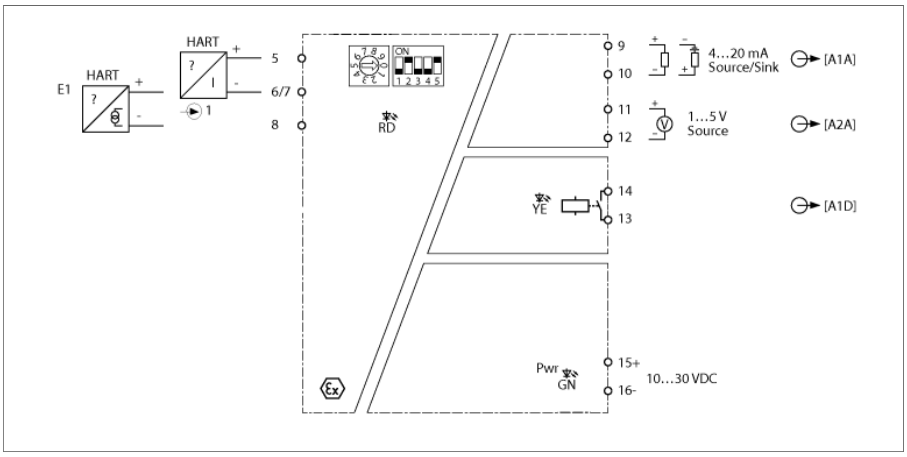
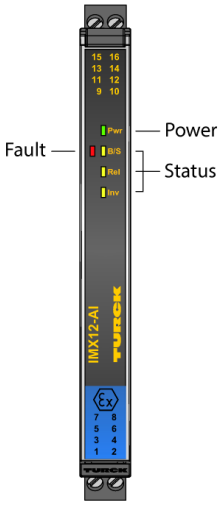
Isolating transducer
1-channel
IMX12-AI01-1I-1IU1R-H0/24VDC





The IMX12-AI01-1I-1IU1R-H… isolating transducers are equipped with intrinsically safe input circuits and transfer analog measured signals from the Ex area to the non-Ex area. In addition, the devices monitor the input signals for exceeding or falling below an adjustable limit value. The devices are suitable for operation in Zone 2. Intrinsically safe (passive) 2-wire transducers, as well as active and passive HART transmitters, can be used on the devices in Ex areas.

The IMX12-AI01-1I-1IU1R-H0/24VDC isolating transducer is equipped with input circuits of 4…20 mA and output circuits of 4…20 mA (either as source or sink) and 1…5 V (source). Input signals are transmitted in the 3.8 mA… 20.5 mA range 1:1 from the Ex area to the non-Ex area at output [A1A] without impairment. Alternatively, the input current signal is provided proportionally as a normalized voltage in the 1 V…5 V range (source) at output [A2A]. In addition, digital signals can also be transmitted bidirectionally in accordance with the HART protocol. The input circuit is monitored for wire breaks and short circuits.

The devices are configured via DIP and rotary coding switches on the device side. The analog output to be used (current output A1A or voltage output A2A) as well as the switching point (5…20 mA in 1-mA increments), the effective direction (NC/NO) and the switching behavior of the relay output (A1D) when exceeding/falling below the set switching point are adjustable.

The devices have a green power LED (Pwr). Two red status LEDs are provided to indicate wire breaks and short circuits, respectively, in the input circuit. A fault in the input circuit causes the red LED to flash according to NE44. Two yellow status LEDs indicate the switching status and the set effective direction of the relay output. In the event of a wire break (< 3.5 mA) or short circuit (> 22 mA) in the input circuit, a current value of < 3.5 mA or a voltage value of < 0.875 V is output at the analog output.

The device can be used in safety circuits up to SIL 2 (high and low demand according to IEC 61508) and meets the requirements of NE21.

The device is equipped with removable screw terminals.

- Input circuits monitored for wire-break and short-circuit
- Full galvanic isolation
- HART transparent
- Removable screw terminals
- ATEX, IECEx
- Use in Zone 2
- SIL 2

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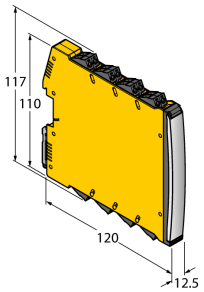
Type	IMX12-AI01-1I-1IU1R-H0/24VDC
ID	7580309
Nominal voltage	24 VDC
Operating voltage	10…30 VDC
Power consumption	≤ 4 W
Power dissipation, typical	≤ 1.5 W
Transmitter connection	
Supply voltage	≥ 17 V / 20 mA
Input current	4…20 mA
Output circuits	
Output current	Source/sink 4…20 (sink: 15…28 V) mA
Output voltage	1...5 V
Load resistance current output	≤ 0.8 kΩ
Output circuits (digital)	1 x relay (NO)
Output switching voltage relay	≤ 30 VDC / ≤ 250 VAC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Response characteristic	
Rise time (10…90 %)	≤ 5 ms
Fall time (90…10 %)	≤ 5 ms
Measuring accuracy (including linearity, hysteresis and repeatability)	≤ 0.05 % of full scale
Reference temperature	23 °C
Temperature drift	≤ 0.002 % of full scale/K
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	50 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.
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 ec [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 acc. to IEC 61508
Displays/Operating elements	
Operational readiness	Green
Switching state	Yellow
Error indication	red

Dimensions



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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
Terminal cross-section	0.2…2.5 mm² (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
		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

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Accessories

Type code	Ident no.		Dimension drawing
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	

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