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SIXISOL310 6mm module

ISOLATED PROGRAMMABLE DC SIGNAL CONVERTER

- galvanic isolation between input and output: 4000Vrms
- user configuration of the converter via AY-USB adapter
- designed for cabinet mounting on DIN rail 35
- passive output 4-20mA or inverted 20-4mA
- accuracy < 0.1%

Description: converter with SW-selectable passive output, for converting:

- voltage from any thermocouple, with linearization and internal cold junction compensation,
- signals from RTD (temperature sensor), resistance transmitter,
- potentiometer 0-1...20k Ω
- signals from thermistor, KTY, NTC..., see the table below for details



Electrical specifications:

- input (SIXISOL310.A)

thermocouples: J, K, T, B, L, S, F, E, N, R, C, D, G, U, M
Pt100 (-200...+610°C), Pt1000 (-200...+500°C) acc. to IEC 751,
Ni100, Ni1000 TCR 5000 or 6180ppm/K (-60...180/250°C)

OV 0...320 Ω , 0...2800 Ω ,

Potentiometers: 0...320 Ω , 0...2500 Ω

Linear sensors and resistance transmitters

Pot 0-1...20k Ω

NTC, etc. - special version

4-20mA / 20-4mA; loop-powered

< 10 Ω / 1 wire

< 0.5mA

cold junction compensation in range -30...70°C, accuracy $\pm$ 1°C
0.01%

RTD - open circuit = max. signal; short circuit = min. signal

Tc - open circuit = max. signal

3...24mA

0.1...20s (default: OV, Pot < 0.2s, RTD, Tc 0.3s)

measurement error: $\pm$ (0.07% + error per table)

temperature error: 0.03%/10K

-30...+70°C

-40...+80°C

9...30V DC

IP40 / IP20

70g

via table in Rawet Studio software

AY-USB programming adapter (AX-USB, PK-USB)

+ free programming software

- input (SIXISOL310.B)

- input (SIXISOL310.C)

- input (SIXISOL310.Z)

- output signal:

- max. lead resistance

- sensor current

- thermocouple parameters

- resolution

- error output signal:

- current and voltage limiting

- damping

- accuracy

- operating temperature range:

- storage temperature range:

- supply voltage

- IP rating housing/terminals:

- weight:

- user linearization

- optional accessories

Type tests:

Basic type test

acc. to ČSN EN 60688-1 ed.2

EMC assessed

acc. to ČSN EN IEC 61326-1 ed.3

Safety assessed

acc. to ČSN EN 61010-1 ed.2

Input signal variants:

User-configurable inputs: (The actual input and measuring range can be set within the limits of the stated maximum range)

Type	Input	Range	Non-linearity
SIXISOL310.A	Thermocouple thermometer (Tc), internal compensation	Fe-CuNi J	-210..1200°C 0.3°C ≥ -60°C
		Fe-CuNi J	-210..1050°C 0.3°C ≥ -100°C
		Fe-CuNi J	-210..300°C 0.3°C ≥ -160°C
		Fe-Const L	0..899°C 0.05%
		NiCr-NiAl K	-210..400°C 0.3°C ≥ -150°C
			-270..1372°C 0.1% ≥ -99°C
			-60..1372°C 0.3°C ≥ -20°C
		Pt10Rh-Pt S	-50..1768°C 0.1% ≥ 40°C
		Pt30Rh-Pt6Rh B	0..1820°C 0.1% ≥ 386°C
		NiCr-CuNi E	-270..1000°C 0.1% ≥ -153°C
		NiCrSi-NiSi N	-270..1300°C 0.1% ≥ -122°C
		Pt13Rh-Pt R	-50..1768°C 0.1% ≥ 54°C
		Cu-CuNi T	-270..400°C 0.1% ≥ -163°C
		Ni-Ni18Mo M	-50..1410°C 0.10%
		W5Re-W26Re C	0..2301°C 0.05%
		W3Re-W25Re D	0..2301°C 0.1% ≥ 49°C
		W-W26Re G	0..2301°C 0.1% ≥ 286°C
		F	-30..1400°C 0.05%
		U	-200..400°C 0.10%
	Resistance thermometer (RTD) 2w or 3w	Pt100	-200..400°C 0.18°C
		Pt100	-30..600°C 0.18°C
		Pt1000	-200..400°C 0.18°C
		Pt1000	-100..500°C 0.18°C
		Ni100, Ni1000 TCR6180/5000	-60..180°C 0.18°C
	Resistance thermometer (RTD) 4w	Pt100	-99...440°C 0.18°C
		Pt100	-40...610°C 0.18°C
	Linear temp. sensors (KTY)	KTY81.....KTY85.....	-55..150°C 0.25°C
	Resistance transmitter (OV)	OV/3w	0..320Ω, 0..2800Ω 0.03Ω, 0.2Ω
	Resistance transmitter (OV)	OV/4w	0..320°C 0.03Ω
	Potentiometer or OV/2w		0..321Ω 0.04Ω
			0..2500Ω 0.3Ω
SIXISOL310.B	Linear sensors	KTY81-210 3w	-55..150°C 0.2°C
		KTY81-210 2w	-50..145°C 0.2°C
		OV 2W	0..11kΩ 2Ω
SIXISOL310.C	Potentiometer	Potentiometer (independent of value)	0-1..20kΩ 0.02%

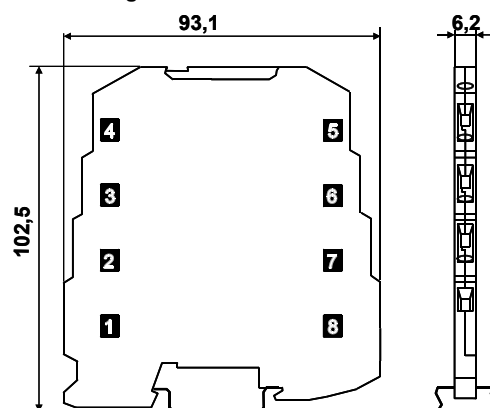
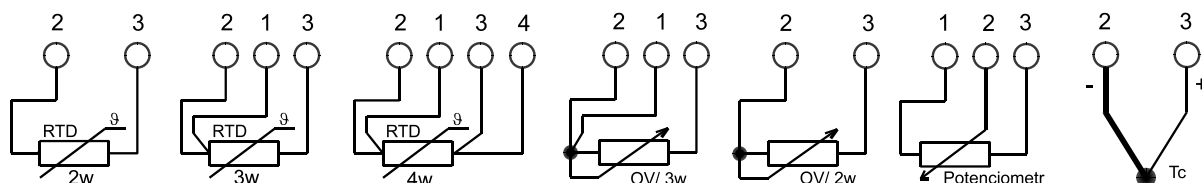
Installation:

Terminals accept wires up to 2.5mm². We recommend a cable with a conductor cross-section of at least 0.5mm². The recommended tightening torque is 0.5-0.8Nm. The converters are mechanically mounted on a 35 mm DIN rail. After hooking the upper edge onto the rail, release the latch of the mounting mechanism with a screwdriver and push the lower part of the device towards the rail. Once the latch locks, installation is complete. Removal is done in reverse order.

Screwless wire connection in the terminal block uses a spring-loaded clamp that prevents the wire from slipping out of the terminal. The connection can be released by pressing on this clamp.

Terminal assignment:

- 2, 3 input RTD 2w, OV/2w
- 2,3+1 input RTD 3w, OV/3w
- 1+2, 3+4 input RTD 4w, OV/4w
- 1, 2, 3 potentiometer
- 2, 3(+) input thermocouple
- 7, 8 output signal 4-20mA, polarity-independent

Dimensional drawing:**Terminal wiring:****Installation:**

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Ordering:

The order must specify:

- converter type – SIXISOL310 and variant A, B or C
- **BS** after the converter type = screwless version (SIXISOL310BS)
- input value
- input connection
- output value
- damping (if not specified, the default damping of 0.3s is set)
- quantity

Ordering example:

SIXISOL310.A Ni1000/6180 2w; 0...150°C / 4-20mA 6pcs

SIXISOL310.A Pt100 3w; 0...120°C / 4-20mA 3pcs

SIXISOL310.Z NTC 10K; 0-100°C / 4...20mA 4pcs

SIXISOL310.A = (standard version Pt100 0...100°C / 4-20mA 3w)

SIXISOL310.B 0..10kΩ 2w / 4-20mA 5pcs

SIXISOL310.C Potentiometer / 4-20mA 1pcs

SIXISOL310.A Tc"K" -20..600°C / 4..20mA 2pcs

Notes:

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At the end of its service life, dispose of the device through separate collection.
Rawet s.r.o. is a member of RETELA www.retelea.cz

rev.4

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