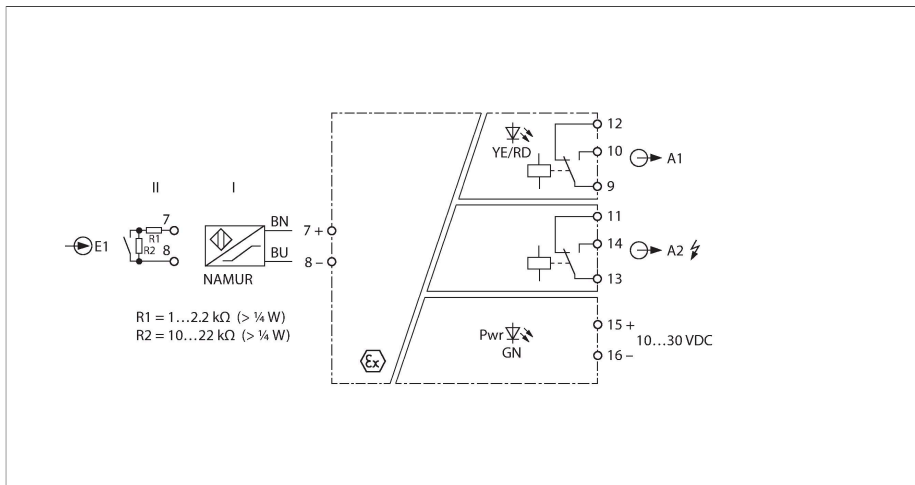


IMX12-DI03-1S-2R-S/24VDC/CC

Isolating switching amplifier – 1-channel



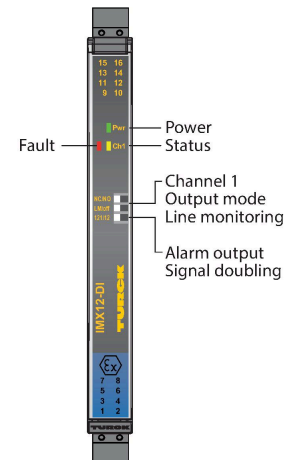
Sensors according to EN 60947-5-6 (NAMUR) or potential-free contacts can be connected to the IMX12-DI03-1S-2R-S/24VDC isolating switching amplifier. The device is equipped with intrinsically safe input circuits and can be installed in zone 2. The device can be switched between 1-channel operation with signal doubling or 1-channel operation with alarm message output using DIP switches. The output circuits are equipped with two changeover relays. 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 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).

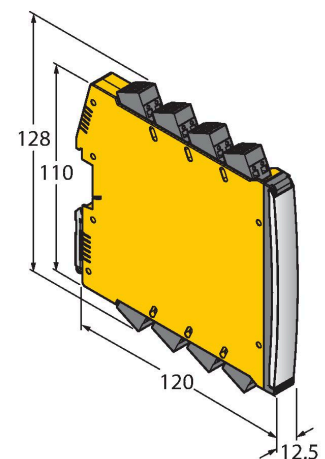
The device is equipped with removable spring type terminals.



Features

- Relay output (changeover)
- Alarm output (changeover)
- Switchable: Alarm output 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 spring type terminals
- ATEX, IECEx, NEPSI, cUL, cFM, INMETRO, KOSHA, TIIS, TR CU EAC,
- Installation in zone 2
- SIL 2

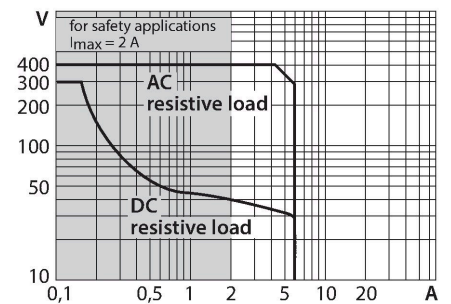
Dimensions



Technical data

Type	IMX12-DI03-1S-2R-S/24VDC/CC
ID	7580010
Nominal voltage	24 VDC
Operating voltage	10...30 VDC
Power consumption	≤ 1.2 W
Power dissipation, typical	≤ 1.03 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)	2 x relays (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, 0.3μ Au
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

Output relay – Load curve



Technical data

Indication	
Power on display	Green
Switching state	Yellow
Error indication	red
Protection class	
Flammability class acc. to UL 94	V-0
Ambient temperature (min.)	-25
Ambient temperature (max.)	70
Storage temperature	-40...+80 °C
Dimensions	120 x 12.5 x 128 mm
Weight	167 g
Mounting instructions	DIN rail (NS35)
Housing material	Polycarbonate/ABS
Electrical connection	Removable spring type terminals, 2-pin
Terminal cross-section	0.2...2.5 mm ² (AWG: 24...14)

Technical data

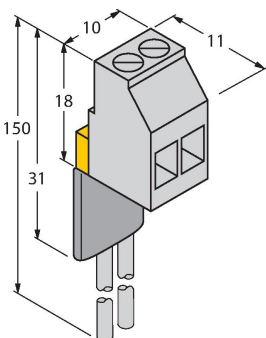
Environmental conditions

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

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.

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