| | | |
|---|---|---|
| **TEMPERATURE TRANSMITTER**<br>Type: standard<br>Input: Pt100…Pt1000 or Ni100…Ni1000 | **Type:**<br>**TT-5333A** | Sheet No.<br>6-5 V2.1<br><br>**10122-E010818V2.1** |

**Application:**

- Temperature linearised measurement with Pt100…Pt1000 or Ni100…Ni1000.
- Conversion of linear resistance change to standard analogous current signal, e.g. from valves or ohmic level sensors

**Properties:**

- High measurement accuracy
- RTD- 2 or 3 conductor attachment
- The RTD and resistance inputs have cable compensation for 3 conductor attachments
- Programmable sensor error value
- Can be programmed within a few seconds by 2-way configuration (Windows), to measure temperatures within all RTD ranges defined by the norms
- TAG No: 15 character configurable
- Degree of protection (case/clamp): IP68 / IP00
- Measurements: Ø44 x 20.2mm
- Mounting/ installation: can be mounted in DIN form B sensor head or on DIN track with special clamp

## TECHNICAL DATA:

### INPUT:

| Type | Min temp. | Max temp. | Min span | Norm |
|---|---|---|---|---|
| **Pt100** | **-200°C** | **+850°C** | **25°C** | **DIN IEC 751** |
| **Ni100** | **-60°C** | **+250°C** | **25°C** | |
| **Lin. R** | **0Ω** | **10000ohm** | **30ohm** | |

### COMMUNICATION INTERFACE:
Loop link 5905

### MECHANICAL DATA:
Measurements: Ø 44 x 20,2 mm
Degree of protection (case/clamp): IP68/ IP100

### ENVIROMENTAL CONDITIONS:
Operating temperature: -40°C to +85°C
Humidity: < 95% RH (non-cond.)

## TECHNICAL DATA:

### OUTPUT:
Signal range: ..... 4 - 20 mA

### ACCURACY:

| Type: | Basic accuracy: | Temperature coefficient: |
|---|---|---|
| RTD | ≤±0,2°C | ≤±0,01°C/°C |
| LIN R | ≤±0,1ohm | ≤±10mohm/°C |

COMMON SPECIFICATIONS:
**Supply voltage: DC: 7,2…35 V**
**Voltage drop: 7,2 VDC**
**Reaction time (programmable): 0,33…60 s**

SENSOR TROUBLE SHOOTING:
**Programmable: 3.5…23 mA**
**NAMUR NE43 Upscale: 23 mA**
**NAMUR NE43 Downscale: 3,5 mA**

**Ordering details:** **Please** state If the transmitter should be programmed

| **Transmitter Input Type:** | | | |
|---|---|---|---|
| **4 mA =** | C° | **20 mA =** | C° |

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Kjaerulf Pedersen a/s, Taastrupgaardsvej 8-10, DK-2630 Taastrup, Tel.: +45 39760203, Fax: +45 39760501, sensor@kp-as.com, www.kp-as.com

PERFORMANCE MADE SMARTER

## 2-wire programmable transmitter

# 5333A

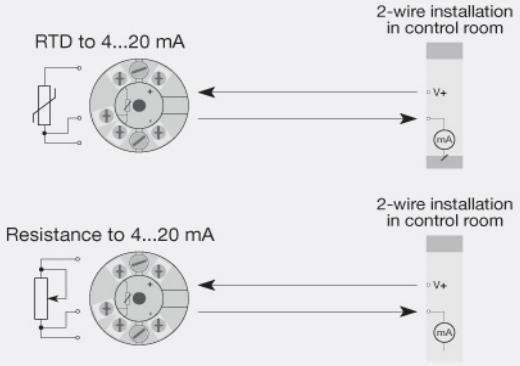
- RTD or Ohm input
- High measurement accuracy
- 3-wire connection
- Programmable sensor error value
- For DIN form B sensor head mounting

**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 PR5333A 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 head or DIN rail mounting with the PR fitting type 8421.

## Applications



Order:

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

## 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

**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 sel. 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..... 10 Ω (max.)
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 NE43 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
EAC..... TR-CU 020/2011

## Approvals

ATEX..... KEMA 10ATEX0003 X
IECEx..... DEK 13.0036X
CSA..... 1125003
INMETRO..... DEKRA 16.0014 X
DNV-GL Marine..... Stand. f. Certific. No. 2.4