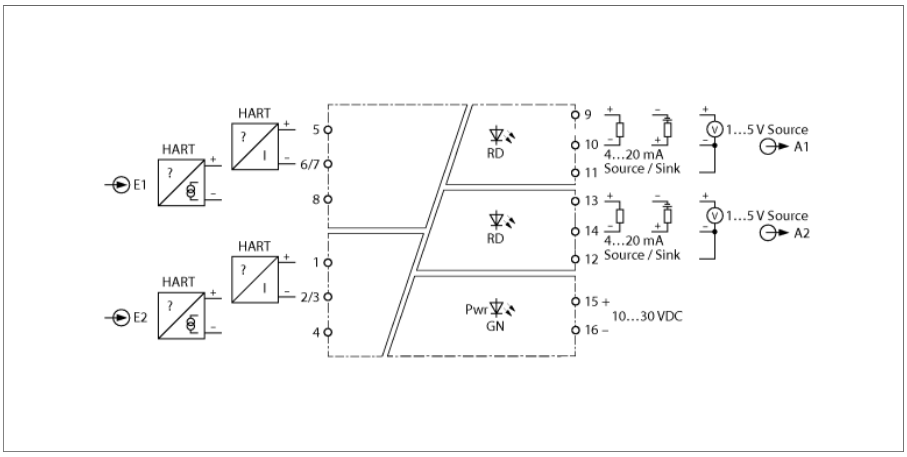
Isolating transducer
2-channel
IM12-AI01-2I-2IU-H0/24VDC





The isolating transducers IM12-AI01-2I-2IU-H0/24VDC transmit analog measured signals galvanically isolated. The devices are suitable for operation in zone 2.

The 2-channel device has two inputs for the operation of HART® 2-wire transducers as well as active and passive HART® 2-wire transmitters. Connection is via removable screw terminals. Two 4…20 mA current outputs are available on the output side.

The device is equipped with 4…20 mA input circuits and 4…20 mA output circuits (either as source or sink) or 1…5 V (source). The input signals are transmitted 1:1 without interference within a range of 3.8…20.5 mA. In addition, digital signals can also be transmitted bidirectionally in accordance with the HART® protocol. Wire-break (< 3.5 mA) and short-circuit (> 22 mA) in the transducer circuit are output as current < 3.5 mA/voltage < 0.875 V.

The devices have a green power LED (Pwr). For each input circuit there is a red status LED. An error in the input circuit causes the red LED to flash according to NE44.

The device can be used in safety circuits up to SIL2 (high and low demand according to IEC 61508) and meets the requirements of the NE21.

The device is equipped with removable screw terminals.

- Input circuits monitored for wire-break and short-circuit
- Complete galvanic isolation
- HART transparent
- Removable screw terminals
- ATEX use in Zone 2, cUL
- SIL 2

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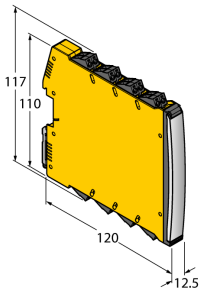
ID	7580325
Nominal voltage	24 VDC
Operating voltage U_B	10…30 VDC
Power consumption	≤ 3.8 W
Power dissipation, typical	≤ 1.9 W
Transmitter connection	
Supply voltage	17 V/20 mA typ.
Input current	2 × 4…20 mA
Temperature drift supply voltage	≤ 0.03 %/K
Reference temperature	23 °C
Output circuits	
Output current	2 × source/sink (15…28 V) 4…20 mA
Output voltage	2 x 1...5 V
Load resistance current output	≤ 0.8 kΩ
Short-circuit	Output < 3.5 mA, if in the input circuit a current > 22 mA flows
Wire break	Output < 3.5 mA, if in the input circuit a current < 3.5 mA flows
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 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
Output 1 to supply	50 V RMS acc. to EN 50178 and EN 61010-1
Output 2 to supply	50 V RMS acc. to EN 50178 and EN 61010-1
Output 1 to output 2	50 V RMS according to EN 50178 and EN 61010-1
Input 1 to input 2	60 V peak value acc. to EN 60079-11
Important note	The values provided below indicate the relevant markings associated with the product's Ex certificates.
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
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	176 g
Mounting instructions	DIN rail (NS35)
Housing material	Plastic, 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-CC-2X-4BK	7580942	Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. black terminals, 2-pin	

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