X SERIES

ThermoVaultX Series

4 and 8-Channel Thermocouple Temperature Data Logger

PRODUCT USER GUIDE

To view the full MadgeTech product line, visit our website at **madgetech.com**.

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Product Overview

The ThermoVaultX Series is an oven temperature recorder that consists of a TCTempX4 or TCTempX8 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 outlines the maximum temperature and time duration to which the device can be exposed.

MAXIMUM EXPOSURE TIME	
Ambient Temperature	**Maximum Duration in Minutes**
100 °C (212 °F)	110
150 °C (302 °F)	62
200 °C (392 °F)	45
250 °C (482 °F)	35
260 °C (500 °F)	33
300 °C (572 °F)	30
350 °C (662 °F)	25

Installation Guide

Installing the Software

The Software can be downloaded from the MadgeTech website at **madgetech.com**. Follow the instructions provided in the Installation Wizard. Compatible with Standard Software version 4.2.17.0 or later and Secure Software version 4.2.16.0 or later.

Device Operation

Connecting and Starting the Data Logger

1. Once the software is installed and running, plug the supplied USB A to Micro USB cable into the data logger.
2. Connect the USB A end of the cable into an open USB port on the computer.
3. The device will appear in the Connected Devices list. Highlight the desired data logger.
4. For most applications, select **Custom Start** from the menu bar and choose the desired start method, reading rate and other parameters appropriate for the data logging application and click **Start**.
   - **Quick Start** applies the most recent custom start options
   - **Batch Start** is used for managing multiple loggers at once
5. The status of the device will change to **Running**, **Waiting to Start** or **Waiting to Manual Start**, depending upon your start method.
6. Disconnect the data logger from the USB cable. Place the logger into the ThermoVault and latch it securely. Place it in the environment to measure.

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.*

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Manual Start

Click the **Custom Start** button on the Device panel, or right-click on the device and hover on the start selection, then chose custom start. Apply the options desired and select **Start**. Once armed through the software, to activate the Manual Start, hold the recessed push button, adjacent to the interface cable plug, down for 10 seconds. Green LED will blink rapidly and then blink every 15 seconds. To see the change in the status, hit **Refresh** within the software.

The manual start button must be pressed before placing the device into the ThermoVault.

Manual Start Button

Thermocouple Type

To change the thermocouple type:

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** Tab, in the Information Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. On the **General** Tab, change the Thermocouple type in the drop down menu.
4. Apply these changes, there will be a prompt to reset the device, select **Yes**.

Please note that the same thermocouple type must be used on all of the channels.

Channel Naming

Up to a 10-character channel name can be programmed into the data logger for each channel. This ability helps to rename a channel in a report to distinguish it from other similarly named channels.

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** Tab, in the Information Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. In the Channels panel, find the channel desired, then select "**Use custom name**."
4. This will prompt a space to type in a name.
5. Select **OK**, then there will be a prompt to reset the device, select **Yes**.

Downloading Data from a Data Logger

1. Connect the logger to the supplied USB A to Micro USB cable.
2. Highlight the data logger in the Connected Devices list. Click **Stop** on the menu bar.
3. Once the data logger is stopped, with the logger highlighted, click **Download**. You then can create a report from the saved Dataset.
4. Downloading will offload and save all the recorded data to the PC.

Set Password

To password protect the device so that others cannot start, stop or reset the device:

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** Tab, in the **Information** Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. On the **General** Tab, click **Set Password**.
4. Enter and confirm the password in the box that appears, then select **OK**.

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LED Functionality

Primary LED (Green):
Solid when communicating with computer.
Flashes every 15 seconds when logging.
Flashes every 5 seconds when in delay start.

Secondary LED (Red):
Flashes every 5 seconds when battery is low.
Flashes every 5 seconds when memory is low.

Channel LED (Blue):
Flashes every 2 seconds when reading rate is 2 seconds or faster.

Flashes same as reading rate when reading rate is slower than 2 seconds.

Device Maintenance

Battery Replacement

Materials: 3/32 inch HEX Driver (Allen Key) and a Replacement Battery (U9VL-J)

1. Remove the cover from the device by unscrewing the two screws.
2. Remove the battery from its compartment and unsnap it from the connector.
3. Snap the new battery into the terminals and verify it is secure.
4. Replace the cover taking care not to pinch the wires. Screw the enclosure back together securely.

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

Recalibration

Recalibration is recommended annually. To send devices back for calibration, visit **madgetech.com**.

Product Support & Troubleshooting:

- Visit our Resources online at **madgetech.com/resources**.
- Contact our friendly Customer Support Team at (603) 456-2011 or **support@madgetech.com**.

MadgeTech 4 Software Support:

- Refer to the built-in help section of the MadgeTech 4 Software.
- Download the MadgeTech 4 Software Manual at **madgetech.com**.
- Contact our friendly Customer Support Team at (603) 456-2011 or **support@madgetech.com**.

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