



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.

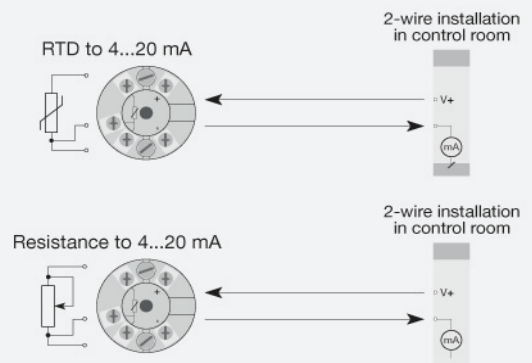
Technical characteristics

- 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.

Application



Order

Type	Version
5333	Zone 2 / Div. 2 :A

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 mm² 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 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

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 IIIC Dc 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 nA [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 16.0014 X
 EAC Ex : RU C-DK.HA65.B.00355/19