

Features

- N.I.S.T. traceable
- Wide temperature range
- Accepts thermocouple types J, K, T, E, R, S, B, N
- Real-time operation
- Low cost
- Programmable start time
- Miniature size
- CE compliant

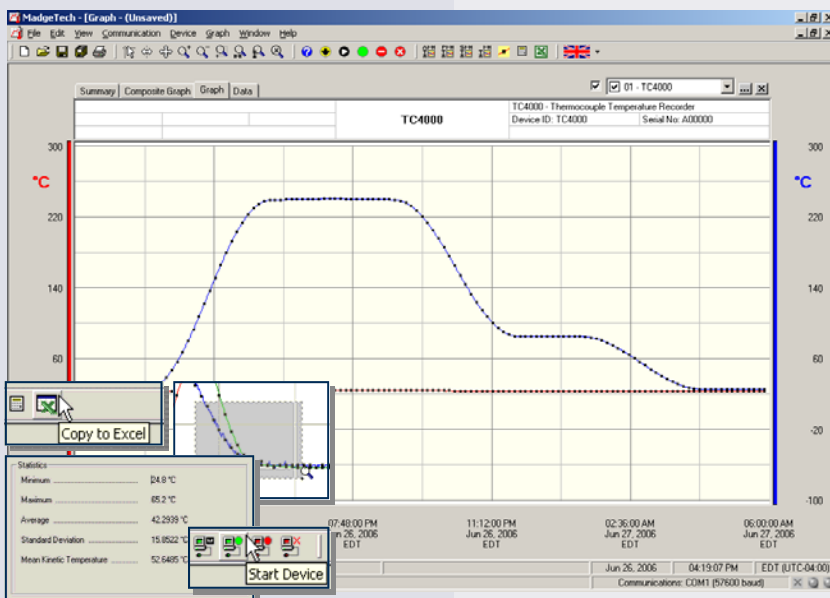
Applications

- Process verification/validation
- Dry ice shipments and storage
- Oven profiling
- HVAC
- Medical/Pharmaceutical
- Oven profiling
- Museum monitoring
- Environmental studies
- Replace costly strip chart recorders
- Implement HACCP programs

Thermocouples are one of the most popular measuring devices available today. Thermocouples, measure wide temperature ranges, are relatively rugged and inexpensive to produce.

MadgTech offers the TC4000 fits most any temperature measurement application. It is designed to accept eight different thermocouple types including types J, K, T, E, R, S, B and N and offers up to 16 bits of resolution. In addition to the thermocouple input, an internal temperature sensor can be used to monitor and record ambient temperatures. The TC4000 comes standard with an SMP-style (miniature) connector for quick and easy setup. A removable screw terminal input connector is available upon request.

With the user-friendly MadgTech software, data is simply downloaded to a computer where the readings are displayed in choice of degrees Celsius, Fahrenheit, Kelvin or Rankine. All data points can be viewed and a summary of the data for calculations such as Mean Kinetic Temperature. If additional analysis of the data needs to be performed, the data can easily be exported to MS Excel® with the click of a button.



MadgTech Data Recorder Software displays temperature data in an easy to use graph.

The Windows®-based software package allows the user to effortlessly collect, display and analyze data. A variety of powerful tools allow you to examine, export, and print professional looking data with just a click of the mouse.

TC4000 SPECIFICATIONS*

Internal Channel				Start Modes: Software programmable immediate start or delay start, up to three months in advance
Temperature Range: -40 to +80°C				Real Time Recording: May be used with PC to monitor and record data in real time
Temperature Resolution: 0.1°C				Memory: 16,383 readings per channel; 32,766 total readings; software configurable memory wrap
Calibrated Accuracy: ±0.5°C				Reading Rate: 1 reading every 2 seconds to 1 every 12 hours
Remote Channel				Calibration: Digital calibration through software
Thermocouple Types: J, K, T, E, R, S, B, N				Calibration Date: Automatically recorded within device
Thermocouple connection: Female subminiature (SMP), fixed or pluggable screw terminal available				Battery Type: 3.6V lithium battery included, user replaceable
Cold Junction Compensation: Automatic, based on internal channel				Battery Life: 1 year typical (1 minute reading rate at 25°C)
Maximum Thermocouple Resistance: 1000Ω, <100Ω recommended				Data Format: Date and time stamped °C, °F, K, °R; μV, mV, V
Thermocouple Type:				Time Accuracy: ±1 minute/month (at 20°C, RS232 port not in use)
	Range (°C)	Resolution	Accuracy	Computer Interface: PC serial or USB (interface cable required); 2,400 baud
J	-210 to +760	0.1°C	±0.5°C	Software: XP SP3/Vista/Windows 7
K	-260 to +1370	0.1°C	±0.5°C	Operating Environment: -40 to +80°C, 0 to 95%RH non-condensing
T	-260 to +400	0.1°C	±0.5°C	Dimensions: 1.4" x 2.2" x 0.6" (36mm x 56mm x 16mm)
E	-260 to +980	0.1°C	±0.5°C	Weight: 0.9 oz (25 g)
R	-50 to +1760	0.5°C	±2.0° C	Approvals: CE, Approved for carriage on Delta® mainline flights
S	-50 to +1760	0.5°C	±2.0° C	
B	+60 to +1820	0.5°C	±2.0° C	
N	-260 to +1300	0.1°C	±0.5°C	

Thermocouple accuracy is specified with a 24 AWG

BATTERY WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 212°F, INCINERATE OR EXPOSE CONTENTS TO WATER.

SOFTWARE FEATURES

Multiple Graphs: Simultaneously analyze data from several units or deployments; easily switch to a single data series	Statistics: Calculate averages, min, max, standard deviation, and mean kinetic temperature with the touch of a button
Graphical Cursor: One click displays readings by time, value, parameter or sample number	Export Data: Export data in a variety of common formats, or switch to Excel® with a single click
Data Table: Instantly access tabular view for detailed dates, times, values, and annotations	Calibration: Automatically calculate and store calibration parameters
Scaling Options: Autoscale function fits data to the screen, or allows user to manually enter their own values	Logger Configuration: Easy set up and launch of data loggers with immediate or delayed start, preferred sample rate, and device ID
Formatting Options: Change colors, line styles, plotting options, show or hide channels quickly	Communications: Automatically sets up communications port, or lets user select configuration

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SPECIFIC WARRANTY AND REMEDY LIMITATIONS APPLY.

ORDERING INFORMATION

Model	Description	
TC4000-MP	Thermocouple Recorder, standard mini plugs	
TC4000-ST	Thermocouple Recorder, fixed screw terminals	
TC4000-TB	Thermocouple Recorder, pluggable screw terminals	
IFC110	Software, manual and RS232 interface cable	
IFC200	Software, manual and USB interface cable	
NIST	N.I.S.T. Calibration Certificate	
LTC-7PN	Replacement battery for TC4000	

ASK ABOUT OUR OTHER DATA RECORDERS

Temperature	Pulse/Event/State
Humidity	Low Level Current
Pressure	Low Level Voltage
pH	RF Transmitters
Level	Intrinsically Safe
Shock	Spectral Vibration
LCD Display	

