



Tecal Accu-Temp II

Laboratory grade reference thermometer



The **Tecal Accu-Temp II** is a high accuracy multi purpose digital thermometer for both platinum resistance thermometers and thermocouples. Dual Channel input allows a probe on Channel B to be calibrated against a standard on Channel A - directly compare any combination of PRT and Thermocouple. The Tecal Accu-Temp II supports 13 thermocouple Types B, E, J, K, N, R, S, T, D, C, I, U, Au/Pt and both 3 and 4 wire 100 ohm Platinum resistance thermometers and RTD's.

- Accuracy of RTD and PRT measurement ± 0.010 °C
- Accuracy of T/C measurement, better than ± 0.1 °C
- 0.001 resolution for RTD's/PRT's and Thermocouples
- 2 measuring inputs
- 13 thermocouples:
B, E, J, K, N, R, S, T, D, C, I, U, Au/Pt
- T/C CJC internal or external
- Input of RTD coefficients:
Calendar Van Dusen & ITS90
- Probe self-heat check
- Automatic current reversal for RTD's/PRT's
- Suitable for 3 and 4 wire RTD's/PRT's
- Units °C, °F, K, mV, ohms
- Math functions max/min, std. deviation & mean
- Data logging 4000 values
- Expandable by plugging in optional 4 input RTD or Thermocouple scanner cards to 1 of 2 rear panel slots available.
- RS232 talk/listen - included
- Rechargeable sealed lead acid battery:
8 hrs operation continuous

The powerful math function enables statistical analysis of the captured data, mean, max, min, peak and standard deviation. The Tecal Accu-Temp II can be expanded by adding either a 4 input Thermocouple or 4 input PRT card into one of the two available slots in the rear of the unit. Ultimately two cards of the same type could be added to allow the measurement of up to 10 sensors of the same type or one PRT as a reference and nine thermocouples. Each unit includes an RS232 cable, NIST traceable calibration, instruction manual and mains cable.

Combine the Tecal Accu-Temp II with one of Techne's Secondary Standard PRT's, a Techne Dry block calibrator or liquid calibration bath and Technetworks software to create a thermometer and sensor calibration system with high overall accuracy.



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Tecal Accu-Temp II

Specifications

Display... LCD Graphics Panel, 240 x 64 Dot, with LED backlight contrast control via keyboard.

Inputs... Thermocouples via 4mm sockets in copper block on 19mm pitch adapter plug for direct connection of thermocouple wire. Reference Junction Compensation - Automatic with internal sensor, or with external Pt100 probe. PRT's via 6-pin Lemo socket, also used for external RJ measurement.

Calibration... Digital, security code protected.

Working Temperature... 0...40°C rel. humidity 80% max non condensing

Storage Temperature... -20...+50°C.

Mains Supply... 100/120/220/240 Volts + 10% - 13% 47...63Hz max. 40VA.

Dimensions... 5.5"H x 10" W x 16"D

Weight... 12 lbs approx.

Data Logging... The Tecal Accu-Temp II Thermometer comes complete with a data logging function, enabling up to 4000 single channel (2000 dual channel) readings to be stored together with a date and time stamp. The stored values can be recalled to the instrument display and scrolled through using the front panel keyboard, alternatively these values may be downloaded to a PC file or printer.

Battery... Sealed lead acid, rechargeable cell giving approximately 8 hours continuous operation. Internal battery charger.

Maths... Displays max/min values Peak to Peak, mean & Standard deviation.

RS232 included To specification ANSI/EIA/TIA/-232-E-1991.

Analogue Output - optional... This is a factory fitted option comprising of a single BNC socket fitted to the rear panel. The function is as per the main value display and is scaled 1mV/°C. A 12 bit D/A converter is used and the resolution is 0.5°C.

Expansion cards - optional... There are two expansion slots in the rear panel which will accept a 4 input thermocouple or RTD plug and play card giving a total of 8 additional measuring channels.

IEEE-488 optional... Conforms to ANSI-IEEE Std 488.1-1987. The interface performs the following functions: SH1, AH1,T5,TEO, L3, LEO, SR1, RL1, PPO, DC1, DT1, CO, E2. The interface can also be set to a talk only mode to permit stand alone printer output

Thermocouple Accuracy

Type	Range °C	Resolution °C, °F or K	Display Resolution mV	Uncertainty @20°C °C ±5 ° 1 year	Uncertainty @20°C °C ±5 ° 60 days	Temperature Coefficient /°C
B	+250 to +1820	0.001	1.0	±(0.025% Rdg + 0.006% FS)*	±(0.02% Rdg + 0.006% FS)*	7 ppm Rdg + 6 ppm FS
C	0 to +2315	0.001	1.0	±(0.075% Rdg + 0.005% FS)	±(0.05% Rdg + 0.005% FS)	7 ppm Rdg + 6 ppm FS
D	0 to +2315	0.001	1.0	±(0.75% Rdg + 0.005% FS)	±(0.05% Rdg + 0.005% FS)	7 ppm Rdg + 6 ppm FS
E	-200 to +1000	0.001	1.0	±(0.026% Rdg + 0.004% FS)	±(0.01% Rdg + 0.004% FS)	7 ppm Rdg + 6 ppm FS
J	-210 to +1200	0.001	1.0	±(0.03% Rdg + 0.005% FS)	±(0.008% Rdg + 0.005% FS)	7 ppm Rdg + 6 ppm FS
K	-200 to +1372	0.001	1.0	±(0.035% Rdg + 0.006% FS)	±(0.01% Rdg + 0.006% FS)	7 ppm Rdg + 6 ppm FS
N	-200 to +1300	0.001	1.0	±(0.035% Rdg + 0.005% FS)	±(0.01% Rdg + 0.005% FS)	7 ppm Rdg + 6 ppm FS
R	-50 to +1768	0.001	1.0	±(0.02% Rdg + 0.015% FS)	±(0.005% Rdg + 0.015% FS)	7 ppm Rdg + 6 ppm FS
S	-50 to +1768	0.001	1.0	±(0.02% Rdg + 0.015% FS)	±(0.005% Rdg + 0.015% FS)	7 ppm Rdg + 6 ppm FS
T	-200 to +400	0.001	1.0	±(0.025% Rdg + 0.015% FS)	±(0.005% Rdg + 0.015% FS)	7 ppm Rdg + 6 ppm FS
U	-200 to +600	0.001	1.0	±(0.025% Rdg + 0.015% FS)	±(0.005% Rdg + 0.015% FS)	7 ppm Rdg + 6 ppm FS
L	-200 to +600	0.001	1.0	±(0.03% Rdg + 0.005% FS)	±(0.008% Rdg + 0.005% FS)	7 ppm Rdg + 6 ppm FS
Au/Pt	0 to +1000	0.001	1.0	±(0.02% Rdg + 0.015% FS)	±(0.005% Rdg + 0.015% FS)	7 ppm Rdg + 6 ppm FS

RTD & PRT Accuracy

Type	Range °C	Resistance	Current	Resolution °C, °F or K	Resistance	Accuracy Typically @20°C ±5
Pt100	-200 to 660	18 to 340 Ω	0.5mA	0.001	0.001 Ω	0.010 °C
Pt100	660 to +800	340 to 450 Ω	0.5 mA	0.001	0.001 Ω	0.020 °C

Ordering Information

Model	Description	Voltage	Shipping Weight
3024400	Tecal Accu-Temp II thermometer	120 & 240 switchable	14 lbs
7032840	4 input Thermocouple card	N/A	2 lbs
7032841	4 input RTD card	N/A	2 lbs
7032842	Front panel RTD connector	N/A	



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