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Programmable isolated digital converter

- SLIM design, width 12,5mm only
- user configuration of transmitter
- galvanic separation of input and output: 3700Vef
- version for mounting on DIN rail DIN

Description:
PX310 isolated converter with programmable output 4-20mA

Electrical specifications:

- supply voltage 10...30V DC
- customized linearization by table (32 sections)
- sampling 16 / 20ms for RTD and resistance
52 / 80ms for Tc, U, I
- digital filter (damping) programmable 0..30 s
- sensor lead resistance (3W) < 10 Ω / 1 lead
- current sensor < 0,5mA
- cold junction compensation: -30 ..70°C, accuracy ± 1°C
- output signal 4-20mA supply by line
- output resolution 0,033%
- output current limitations min 3mA, max. 21mA
- accuracy: error of measurement max. 0,07% by range
thermal drift max. 0,03% / 10K
- operating temperature -30...+ 70°C
- protection rating housing / terminal IP40 / IP10
- connection wire 0,5 to 2,5mm²
- option programmable adapter AY-USB (setting SW Rawet Studio)



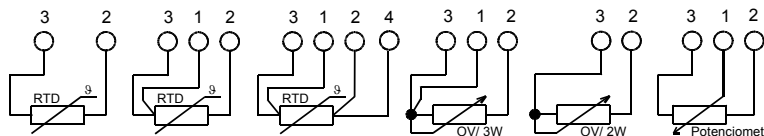
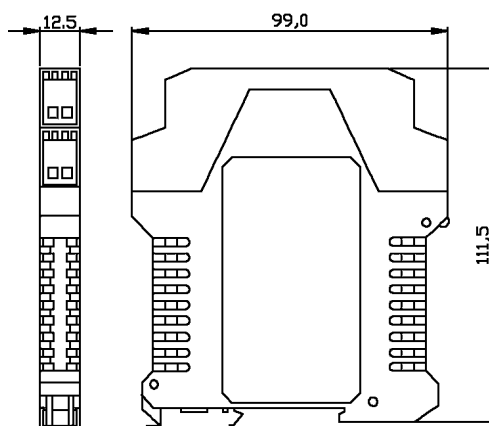
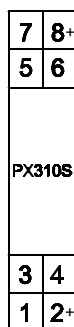
Type test:

Basic type test by ČSN EN 60770-1 ed.2
EMC complies by ČSN EN 61326-1
Security complies by ČSN EN 61010-1

Dimensional drawing and connection terminals:

PX310S:

- 7(-) - 8(+): output 4..20mA
- 3 - 2: input RTD (OV) 2W
- 3,1 - 2: input RTD (OV) 3W
- 3,1 - 2,4: input RTD 4W
- 3 - 1 - 2: input potentiometer (centre= 2)
- 1 - 2(+): input Tc (U)



Variants of input signals:

User-configurable inputs: (The actual input and measurement range can be set within the maximum range)

	Input	Range (linearization table)	Nonlinearity	
Thermocouple (Tc), internal compensation	Fe-CuNi	J	-210..1200°C	0,3°C od -60°C
		J	-210..1050°C	0,3°C od -100°C
		J	-210..300°C	0,3°C od -160°C
	Fe-Ko	L	0..899°C	0,05%
	NiCr-NiAl	K	-210..400°C	0,3°C od -150°C
			-270..1372°C	0,1% od -99°C
			-60..1372°C	0,3°C od -20°C
	Pt10Rh-Pt	S	-50..1768°C	0,1% od 40°C
	Pt30Rh-Pt6Rh	B	0..1820°C	0,1% od 386°C
	NiCr-CuNi	E	-270..1000°C	0,1% od -153°C
	NiCrSi-NiSi	N	-270..1300°C	0,1% od -122°C
	Pt13Rh-Pt	R	-50..1768°C	0,1% od 54°C
	Cu-CuNi	T	-270..400°C	0,1% od -163°C
	Ni-Ni18Mo	M	-50..1410°C	0,1%
	W5Re-W26Re	C	0..2301°C	0,05%
	W3Re-W25Re	D	0..2301°C	0,1% od 49°C
	W-W26Re	G	0..2301°C	0,1% od 286°C
	F	-30..1400°C	0,05%	
	U	-200..400°C	0,1%	
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 TKR6180 (5000)		-60..180°C	0,25°C
Linear temp. sensor (KTY)	KTY81..KTY85		-55..150°C	0,3°C
Resist. transmitter (OV)			0..320Ω, 0..2,5kΩ	0,03Ω, 0,1Ω
Potentiometer (POT)			0..320Ω, 0..2,5kΩ	0,03Ω, 0,1Ω
Potentiometer 10kΩ			0..150Ω, 0..1300Ω, 0..10kΩ	0,03Ω, 0,1Ω, 1Ω
DC voltage (U)	-0,5V..1V		-70mV..140mV, 0..1V	0,03%

Other design inputs: (necessary HW change the basic design)

- Thermocouple thermometer with external cold junction compensation sensor Pt100
- Resistance transmitter or potentiometer 3kΩ to 10 kΩ
- Thermistors NTC 10k, 15k, 20k, 25k ...
- Linear KTY temperature sensors, thermistors, etc. by agreement
- **Customizing the input according to customer**

Ordering:

specify: - type of converter
- input value (range and type)
- number of pieces

Examples of orders:

Basic version: (can be set using the adapter AX-USB)

5pc PX310S, Tc „J“, 0..800°C / 4-20mA	4pc PX310S, Ni1000/5000 2W -10..150°C / 4-20mA
1pc PX310S, Pt100 2w 0..60°C / 4-20mA	1pc PX310S, Pot 0..1kΩ / 4-20mA
3pc PX310S, Pt100 3W 0..200°C / 4-20mA	5pc PX310S, 0..100 Ohm R-3w / 4-20mA

Mounting:

The converter is designed to be fitted onto a DIN 35 mm rail. To install the converter, fix the fitting slot on the rail, use a screw-driver to push away the latch and, subsequently, push the instrument bottom towards the bar. Release the screw-driver and lock the spring mechanism to complete the instrument installation.

Replacement of transmitter:

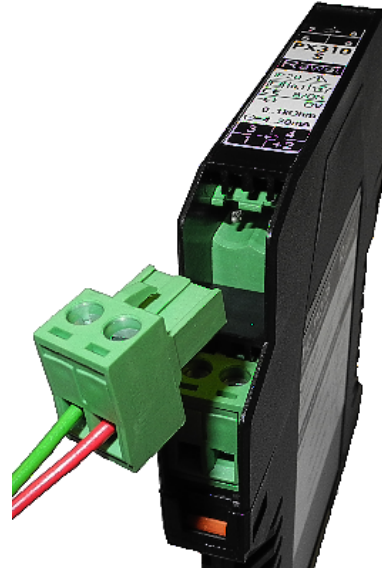
You can replace this transmitter very easy, without demounting of leads.

You have to push out a terminal board by screwdriver, replace this transmitter and push in back this terminal board.

1)

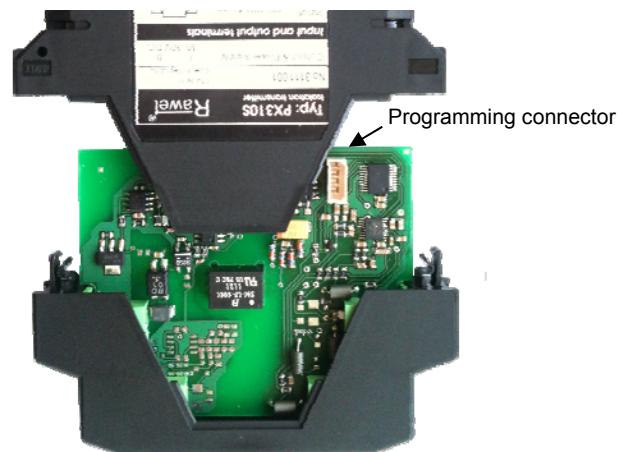
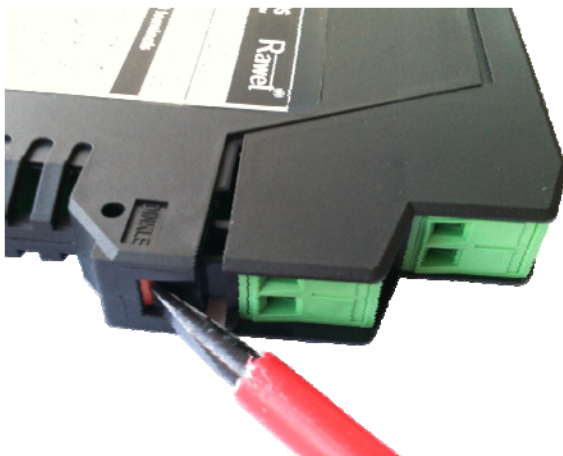


2)



Programming:

You have to open this transmitter. For opening you have to press a orange lock in the side of this transmitter (see picture). Programming connector is inside.



rev.2