MADGETECH
WE BUILD DATA LOGGERS

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
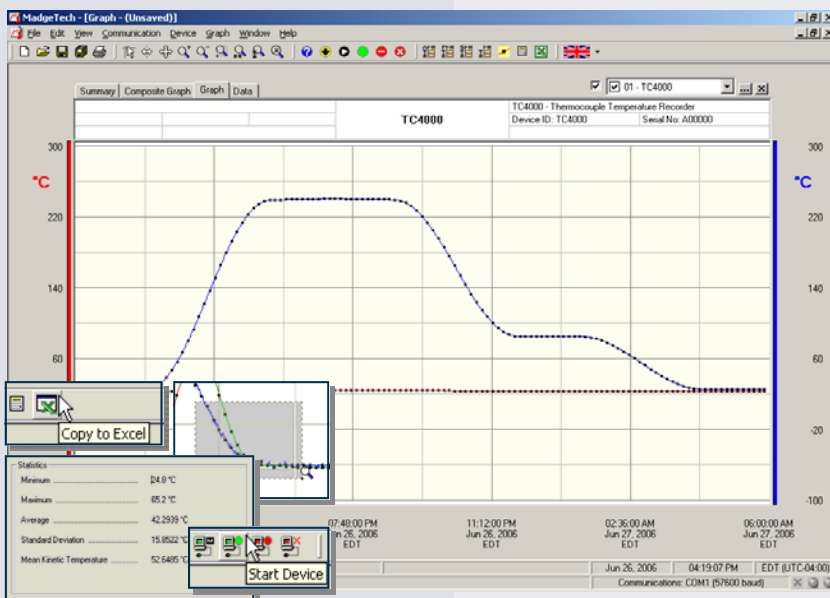- Programmable start time
- Miniature size
- CE compliant

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.

MadgeTech 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 MadgeTech 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.

MadgeTech 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.

Click MadgeTech Software for more information or to download the software.

TC4000 SPECIFICATIONS*

Internal Channel Temperature Range:	-40 to +80°C
Temperature Resolution:	0.1°C
Calibrated Accuracy:	±0.5°C
Remote Channel	
Thermocouple Types:	J, K, T, E, R, S, B, N
Thermocouple connection:	Female subminiature (SMP), fixed or pluggable screw terminal available
Cold Junction Compensation:	Automatic, based on internal channel
Maximum Thermocouple Resistance:	1000Ω, <100Ω recommended

Thermocouple Type:	Range (°C)	Resolution	Accuracy
J	-210 to +760	0.1°C	±0.5°C
K	-270 to +1370	0.1°C	±0.5°C
T	-270 to +400	0.1°C	±0.5°C
E	-270 to +980	0.1°C	±0.5°C
R	-50 to +1760	0.5°C	±2.0° C
S	-50 to +1760	0.5°C	±2.0° C
B	+50 to +1820	0.5°C	±2.0° C
N	-270 to +1300	0.1°C	±0.5°C

Thermocouple accuracy is specified with a 24 AWG

Start Time:	Software programmable start time and date, up to six months in advance
Real Time Recording:	May be used with PC to monitor and record data in real time
Memory:	16,383 readings per channel (32,766 total memory): software configurable memory wrap
Reading Interval:	1 reading every 2 seconds to 1 every 12 hours
Calibration:	Digital calibration through software
Calibration Date:	Automatically recorded within device
Power:	3.6V lithium battery included
User Replaceable Battery:	1 year typical (1 minute reading rate at 25°C)
Data Format:	Date and time stamped °C, °F, K, °R; µV, mV , V
Time Accuracy:	±1 minute/month (at 20°C, RS232 port not in use)
Computer Interface:	PC serial or USB (interface cable required); 2,400 baud
Software:	Windows 95/98/ME/NT/2000/XP based software
Operating Environment:	-40 to +80°C, 0 to 95%RH non-condensing
Dimensions:	1.4" x 2.2" x 0.6" (36mm x 56mm x 16mm)
Weight:	0.9 oz (25 g)
Approvals:	CE compliant

BATTERY WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD.
DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 212ºF,
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
Graphical Cursor:	One click displays readings by time, value, parameter or sample number
Data Table:	Instantly access tabular view for detailed dates, times, values, and annotations
Scaling Options:	Autoscale function fits data to the screen, or allows user to manually enter their own values
Formatting Options:	Change colors, line styles, plotting options, show or hide channels quickly
Statistics:	Calculate averages, min, max, standard deviation, and mean kinetic temperature with the touch of a button
Export Data:	Export data in a variety of common formats, or switch to Excel® with a single click
Calibration:	Automatically calculate and store calibration parameters
Logger Configuration:	Easy set up and launch of data loggers with immediate or delayed start, preferred sample rate, and device ID
Communications:	Automatically sets up communications port, or lets user select configuration

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.
SPECIFIC WARRANTY AND REMEDY LIMITATIONS APPLY.
CALL 1-603-456-2011 OR GO TO WWW.MADGETECH.COM FOR DETAILS.

ORDERING INFORMATION

Model	Description	Price (U.S.)
TC4000-MP	Thermocouple Recorder, standard mini plugs	$199.00
TC4000-ST	Thermocouple Recorder, fixed screw terminals	$199.00
TC4000-TB	Thermocouple Recorder, pluggable screw terminals	$199.00
IFC110	Software, manual and RS232 interface cable	$99.00
IFC200	Software, manual and USB interface cable	$119.00
NIST	N.I.S.T. Calibration Certificate	Call for Pricing
LTC-7PN	Replacement battery for Temp100	$10.00

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

For Quantity Discounts call 603-456-2011 or email sales@madgetech.com

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