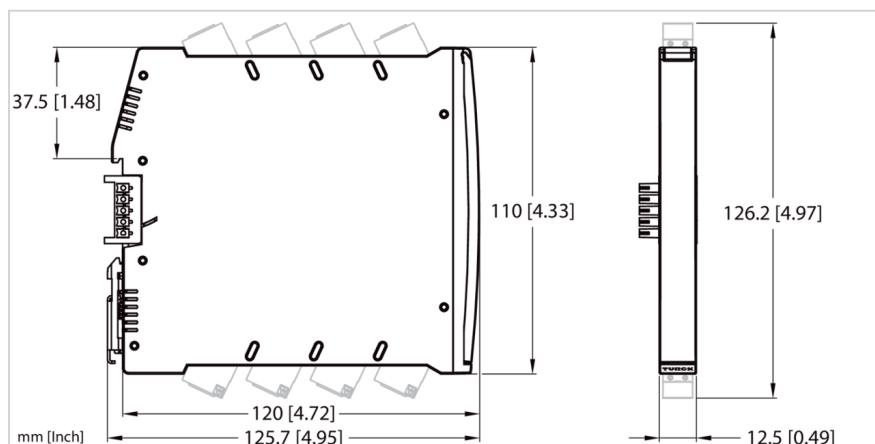


IM12-AI01-1I-2IU-HPR/24VDC/CC

Isolating transducer 1-channel



Type designation	IM12-AI01-1I-2IU-HPR/24VDC/CC
Ident-No.	7580322

Technical data

General data	
Device type	Isolating transducer
Signal type	Analog input (HART transparent)
Power supply	
Operating voltage U_B	10...30 VDC
Nominal voltage	Power bridge 24 VDC
Power consumption	$\leq 3,8$ W
Power dissipation, typical	$\leq 1,9$ W
Nominal voltage	24 VDC
Power supply	24 VDC
Electrical data	
Current output	In mA
Voltage output	In V
Safety specifications	
Functional safety (SIL/PL)	SIL 2
Inputs/Outputs	
Number of channels	1
Inputs	

Features

- Splitter function
- Wire-break and short-circuit monitoring on input circuit
- Full galvanic isolation
- HART transparent
- Removable spring-type terminals
- Power bridge (includes connector)
- For use in ATEX Zone 2, cUL
- SIL 2



Technical data

Input current	4...20 mA
Short-circuit	Output < 3.5 mA, if in the input circuit a current > 22 mA flows
Supply voltage	17 V/20 mA typ.
Outputs	
Fall time (90...10 %)	≤5 ms
Load resistance current output	≤0,8 kΩ
Output current	2 × source/sink (15...28 V) 4...20 mA
Output voltage	1...5 VDC
Output voltage	2 x 1...5 V
Rise time (10...90 %)	≤5 ms
Wire break	Output < 3.5 mA, if in the input circuit a current < 3.5 mA flows
Accuracy/deviation	
Measuring accuracy (including linearity, hysteresis and repeatability)	≤ 0,05 % v. E.
Temperature drift	≤0,002 % v.E. / K
Error detection/message	
Power-Bridge common alarm output	MOSFET, U _{max} = 30 V, I _{max} = 100 mA
Galvanic isolation	
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
Output 2 to supply	50 V RMS acc. to EN 50178 and EN 61010-1
Test voltage	2.5 kV RMS
Mechanical data	
Dimensions	120 mm x 12,5 mm x 128 mm
Housing material	Plastic, Polycarbonate/ABS
Electrical connection	Removable spring-type terminals, 2-pin
Terminal cross-section	0.2...2.5 mm ² (AWG: 24...14)
Design	Modular housing
Connection variant	Power bridge with collective fault signal
Suitable for row installation	yes
Mounting instructions	DIN rail (NS35)
Ambient conditions	
Ambient temperature	-25...+70 °C

Technical data

Storage temperature	-40...+80 °C
Relative humidity	95 %
Altitude	max. 2000 m
Pollution degree	2
Schock	EN 61373 Klasse B, EN 50155, GL VI-7-2, EN 60068-2-6, EN 60068-2-27
Protection class	IP20
Standards/directives	
Flammability class acc. to UL 94	V-0
Use in SIL safety circuits	SIL 2 acc. to IEC 61508 gemäß IEC 61508
Tests/approvals	
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.
Approvals	ATEX, cULus
Device designation	□
Displays/controls	
Error indication	red
Power on display	Green

The isolating transducers IM12-AI01-1I-2IU-HPR/24VDC/CC transmit analog measured signals galvanically isolated. The devices are suitable for operation in zone 2.

The 1-channel device has one input for the operation of HART® 2-wire transducers as well as active and passive HART® 2-wire transmitters. Connection is via removable spring type terminals. The device can be powered from a power bridge that also transmits a collective fault signal.

The device is equipped with a 4...20 mA input circuit and two 4...20 mA output circuits (either as source or sink) or 1...5 V (source). The input signal at input [I1] is transmitted 1:1 to outputs [O1] and [O2] within a range of 3.8 mA...20.5 mA without interference (splitter operation). In addition, digital signals can also be transmitted bidirectionally in accordance with the HART® protocol. Digital HART® signals are only transmitted to output [O1]. 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.

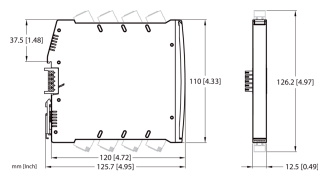
The devices have a green power LED (Pwr). For each input circuit there is a red status LED. An error in the input circuit causes the red LED to flash according to NE44.

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

The device is equipped with removable spring-type terminals.

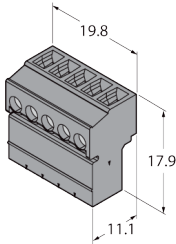
Mounting accessories

IMX12-PS02-UI-UIR-PR/ 24VDC/CC	7580611
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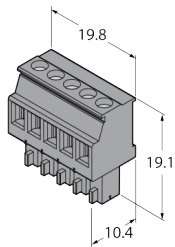
Power bridge power supply module; group fault signals via relay; single and redundant power supply via terminals; removable spring-type terminals

IMC 1.5/ 5-ST-3.81 BK	7580954
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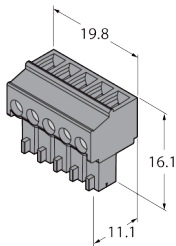
Power bridge connection terminal

MCVR 1.5/ 5-ST-3.81 BK	7580955
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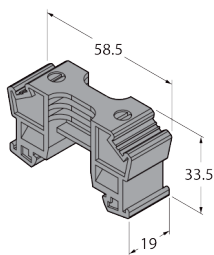
Power bridge connection terminal

MC 1.5/ 5-ST-3.81 BK	7580956
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Power bridge connection terminal

E/ME TBUS NS35 BK	7580957
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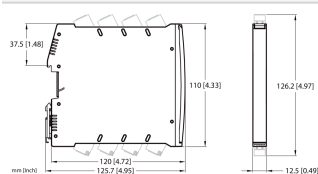


Power bridge connection terminal

IMX12-SC-2X-4BK	7580940
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Screw terminals for IM(X)12 modules; includes: 4 × 2-pin black terminals

IMX12-CC-2X-4BK	7580942
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Spring-type terminals for IM(X)12 modules; includes: 4 × 2-pin black terminals

Circuit diagram

