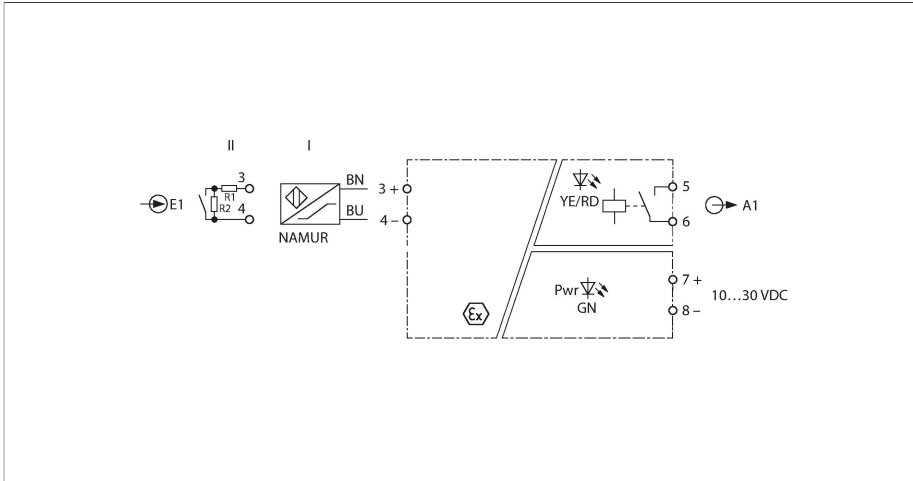


IMXK12-DI01-1S-1R-0/24VDC

Isolating switching amplifier – 1-channel



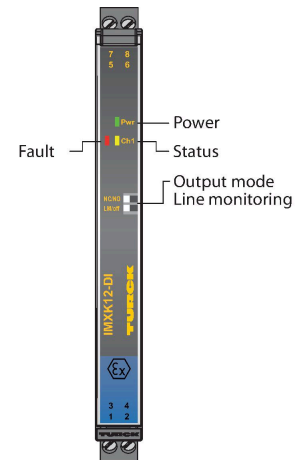
Sensors according to EN 60947-5-6 (NAMUR) or potential-free contacts can be connected to the IMXK12-DI01-1S-1R-0/24VDC 1-channel isolating switching amplifier. The device is equipped with an intrinsically safe input circuit and can be installed in zone 2. The output circuit is equipped with a changeover relay. 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. The relay of the corresponding output circuit drops out.

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

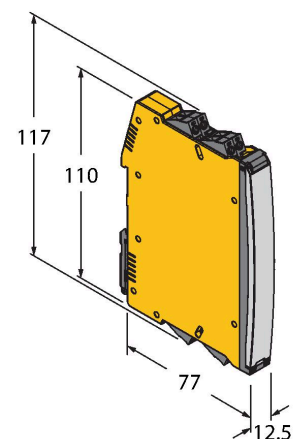
The device is equipped with removable screw terminals.



Features

- Relay output
- Adjustable output mode (NO/NC mode)
- Input monitored for wire breaks/short circuits (ON/OFF switchable)
- Complete galvanic isolation
- Input reverse-polarity protected
- Removable screw terminals
- ATEX, IECEx, cUL
- Installation in zone 2
- SIL 2

Dimensions



Technical data

Type	IMXK12-DI01-1S-1R-0/24VDC
ID	100000679
Nominal voltage	24 VDC
Operating voltage	10...30 VDC
Power consumption	≤ 1 W
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 (digital)	1 x relay (change-over)
Output switching voltage relay	≤ 30 VDC / ≤ 250 VAC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Switching frequency	≤ 15 Hz
Contact quality	AgNi
Galvanic isolation	
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	300 V RMS acc. to EN 50178 and EN 61010-1
Important note	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 nC [ia Ga] IIC T4 Gc
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
Indication	
Power on display	Green

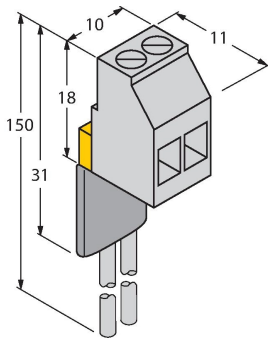
Technical data

Switching state	Yellow
Error indication	red
Protection class	IP20
Flammability class acc. to UL 94	V-0
Ambient temperature (min.)	-25
Ambient temperature (max.)	70
Storage temperature	-40...+80 °C
Dimensions	80 x 12.5 x 117 mm
Weight	111 g
Mounting instructions	DIN rail (NS35)
Housing material	Polycarbonate/ABS
Terminal cross-section	0.2...2.5 mm ² (AWG: 24...14)

Environmental conditions	Operating altitude	Up to 2000 m above sea level
	Pollution degree	II
	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
	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

IMX12-CC-2X-4BK	7580942	IMX12-CC-2X-4BU	7580943
Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. black terminals, 2-pin		Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. blue terminals, 2-pin	
IMX12-SC-2X-4BK	7580940	IMX12-SC-2X-4BU	7580941
Screw terminals for IM(X)12 modules; included in delivery: 4 pcs. of 2-pin black terminals		Screw terminals for IM(X) 12 modules; included in delivery: 4 pcs. of 2-pin blue terminals	
WM1 WIDERSTANDSMODUL	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.