# 2-WIRE PROGRAMMABLE TRANSMITTER

- **RTD or Ohm input**
- **High measurement accuracy**
- **3-wire connexion**
- **Programmable sensor error value**
- **For DIN form B sensor head mounting**

**Application:**

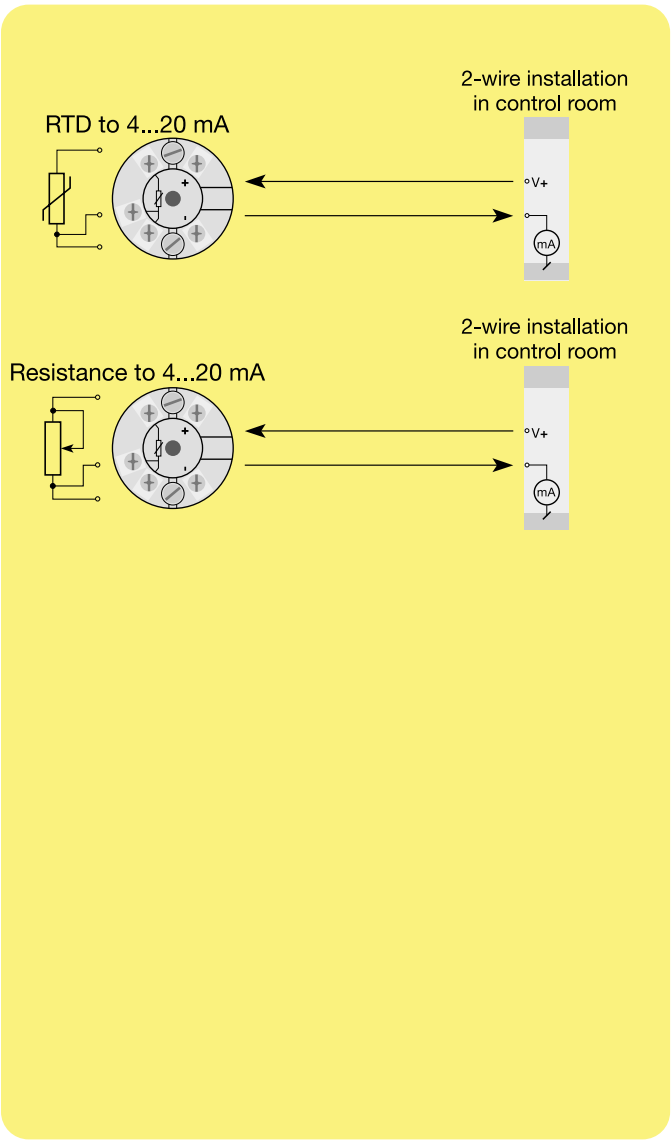
- Linearised temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.

**Technical characteristics:**

- Within a few seconds the user can program PR5333A to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connexion.

**Mounting / installation:**

- For DIN form B sensor head or DIN rail mounting with a special fitting.

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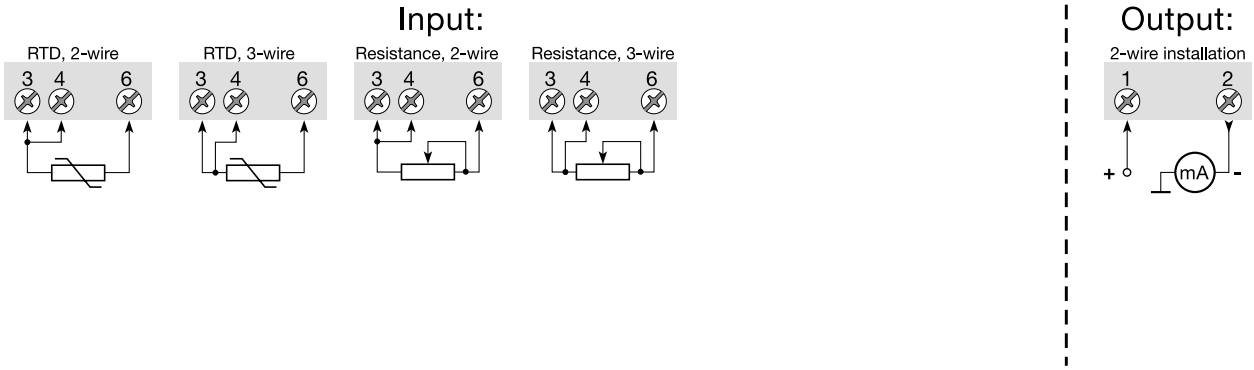
**Order: 5333A**

| Type |
|---|
| 5333A |

## Connections:




**Electrical specifications:**

**Specifications range:**
-40°C to +85°C

**Common specifications:**

Supply voltage, DC ..... 8.0...35 V
Internal consumption ..... 25 mW...0.8 W
Voltage drop ..... 8 VDC
Warm-up time..... 5 min.
Communications interface ..... Loop Link 5905
Signal / noise ratio..... Min. 60 dB
Response time (programmable) ..... 0.33...60 s
Signal dynamics, input ..... 19 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 | ≤ ±0.1% of span | ≤ ±0.01% of span / °C |

| Basic values | | |
|---|---|---|
| Input type | Basic accuracy | Temperature coefficient |
| RTD | ≤ ±0.3°C | ≤ ±0.01°C / °C |
| Lin.R | ≤ ±0.2 Ω | ≤ ±20 mΩ / °C |

EMC immunity influence ..... ≤ ±0.5% of span

Effect of supply voltage variation ..... ≤ 0.005% of span / VDC
Vibration ..... IEC 68-2-6 Test FC
Lloyd's specification no. 1..... 4 g / 2...100 Hz
Max. wire size..... 1 x 1.5 mm²
Humidity ..... < 95% RH (non-cond.)
Dimensions..... Ø 44 x 20.2 mm
Tightness (enclosure / terminal) ..... IP68 / IP00
Weight ..... 50 g

**Electrical specifications, input:**

**RTD and linear resistance input:**

| RTD type | Min. value | Max. value | Min. span |
|---|---|---|---|
| Pt100 | -200°C | +850°C | 25°C |
| Ni100 | -60°C | +250°C | 25°C |
| Lin.R | 0 Ω | 10000 Ω | 30 Ω |

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

**Output:**

**Current output:**

Signal range ..... 4...20 mA
Min. signal range ..... 16 mA
Updating time..... 135 ms
Load resistance ..... ≤ ($V_{supply}$- 8) / 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

| **Observed authority requirements:** | **Standard:** |
|---|---|
| EMC 89/336/EEC, Emission..... | EN 50 081-1, EN 50 081-2 |
| Immunity..... | EN 50 082-2, EN 50 082-1 |
| Emission and immunity..... | EN 61 326 |

**Of span** = Of the presently selected range