



## 2-wire programmable transmitter

### 5333D

- 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

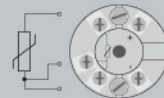
- Within a few seconds the user can program PR5333D to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.

#### Mounting / installation

- For DIN form B sensor head mounting.

#### Applications

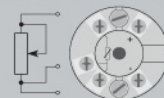
RTD to 4...20 mA



2-wire installation  
in control room



Resistance to 4...20 mA



2-wire installation  
in control room



**Order:**

<b>Type</b>
5333D

**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 <sup>2</sup> 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...30 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
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**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
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**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 2014/34/EU.....	KEMA 03ATEX1535 X
IECEX.....	DEK 13.0036X
FM.....	FM17US0013X
CSA.....	1125003
INMETRO.....	DEKRA 16.0014 X
CCOE.....	P337392/2
EAC Ex TR-CU 012/2011.....	RU C-DK.GB08.V.00410
DNV-GL Marine.....	Stand. f. Certific. No. 2.4