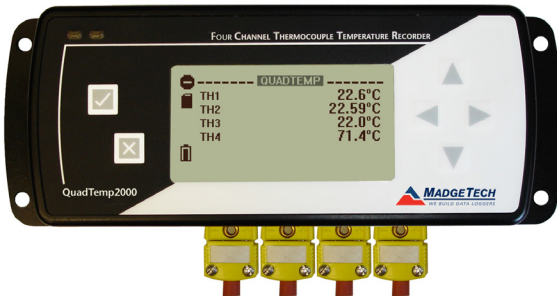


# Product User Guide

## QuadTemp2000 and OctTemp2000



### QuadTemp2000

4-Channel Thermocouple Based Temperature Recorder with Display

### OctTemp2000

8-Channel Thermocouple Based Temperature Recorder with Display

\*Thermocouple Plugs/Probes Sold Separately

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## Quick Start Steps

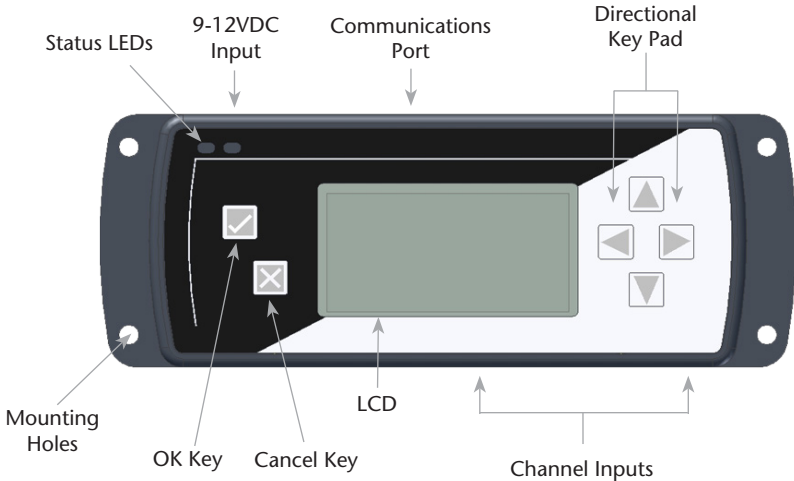
1. Install the MadgeTech 4 Software and USB Drivers onto a Windows PC.
2. Wiring the data logger with the desired thermocouple probes.
3. Connect the data logger to the Windows PC with the IFC200 (sold separately).
4. Launch the MadgeTech 4 Software. The QuadTemp2000 / OctTemp2000 will appear in the Connected Devices window indicating the device has been recognized.
5. Programming thermocouple type within the MadgeTech 4 Software.
6. Select the start method, reading rate and any other parameters appropriate for the desired data logging application. Once configured, deploy the data logger by clicking the **Start** icon.
7. To download data, select the device in the list, click the **Stop** icon, and then click the **Download** icon. A graph will automatically display the data.

Please refer to the QuadTemp2000 Product Manual or OctTemp2000 Product Manual for full product details by going to [www.val-logger.com/product-documentation](http://www.val-logger.com/product-documentation).

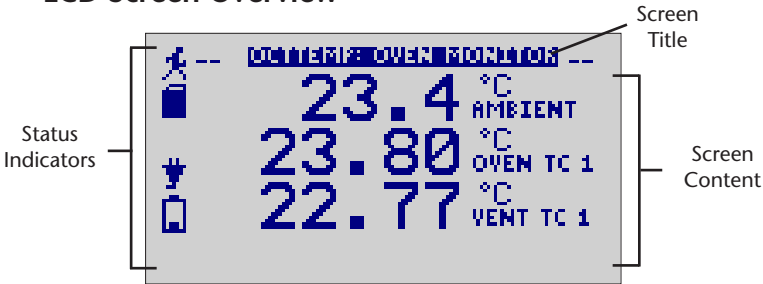
## Product Overview

Please refer to the QuadTemp2000 Product Manual or OctTemp2000 Product Manual for full details on how to enable and disable thermocouple channels, name thermocouple channels and configure the LCD and more.

## Display Overview



## LCD Screen Overview



## Status Indicators



Battery Power (Full, Half-full, Empty)



Delay Start



Memory Remaining (Empty, Half-full, Full)



Push-button (Manual) Start



Device is running



Device reset has occurred



Device is stopped



External power present

## LED Function

**Green LED:** Blinks to indicate that the device is armed and/or running. Blinks when confirming or scrolling through keypad options.

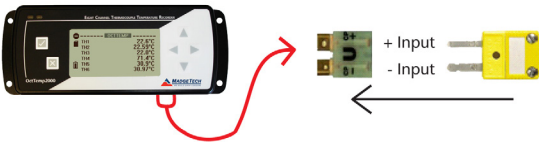
**Red LED:** Blinks to indicate low battery or low memory.

**Blue LED on Thermocouple channels:** Blinks at the reading rate (*but no more than once every other second*).

## Wiring the Data Logger

### Wiring Diagrams

The SMP connections allow the user to insert subminiature thermocouple plugs into the connectors on the device. The diagram below shows how to connect the individual thermocouples for each of the devices.



**Warning:** Note the polarity instructions. Do not attach wires to the wrong terminals.

### Thermocouple Channel Numbers

TC5	TC6	TC7	TC8
TC1	TC2	TC3	TC4

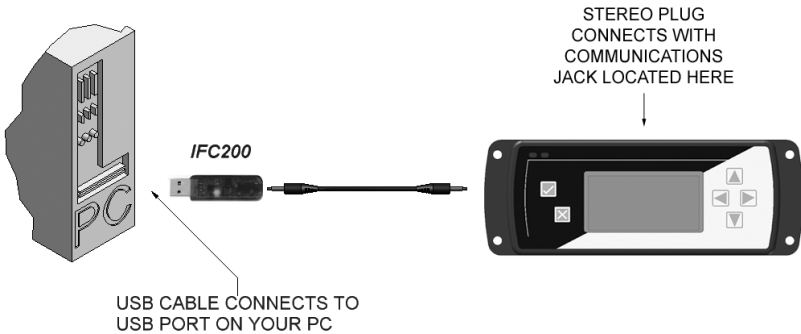
## Programming Thermocouple Type

To change the thermocouple type in the MadgeTech software:

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.*

## Computer Interface



Fully insert the male connector of the IFC200 interface cable into the female receptacle of the data logger. Fully insert the female USB connector into the USB. (*Please see the Data Logger Software manual for further information.*)

*\*WARNING: Install driver before connecting a device using a USB for the first time. See the Software manual for further information.*

## Software Installation

### Installing the MadgeTech 4 Software

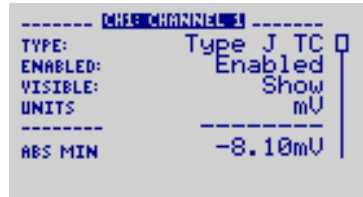
The MadgeTech 4 Software makes the process of downloading and reviewing data quick and easy, and is free to download from the MadgeTech website.

1. Download the MadgeTech 4 Software on a Windows PC by going to:  
[www.madgetech.com/software-download](http://www.madgetech.com/software-download).
2. Locate and unzip the downloaded file (typically you can do this by right clicking on the file and selecting Extract).
3. Open the MTInstaller.exe file.
4. You will be prompted to select a language, then follow the instructions provided in the MadgeTech 4 Setup Wizard to finish the MadgeTech 4 Software installation.

## Device Functions

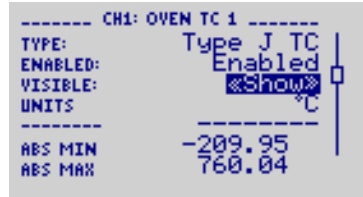
### Channel Options

Each of the OctTemp2000's channels have several options that are configurable by the user through the device's display screen menus and the software.



#### Show or Hide Channels on the Home Screen

The user may choose to either show or hide channels on the home screen.



To change channel visibility from the **Home Screen**:

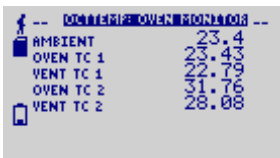
1. Press  to view first **channel screen**
2. Use   to view additional channels
3. On desired channel screen use   to highlight **Visible**
4. Use   to choose **Show** or **Hide**
5. Press  to return to the **Home Screen**

—OR—

1. Use   to highlight desired channel
2. Press  to view channel screen
3. Use   to highlight **Visible**
4. Use   to choose **Show** or **Hide**
5. Press  to return to the **Home Screen**

### Change Channel Display Size

Channels may be viewed in a number of different sizes. The smallest size allows for an overview of several channels at once, while the largest gives at-a-glance access to one or two channels.



To change channel display size from the **Home Screen**:

1. Press  to enter the **Main Menu**
2. Use   to highlight **Setup Menu**
3. Press  to enter the **Setup Menu**
4. Use   to highlight **Channel Size**
5. Use   to choose the desired channel size
6. Press  once to return to the **Main Menu**
7. Press  again to return to the **Home Screen**

## Change Channel Units

Channels can be customized to display readings in a variety of convenient units. Units available for selection will vary according to channel type.



Note: Changing display units will not affect logged data.

To change channel display from the **Home Screen**:

1. Press  to view first **channel screen**
2. Use   to view additional channels
3. On desired channel screen use   to highlight **Units**
4. Use   to choose the desired unit option
5. Press  to return to the **Home Screen**

—OR—

1. Use   to highlight desired channel
2. Press  to view **channel screen**
3. Use   to highlight **Units**
4. Use   to choose the desired unit option
5. Press  to return to the **Home Screen**

Note: Hit X to update all channels.



## Device Operation

### Connecting and Starting the data logger

1. Once the software is installed and running, plug the interface cable into the data logger.
2. Connect the USB end of the interface 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, “Real Time Start” stores the dataset as it records while connected to the logger.*)
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 interface cable and 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.*

### Downloading data from a data logger

1. Connect the logger to the interface 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 will be prompted to name your report.
4. Downloading will offload and save all the recorded data to the PC.

## Device Maintenance

### Recalibration

The QuadTemp2000 or OctTemp2000 standard calibration is one point at 25 °C and 50 °C for the internal temperature sensor and 0 mVs for the thermocouple channels.

#### **Additional:**

Custom calibration and verification point options available, please call for pricing.

## Battery Information



### BATTERY WARNING

This data logger contains a lithium battery. Do not cut the battery open, incinerate, or recharge. Do not heat lithium batteries above the specified operating temperature.\* Dispose of the battery in accordance with local regulations.

\*See the individual specification sheets at [www.madgetech.com](http://www.madgetech.com).

## Battery Replacement

This product does not have any user-serviceable parts except the battery which should be replaced periodically. The battery life is affected by battery type, ambient temperature, sample rate, sensor selection, off-loads and LCD usage. The device has a battery status indicator on the LCD. If the battery indication is low, or if the device seems to be inoperable, it is recommended that the battery be replaced.

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

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

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



## General Specifications

Part Number	QuadTemp2000	OctTemp2000
Internal Channel Temperature Sensor	Semiconductor	
Internal Channel Temperature Resolution	0.05 °C (0.09 °F)	
Internal Channel Accuracy	±0.5°C (±0.9 °F)	
Remote Channel Temperature Sensor Range, Resolution & Accuracy	*See Table for Details	
Cold Jct. Compensation	Automatic	
Channels	4 internal & 4 remote	8 internal & 8 remote
Memory	500,000/channel	
Reading Rate	4 Hz up to 24 hours	
Required Interface Package	IFC200 (Recommended) or IFC110	
Baud Rate	115,200	
Typical Battery Life	18 month battery life with display off. 3 months typical with continuous display use.	
Operating Environment	-20 °C to +60 °C (-4 °F to +140 °F), 0 %RH to 95 %RH (non-condensing)	
Material	Anodized aluminum	
Dimensions	7.24 in x 2.7 in x 1.14 in (183 mm x 68 mm x 29 mm)	7.24 in x 2.7 in x 1.39 in (183 mm x 68 mm x 36 mm)
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

