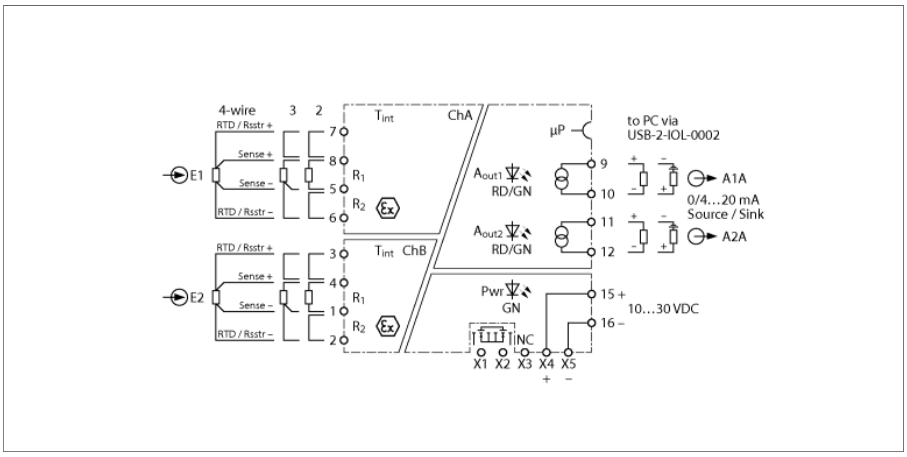
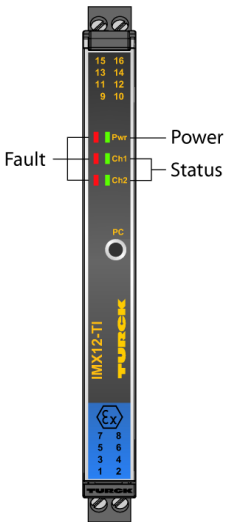
Temperature measuring amplifier
2-channel
IMX12-TI01-2RTDR-2I-CPR/24VDC





The 2-channel temperature measuring amplifier IMX12-TI01-2RTDR-2I-CPR/24VDC has inputs for: RTDs acc. to IEC 60751, DIN 43760, GOST 6651-94 (2, 3 and 4-wire) and resistors 0…5 kΩ (2, 3 and 4-wire). The device can be powered from a power bridge that also transmits a collective fault signal.

The device is configured via the PC interface. The current outputs can be set to 0/4 … 20 mA and source or sink.

A green LED indicates operational readiness. A fault in the input circuit leads to a flashing red LED according to NE44, an internal error to a steady read LED. The fault current can be adjusted to < 3.5 mA or > 21.5 mA.

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. It is equipped with removable screw terminals.

The device is equipped with removable screw terminals.

- Input circuits monitored for wire-break and short-circuit
- Parameterized via PC
- Complete galvanic isolation
- Input reverse-polarity protected
- Removable screw terminals
- Power bridge (connector incl. in delivery)
- ATEX, IECEx, cFM, cUL, NEPSI, INMETRO, Kosha
- Use in Zone 2
- SIL 2

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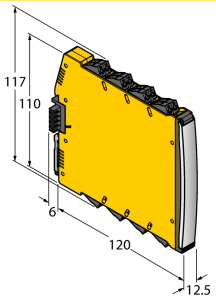
Type	IMX12-TI01-2RTDR-2I-CPR/24VDC
ID	7580512
Nominal voltage	24 VDC
Operating voltage	10…30 VDC
Power consumption	≤ 2.7 W
Power dissipation, typical	≤ 1.6 W
Input circuits	RTD Type DIN EN 60751 Pt50, Pt100, Pt 500, Pt1000 RTD Type DIN EN 43760 Ni50, Ni100, Ni500, Ni1000 RTD Type Gost 6651-94 Pt50, Pt100, Pt 500, Pt1000, CU50, Cu53, Cu100, CU500, CuZn100
Output circuits	
Output current	2 × source/sink (15…28 V) 0/4…20 mA
Load resistance current output	≤ 0.8 kΩ
Power-Bridge common alarm output	MOSFET, Umax = 30 V, Imax = 100 mA
Response characteristic	
Reference temperature	23 °C
Measuring accuracy current output (including linearity, hysteresis and repeatability)	± 10 µA
Temperature drift analog output	0.0025 %/K
Accuracy, RTD input, 0…500 ohm	± 50 mΩ
Temperature drift, RTD input, 0…500 ohm	± 5 mΩ/K
Accuracy, RTD input, 500…5000 ohm	± 500 mΩ
Temperature drift, RTD input, 500…5000 ohm	± 30 mΩ/K
Cold junction compensation error	with cold junction compensation < 2 K
Note	With a 3-wire connection, the errors double
Galvanic isolation	
Test voltage	2.5 kV RMS
E1,E2-A1A,A2A	375 V peak value acc. to EN 60079-11
E1,E2 supply voltage	375 V peak value acc. to EN 60079-11
A1A supply voltage	300 V RMS acc. to EN 50178 and EN 61010-1
A2A supply voltage	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 15 ATEX 168214 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 [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	170 g	
Mounting instructions	DIN rail (NS35)	
Housing material	Polycarbonate/ABS	
Electrical connection	Removable screw terminals, 2-pin	
Connection variant	Power bridge with collective fault signal	
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
		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

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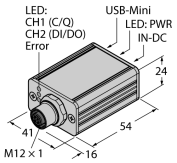
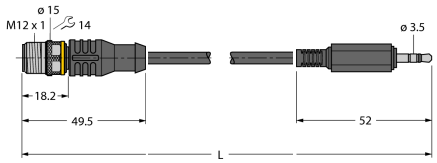
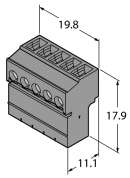
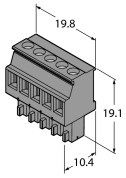
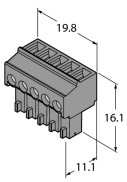
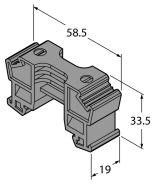
Accessories

Type code	Ident no.		Dimension drawing
USB-2-IOL-0002	6825482	IO-Link Master with integrated USB port	
IOL-COM/3M	7525110	IO-Link communication line for connecting IO-Link devices to an IO-link master via a 3.5-mm jack plug	
IMC 1.5/ 5-ST-3.81 BK	7580954	Power Bridge Connection Terminal	
MCVR 1.5/ 5-ST-3.81 BK	7580955	Power Bridge Connection Terminal	
MC 1.5/ 5-ST-3.81 BK	7580956	Power Bridge Connection Terminal	
E/ME TBUS NS35 BK	7580957	Power Bridge Connection Terminal	

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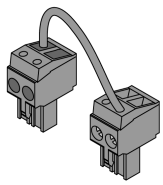
Accessories

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	
IMX12-2-CJT	100003646		

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