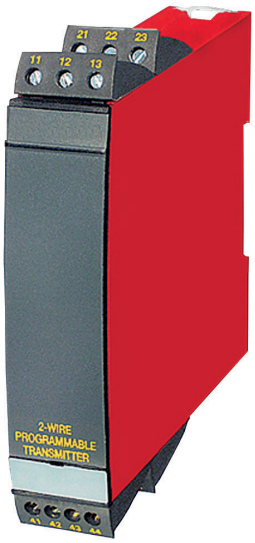
2-Wire Programmable Transmitter

Model 6331A

- RTD, TC, Ohm or mV Input
- Extremely High Measurement Accuracy
- 1.5 kVAC Galvanic Isolation
- Programmable Sensor Error Value
- 1- or 2- Channel Version



Application:

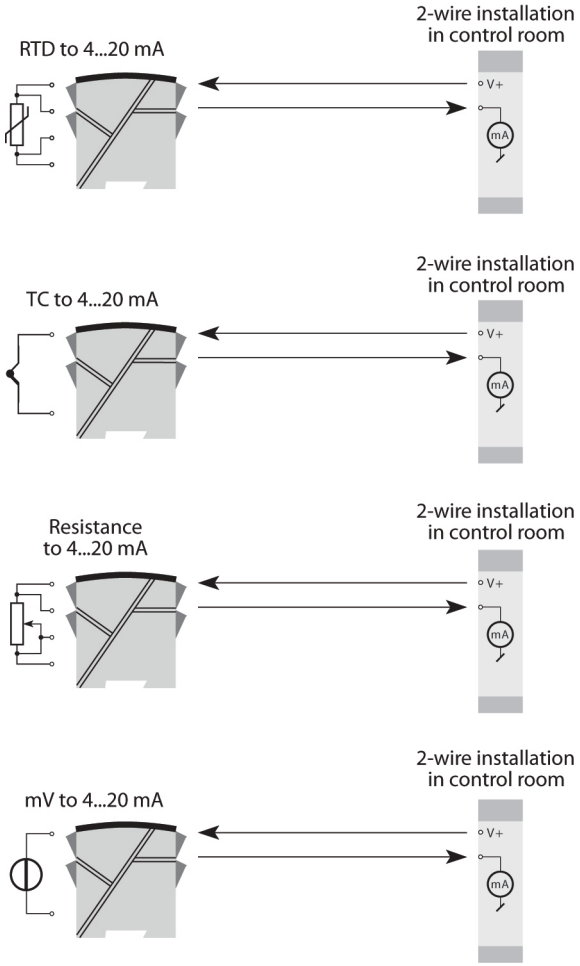
- Linearized temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 or TC sensor.
- Conversion of linear resistance variation to a standard analog current signal.
- Amplification of a bipolar mV signal to a standard 4...20 mA current signal.

Technical Characteristics:

- Within seconds the user can program a 6331A to measure temperatures within all standard ranges.
- 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.

Mounting/Installation:

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



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5 YEARS PRODUCT GUARANTEE

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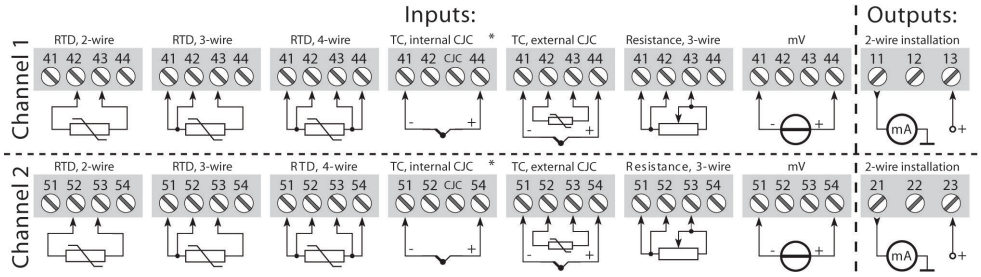
Specifications

Order: 6331A2A (Single Channel)
6331A2B (Dual Channel)



Electrical Specifications

Specifications Range:

-40°C to +60°C

Common Specifications:

Supply voltage, DC ..... 7.2...35 VDC
Voltage drop ..... 7.2 VDC
Isolation voltage, test / operation ..... 1.5 kVAC / 50 VAC
Isolation voltage, ch. 1 / ch. 2 ..... 3.75 kVAC
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

Max wire size ..... 1 x 1.5 mm²(16AWG) stranded wire
Humidity ..... < 95% RH (non-cond.)
Dimensions (H x W x D) ..... 109 x 23.5 x 104 mm
Protection degree IP20

Electrical Specifications, Input:

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

RTD Input 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	200°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	100°C	IEC584
R	-50°C	+1760°C	200°C	IEC584
S	-50°C	+1760°C	200°C	IEC584
T	-200°C	+400°C	50°C	IEC584
U	-200°C	+600°C	75°C	DIN 43710
W3	0°C	+2300°C	200°C	ASTM E988-90
W5	0°C	+2300°C	200°C	ASTM E988-90
LR	-200°C	+800°C	50°C	GOST 3044-84

Cold junction compensation ..... < ±1.0°C

Voltage Input:

Measurement range ..... -12...800 mV
Min. span ..... 5 mV

Current Output:

Signal range ..... 4...20 mA
Min. signal range ..... 16 mA
Updating time ..... 440 ms
Load resistance ..... ≤ (Vsupply - 7.2) / 0.023 [Ω]

Sensor Error Detection:

Programmable ..... 3.5...23 mA
NAMUR NE43 Upscale ..... 23 mA
NAMUR NE43 Downscale ..... 3.5 mA

Observed Authority Requirements: Standard:

EMC 2004/108/EC ..... EN 61326-1

Of Span = Of the presently selected range

Loop Link = PC compatible programming software

*The transmitter is manufactured by PR electronics. All approvals listed are recognized under the PR name.

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Bulletin 6084, Rev B'