

TEMPERATURE TRANSMITTER

Type: Ex for zone 0, 1 or 2, EEx ia IIC
T1...T6, programmable
Input: RTD, Ohm

Type:
TT-5333D

Sheet No.
6-5 V2.1

10122-E010818V2.1



Application:

- Temperature linearised measurement with Pt100...Pt1000 or Ni100...Ni1000.
- Conversion of linear resistance change to standard analogous current signal, e.g. from valves or ohmic level sensors

Properties:

- High measurement accuracy
- RTD- 2 or 3conductor attachment
- The RTD and resistance inputs have cable compensation for 2-, 3- and 4-conductor attachments
- Programmable sensor error value
- Can be programmed within a few seconds by 2-way configuration (Windows), to measure temperatures within all RTD ranges defined by the norms
- TAG No: 15 character configurable
- Degree of protection (case/clamp): IP68 / IP00
- Measurements: Ø44 x 20.2mm
- Mounting/ installation: can be mounted in DIN form B sensor head or on DIN track with special clamp



TECHNICAL DATA:

INPUT:

Type	Min temp.	Max temp.	Min span	Norm
Pt100	-200°C	+850°C	25°C	DIN IEC 751
Ni100	-60°C	+250°C	25°C	
Lin. R	0Ω	10000ohm	30ohm	

COMMUNICATION INTERFACE:

Loop link 5905

MECHANICAL DATA:

Measurements: Ø 44 x 20,2 mm

Degree of protection (case/clamp): IP68/ IP100

ENVIROMENTAL CONDITIONS:

Operating temperature: -40°C to +85°C

Humidity: < 95% RH (non-cond.)

TECHNICAL DATA:

OUTPUT:

Signal range: 4 - 20 mA

ACCURACY:

Type:	Basic accuracy:	Temperature coefficient:
RTD	≤±0,2°C	≤±0,01°C/°C
LIN R	≤±0,1ohm	≤±10mohm/°C

COMMON SPECIFICATIONS:

Supply voltage: DC: 8,0...30 V

Voltage drop: 7,2 VDC

Reaction time (programmable): 0,33...60 s

SENSOR TROUBLE SHOOTING:

Programmable: 3.5...23 mA

NAMUR NE43 Upscale: 23 mA

NAMUR NE43 Downscale: 3,5 mA

Ordering details: Please state If the transmitter should be programmed

Transmitter Input Type:			
4 mA =	C°	20 mA =	C°



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.

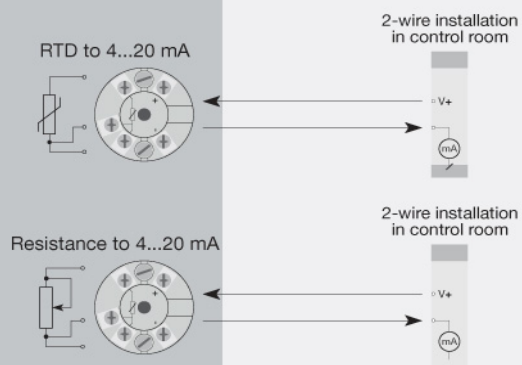
Technical characteristics

- 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



Order:

Type
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 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...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.....	KEMA 03ATEX1535 X
IECEX.....	DEK 13.0036X
FM.....	FM17US0013X
CSA.....	1125003
INMETRO.....	DEKRA 16.0014 X
EAC Ex.....	RU C-DK.GB08.V.00410
DNV-GL Marine.....	Stand. f. Certific. No. 2.4