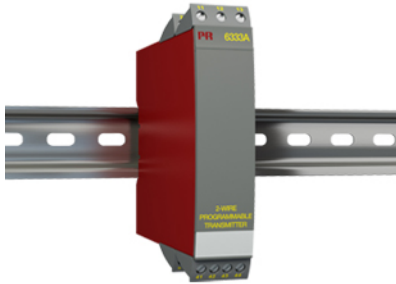## 2-wire programmable transmitter

# 6333A

– RTD or Ohm input

– High measurement accuracy

– 3-wire connection

– Programmable sensor error value

– 1- or 2-channel version

ATEX · IECEx · EHC · CE

### Application
- Linearized temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analog current signal, for instance from valves or Ohmic level sensors.
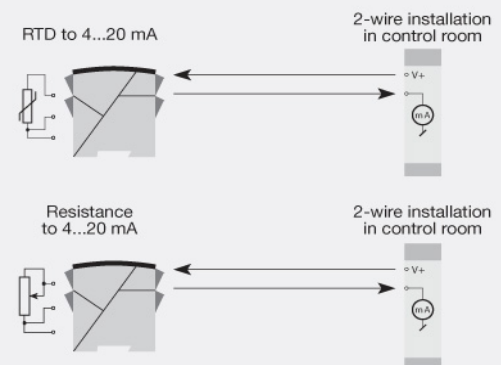
### Technical characteristics
- Within a few seconds the user can program PR6333A to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.
- A limit can be programmed on the output signal.

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

### Connections



RTD to 4...20 mA — 2-wire installation in control room

Resistance to 4...20 mA — 2-wire installation in control room

**Order:**

| Type | Galvanic Isolation | | Channels | |
|------|--------------------|-|----------|-|
| 6333A | None | : 1 | Single | : A |
| | | | Double | : B |

## Environmental Conditions

Specifications range........................................ -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............................................. 8.0...35 VDC

**Response time**
Response time (programmable)................... 0.33...60 s

Internal consumption..................................... 0.19...0.8 W
Voltage drop................................................. 8.0 VDC
Warm-up time................................................ 5 min.
Programming................................................. Loop Link
Signal / noise ratio........................................ Min. 60 dB
Accuracy....................................................... Better than 0.1% of selected range
Signal dynamics, input.................................. 19 bit
Signal dynamics, output................................ 16 bit
Effect of supply voltage change..................... < 0.005% of span / VDC
EMC immunity influence................................ < ±0.5% 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
(max.)........................................................... 10 Ω
Sensor current.............................................. > 0.2 mA, < 0.4 mA
Effect of sensor cable resistance
(3-wire)........................................................ < 0.002 Ω / Ω
Sensor error detection................................... Yes

**Linear resistance input**
Linear resistance min....max.......................... 0 Ω...10000 Ω

## Output specifications

**Current output**
Signal range................................................. 4…20 mA
Min. signal range........................................... 16 mA
Load (@ current output)................................. ≤ (Vsupply - 8) / 0.023 [Ω]
Load stability................................................. ≤0.01% of span / 100 Ω
Sensor error indication.................................. Programmable 3.5...23 mA
NAMUR NE 43 Upscale/Downscale............. 23 mA / 3.5 mA

**Common output specifications**
Updating time................................................ 135 ms

*of span........................................................ = of the presently selected range

## Observed authority requirements

EMC............................................................. 2014/30/EU

## Approvals

EAC............................................................... TR-CU 020/2011
ATEX 2014/34/EU......................................... KEMA 10ATEX0007 X
IECEx............................................................ DEK 14.0049 X