

2-Wire Programmable Transmitter

TT5333A



Features:

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



Application:

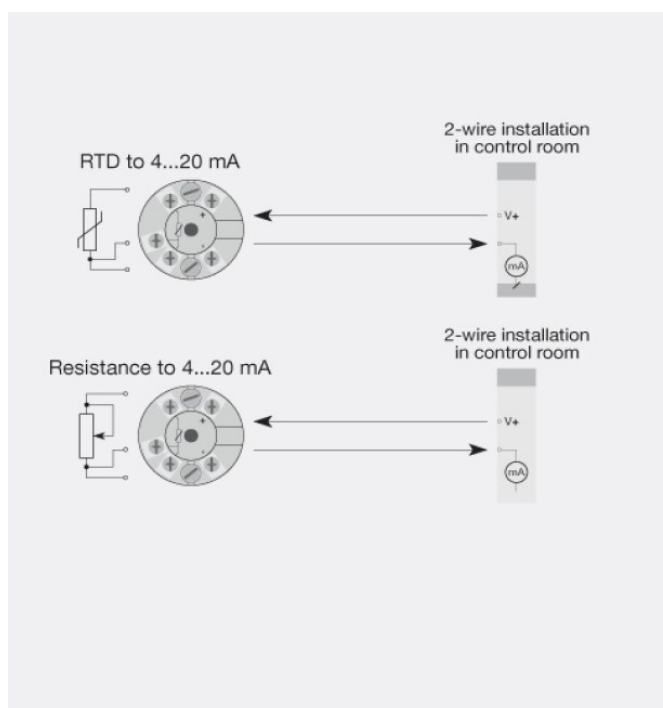
- Linearized temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor
- Conversion of linear resistance variation to a standard analog current signal, for instance from valves or Ohmic level sensors

Technical characteristics

- Within a few seconds the user can program TT5333A to measure temperatures within all RTD ranges defined by the norms
- The RTD and resistance inputs have cable compensation for 3-wire connection

Mounting / Installation

- For DIN form B sensor heads or DIN rail mounting with the fitting type 8421



Order:

| |
|---------|
| Type |
| TT5333A |

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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Environmental Conditions

| | |
|------------------------------------|----------------------|
| Operating temperature | -40°C to +85°C |
| Calibration temperature | 20....28°C |
| Relative humidity | < 95% RH (non-cond.) |
| Protection degree (encl./terminal) | IP68 / IP00 |

Mechanical Specifications

| | |
|-----------------------|---------------------------------------|
| Dimensions | Ø 44 x 20.2 mm |
| Weight approx | 50 g |
| Wire size | 1 x 1.5 mm ² stranded wire |
| Screw terminal torque | 0.4 Nm |
| Vibration | IEC 60068-2-6 |
| 2... 25 Hz | ±1.6 mm |
| 25... 100 Hz | ±4 g |

Common Specifications

| Supply | |
|----------------------------|---------------|
| Supply voltage | 8.0 ...35 VDC |
| Internal power dissipation | 25 mW.. 0.8 W |

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Common Specifications Continued

| Response time | |
|---------------------------------|------------------------------------|
| Response time (programmable) | 0.33...60 s |
| 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 |

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Input Specifications Continued

| 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) | $\leq (V_{\text{supply}} - 8) / 0.023 [\Omega]$ |
| Load stability | $\leq 0.01\%$ 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 | 135 ms |
| * of span | = of the presently selected range |

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Observed authority requirements

| | |
|-----|----------------|
| EMC | 2014/30/EU |
| EAC | TR-CU 020/2011 |

Approvals

| | |
|-----------------|-----------------------------|
| ATEX 2014/34/EU | KEMA 10ATEX0003 X |
| IECEX | DEK 13.0036X |
| INMETRO | DEKRA 13.0002 X |
| CCOE | P337392/3 |
| DNV-GL Marine | Stand. f. Certific. No. 2.4 |

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