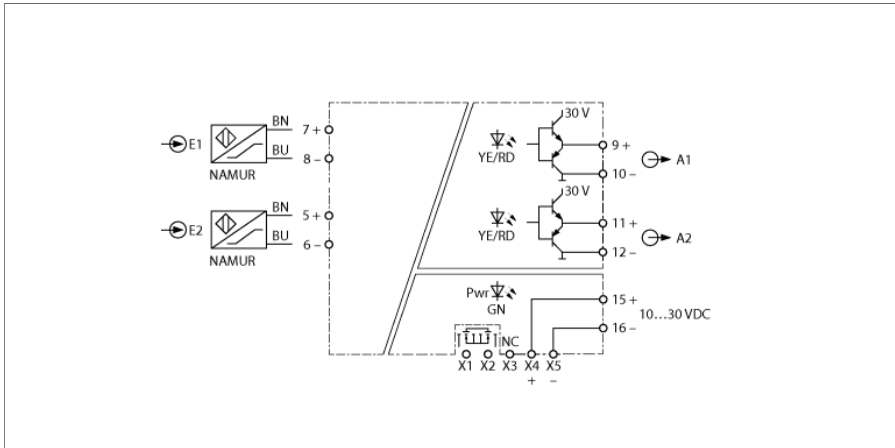


# Isolating switching amplifier 2-channel IM12-DI01-2S-2PP-PR/24VDC



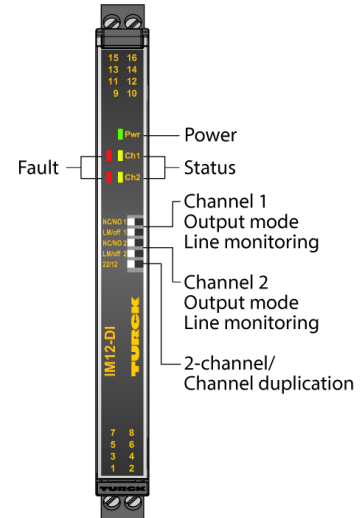
Sensors according to EN 60947-5-6 (NAMUR) or potential-free contacts can be connected to the IM12-DI01-2S-2PP-PR/24VDC isolating switching amplifier. The device is equipped with two channels, but can also be used as a splitter. The device can be installed in zone 2. The output circuit is equipped with 2 push/pull outputs with a high cut-off frequency (15 kHz). The device can be powered from a power bridge that also transmits a collective fault signal. The device complies with the requirements of NE21.

The devices feature DIP switches on the front. This allows to select between the output mode, the input circuit monitoring, as well as toggle between signal duplication and 1-channel operation. 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. The output level then drops to below 1 V and the common alarm output switches to conductive.

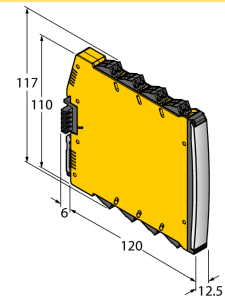
The device can be used in safety circuits up to SIL2 (high and low demand according to IEC 61508).

The device is equipped with removable screw terminals.



- Two transistor outputs (push-pull)
- Switchable: 2-channel or signal doubling
- Output mode adjustable (NO/NC mode)
- Input circuits monitored for wire-break/short-circuit (ON/OFF switchable)
- Complete galvanic isolation
- Input reverse-polarity protected
- Removable screw terminals
- Connector for power bridge incl. in delivery
- ATEX use in Zone 2, cUL
- SIL 2

## Dimensions



Type	IM12-DI01-2S-2PP-PR/24VDC
ID	7580045
Nominal voltage	24 VDC
Operating voltage	10...30 VDC
Power consumption	≤ 1.7 W
Power dissipation, typical	≤ 1.04 W
Input	2-channel or 1-channel with signal doubling
NAMUR input	
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
Output circuits	
Push Pull	High 28,5V...30V, Low < 1V, f = 15kHz
Power-Bridge common alarm output	MOSFET, U <sub>max</sub> = 30 V, I <sub>max</sub> = 100 mA
Galvanic isolation	
Test voltage	2.5 kV RMS
Input 1 to output 1	375 V peak value acc. to EN 60079-11
Input 2 to output 2	375 V peak value acc. to EN 60079-11
Input 1 to supply	375 V peak value acc. to EN 60079-11
Input 2 to supply	375 V peak value according to EN 60079-11
Important note	For Ex-applications the values specified in the corresponding Ex certificates (ATEX, IECEx, UL, etc.) apply.
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.
Use in SIL safety circuits	SIL 2 acc. to IEC 61508
Displays/Operating elements	
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	1 g		
Mounting instructions	DIN rail (NS35)		
Housing material	Polycarbonate/ABS		
Electrical connection	Removable screw terminals, 2-pin		
Connection variant	Power bridge with collective fault signal		
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-CC-2X-4BK	7580942	Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. black terminals, 2-pin	
IMC 1.5/ 5-ST-3.81 BK	7580954	Power Bridge Connection Terminal	
MCVR 1.5/ 5-ST-3.81 BK	7580955	Power Bridge Connection Terminal	
MC 1.5/ 5-ST-3.81 BK	7580956	Power Bridge Connection Terminal	
E/ME TBUS NS35 BK	7580957	Power Bridge Connection Terminal	