

TEMPERATURE TRANSMITTER

Type: Ex for zone 0, 1 or 2, EEx ia IIC
T1...T6, programmable
Input: Pt100...Pt1000 or Ni100...Ni1000

Type:
TT-5332D

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, 3 or 4 conductor attachment
- The RTD and resistance inputs have cable compensation for 3 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	5000ohm	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	$\leq \pm 0,2^{\circ}\text{C}$	$\leq \pm 0,01^{\circ}\text{C}/^{\circ}\text{C}$
LIN R	$\leq \pm 0,1\text{ohm}$	$\leq \pm 10\text{mohm}/^{\circ}\text{C}$

COMMON SPECIFICATIONS:

Supply voltage: DC: 7,2...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 RTD transmitter

5332D

- RTD or Ohm input
- Accuracy: Better than 0.05% of selected range
- 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.

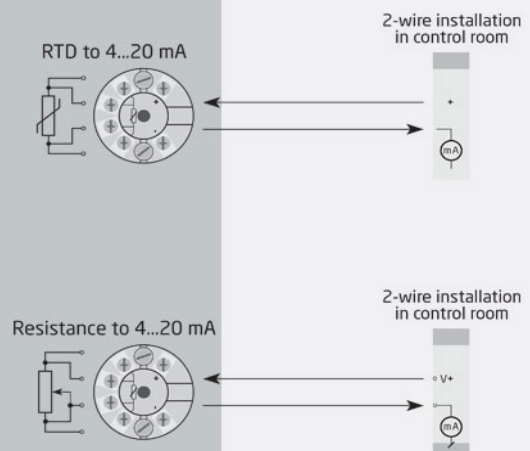
Technical characteristics

- Within a few seconds the user can program PR5332D to measure temperatures within all ranges defined by the norms.
- Dedicated programmable non-isolated 4-wire RTD transmitter.
- RTD and resistance inputs have cable compensation for 2-, 3- and 4-wire connection.
- Continuous check of vital stored data for safety reasons.

Mounting / installation

- For DIN form B sensor head mounting.

Applications



Order

Type	Version
5332	Hazardous area, Zone 0 / Div. 0, ATEX, IECEx, FM, CSA : D

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

Common specifications**Supply**

Supply voltage.....	7.2...30 VDC
Internal power dissipation.....	25 mW...0.7 W

Response time

Response time (programmable).....	1...60 s
Voltage drop.....	7.2 VDC
Warm-up time.....	5 min.
Programming.....	Loop Link
Signal / noise ratio.....	Min. 60 dB
EEPROM error check.....	< 3.5 s
Accuracy.....	Better than 0.05% of selected range
Signal dynamics, input.....	20 bit
Signal dynamics, output.....	16 bit
Effect of supply voltage change.....	< 0.005% of span / VDC
EMC immunity influence.....	< ±0.5% of span
Extended EMC immunity: NAMUR NE21, A criterion, burst.....	< ±1% 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.....	5 Ω (max.)
Sensor current.....	Nom. 0.2 mA
Effect of sensor cable resistance (3-/4-wire).....	< 0.002 Ω / Ω
Sensor error detection.....	Yes

Linear resistance input

Linear resistance min....max.....	0 Ω...5000 Ω
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Output specifications**Common output specifications**

Updating time.....	440 ms
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Current output

Signal range.....	4...20 mA
Min. signal range.....	16 mA
Load (@ current output).....	≤ (Vsupply - 7.2) / 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
of span.....	= of the presently selected range

I.S. / Ex marking

ATEX.....	II 1 G Ex ia IIC T4...T6 Ga, II 1 D Ex ia IIIC Da, I M1 Ex ia Ma
IECEx.....	Ex ia IIC T4...T6 Ga, Ex ia IIIC Da, 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, Ga

Observed authority requirements**Directives**

EMC.....	2014/30/EU
ATEX.....	2014/34/EU
RoHS.....	2011/65/EU
EAC.....	TR-CU 020/2011
EAC Ex.....	TR-CU 012/2011

Approvals

ATEX.....	KEMA 06ATEX0062X
IECEx.....	DEK 13.0035X
FM.....	FM17US0013X
CSA.....	1125003