

PC programmable temperature transmitter

iTEMP TMT80



Complete product information:
www.e-direct.endress.com/tmt80

- Universally programmable via ReadWin® 2000
- NAMUR NE 43
- Galvanic isolation



Specs at a glance:

- **Input:**
Pt100, Pt1000;
TC type B, K, N, R, S
- **Accuracy:**
deviation 0.5 K (Pt100)
- **Measuring range:**
freely programmable,
dependent of sensor
- **Installation:**
suitable for sensor head (form B)

Application The iTEMP TMT80 head transmitter can be installed in the form B sensor head. It has a 4 to 20 mA analog output. The measuring range can be set up freely via ReadWin® 2000 configuration software. TMT80 can be used for resistance thermometers (RTD) as well as for most commonly used thermocouples.

Function The iTEMP TMT80 head transmitter converts the input signal into a linear 4 to 20 mA signal. It has measurement input for resistance thermometers (RTD) in 2-, 3- or 4-wire connection and thermocouples.

Technical data

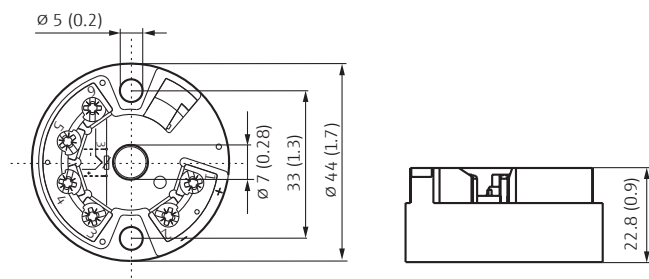
Input	
Input signal	Resistance thermometer: Pt100, Pt1000 to IEC 60751 Thermocouples: type B, K, N, R, S
Measurement range	Dependent of applied sensor element
Output	
Output signal	4 to 20 mA
Failure signal	To NAMUR NE 43
Max. load	$(V_{\text{power supply}} - 8 \text{ V}) / 0.025 \text{ A}$
Input current required	$\leq 3.5 \text{ mA}$
Current limit	$\leq 25 \text{ mA}$
Switch on delay	4 s (during power up $I_a \approx 3.8 \text{ mA}$)
Response time	1 s
Signal on alarm	
Underranging	Linear drop to 3.8 mA
Overranging	Linear rise to 20.5 mA
Sensor breakage; sensor short circuit ¹⁾	$< 3.6 \text{ mA}$ or $> 21 \text{ mA}$ can be set up
Electrical connection	
Power supply	$U_b = 8 \text{ to } 35 \text{ V DC}$
Galvanic isolation	$\hat{U} = 0.5 \text{ kV}$
Allowable ripple	$U_{ss} \leq 3 \text{ V}$ at $U_b \geq 15 \text{ V}$, $f_{\text{max}} = 1 \text{ kHz}$
Reference conditions	Calibration temperature $25 \text{ }^\circ\text{C} \pm 5 \text{ K}$

Accuracy	
Influence of power supply	$\leq \pm 0.01 \text{ \% / V}$ deviation from 24 V
Load influence	$\leq \pm 0.02 \text{ \% / } 100 \text{ } \Omega$
Temperature drift	Pt100: $T_d = \pm [(15 \text{ ppm/K} \times (\text{measuring range end value} - \text{measuring range start value})) + (50 \text{ ppm/K} \times \text{preset measurement range})] \times \Delta\theta$ TC: $T_d = \pm [(50 \text{ ppm/K} \times (\text{Measurement range end value} - \text{measurement range start value})) + (50 \text{ ppm/K} \times \text{preset measurement range})] \times \Delta\theta$ $\Delta\theta =$ Deviation of ambient temperature according to the reference condition $+25 \text{ }^\circ\text{C} \pm 5 \text{ K}$ ($77 \text{ }^\circ\text{F} \pm 9 \text{ }^\circ\text{F}$)
Measurement accuracy	0.5 K (Pt100)

Application conditions	
Ambient temperature	$-40 \text{ to } +85 \text{ }^\circ\text{C}$
Storage temperature	$-40 \text{ to } +100 \text{ }^\circ\text{C}$
Climatic class	to EN 60654-1, Class C
Vibration resistance	4 g/2 to 150 Hz to IEC 60 068-2-6
EMC	Interference immunity and interference emission according to IEC 61326 and NAMUR NE 21
Housing	To DIN 50446 form B

¹⁾ Not for thermocouple

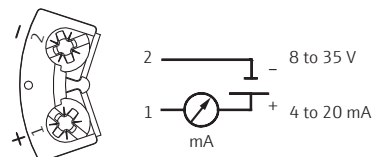
Dimensions in mm (inches)



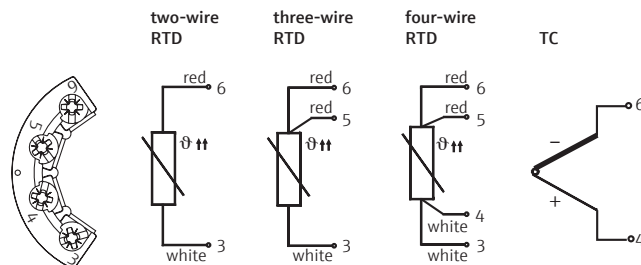
Installation according to operation instructions.

Electrical connection

Power supply and current output



Sensor connection



Price table

iTEMP TMT80	Order no.	Price/pcs. in €		
		1 to 3	4 to 10	11 to 35
Head transmitter				
Standard	TMT80-AA	47.-	43.-	39.-

Accessories	Order no.	Price/pcs. in €		
Configuration kit TXU10 – for PC-programmable devices. set-up programme + interface cable for PC with USB-Port. 4 pin plug + ReadWin® 2000	TXU10-AA	101.72		

Prices are applicable for Malta until 30/06/2020, in euro per unit, net excluding value added tax (VAT), cost of packing and dispatch. Endress+Hauser retains the right to change or modify pricing at any time. The terms of sales and delivery of Endress+Hauser are applicable. Current prices and delivery times can be verified prior to ordering on www.e-direct.endress.com.

 Complete product information:
www.e-direct.endress.com/tmt80

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Liquiphant FTL31



Temperature sensor
iTHERM ModuLine TM121



Process transmitter
RMA42