



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.

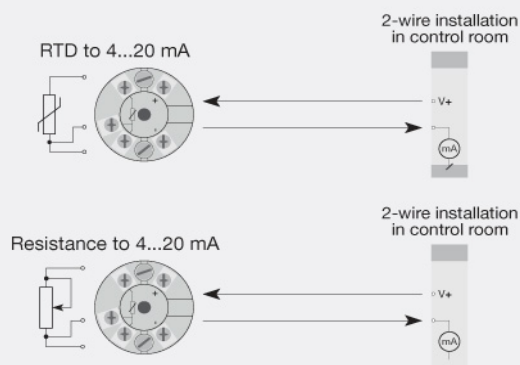
Technical characteristics

- 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	Version
5333	Zone 2 / Div. 2 : A

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

I.S. / Ex marking

ATEX.....	II 3 G Ex nA [ic] IIC T6...T4 Gc, II 3 G Ex ec [ic] IIC T6...T4 Gc, II 3 G Ex ic IIC T6...T4 Gc, II 3 D Ex ic IIIC Dc
IECEx.....	Ex nA [ic] IIC T6...T4 Gc, Ex ec [ic] IIC T6...T4 Gc, Ex ic IIC T6...T4 Gc, Ex ic IIIC Dc
CSA.....	Cl. I, Div. 2, Gp. A, B, C, D T6...T4, Ex nA[ic] IIC T6...T4 Gc
INMETRO.....	Ex ec [ic] IIC T6...T4 Gc, Ex ic IIC T6...T4 Gc, Ex ic IIIC Dc

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 20ATEX0106X
IECEx.....	DEK 20.0062X
CSA.....	1125003
INMETRO.....	DEKRA 23.0010X
EAC Ex.....	EAEU KZ 7500361.01.01.08756