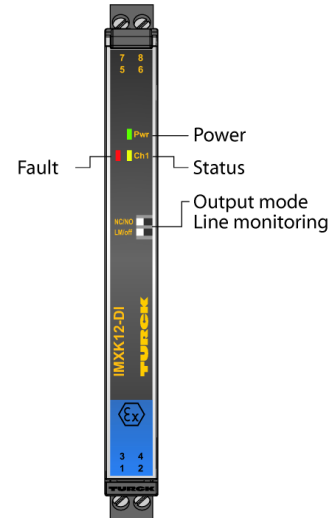
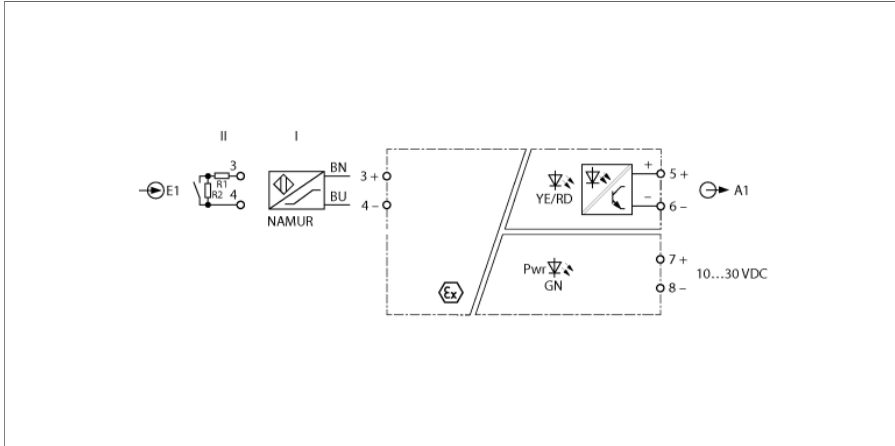


# Isolating switching amplifier 1-channel IMXK12-DI01-1S-1T-0/24VDC



Sensors according to EN 60947-5-6 (NAMUR) or potential-free contacts can be connected to the IMXK12-DI01-1S-1T-0/24VDC 1-channel isolating switching amplifier. The device is equipped with an intrinsically safe input circuit and can be installed in zone 2. The output circuit is equipped with a potential-free transistor with a high cut-off frequency (10 kHz). The device complies with the requirements of NE21.

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

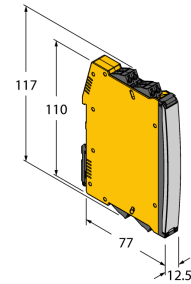
The green LED indicates operational readiness. An error in the input circuit causes the red LED to flash according to NE44. Then, the transistor of the corresponding output circuit locks.

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)
- Output mode adjustable (open-circuit/closed current mode)
- Input circuit monitored for wire break/short circuit (ON/OFF switchable)
- Complete galvanic isolation
- Input reverse-polarity protected
- Removable screw terminals
- ATEX, IECEx, cUL
- Installation in zone 2
- SIL 2

Type	IMXK12-DI01-1S-1T-0/24VDC
ID	100000681
Nominal voltage	24 VDC
Operating voltage	10...30 VDC
Power consumption	≤ 0.8 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>	
<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

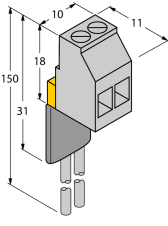
<b>Galvanic isolation</b>	
Test voltage	2.5 kV RMS
Input 1 to output 1	375 V peak value acc. to EN 60079-11
Input 1 to supply	375 V peak value acc. to EN 60079-11
Output 1 to supply	100 V RMS acc. to EN 50178 and EN 61010-1

<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	80 x 12.5 x 117 mm		
Weight	107 g		
Mounting instructions	DIN rail (NS35)		
Housing material	Polycarbonate/ABS		
Terminal cross-section	0.2...2.5 mm <sup>2</sup> (AWG: 24...14)		
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
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	
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	
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.	

