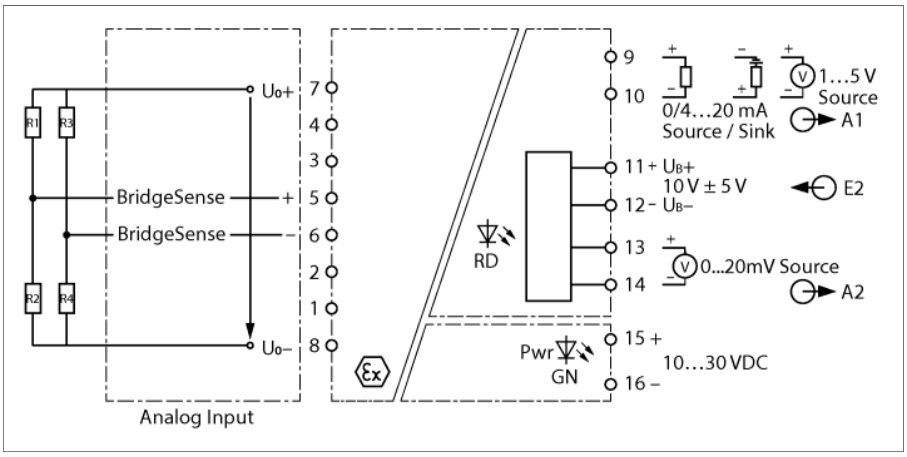
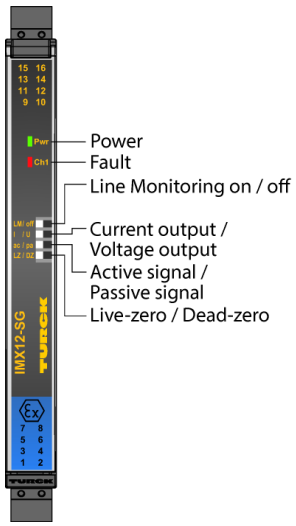
Strain Gauge Processor
1-channel
IMX12-SG10-1U-1UI-0/24VDC/CC





The transducers in series IMX12-SG… are equipped with intrinsically safe input circuits and transmit the signals from the connected strain gauge bridges in Zone 0 to a display or controller such that the signals are galvanically isolated. Resistive strain gauges can be recorded using the devices. The devices are suitable for operation in zone 2.

The IMX12-SG transducers are designed for 1-channel operation and have an input for connecting strain gauge measuring bridges of 350…550 Ω. The bridge supply is load dependent. The device measures the voltage at the input and transmits the ratio to the bridge voltage to the output side. The output signal is converted to a bridge voltage of 10 V. Analog output 1 can be used as a current output (0/4…20 mA) or voltage output (1…5 V). The second analog output (0…20 mV) is externally supplied with the bridge voltage of 10 V ± 5 V from a transducer.

The analog outputs and the input circuit monitoring can be configured via DIP switches on the front.

The devices have a green LED (Pwr) and a red status LED to indicate faults. An error in the input circuit causes the red LED to flash according to NE44. A LOW level is then output at both outputs.

The device is equipped with removable spring type terminals.

- Input circuits monitored for wire break and short circuit
- Complete galvanic isolation
- Input for 4-wire DMS bridges
- Output as a repeater with external power supply
- Output as an active or passive current output
- Output as a voltage output
- Removable spring type terminals
- ATEX, IECEx
- Installation in zone 2

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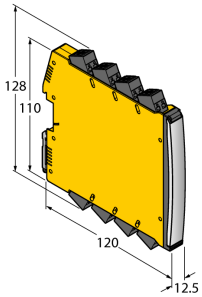

Type	IMX12-SG10-1U-1UI-0/24VDC/CC
ID	100009876
Nominal voltage	24 VDC
Operating voltage U_B	10…30 VDC
Power consumption	≤ 3 W
Input circuits	mV signals
Input circuit monitoring	on/off switchable
DMS bridge resolution	2 mV/V
Bridge supply voltage	10 VDC, load dependent, suitable for measuring bridges from 350R to 550R
Output circuits	
Output current	Source/sink (15…28 V) 0/4…20 mA
Output voltage	1...5 V
Load resistance voltage output	≥ 250 kΩ
Load resistance current output	≤ 0.8 kΩ
Output voltage range	0…20mV
Response characteristic	
Rise time (10…90 %)	≤ 10 ms
Fall time (90…10 %)	≤ 10 ms
Measuring accuracy (including linearity, hysteresis and repeatability)	≤ 0.5 % of full scale
Reference temperature	23 °C
Temperature drift	≤ 0.01 % 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
Output 2 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.
Ex approval acc. to conformity certificate	TÜV 20 ATEX 265822 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 ec [ia Ga] IIC T4 Gc
Displays/Operating elements	
Operational readiness	Green
Error indication	red

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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 128 mm	
Weight	172 g	
Mounting instructions	DIN rail (NS35)	
Housing material	Plastic, Polycarbonate/ABS	
Electrical connection	Removable spring-type terminals, 2-pin	
Terminal cross-section	0.2…2.5 mm² (AWG: 24…14)	
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
	Shock	
		EN 61373 class B
		EN 60068-2-6
		EN 60068-2-27
	Temperature	
		EN 60068-2-1 Ad
		EN 60068-2-2 Bd
		EN 60068-2-1
	Air humidity	
		EN 60068-2-38
	EMC	
		NE21
		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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