PERFORMANCE MADE SMARTER

2-wire programmable transmitter

5333A

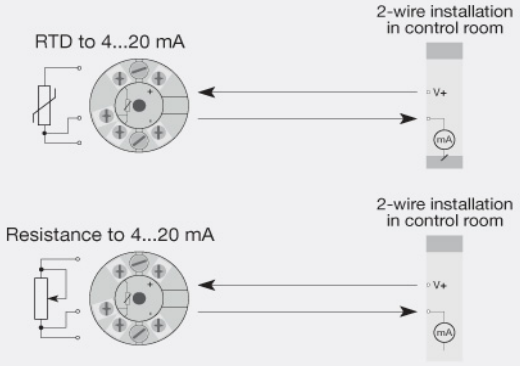
– RTD or Ohm input
– High measurement accuracy
– 3-wire connection
– Programmable sensor error value
– For DIN form B sensor head mounting

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

I.S. / Ex marking

ATEX..... II 3 G Ex nA [ic] IIC T4...T6 Gc, II 3 G Ex ic IIC T4...T6 Gc, II 3 D Ex ic IIIC Dc
IECEx..... Ex nA [ic] IIC T4...T6 Gc, Ex ic IIC T4...T6 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
ATEX..... 2014/34/EU
RoHS..... 2011/65/EU
EAC..... TR-CU 020/2011
EAC Ex..... TR-CU 012/2011

Approvals

DNV Marine..... TAA0000101
ATEX..... KEMA 10ATEX0003 X
IECEx..... DEK 13.0036X
CSA..... 1125003
INMETRO..... DEKRA 16.0014 X
EAC Ex..... RU C-DK.HA65.B.00355/19