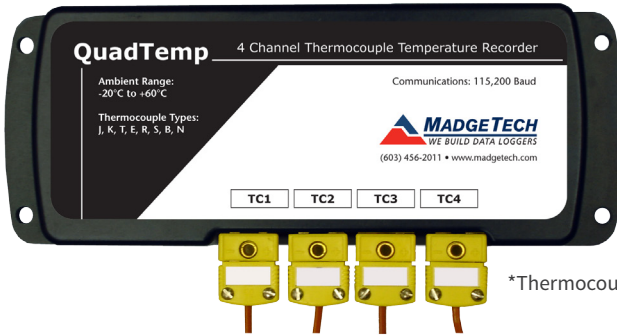
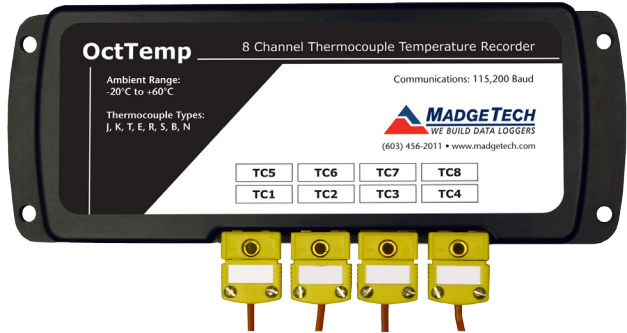


# Product User Guide

## QuadTemp and OctTemp



\*Thermocouple Plugs/Probes Sold Separately



\*Thermocouple Plugs/Probes Sold Separately

### QuadTemp

4-Channel Thermocouple Based Temperature Data Logger

### OctTemp

8-Channel Thermocouple Based Temperature Data Logger

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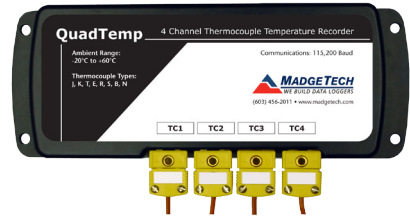
# Quick Start Steps

## Product Operation

1. Insert the Software USB Stick in an open USB port. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Wizard. Install the MadgeTech 4 Software and USB Drivers onto a Windows PC.
2. Launch the MadgeTech 4 Software.
3. The IFC200 interface comes with a USB cable. Plug one end of the cable into an available USB port on the PC and plug the opposite end of the cable into the communication port on the IFC200. The drivers will install automatically.
4. The device will appear in the Connected Devices list, highlight the desired data logger. 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.*) The status of the device will change to **"Running"**, **"Waiting to Start"** or **"Waiting to Manual Start"**, depending upon your start method.
5. 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.
6. To download data, connect the logger to the interface cable. Highlight the data logger in the Connected Devices list. Click **"Stop"** on the menu bar. Once the data logger is stopped, with the logger highlighted, click **"Download"**. You will be prompted to name your report. Downloading will offload and save all the recorded data to the PC.

## Product Overview

The QuadTemp is a four channel thermocouple temperature data logger with a reading rate of up to 4 Hz. It can measure and record data for up to 500,000 readings per channel. To maximize memory capacity, users can disable unused channels to add additional memory onto enabled channels. For easy identification, each channel can be named with up to a ten digit title. In addition, the QuadTemp features individual cold junction compensation for each channel providing increased accuracy and response time, and if a probe is removed or severed during logging, the software automatically annotates the data.

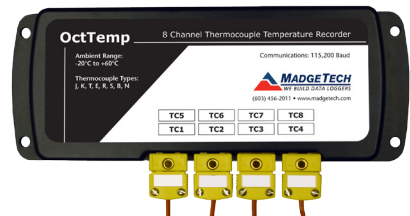


\*Thermocouple Plugs/Probes Sold Separately

The QuadTemp is ideal for a variety of applications, whether it is remote temperature monitoring, or multiple points in a central location. Data from all channels is simultaneously logged. After the monitoring cycle is complete, data can be downloaded for analysis. The QuadTemp comes with a wall mounted 120 VAC/9 VDC power adapter.

*Note: European customers should choose the QuadTemp-EU model under the ordering information. This model includes a wall mounted 230 VAC@50 Hz/9 VDC power adapter.*

The OctTemp is an eight channel thermocouple data logger with a reading rate of up to 4 Hz. It can measure and record data for up to 500,000 readings per channel. To maximize memory capacity, users can disable unused channels to add additional memory onto enabled channels. For easy identification, each channel can be named with up to a ten digit title. In addition, the OctTemp features individual cold junction compensation for each channel providing increased accuracy and response time, and if a probe is removed or severed during logging, the software automatically annotates the data.



\*Thermocouple Plugs/Probes Sold Separately

The OctTemp is ideal for a variety of applications, whether it is remote temperature monitoring, or multiple points in a central location. The OctTemp comes with a wall mounted 120 VAC/9 VDC power adapter.

*Note: European customers should choose the OctTemp-EU model under the ordering information. This model includes a wall mounted 230 VAC@50 Hz/9 VDC power adapter.*

## Additional Features and Operation

### Wiring the Data Logger

#### Wiring Options

The QuadTemp has four SMP connections and the OctTemp has eight. These 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.*

#### 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. To see the change in the status, hit Refresh Devices within the software.

#### Enable/Disable Channels

By default, all channels are enabled.

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. Toggle the Enable Data Recording options for the thermocouple channels as desired.
4. Apply these changes, there will be a prompt to reset the device, select yes.

*Note: When the checkmark is empty, the channel is disabled and will not record data or appear in the downloaded datasets. When the checkmark is clearly checked, it will be visible and record data.*

#### 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.*

### Additional Features and Operation Continued

#### 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.

#### 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.

**Still need help?** For more troubleshooting tips and information, refer to the built in help section of the MadgeTech 4 software, visit our Knowledge Base online at [www.madgetech.com/kbase](http://www.madgetech.com/kbase) or contact us for customer support at 603-456-2011.

## Product Maintenance

### Battery Replacement

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

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

### Recalibration

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

### Additional Services:

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

*Call for custom calibration options to accommodate specific application needs.*

*Prices and specifications subject to change. See MadgeTech's terms and conditions at [www.madgetech.com](http://www.madgetech.com)*

*To send devices to MadgeTech for calibration, service or repair, please use the MadgeTech RMA Process by visiting [www.madgetech.com](http://www.madgetech.com), then under the services tab, select RMA Process.*

## RMA Instructions

To send a device back in to MadgeTech, follow the instructions below to create an RMA (Return Merchandise Authorization) on the MadgeTech website:

1. Visit [www.madgetech.com](http://www.madgetech.com), under the **Services** tab select **RMA Process**.
2. When the web page opens, please sign in. If this is the first time, select **Click here to register an account** and create one. Once signed in, click on the **Make New RMA** button and fill in all the blank fields.
3. Complete the applicable fields on the form including customer Billing and Shipping information, even if they are the same. Please see the field explanation below for a more detailed description about questions asked in the Device Information section.
4. When all of the fields are complete, click **Generate RMA**.
5. Print out the confirmation page that follows containing the RMA number and MadgeTech's address for shipping. **A Return Merchandise Authorization must be accompanied by a copy of the RMA paperwork and shipping is prepaid by the customer.** The RMA number should be clearly marked on the outside of the package.
6. Please ship the package via UPS, FedEx, TNT, or DHL to the address listed on the confirmation page. USPS will not ship MadgeTech data loggers.
7. A notification email will be automatically sent when MadgeTech has received the RMA.

## QuadTemp General Specifications

### 4 Internal Channels

Temperature Range	-20 °C to +60 °C (-4 °F to +140 °F)
Temperature Resolution	0.05 °C (0.09 °F)
Calibrated Accuracy	±0.5 °C (0 °C to +50 °C)

### 4 Remote Channels

Remote Channel Thermocouple Types	J, K, T, E, R, S, B, N		
Thermocouple Connection	Female subminiature (SMP)		
Cold Junction Compensation	Automatic, based on internal channel		
Maximum Thermocouple Resistance	1000 Ω, <100 Ω recommended		
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
Start Modes	Software programmable immediate start or delay start up to six months in advance		
Real Time Recording	May be used with PC to monitor and record data in real time		
Memory	500,000 readings per channel, channels can be disabled to increase memory		
Reading Rate	4 readings per second up to 1 every 24 hours		
Calibration	Digital calibration through software		
Calibration Date	Automatically recorded within device		
Battery Type	9 Volt lithium or alkaline battery included, <b>user replaceable</b>		

## QuadTemp General Specifications Cont.

Battery Life	18 months typical
Data Format	Date and time stamped °C, °F, K, °R, mV, V
Time Accuracy	±1 minute/month
Computer Interface	USB (Interface cable required); 115,200 baud
Software	XP SP3/Vista/Windows 7/Windows 8 (MadgeTech 4 only)
Operating Environment	-20 °C to +60 °C (-4 °F to +140 °F), 0 %RH to 95 %RH non-condensing
Dimensions	7.24 in x 2.7 in x 1.02 in (183 mm x 68 mm x 26 mm)
Material	Black anodized aluminum
Weight	15.2 oz (430 g)
Approvals	CE

### **Battery Warning**

**BATTERY WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, 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](http://www.madgetech.com)*

## OctTemp General Specifications

### 8 Internal Channels

Temperature Range	-20 °C to +60 °C (-4 °F to +140 °F)
Temperature Resolution	0.05 °C (0.09 °F)
Calibrated Accuracy	±0.5 °C (0 °C to +50 °C)

### 8 Remote Channels

Remote Channel Thermocouple Types	J, K, T, E, R, S, B, N		
Thermocouple Connection	Female subminiature (SMP)		
Cold Junction Compensation	Automatic, based on internal channel		
Maximum Thermocouple Resistance	1000Ω, <100Ω recommended		
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
Start Modes	Software programmable immediate start or delay start up to six months in advance		
Real Time Recording	May be used with PC to monitor and record data in real time		
Memory	500,000 readings per channel, channels can be disabled to increase memory		
Reading Rate	4 readings per second up to 1 every 24 hours		
Calibration	Digital calibration through software		
Calibration Date	Automatically recorded within device		
Battery Type	9 Volt lithium or alkaline battery included, <b>user replaceable</b>		

## OctTemp General Specifications Cont.

Battery Life	18 months typical
Data Format	Date and time stamped °C, °F, K, °R, mV, V
Time Accuracy	±1 minute/month
Computer Interface	USB (Interface cable required); 115,200 baud
Software	XP SP3/Vista/Windows 7/Windows 8 (MadgeTech 4 only)
Operating Environment	-20 °C to +60 °C (-4 °F to +140 °F), 0 %RH to 95 %RH non-condensing
Dimensions	7.24 in x 2.7 in x 1.26 in (183 mm x 68 mm x 32 mm)
Material	Black anodized aluminum
Weight	17.3 oz (490 g)
Approvals	CE

### **Battery Warning**

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

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# Troubleshooting Tips

## Why is the data logger not appearing in the software?

If the QuadTemp or OctTemp doesn't appear in the Connected Devices panel, or an error message is received while using either device, try the following:

- Check that the IFC200 is properly connected. For more information, see Troubleshooting Interface Cable problems (below).
- Ensure that the battery is not discharged. For best voltage accuracy, use a voltage meter connected to the battery of the device. If possible, try switching the battery with a new 9V lithium.
- Ensure that no other MadgeTech software (such as **MadgeTech 2**) is running in the background.
- Ensure that the **Connected Devices** panel is large enough to display devices. This can be verified by positioning the cursor on the edge of the Connected Devices panel until the resize cursor appears, then dragging the edge of the panel to resize it. The screen layout may also be reset in the options menu by selecting **File, Options**, and scrolling to the bottom.

## Troubleshooting Interface Cable problems

**Check that the software properly recognizes the connected IFC200 interface cable.**

If either data logger is not appearing in the **Connected Devices** list, it may be that the IFC200 is not properly connected.

1. In the software, click the **File** button, then click **Options**.
2. In the **Options** window, click **Communications**.
3. The **Detected Interfaces** box will list all of the available communication interfaces. If the IFC200 is listed here, then the software has correctly recognized and is ready to use it.

**Check that Windows recognizes the connected IFC200 interface cable.**

If the software does not recognize the IFC200, there may be a problem with Windows or the USB drivers.

1. In Windows, click **Start**, right-click **Computer** and choose **Properties** or press **Windows+Break** as a keyboard shortcut.
2. Click **Device Manager** in the left hand column.
3. Double click **Universal Serial Bus Controllers**.
4. Look for an entry for **Data logger Interface**.
5. If the entry is present, and there are no warning messages or icons, then windows has correctly recognized the connected IFC200.
6. If the entry is not present, or has an exclamation point icon next to it, the USB drivers may need to be installed. These are available on the software flash drive included with the IFC200, and on the MadgeTech website.

**Ensure that the USB end of the IFC200 is securely connected to the computer.**

1. Locate the USB-A plug of the IFC200.
2. If the interface cable is connected to the PC, unplug it. Wait ten seconds.
3. Reconnect the cable to the PC.
4. Check to make sure that the red LED is lit, indicating a successful connection.

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