



INSTRUMENTS: TYPE TS8504

PRECISION THERMOMETER

DESCRIPTION:

As a new addition to the Thermometrics line of precision instruments, the TS-8504 replaces the TS-8901, our former top of the line thermometer.

The model TS-8504 features an accuracy of 0.003°C with a resolution of 0.0001°C in a compact size that can go anywhere (5.6" W x 7.1" L x 2.4" H). It operates on either 115 VAC or optional 230 VAC, 50/60 Hz. A DC battery pack is also available for true portability.*

Best suited for use with our line of thermistor temperature standards, the TS-8504 can be used with any thermistor by simply entering the Steinhart-Hart polynomial equation coefficients into memory through simple front panel keystrokes. The easy to read display can be set to display temperature in °C, °F, °K or resistance in ohms.

Each thermometer comes complete with an RS-232 interface for automation of temperature data collection, calibration, or process control functions. An optional IEEE-488 interface is also available.

*DC voltage and battery pack options required



Optional data acquisition software allows the user to display the data in several formats including bar graphs, strip charts or digital displays as well as setting high and low temperature alarms.

Calibration services traceable to NIST are also available. A data report for 3 or more calibration points can be provided.

Whether you are "chasing millidegrees" and require state of the art precision measurements or simply need a highly versatile temperature monitor, the TS8504 is priced to suit your needs.

ORDERING INFORMATION:

TS-8504	Precision Thermistor Thermometer [†]
TS-8504/AS	Precision Thermistor Thermometer including one [†] "AS" series thermistor temperature standard.
	Additional temperature standards:
AS-__-8504	"AS" series thermistor temperature standard.
S- __-8504	"S" series thermistor temperature standard.
ES-__-8504	"ES" series thermistor temperature standard.

Add suffix "-8504" to standard part number when ordering.
Example: AS-115-8504)

TS-2509	Data acquisition software
TS-2502	DC power option (required with battery pack)
TS-9313	DC battery pack
TS-2506	IEEE option
TS-1833	Calibration report (3points)
	Additional points, each
TS-2505	Spare probe connector

[†] FOR 220V 50/60HZ OPTION ADD SUFFIX "-220V".



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Specifications

Temperature Range [†]	Any thermistor range
Resistance Range	0 Ω to 1M Ω , auto-ranging
Probe	Thermistors
Characterizations	Steinhart-Hart thermistor polynomial Callendar-Van Dusen: R_0 , α , δ and β
Temperature Accuracy [†] (meter only)	0 $^{\circ}$ C to 50 $^{\circ}$ C: 0.003 $^{\circ}$ C 50 $^{\circ}$ C to 75 $^{\circ}$ C: 0.006 $^{\circ}$ C 75 $^{\circ}$ C to 100 $^{\circ}$ C: 0.015 $^{\circ}$ C (Using 10k Ω thermistor sensor, $\alpha=0.04$. Does not include probe uncertainty or characterization errors.)
Temperature Coefficient	<2 ppm/ $^{\circ}$ C, typical
Operating Temperature Range	13 $^{\circ}$ C - 33 $^{\circ}$ C
Resistance Resolution	0 Ω to 20 k Ω : 0.01 Ω 20 k Ω to 200 k Ω : 1 Ω 200 k Ω to 1 M Ω : 10 Ω
Temperature Resolution	0.0001 $^{\circ}$ C
Excitation Current	2 and 10 μ A, automatically selected
Measurement Period	1 second
Digital Filter	Exponential, 0 to 60 seconds time constant (user selectable)
Probe Connection	4-wire with shield, 5-pin DIN connector
Communications	RS-232 serial standard IEEE-488 (GPIB) optional
Display	8-digit, 7-segment, yellow-green LED; 0.5-inch-high characters
Power	115 VAC ($\pm 10\%$), 50/60 Hz, 10 VA, nominal 230 VAC ($\pm 10\%$), 50/60 Hz, 10 VA, nominal (optional)
Size	5.6 inches (14.3 cm) wide x 7.1 inches (18.1 cm) deep x 2.4 inches (6.1 cm) high
Weight	2.2 lb. (1.0 kg)

[†]Temperature and accuracy ranges may be limited by the sensor you use.