



## 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

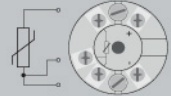
- Within a few seconds the user can program PR5333D to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for 3-wire connection.

## Mounting / installation

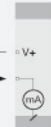
- For DIN form B sensor head mounting.

## Application

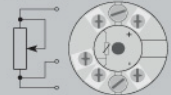
RTD to 4...20 mA



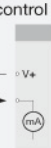
2-wire installation in control room



Resistance to 4...20 mA



2-wire installation in control room



### Order

Type	Version
5333	Zone 0, 1, 2, 21, 22,M1 // /DIV.1, DIV.2 :D

### Environmental Conditions

Operating temperatur	: -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...35 VDC
Internal power dissipation	: 25 mW...0.8 W

#### Response time

Response time (programmable)	: 0.33...60 s
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Voltage drop	: 8.0 VDC
Warm-up time	: 5 min.
Programming	: Loop Link
Signal / noise rati	: 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 influenc	: <±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

### I.S. / Ex marking

ATEX	: II 1 G Ex ia IIC T6...T4 Gc, II 2 D Ex ia IIIC Db, I MI Ex ia I Ma
IECEX	: EEx ia IIC T6...T4 Gc, Ex ia IIIC Db, Ex ia I Ma
FM, US	: Cl. I, Div. 1, Gp. A, B, C, D T4/T6; Cl. I Zone 0, AEx ia IIC T4/T6; Cl. 1, Div. 2, Gp. A, B, C, D, T4/T6
CSA	: Cl. I, Div. 1, Gp. A, B, C, D Ex ia IIC, Gc
INMETRO	: Ex ia IIC T6...T4 Gc, Ex ia IIIC Da

### Observed authority requirements

EMC	: 2014/30/EU & UK SI 2016/1091
ATEX	: 2014/34/EU & UK SI 2016/1107
RoHS	: 2011/65/EU & UK SI 2012/3032
EAC	: TR-CU 020/2011
EAC Ex	: TR-CU 012/2011

### Approvals

DNV Marine	: TAA0000101
ATEX	: DEKRA 20ATEX0105X
IECEX	: DEK 20.0062X
CSA	: 1125003
INMETRO	: DEKRA 16.0014 X
EAC Ex	: RU C-DK.HA65.B.00355/19