![MadgeTech - WE BUILD DATA LOGGERS]

pHTemp2000

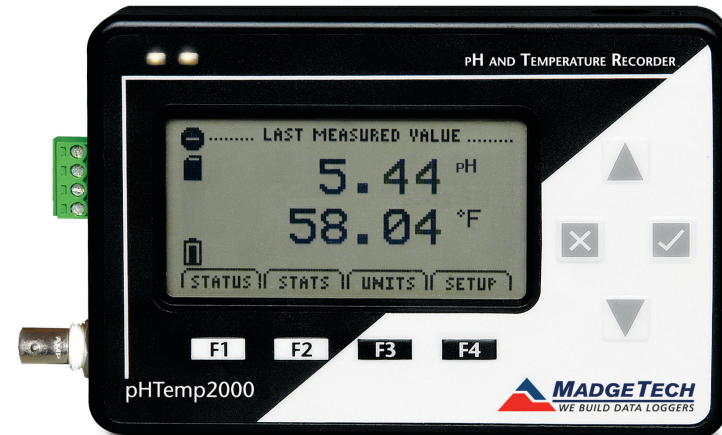| Description	pHTemp2000
pH input Connection	Female BNC jack
pH Range	-2.00 pH to +16.00 pH
pH Resolution	0.01 pH (0.1 mV)
Calibrated Accuracy	±0.01 pH
Temperature Sensor	2, 3, or 4 wire 100 Ω platinum RTD
Temperature Range	-40 °C to +110 °C (-40 °F to +230 °F)
Temperature Resolution	0.01 °C (0.018 °F)
Calibrated Accuracy	±0.15 °C @ 25 °C Ambient
Memory	131,071/channel
Reading Rate	1 reading every 2 seconds up to 1 reading every 24 hours
Required Interface Package	IFC200
Baud Rate	115,200
Typical Battery Life	1 year with display off, 30 days with continuous LCD and no backlight
Operating Environment	-5 °C to +50 °C (+23 °F to +122 °F), 0 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

Battery Warning

WARNING: MAY LEAK AND/OR FLAME IF OPENED, RECHARGED, CONNECTED IMPROPERLY, OR DISPOSED OF IN FIRE.

Specifications subject to change.
See MadgeTech's terms and conditions at www.madgetech.com

pHTemp2000
pH and Temperature Data Logger with LCD Display

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

- Connect the USB end of the interface cable into an open USB port on the computer.
- 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.
- 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
- 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.

Device Maintenance

Battery Replacement
Materials:

3/32" HEX Driver (Allen Key)

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

Recalibration
The pHTemp2000 standard calibration is performed at 50 Ω and 150 Ω for the RTD channel and 0 mV and 250 mV for the pH channel.

Note: MadgeTech does not offer calibration of pH inputs in combination with a pH electrode or probe.

Pricing:

Recalibration traceable to NIST	$110.00
Recalibration	$70.00

Additional Services:

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

Product Notes

The pHTemp2000 is a pH and temperature data logger with LCD display. The convenient LCD provides access to the current pH and temperature readings, as well as minimum, maximum and average statistics.

Backlight
The backlight uses up a significant amount of battery life, it can be configured to auto shut-off when not in use. Refer to the manual for more details.

Using the pHTemp2000
1. The pH electrode should have a BNC output connection, or an appropriate adapter. Select a probe with an output impedance less than 300 megaohms at the desired temperature.
2. The temperature probe must be a 100 Ω platinum RTD, in the standard 2-,3- or 4-wire configuration. The pHTemp2000 is designed to achieve exceptional accuracy with the 4-wire probe, but will still yield measurements better than required for a pH-measurement with the 2- or 3-wire probes.
3. Insure that the probe you select can be connected to the pHTemp2000 RTD input by selecting a probe with lead wires, or by attaching an adapter that will allow you to connect wire leads to the probe.
4. Connect the probes to the data logger.
5. Refer to the description of your pH probe for a calibration procedure.


```
1 - Black or Short 2
2 - Black
3 - Red          Connector for 100
4 - Red or Short 3   Ohm ptRTD

BNC connector for
pH electrode

KEY
1- Reference (-)
2- Measurement(-) Input
3- Measurement (+) Input
4- Excitation Current Out (+)
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100 Ω, 2 or 4 wire RTD probes are recommended for the most accurate performance. Most 100 Ω, 3 wire RTD probes will work, but MadgeTech cannot guarantee the accuracy. To determine whether or not the 3-wire RTD probe will work, the resistance between the two same colored wires should be less than 1 Ω. *(Note: Please contact the manufacturer of the RTD probe for questions on the resistance)*

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 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.

Device Operation

Connecting and Starting the data logger
- Once the software is installed and running, plug the interface cable into the data logger.