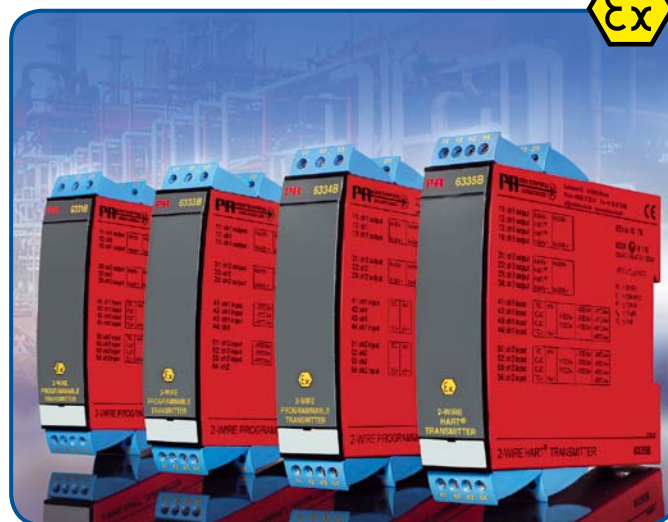


2-WIRE PROGRAMMABLE TRANSMITTER



- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- Galvanic isolation
- Can be installed in Ex zone 0
- 1- or 2-channel version



Application:

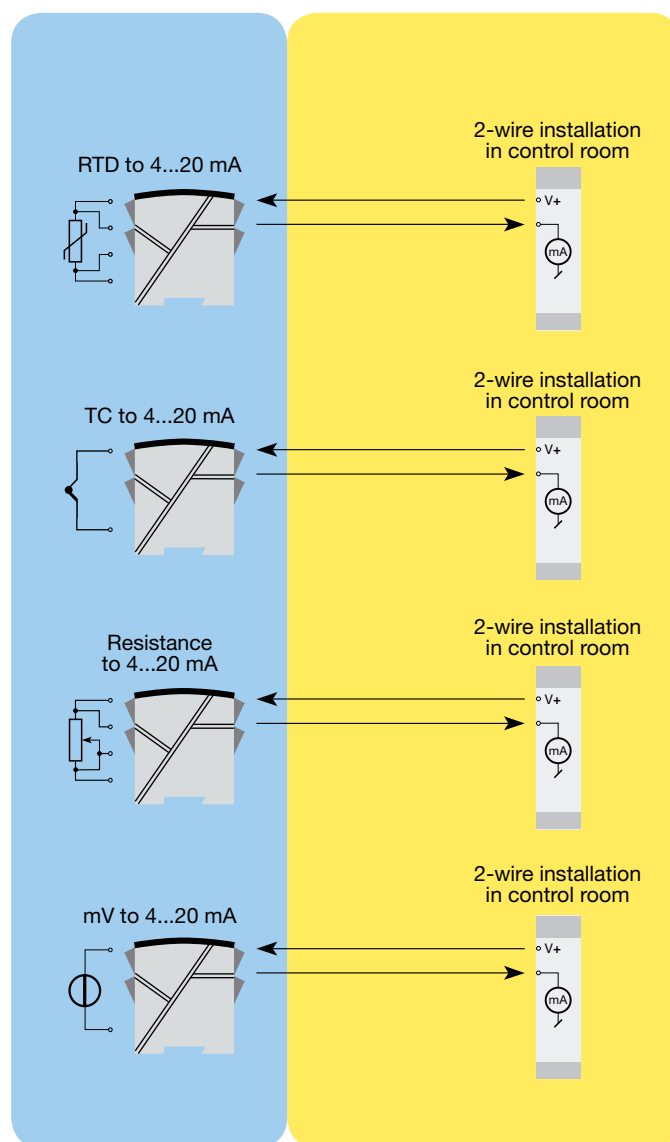
- Linearised temperature measurement with Pt100...Pt1000, Ni100...Ni1000, or TC sensor.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.
- Amplification of a bipolar mV signal to a standard 4...20 mA current signal.

Technical characteristics:

- Within a few seconds the user can program PR6331B 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.
- **NB:** As Ex barrier we recommend 5104B, 5114B, or 5116B.



Order: 6331B

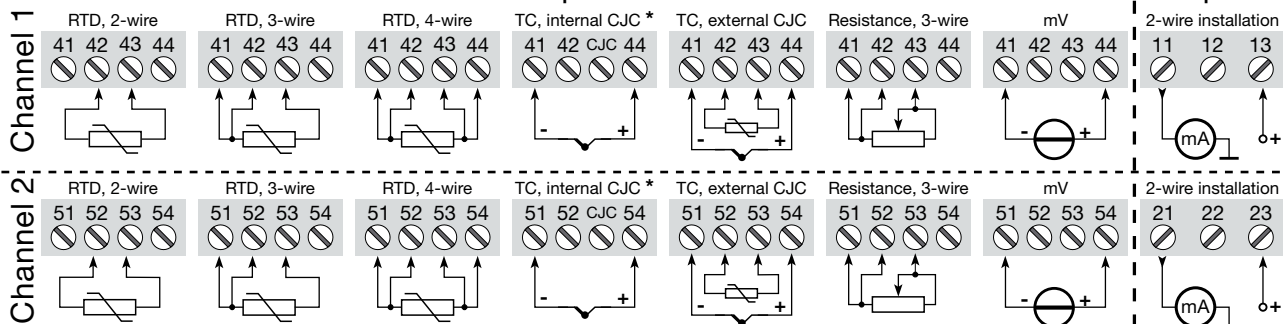
| Type | Galvanic isolation | Channels |
|-------|--------------------|--------------------------|
| 6331B | 1500 VAC : 2 | Single : A Double : B |

Connections:

All connection options are shown in the user manual.

***NB!** Please remember to order CJC connectors type 5910Ex (channel 1) and 5913Ex (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...30 VDC
 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 / I.S. approval:

KEMA 06ATEX0115 II 1 G Ex ia IIC T6...T5

Max. ambient temperature for T5..... 60°C

Max. ambient temperature for T6..... 40°C

ATEX, applicable in zone 0, 1, or 2

ATEX Installation Drawing No. 6331QA01

GOST R approval:

VNIIM & VNIIFTRI, Cert. no. www.prelectronics.com

Observed authority requirements: Standard:

EMC 2004/108/EC EN 61326-1

ATEX 94/9/EC EN 60079-0, -11, -26

Of span = Of the presently selected range