

ThermoVault

Part Number	ThermoVault
Internal Channel Temperature Sensor	Semiconductor
Internal Channel Temperature Sensor	0.1°C (0.018°F)
Internal Channel Calibrated Accuracy	±0.25°C (±0.45°F)
Remote Channel Temperature Sensor Range, Resolution & Accuracy	*See Table for Details
Cold Jct. Compensation	Automatic
Channels	1 internal & 1 remote
Memory	500,000 readings; software configurable memory wrap 250,000 readings in multiple start/stop mode
Sample Rate	1 reading every second to 1 every 12 hours
LED Indicator	Red and Green
Required Interface Package	IFC200
Baud Rate	115,200
Typical Battery Life	10 years typical at a 15 minute reading rate
Operating Environment	**See Table on Inner Flap, 0%RH to 95%RH (non-condensing)
Material	304 stainless steel w/ PTFE insulation
Dimensions	4.8" x 4.8" x 2.5", (122mm x 122m x 65mm)
Approvals	CE

* Remote Channel Range, Resolution & Accuracy

Thermocouple	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

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 subject to change.

See MadgeTech's terms and conditions at www.madgetech.com



ThermoVault

Single Channel Oven Temperature Data Logger

Product Notes

Operating Environment*

The ThermoVault is an oven temperature recorder that consists of a TC101A-ST data logger inside a thermal enclosure. The thermal enclosure acts as a buffer and allows the device to be placed in higher operating environments for certain durations of time. The chart below outlines the maximum temperature and time duration to which the device can be exposed.

*Operating Environment: Maximum Exposure Time

Ambient Temperature	Exposure Time
100°C (212°F)	52 min
150°C (302°F)	30 min
200°C (392°F)	22 min
250°C (482°F)	17 min
260°C (500°F)	16 min
300°C (572°F)	15 min
350°C (662°F)	12 min
400°C (752°F)	10 min

LEDs

- Green LED blinks: 10 seconds to indicate logging and 15 seconds to indicate delay start mode
- Red LED blinks: 10 seconds to indicate low battery and/or memory and 1 second to indicate an alarm condition

Thermocouple Type

To change the thermocouple type in the MadgeTech software:

- Select the Device Menu, then Identify Device and Read Status.
- Select the Device Detail tab, then Thermocouple Type.
- Click on the **Change** button in the Thermocouple Type window.
- Select the correct thermocouple type from the drop down list.
- Click on the **Save** button to store the thermocouple type in the device then click **OK**.

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.

Multiple Start/Stop Mode Activation

- To start device: Press and hold the pushbutton for 5 seconds, the green LED will flash during this time. The device has started logging.
- To stop the device: Press and hold the pushbutton for 5 seconds, the red LED will flash during this time. The device has stopped logging.

Alarm

Programmable high and low limits; LED alarm is activated when temperature reaches or exceeds set limits.

Device Maintenance

Battery Replacement

Materials: Small Phillips Head Screwdriver and Replacement Battery (LTC-7PN)

- Open the ThermoVault and remove the data logger.
- Puncture the center of the back label with the screw driver and unscrew the enclosure.
- Remove the battery by pulling it perpendicular to the circuit board.
- Insert the new battery into the terminals and verify it is secure.
- Screw the enclosure back together securely.

Note: Be sure not to over tighten the screws or strip the threads.

Recalibration

The ThermoVault standard calibration is one point at 25°C for the internal temperature sensor and 0mV for the thermocouple channel.

Pricing:

Recalibration traceable to NIST	\$70.00
Recalibration	\$40.00

Additional Services:

Verification Point	\$15.00 per point
Channel (1st)	\$30.00 at 25°C, \$45.00 at custom point
Additional Channels	\$3.00 at 25°C, \$4.50 at custom point

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To send the devices back, visit www.madgetech.com, select Services then RMA Process.

Installation Guide

Installing the Interface cable

- IFC200

Insert the device into a USB port. The drivers will install automatically.

Installing the software

Insert the Software CD in the CD-ROM Drive. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the onscreen instructions.

Connecting the data logger

- Once the software is installed and running, plug the interface cable into the data logger.
- Click the **Communication Menu**, then **Auto Configure Port**.
- After a moment, a box will appear stating that a device has been found.
- Click **OK**. The **Device Status** box will appear. Click **OK**.
- At this point, communications have been configured for your logger. These settings can be found under the **Communication Menu**.

Note: For additional installation instructions refer to your "Data Logger & Software Operating Manual".

Device Operation

Starting the data logger

- Click **Device Menu** then **Start Device**.
- Choose the desired start method.
- Choose the start parameters by selecting a **Reading Rate** suitable for your application.
- Enter in any other desired parameters and click **Start**.
- A box will appear stating the data logger has been started. Click **OK**.
- Disconnect the data logger from the interface cable and place it in the environment.

Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.

Downloading data from a data logger

- Connect the data logger to the interface cable.
- Click the **Device Menu** then **Read Device Data**. This will offload all recorded data onto the PC.