Product User Guide

RHTemp2000
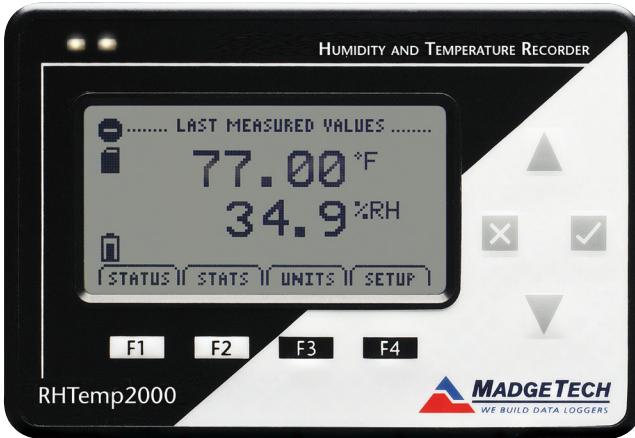
RHTemp2000
Temperature and Humidity Data Logger with LCD

MADGETECH
WE BUILD DATA LOGGERS

Table of Contents

Quick Start Steps

1. Install the MadgeTech 4 Software and USB Drivers onto a Windows PC.

2. Wire the data logger with the desired probes.

3. Connect the data logger to the Windows PC with the IFC200 (sold separately).

4. Launch the MadgeTech 4 Software. The pHTemp2000 will appear in the Connected Devices window indicating the device has been recognized.

5. Select the start method, reading rate and any other parameters appropriate for the desired data logging application. Once configured, click the **Start** icon and deploy the data logger

6. To download data, connect the data logger to the windows PC with the IFC200, 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 RHTemp2000 Product Manual for full product details by going to *www.madgetech.com/product-documentation*.

Product Overview

The RHTemp2000 is a temperature and humidity data logger with LCD display. The convenient LCD provides access to the current temperature and humidity readings, as well as minimum, maximum and average statistics.

Please refer to the RHTemp2000 Product Manual for full product details by going to www.madgetech.com/product-documentation.

Display Overview
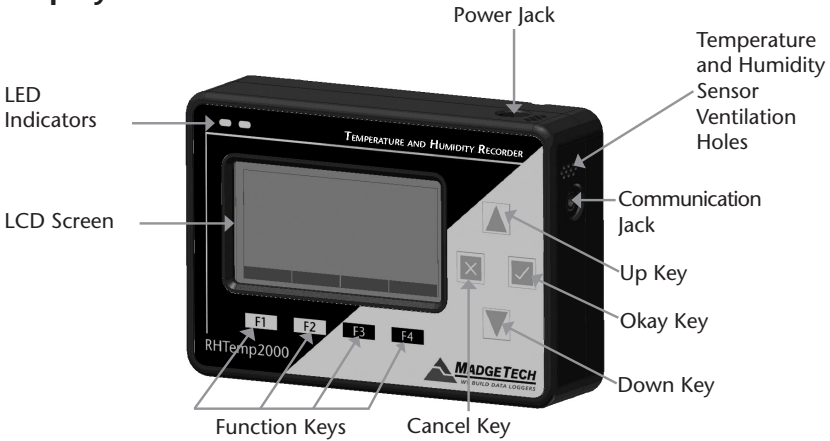
Status Indicators

■◨◪ Battery Power (Full, Half-full, Empty)	🕐 Delay Start
■◨◪ Memory Remaining (Empty, Half-full, Full)	⧗ Wait (Device is Busy)
Device is running	Device reset has occurred
Device is stopped	External power present

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.
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 Operation
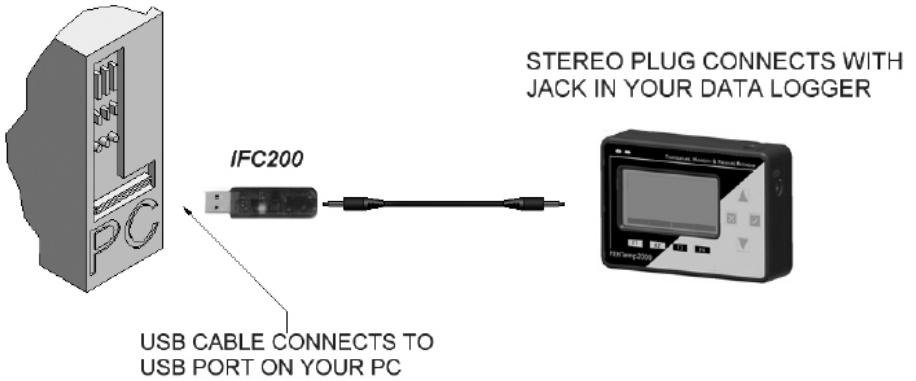
Connecting and Starting the data logger

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.

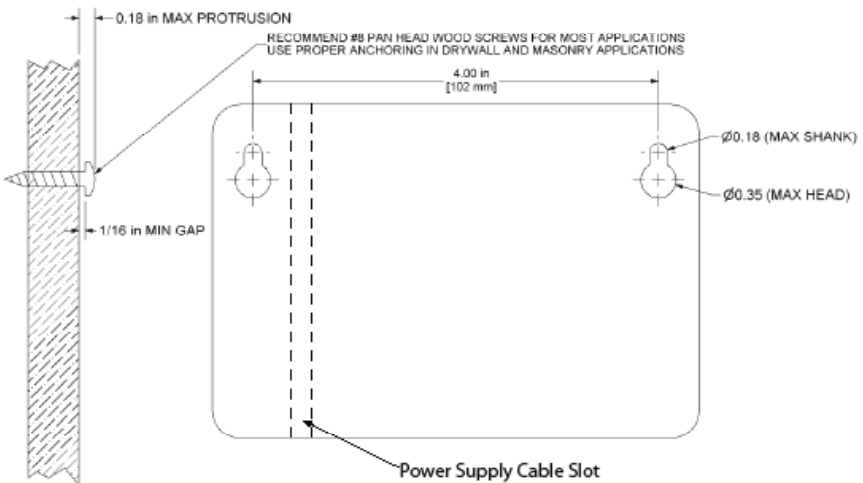4. Downloading will offload and save all the recorded data to the PC.

Computer Interface

STEREO PLUG CONNECTS WITH
JACK IN YOUR DATA LOGGER

IFC200

USB CABLE CONNECTS TO
USB PORT ON YOUR PC

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.

Wall Mounting

0.18 in MAX PROTRUSION

RECOMMEND #8 PAN HEAD WOOD SCREWS FOR MOST APPLICATIONS
USE PROPER ANCHORING IN DRYWALL AND MASONRY APPLICATIONS

4.00 in
[102 mm]

Ø0.18 (MAX SHANK)

Ø0.35 (MAX HEAD)

1/16 in MIN GAP

Power Supply Cable Slot

Front Panel Overview

Changing the display units

The RHTemp2000 comes with factory default display units of °C for temperature and %RH for humidity. These units can be easily changed by pressing the F3 button in the main screen and then selecting either F1 for temperature and F2 for humidity. After selecting a channel, the available units can be scrolled through by either pressing the channel's function key repeatedly or using the UP and DOWN keys.

Button pressing chain: Main Screen -> F3 -> F1 (temp) or F2 (humidity) -> function key repeatedly or UP and DOWN

Checking the memory status

A status icon appears on all screens representing memory, but further information including percent memory left and number of readings taken can also be viewed. From the Main Screen press the F1 key to enter the Status screens then press F2 to view memory status information.

Button pressing chain: Main Screen -> F1 -> F2

Checking power status

A battery status and external power status (if available) icon appear on all screens, but percent battery power remaining and external power presence as well as battery type, current battery voltage, and current external voltage can also be viewed. From the Main Screen press F4 to view the Device Configuration Menu, F2 to access the power options, then F4 twice to view the Power Status screen, including battery power percent remaining and the presence of external power. Battery type and battery voltage are also displayed, as well as external power voltage (if connected).

Button pressing chain: Main Screen -> F4 -> F2 -> F4 -> F4

Changing the Contrast

The RHTemp2000's LCD screen contrast values can be changed in two ways. One method is outlined in the Function Reference Guide. A faster, simpler way involves simultaneously pressing the CANCEL and UP or DOWN button in any screen.

Button pressing chain: CANCEL + UP (to increase) or DOWN (to decrease)

RHTemp2000

Screen Descriptions

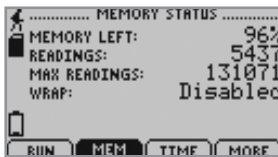### Main Screen

Displays last measured values
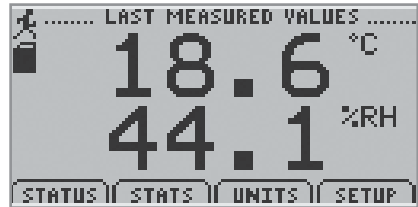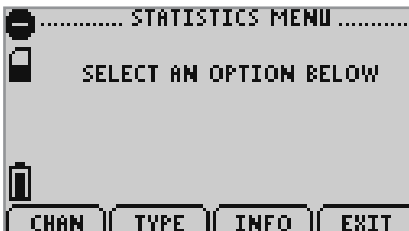

Status Screens

Run Parameters   Memory Status   Date and Time
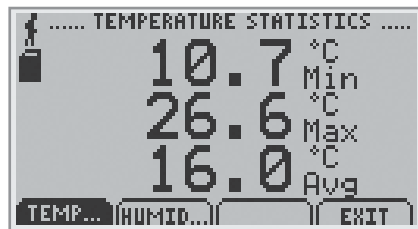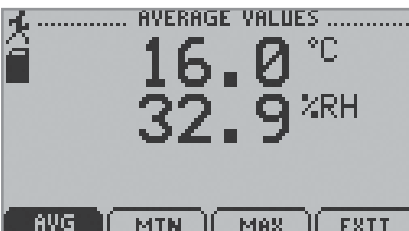
Statistics

Statistics Menu Screen: *Displays options available within the statistics menu*

Channel Statistics: *Displays statistics*

Type Statistics: *Displays statistics from all channels*

Statistics Information Screen: *Displays current statistics information*

Device Configuration Menu

*Displays options available within the device configuration menu*

F1 = DISPLAY: enters Adjust Visibility screen
F2 = POWER: enters Power Modes screen
F3 = INFO: goes to Device Information screens
F4 = EXIT: returns to main screen

CANCEL = returns to main screen
OK = returns to main screen
UP = no function
Down = no function

Device Reset

This device include two reset options, Hardware and Power Interruption
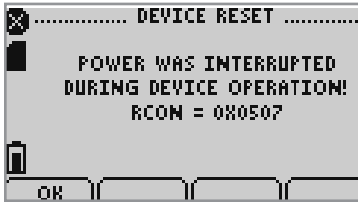
Power Interruption: *Displayed as notification when power is interrupted during device operation.*

F1 = OK: accepts notification and displays main screen
F2 = no function
F3 = no function
F4 = no function
CANCEL = no function
OK = accepts notification and displays main screen
UP = no function
DOWN = no function

Hardware Reset: *Displayed as notification when a hardware reset has occurred.*

F1 = OK: accepts notification and displays main screen
F2 = no function
F3 = no function
F4 = no function
CANCEL = no function
OK = accepts notification and displays main screen
UP = no function
DOWN = no function

Device Maintenance

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.**

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-J)
- Remove the back cover from the device by unscrewing the four 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.

For any other maintenance or calibration issues, we recommend the unit be returned to the factory for service. Before returning the device, you must obtain an RMA from the factory.

Recalibration

The RHTemp2000 standard calibration is one point at 25 °C and two points at 25 %RH and 75 %RH.

Additional:
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
To send devices to MadgeTech for calibration, service or repair, please use the MadgeTech RMA Process by visiting www.madgetech.com, then under the services tab, select RMA Process.

General Specifications

Part Number	RHTemp2000
Internal Channel Temperature Sensor	Semiconductor
Temperature Range	-20 °C to +60 °C (-4 °F to +140 °F)
Temperature Resolution	0.1 °C (0.18 °F)
Calibrated Accuracy	+0.5 °C (0 °C to 50 °C)
Humidity Sensor	Internal Semiconductor
Humidity Range	0 %RH to 95 %RH
Humidity Resolution	0.1 %RH
Humidity Accuracy	+3 %RH (+2 %RH @ 25 °C Typical)
Memory	131,071/channel
Reading Rate	1 reading every 2 seconds up to 1 reading every 24 hours
Required Interface	IFC200
Baud Rate	115,200
Typical Battery Life	1 year with display off, 30 days with continuous LCD and no backlight
Operating Environment	-20 °C to +60 °C (-4 °F to +140 °F), 0 %RH to 95 %RH non-condensing
Material	Black Anodized Aluminum
Dimensions	4.8 in x 3.3 in x 1.25 in (122 mm x 84 mm x 32 mm)
Weight	16 oz (440 g)
Approvals	CE

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