

2-WIRE PROGRAMMABLE TRANSMITTER



- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- Galvanic isolation
- Programmable sensor error value
- 1- or 2-channel version



Application:

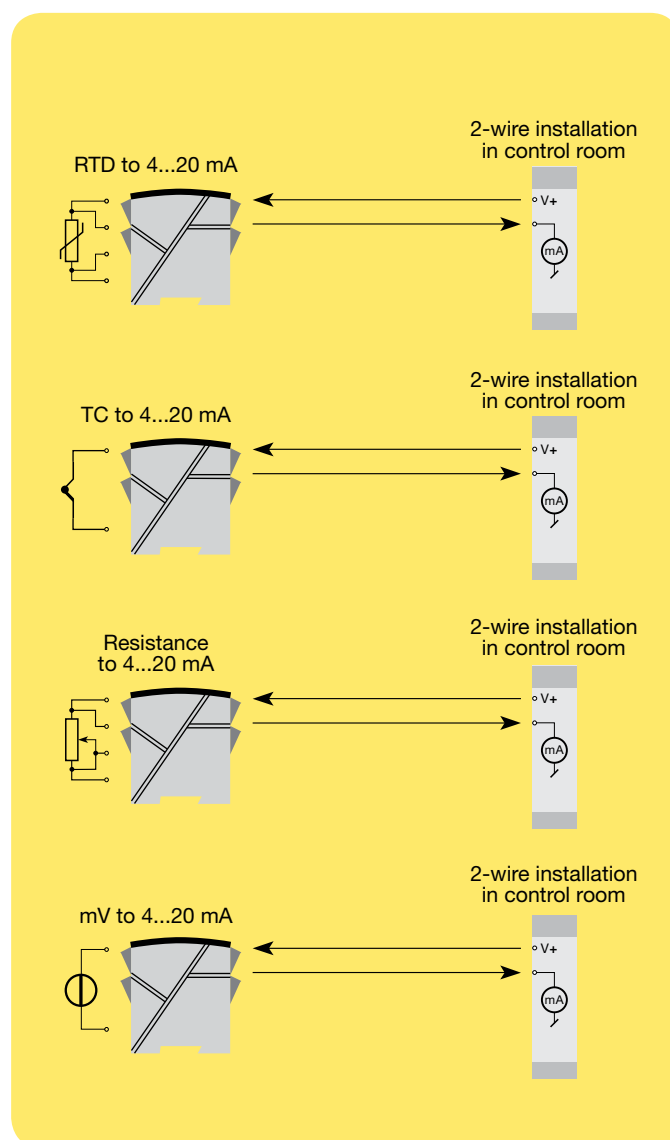
- Linearised temperature measurement with Pt100...Pt1000, Ni100...Ni1000, or TC sensor.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.
- Amplification of a bipolar mV signal to a standard 4...20 mA current signal.

Technical characteristics:

- Within a few seconds the user can program PR6331A to measure temperatures within all ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 2-, 3- and 4-wire connection.
- A limit can be programmed on the output signal.
- Continuous check of vital stored data for safety reasons.

Mounting / installation:

- Mounted vertically or horizontally on a DIN rail. Using the 2-channel version, up to 84 channels can be mounted per metre.



Order: 6331A

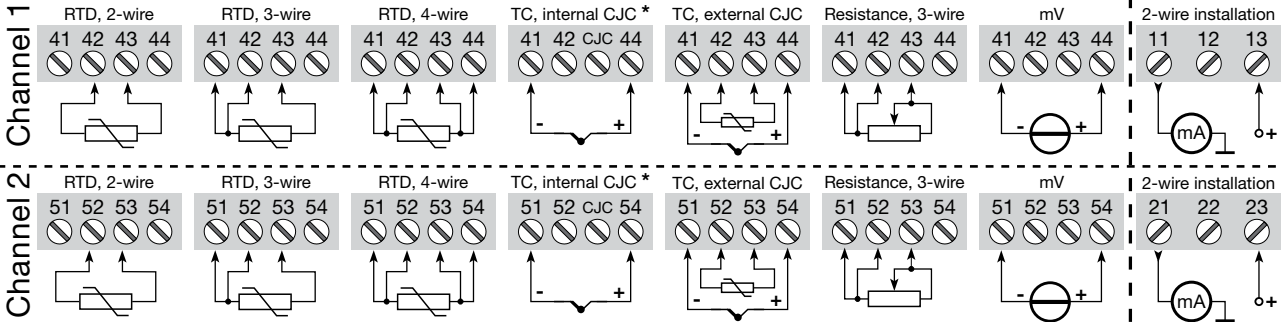
Type	Galvanic isolation	Channels
6331A	1500 VAC : 2	Single : A Double : B

Connections:

All connection options are shown in the user manual.

***NB!** Please remember to order CJC connectors type 5910 (channel 1) and 5913 (channel 2) for TC inputs with an internal CJC.

Inputs:



Outputs:

Electrical specifications:

Specifications range:

-40°C to +60°C

Common specifications:

- Supply voltage, DC 7.2...35 V
- Internal consumption, per channel.... 0.17...0.8 W
- Voltage drop 7.2 VDC
- Isolation voltage, test / operation..... 1.5 kVAC / 50 VAC
- Warm-up time..... 5 min.
- Communications interface Loop Link
- Signal / noise ratio..... min. 60 dB
- Response time (programmable) 1...60 s
- Signal dynamics, input 20 bit
- Signal dynamics, output..... 16 bit
- Calibration temperature..... 20...28°C
- Accuracy, the greater of general and basic values:

General values		
Input type	Absolute accuracy	Temperature coefficient
All	≤ ±0.05% of span	≤ ±0.01% of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
RTD	≤ ±0.2°C	≤ ±0.01°C/°C
Lin. R	≤ ±0.1 Ω	≤ ±10 mΩ / °C
Volt	≤ ±10 μV	≤ ±1 μV / °C
TC type: E, J, K, L, N, T, U	≤ ±1°C	≤ ±0.05°C / °C
TC type: B, R, S, W3, W5, LR	≤ ±2°C	≤ ±0.2°C / °C

EMC immunity influence	< ±0.5% of span
Extended EMC immunity: NAMUR NE 21, A criterion, burst.....	< ±1% of span

- Humidity < 95% RH (non-cond.)
- Dimensions..... 109 x 23.5 x 104 mm
- Protection degree..... IP20
- Weight (1 / 2 channels)..... 145 / 185 g

Electrical specifications, input:

Max. offset..... 50% of selec. max. value

RTD and linear resistance input:

RTD type	Min. value	Max. value	Min. span	Standard
Pt100	-200°C	+850°C	25°C	IEC 60751
Ni100	-60°C	+250°C	25°C	DIN 43760
Lin. R	0 Ω	5000 Ω	30 Ω	-----

Cable resistance per wire (max.) 5 Ω

Sensor current..... Nom. 0.2 mA

TC input:

Type	Min. temperature	Max. temperature	Min. span	Standard
B	+400°C	+1820°C	100°C	IEC584
E	-100°C	+1000°C	50°C	IEC584
J	-100°C	+1200°C	50°C	IEC584
K	-180°C	+1372°C	50°C	IEC584
L	-100°C	+900°C	50°C	DIN 43710
N	-180°C	+1300°C	50°C	IEC584
R	-50°C	+1760°C	100°C	IEC584
S	-50°C	+1760°C	100°C	IEC584
T	-200°C	+400°C	50°C	IEC584
U	-200°C	+600°C	50°C	DIN 43710
W3	0°C	+2300°C	100°C	ASTM E988-90
W5	0°C	+2300°C	100°C	ASTM E988-90
LR	-200°C	+800°C	50°C	GOST 3044-84

Cold junction compensation < ±1.0°C

Sensor error detection..... Yes

Sensor error current:

When detecting nom. 33 mA

Else 0 mA

Voltage input:

Measurement range -12...800 mV

Min. span..... 5 mV

Input resistance..... 10 MΩ

Current output:

Signal range 4...20 mA

Min. signal range 16 mA

Updating time..... 440 ms

Load resistance ≤ (V_{supply} - 7.2)/0.023 [Ω]

Load stability < ±0.01% of span / 100 Ω

Sensor error detection:

Programmable..... 3.5...23 mA

Namur NE43 Upscale..... 23 mA

Namur NE43 Downscale 3.5 mA

Ex approval:

- KEMA 10ATEX0005 X..... II 3 G Ex nA [nL] IIC
T4...T6 or
II 3 G Ex nL IIC
T4...T6 or
II 3 G Ex nA [ic] IIC
T4...T6 or
II 3 G Ex ic IIC
T4...T6

ATEX Installation Drawing No. 6331QA02

GOST R approval:

VNIIM, Cert. No. www.prelectronics.com

Observed authority requirements: Standard:

EMC 2004/108/EC EN 61326-1

ATEX 94/9/EC..... EN 60079-0, -11, -15

Of span = Of the presently selected range