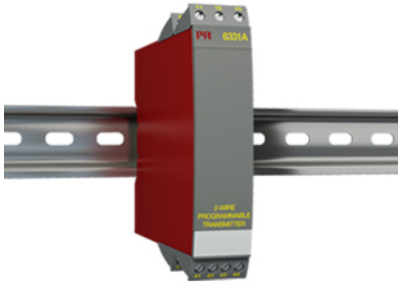
PERFORMANCE MADE SMARTER



2-wire programmable transmitter

6331A

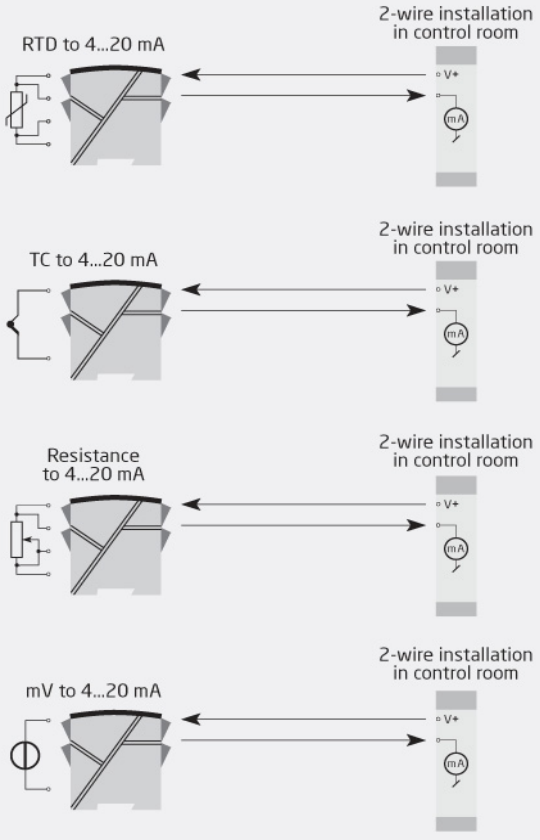
- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- Galvanic isolation
- Programmable sensor error value
- 1- or 2-channel version

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 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 meter.
- The 6331A can be mounted in zone 2 and zone 22 / Class I, Division 2, Groups A, B, C, D.

Applications



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Order

Type	Version	Galvanic Isolation	Channels
6331	Zone 2, 22 / Div. 2 : A	1500 VAC : 2	Single : A Double : B

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

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 mm^2 AWG 26...14 stranded wire
Screw terminal torque ..... 0.5 Nm

Common specifications

Supply

Supply voltage ..... 7.2...35 VDC
Max. required power ..... ≤ 0.8 W/≤ 1.6 W (1 ch./2 ch.)
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 ..... PR 5909 Loop Link communications interface
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…1000, Ni100...1000, lin. R
Cable resistance per wire ..... 5 Ω (max.)
Sensor current ..... Nom. 0.2 mA
Effect of sensor cable resistance (3-/4-wire) ..... < 0.002 Ω / Ω
Sensor error detection ..... Yes

TC input

Thermocouple type ..... B, E, J, K, L, N, R, S, T, U, W3, W5, LR
Cold junction compensation (CJC) ..... < ±1.0°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) ..... ≤ (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
ATEX 2014/34/EU
RoHS 2011/65/EU
EAC ..... TR-CU 020/2011
EAC Ex ..... TR-CU 012/2011

Approvals

ATEX ..... DEKRA 20ATEX0096X
IECEx ..... DEK 20.0059X
CSA 1125003
FM FM17US0013X
INMETRO ..... DEKRA 23.0009X
EAC Ex ..... EAEU KZ 7500361.01.01.08756