2-wire programmable transmitter

6331B

- 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**
- Linearized temperature measurement with Pt100...Pt1000, Ni100...Ni1000, or TC sensor.
- Conversion of linear resistance variation to a standard analog 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 meter.

**Applications**

- RTD to 4...20 mA
- TC to 4...20 mA
- Resistance to 4...20 mA
- mV to 4...20 mA

2-wire installation in control room

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**Environmental Conditions**

- **Operating temperature**: -40°C to +85°C
- **Storage temperature**: -40°C to +85°C
- **Calibration temperature**: 20...28°C
- **Relative humidity**: < 95% RH (non-cond.)
- **Protection degree**: IP20

**Mechanical specifications**

- **Dimensions (HxWxD)**: 109 x 23.5 x 104 mm
- **Weight (1 / 2 channels)**: 145 / 185 g
- **DIN rail type**: DIN EN 60715/35 mm
- **Wire size**: 0.13...2.08 mm² AWG 26...14 stranded wire
- **Screw terminal torque**: 0.5 Nm

**Common specifications**

- **Supply**
  - **Supply voltage**: 7.2...30 VDC
  - **Power dissipation, per channel**: 0.17...0.8 W
- **Isolation voltage**
  - **Isolation voltage, test / working**: 1.5 kVAC / 50 VAC
- **Response time**
  - **Response time (programmable)**: 1...60 s
  - **Voltage drop**: 7.2 VDC
  - **Warm-up time**: 5 min.
  - **Programming**: Loop Link
- **Signal / noise ratio**: Min. 60 dB
- **Accuracy**: Better than 0.05% of selected range
- **EEProm error check**: < 3.5 s
- **Signal dynamics, input**: 20 bit
- **Signal dynamics, output**: 16 bit
- **Effect of supply voltage change**: < 0.005% of span / VDC
- **EMC immunity influence**: < ±0.5% of span
- **Extended EMC immunity: NAMUR NE21, A criterion, burst**: < ±1% of span

**Input specifications**

- **Common input specifications**
  - **Max. offset**: 50% of selected max. value
- **RTD input**
  - **RTD type**: Pt100, Ni100, lin. R
  - **Cable resistance per wire**: 5 Ω (max.)
  - **Sensor current**: Nom. 0.2 mA
  - **Effect of sensor cable resistance**: < 0.002 Ω / Ω
  - **Sensor error detection**: Yes
- **TC input**
  - **Cold junction compensation (CJC)**: < ±0.1°C
  - **Sensor error detection**: Yes
  - **Sensor error current**: When detecting / else: Nom. 33 μA / 0 μA
- **Linear resistance input**
  - **Linear resistance min./max.**: 0 Ω...5000 Ω
- **Voltage input**
  - **Measurement range**: -12...800 mV
  - **Min. measurement range (span)**: 5 mV
  - **Input resistance**: 10 MΩ

**Output specifications**

- **Current output**
  - **Signal range**: 4...20 mA
  - **Min. signal range**: 16 mA
  - **Load (@ current output)**: 4 (Vsupply - 7.2) / 0.023 [Ω]
  - **Load stability**: ≤ 0.01% of span / 100 Ω
  - **Sensor error indication**: Programmable 3.5...23 mA
  - **NAMUR NE43 Upscale/Downscale**: 23 mA / 3.5 mA
- **Common output specifications**
  - **Updating time**: 440 ms
  - **of span**: = of the presently selected range

**Observed authority requirements**

- **EMC**: 2014/30/EU
- **RoHS**: 2011/65/EU
- **ATEX**: KEMA 06ATEX0115 X
- **IECEx**: DEK 14.0047 X
- **CSA**: 1125003
- **FM**: FM17US0013X
- **EAC Ex**: RU C-DK.HA65.B.00355/19

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*NB! Please remember to order G/JC connectors type 5916Ex (channel 1) and 6913Ex (channel 2) for TC inputs with an internal G/JC.*

<table>
<thead>
<tr>
<th>Type</th>
<th>Galvanic isolation</th>
<th>Channels</th>
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<tbody>
<tr>
<td>6331B</td>
<td>1500 VAC</td>
<td>Single</td>
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</table>

- A
- Double  
- B

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Order: