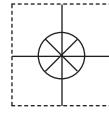


**1 YEAR**  
WARRANTY



# User's Guide

*Shop online at*

**omega.com<sup>®</sup>**

Ω OMEGA<sup>®</sup>

*omega.com*

*e-mail: info@omega.com*

*For latest product manuals:  
omegamanual.info*

**ISO 9001**  
CERTIFIED  
CORPORATE QUALITY

STAMFORD, CT

**ISO 9001**  
CERTIFIED  
CORPORATE QUALITY

MANCHESTER, UK



## Logger Interface Software

for **OM-62, OM-63, OM-DVTH, OM-DVT4** and **OM-DVCV**  
Data Loggers



**OMEGAnet® Online Service**  
**omega.com**

**Internet e-mail**  
**info@omega.com**

### **Servicing North America:**

**U.S.A.:**  
ISO 9001 Certified

Omega Engineering, Inc., One Omega Drive, P.O. Box 4047  
Stamford, CT 06907-0047 USA  
Toll Free: 1-800-826-6342                      TEL: (203) 359-1660  
FAX: (203) 359-7700                                e-mail: info@omega.com

**Canada:**

976 Bergar  
Laval (Quebec), Canada H7L 5A1  
Toll-Free: 1-800-826-6342                      TEL: (514) 856-6928  
FAX: (514) 856-6886                                e-mail: info@omega.ca

### **For immediate technical or application assistance:**

**U.S.A. and Canada:** Sales Service: 1-800-826-6342/1-800-TC-OMEGA®  
Customer Service: 1-800-622-2378/1-800-622-BEST®  
Engineering Service: 1-800-872-9436/1-800-USA-WHEN®

**Mexico:**

En Español: 001 (203) 359-7803                      FAX: (001) 203-359-7807  
info@omega.com.mx                                e-mail: espanol@omega.com

### **Servicing Europe:**

**Benelux:**

Managed by the United Kingdom Office  
Toll-Free: 0800 099 3344                      TEL: +31 20 347 21 21  
FAX: +31 20 643 46 43                                e-mail: sales@omega.nl

**Czech Republic:**

Frystatska 184  
733 01 Karviná, Czech Republic  
Toll-Free: 0800-1-66342                      TEL: +420-59-6311899  
FAX: +420-59-6311114                                e-mail: info@omegashop.cz

**France:**

Managed by the United Kingdom Office  
Toll-Free: 0800 466 342                      TEL: +33 (0) 161 37 29 00  
FAX: +33 (0) 130 57 54 27                                e-mail: sales@omega.fr

**Germany/Austria:**

Daimlerstrasse 26  
D-75392 Deckenpfronn, Germany  
Toll-Free: 0 800 6397678                      TEL: +49 (0) 7059 9398-0  
FAX: +49 (0) 7056 9398-29                                e-mail: info@omega.de

**United Kingdom:**  
ISO 9001 Certified

OMEGA Engineering Ltd.  
One Omega Drive, River Bend Technology Centre, Northbank  
Irlam, Manchester M44 5BD England  
Toll-Free: 0800-488-488                      TEL: +44 (0)161 777-6611  
FAX: +44 (0)161 777-6622                                e-mail: sales@omega.co.uk

---

It is the policy of OMEGA Engineering, Inc. to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

**WARNING:** These products are not designed for use in, and should not be used for, human applications.

# Table of Contents

Quick Start.....	5
Overview.....	5
Connecting the Logger to Your PC .....	5
Setting Up the Logger To Record Data .....	6
Custom Interval Setup .....	7
Alarm Setup.....	7
Using the Software to Check Logger Status.....	8
General Logger Status and Data In Memory Pane .....	8
Alarm Status Pane .....	9
Last Sample Pane.....	10
Ending the Logging Session .....	10
Powering Down the Logger.....	10
Loading Logger Data .....	10
Automatic Data Retrieval .....	11
Working With the Data Graph .....	12
Using the Zoom Feature .....	13
Data Listing Window .....	14
Data Summary and Statistics.....	14
Hiding or Viewing Channels .....	15
Exporting Logger Data.....	15
Printing the Logger Data .....	16
Calibrating the Logger.....	16
Setting the Calibration Password .....	17
Setting the Logger Real Time Clock.....	17
Data Security .....	18
Specifications .....	19
OM-62 Temperature Humidity Logger.....	19
OM-62 Logger Status LED.....	19
Replacing the OM-62 Battery.....	20
OM-62 Specifications.....	21
OM-63 Temperature Logger .....	21
OM-63 Logger Status LED.....	21
Replacing the OM-63 Battery.....	22
OM-63 Specifications.....	23
OM-DVTH Temperature Humidity Logger with Display .....	23
Turning the OM-DVTH On and Off.....	23
OM-DVTH Sample Screen.....	24
The OM-DVTH Summary Screen.....	25
OM-DVTH Graph Screen.....	25

OM-DVTH Buttons .....	26
Replacing the OM-DVTH Battery .....	26
OM-DVTH Specifications .....	27
OM-DVT4 Four Temperature Logger with Display .....	27
Turning the OM-DVT4 On and Off .....	28
OM-DVT4 Sample Screen .....	28
OM-DVT4 Difference Screen .....	29
OM-DVT4 Summary Screen .....	29
OM-DVT4 Graph Screen .....	30
OM-DVT4 Buttons .....	30
Replacing the OM-DVT4 Battery.....	31
OM-DVT4 Specifications.....	31
OM-DVCV Current Voltage Logger with Display .....	31
Connecting the OM-DVCV to Electrical Equipment.....	32
OM-DVCV Real Time Monitoring .....	32
Turning the OM-DVCV On and Off.....	33
Ending the Logging Session on the OM-DVCV .....	33
OM-DVCV Sample Screen.....	33
OM-DVCV Summary Screen .....	34
OM-DVCV Graph Screen.....	35
OM-DVCV Buttons.....	35
Replacing the OM-DVCV Battery .....	36
OM-DVCV Specifications .....	36

## Quick Start

Follow the procedure below to start using your data logger:

1. [Connect the data logger to a free USB port on your computer.](#)
2. Start the OmegaLog Interface Program.
3. From the **Logger** menu, select **Setup**.
4. Select the "Logging starts immediately when setup is complete" option.
5. Click **Continue** to start logging.

The logger is now logging data. You can click on the  icon on the toolbar to download and view the data that has been logged.

## Overview

The Omega USB data loggers are versatile devices that can be used for a wide range of logging applications. Each logger is capable of sampling data as fast as once per second or as slow as once every 18 hours. Each logger can stop recording when memory becomes full, or rollover for continuous recording. The start of recording is software selectable to be immediate, delayed, or initiated when the **Start** button is pressed.


The loggers can also be used to monitor high and low alarm events, that indicate if the recorded data passed above and/or below the user selected threshold. The loggers have a visual indication of an alarm condition.

Each USB logger has an internal real time clock/calendar. This real time clock is used to record the time stamps for data samples. This real time clock is independent of your computer clock, and can be set separately, or set to match your computer clock.

The USB loggers are extremely low power. Under normal operating conditions, the battery will last several years.

## Connecting the Logger to Your PC

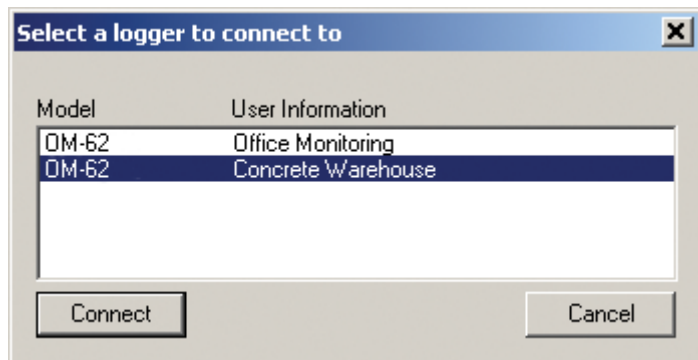
Your logger comes complete with the software and the USB interface cable. To connect the logger to your computer, follow these steps:

1. Connect the USB cable to the logger and to a free USB port on your computer.
2. If you are connecting the logger to the PC for the first time, the logger will automatically be recognized and installed on your computer.
3. Start the OmegaLog program and click on the  icon on the toolbar.

The logger status screen should now be displayed.

**Note:** *The Windows operating system can not handle USB devices being unplugged and replugged too fast. When unplugging the logger, wait for about 5 seconds before plugging it (or any other USB device) in again. If you unplug and replug a device too quickly, the computer may stop recognizing any USB devices on that port. If this happens, the only solution is to restart the computer. This is a Windows USB problem and is not related to the OmegaLog software.*

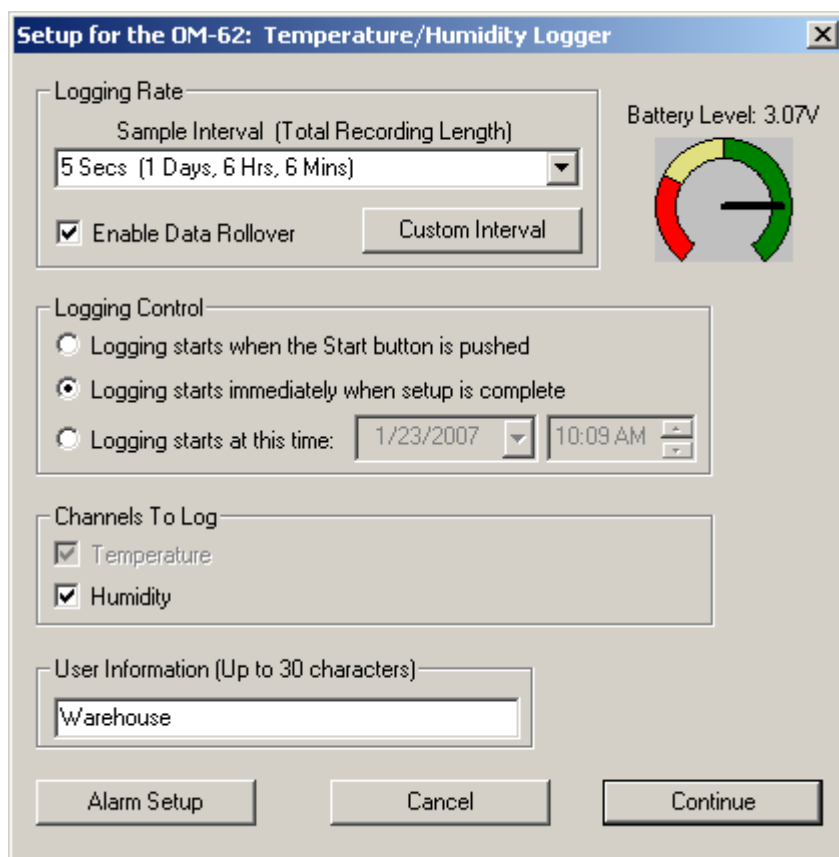
If more than one logger is connected to your computer at the same time, the program will ask you to select one of the loggers:



To select a logger click on one of the loggers on the list, and click the **Connect** button.

## Setting Up the Logger To Record Data

To set your logger to start recording data, select **Setup** from the **Logger** menu. The setup options window is shown below.



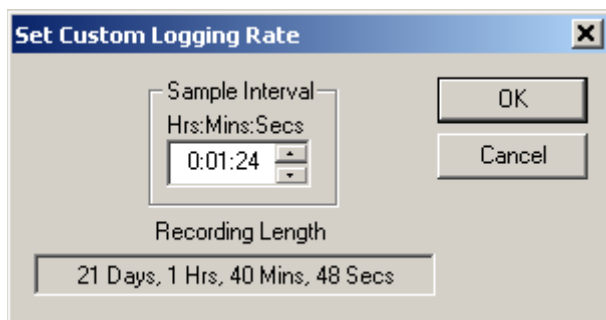
- **Sample Interval (Total Recording Length):** Select the sample interval from a predefined list of intervals.
- **Custom Interval:** Add your own interval to the sample interval list.
- **Enable Data Rollover:** Check this box to have the logger continuously record the data, overwriting earliest recorded data. When this box is not checked, logging is stopped when the logger memory becomes full.
- **Logging Control:** Logging can start in three ways depending on the selection you make:
  - **Logging starts when the Start button is pushed:** Logging will start when the **Start** button is pushed for

about 3 seconds.

- **Logging starts immediately when setup is complete:** Logging will start immediately once the **Continue** button is clicked.
- **Logging starts at this time:** Logging will start at the user specified time. There is no limit how far in the future you can set the logging to start.
- **Channels to Log:** You can elect to disable unused logger channels. When a channel is disabled, its memory is allocated to the other channels, increasing the total logging time. The total logging time will be reflected in the **Sample Interval** window. Depending on the logger, some channels are required and cannot be disabled. Channels that can not be disabled are grayed out and can not be unchecked. For instance, in the picture above, the Temperature channel is required to record Relative Humidity, so the Temperature channel cannot be disabled. At least one channel must be enabled for logging.
- **User Information:** Enter any text you like in this box. This field is used to identify the logger to the user. You can enter descriptive location, serial number, etc.
- **Alarm Setup:** Click this button to open the [Alarm Setup Window](#).

## Custom Interval Setup

Commonly used intervals are predefined in the **Sample Interval** box in the [Logger Setup screen](#). If needed, a custom interval can be defined by the user. This is done by clicking on the **Custom Interval** button in the Logger Setup screen. The custom interval window will popup, as shown below. You can select a custom logging interval using this window.

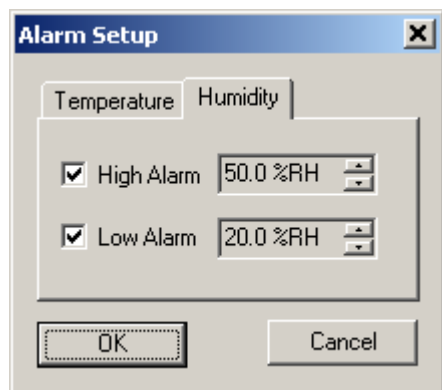


In the window above, the sampling interval was set to 1 minute, 24 seconds, to allow a 3 week recording.

## Alarm Setup


Alarms are used to indicate whether or not the data inside the logger exceeded a user specified threshold. This can be an indication that an important event has occurred and the data is worth downloading and looking at. The alarm status is indicated visually by pressing the [Check button and watching the LED light](#). The LED will flash green when no alarms occurred. The LED will flash red when an alarm has occurred and is stored in logger memory.

To get to the *Alarm Setup* window, click the **Alarm Setup** button in the [Logger Setup screen](#). The *Alarm Setup* window allows you to set high and/or low alarm thresholds for each logger channel, or disable these alarms. Alarms are set by entering the thresholds as shown in the window below.

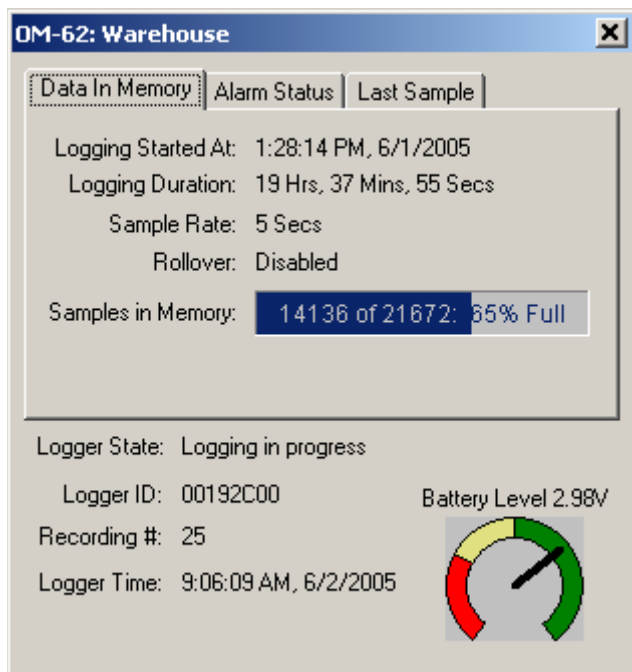


The checkbox to the left of the low/high alarms enables the alarm when checked, and disables the alarm when clear.

## Using the Software to Check Logger Status

Selecting **Status** from the **Logger** menu brings up the *Logger Status* window. You can also bring up the status window by pressing the  button on the toolbar. The logger status screen is separated into three panes:

### General Logger Status and Data In Memory Pane



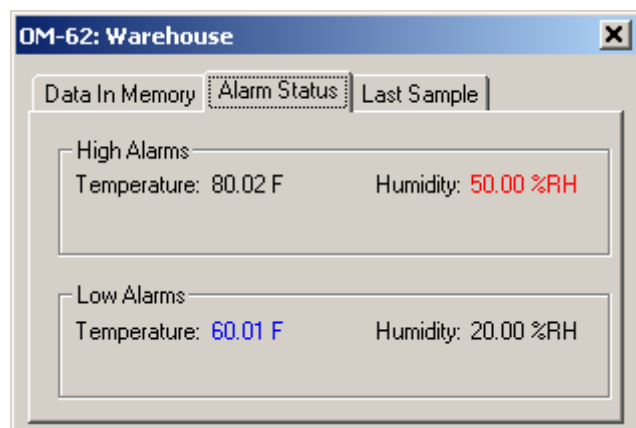
**Logger State** shows the internal state of the logger:

- **Power Save Mode:** This mode is entered when the battery is replaced, or the user [powered down the logger](#). The logger battery is not used in this mode and can last for up to 10 years. The logger's real time clock is not running in this mode.



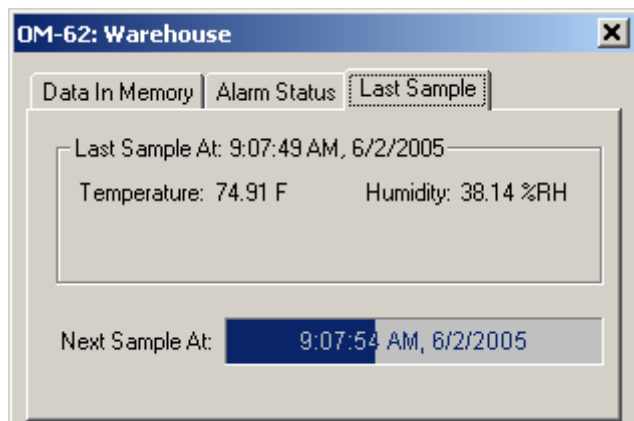
- **Idle, waiting for setup:** The logger is not logging. It is waiting for a setup from the user. The logger's real time clock is active in this mode.
- **Logging will start on button press:** Logging has been setup to start when the logger's **Start** button is pressed.
- **Logging will start at xxxx:** Delayed logging. Logging has been selected to start at a future time. The logger is waiting for this time to arrive to start logging.
- **Logging in Progress:** The logger is currently logging data.
- **Logger ID:** An ID that is unique for each logger. This ID can be used to ensure that the logged data has not been tampered with. See the [Data Security](#) section for more details.
- **Recording #:** Indicates the number of times the logger has been setup to log. This counter can be used to ensure that the logged data has not been tampered with. See the [Data Security](#) section for more details.
- **Logger Time:** Shows the date and time of the logger's real time clock.
- **Battery Level:** Shows the current level of the logger's battery. It is recommended that the battery is replaced when this indicator reaches yellow. When this indicator reaches red, it is imperative that the battery is replaced before logging becomes unpredictable.
- **Logging Started At:** Shows at what time the logging has started.
- **Logging Duration:** Shows how long the logging session has been active.
- **Sample Rate** shows how often the logger is recording the data.
- **Data Rollover** shows how many times the sample memory wrapped around after becoming full.
- **Samples in Memory:** Shows information on how many samples are currently stored in the logger memory, and how much space remains free. Note that if rollover occurs, this value will always be 100%.

## Alarm Status Pane



The *Alarm Status* pane displays the alarm thresholds for the active channels. If a high alarm occurred the threshold is displayed in red. If a low alarm occurred, the threshold is displayed in blue.

## Last Sample Pane



The *Last Sample* pane shows the value of the last sample taken, for all the active channels. It also shows when the next sample will be taken.

## Ending the Logging Session

There are a number of ways that the logging session can end:

1. When the logger memory becomes full, and data rollover was not selected during [logger setup](#), the logger will automatically stop logging and enter the idle state.
2. Selecting **End Logging** from the **Logger** menu.
3. Logging will stop automatically if the logger detects a low battery condition.
4. If the battery is removed from the logger, logging will stop. No data will be lost.

Once logging has ended, it cannot be resumed without erasing the logged samples stored in the logger memory.


## Powering Down the Logger

Your logger uses very little power and has a long battery life. If you want to extend the battery life farther, you can power down the logger when it is not logging. In the power down mode the logger uses practically no power, and can be stored without losing battery power, as long as the battery shelf life allows (10 years for Lithium batteries, 6 years for Alkaline). This state is useful if the logger is going to be stored without being used for an extended period of time.

- To put the logger into the power down mode, select **Power Down** from the **Logger** menu.
- To check if the logger is in power down mode, check the [logger status using the PC](#). *Logger State* will be indicated as *Power Save Mode*.
- The logger automatically exits power save mode when it is [set up to log](#), or when the [logger's real time clock is set](#).

**Note:** *The power down mode can only be entered when the logger is idle (not logging). In the power down mode the logger's real time clock is not running.*

## Loading Logger Data

To get the sampled data from your logger, [connect the logger to your computer](#) and click the  button on the toolbar, or select **Get Data** from the **Logger** menu. Once the data is transferred from the logger to your PC, the [data graph](#) and [data listing](#) windows will be displayed.


Logged data can be retrieved from the logger at any time. You do not have to stop the logging session to retrieve the data.

The [graph](#) display will be blank if there are less than two data points logged. The [listing](#) window will be blank if there are no data points logged (as can happen during delayed logging, or when logging is set to start on button press).

## Automatic Data Retrieval

The OmegaLog Interface Software can be setup to automatically load the data from the logger into the computer as samples become available. In this mode the [graph](#) and the [listing](#) windows are updated automatically with the new data.

To enable this feature follow these steps:

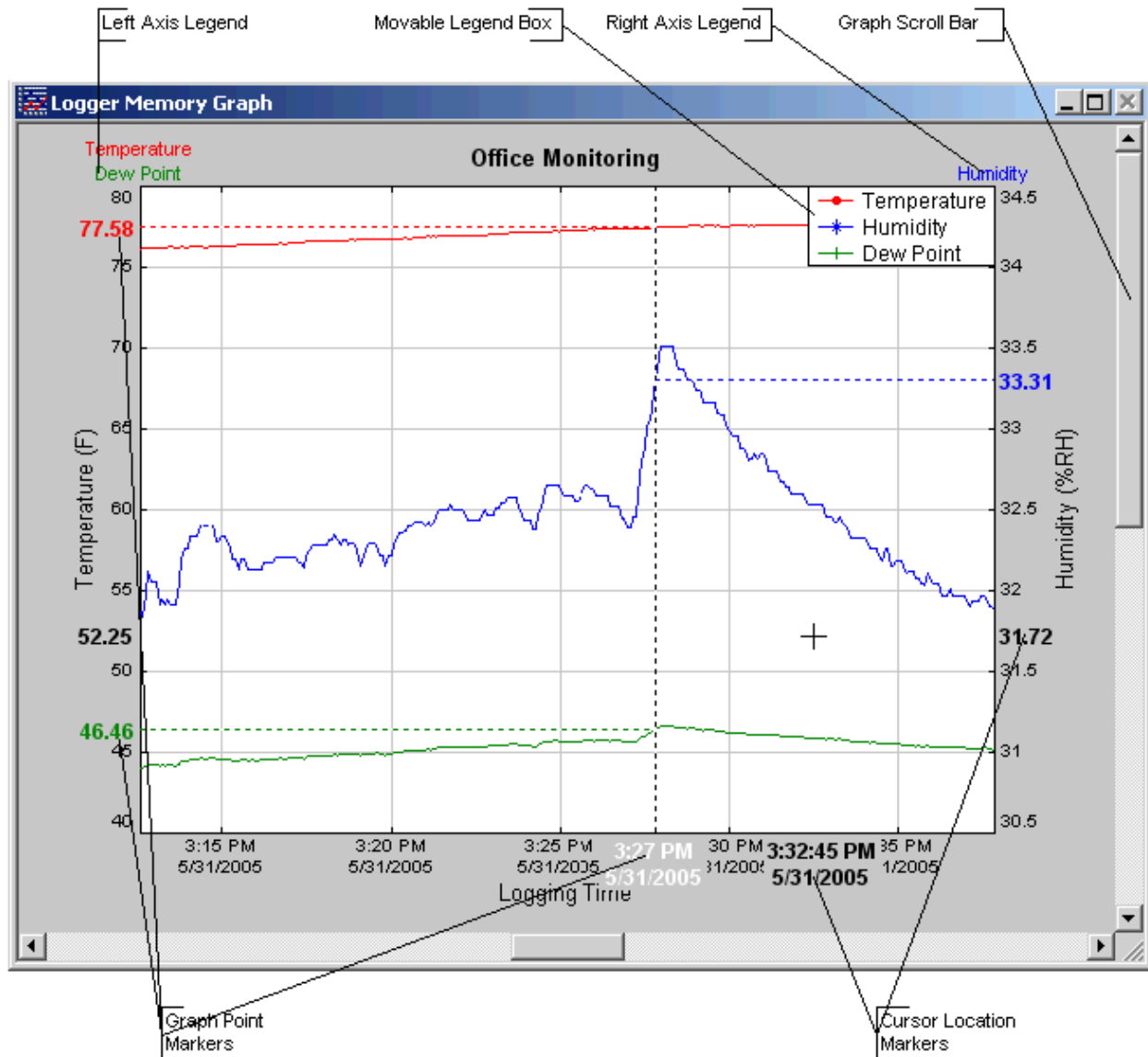
- Make sure that your logger is [connected to your computer](#).
- Make sure that the logger is logging data. Automatic retrieval is not available when the logger is not logging.
- Manually download the data for the first time by clicking the  button on the toolbar, or select **Get Data** from the **Logger** menu.
- From the **Logger** menu select **Auto Update**.



The computer will download data as often as the [sampling interval you setup](#). For instance, if you set your logger to collect data once every minute, the software will perform a download once a minute. Of course the logger has to be connected to your computer while the *Auto Update* mode is active.

When the *Auto Update* mode is active, the software does not change the zoom level of your graph. Instead it scrolls the graph as new data becomes available.







## Working With the Data Graph

Clicking anywhere within the graph window activates the graph toolbar buttons and the graph window features.




- The graph plots each data channel using a different color and dot style. A small rectangular legend shows the color and the dot style of each channel. This legend can be moved by clicking the left mouse button while inside the legend and dragging the legend to where you want it to be. The legend can be turned ON and OFF by pressing the  button on the toolbar.
- There is an additional legend above each of the Y axis. This legend is the channel name drawn in the same color as the channel line on the graph. This legend helps identify which channel belongs to which axis. For instance, in the graph above, the **Temperature** in red and **Dew Point** in green correspond to the left Y axis, the **Relative Humidity** in blue corresponds to the right Y axis.
- The Cursor Location Markers show the cursor position on the graph. The position is shown on each of the axis in a slightly larger, bold text. The position indicators can be turned ON and OFF by pressing the  button

on the toolbar

- Clicking the  button activates the sample marker function. When this function is active, clicking a point on the graph, marks this point, and shows the point values for all channels, at the specified time. An example of sample markers is shown above.
- During zoom mode, you can use the vertical and horizontal scroll bars to move the graph around.
- Clicking the  button activates the zoom mode. To zoom to an area, click the left mouse button at one corner and drag the mouse, while holding down the button, to the opposite corner. Releasing the button will activate the zoom. Clicking the right mouse button unzooms the graph one level. When the graph is zoomed, you can use the vertical and horizontal scroll bars to move the graph around. See [Using the Zoom Feature](#) section for more details.
- The  button turns ON and OFF the marks at the data points.
- The  button connects the sample points with a line.
- The  button turns the grid lines ON and OFF.
- The  button on the toolbar causes the graph to unzoom to the full scale of the recorded data. This means that the minimum and maximum scale will be about equivalent to the minimum and the maximum of the data.

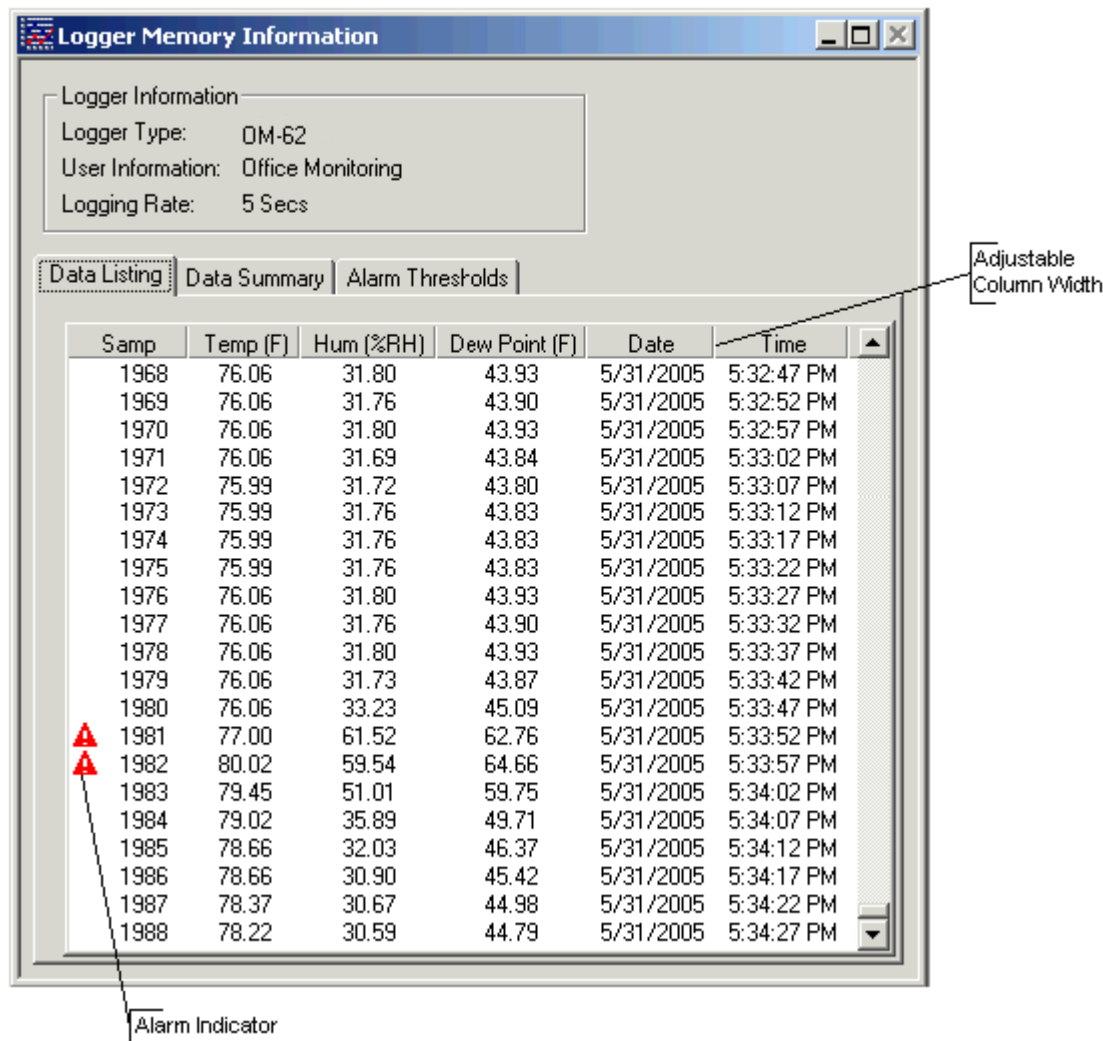
## Using the Zoom Feature

There are a number of ways to zoom to the data you would like to see on the screen.

- **Graphic Zoom:** You can graphically zoom on the portion of the data that is displayed on the screen by pressing the left mouse button and dragging the box around the part of the graph you would like to zoom to. You can repeat this until the graph is zoomed to just a few points. Pressing the right mouse button reverses the graphic zoom (causes unzoom).
- **Unzoom:** Pressing the left mouse button, then releasing it without dragging the mouse causes the graph to unzoom (zoom out). Once again pressing the right mouse button reverses this zoom.
- The  button on the toolbar causes the graph to unzoom to the full scale of the data. This means that the minimum and maximum scale will be about equivalent to the minimum and the maximum of the data.
- **Autoscaling a specific axis:** You can also autoscale the time or one of the data axes only, without affecting the other axes. To autoscale the time axis only, choose **Time -> Auto Scale** from the **Zoom** menu. To autoscale one of the data axis only, choose **Auto Scale** for the appropriate channel from the **Zoom** menu.
- **Numerical Zoom:** Another way to specify the zoom is to enter the minimum and maximum limits of the graph numerically. You can do this individually for the time axis and for each of the data axis. To do this, select **Custom** for the appropriate axis from the **Zoom** menu, and enter the minimum and maximum limits for the axis.

## Data Listing Window

The data listing window is shown below.



The Data pane lists the data samples collected by the logger. If the data rollover check box in the [setup window](#) was cleared, the earliest data samples are listed. If the data rollover check box was checked, the latest data samples are listed.

The column width of each column is adjustable by using the left mouse button and dragging the column to the desired width.

The ▲ icon next to a data sample indicates an alarm condition. That is, one or more of the data channels are outside the [minimum or maximum \(alarm low and alarm high\) thresholds](#).

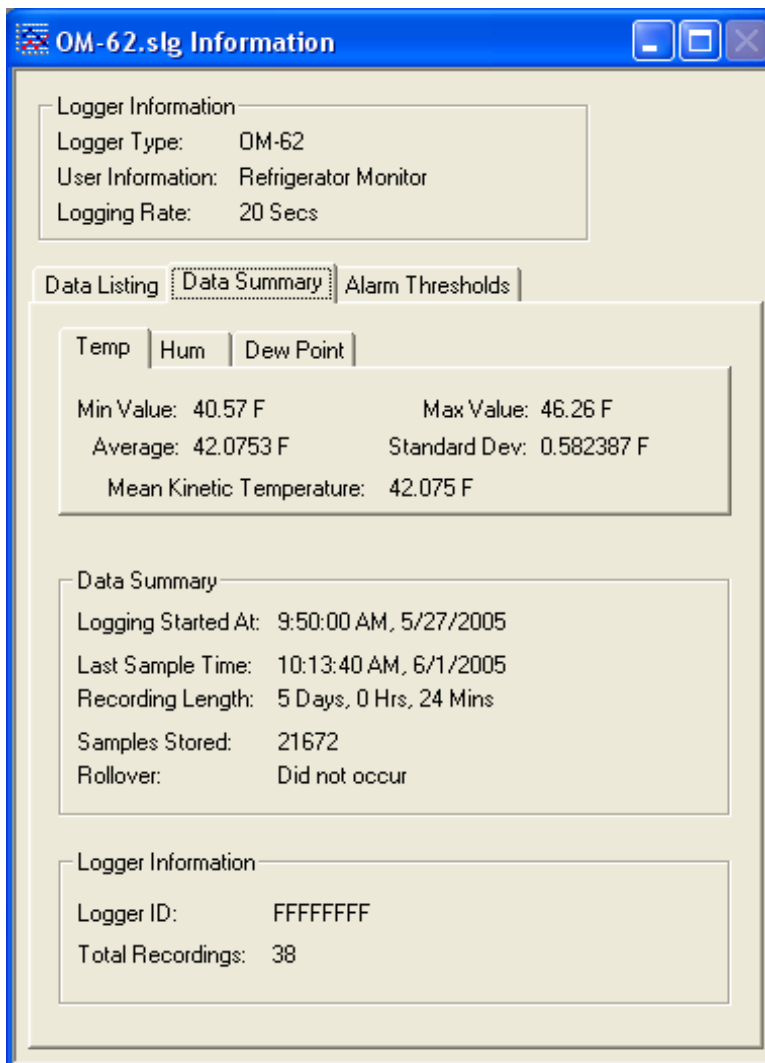
## Data Summary and Statistics

The Data Summary pane displays the summary and statistics for the currently loaded dataset. The statistics displayed are: Minimum value, maximum value, average value (mean) and standard deviation.

For temperature channels Mean Kinetic Temperature (MKT) is displayed as well. MKT is used in pharmaceutical and food industries as a simplified way of expressing the overall effects of temperature fluctuation during storage and transit of perishable goods. The software uses the activation energy value  $\Delta H = 83.144$  KJ/mol for MKT calculation.

The data statistics are also included when data is [exported to a text or Excel file](#).

A typical Data Summary window is shown below.



## Hiding or Viewing Channels

The OmegaLog software has the ability to hide channels you do not wish to view. This feature is accessed by selecting **Channels >** from the **View** menu, and then deselecting or selecting the specific channels you wish to hide or view. The hidden channels do not appear in either the plot or the data listing. They also are not exported through the [export to text and export to Excel](#) features.

## Exporting Logger Data

The OmegaLog software allows exporting sample data and data statistics to a text file or to a Microsoft Excel file.

- To export sample data to a text file, select **Export -> Text File** from the **File** menu.
- To export sample data to a Microsoft Excel file, select **Export -> Excel File** from the **File** menu.

The file exported to Microsoft Excel is an Excel .csv file. The easiest way to open this file in Excel is to just double click on the created file. The file can also be opened from within Microsoft Excel:

1. From the Microsoft Excel application choose **Open...** from the **File** menu.
2. In the *Open* window, under *Files of type:*, select *Text Files (\*.prn, \*.txt, \*.csv)*.
3. Navigate to the directory where you saved the exported file. The file name should be listed in the window.
4. Select the file and click **Open**.

When you first open the .csv file in Excel, the *Date Time* column will be in a strange format. To convert to a normal time and date format follow these steps:

1. Select the entire *Date Time* column by clicking on the column header (**E**).
2. While the cursor is in the column, click the right mouse button and select **Format Cells**.
3. Under *Category:* select **Date** or **Time**, then choose the format that suits you in the *Type:* column.
4. Click **OK** when done.

## Printing the Logger Data

The OmegaLog software can print the data graph and data samples list. To print these, select **Print** from the **File** menu. You can also view how your data will be printed using the **Print Preview** option from the **File** menu.

Graphs and data samples are printed as they appear on the screen. For graphs, this includes the current zoom detail, marking of sample points, etc (see [Working with the Data Graph](#) for more detail).

For sample listing printout, any data filters applied to the data will be applied to the printed output as well. Data filters are especially useful for reducing the amount of pages that the data sample printout generates.

## Calibrating the Logger

Your logger is factory calibrated to an accuracy given in the logger specifications. However, there may be times when you wish to adjust the calibration of your logger. NIST traceable calibration certificate is available at the factory for an additional cost.

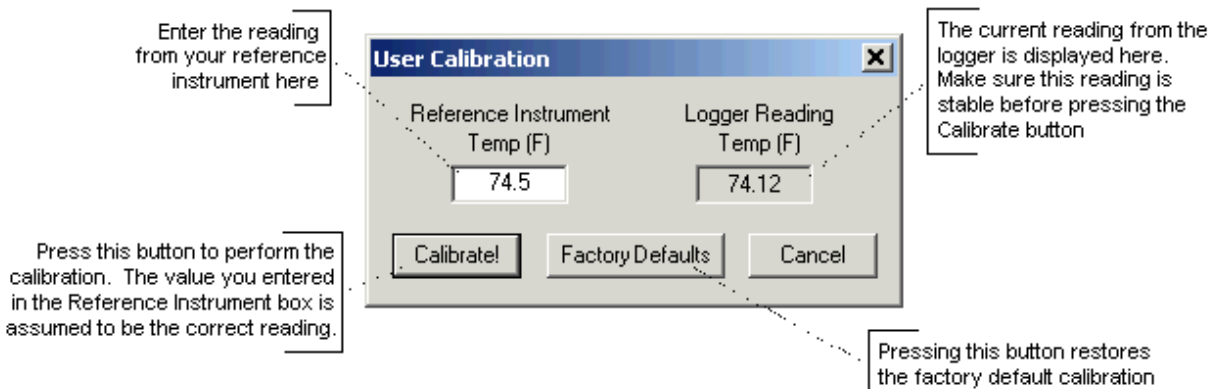
The OmegaLog software also provides you with the ability to perform a single point offset calibration. This calibration can be used to increase the accuracy of your logger for a restricted data range. For instance, if your application calls for logging temperature between 20°F and 32°F, you may want to calibrate your logger at 26°F.

**Warning: Calibrating the logger erases the data that is stored in logger memory.**

Calibration only can be performed when the logger is idle (not logging). To calibrate your logger, select **Calibrate...** from the **Logger** menu. For extra security, calibration is password protected. You must enter the correct password in the *Calibration Password* window before you're allowed to calibrate the unit, if a calibration password has been created. The *Password Calibration* window also allows you to [change the password](#).

Once the password is entered correctly, a window asking you to select the channel to calibrate pops up. Select the channel you would like to calibrate and click **OK**. Each channel must be calibrated separately.

The *User Calibration* window for the channel you selected will appear:





To perform the calibration:

1. Select a stable and accurate reference instrument. It is best to use a reference instrument that has at least 2 to 4 times the accuracy of the logger you are calibrating. For instance, if the accuracy of the logger temperature channel is given as  $\pm 1^{\circ}\text{F}$ , the accuracy of your reference instrument should be at least  $\pm 0.5^{\circ}\text{F}$  to  $\pm 0.25^{\circ}\text{F}$ .
2. Make sure that both the logger and your reference instrument are reading the same stable source. For temperature and humidity, it is best to place the logger and the reference sensor in a stable chamber.
3. Adjust your source to the value at which you would like to perform the calibration.
4. Wait for your reference instrument and the reading in the “*Logger Reading*” box to stabilize.
5. Enter the reading from your reference instrument in the “*Reference Instrument*” box, and hit the Calibrate! button.

## Setting the Calibration Password



To change the calibration password select **Calibrate...** from the **Logger** menu. When the *Calibration Password* window is displayed, follow these steps:

- Enter the current calibration password in the “*Enter Calibration Password*” box. If you are setting the password for the first time, do not enter anything in this box, since the logger is factory configured not to have a password as a default.
- Enter the new password in the “*New Password*” box.
- Enter the new password again in the “*Repeat New Password*” box.
- Click OK.

You can also remove password protection (restore factory default empty password) by checking “*Remove Password*”.

If you forgot the calibration password and need to reset it, click the **Forgot Password** button. This will reset the logger password to factory default (empty password). Resetting the password in this way will erase the data stored in the logger and reset the recording counter to 0.

## Setting the Logger Real Time Clock

Each logger has an internal Real Time Clock. This clock is updated every second. During logging, the time stamps of the data samples are set by the Real Time Clock.

When you first connect a new battery to the logger, or when the logger is in [power down state](#), the real time clock is not running. When the real time clock is stopped, and you [setup your logger to log](#), the OmegaLog software

automatically matches the logger clock to your computer's clock. You can also manually set the logger's real time clock, using the OmegaLog software

To set the logger's Real Time Clock, select **Set Clock...** from the **Logger** menu . Make sure that "Use Windows Clock" is unchecked, then enter the current date and time in the appropriate fields. If the "Use Windows Clock" is checked, the logger's real time clock will be matched to your Windows clock.

**Note:** *You cannot set the Real Time Clock while logging is in progress.*

## Data Security

The Omega loggers and the OmegaLog software have a number of features to prevent tampering with, or falsifying the logged data. The security features are as follows:

- Each logger comes with a factory set unique logger ID. The logger ID is always displayed in the [Logger Status window](#) and the Data Summary window. The logger ID cannot be changed by the user. The logger ID prevents somebody from switching loggers once the data is collected.
- Once logging has started, parameters such as sample rate, logging start time, logging sample counter, etc. cannot be changed without first clearing the recorded data. This prevents gathering many data samples at a fast sample rate and then lowering the sample rate to give the appearance that the data was recorded over a longer period of time.
- Each logger has an internal recording session counter. This counter counts how many times the logger was setup to record data. This counter cannot be reset. This counter can be used to guarantee that the logger data has not been cleared during a given period of time. To do this, make a note of the recording counter after you setup the logger to log. This counter should now remain the same. If at a later time, the recording counter has increased, you know that somebody stopped the recording, and initiated a new logging session.
- The logger's internal real time clock cannot be changed during the logging session.
- The calibration data is password protected. This prevents a third party from recalibrating the unit to yield a false data.
- Calibrating the logger erases the logged data from the logger memory. This prevents somebody from adjusting the logged data after a recording was made.

## Specifications

Common logger and software specifications are shown below.

<b>PC Interface</b>	USB port. USB cable is included
<b>Sampling Interval</b>	User selectable from 1 second to 18 hours, in 1 second increments.
<b>Data Security</b>	Unique factory set logger ID. Recording session counter. Password protected calibration.
<b>Operating System Compatibility</b>	Windows XP, Windows Vista and Windows 7. Compatible with both 32 bit and 64 bit systems.
<b>Minimum System Requirements</b>	5MB of free disk space, 800 x 600 screen resolution, 1 free USB port.
<b>Recording Start</b>	On button press, immediate after setup, or at a user specified date and time.
<b>Recording Mode</b>	Stop on memory full, or continuous recording with memory rollover
<b>Real Time Status</b>	Software real time status.
<b>User Calibration</b>	Password protected calibration for each channel.
<b>User Information</b>	Up to 30 characters
<b>Logger Channels</b>	User selectable. Disabling channels increases the storage capacity of the other channels.
<b>Units</b>	US and Metric
<b>Data Format</b>	Exportable to text or Excel files.

## OM-62 Temperature Humidity Logger

The OM-62 is a self-contained, precision instrument for recording the temperature and relative humidity of the surrounding environment. The OM-62 can store up to 43,344 temperature samples, or up to 21,672 of both temperature and relative humidity samples. In addition to Temperature and Humidity, the OmegaLog software computes and displays the Dew Point Temperature.

The OM-62 logger temperature and relative humidity sensors are open to the air. It is therefore important to ensure that water does not get into the unit. This is especially important in high humidity situations (90% RH and above) where water may condense inside the logger, causing damage to the internal electronics.

**Warning: Care must be taken to ensure that the logger is not operating under condensing conditions. This means that the dew point temperature must be below the ambient temperature. Condensation will damage the humidity sensor and the logger electronics.**

## OM-62 Logger Status LED

Pressing the Start/Check button makes the LED flash a series of flashes to indicate the logger status. The table below shows the different logger states that the status light can show.

Status Light	Logger State
Flashed Green one time	Logging is not in progress. Data in memory did not exceed the alarm thresholds.
Flashed Red one time	Logging is not in progress. Data in memory exceeded one of the alarm thresholds.
Flashed Green four times	Logging is in progress. Data in memory did not exceed the alarm thresholds
Flashed Red four times	Logging is in progress. Data in memory exceeded one of the alarm thresholds
Flashed Green-Red three times	Delayed logging. Logging will start at the user specified time.

## Replacing the OM-62 Battery

The battery level of the OM-62 can be checked using the OmegaLog software, by opening the [Logger Status window](#). It is suggested that the battery is replaced when the battery level reaches yellow. When the battery level reaches red, it is imperative that the battery is replaced as soon as possible. When the battery level is too low, the logger will stop logging automatically, resulting in data not being recorded. The OmegaLog software will give you a warning if you try to start a logging session while the battery is low.

To replace the battery follow these steps:

1. *Disconnect the logger from the USB cable. Do not replace the battery while the USB cable is connected!*
2. Using a screwdriver, remove the screw in the back of the logger.
3. Remove the logger from the case.
4. Using a pen or a pencil, push the battery out of the casing, then use your fingers to slide the battery out. Avoid using pliers as they will short the battery.
5. *Press and hold the logger button for about 2 seconds. This step removes any extraneous charge from the logger system. This step is very important. The logger may not operate correctly if this step is not performed.*
6. Slide the new CR2032 battery into the battery case. Make sure that the + indicator on the battery matches the + indicator on the battery case.
7. When the battery is replaced correctly, the LED will flash a single green flash for about 1 second.
8. Place the logger back in the case and replace the screw.

General guidelines as to how long a battery will last is shown in the table below. It is assumed that the logger uses a fresh CR2032 battery, and is setup for continuous logging with rollover enabled.

Logging Interval	Battery Life
1 Second	4 Months
5 Seconds	17 Months
10 Seconds	2.5 Years
30 Seconds	4.5 Years
1 Minute	6 Years
2 Minutes	7 Years

## OM-62 Specifications

<b>Sample Point Capacity</b>	43,344 points for temperature only. 21,672 points for temperature, humidity and dew point.
<b>Alarms</b>	Visual over and under alarm indicator for temperature and humidity. Dew point alarms are not available
<b>Calibration</b>	User single point offset calibration is available through software for both temperature and humidity. Calibration is password protected.
<b>Operating Temperature</b>	-35°F to 160°F (-31°C to 70°C)*
<b>Storage Temperature</b>	-40°F to 170°F (-40°C to 77°C)
<b>Time Accuracy</b>	+/-100ppm @75°F
<b>Relative Humidity Range</b>	0% to 99%RH, non condensing.
<b>Relative Humidity Accuracy</b>	+/- 2%RH, from 10% to 90% RH
<b>Relative Humidity Resolution</b>	0.05%RH
<b>Temperature Accuracy</b>	+/-1°F (0.5°C)
<b>Temperature Resolution</b>	0.05°F or 0.05°C
<b>Dimensions</b>	3'' x 1.6'' x 0.6'' (7.6cm x 4.0cm x 1.5cm)
<b>Weight</b>	1.0 oz (23g)
<b>Power Source</b>	3V CR2032 Lithium coin cell battery (Included)
<b>Battery Life (average use)</b>	6 Years

\* Lithium batteries do not perform well in very low temperatures. If the logger is going to be used in temperatures below 32°F (0°C), make sure to start with a fresh battery, and check the battery level often.

## OM-63 Temperature Logger

The OM-63 is a self-contained, precision instrument for recording the temperature of the surrounding environment. The OM-63 can store up to 43,344 temperature samples.

## OM-63 Logger Status LED

Pressing the Start/Check button makes the LED flash a series of flashes to indicate the logger status. The table below shows the different logger states that the status light can show.

Status Light	Logger State
<b>Flashed Green one time</b>	Logging is not in progress. Data in memory did not exceed the alarm thresholds.
<b>Flashed Red one time</b>	Logging is not in progress. Data in memory exceeded one of the alarm thresholds.
<b>Flashed Green four times</b>	Logging is in progress. Data in memory did not exceed the alarm thresholds
<b>Flashed Red four times</b>	Logging is in progress. Data in memory exceeded one of the alarm thresholds
<b>Flashed Green-Red three times</b>	Delayed logging. Logging will start at the user specified time.

## Replacing the OM-63 Battery

The battery level of the OM-63 can be checked using the OmegaLog software, by opening the [Logger Status window](#). It is suggested that the battery is replaced when the battery level reaches yellow. When the battery level reaches red, it is imperative that the battery is replaced as soon as possible. When the battery level is too low, the logger will stop logging automatically, resulting in data not being recorded. The OmegaLog software will give you a warning if you try to start a logging session while the battery is low.

To replace the battery follow these steps:

1. *Disconnect the logger from the USB cable. Do not replace the battery while the USB cable is connected!*
2. Using a screwdriver, remove the screw in the back of the logger.
3. Remove the logger from the case.
4. Using a pen or a pencil, push the battery out of the casing, then use your fingers to slide the battery out. Avoid using pliers as they will short the battery.
5. *Press and hold the logger button for about 2 seconds. This step removes any extraneous charge from the logger system. This step is very important. The logger may not operate correctly if this step is not performed.*
6. Slide the new CR2032 battery into the battery case. Make sure that the + indicator on the battery matches the + indicator on the battery case.
7. When the battery is replaced correctly, the LED will flash a single green flash for about 1 second.
8. Place the logger back in the case and replace the screw.

General guidelines as to how long a battery will last is shown in the table below. It is assumed that the logger uses a fresh CR2032 battery, and is setup for continuous logging with rollover enabled.

<b>Logging Interval</b>	<b>Battery Life</b>
1 Second	4 Months
5 Seconds	17 Months
10 Seconds	2.5 Years
30 Seconds	4.5 Years
1 Minute	6 Years
2 Minutes	7 Years

## OM-63 Specifications

<b>Sample Point Capacity</b>	43,344 temperature points.
<b>Alarms</b>	Visual over and under alarm indicator for temperature.
<b>Calibration</b>	User single point offset calibration is available through software. Calibration is password protected.
<b>Operating Temperature</b>	-40°F to 185°F (-40°C to 85°C)*
<b>Storage Temperature</b>	-40°F to 185°F (-40°C to 85°C)
<b>Time Accuracy</b>	+/-100ppm @75°F
<b>Temperature Accuracy</b>	+/-0.9°F (0.5°C) for the range of 0°F to 120°F (-17°C to 50°C)
<b>Temperature Resolution</b>	0.05°F or 0.05°C
<b>Dimensions</b>	3'' x 1.6'' x 0.6'' (7.6cm x 4.0cm x 1.5cm)
<b>Weight</b>	1.0 oz (28g)
<b>Power Source</b>	3V CR2032 Lithium coin cell battery (Included)
<b>Battery Life (average use)</b>	6 Years

\* Lithium batteries do not perform well in very low temperatures. If the logger is going to be used in temperatures below 32°F (0°C), make sure to start with a fresh battery, and check the battery level often.

## OM-DVTH Temperature Humidity Logger with Display

The DataView OM-DVTH is a self-contained, precision instrument for recording the temperature and relative humidity of the surrounding environment. The OM-DVTH can store up to 43,344 temperature samples, or up to 21,672 of both temperature and relative humidity samples. In addition to Temperature and Humidity, the unit computes and displays the Dew Point Temperature.

The OM-DVTH features a display that allows the user to see the [current temperature, humidity and dew point](#) simultaneously. In addition the unit shows, [graphically](#), the temperature and relative humidity data that has been logged during the current logging session. A [summary screen](#) shows information about the current logging session, such as the logging rate, the number of samples recorded, the length of the current recording and the amount of time left for recording.

The OM-DVTH temperature and relative humidity sensors are open to the air. It is therefore important to ensure that water does not get into the unit. This is especially important in high humidity situations (90% RH and above) where water may condense inside the logger, causing damage to the internal electronics.

**Warning: Care must be taken to ensure that the logger is not operating under condensing conditions. This means that the dew point temperature must be below the ambient temperature. Condensation will damage the humidity sensor and the logger electronics.**

## Turning the OM-DVTH On and Off

To conserve battery life, the OM-DVTH will turn itself Off after about 1 hour of operation, if the unit is not logging and no buttons are pushed. The display will go blank and the unit will enter a [Power Save mode](#). In this mode the logger uses practically no power, and the battery will last as long as its shelf life (typically 6 years for an alkaline battery).

In the Power Save mode you can still use all the features of the OmegaLog software to communicate with the logger, even set the logger for a new logging session. The logger will automatically exit the Power Down mode

when it is set to log.

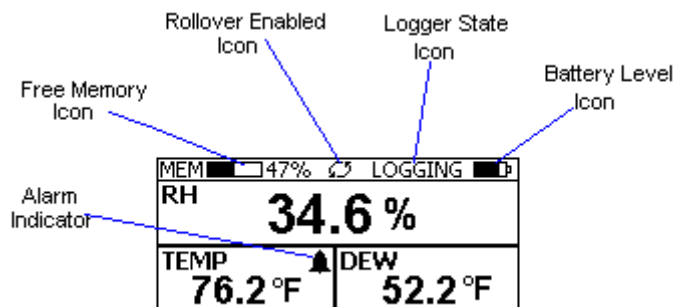
Another way to turn the logger Off is to [power down the logger using the OmegaLog software](#).

To turn the logger On at any time, just press any of the logger's buttons. The display will come back on and the logger will operate normally

## OM-DVTH Sample Screen

There are three different screens that the user can switch between, using the **View** button. The Sample and [Summary](#) screen show the current status of the logger. The [Graph screen](#) shows a record of the logged temperature and humidity samples in memory.

The Sample screen is shown below.



This screen shows the current Relative Humidity, Temperature and Dew Point measurements. The measurements are updated every two seconds, independent of the device sample rate.

*Note: If the user selects only the temperature channel to be logged, the logger will display only the temperature during logging. Relative Humidity and Dew point will not be displayed. When logging is finished (either the memory becomes full, or on user command), the logger will once again display all three measurements (temperature, humidity and dew point).*

The icons provide a summary of the current state of the logger.

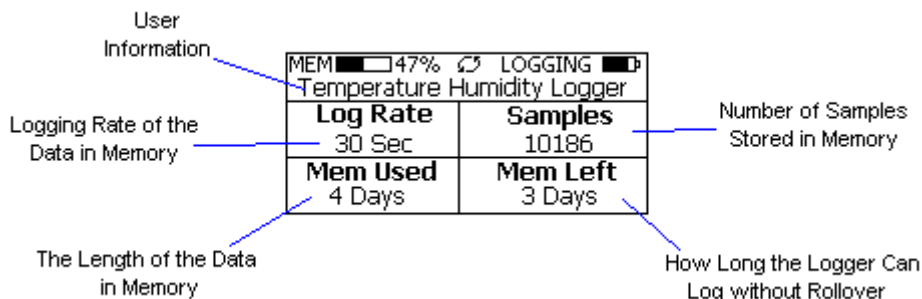
- **MEM**: The Memory bar graph shows the amount of memory used and left in the logger. When logging starts, the bar graph is empty. It fills up as samples are stored into memory. The percentage display shows how much memory is used, as well.
- **Rollover Enabled Icon**: This icon shows that [rollover](#) has been enabled and that once the memory becomes full, the logger will overwrite the oldest data stored in memory. Note that this icon shows that rollover has been enabled. It does not indicate if rollover has occurred.
- **Logger State Icon**: This icon shows the current state of the logger:
  - **IDLE**: The logger is not logging. The sample display is still being updated, but no data is stored in logger memory.
  - **LOGGING**: The logger is recording data at a user specified logging rate.
  - **PRESS START TO LOG**: The logger is not recording data, but has been setup to start logging when the **Start** button is pressed. Press and hold the **Start** button for about 3 seconds to start logging.
  - **DELAYED LOGGING**: The logger is not recording data, but has been setup to start logging at a specific date and time. To see when logging will start, press the **View** button twice to bring up the countdown to the start of logging.
- **Battery Level Icon**: This icon shows the state of the logger batteries. When this icon is down to one bar, the logger battery should be replaced.
- **Alarm Indicator**: This icon shows that a channel has entered an alarm state during logging. This is a "sticky" indicator since once the channel entered an alarm condition, the icon turns On, and stays On even



if the alarm condition goes away. See the [Alarm Setup section](#) in the Software User's Guide for more information on setting and using alarms.

## The OM-DVTH Summary Screen

The Summary screen is shown below.

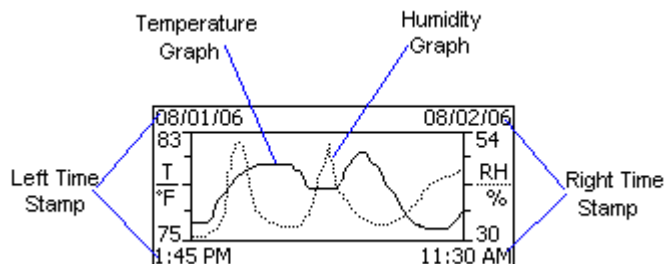


The icons in the summary screen are identical to the icons in the [Sample screen](#). The Summary screen shows:

- **The User Information:** This 30 character text field is entered through the OmegaLog setup software, and can be any text that describes the logger
- **Logging Rate:** Is the rate at which the data in memory was logged at.
- **Samples:** Shows the number of samples stored in memory. If a rollover has occurred this number will show the maximum number of samples that can be stored in the logger, and will not change, even though the logger may be logging.
- **Mem Used:** Shows the length (in days, hours, minutes or seconds) of data currently stored in memory. If a rollover has occurred, this number will show the maximum length of data that can be stored in memory, for a given sample rate. If a rollover has occurred, this number will not change even though the logger may be logging.
- **Mem Left:** Shows the length (in days, hours, minutes or seconds) of data the logger can record without overwriting currently recorded data (record without a rollover). If a rollover has occurred, this number will show 0 Sec, even though the logger may still be logging.

## OM-DVTH Graph Screen

The OM-DVTH is capable of displaying the logged data graphically to show temperature and relative humidity trends. The OM-DVTH Graph screen is shown below.



This screen shows the graph of the samples stored in logger memory. The temperature graph is shown with a solid line. The temperature axis is on the left. The humidity graph is shown with a dotted line. The humidity axis is on the right. The graph time stamps are shown on the left and on the right, above the axis.

For instance, in the graph above, data collected between August 1st, 2006, 1:45 PM and August 2nd, 11:30 AM is shown. The graph temperature range is between 75 ° F and 83 ° F. The relative humidity range is between 30%RH

and 54%RH.

When in the graph screen, you can use the **Display -** and **Display +** buttons to shift the graph left and right, respectively. Pressing and holding the **Start** button, while in the graph screen, returns the graph view to the last sample taken.

When the logger is logging, the graph display is automatically updated as new samples are logged.

## OM-DVTH Buttons

The OM-DVTH has five buttons as shown below.



- **Units:** Use this button to change the displayed units between ° F and ° C.
- **View:** Use this button to change the displayed screen.
- **Start:** If the logger has been [setup to start on button press](#), press and hold the **Start** button to begin logging. In the [Graph screen](#), pressing and holding this button returns the view to the last sample logged.
- **Display +:** Use this button to increase the screen contrast when in [Sample](#) and [Summary](#) screens. When in the [Graph screen](#) this button shifts the graph to the right.
- **Display -:** Use this button to decrease the screen contrast when in [Sample](#) and [Summary](#) screens. When in the [Graph screen](#) this button shifts the graph to the left.

## Replacing the OM-DVTH Battery

The OM-DVTH uses three AA type alkaline or lithium batteries. Using rechargeable Ni-MH batteries is not recommended. The battery level of the OM-DVTH is shown on the screen, or can be checked using the OmegaLog software, by opening the [Logger Status window](#). It is suggested that the battery is replaced when the battery level reaches 1 bar on the display, or in the yellow zone in the OmegaLog software. When the battery indicator is empty, or reaches red in the OmegaLog software, it is imperative that the battery is replaced as soon as possible. When the battery level is too low, the logger will stop logging automatically, resulting in data not being recorded. The OmegaLog software will give you a warning if you try to start a logging session while the battery is low.

To conserve battery power, the OM-DVTH will shutdown automatically, when not logging, after about one hour of operation. To turn the logger back On, just press any button. The logger can run while logging continuously for one year on a single set of three AA alkaline batteries.

To replace the batteries follow these steps:

1. *Disconnect the logger from the USB cable. Do not replace the battery while the USB cable is connected!*
2. Using a screwdriver, remove the 4 screws in the back of the logger.
3. *Carefully remove the back case. Be very careful not to pull on the battery wires.*
4. Remove the three used AA batteries.
5. *Press and hold any logger button for about 2 seconds. This step removes any extraneous charge from the logger system. This step is very important. The logger may not operate correctly if this step is not performed.*
6. Insert three new AA batteries into the battery holder. Make sure that the + indicator on the battery matches the + indicator on the battery case.

7. When the batteries is replaced correctly, the logger should start up automatically and show the [Sample](#) screen.
8. Replace the OM-DVTH back cover and replace the 4 screws.

## OM-DVTH Specifications

<b>Text Display</b>	Displays real time temperature, humidity and dew point. Displays logging summary, sample rate, memory used and memory left.
<b>Graph Display</b>	Shows measurement trends graphically. Graph can be scrolled through the entire logged data.
<b>Sample Point Capacity</b>	43,344 points for temperature only. 21,672 points for temperature, humidity and dew point.
<b>Alarms</b>	Visual over and under alarm indicator for temperature and humidity. Dew point alarms are not available
<b>Calibration</b>	User single point offset calibration is available through software for both temperature and humidity. Calibration is password protected.
<b>Operating Temperature</b>	15°F to 150°F (-10°C to 65°C)
<b>Storage Temperature</b>	-5°F to 160°F (-20°C to 70°C)
<b>Time Accuracy</b>	+/-100ppm @75°F
<b>Relative Humidity Range</b>	0% to 99%RH, non condensing.
<b>Relative Humidity Accuracy</b>	+/- 2%RH, from 10% to 90% RH
<b>Relative Humidity Resolution</b>	0.05%RH
<b>Temperature Accuracy</b>	+/-1°F (0.5°C)
<b>Temperature Resolution</b>	0.05°F or 0.05°C
<b>Dimensions</b>	4'' x 3.05'' x 1.5'' (10.2cm x 7.7cm x 3.8cm)
<b>Weight</b>	7.0 oz (200g)
<b>Power Source</b>	Three AA batteries (Included)
<b>Battery Life</b>	1 year continuous use, 2 years average use. The logger automatically turns itself Off after 1 hour, when not logging. Turn On by pressing any button.

## OM-DVT4 Four Temperature Logger with Display

The OM-DVT4 is a self-contained, precision instrument for recording up to four temperatures. The OM-DVT4 has one internal temperature sensor and 3 external sensors. The external sensors are temperature rated between -40°F to 160°F (-40°C to 70°C). The internal sensor can operate from 15°F to 150°F (-10°C to 65°C). The OM-DVT4 can store up to 21,760 points when 4 channels are logging, 29,010 points when 3 channels are logging, 43,520 points when 2 channels are logging and 87,040 points when a single channel is logging.

The OM-DVT4 features a display that allows the user to see the current temperature for all channels simultaneously, as well as the temperature difference between channels. In addition the unit graphs two of the channels that have been logged during the current logging session. The two channels shown on the graph are user selectable. A summary screen shows information about the current logging session, such as the logging rate, the number of samples recorded, the length of the current recording and the amount of time left for recording.

## Turning the OM-DVT4 On and Off

To conserve battery life, the OM-DVT4 will turn itself Off after about 1 hour of operation, if the unit is not logging and no buttons are pushed. The display will go blank and the unit will enter a [Power Save mode](#). In this mode the logger uses practically no power, and the battery will last as long as its shelf life (typically 6 years for an alkaline battery).

In the Power Save mode you can still use all the features of the OmegaLog software to communicate with the logger, even set the logger for a new logging session. The logger will automatically exit the Power Save mode when it is set to log.

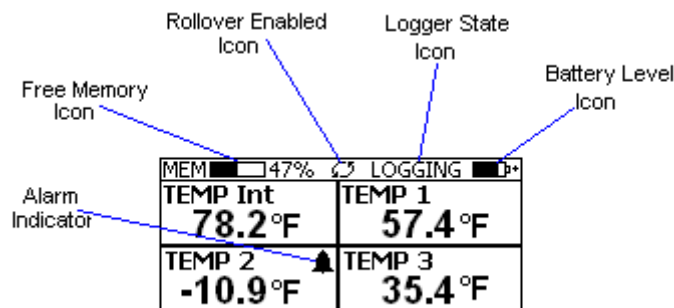
Another way to turn the logger Off is to [power down the logger using the OmegaLog software](#).

To turn the logger On at any time, just press any of the logger's buttons. The display will come back on and the logger will operate normally

## OM-DVT4 Sample Screen

There are a number of different screens that the user can switch between, using the **View** button. The Sample and [Summary](#) screens show the current status of the logger. The [Graph screen](#) shows a record of the logged temperature samples in memory.

A typical four channel sample screen is shown below.



This screen shows the current temperature measurements. These measurements are updated every two seconds, independent of the device sample rate.

*Note: During logging only the channels that are selected to log will be displayed. For instance, if the user selected Internal Temperature and Temp 3 for logging, using [the logger setup screen](#), only Temp Int and Temp 3 will be displayed during logging. Once logging has finished, all four channels will be displayed again.*

The icons provide a summary of the current state of the logger.

- **MEM:** The Memory bar graph shows the amount of memory used and left in the logger. When logging starts, the bar graph is empty. It fills up as samples are stored in memory. The percentage display shows how much memory is used, as well.
- **Rollover Enabled Icon:** This icon shows that [rollover](#) has been enabled and that once the memory becomes full, the logger will overwrite the oldest data stored in memory. Note that this icon shows that rollover has been enabled. It does not indicate if rollover has occurred.
- **Logger State Icon:** This icon shows the current state of the logger:
  - **IDLE:** The logger is not logging. The sample display is still being updated, but no data is stored in logger memory.
  - **LOGGING:** The logger is recording data at a user specified logging rate.
  - **PRESS START TO LOG:** The logger is not recording data, but has been setup to start logging when the **Start** button is pressed. Press and hold the **Start** button for about 3 seconds to start

logging.

- **DELAYED LOGGING:** The logger is not recording data, but has been setup to start logging at a specific date and time. To see when logging will start, press the **View** button until the logging countdown is displayed on the screen..
- **Battery Level Icon:** This icon shows the state of the logger battery. When this icon is down to one bar, the logger battery should be replaced.
- **Alarm Indicator:** This icon shows that a channel has entered an alarm state during logging. This is a "sticky" indicator since once the channel entered an alarm condition, the icon turns On, and stays On even if the alarm condition goes away. See the [Alarm Setup section](#) in the Software User's Guide for more information on setting and using alarms.

## OM-DVT4 Difference Screen

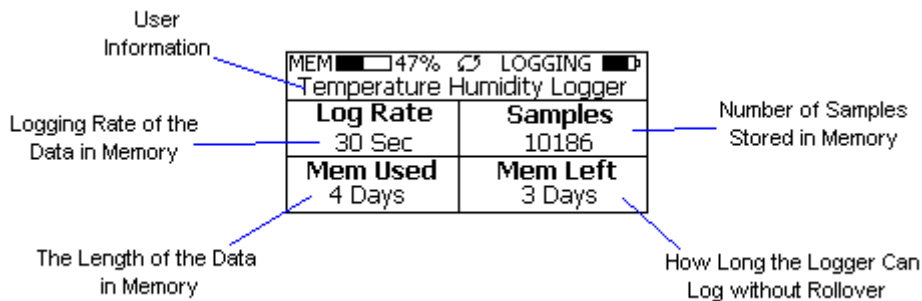
When four channels are selected to log, or when the OM-DVT4 is idle, the unit will display an additional temperature difference screen. The temperature difference is always displayed between the Internal Channel (Temp Int) and Channel 1 (Temp 1), and between Channel 2 (Temp 2) and Channel 3 (Temp 3).

When less than four channels are selected to log, the temperature difference will be displayed on the [sample screen](#).

MEM  47%  LOGGING	
TEMP Int 78.2 °F	TInt - T1 20.8 °F
TEMP 2 -10.9 °F	T2 - T3 -46.3 °F

## OM-DVT4 Summary Screen

The Summary screen is shown below.



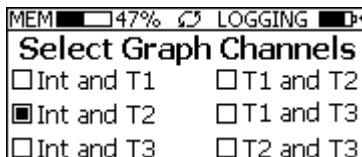
The icons in the summary screen are identical to the icons in the [Sample screen](#). The Summary screen shows:

- **The User Information:** This 30 character text field is entered through the OmegaLog setup software, and can be any text that describes the logger
- **Logging Rate:** Is the rate at which the data in memory was logged at.
- **Samples:** Shows the number of samples stored in memory. If a rollover has occurred this number will show the maximum number of samples that can be stored in the logger, and will not change, even though the logger may be logging.
- **Mem Used:** Shows the length (in days, hours, minutes or seconds) of data currently stored in memory. If a rollover has occurred, this number will show the maximum length of data that can be stored in memory, for a given sample rate. If a rollover has occurred, this number will not change even though the logger may be logging.
- **Mem Left:** Shows the length (in days, hours, minutes or seconds) of data the logger can record without

overwriting currently recorded data (record without a rollover). If a rollover has occurred, this number will show 0 Sec, even though the logger may still be logging.

## OM-DVT4 Graph Screen

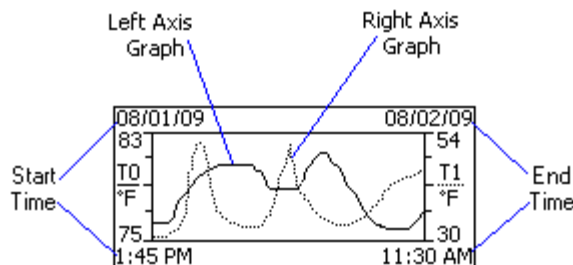
The OM-DVT4 is capable of displaying the logged data graphically to show temperature trends. Two channels can be displayed at one time. The user can select the graphed channels in the *Select Graph Channels* screen:



Use the **Display +** button to select the channels to graph.

*Note that only the logged channels (channels recorded in logger memory) can be graphed.*

The OM-DVT4 Graph screen is shown below.



This screen shows the graph of the samples stored in logger memory. The solid line corresponds to the left axis.

The dotted line corresponds to the right axis. The graph time stamps are shown on the left and on the right, above the axis.

For instance, in the graph above, data collected between August 1st, 2009, 1:45 PM and August 2nd, 11:30 AM is shown. The graph Internal Temperature (T0) range is between 75 ° F and 83 ° F. The T1 range is between 30 ° F and 54 ° F

When in the graph screen, you can use the **Display -** and **Display +** buttons to shift the graph left and right, respectively. Pressing and holding the **Start** button, while in the graph screen, returns the graph view to the last sample taken.

When the logger is logging, the graph display is automatically updated as new samples are logged.

## OM-DVT4 Buttons

The OM-DVT4 has five buttons as shown below.



- **Units:** Use this button to change the displayed units between ° F and ° C.
- **View:** Use this button to change the displayed screen.

- **Start:** If the logger has been [setup to start on button press](#), press and hold the **Start** button to begin logging. In the [Graph screen](#), pressing and holding this button returns the view to the last sample logged.
- **Display +:** Use this button to increase the screen contrast when in [Sample](#) and [Summary](#) screens. When in the [Graph screen](#) this button shifts the graph to the right. When in [Graph Select](#) screen, this button selects the channels to graph.
- **Display -:** Use this button to decrease the screen contrast when in [Sample](#) and [Summary](#) screens. When in the [Graph screen](#) this button shifts the graph to the left.

## Replacing the OM-DVT4 Battery

For instructions on how to replace the OM-DVT4 battery, please see the section [Replacing the OM-DVTH Battery](#).

## OM-DVT4 Specifications

<b>Text Display</b>	Displays real time temperature for all 4 channels. Displays temperature difference between channels. Displays logging summary, sample rate, memory used and memory left.
<b>Graph Display</b>	Shows measurement trends graphically. Graph can be scrolled through the entire logged data. 2 Channels at a time can be graphed (user selectable).
<b>Sample Storage Capacity</b>	21,760 points for 4 temperatures, 29,013 points for 3 temperatures, 43,520 points for 2 temperatures, 87,040 points for single temperature.
<b>Alarms</b>	Visual over and under alarm indicator for all 4 channels.
<b>Calibration</b>	User single point offset calibration is available through software for all temperature channels. Calibration is password protected.
<b>Operating Temperature</b>	15°F to 150°F (-10°C to 65°C)
<b>Storage Temperature</b>	-5°F to 160°F (-20°C to 70°C)
<b>Time Accuracy</b>	+/-100ppm @75°F
<b>External Probe Temperature Range</b>	-40°F to 160°F (-40°C to 70°C)
<b>Temperature Accuracy</b>	+/-1°F (0.5°C)
<b>Temperature Resolution</b>	0.1°F or 0.1°C
<b>Dimensions</b>	4" x 3.05" x 1.5" (10.2cm x 7.7cm x 3.8cm)
<b>Weight</b>	7.0 oz (200g)
<b>Power Source</b>	Three AA batteries (Included)
<b>Battery Life</b>	1 year continuous use, 2 years average use. The logger automatically turns itself Off after 1 hour, when not logging. Turn On by pressing any button.

## OM-DVCV Current Voltage Logger with Display

The DataView OM-DVCV is a self-contained, precision instrument for recording AC Current and AC Voltage. The OM-DVCV can record Voltage up to 600V AC and Current up to 300A AC. The OM-DVCV records true RMS AC current and AC voltage. It measures RMS signals up to the 21st harmonic at 60Hz. The OM-DVCV can store up to 21,672 points when recording both Voltage and Current. It can store up to 43,344 samples when recording only Voltage or only Current.

The OM-DVCV features a display that allows the user to see measured Current, Voltage and Power (in Watts). In addition the unit graphs the Current and Voltage that have been logged during the current logging session. A summary screen shows information about the logging session, such as the logging rate, the number of samples recorded, the length of the recording and the amount of time left for recording.

## Connecting the OM-DVCV to Electrical Equipment

Before connecting to any equipment follow these precautions:

- Make sure that the wires are securely attached to the connector and that no uninsulated portion of the wire is visible after the connection is made.
- Make sure that there is no strain that could pull the leads out of the OM-DVCV connector.
- Make sure that the leads will not interfere with any moving pieces of equipment and will not pull loose any wires or other connections.

To measure the voltage, connect the two voltage clip leads to the points at which the voltage is being measured.

To measure the current, place the clamp probe around the wire in which the current is being measured.

*Electrical connection to any type of operating equipment is Dangerous!*

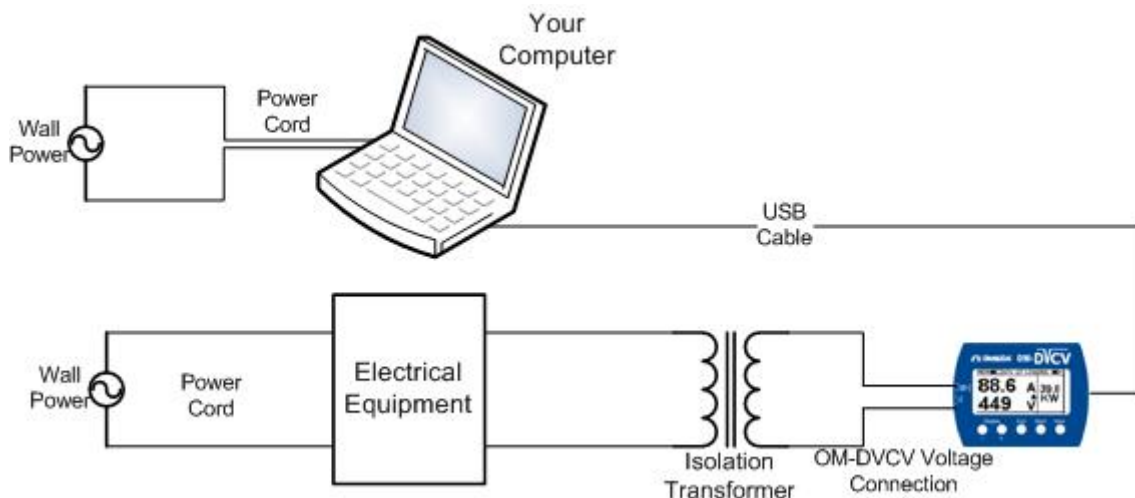
*The OM-DVCV leads and current probe should only be connected when it has been determined that the power is off and the equipment is safe to touch.*

*It is suggested that you always remove the OM-DVCV voltage leads before connecting the OM-DVCV to your computer!*

*If you decide to connect the OM-DVCV to a voltage source while the OM-DVCV is connected to your computer, make sure to read the "[OM-DVCV Real Time Monitoring](#)" section for instructions.*

## OM-DVCV Real Time Monitoring

Although it is not recommended, it is sometimes necessary to connect the OM-DVCV to a voltage source while the OM-DVCV is connected to a PC, for instance, if real time monitoring is required. If both the computer and the voltage source you are connecting to are connected to wall power (as is true in most cases), an isolation transformer must be used between the voltage source and the OM-DVCV voltage inputs. An isolation transformer does not have electrical connections between the primary and secondary windings. The recommended connection is shown in the figure below.





If an isolation transformer is not used, the voltage read by the OM-DVCV will not be accurate. The actual reading may be close to Actual Voltage + Line Voltage, or Actual Voltage – Line Voltage. For instance, if the OM-DVCV is connected directly to 120V line, without the Isolation Transformer, the reading may be 240V or 0V, depending on how the computer power supply is wired.

## Turning the OM-DVCV On and Off

To conserve battery life, the OM-DVCV will turn itself Off after about 1 hour of operation, if the unit is not logging and no buttons are pushed. The display will go blank and the unit will enter a [Power Save mode](#). In this mode the logger uses practically no power, and the battery will last as long as its shelf life (typically 6 years for an alkaline battery).

In the Power Save mode you can still use all the features of the OmegaLog software to communicate with the logger, even set the logger for a new logging session. The logger will automatically exit the Power Save mode when it is set to log.

Another way to turn the logger Off is to [power down the logger using the OmegaLog software](#).

To turn the logger On at any time, just press any of the logger's buttons. The display will come back on and the logger will operate normally

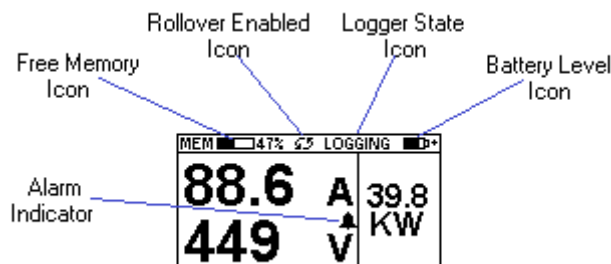
## Ending the Logging Session on the OM-DVCV

In addition to [ending the logging session through the software](#), OM-DVCV allows the user to end the logging session through a series of button presses. To end the OM-DVCV logging session using the buttons follow the procedure below:

1. Press and hold the **End** button for about 5 seconds. The logger will display the message: *Press the + key 5 times quickly to end logging.*
2. Release the End button and press the Display + button 5 times in rapid succession. Pressing any other buttons will return the logger to normal operation, without ending the logging session.
3. Logging will end and the logger will display IDLE in the [logger state icon](#).

## OM-DVCV Sample Screen

There are a number of different screens that the user can switch between, using the **View** button. The Sample and [Summary](#) screens show the status of the logger. The [Graph screen](#) shows a record of the logged samples in memory. A typical Current and Voltage screen is shown below.



This screen shows the present Current and Voltage measurements. These measurements are updated every two seconds, independent of the device sample rate.

**Note:** During logging only the channels that are selected to log will be displayed. For instance, if the user

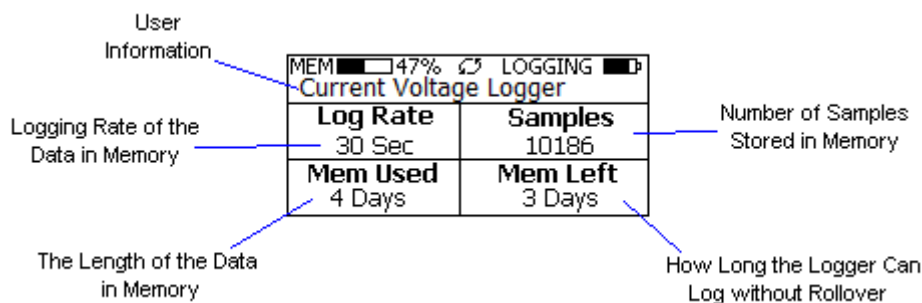
selected to log only Voltage, using [the logger setup screen](#), only Voltage will be displayed during logging. Once logging has finished, Current, Voltage and Power will be displayed again.

The icons provide a summary of the state of the logger.

- **MEM:** The Memory bar graph shows the amount of memory used and left in the logger. When logging starts, the bar graph is empty. It fills up as samples are stored in memory. The percentage display shows how much memory is used.
- **Rollover Enabled Icon:** This icon shows that [rollover](#) has been enabled and that once the memory becomes full, the logger will overwrite the oldest data stored in memory. Note that this icon shows that rollover has been enabled. It does not indicate if rollover has occurred.
- **Logger State Icon:** This icon shows the state of the logger:
  - **IDLE:** The logger is not logging. The sample display is still being updated, but no data is stored in logger memory.
  - **LOGGING:** The logger is recording data at a user specified logging rate.
  - **PRESS START TO LOG:** The logger is not recording data, but has been setup to start logging when the **Start** button is pressed. Press and hold the **Start** button for about 3 seconds to start logging.
  - **DELAYED LOGGING:** The logger is not recording data, but has been setup to start logging at a specific date and time. To see when logging will start, press the **View** button until the logging countdown is displayed on the screen..
- **Battery Level Icon:** This icon shows the state of the logger battery. When this icon is down to one bar, the logger battery should be replaced.
- **Alarm Indicator:** This icon shows that a channel has entered an alarm state during logging. This is a "sticky" indicator since once the channel entered an alarm condition, the icon turns On, and stays On even if the alarm condition goes away. See the [Alarm Setup section](#) in the Software User's Guide for more information on setting and using alarms.

## OM-DVCV Summary Screen

The Summary screen is shown below.



The icons in the summary screen are identical to the icons in the [Sample screen](#). The Summary screen shows:

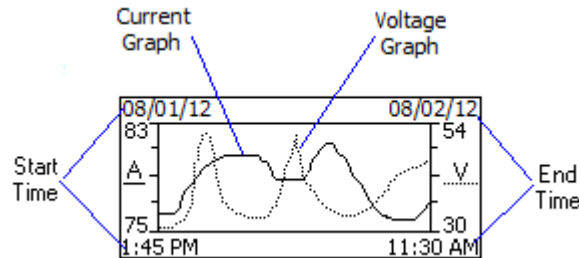
- **The User Information:** This 30 character text field is entered through the OmegaLog setup software, and can be any text that describes the logger
- **Logging Rate:** Is the rate at which the data in memory was logged at.
- **Samples:** Shows the number of samples stored in memory. If a rollover has occurred this number will show the maximum number of samples that can be stored in the logger, and will not change, even though the logger may be logging.
- **Mem Used:** Shows the length (in days, hours, minutes or seconds) of data currently stored in memory. If a rollover has occurred, this number will show the maximum length of data that can be stored in memory, for

a given sample rate. If a rollover has occurred, this number will not change even though the logger may be logging.

- **Mem Left:** Shows the length (in days, hours, minutes or seconds) of data the logger can record without overwriting currently recorded data (record without a rollover). If a rollover has occurred, this number will show *0 Sec*, even though the logger may still be logging.

## OM-DVCV Graph Screen

The OM-DVCV is capable of displaying the logged data graphically to show current and voltage trends. The OM-DVCV Graph screen is shown below.



This screen shows the graph of the samples stored in logger memory. The current graph is shown with a solid line. The current axis is on the left. The voltage is shown with a dotted line. The voltage is on the right. The graph time stamps are shown on the left and on the right, above the axis.

For instance, in the graph above, data collected between August 1st, 2012, 1:45 PM and August 2nd, 11:30 AM is shown. The graph current range is between 75A and 83A. The voltage range is between 30V and 54V.

When in the graph screen, you can use the **Display -** and **Display +** buttons to shift the graph left and right, respectively. Pressing and holding the **Start** button, while in the graph screen, returns the graph view to the last sample taken.

When the logger is logging, the graph display is automatically updated as new samples are logged.

## OM-DVCV Buttons

The OM-DVCV has five buttons as shown below.



- **End:** Use this button to [end the logging session](#).
- **View:** Use this button to change the displayed screen.
- **Start:** If the logger has been [setup to start on button press](#), press and hold the **Start** button to begin logging. In the [Graph screen](#), pressing and holding this button returns the view to the last sample logged.
- **Display +:** Use this button to increase the screen contrast when in [Sample](#) and [Summary](#) screens. When in the [Graph screen](#) this button shifts the graph to the right.
- **Display -:** Use this button to decrease the screen contrast when in [Sample](#) and [Summary](#) screens. When in the [Graph screen](#) this button shifts the graph to the left.

## Replacing the OM-DVCV Battery

For instructions on how to replace the OM-DVCV battery, please see the section [Replacing the OM-DVTH Battery](#).

## OM-DVCV Specifications

<b>Text Display</b>	Displays real time current, voltage and watts. Displays logging summary, sample rate, memory used and memory left.
<b>Graph Display</b>	Shows measurement trends graphically. Graph can be scrolled through the entire logged data.
<b>Sample Point Capacity</b>	43,344 points for current or voltage only. 21,672 points for current and voltage
<b>Measurement Type</b>	True RMS up to the 21st harmonic at 60Hz
<b>Alarms</b>	Visual over and under alarm indicator for current and voltage. Watts alarms are not available
<b>Calibration</b>	No user calibration is available
<b>Operating Temperature</b>	15°F to 150°F (-10°C to 65°C)
<b>Storage Temperature</b>	-5°F to 160°F (-20°C to 70°C)
<b>Time Accuracy</b>	+/-100ppm @75°F
<b>Current Range</b>	1 to 300 Amps AC
<b>Current Accuracy</b>	+/- 1.0 A
<b>Current Resolution</b>	0.2 A
<b>Voltage Range</b>	1 to 600 Volts AC
<b>Voltage Accuracy</b>	+/- 0.4 V
<b>Voltage Resolution</b>	0.2 V
<b>Dimensions</b>	4'' x 3.05'' x 1.5'' (10.2cm x 7.7cm x 3.8cm)
<b>Weight</b>	7.0 oz (200g)
<b>Power Source</b>	Three AA batteries (Included)
<b>Battery Life</b>	1 year continuous use, 2 years average use. The logger automatically turns itself Off after 1 hour, when not logging. Turn On by pressing any button.



## WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

**OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.**

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

## RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

© Copyright 2009 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.

# Where Do I Find Everything I Need for Process Measurement and Control?

## OMEGA...Of Course!

*Shop online at [omega.com](http://omega.com)<sup>SM</sup>*

### TEMPERATURE

- ☑ Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- ☑ Wire: Thermocouple, RTD & Thermistor
- ☑ Calibrators & Ice Point References
- ☑ Recorders, Controllers & Process Monitors
- ☑ Infrared Pyrometers

### PRESSURE, STRAIN AND FORCE

- ☑ Transducers & Strain Gages
- ☑ Load Cells & Pressure Gages
- ☑ Displacement Transducers
- ☑ Instrumentation & Accessories

### FLOW/LEVEL

- ☑ Rotameters, Gas Mass Flowmeters & Flow Computers
- ☑ Air Velocity Indicators
- ☑ Turbine/Paddlewheel Systems
- ☑ Totalizers & Batch Controllers

### pH/CONDUCTIVITY

- ☑ pH Electrodes, Testers & Accessories
- ☑ Benchtop/Laboratory Meters
- ☑ Controllers, Calibrators, Simulators & Pumps
- ☑ Industrial pH & Conductivity Equipment

### DATA ACQUISITION

- ☑ Data Acquisition & Engineering Software
- ☑ Communications-Based Acquisition Systems
- ☑ Plug-in Cards for Apple, IBM & Compatibles
- ☑ Datalogging Systems
- ☑ Recorders, Printers & Plotters

### HEATERS

- ☑ Heating Cable
- ☑ Cartridge & Strip Heaters
- ☑ Immersion & Band Heaters
- ☑ Flexible Heaters
- ☑ Laboratory Heaters

### ENVIRONMENTAL MONITORING AND CONTROL

- ☑ Metering & Control Instrumentation
- ☑ Refractometers
- ☑ Pumps & Tubing
- ☑ Air, Soil & Water Monitors
- ☑ Industrial Water & Wastewater Treatment
- ☑ pH, Conductivity & Dissolved Oxygen Instruments