OM-DLT DATA LOGGER INSTRUCTIONS

The OM-DLT Data Logger is a self-contained precision instrument for recording the temperature of the surrounding environment. The OM-DLT can store up to 10,000 measurements for each recording. The recordings can be read on a computer using the supplied PC interface or the optional OM-DP3 dataplotter.

The Windows™ compatible software allows the user to set the OM-DLT for a recording session read the recorded data in text or graphical format and to store the recorded data for future reference or analysis. Applications include monitoring of environmental areas, coolers, freezers, food or storage areas, laboratories, greenhouses, museums, etc. Refer to the following instructions for explanations of how to record and how to retrieve temperature recordings.

SOFTWARE INSTALLATION

The **Data Logger to PC** program is supplied on 3½″ floppy disks. To install the software follow the instructions below:
1. Insert disk 1 of 2 into Drive A.
2. If you are using Window™98/95, click on **START**, then click on **RUN.**
3. Type **A:SETUP** and press **Enter**.
4. If you are using Windows™3.1, click on **Program Manager**.
5. Select **FILE**, and select **RUN**.
6. Type **A:SETUP** and press **Enter**.

If you are not familiar with the above commands, refer to the instructions that are supplied with your version of Windows™.

SETTING THE DATA LOGGER

The OM-DLT recording interval or sampling rate is the time between each temperature measurement that is saved in the logger's memory. This interval is set from the PC interface program (supplied) or from the optional OM-DP3 Data Plotter. This interval can be set from 5 seconds to 50 minutes. A user message of up to 20 characters can also be stored in the OM-DLT. This message can be used to identify a customer's location or identify a particular logger for tracking purposes. Use the example below to set a OM-DLT logger.

1. Plug the PC interface into the printer port of the computer being used to set the OM-DLT. Plug the OM-DLT being set to the cable from the PC interface cable.

2. Start the Data Logger program. If you are using Windows™98/95, click on **Start**, click on **Programs**, click on **Omegalog**, click on **OMEGALOG**.

3. If you are using Windows™3.1, double-click on the window labeled **Omega-log**, then double-click on the **OMEGALOG** icon.

4. The program will open with a blank window showing no text or graph. On the toolbar located along the top of the screen, click on the **Setting Data Logger before recording** button. This will open a secondary window **Setting Data Logger**.
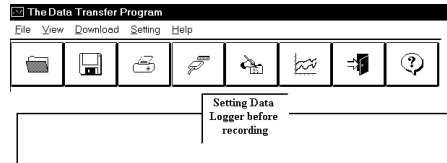
5. If a user message is desired, click in the **User Information** field and add the desired message. Note that the last message will be dis-played and will remain until it is erased or changed by the user.
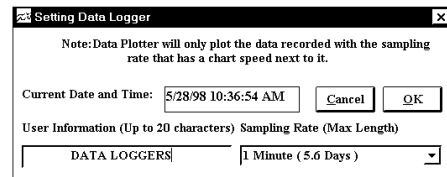
6. To select the sampling rate click on the down arrow in the **Sampling Rate** box. This will open a drop-down menu with the recording interval selections. Note that the maximum recording times are indicated in parentheses next to the recording interval.
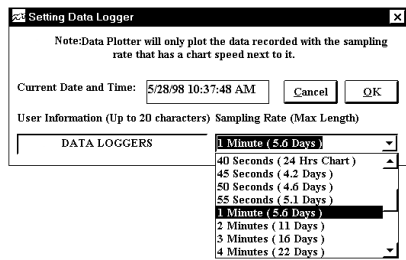
   The recording intervals that correspond to charts used by the OM-DP3 Data Plotter show the appropriate chart selection instead of a maximum recording time.

7. Click on the desired sampling rate. You may need to use the up or down arrows on the drop down menu to see more of the available recording inter-vals.

8. The time and date the logger is set to will be the same time as the PC clock. It is important to make sure the time set in the PC is correct. The PC time will be displayed as the **Current Date and Time** in the setting window. Refer to the owner's manual for your computer to find instructions on setting the PC time if it is not correct.
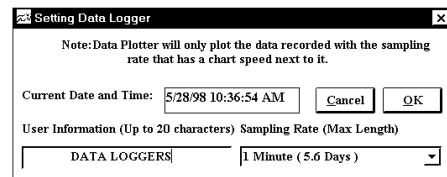
9. When all of the settings for the OM-DLT are to your satisfaction, click on **OK** to store the setting in the OM-DLT and to close the window.

10. The OM-DLT is now set and ready to begin a new recording. Disconnect the OM-DLT from the PC interface.

11. You can now connect a different OM-DLT or exit the program. To exit the pro-gram, click on the **Exit** button on the tool bar.

TO START A RECORDING

Prior to starting a new recording be sure that the OM-DLT is set for the required recording interval. You may also wish to add a descriptive message to identify the location or other important user information. Refer to **Setting the Data Logger** for specific instructions on selecting recording intervals and storing user messages.

To begin a new recording slide the access door closed. The LED indicator will begin to flash for 10 seconds. During this period the recording can be canceled without losing the data previously recorded. When the LED indicator stops flashing, a new recording has begun and any previous data has been erased. The OM-DLT recording function can be "locked" on by passing a Ty-Wrap™ or similar restriction through the logger-mounting opening. This can be used to prevent accidental or intentional disruptions of a temperature recording.


START Recording / Slide Door DOWN
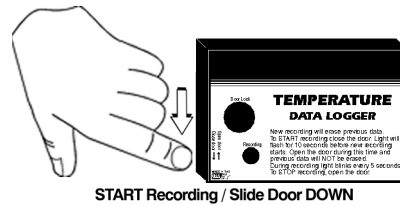
The LED will flash every 5 seconds to indicate operation. A bright flash of the LED is used to indicate the temperature has been sampled and recorded. A dim flash is used to indicate the OM-DLT is operating properly and the temperature has not been sampled or recorded. The LED indicator will continue to flash until the user stops the recording or the memory has reached its maximum capacity of 10,000 samples.

NOTE: If the battery is exhausted during a recording, the OM-DLT will automatically terminate the recording and save any temperature data recorded up to that point. The LED will stop flashing and the OM-DLT will not allow a new recording to be started until the battery has been replaced. Recorded data can be retrieved regardless of the condition of the battery.

TO STOP A TEMPERATURE RECORDING

STOP Recording / Slide Door UP

Slide the access door open (If locked, remove the restriction device first). The LED indicator will stop flashing. The recorded data can now be retrieved using the supplied Windows™ compatible software and PC interface, or the temperature recording can be plotted on a circular chart using the optional OMEGA Data Plotter.
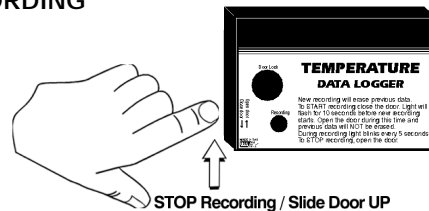
NOTE: Do not close the door until a new recording is desired! It is important to leave the door open until you want to start a new recording. Starting a new recording will erase the previous recording. To prevent accidental erasing of recordings, the access door of the OM-DLT can be "locked" open by passing a Ty-Wrap™ or similar restriction through the lock opening. The temperature re-

cording will remain in the OM-DLT until a new recording is started. The recordings may be retrieved as many times as required or the battery can be removed with no effect on the stored data.

RETRIEVING TEMPERATURE RECORDINGS

1. Plug the PC interface into the printer port of the computer being used to set the OM-DLT. Plug the OM-DLT being read to the cable from the PC interface.

2. Start the Data Logger program. If you are using Windows™98/95 click on **Start**, click on **Programs**, click on **Omegalog**, click on **OMEGALOG.**

3. If you are using Windows™3.11 double-click on the window labeled **Omegalog**, double-click on the **OMEGALOG** icon.

4. The program will open with a blank window showing no text or graph. On the toolbar located along the top of the screen click on the **Download data from Data Logger** button. A **Data Transfer** window will open. Connect the OM-DLT now if it is not already connected.
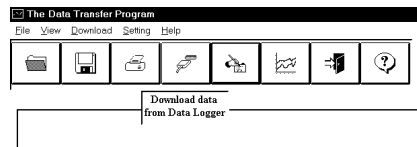
5. To the right of the "Connect" message is a selection box, which will allow you to select the temperature information in Celsius or Fahrenheit. Click on the desired scale, °F or °C.
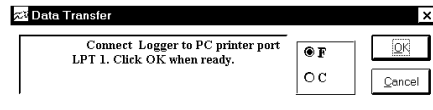
6. Click on **OK**. The program will begin to retrieve the recording. A status bar along the top of the window will show the progress of information being retrieved.

7. When the information has been retrieved, the program will automatically display the recording in the current mode that has been selected. If you have been using the text mode then the recording will be displayed in the text mode. If you have been using the graph mode then the recording will be displayed as an auto scaled graph.

Example of Text Listing


```
Lab Test              12/9/97    1:53:57 PM
Model: DLT Sampling Rate(Seconds):    5   Starting time: 12/09/1997  11:52:00
 Temperature(F)                        Time(M/D/Y  H:M:S)
      81.61                           12/09/1997    11:52:00
      81.70                           12/09/1997    11:52:05
      81.78                           12/09/1997    11:52:10
      81.87                           12/09/1997    11:52:15
      81.92                           12/09/1997    11:52:20
      81.95                           12/09/1997    11:52:25
      82.01                           12/09/1997    11:52:30
      82.03                           12/09/1997    11:52:35
      82.06                           12/09/1997    11:52:40
      82.09                           12/09/1997    11:52:45
      82.12                           12/09/1997    11:52:50
      82.09                           12/09/1997    11:52:55
      82.01                           12/09/1997    11:53:00
      81.95                           12/09/1997    11:53:05
      81.81                           12/09/1997    11:53:10
      81.61                           12/09/1997    11:53:15
      81.42                           12/09/1997    11:53:20
      81.16                           12/09/1997    11:53:25
      80.88                           12/09/1997    11:53:30
      80.60                           12/09/1997    11:53:35
      80.26                           12/09/1997    11:53:40
      79.95                           12/09/1997    11:53:45
      79.59                           12/09/1997    11:53:50
      79.22                           12/09/1997    11:53:55
      78.83                           12/09/1997    11:54:00
      78.41                           12/09/1997    11:54:05
      78.01                           12/09/1997    11:54:10
      77.59                           12/09/1997    11:54:15
      77.17                           12/09/1997    11:54:20
      76.75                           12/09/1997    11:54:25
      76.32                           12/09/1997    11:54:30
      75.86                           12/09/1997    11:54:35
      75.41                           12/09/1997    11:54:40
```

VIEWING A RECORDING AS A GRAPH

1. When information is retrieved or when a file is opened it will automatically be displayed in the most recently used mode. To view a recording as a graph select the graph option in the Display Format box. The program will display the entire recording as a plotted graph with the temperature on the vertical scale and the time on the horizontal scale.

2. To zoom to a particular part of the graph, place the mouse cursor in a corner of an imaginary box that will enclose the area of interest.

3. Press and hold the left mouse button and move the cursor in a diagonal direction from the original position of the cursor. A dashed line forming a box will be displayed. Move the

5
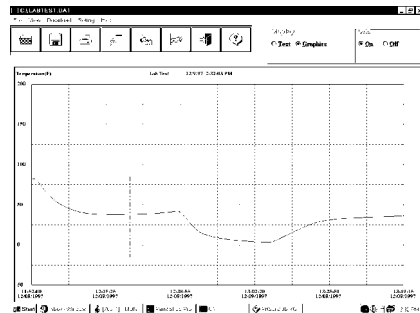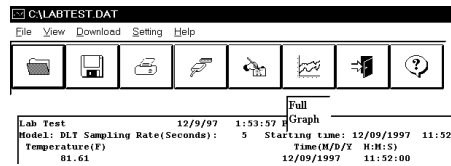
cursor until the box encloses the area of interest and release the left mouse button.

4. The box will now be stationary on the screen. Move the mouse cursor so that it is inside the box and click the left mouse button.

5. The enclosed area of the box will now be zoomed so that it fills the entire window. This may be repeated if additional magnification on an area of the graph is desired.

6. To return to the original graph with no auto scaling click on the **Full Graph** button.

7. To scale the graph click on the **Auto Scale** button. The graph will automatically be readjusted to fill the vertical axis of the screen.
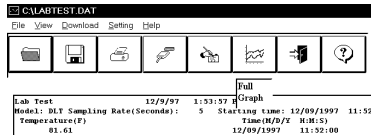
8. The graph on the screen may be printed at any time by clicking on the **Print** button. Note that the printout will be what is displayed on the screen when the button is clicked.
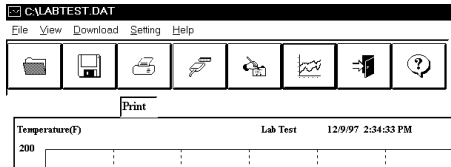

9. A prompt window will open in the middle of the screen. Click **OK** to print, or **Cancel** if you change your mind.
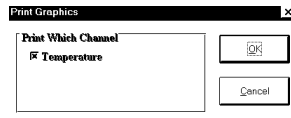

VIEW A RECORDING AS TEXT

1. When a recording is retrieved, or when a saved recording is opened, it is displayed in the most recently used mode. The recording can be viewed as a text listing or a plotted graph.

2. To view a recording as text when a graph is on the screen click the **Text** button located in the display box.

3. Use the Windows™ scroll bar on the right hand side of the screen to scroll through the text information

4. To print the text information as text data click on the **Print** button. A window will open in the middle of the screen. In the lower left of the window will be a drop-down menu which will allow you to select the number of degrees the temperature has to change before the new value is printed. This feature will prevent needless printing of the temperature when no
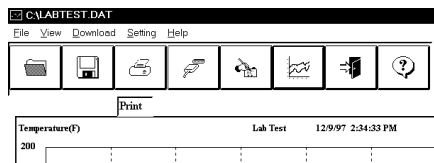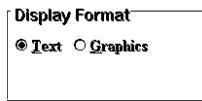
temperature change has occurred. If you wish to print all the recorded information, leave this value at zero.

When you have selected the amount of temperature change to print (if any) click on the OK **button to start printing.**
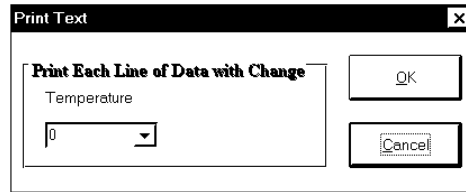
DATA LOGGER CALIBRATION

You can calibrate the OM-DLT data logger to make its reading match an external reference or standard. Set the OM-DLT sampling rate long enough to allow the logger to stabilize at the reference temperature and make a recording along with an external reference in a controlled environment such as a temperature chamber.

The calibration routine will use the second recording sample to make the logger reading match with the external reference. Click **Tools** on the menu and click **Calibrate Logger**. A calibration password window will open. Type your password in the Current Password section. If you want to have a new password next time, you can type a new password in the New Password section. Click the **OK** button when finished. If this is the first time you are calibrating the OM-DLT, no password is needed. You can click the **OK** button or press the Enter key to continue. If you have typed a password before and you don't want password protection for the calibration function, you can input None as the new password and this will clear the password protection.
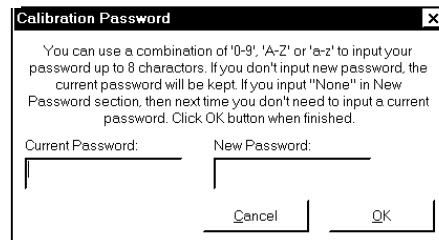
After you type the correct current password and click **OK**, a calibration window will open. You can click the **plus** or **minus** button to make the data logger reading match with the reference reading that you recorded at the same time and same place with the OM-DLT. Click the **OK** button and the software will make a new data retrieval based on your new calibration setting. The new calibration setting will be saved in the OM-DLT and apply to all future recordings.

7
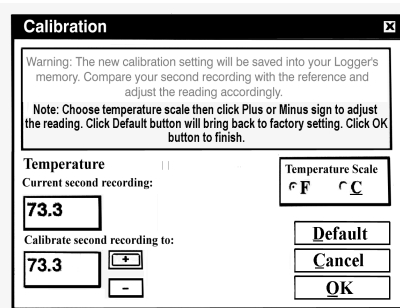
BATTERY REPLACEMENT

The OM-DLT Data Logger is supplied with a Lithium battery, which will have an average life of 3 years. The actual life of the battery will depend on a variety of factors such as the temperature the battery is used in, the sampling rate of the logger, and how often the OM-DLT is used. Extreme temperatures will result in reduced battery life. If the battery is exhausted during a recording, the OM-DLT will automatically terminate the recording and save any data recorded up to that point. The LED will stop flashing and the OM-DLT will not allow a new recording to be started until the battery has been replaced. Recorded data can be retrieved regardless of the condition of the battery.

The OM-DLT Data Logger uses a TL-5276/W Lithium battery, OMEGA Part #OM-DLT-BATT or equivalent. **Substitution of a different battery can result in reduced performance or permanent damage to this instrument.**

To replace the OM-DLT's battery follow the steps below:

1. Be sure the logger is not set in the recording position, by sliding the door open. Any temperature information recorded up to this point will not be lost and is automatically saved.
2. Remove the rear battery cover.
3. The battery is connected with a keyed connector, remove the connector from the PC board.
4. Remove the battery from the logger and dispose of properly.
5. Line up the connector of the new battery and push onto the pins of the PC board with a firm motion. Note that the connector will only fit when it is correctly oriented.
6. Place the battery in the battery compartment of the OM-DLT.
7. Replace the battery cover.

Once the battery has been replaced it will be necessary to reset the logger's internal clock. Refer to the section **Setting the Data Logger** for instructions on how to do this.

PRODUCT SPECIFICATIONS

Ambient Operating Temperature Range	-40°F to +150°F (-40°C to +65°C)
Storage Temperature	-40°F to +170°F (-40°C to +76°C)
Time Accuracy	+/- 100ppm @ 75°F
Relative Humidity Range	0 to 95% Non-Condensing
Temperature Resolution	0.1°F
Temperature Accuracy	+/-2°F (+/-1°C)
Measurement Capacity	10,000 Data Samples
Size	2.5" x 3.6" x 1.1"
Weight	0.26 lbs.
Power Source	3.6 Volt Lithium Battery (Supplied)
Battery Life	3 Years Average Use

OM-DP3 DATA PLOTTER

The OM-DP3 is an optional accessory instrument that allows the user to retrieve data and program OM-DLT data loggers in the field without the need of a computer. Using the OM-DP3 you can plot recorded information from a data logger or change the settings of a data logger prior to making a new data recording. The OM-DP3 can be operated from batteries or from the supplied AC adapter. The OM-DP3 uses a series of structured menus to provide a user friendly, intuitive style of operation. The OM-DP3 also serves as a conventional temperature recorder.