wire breakage threshold	$\leq 0.06$ mA
Short-circuit threshold	$\geq 6.4$ mA
<b>Output circuits</b>	
<b>Semiconductor output circuits</b>	
Output circuits (digital)	2 x transistor (potential-free, short-circuit proof)
Switching voltage	$\leq 30$ VDC
Switching current per output	$\leq 0.05$ A
Switching frequency	$\leq 5000$ Hz
Voltage drop	$\leq 2.5$ V
<b>Galvanic isolation</b>	
Test voltage	2.5 kV RMS
<b>Important note</b>	
	For Ex-applications the values specified in the corresponding Ex certificates (ATEX, IECEx, UL, etc.) apply.
Ex approval acc. to conformity certificate	TÜV 21 ATEX 303590 X
Application area	II (1) G, II (1) D
Ignition protection category	[Ex ia Ga] IIC; [Ex ia Da] IIIC
Ex approval acc. to conformity certificate	TÜV 06 ATEX 552968 X
Application area	II 3 G
Ignition protection type	Ex nA [ic Gc] IIC/IIB T4 Gc
Characteristic	linear
Important note	If the device is used in applications to achieve functional safety according to IEC 61508, the safety manual must be used. Information in the data sheet are not valid for functional safety.
Approval	SIL 2 acc. to EXIDA FMEDA
Use in SIL safety circuits	SIL 2 acc. to IEC 61508
<b>Displays/Operating elements</b>	
Operational readiness	Green
Switching state	Yellow
Error indication	red

Mechanical data	
Protection class	IP20
Flammability class acc. to UL 94	V-0
Ambient temperature	-25...+70 °C
	-25 ... +60 °C für UL, FM, TIIIS
Storage temperature	-40...+80 °C
Dimensions	104 x 18 x 110 mm
Weight	165 g
Mounting instructions	DIN rail (NS35) or panel
Housing material	Plastic, Polycarbonate/ABS
Electrical connection	4 × 3-pin removable terminal blocks, reverse polarity protected, screw terminal
Terminal cross-section	1 × 2.5 mm <sup>2</sup> /2 × 1.5 mm <sup>2</sup>
Tightening torque	0.5 Nm

## Accessories

Type code	Ident-No.		Dimension drawing
WM1 WIDER- STANDSMODUL	0912101	The resistor module WM1 meets the requirements for line monitoring between a mechanical contact and a TURCK signal processor. The input circuit of the signal processor is designed for sensors acc. to EN60947-5-6 (NAMUR) and equipped with a wire-break and short-circuit monitoring function.	
IM-CC-3X2BU/2BK	6900475	Cage clamp terminals for IM modules (Ex-devices with 18 mm overall width); includes: 2 pcs. 3-pin blue terminals and 2 pcs. 3-pin black terminals.	