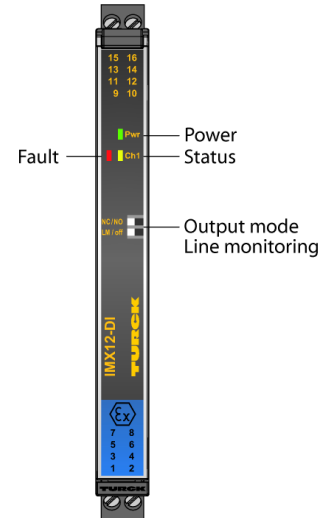
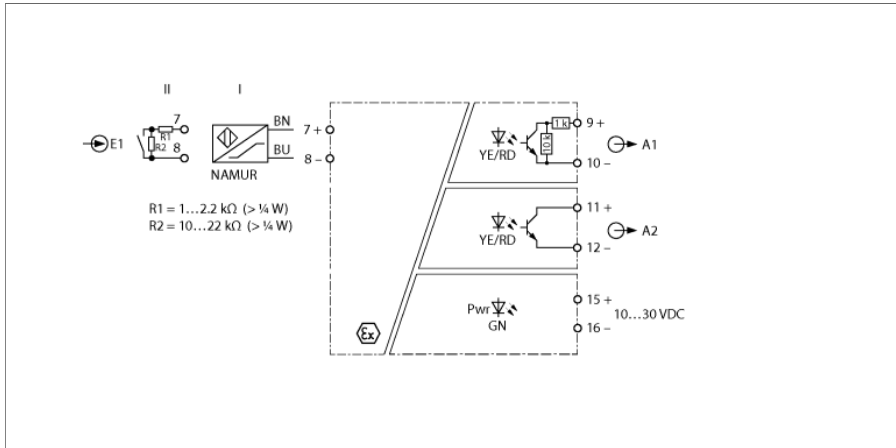


# Isolating switching amplifier 1-channel IMX12-DI03-1S-1NAM1T-0/24VDC



Sensors according to EN 60947-5-6 (NAMUR) or potential-free contacts can be connected to the IMX12-DI03-1S-1NAM1T-0/24VDC NAMUR repeater. The device is equipped with an intrinsically safe input circuit and can be installed in zone 2. The output circuit is additionally equipped with 1 transistor output. The device complies with the requirements of the NE21.

The devices feature DIP switches on the front. Thus, the direction of action and the input circuit monitoring can be switched separately. When using mechanical contacts, either line monitoring must be switched off or the contact must be wired with resistors (see wiring diagram).

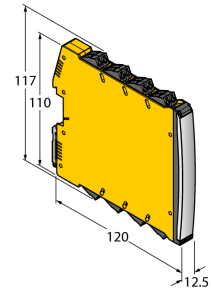
The Pwr LED lights green to indicate operational readiness. An error in the input circuit leads to a flashing red LED according to NE44. A LOW level is then emitted at both outputs.

The device can be used in safety circuits up to SIL2 (high and low demand according to IEC 61508).

The device is equipped with removable screw terminals.

- Transistor output ( $\leq 10$  kHz)
- NAMUR Repeater
- Input circuits monitored for wire-break and short-circuit
- Complete galvanic isolation
- Input reverse-polarity protected
- Removable screw terminals
- ATEX, IECEx, NEPSI, cUL, cFM, INMETRO, Kosha, TIIS
- Use in Zone 2
- SIL 2

## Dimensions



Type	IMX12-DI03-1S-1NAM1T-0/24VDC
ID	7580004
<b>Nominal voltage</b> 24 VDC	
<b>Operating voltage</b> 10...30 VDC	
<b>Power consumption</b> ≤ 0.8 W	
<b>Power dissipation, typical</b> ≤ 1.03 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 kΩ
Cable resistance	≤ 50 Ω
Switch-on threshold	1.75 mA
Switch-off threshold	1.55 mA
Wire breakage threshold	≤ 0.06 mA
Short-circuit threshold	≥ 6.4 mA
<b>Output circuits</b>	
NAMUR-Repeater	NAMUR output acc. to EN 60947-5-6
<b>Semiconductor output circuits</b>	
Output circuits (digital)	1 x transistor (potential-free, short-circuit proof)
Switching voltage	≤ 30 VDC
Switching current per output	≤ 0.1 A
Switching frequency	≤ 10000 Hz
Voltage drop	≤ 2.7 V
<b>Galvanic isolation</b>	
Test voltage	2.5 kV RMS
Input 1 to output 1	375 V peak value acc. to EN 60079-11
Input 1 to supply	375 V peak value acc. to EN 60079-11
Output 1 to supply	100 V RMS acc. to EN 50178 and EN 61010-1
Output 2 to supply	100 V RMS acc. to EN 50178 and EN 61010-1
Output 1 to output 2	100 V RMS acc. to EN 50178 and EN 61010-1
<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 14 ATEX 147004 X
Application area	II (1) G, II (1) D
Ignition protection category	[Ex ia Ga] IIC; [Ex ia Da] IIIC
Application area	II 3 (1) G
Ignition protection type	Ex nA [ia Ga] IIC T4 Gc
<b>Important note</b>	
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.	
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		
Storage temperature	-40...+80 °C		
Dimensions	120 x 12.5 x 117 mm		
Weight	147 g		
Mounting instructions	DIN rail (NS35)		
Housing material	Polycarbonate/ABS		
Electrical connection	Removable screw terminals, 2-pin		
Terminal cross-section	0.2...2.5 mm <sup>2</sup> (AWG: 24...14)		
Tightening torque	0.5 Nm		
Tightening torque	4.43 LBS-Inch		
Environmental conditions	Operating height	Up to 2000 m above sea level	
	Pollution degree	II	
	Surge/Overvoltage category	II (EN 61010-1)	
	Standards used		
	Voltage resistance and insulation		EN 50178
			EN 61010-1
			EN 50155
			GL VI-7-2
	Shock		EN 61373 class B
			EN 50155
			GL VI-7-2
			EN 60068-2-6
			EN 60068-2-27
	Temperature		EN 60068-2-1 Ad
			EN 50155
			GL VI-7-2
			EN 60068-2-2 Bd
			EN 60068-2-1
	Air humidity		
			EN 60068-2-38
	EMC		EN 50155
			GL VI-7-2
			NE21
			EN 61326-1
			EN 61326-3-1
			EN 61000-4-2
		EN 61000-4-3	
		EN 61000-4-4	
		EN 61000-4-5	
		EN 61000-4-6	
		EN 61000-4-11	
		EN 61000-4-29	
		EN 55011	
		EN 55016	
	EN 50121-3-2		
	EN 61000-6-2		

## 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.	
IMX12-SC-2X-4BK	7580940	Screw terminals for IM(X)12 modules; included in delivery: 4 pcs. of 2-pin black terminals	
IMX12-SC-2X-4BU	7580941	Screw terminals for IM(X) 12 modules; included in delivery: 4 pcs. of 2-pin blue terminals	
IMX12-CC-2X-4BK	7580942	Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. black terminals, 2-pin	
IMX12-CC-2X-4BU	7580943	Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. blue terminals, 2-pin	