# THERMOVAULT
## OVEN TEMPERATURE PROFILER

**MadgeTech**
WE BUILD DATA LOGGERS

### Features
- 10 Year Battery Life
- 1 Second Reading Rate
- Multiple Start/Stop Function
- Ultra High Speed Download
- 500,000 Reading Storage Capacity
- Memory Wrap
- Battery Life Indicator
- Optional Password Protection
- Programmable High and Low Alarms
- N.I.S.T. Traceable
- Field Upgradeable

### Benefits
- Simple Setup and Installation
- Minimal Long-Term Maintenance
- Long-Term Field Deployment

### Applications
- Extreme Temperature Monitoring
- Oven Profiling
- Powder Coating Cure Ovens
- Wet Coating Cure Ovens
- Conveyor Ovens
- Food Processing

The ThermoVault is a thermally insulated, battery powered, stand alone, thermocouple based temperature data logger used for the thermal profiling of ovens. The device records temperature data inside an oven to be later downloaded from to the user's PC.
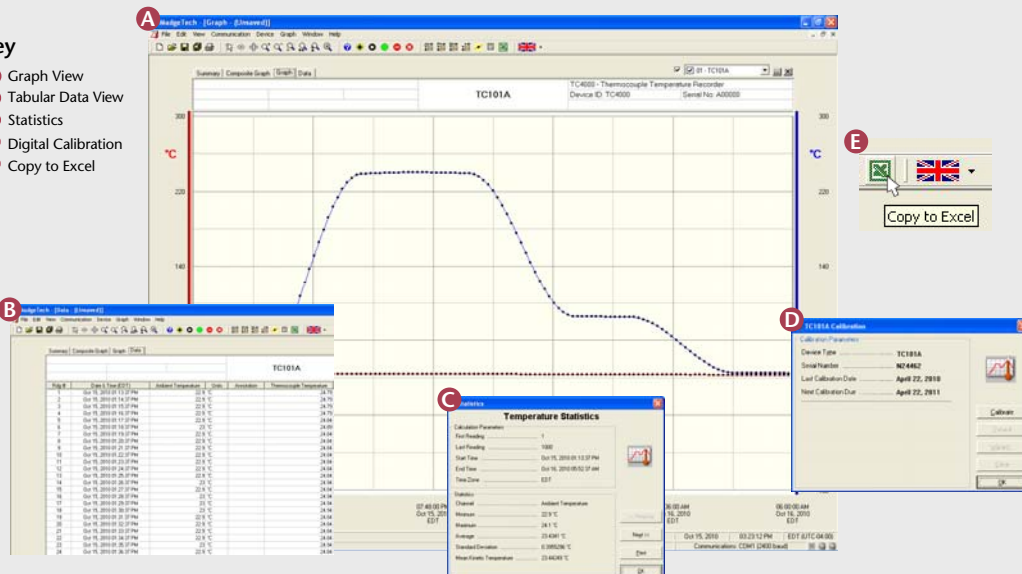
The ThermoVault will measure and record up to 500,000 measurements per channel. It can withstand an oven temperature of up to 572°F for up to 15 minutes when properly sealed. The devices real time clock ensures that all data is time and date stamped. The storage medium is non-volatile solid state memory, providing maximum data security even if the battery becomes discharged. The device can be started and stopped directly from your computer and its small size allows it to fit almost anywhere. The ThermoVault makes data retrieval quick and easy. Simply plug it into an empty USB port and our user-friendly software does the rest.

## MADGETECH DATA LOGGER SOFTWARE

### Key
- **A** Graph View
- **B** Tabular Data View
- **C** Statistics
- **D** Digital Calibration
- **E** Copy to Excel

### Software Features:
- Multiple graph overlay
- Statistics
- Digital calibration
- Zoom in/ zoom out
- Lethality equations ($F_0$, PU)
- Mean Kinetic Temperature
- Full time zone support
- Data annotation
- Min./Max./Average lines
- Data table view
- Automatic report generation
- Summary view
- Multilingual

# THERMOVAULT SPECIFICATIONS*

### Internal Channel

| | |
|---|---|
| **Temperature Range:** | -40°C to +80°C (-40°F to +176°F) |
| **Temperature Resolution:** | 0.1°C (0.018°F) |
| **Calibrated Accuracy:** | ±0.25°C (±0.45°F) |

### Remote Channel

| | |
|---|---|
| **Thermocouple Included:** | Type K, 36" length |
| **Thermocouple Connection:** | Fixed screw terminal (ST model) |
| **Cold Junction Compensation:** | Automatic based on internal channel |
| **Max. Thermocouple Resistance:** | 100Ω |

**Maximum Exposure Time (based on initial temperature of 25°C/77°F)**

| Ambient Temperature | Maximum Duration in Minutes |
|---|---|
| 100°C (212°F) | 52 |
| 150°C (302°F) | 30 |
| 200°C (392°F) | 22 |
| 250°C (482°F) | 17 |
| 260°C (500°F) | 16 |
| 300°C (572°F) | 15 |
| 350°C (662°F) | 12 |
| 400°C (752°F) | 10 |

| | |
|---|---|
| **Reading Rate:** | 1 reading every second to 1 every 12 hours |
| **Memory:** | 500,000 readings; software configurable memory wrap<br>250,000 readings in multiple start/stop mode |
| **Wrap Around:** | Yes |
| **Start Modes:** | • Immediate start<br>• Delay start up to 18 months<br>• Multiple pushbutton start/stop |
| **Multiple Start/Stop Mode:** | Start and stop the device multiple times without having to download data or communicate with a PC |
| **Multiple Start/Stop Mode Activation:** | To start the device:<br>*Press and hold the pushbutton for 5 seconds, the green LED will flash during this time. The device has started logging.*<br><br>To stop the device:<br>*Press and hold the pushbutton for 5 seconds, the red LED will flash during this time. The device has stopped logging.* |

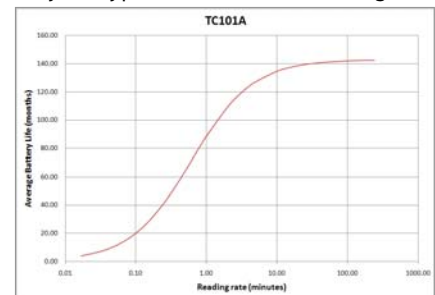| | |
|---|---|
| **Real Time Recording:** | The device may be used with PC to monitor and record data in real-time |
| **Alarm:** | Programmable high and low limits; alarm is activated when temperature reaches or exceeds set limits |
| **LED Functionality:** | Green LED blinks:<br>*10 second rate to indicate logging*<br>*15 second rate to indicate delay start mode*<br><br>Red LED blinks:<br>*10 second rate to indicate low battery and/or full memory*<br>*1 second rate to indicate an alarm condition* |
| **Password Protection:** | An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password. |
| **Battery Type:** | 3.6V lithium battery included; **user replaceable** |
| **Battery Life:** | 10 years typical at a 15 minute reading rate |



*Graph display of the device recording in a 25°C/77°F environment.*

| | |
|---|---|
| **Data Format:** | Date and time stamped °C, °F, K, °R; μV, mV, V |
| **Time Accuracy:** | ±1 minute/month (at 20ºC, stand alone data logging) |
| **Computer Interface:** | USB (interface cable required); 115,200 baud |
| **Software:** | XP SP3/Vista/Windows 7 |
| **Operating Environment:** | Data Logger: -40°C to +80°C (-40°F to +176°F), 0%RH to 95%RH non-condensing<br>System: -40 to +400°C (-40°F to +752°F) *time limited*, 0%RH to 95%RH noncondensing |
| **Dimensions:** | 4.8" x 4.8" x 2.5" (122mm x 122mm x 65mm) |
| **Weight:** | 32 oz (910 g) |

BATTERY WARNING: *WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 80°C (176°F).*

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. 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.) |
|---|---|---|
| THERMOVAULT | Oven Temperature Profiler | $999.00 |
| IFC200 | Software, Manual and USB interface cable | $119.00 |
| *NIST | N.I.S.T. Calibration Certificate | $60.00 |
| LTC-7PN | Replacement battery for ThermoVault | $10.00 |

*To order the product with the N.I.S.T. certificate add *-CERT* to the end of the part number and add $60.00 to the price.

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

**ASK ABOUT OUR OTHER DATA LOGGERS**

Temperature
Humidity
Pressure
pH
Level
Shock
LCD Display
Pulse/Event/State
Current
Voltage
Wireless
Intrinsically Safe
Spectral Vibration
Motion