



TT7S Isolated & Programmable Temperature Transmitters

TT7S10-H: Loop Powered Head Mount
TT7S10: Loop Powered DIN Rail Mount
TT7S11S: Aux Powered DIN Rail Mount

Isolated. Universal. Accurate

TT7S series Transmitters are designed for Isolated and accurate temperature measurements and signal conditioning applications. Model TT7S10 is 2-wire Loop powered, Model TT7S11S is 4-wire Auxiliary powered and Model TT7S10-H is Head mount version of TT7S10. All the models are programmable for Thermocouples, Pt-100 RTD, mV and Resistance/Potentiometer. Output signal is standard 4-20mA in 2-wire and mA or Volts in 4-wire. Programming of the Transmitters is easy by means of user friendly mTRAN windows based configuration software.

TT7S Series Transmitters are built using the latest technology to deliver high performance in accuracy, resolution, stability and isolation. Zero/Span adjustments, sensor break detection/protection, Reverse output and Reverse Polarity protection are standard features across all models.

Software techniques like polynomial linearization and digital filtering gives linearized and stable output in harsh industrial conditions, high level of isolation between input and output prevents ground loop errors and protects costly measurement and control systems under fault conditions.

mTRAN a windows based software is used for configuring, calibration and monitoring the TT7S Transmitters.

Features

- Universal input (RTD, Thermocouple, Ohm, mV)
- 1.5 KV RMS Isolation between Input & Output
- Linearized Output
- Highly Accurate
- Fully Programmable for Input type & Range
- Fast Response time: <500 ms
- Digital Filter
- Windows based mTRAN software for Configuration, Calibration & Monitoring
- Reverse polarity protection
- Direct/Reverse output
- Sensor break detection
- Loop/Aux Powered models

Applications

- Power Plants
- Metal Industry
- Oil & Gas
- Chemical
- Glass Industry
- Cement
- Fertilizer

TECHNICAL SPECIFICATIONS

Input		Supply	
Input Type		TT7S10 & TT7S10-H	8.5-36 V DC, 2-Wire
RTD	Pt-100 3-Wire (3/4-Wire in TT7S11S)	TT7S11S	
Resistance/Potentiometer	0-2500Ω	Supply	20-265 V DC/AC (45-65Hz)
Sensor current	0.2 mA	Power Consumption	<3 VA
Thermocouple	E, J, K,T,B,R,S,N (ANSI standard)	Isolation	
mV	0-75mV/ 0-500mV DC	TT7S10 & TT7S10-H	
Input Impedance	> 1MΩ	Galvanic Isolation:	
Sensor Break current	< 1 uA	1500V AC for 1 minute between input & output	
Input Range	Refer Table -1	TT7S11S	
Zero/Span Adjust	Through mTRAN Software	Galvanic Isolation:	
Accuracy		1500V AC for 1 minute between input & output	
E, J, K, T, N, Pt-100, mV, Ω	0.1% of FS	1500V AC for 1 minute between input & supply	
B, R, S	0.25% of FS	1500V AC for 1 minute between output & supply	
CJC Error		Physical	
E, J, K, T, N	±2 °C	Mounting	
R, S	±3 °C	TT7S10 & TT7S11S	35 mm DIN Rail
Stability	±0.1% per year	TT7S10-H	Sensor Head
Response time	< 500 msec	Dimensions	
Digital Filter	0-20 settable through software (2 default)	TT7S10	12.5(W) x 99(H) x 114.5(D) mm
CMRR	>120 dB	TT7S11S	12.5(W) x 99(H) x 114.5(D) mm
NMRR	≈ 40 dB	TT7S10-H	
Temp-co	<150 ppm	Diameter	46mm
		Height	28mm
		Enclosure Material	
		TT7S10-H	Polycarbonate
		TT7S10 & TT7S11S	PA66
			Environmental
		Operating temperature	
		TT7S10-H	0 to 85 °C
		TT7S10 & TT7S11S	0 to 55 °C
		Storage temperature	-20 to +85 °C
		Humidity	30 to 95% (Non-condensing)
			Table-1: Input Range
		Input Type	Ranges
		E	-200 to 1000°C
		J	-200 to 1200°C
		K	-200 to 1370°C
		T	-200 to 400°C
		Thermocouple	
		B	450 to 1800°C
		R	0 to 1750°C
		S	0 to 1750°C
		N	-200 to 1300°C
		RTD	
		Pt-100	-200 to 850.0°C
		Linear	
		0 - 75mV	-1999 to 9999
		0 - 500mV	
		Potentiometer	
		0-2500Ω	-1999 to 9999

ORDERING CODE

Model	Transmitter Type	Input type	Output
TT7S	X	X	X
	10 Loop-Powered Din Rail Mount	1 E	1 4-20mA
	11S Aux-Powered Din Rail Mount	2 J	2* 0-20mA
	10-H Loop-Powered Head Mount	3 K	3* 1-5V
		4 T	4* 0-10V
		5 B	5* 0-5V
		6 R	6* 2-10V
		7 S	
		8 N	
		9 Pt-100	
		U 0-75mV	
		H 0-500mV	
		I 0-2500Ω	

Option:TT7SCC - Configuration cable@ extra cost

mTRAN Software: Website download

* Available in Aux Powered model TT7S11S only