

Преобразователи температуры iTEMP TMT80, TMT82, TMT84, TMT85

Техническая информация

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iTEMP TMT80 temperature transmitter

4-20 mA temperature head transmitter with one universal sensor input



Benefits:

- 2-wire technology, 4 to 20 mA analog output
- Fault signal on sensor break or short circuit, presettable to NAMUR NE 43
- Meets the EMC requirements as per NAMUR NE 21
- Galvanic isolation 500 V (input/output)
- Application specific measuring range setting

Specs at a glance

- **Accuracy** (Pt100, -50...250 °C) $\leq 0,5$ K (Pt100, -58...482 °F) $\leq 0,9$ °F

Field of application: This transmitter is configurable and supports both selected resistance sensor types and thermocouples. In order to obtain the highest measurement precision, linearization characteristics for every type of sensor are stored in the transmitter. The standardized output signal used for process measurement is a 4 to 20 mA signal. This offers fast, easy and cost-saving temperature measuring and reliable measurement values for a wide range of non-ex industry applications.

Features and specifications

Temperature transmitters

Measuring principle

Head transmitter

Input

1 x RTD, TC

Temperature transmitters**Output**

1 x analog 4...20 mA

Auxiliary power supply

8...35 V DC

Communication

pc-programmable

Installation

Terminal head form B

Accuracy

(Pt100, -50...250 °C) $\leq 0,5$ K

(Pt100, -58...482 °F) $\leq 0,9$
°F

Galvanic isolation

yes

iTEMP TMT82 temperature transmitter

HART® temperature transmitter as head, field or DIN rail device with two universal sensor inputs suitable for use in hazardous areas and SIL 2



Benefits:

- Robust temperature transmitter delivering precise, long-term stable measurements for high plant availability
- SIL certification up to SIL2, SC3 according to IEC 61508:2010
- Versatile mounting and housing options: terminal head form B, DIN rail, field housing with separate terminal compartment, integrated display (**TID10**)
- Transmitter-sensor matching for highest measurement accuracy
- Sensor and hardware failure detection; diagnostic status information according to NAMUR NE 107
- Time-saving installation: Tool-free wiring with push-in terminal technology

Specs at a glance

- **Accuracy** (Pt100, -50...200 °C) $\leq 0,1$ K (Pt100, -58...392 °F) $\leq 0,18$ °F

Field of application: The iTEMP TMT82 is a highly reliable, accurate and long-term stable temperature transmitter for industrial processes requiring high availability. The versatile 2-channel device converts universal sensor inputs such as thermocouples or RTD into stable, scalable 4 to 20 mA output signals and HART® communication. With its built-in smart sensor monitoring capability and diagnostic status information according to NAMUR NE 107, the SIL 2, SC3 certified transmitter increases process safety and uptime.

Features and specifications

Temperature transmitters**Measuring principle**Head transmitter

Input2 x RTD, TC, Ohm, mV

Output1 x analog 4...20 mA / HART

Auxiliary power supply

11...42 V DC (head transmitter)

12...42 V DC (Din rail device)

11/12...30 V DC (Ex ia)

CommunicationHART-protocol

InstallationTerminal head form B, DIN-Rail housing or field mount housing

Accuracy(Pt100, -50...200 °C) $\leq 0,1$ K(Pt100, -58...392 °F) $\leq 0,18$ °F

Galvanic isolationyes

Temperature transmitters**Certification**

ATEX II1G Ex ia IIC T4/T5/T6
ATEX II3G Ex ic IIC T6 Gc
ATEX II2D Ex tb IIIC Db
ATEX II3D Ex tc IIIC Dc
ATEX II3G Ex nA IIC T6 Gc
ATEX II1G Ex ia IIC T6 Ga, II3D
ATEX II3G Ex nA IIC T6 Gc, II3D
ATEX II2G Ex d T6, II2D Ex tb IIIC
CSA C/US General Purpose
CSA IS, NI I / 1+2/A-D
CSA XP, NI, DIP I, II, III/1+2/A-G
FM IS, NI I / 1+2/A-D
FM XP, NI, DIP I, II, III/1+2/A-G
EAC Ex ia IIC T6 Ga
EAC Ex d IIC T6 Gb
EAC Ex ia IIC T6, II3D
IECEX Ex ia IIC T4/T5/T6
IECEX Ex tb IIIC Db
IECEX Ex nA II T4/T5/T6
IECEX Ex d T6 Gb, Ex tb IIIC Db
INMETRO Ex ia [ia Ga] IIC T6 Gb
INMETRO Ex d T6 Gb, Ex tb IIIC Db
NEPSI Ex ia IIC T6 Ga
NEPSI Ex d IIC T6 Gb
NEPSI Ex nA IIC T6 Gc
TIIS Ex ia IIC T6
TIIS Ex nA II T6
UK II1G Ex ia IIC T6 Ga
UK II2D Ex tb IIIC Db
UK II3D Ex tc IIIC Dc
UK II1G Ex ia IIC T6 Ga, II3D Ex ia IIIC Dc
UK II3G Ex nA IIC Gc, II3D Ex tc IIIC Dc
UK II2G Ex db IIC T6 Gb, II2D Ex tb IIIC Db
ATEX IECEX II1G Ex ia IIC T6 Ga
FM+CSA IS, NI I/1+2/A-D

iTEMP TMT84 temperature transmitter

PROFIBUS® temperature transmitter as head or field device with two universal sensor inputs suitable for use in hazardous areas



Benefits:

- Easy and standardized communication via PROFIBUS® PA Profile 3.02
- Meets the EMC requirements as per NAMUR NE 21 and the recommendations of NE 89 with regard to temperature transmitters with digital signal processing
- Straightforward design of measuring points in Ex-areas through FISCO/FNICO conformity in accordance with IEC 600079-27
- Safe operation in hazardous areas thanks to international approvals such as FM IS, NI, CSA IS, NI as well as ATEX Ex ia, Ex nA (Ex nL)
- High accuracy through sensor-transmitter matching
- Reliable operation with sensor monitoring and device hardware fault recognition
- Rapid no-tools wiring due to optional spring terminal technology

Specs at a glance

- **Accuracy** (Pt100) $\leq 0,1$ K (Pt100) $\leq 0,18$ °F

Field of application: Unsurpassed reliability, accuracy and long-term stability in critical processes over all industries. The configurable transmitter not only transfers digital converted signals from RTD and TC sensors, it also transfers resistance and voltage signals using PROFIBUS® PA communication. High measurement point availability by means of sensor monitoring functions. Diagnostics information according to NAMUR NE 107. Optimization of the measurement accuracy by sensor-transmitter matching.

Features and specifications

Temperature transmitters

Measuring principle

Head transmitter

Input

2 x RTD, TC, Ohm, mV

Output

PROFIBUS PA

Auxiliary power supply

9...32 V DC (PROFIBUS PA)

9...17,5 V DC (FISCO/FNICO)

Communication

PROFIBUS PA

Installation

Terminal head form B

Accuracy

(Pt100) $\leq 0,1$ K

(Pt100) $\leq 0,18$ °F

Galvanic isolation

yes

Temperature transmitters**Certification**

ATEX II3G Ex ic IIC T6 Gc
ATEX II2D Ex tb IIIC Db
ATEX II1G Ex ia IIC T4/T5/T6
ATEX II3G Ex nA IIC T6 Gc
ATEX II3D Ex tc IIIC Dc
ATEX II1G Ex ia IIC T6 Ga, II3D
ATEX II3G Ex nA IIC T6 Gc, II3D
ATEX II2G Ex d T6, II2D Ex tb IIIC
FM+CSA IS, NI I/1+2/ABCD
CSA C/US General Purpose
FM IS, NI I/1+2/ABCD
CSA IS, NI I/1+2/ABCD
CSA XP, NI, DIP I, II, III/1+2/A-G
NEPSI Ex ia IIC T4/T5/T6
TIIS Ex ia IIC T6
NEPSI Ex nA IIC T4/T5/T6
IECEX Ex ia IIC T4/T5/T6
FM XP, NI, DIP I, II, III/1+2/A-G
EAC Ex ia IIC T6 Ga
EAC Ex d IIC T6 Gb
IECEX Ex tb IIIC Db
IECEX Ex d T6 Gb, Ex tb IIIC Db
INMETRO Ex ia [ia Ga] IIC T6 Gb
INMETRO Ex d T6 Gb, Ex tb IIIC Db
NEPSI Ex d IIC T6 Gb
UK II2D Ex tb IIIC Db
UK II3D Ex tc IIIC Dc
UK II1G Ex ia IIC T6 Ga, II3D Ex ia IIIC Dc
UK II3G Ex nA IIC Gc, II3D Ex tc IIIC Dc
UK II2G Ex db IIC T6 Gb, II2D Ex tb IIIC
Db
ATEX IECEX II1G Ex ia IIC T6 Ga

iTEMP TMT85 temperature transmitter

FOUNDATION Fieldbus™ temperature transmitter as head or field device with two universal sensor inputs suitable for use in hazardous areas



Benefits:

- Easy and standardized communication via FOUNDATION Fieldbus™ H1
- Straightforward design of measuring points in Ex-areas through FISCO/FNICO conformity in accordance with IEC 600079-27
- Safe operation in hazardous areas thanks to international approvals such as FM IS, NI; CSA IS, NI; ATEX Ex ia, Ex nA for intrinsically safe installation in zone 1 and zone 2
- High accuracy through sensor-transmitter matching
- Reliable operation with sensor monitoring and device hardware fault recognition
- Several mounting versions and sensor connection combinations
- Rapid no-tools wiring due to optional spring terminal technology

Specs at a glance

- **Accuracy** (Pt100) $\leq 0,1$ K (Pt100) $\leq 0,18$ °F

Field of application: Unsurpassed reliability, accuracy and long-term stability in critical processes over all industries. The configurable transmitter not only transfers digital converted signals from RTD and TC sensors, it also transfers resistance and voltage signals using FOUNDATION Fieldbus™ communication. High measurement point availability by means of sensor monitoring functions and device hardware fault recognition. Optimization of the measurement accuracy by sensor-transmitter matching.

Features and specifications

Temperature transmitters**Measuring principle**Head transmitter

Input2 x RTD, TC, Ohm, mV

OutputFOUNDATION Fieldbus H1

Auxiliary power supply

9...32 V DC (FOUNDATION Fieldbus)

9...17,5 V DC (FISCO/FNICO)

CommunicationFOUNDATION Fieldbus H1

InstallationTerminal head form B

Accuracy(Pt100) $\leq 0,1$ K(Pt100) $\leq 0,18$ °F

Galvanic isolationyes

Temperature transmitters**Certification**

ATEX II3G Ex ic IIC T6 Gc
ATEX II1G Ex ia IIC T4/T5/T6
ATEX II3G Ex nA IIC T6 Gc
ATEX II3D Ex tc IIIC Dc
ATEX II1G Ex ia IIC T6 Ga, II3D
ATEX II3G Ex nA IIC T6 Gc, II3D
ATEX II2G Ex d T6, II2D Ex tb IIIC
FM+CSA IS, NI I/1+2/ABCD
CSA C/US General Purpose
FM IS, NI I/1+2/ABCD
CSA IS, NI I/1+2/ABCD
CSA XP, NI, DIP I, II, III/1+2/A-G
NEPSI Ex ia IIC T4/T5/T6
NEPSI Ex ec IIC T4/T5/T6
TIIS Ex ia IIC T6
IECEX Ex ia IIC T4/T5/T6
FM XP, NI, DIP I, II, III/1+2/A-G
EAC Ex ia IIC T6 Ga
EAC Ex d IIC T6 Gb
IECEX Ex tb IIIC Db
IECEX Ex d T6 Gb, Ex tb IIIC Db
INMETRO Ex ia [ia Ga] IIC T6 Gb
INMETRO Ex d T6 Gb, Ex tb IIIC Db
NEPSI Ex d IIC T6 Gb
UK II2D Ex tb IIIC Db
UK II3D Ex tc IIIC Dc
UK II1G Ex ia IIC T6 Ga, II3D Ex ia IIIC Dc
UK II3G Ex nA IIC Gc, II3D Ex tc IIIC Dc
UK II2G Ex db IIC T6 Gb, II2D Ex tb IIIC Db
ATEX IECEX II1G Ex ia IIC T6 Ga
FM+CSA IS, NI I/1+2/ABCD + ATEX IECEX II1G Ex ia IIC T6
Ga

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