



- PRT reference thermometer, resolution of 0.001°C.
- Replace precision glass thermometers.
- Fully electronic, without mechanical parts.
- Accepts 25 and 100 ohms sensors or standard thermocouples.
- Portable and compact (rechargeable battery, charger and carrying case included).
- It has internal memory and serial communication.
- Accepts CVD, IPTS-68 and ITS-90 coefficients.

The super thermometer ST-501 main purpose is to measure temperature with high accuracy. It uses platinum resistance thermometers sensors and it also accepts standard thermocouples. The digital electronic indicator can be offered complete including the temperature sensor and calibration certificate of the system. The ST-501 has internal algorithms to calculate the temperature value according to Callendar-Van Dusen (CVD), IPTS-68 and ITS-90. For customers that already have one or several RTD's or PRT's sensors with quality enough for being used as standards, it is only necessary to enter its respective coefficients. And for those uncalibrated probes, it is possible to use the standard linearization curves for RTD's and thermocouples.

Super Thermometer ST-501

Input specifications:

	Ranges	Resolution	Accuracy	Remarks
Resistance	0 to 100 Ω	0.0001 Ω	± 0.001 Ω	excitation current
	100 to 500 Ω	0.001 Ω	± 0.004 Ω	1.0 mA
Pt-100	-200 to 850° C / -328 to 1562° F	0.001° C / 0.001° F	± 0.01° C / ± 0.02° F	excitation current
				1.0 mA
Pt-25	-200 to 850° C / -328 to 1562° F	0.001° C / 0.001° F	± 0.01° C / ± 0.02° F	excitation current
				1.0 mA
TC-J	-210 to 1200° C / -346 to 2192° F	0.1° C / 0.1° F	± 0.2° C / ± 0.4° F	IEC 584
TC-K	-270 to -150° C / -454 to -238° F	0.1° C / 0.1° F	± 0.5° C / ± 1.0° F	IEC 584
	-150 to 1370° C / -238 to 2498° F	0.1° C / 0.1° F	± 0.2° C / ± 0.4° F	IEC 584
TC-T	-260 to -200° C / -436 to -328° F	0.1° C / 0.1° F	± 0.6° C / ± 1.2° F	IEC 584
	-200 to -75° C / -328 to -103° F	0.1° C / 0.1° F	± 0.4° C / ± 0.8° F	IEC 584
	-75 to 400° C / -103 to 752° F	0.1° C / 0.1° F	± 0.2° C / ± 0.4° F	IEC 584
TC-B	50 to 250° C / 122 to 482° F	0.1° C / 0.1° F	± 2.5° C / ± 5.0° F	IEC 584
	250 to 500° C / 482 to 932° F	0.1° C / 0.1° F	± 1.5° C / ± 3.0° F	IEC 584
	500 to 1200° C / 932 to 2192° F	0.1° C / 0.1° F	± 1.0° C / ± 2.0° F	IEC 584
	1200 to 1820° C / 2192 to 3308° F	0.1° C / 0.1° F	± 0.7° C / ± 1.4° F	IEC 584
TC-R	-50 to 300° C / -58 to 572° F	0.1° C / 0.1° F	± 1.0° C / ± 2.0° F	IEC 584
	300 to 1760° C / 572 to 3200° F	0.1° C / 0.1° F	± 0.7° C / ± 1.4° F	IEC 584
TC-S	-50 to 300° C / -58 to 572° F	0.1° C / 0.1° F	± 1.0° C / ± 2.0° F	IEC 584
	300 to 1760° C / 572 to 3200° F	0.1° C / 0.1° F	± 0.7° C / ± 1.4° F	IEC 584
TC-E	-270 to -150° C / -454 to -238° F	0.1° C / 0.1° F	± 0.3° C / ± 0.6° F	IEC 584
	-150 to 1000° C / -238 to 1832° F	0.1° C / 0.1° F	± 0.1° C / ± 0.2° F	IEC 584
TC-N	-260 to -200° C / -436 to -328° F	0.1° C / 0.1° F	± 1.0° C / ± 2.0° F	IEC 584
	-200 to -20° C / -328 to -4° F	0.1° C / 0.1° F	± 0.4° C / ± 0.8° F	IEC 584
	-20 to 1300° C / -4 to 2372° F	0.1° C / 0.1° F	± 0.2° C / ± 0.4° F	IEC 584
TC-L	-200 to 900° C / -328 to 1652° F	0.1° C / 0.1° F	± 0.2° C / ± 0.4° F	DIN 43710
TC-C	0 to 1500° C / 32 to 2732° F	0.1° C / 0.1° F	± 0.5° C / ± 1.0° F	W5Re / W26Re
	1500 to 2320° C / 2732 to 4208° F	0.1° C / 0.1° F	± 0.7° C / ± 1.4° F	W5Re / W26Re

Note: Cold junction compensation error: 0.5°C / 1.0°F.

Probe Model*	Range	Stability	Nominal R ₀
04.06.0103-00	-200 a 660°C	0.03°C ⁽¹⁾	100 Ω
04.06.0104-00	-200 a 500°C	0.01°C ⁽²⁾	100 Ω
04.06.0105-00	-200 a 500°C	0.13°C ⁽²⁾	100 Ω

⁽¹⁾ When used periodically to 660°C.

⁽²⁾ When used periodically to 400°C.

* Probe size: 12" (length) x 1/4" (diameter). Probe with different size and stability values are available under previous consult.

Technical Specifications

Dimensions: 56mm x 144mm x 72mm (height x width x depth)

Weight: 0.53 kg approx.

Serial Communication: RS-232 / RS-485, baud rate of 9600, no parity bit and 1 stop bit. Modbus protocol

Warm-up time: 5 minutes

Battery operation: 30 hours (rated)

Operating temperature range: 0 to 50°C

Relative humidity: 0 to 90%

Warranty: 1 year

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