



Microtechnologies, Inc.
123 Whiting Street, Unit 1A
Plainville, CT 06062
860-747-6004 (voice)
860-356-4823 (fax)
www.TemperatureGuard.com

Using IP Setup

The IP Setup program is used to set the static IP address of Temperature Guard products equipped with the DCP-E Ethernet connectivity option and MOLLY devices.

Before starting verify that your network has:

- A DHCP server. The Temperature Guard must obtain an initial IP address from the server.
- Ports 10001 (2711h) and 30718 (77FEh) are not blocked.

You should already know:

- A new static IP address obtained from your IT manager. **NOTE:** The IP address for the device and the PC running IP Setup must be on the same Local Area Network and subnet.

Powering up the Temperature Guard

1. Plug the Ethernet cable into the **LAN** jack.
2. Plug the power pack into a wall outlet and then plug the power jack into the **POWER INPUT** on the Temperature Guard.
3. The LEDs on the Ethernet jack will begin to blink first orange and then green. When fully power up, the left LED will be on steady green and the right LED will blink green.
4. Turn on the Temperature Guard by moving the power switch located to the left of the terminal blocks on the side of the Temperature Guard from 0 to 1. The display will turn on.
5. Verify that the left LAN LED is green and on steady, and the right LAN LED is blinking green.

How to set the static IP address

The Temperature Guard must have a static IP address. The Temperature Guard ships in DHCP mode so when you connect it to your network it will obtain an IP address automatically from your DHCP server. Once the Temperature Guard has obtained an IP address from the DHCP server, you can then set the Temperature Guard to the static IP address.

1. Run the Temperature Guard IP Address Setup program.
2. Click on the **Find all Temperature Guard servers on the network** button to find all of the Temperature Guard devices on your network. A list of the devices' IP address and MAC address are displayed. (MAC address is found on the serial # label)
3. Click on the IP address of the new Temperature Guard you are adding to the network. The selected IP address will turn yellow.
4. Type in the static IP address you obtained from your IP manager in the text boxes.
5. Click on the **Set the selected server's IP address to >>>** button to set the selected Temperature Guard's current IP address to the new static IP address. You will be prompted to confirm this change. Click OK to proceed.
6. The program will again find all Temperature Guard devices on your network. Please verify that the IP address has been changed. If not repeat the above procedure.

How to reset a Temperature Guard from a static IP to DHCP mode

If you are moving a Temperature Guard configured with a static IP address to a network where this static IP address will not function, you should reset the Temperature Guard back to DHCP mode before the move.

1. Run the Temperature Guard IP Address Setup program.
2. Click the **Find all Temperature Guard servers on the network** button to find all of the Temperature Guard devices on your network. A list of their IP address' are displayed. Only Temperature Guard's IP addresses are displayed.
3. Click on the IP address of the device you want to reset back to DHCP mode. The selected IP address will turn yellow.
4. Click on the **Reset the Selected Server back to DHCP Mode** button. You will be prompted to confirm this change. Click OK to proceed.
5. The program will again find all Temperature Guard devices on your network. The program will confirm that the IP address has be reset from a static IP to DHCP mode.

A device which is not able to be found on the network or communicated with may have invalid network address settings and need to be restored to DHCP mode. This can be achieved by using the "Reset Device to DHCP" found under the advanced menu.

Advanced Tools

Under the Advanced menu option there are three advanced tools to allow you to:

- Set the IP Address, Gateway Address, and Subnet Mask via web
- Manually Set an IP Address when no DHCP server is present or when you can not locate the device on the network
- Test Communications to a Temperature Guard device

Set IP, Gateway, Subnet via Web

This feature is for IT professionals and is to be used only if it is necessary to change the subnet mask. This procedure is unnecessary for standard networks.

Verify that you have the latest version of Java before running.

1. Click on the **Server Properties** button to display the Server Properties.
2. Verify the correct IP Address setting
3. Enter the Subnet Mask
-Verify that the Subnet Mask is correct before clicking Update Settings button. If an incorrect Subnet Mask is entered the TG device will be unable to communicate.
4. Enter the Gateway Address
-Verify that the Gateway Address is correct before clicking Update Settings button. If an incorrect Gateway Address is entered the TG device will be unable to communicate.
5. Click the **Update Settings** button.
6. Close the browser window.

Manually Set IP

In networks without a DHCP server or when you are unable to find a Temperature Guard device on the network, it can set the static IP address manually.

You will need the MAC address of the device you are communicating with. This can be found on the white label on the network enabled Temperature Guard device itself.

1. Enter the MAC address of the device in the window and click OK.
2. Enter the static IP address you wish to give the device and click OK.
3. Confirm the static IP address and click OK.
4. Depending on your network configuration, the device may or may not show up in the device listing now.
5. Perform the Test Communication function to verify IP Address functionality. If Test Communication fails, utilize the ping command by opening a command prompt and entering ping xxx.xxx.xxx.xxx (where xxx.xxx.xxx.xxx is the IP address you gave the device.)

Test Communications

To verify that port 10001 is successfully opened in your firewall or to verify general data functionality of the Temperature Guard device, the Test Communication function is available.

1. Select Test Communication from the Advanced Menu
2. If you have selected a device from the list and would like to Test Communication to it click Yes to the "Test This Device?" prompt. If you would like to test communication to another IP address click No.
3. If you haven't selected a device from the list to test or selected No from the "Test This Device?" prompt, enter the IP address of the Temperature Guard device you wish to test.
4. IP Setup will attempt to communicate with the device at that address. Results will be displayed.
5. If communication fails, verify that the IP address is correct for the device.
Verify that IP address can be reached from your computer by opening a command prompt and entering ping xxx.xxx.xxx.xxx (where xxx.xxx.xxx.xxx is IP address you gave the device.)

Troubleshooting

Problem

No Temperature Guard devices are found on the network

Check the simple things first

Pull the power jack from the Temperature Guard, wait a couple of seconds, plug it back in and try to find the Temperature Guards again. If that does not work, try the items below.

Verify that the Temperature Guard is powered on from its power supply.

Verify that you connected a good Ethernet cable to the Temperature Guard.

Verify that the LEDS on the LAN adaptor are on as described below, if not **recycle power by pulling out the power jack from the Temperature Guard.**

Link LED (Left Side)		Activity LED (Right Side)	
Color	Meaning	Color	Meaning
Off	No Link	Off	No Activity
Amber	10 Mbps	Amber	Half-Duplex
Green	100 Mbps	Green	Full-Duplex

If the simple things check out OK, now refer to the document "Troubleshooting Network Communications". A shortcut to this document is found in the Temperature Guard | Data Capture program group and on the TemperatureGuard.com website.

Using Data Capture Temperature Guard DCP Manual

Data Capture Program – Ethernet Connectivity

Installation and Users Guide Version 4.1.1

General Description

The Data Capture Program downloads, organizes, stores, and clearly displays the data collected by any number of DCP-E equipped Temperature Guard monitors located anywhere in the world.

DCP will send email alarm messages whenever a sensor goes out of programmed limits.

DCP stores each sensor's data in individual files that can be analyzed and graphed at a later time.

Models VM500-5E-DCP-E, VM500-10E-ECPE, Molly303, Molly304, Molly305 have on board data logging. For this feature to function the data and time must be set. See section [Models with onboard data logging for details](#)

Software Requirements

Windows XP and above

Installation

Double click on setup.exe
Follow the directions on the screen.

Configuring Data Capture

After installing Data Capture, you must configure network and email parameters. From the main screen click on the **Setup** menu item and select **Configure Data Capture**, the Data Capture Configuration screen will be displayed.

Network Tab

The first parameter on this tab is the **Network Communication time out**. This value is the amount of time the software will wait for a response from the Server. Valid times are from one (1) to nine (9) seconds. If you are having difficulty in establishing communications with a Temperature Guard Server, try increasing this parameter. This parameter directly affects the response time of the program.

Enter the maximum amount of time to wait to for a response from a Temperature Guard Server, in seconds. The default is 2 seconds which should be adequate for most networks.

The second parameter is the **Number of times to try to communicate with a Temperature Guard Device**.

Enter the number of times to attempt to establish communications with a Temperature Guard Server before generating an alarm and sending out an email alert message stating that the Server is off-line. The default value is one time.

Alarm Email Setup

This tab has all of the parameters to configure the email account information. These values **must** be entered to enable any alarm emails. You can also enter an email address that is used to notify someone if a Temperature Guard Server fails to respond.

1. Enter the SMTP mail server parameters as necessary.
2. Enter a From Address.
3. Enter an Administrator Email Address to send an alarm if a Server does not respond.
4. Click on the Test this email address button. DCP will attempt to send an email to this address. DCP will display a message indicating whether it was successful or not. If necessary enter a user name and password for your mail server.
5. Click on the **Advanced** button to access additional email server options. We recommend that you contact your network administrator for assistance with these settings.

Organization Info

The information you enter here is included in all alarm emails sent by the DCP.

Trending

To enable data trending, check the **Enable data trending** check box.

To view historical temperature data, click on the Trending tab on the main screen. The trending chart updates at the programmed "Update Rate". The chart is capable of displaying six hours of data at the programmed "Update Rate".

Data Logging

The value entered here sets the data update rate at which the software will collect and log the data from the programmed servers. Enter the desired update rate in seconds with 5 seconds being the minimum.

Use this tab to set where the data log files are stored. The default directory is c:\program files\temperature guard\. To change where the data log files are saved, click on the Change Log File Location button, navigate to the desired location and click the OK button. The new location will be displayed. Click the Apply button to save.

Administrator

To prevent unauthorized access to Data Capture Setup and Configuration screens, enter a user name and password and then click the Apply button.



To disable having to log in, click the Clear button and then click the Apply button.

Setting up a Data Collection System

When setting up a DCP system, the first thing that must be done is to obtain a static IP address and then set the Temperature Guard Server to this address. To set the IP address, run the **IP Setup Program** found in the Temperature Guard/Data Capture program group under the Start menu. Instructions for the IP Setup Program can be found in the documentation program group. Using IP Setup.

Once the Temperature Guard Server has its static IP address, the next step is to add this unit to the list of Temperature Guard Servers that the DCP will collect data from.

Adding a Temperature Guard Server to the DCP system

1. From the main screen, click on the **Setup** menu item and select **Temperature Guard Servers and Sensors**.
2. Click on the **"Add New Server"** menu item. This will bring up a screen to enter the server parameters.
3. Type in a unique name for the Server. The maximum length of this name is 20 characters.
4. Type in the IP address for the Server.
5. Click the Test Communications button. Click OK.
This will test that the IP address is a valid IP address.
Data Capture will also communicate with the device to determine the appropriate model and any current name that may be programmed in to the device.
6. Type in notes on the Server, such as where it is located. These notes will be included in alarm emails.
7. Verify that the Temperature Guard is powered up, and then click the **Test Communications** button.
DCP will attempt to communicate with this server and will display a message indicating success or failure. If DCP fails to communicate with the server, verify the IP address and that the server is powered up.
8. To have DCP start logging data from this server, check the **Enable this Server** check box.
9. Click on the **Alarm Email Addresses** button to add email addresses to send alarm emails to. Detailed instructions on how to add email addresses follows.
10. Click on the **Save** button. DCP-E will upload the data to the Temperature Guard Server. If it is successful, the Temperature Guard Logo  will be displayed. If it is not successful, the  symbol will be displayed and the **Enable this Server** will be unchecked. If this occurs, try clicking the **Save** button again.
11. Once the data is successfully uploaded, it is time to add the sensors that will be connected to the Temperature Guard Server.

Models with onboard data logging (Currently MOLLY303, 304, 305 netGuards, VM500-5E-DCPE and VM500-10E DCPE)

Servers with onboard data logging automatically logs temperature data, door status, power status and a date and time stamp at a programmable rate in its internal memory. Data Capture can download the data for graphing or export to Excel for analysis. This information can also be accessed by the server's webpage, simply type in the servers IP address.

In the event of a power failure, these devices will run off of its internal battery and continue to log data until the battery power fails. For the Molly series, once battery power fails, the date and time on the device must be reset.

If the server you are adding has on board data logging, the following addition parameters will be shown.

1. From the main screen, click on the **Setup** menu item and select **Temperature Guard Servers and Sensors**.
2. Click on the server, then click the Edit menu item and then click Server. The form below is displayed.

Local Time at Server: The date and time is downloaded from the server. To correct the date and time, click the **Store Data Log Parameters** button. The date and time is obtained from the PC's system clock and uploaded to the server along with the log update rate.

The date and time must be set for the internal log file to be used.

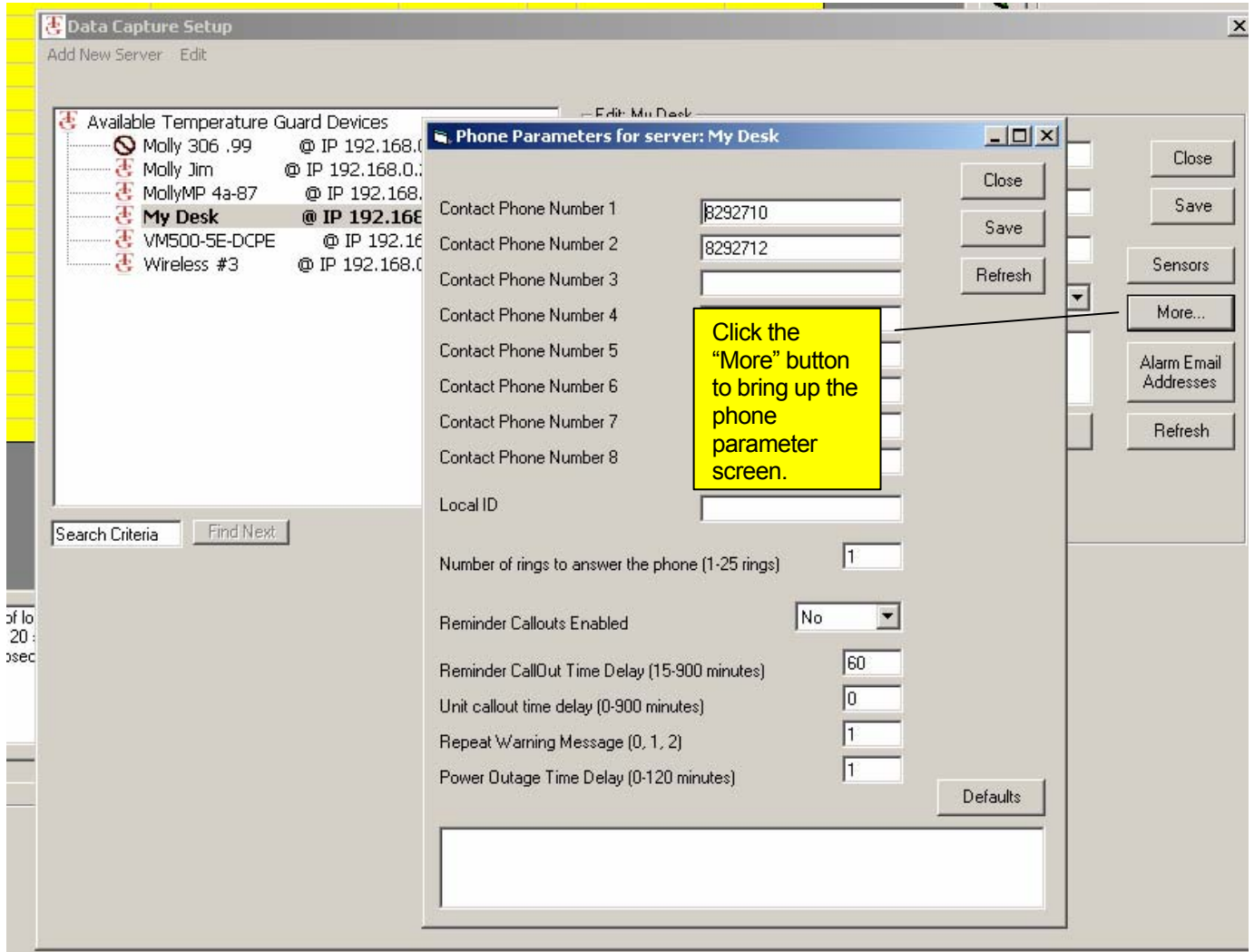
Log Update Rate: Enter a value for the Log Update Rate from 1 to 60 minutes and then click on the **Store Data Log Parameters**. As can be seen in the table below, up to 124 days worth of data can be stored in on board memory.

Model	Number of Records	Amount of data with a 1 Minute Update Rate	Amount of data with a 60 Minute Update Rate
VM500-x	1424	23.7 hours	60 days
Molly30x	2978	49.6 hours	124 days

To download the on board data log file from the Temperature Guard server, click on the **Download all log records** button. To force the server to begin recording data at the beginning of the log, check the **Reset Log Pointer** before downloading the log records.

Program phone parameters

For models shipping after 11/1/09 you can use Data Capture to program phone numbers and callout configuration parameters. See the operating manual for details on specific parameters.



Adding Alarm Email Addresses

You can create a list of “alarm” email addresses for each Temperature Guard Server. Whenever a sensor connected to this Temperature Guard Server goes out of limits, everyone on this list will receive an email. The email will state the sensor that is out of limits and how long it has been out of limits.

1. From the main menu click on the Setup menu item.
2. Click on the Temperature Guard Server you want to add email address for.
3. Click on the **Edit Server** button.
4. Click on the **Alarm Email Address** button.
5. Type the email address in the text box and click the **Add** button.
6. To test the email address, click on the **Test** button. DCP will send a test message to the selected address.

Adding Sensors

Now that you have added a Temperature Guard Server to the list, it is time to add the sensors that you will be connecting to the Temperature Guard Server. You will also be programming the alarm limits for each sensor you add. The sensor name and limits are stored in the server as well as the DCP database.

For temperature sensors, a limit is defined by an upper limit, a lower limit and a time delay (in minutes). When a sensor exceeds a programmed limit for the programmed amount of time, the Temperature Guard Server turns on its buzzer and makes alarm telephone calls and Data Capture will send alarm emails.

For dry contact inputs, only a time delay is required. An alarm is generated after the input is active for the time delay.

For power sensors (model VM540), select from the dropdown list the state of the power (On or Off) and the amount of time the power has to be in this state before generating an alarm.

1. Right click on the Temperature Guard Server and select Edit Sensors.
2. DCP will download and display all sensor parameters.
3. For each sensor, type in a name and the appropriate alarm limits. For Molly303 rev5 and above or the VM500-5E&10E DCPE models you can enter limits to one decimal place.
4. Click on the **Notes** button and type in notes will be included in alarm emails. The notes should describe where the sensor is located.
5. Click on the **Save** button to upload the parameters to the server.

Repeat this process for all of the sensors connected to this Temperature Guard Server.

For Molly305

The Molly 305 netGuard has four additional programmable options that are programmed in the Edit Sensor screen.

The screenshot shows the 'Molly Parameters' window with the following data:

Sensor Port	Name	Lower Limit	Upper Limit	Time (min)	Current Reading
Temperature Sensor Port 1	Refrig	20.0	35.0	2	25.5
Temperature Sensor Port 2	Freezer	20.0	35.0	3	33.0
Door Sensor 1	D1			4	Closed
Door Sensor 2	D2			5	Closed

Note: to disable a sensor, leave the name blank.

Alarm Configuration:

- 1) Turn on alarm relay when a sensor goes into alarm. Turn off alarm relay when a sensor goes into alarm or the main power fails.
- 2) Enable Buzzer Disable Buzzer
- 3) Alarm reminder time delay (min). Enter a value from 1 to 255 minutes, or 0 to disable alarm reminder.
- 4) Two stage door alarm time delay. Generate a full alarm after this time delay (min). Enter a value from 1 to 255 minutes, or 0 to disable two stage alarm.

1) Alarm Relay: The action of the alarm relay can be set to one of two options. Please note that the relay can only be turned on when the main power is on.

Option 1: turn the alarm relay on when an alarm occurs.

Option 2: turn the alarm relay off when an alarm occurs or the main power fails. When the Molly305 is powered up, the relay is turned on.

2) Enable Buzzer: This option enables or disables the internal buzzer.

3) Alarm Reminder Time Delay: If an alarm condition is acknowledged and the alarm condition still exists after this programmable period, the alarm buzzer and alarm relay will activate. To disable the Alarm Reminder feature set the value to 0. To enable the Alarm Reminder set the value from 1 minute to 255 minutes.

4) Two Stage Door Alarm Time Delay: The intent of the two stage door alarm time delay is to give on site personnel time to close a door before generating a general alarm (send an alarm email, and add the event to alarm database). This time delay works in conjunction with the door sensor time delay. For example, the door sensor time delay is set to 1 minute and the two stage door alarm time delay is set to 5 minutes. After the door has been open for one minute the alarm buzzer is turned on. After 5 more minutes Data Capture will display **Alarm**, send an email and log the event to the data base.

For the VM500-5E-DCP-E and VM500-5E-DCP-E version 25 and above

The VM500-5-DCP-E Refrigerator Freezer Guard and the VM500-10E Property Guard has two additional programmable options.

Temperature Sensor Port	Lower Limit	Upper Limit	Time	Current Reading
Sensor 1	-42.0	-40.0	5	-40.5
Sensor 2	29.0	30.5	0	30.0
Sensor 3	28.0	29.5	5	28.8
Temperature Sensor Port 4				Not Connected
Temperature Sensor Port 5				Not Connected
Temperature Sensor Port 6				Not Connected
Temperature Sensor Port 7				Not Connected
Temperature Sensor Port 8				Not Connected
Door Sensor 1			0	Open
Door Sensor 2			0	Open

Backup Battery Voltage (vdc) 3.6

1 Turn on alarm relay when a sensor goes into alarm. Turn off alarm relay when a sensor goes into alarm or the main power fails.

2 Enable Alarm Buzzer Disable Alarm Buzzer

Download complete

1) Alarm Relay: The action of the alarm relay can be set to one of two options. Please note that the relay can only be turned on when the main power is on.

Option 1: turn the alarm relay on when an alarm occurs.

Option 2: turn the alarm relay off when an alarm occurs or the main power fails. When the VM500-5 is powered up, the relay is turned on.

2) Enable Alarm Buzzer: To have the internal buzzer sound when a sensor goes into alarm, select Enable Alarm Buzzer. To prevent the buzzer from sounding, select Disable Alarm Buzzer.

This screen also displays the internal backup battery voltage.

Field Calibration for Molly303, Molly304, Molly305 (firmware rev 5 and above), VM500-5E-DCPE, VM500-10E DCPE

These models can be field calibrated at a single point.

1. Right click on the Temperature Guard Server and select Edit Sensors.
2. DCP will download and display all sensor parameters.
3. Once the sensor parameters are downloaded, click on the **Cal** button to display this screen.

	Actual Temperature	Correction	Current Reading
Room A	2	-8.5	60.6
S2		.0	65.9
S3		.0	66.6
S4		.0	27.7
S5		-6.0	60.0
S6		.0	24.9
Not Named		.0	Not Connected
Not Named		.0	Not Connected

Buttons: Save, Close, Notes, Refresh, Cal, Store Correction Factors, Reset

Status: Download complete

Performing Calibration

1. Click on the Reset button to set the correction factors to 0.
2. Enter the actual temperature obtained from a calibrated source.
3. Click on the **Store Correction Factors** button. DCP will upload the correction factors and then refresh the sensor data. The current temperature reading will reflect the new correction factor.

Resetting the correction factor

1. Click on the Reset button to set the correction factors to 0.

Alarm Events and Resolution Entry

To view alarms, click on the **Events** menu item. Alarms are displayed in the large text box in descending order and can be scrolled through using the scroll bar beneath the text box. To add a resolution comment, click on the **Enter Alarm Resolution** button, type in the comment and click **Save**.

To generate reports on the Temperature Guard servers and sensors as well as alarms, click on Reports in the Data Capture Program Group.

Generating Charts with DCP Graphing

You can create and print out charts for any sensor that Data Capture has collected data. The charts are generated from binary data files that can not be altered or tampered. All log files are stored in the Temperature Guard directory.

1. Click on **DCP Graphing** in the Temperature Guard program directory.
2. A drop down list is filled with all of the available log files in the Temperature Guard directory. From the drop down list, select the sensor you want to generate a report for. If the log files are located in a directory other than the Temperature Guard directory, click on the **Browse For Log Files...** to locate them.
3. Select the starting and ending dates on the two calendars.
4. Select whether to generate a graph or export the data to a CSV file.
5. Click on the Go button.