LogView

Reefer Container Log Files Viewer

Operating LogView

Transportation Solutions

EMERSON
Climate Technologies

Operating LogView

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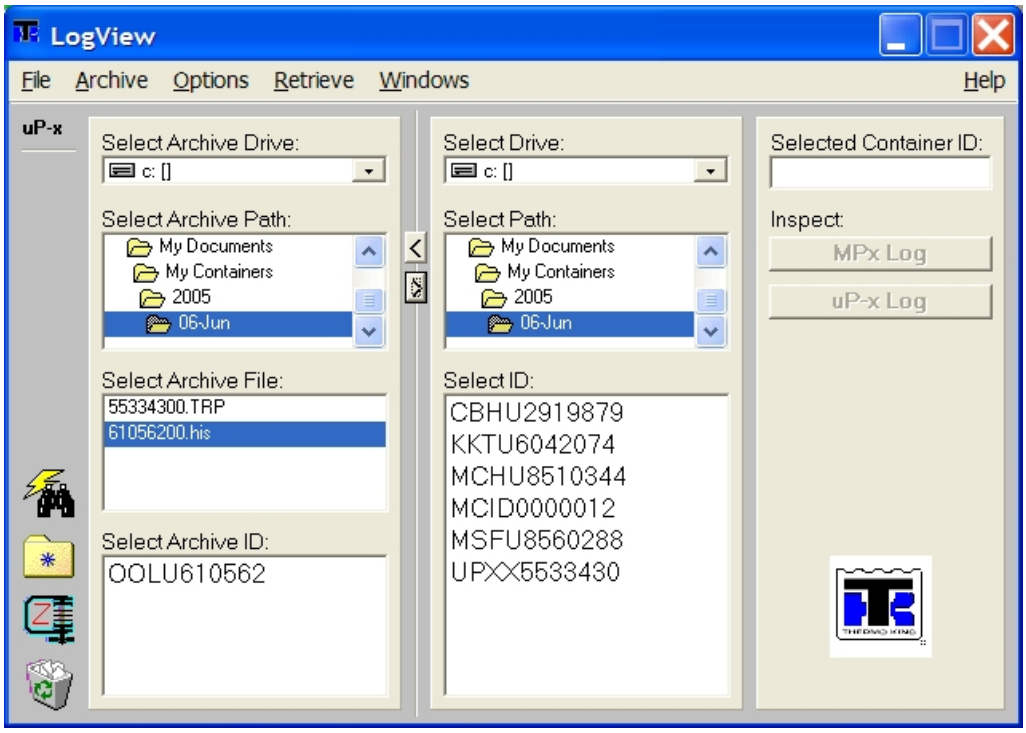
1 Getting Started with LogView

Introduction

LogView is a PC software application that allows you to inspect data from reefer containers within a clear, easily understandable software environment. It provides powerful tools for viewing and correlating logs, dynamic graphing of sensor data, customized report generation, and communicating with the LogMan II handheld data retriever.

The LogView window

The LogView window contains two similar looking sets of boxes for selecting drives, paths, files, and containers. It is important to understand the purpose of each side. Data management tools are located on the left side. For things like finding, importing, organizing, and deleting files, you use the left side boxes. Data analysis tools are located to the right. To open container logs, you use the right side boxes.



Supported controllers

LogView handles log files from the following reefer controllers etc:

- Thermo King: MP-4000, SG+
- Thermo King: MP-3000a, MP-3000, MPC2000ID, MPC2000
- Thermo King: µP-D, µP-A+, µP-A, µP.

Supported retrieval tools

LogView handles files retrieved with the following:

- LogMan II handheld data retriever and its predecessor just called LogMan
- Thermo King SmartSponge and PC-PAC.

1.1 Software installation

System requirements

LogView is developed to run on personal computers with the Windows 7, Windows 8 and Windows 10 operating system. Note, however, that when installing LogView on Windows 10, you need to manually turn the Windows feature ".NET Framework 3.5 (includes .NET 2.0 and 3.0)" on prior to installation.

LogView may run satisfactorily on other platforms. Customer support, however, is only available for the designated operating systems.

Connection to the LogMan II handheld data retriever requires a USB port.

Required user rights

To install LogView you need to be administrator on the PC.

To run and work with LogView you just need standard user rights.

Installing LogView from CD

If you received LogView on a CD or similar, follow the steps below to install.

Step	Action
1	Start by saving anything you are working on and closing all programs.
2	Insert the installation CD into your compact disk drive.
3	On most systems the **InstallManager** opens automatically and you can proceed to the next step. If the **InstallManager** does not open, then do as follows. • From your **Start** menu click **Computer**. • Double-click the compact disc / DVD drive in the list of storage drives and folders. If the **InstallManager** now opens, go to the next step. • Double-click the  icon for the install file. The **InstallManager** opens.
4	Click **Install LogView**.
5	Follow the instructions on screen to install the software.
6	Close the **InstallManager** window when installation is completed.

Installing LogView from a file

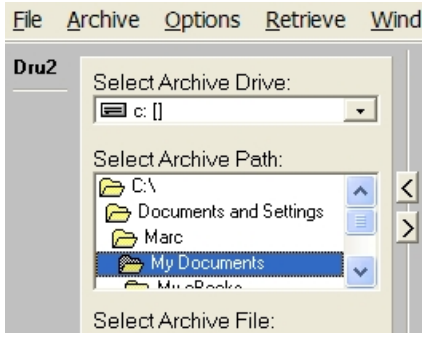
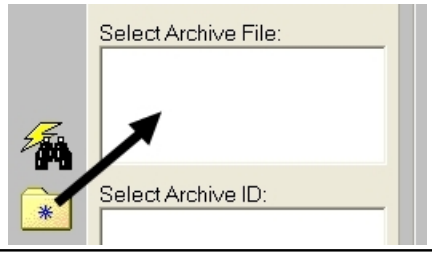
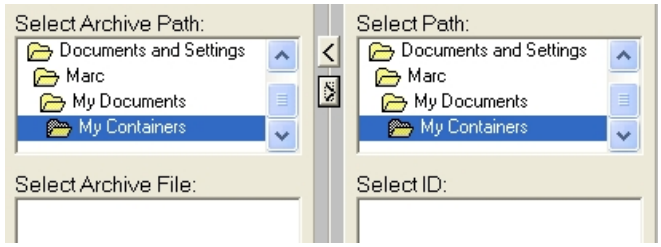
If you did **not** receive LogView on a CD or similar, or you need to install updates, please follow the steps below.

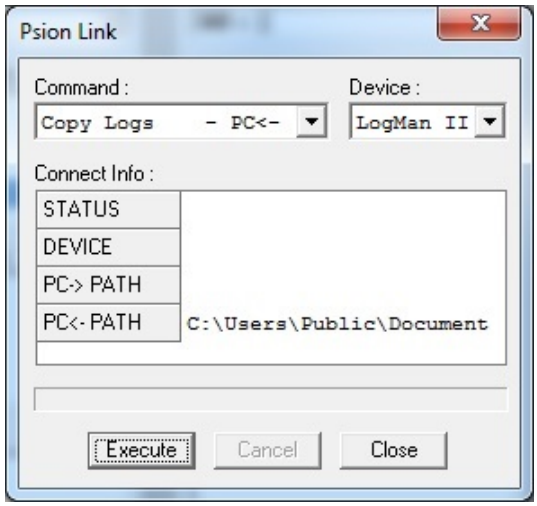
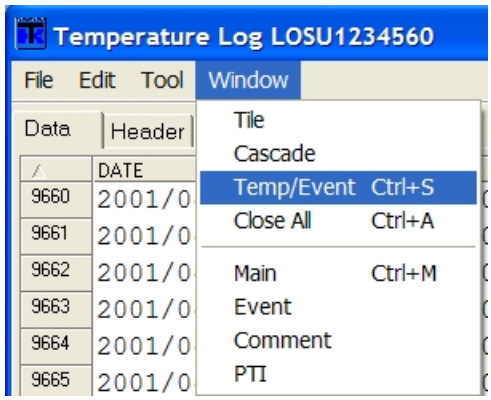
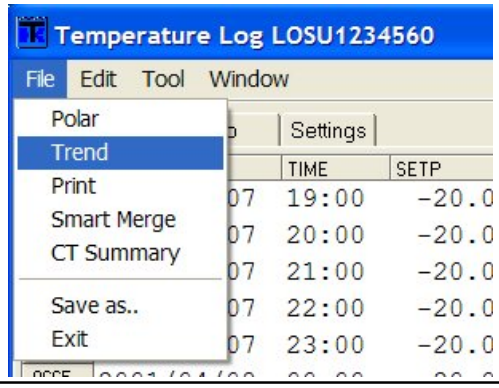
Step	Action
1	Download or otherwise obtain a copy of the LogView installation package and save it on your desktop.
2	Start by saving anything you are working on and closing all programs.
3	Double-click the installer icon  on your desktop.
4	Follow the instructions on screen to install the software.
5	Close the **Setup** dialog when installation is completed.
6	Delete the LogView installation file.

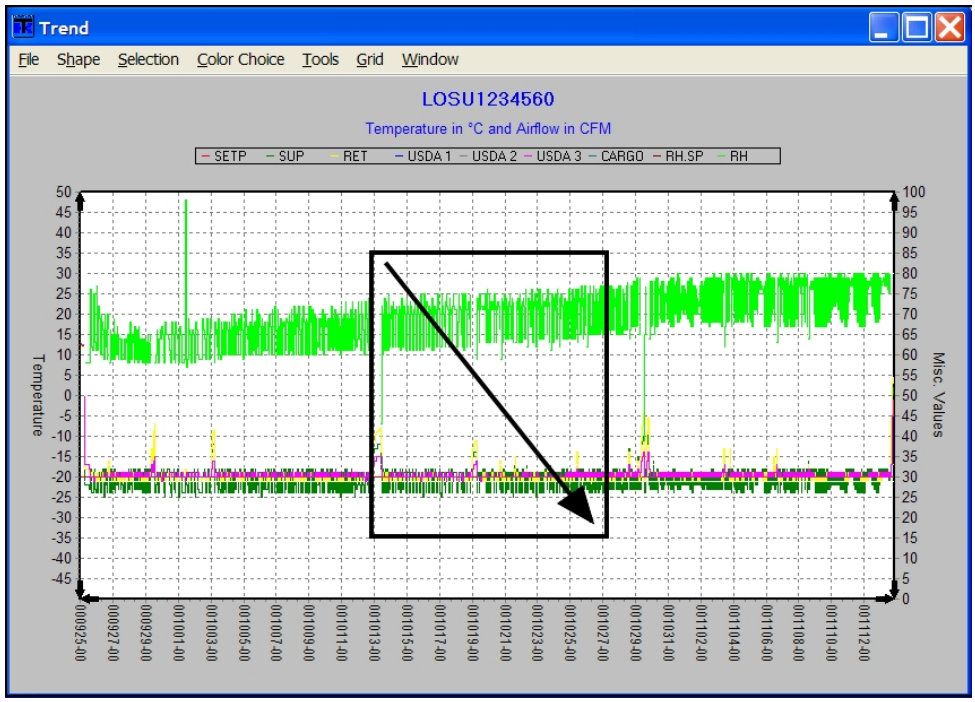
1.2 Quick Start procedures

Quick Start with LogMan II

If you have copied reefer container data to a LogMan II, you can follow the steps below to view the data in LogView quickly.

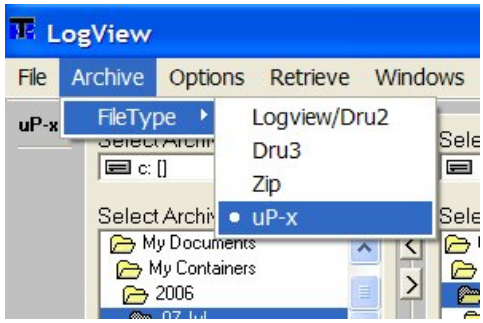
Step	Action
1	In the **Select Archive Path** list box on the left side of the LogView window, navigate to your **My Documents** folder. Double-click the folder to open it. 
2	Drag the folder icon over to the **Select Archive File** list box. 
3	Give the folder a name such as “My Containers” and click **OK**.
4	Open (double-click) the new folder and then click  to open the same folder on the right side. 
5	Connect the handheld computer to a USB port on the PC, normally by placing it in the docking station.
6	Select **Retrieve** > **Psion Link...** from LogView’s main menu. Upper right, make sure **LogMan II** is selected in the **Device** dropdown list. Click **Execute**.

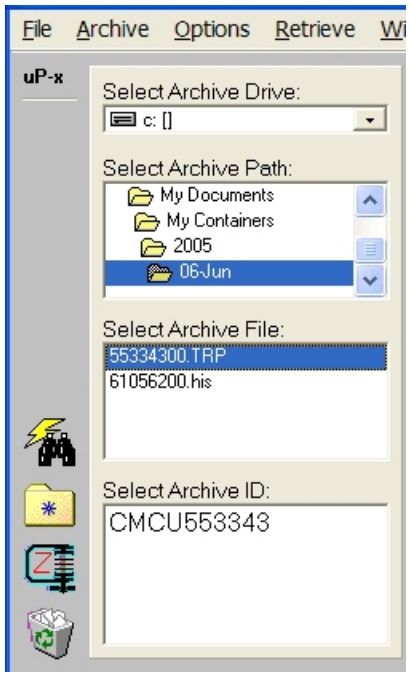
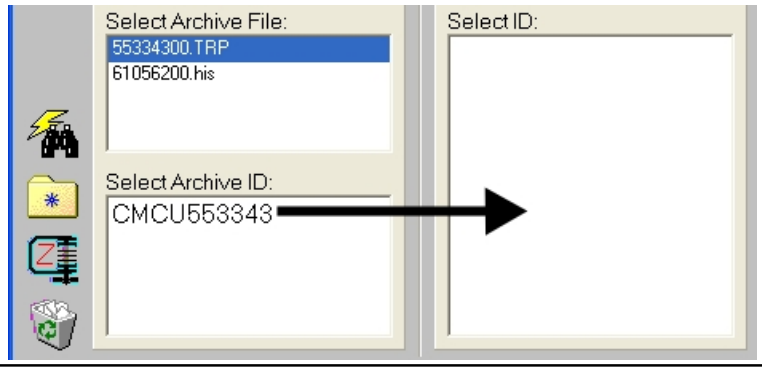
Step	Action
	
7	In the **Select ID** list box, double-click the ID of the container you wish to inspect. If the controller is a uP-x type, hold the CTRL key down and click on the desired trip records. Click **OK**.
8	Select **Window** > **Temp/Event** from the **Temperature Log** menu. 
9	Select **File** > **Trend** from the **Temperature Log** menu to open a window with a graph of the data. 
10	Select **Tools** > **Smart Move** from the **Trend** menu.
11	Click within the graph and note how LogView highlights records in the temperature and event logs that correspond to points in the graph.
12	Holding the mouse's left button down, and starting at the top-left corner, draw a rectangle around an area of the graph to enlarge that area.

Step	Action
	 Drag the mouse left and up to zoom back out.
13	Select **File** > **Smart Merge** from the either log menu to generate a report showing both temperature and event data, or select **File** > **Print** to generate separate reports from log data.

Quick Start without LogMan II

Follow the steps below to view reefer container data that has been saved on your computer.

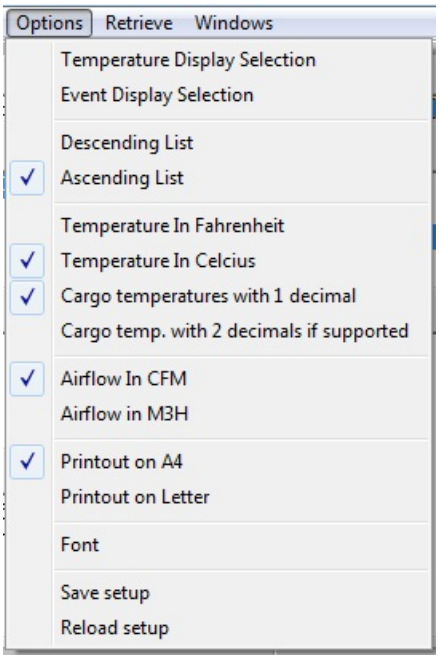
Step	Action
1	From the **Archive** > **FileType** menu, select the type of controller log file that you want to view. See Working with Archive Files 40 for more information. 
2	Use the left-side **Select Archive Path** list box to navigate to the folder where you store your container data. Double-click the folder to open it.
3	Click the button between the left and right side boxes to open the same folder on the right side.
4	Click on the files listed in the **Select Archive File** list to view the associated container ID in the **Select Archive ID** list box.

Step	Action
	
5	Drag the desired container ID from the **Select Archive ID** list box on the left to the **Select ID** list box on the right. 
6	Continue with step 7 7 and forward in the previous Step-Action table.

1.3 User Settings

About user settings

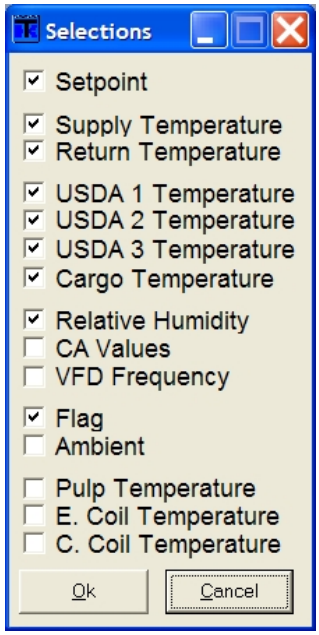
LogView can be modified to suit your preferences through the selections in the **Options** menu.



Your preferences can be saved so that LogView remembers them when it starts up.

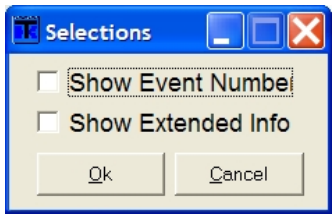
Selecting types of sensor data

LogView can be set up to show only the types of data that you want to view. Data types can also be selected in the **Settings** tab of the **Temperature Log** window. To change the types of data displayed, follow the steps below.

Step	Action
1	Select **Options** > **Temperature Display Selection** from the main menu.
2	Included data types are indicated by checks in the **Selections** dialog.  Click in a check box to change the status.
3	Click **Ok**.

Selecting extra event information

Event logs contain codes and sometimes other information that is not displayed normally. To display this information, change the setting as described below or by selecting it in the **Settings** tab of the **Event Log** window.

Step	Action
1	Select **Options** > **Event Display Selection** from the LogView main menu. The **Selections** dialog opens.
2	Checks in the **Selections** dialog indicate the data to include. Click in a check box to change the status. Selecting **Show Event Number** has no effect.  Click in a check box to change the status.
3	Click **Ok**.

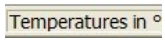
Selecting display order

LogView can display data in descending order (latest record on top) or ascending order (oldest record on top). To change the order in which data is listed, select **Options** from the main menu and click **Ascending List** or **Descending List**.

You can also reverse the display order in the **Data** tab of temperature and event logs by clicking the triangle in the first column of the table's header row.

Selecting the temperature scale

LogView displays temperatures in Celsius or Fahrenheit. To select the temperature scale, select **Options** from the main menu and click **Temperature in Fahrenheit** or **Temperature in Celsius**.

Alternatively, you can change the scale by double-clicking  at the bottom of the **Temperature Log** window.

Selecting cargo temperature precision

Certain controller types log cargo temperatures with two decimals, while other types log with one decimal only. If you want to see two decimals when available, select **Options** from the main menu and click **Cargo temp. with 2 decimals if supported**. If you want only one decimal, select **Cargo temperatures with 1 decimal**. In case of change, remember to save your configuration and reload the logfile for the change to take effect.

Selecting the air flow unit

LogView displays air flow in cubic feet per minute (CFM) or cubic meters per hour (M3H). To select the air flow unit, select **Options** from the main menu and click **Airflow in CFM** or **Airflow in M3H**.

Alternatively, you can change the scale by double-clicking  at the bottom of the **Temperature Log** window.

Formatting for paper size

LogView formats graphs and reports to fit **A4** or **Letter** paper. To select the paper size, select **Options** from the main menu and click **Printout on A4** or **Printout on Letter**.

Selecting the font

LogView displays text using the 10 point, Courier New font by default. Follow the steps below to modify the font.

Step	Action
1	Select **Options** > **Font** from the main menu. The **Font** dialog opens.
2	Select the desired font name, style, and size from the selection list boxes.
3	If you have trouble displaying some characters, you may need to select another font script from the **Script** dropdown list.
4	Click **OK**.

Saving your configuration

Selecting **Options** > **Save** setup stores your current settings in a configuration file that is read each time LogView starts. The settings can be retrieved at any time by selecting **Options** > **Reload** setup.

The following information is saved in the configuration file.

- Archive (left side) drive and path
- LogView (right side) drive and path
- Archive file type
- Types of sensor data for temperature logs
- Extra event log information to include
- Display order
- Temperature scale
- Air flow unit
- Print paper size
- Font name and size
- Graph shape and colors.

2 Working with LogMan II

About LogMan II

LogMan II is an application running on a handheld computer. LogMan II is designed to retrieve log files from reefer containers and transfer them to a computer for analysis with LogView.

LogMan II can also be used to

- setup controller data such as container ID, date, and time, etc.,
- calibrate cargo probes, and
- update controller firmware.

Please distinguish between the LogMan and the LogMan II, the ladder being the newest generation. If you are still using the old version LogMan, you should consider upgrading to LogMan II, as this is the only version being upgraded for newest controller versions etc. Only LogMan II is described in this version of the LogView manual.

To connect LogMan II to your computer, simply place it in the docking station being connected to a USB port on the computer. If you have no docking, use a USB cable.

LogMan II installation and user manual

To install LogMan II on a supported handheld computer you need to achieve and install the *Handheld Software Commander* on your PC. The Handheld Software Commander is attached when you purchase a new handheld from Emerson Climate Technologies. If you already have a supported handheld and need to upgrade to newest LogMan II, please request the Handheld

Software Commander from Emerson Climate Technologies - Transportation Solutions ApS.

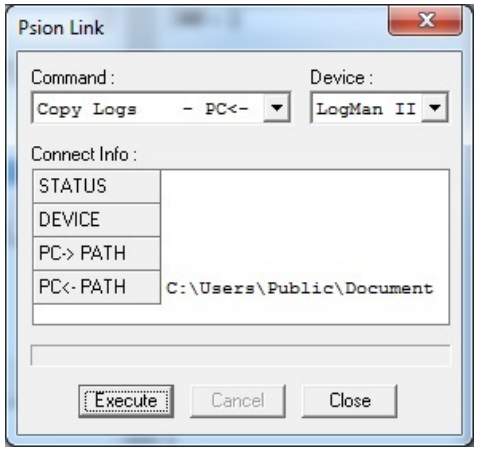
Having installed Handheld Software Commander and LogMan II, the LogMan II User Manual is available from the Handheld Software Commander PC application.

Downloading log files from a LogMan II

If you use LogMan II to retrieve container logs, the first step is to connect the handheld computer to the reefer controller and retrieve the logs. Please refer to the LogMan II user manual if you are unfamiliar with the procedure.

The next step is to copy the log files from the handheld computer to the PC as described below.

Note: If you are using the older LogMan version (not LogMan II), Symbian's EConnect communication software must be installed on your PC. This is not futher described in this version of the LogView manual.

Step	Action
1	Connect the handheld computer to your PC.
2	Select the drive where you store log files from the **Select Archive Drive** dropdown list on the left side of the LogView window.
3	Open (double-click) the folder in which to save the log files in the **Select Archive Path** list box. (To create a new folder, see Creating a directory folder 38.)
4	Select **Retrieve** > **Psion Link** from the LogView menu. The **Psion Link** dialog opens. 
5	Select **Copy Logs - PC< -** from the **Command** dropdown list. If you are working with the new generation LogMan II, select **LogMan II** in the **Device** dropdown list. Click **Execute**.
6	When the **STATUS** line reads **Success**, click **Close**.
7	Click (**Right** > **Left Path** button) to open the same folder in the **Select Path** list box. You can now open the logs by double-clicking the desired container ID in the **Select ID** list box.

Copying Controller Firmware to LogMan II

LogMan II can be used to update controller firmware; refer to the LogMan II user manual for details. Use the following procedure to transfer controller firmware from your PC to the LogMan II.

Contact the controller manufacturer for firmware updates.

Step	Action
1	Select the drive where you store controller firmware files from the **Select Archive Drive** dropdown list on the left side of the LogView window.
2	Open the folder containing the firmware files in the **Select Archive Path** list box.
3	Connect the LogMan II to your PC and select **Retrieve** > **Psion Link** from the LogView menu.
4	Select **Copy CTRL SW – PC->** from the **Command** dropdown list in the **Psion Link** dialog. Make sure the selected **Device** is **LogMan II**. Click **Execute**.
5	When the **STATUS** field reads **Success**, the process is complete. Close the **Psion Link** dialog.

Deleting Controller Firmware in LogMan II

Use the following procedure to delete controller firmware from LogMan II's disk drive.

Step	Action
1	Connect the LogMan II to your PC and select **Retrieve** > **Psion Link** from the LogView menu.
2	Select **Del. CTRL SW – PC->** from the **Command** dropdown list in the **Psion Link** dialog. Make sure the selected **Device** is **LogMan II**. Click **Execute**.
3	Close the **Psion Link** dialog when the process is complete.

3 Logs

Log Types

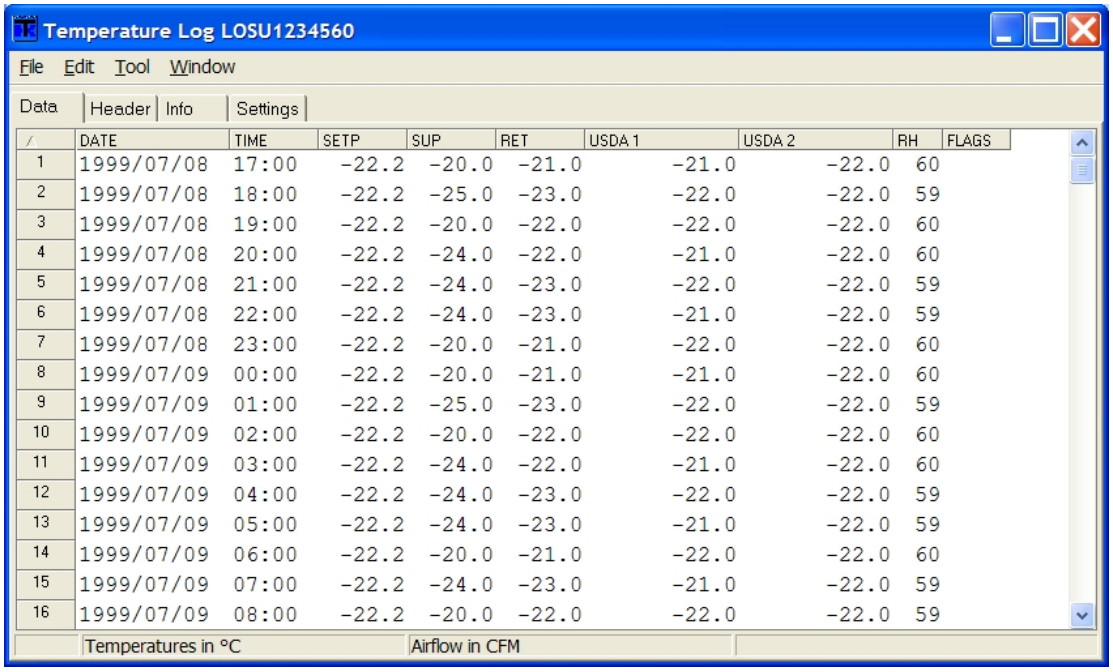
LogView displays container data in four types of logs: temperature logs, event logs, pre-trip inspection (PTI) logs, and comment logs.

Though the logs are similar for all controller types, differences do exist. Sensor labels, event texts and codes, PTI reports, and header information may vary from controller to controller. Another difference is that there is an extra step involved in opening uP-x logs. But in LogView the information is presented as similarly as possible.

Most of the data analysis and reporting tasks are performed in the log windows. It is in log windows that you view container data, open graphs, and generate reports.

About temperature logs

The **Temperature Log** window has four tabs.

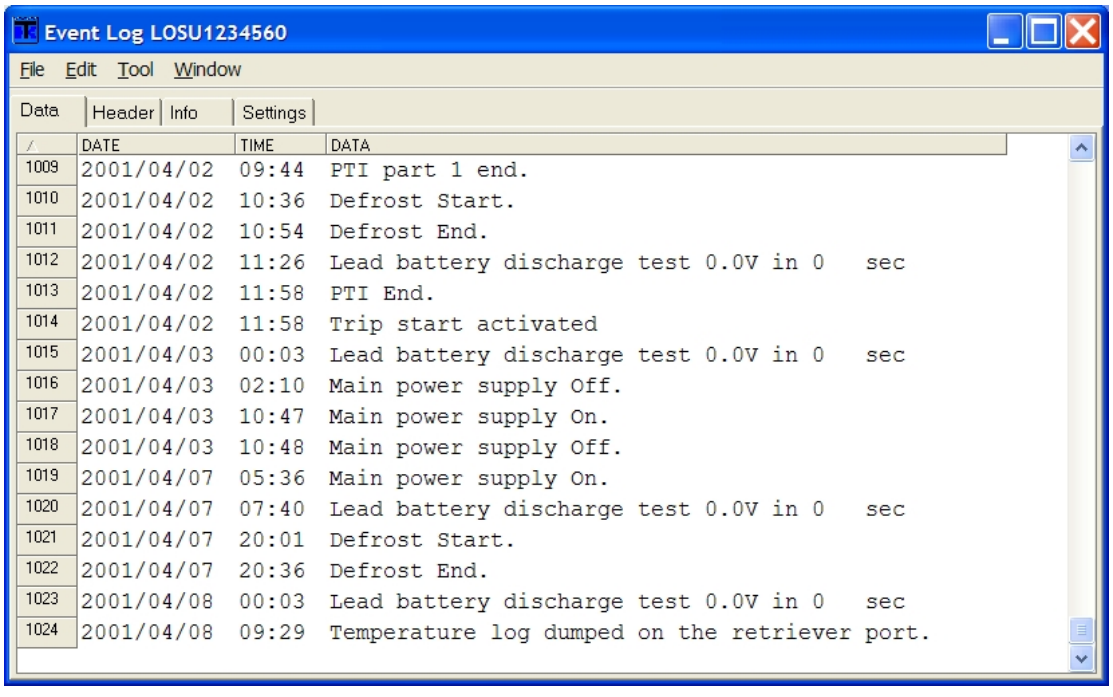


	DATE	TIME	SETP	SUP	RET	USDA 1	USDA 2	RH	FLAGS
1	1999/07/08	17:00	-22.2	-20.0	-21.0	-21.0	-22.0	60	
2	1999/07/08	18:00	-22.2	-25.0	-23.0	-22.0	-22.0	59	
3	1999/07/08	19:00	-22.2	-20.0	-22.0	-22.0	-22.0	60	
4	1999/07/08	20:00	-22.2	-24.0	-22.0	-21.0	-22.0	60	
5	1999/07/08	21:00	-22.2	-24.0	-23.0	-22.0	-22.0	59	
6	1999/07/08	22:00	-22.2	-24.0	-23.0	-21.0	-22.0	59	
7	1999/07/08	23:00	-22.2	-20.0	-21.0	-22.0	-22.0	60	
8	1999/07/09	00:00	-22.2	-20.0	-21.0	-21.0	-22.0	60	
9	1999/07/09	01:00	-22.2	-25.0	-23.0	-22.0	-22.0	59	
10	1999/07/09	02:00	-22.2	-20.0	-22.0	-22.0	-22.0	60	
11	1999/07/09	03:00	-22.2	-24.0	-22.0	-21.0	-22.0	60	
12	1999/07/09	04:00	-22.2	-24.0	-23.0	-22.0	-22.0	59	
13	1999/07/09	05:00	-22.2	-24.0	-23.0	-21.0	-22.0	59	
14	1999/07/09	06:00	-22.2	-20.0	-21.0	-22.0	-22.0	60	
15	1999/07/09	07:00	-22.2	-24.0	-23.0	-21.0	-22.0	59	
16	1999/07/09	08:00	-22.2	-20.0	-22.0	-22.0	-22.0	59	

- **Data** contains the temperature and other available sensor data in log entries with date and time. The temperature and airflow scales are indicated at the bottom of the screen. Double-clicking the labels changes the scales. Clicking the triangle in the header row reverses the display order.
- **Header** shows information to identify the container, trip, and date of data download.
- **Info** contains definitions for codes used in the **Data** tab.
- **Settings** contains options for selecting data sensors and filtering dates.

About event logs

The **Event Log** window has four tabs.



	DATE	TIME	DATA
1009	2001/04/02	09:44	PTI part 1 end.
1010	2001/04/02	10:36	Defrost Start.
1011	2001/04/02	10:54	Defrost End.
1012	2001/04/02	11:26	Lead battery discharge test 0.0V in 0 sec
1013	2001/04/02	11:58	PTI End.
1014	2001/04/02	11:58	Trip start activated
1015	2001/04/03	00:03	Lead battery discharge test 0.0V in 0 sec
1016	2001/04/03	02:10	Main power supply Off.
1017	2001/04/03	10:47	Main power supply On.
1018	2001/04/03	10:48	Main power supply Off.
1019	2001/04/07	05:36	Main power supply On.
1020	2001/04/07	07:40	Lead battery discharge test 0.0V in 0 sec
1021	2001/04/07	20:01	Defrost Start.
1022	2001/04/07	20:36	Defrost End.
1023	2001/04/08	00:03	Lead battery discharge test 0.0V in 0 sec
1024	2001/04/08	09:29	Temperature log dumped on the retriever port.

- **Data** contains a log of the events recorded by the datalogger such as actions and alarms. Clicking the triangle in the header row reverses the display order.

- **Header** shows information to identify the container, trip, and date of data download.
- **Info** contains definitions for codes and abbreviations used in the **Data** tab.
- **Settings** contains options for filtering the log by date.

About PTI logs

The **PTI Log** (pre-trip inspection) window has three tabs.

- **Data** contains the pre-trip inspection test report. The information contained varies by equipment model and manufacturer.
- **Header** shows information to identify the container, trip, and date of data download.
- **Info** may contain additional information from the pre-trip inspection.

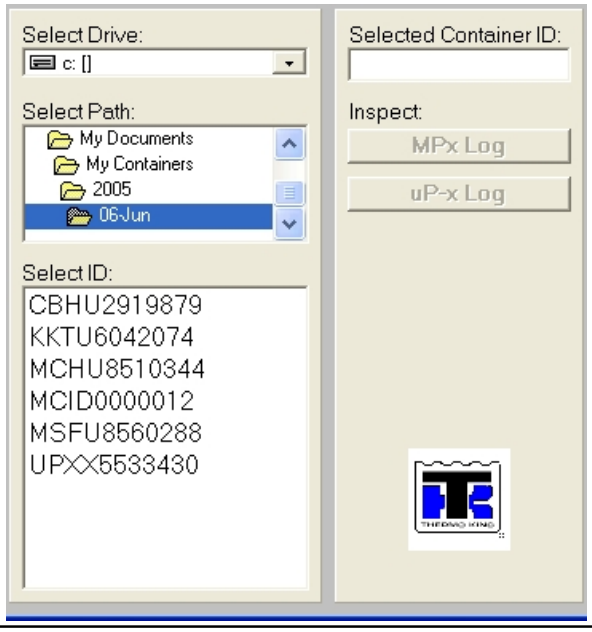
About comment logs

The LogMan II handheld retriever allows the operator to write a note to accompany the reefer controller data. The note is saved in the **Data** tab of the **Comment Log**.

3.1 Viewing Logs

Opening Logs

Follow the procedure below to open container logs.

Step	Action
1	In the **Select Drive** list, select the drive containing the log files.
2	In the **Select Path** list box, open (double-click) the folder containing the desired logs. Repeat as necessary to open sub-directory folders. Tip: If the desired folder is open on the left side, click ▷ to open it on the right.
3	The container IDs for all logs in the selected folder are displayed in the **Select ID** list box. Click in the list box. Scroll through the list with the UP and DOWN ARROW keys or enter the container ID from the keyboard to highlight the desired container. 
4	Click the active **Inspect** button or double-click the container ID.
5	(uP-x logs only) The **Select uP trips** dialog opens. Select all items that occur

Step	Action
	during the period you want to inspect. If there is only one, select it and click **OK**. If there are several, click the first one, hold the SHIFT key down, click the last one, then click **OK**. (Items can also be selected by holding down the CTRL key and clicking each one.)
6	The logs open in a cascaded view with the **Temperature Log** on top. Empty logs with no data appear minimized in the lower left corner of the screen.

Managing log windows

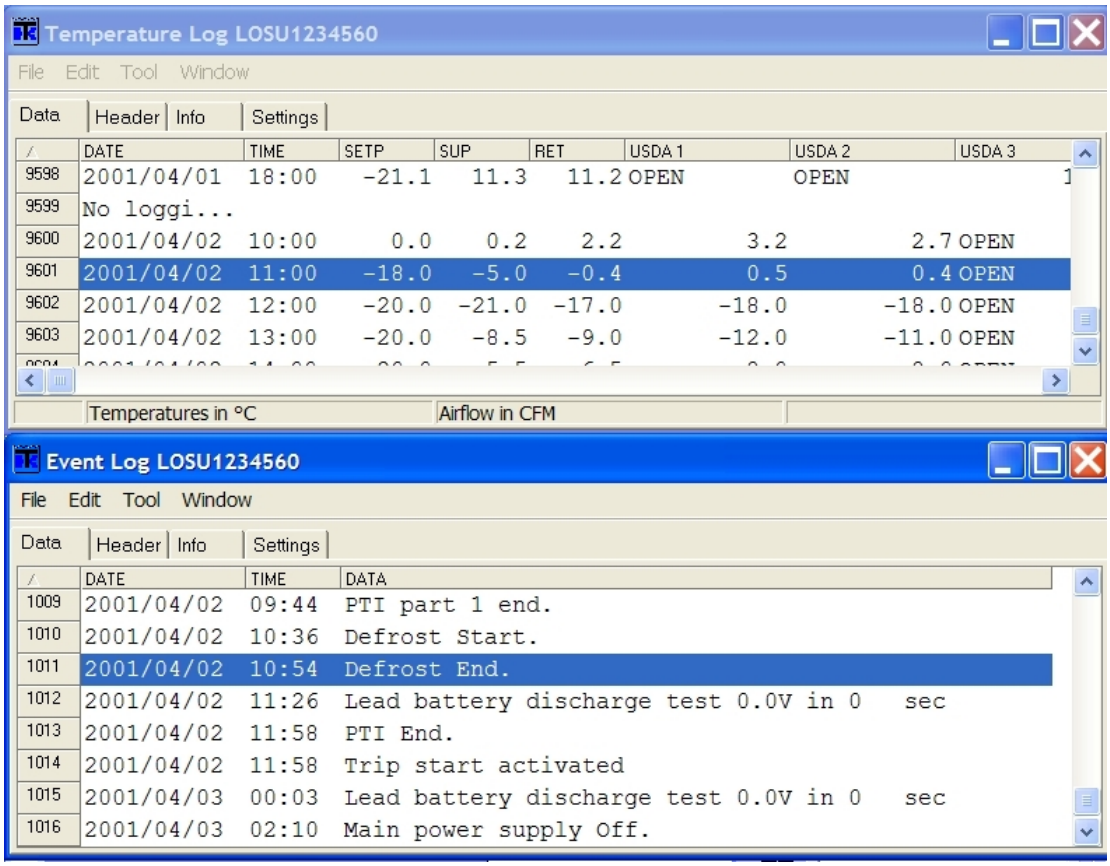
Use the **Window** menu to open, close, and arrange log windows.

- **Tile**: displays logs side-by-side.
- **Cascade**: stacks the logs with the **Temperature Log** on top.
- **Temp/Event** (Ctrl+S): displays the **Temperature Log** and **Event Log**.
- **Close All** (Ctrl+A): closes all log windows.
- **Main** (Ctrl+M): brings the main **LogView** window to the top.
- **Temperature**: brings the **Temperature Log** to the top.
- **Event**: brings the **Event Log** to the top.
- **Comment**: brings the **Comment Log** to the top.
- **PTI**: brings the **PTI Log** to the top.

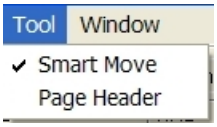
Correlating logs (Smart Move)

With Smart Move activated, LogView automatically

- jumps to the event that is closest to the selected temperature entry,
- jumps to the temperature entry that is closest to the selected event, or
- jumps to the temperature and event entries that are closest to the point selected in the trend graph.

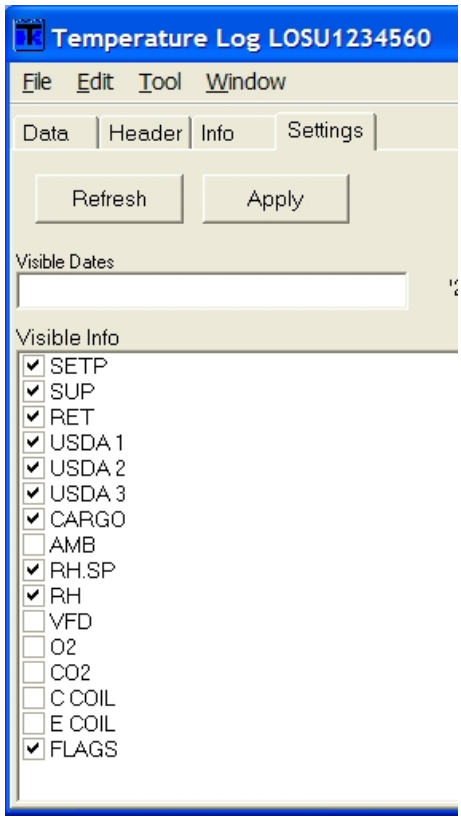


To activate Smart Move, follow the steps below.

Step	Action
1	From either the **Temperature Log** or **Event Log** menu, select **Window** > **Temp/ Event**.
2	Select **Tool** > **Smart Move** from the **Temperature Log** or **Event Log** menu. Click **Smart Move**. 
3	To activate Smart Move in a trend graph, select **Tools** > **Smart Move** from the **Trend** window menu.

Hiding sensors from view

Follow the steps below to hide unnecessary types of sensor data. To modify your default settings, see Selecting types of sensor data 10.

Step	Action
1	Click the **Settings** tab of the **Temperature Log**.
2	The sensors are listed in the **Visible Info** box of the **Settings** tab. Sensors are included when checked and hidden when unchecked. To select or deselect a sensor, click in the check box to the left of the sensor label. 
3	Click **Apply**. The **Temperature Log** is updated. Return to the **Data** tab to see the changes.

3.2 Exporting Logs

To export data to a text file

Logs can be exported to ASCII text (.txt) files for use in other applications. Temperature and event data are saved in fixed-width columns that are well suited for import into spreadsheet applications. These logs may be filtered prior to export. Follow the procedure below to save log data in a text file.

Step	Action
1	Open the desired log.
2	Filter the data if desired in the **Settings** tab. Return to the **Data** tab.
3	Select **File** > **Save as**.. from the log's menu. The **Save As** dialog opens.
4	Select a location and name for the file and click **Save**.

Copying data to the Windows clipboard

You can use standard Windows cut and paste techniques to copy data from logs into other applications.

Step	Action
1	Open the desired log.
2	To select all data in the log, select **Edit** > **Select All**. To select part of the log, click the first record to copy. Hold down the SHIFT key and select the last record to copy. Release the SHIFT key.
3	Select **Edit** > **Copy** from the log window's menu or use the CTRL+C keyboard shortcut.
4	The selected data is copied to the Windows clipboard and ready to be pasted into another application. Open the application, place the cursor where you want the data to be inserted, and select the paste command, typically **Edit** > **Paste**, from the application's menu.

4 Trend Graphs

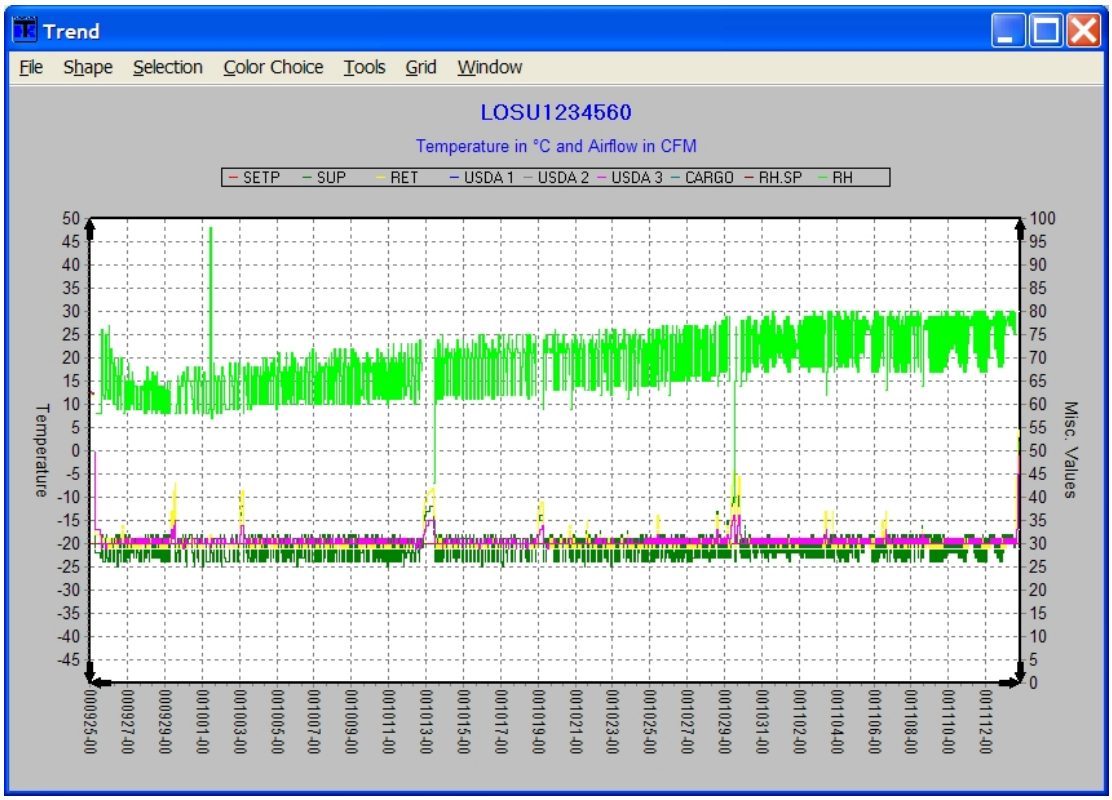
About trend graphs

Trend graphs display sensor data graphically on a two dimensional grid with three axes: temperature on the left, time on the bottom, and percent on the right.

LogView's trend graphs are dynamic. The graph is automatically redrawn to fit the window. You can zoom in and out of the graph to view more or less detail and scroll through it.

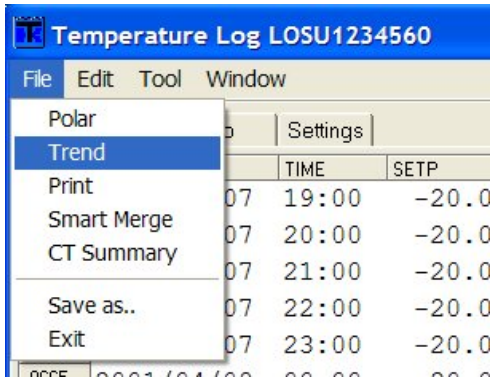
Trend graphs use the Smart Move feature to correlate a position in the graph to the corresponding values in the temperature and event logs.

Trend graphs can be viewed, printed, and pasted into other documents.



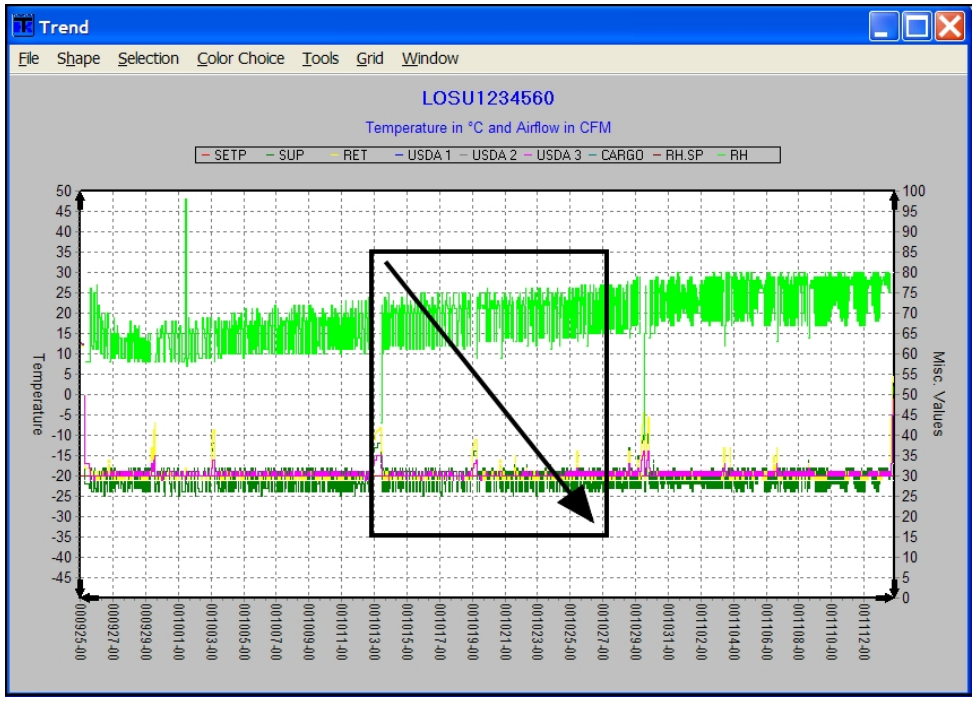
Opening a trend graph

Follow the steps below to open a trend graph.

Step	Action
1	Open the temperature log for the desired container.
2	(Optional) If you want to select a specific range of dates to graph, do the following: • In the **Data** tab of the **Temperature Log**, click the first record to view. • Hold the SHIFT key down. • Select the last record to view using the UP/DOWN ARROW keys or the PAGE UP/PAGE DOWN arrow keys, or scroll down and click the last record. • Release the SHIFT key.
3	Select **File** > **Trend** from the **Temperature Log** menu. 

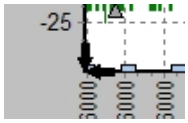
Zooming in a trend graph

Enlarge an area of a graph as follows.

Step	Action
1	Place the cursor at the top-left corner of the area to enlarge.
2	Hold the left mouse button down while you move the cursor down and to the right to draw a rectangle around the desired area. 
3	Release the mouse button. The graph is redrawn. You can repeat the operation to zoom in further.
4	To zoom back out, click anywhere in the graph and drag the mouse up and to the left.

Scrolling through a trend graph

You can scroll through the graph by clicking the arrows at the ends of each of the three scales. The two vertical axes can be scrolled independently.



You can also move the graph within the window by holding the right mouse button down while moving the mouse in any direction.

Adjusting the vertical scales (Auto Size)

When **Auto Size** is enabled (checked), the vertical scales are automatically adjusted to fit the data. When **Auto Size** is deselected, graphs are drawn with a temperature scale that ranges from -50°C to 50°C (-58°F to 122°F), and a value scale that ranges from 0 to 100.

It is often useful to use Auto Size to redraw the graph after zooming in on an area.

Select **Tools** > **Auto Size** from the **Trend** window menu to toggle the feature on or off.

Selecting the cross hair cursor

The cross hair cursor makes it easier to accurately identify the value of a specific data point. When enabled, the values at the cross hair intersection are displayed at the bottom of the **Trend** window.

To enable the cross hair cursor, select **Tools** > **Cross Hair**. The cross hair cursor is automatically enabled when **Smart Move** is selected.

Keeping the Trend window on top

Select **Grid** > **Stay on Top** to keep the **Trend** window on top of other LogView windows, which is useful when using Smart Move. Deselect it to allow standard Windows behavior.

Closing the Trend window

When you are done viewing the graph, either select **File** > **Exit** from the **Trend** window menu or click the **X** in window's the top right corner.

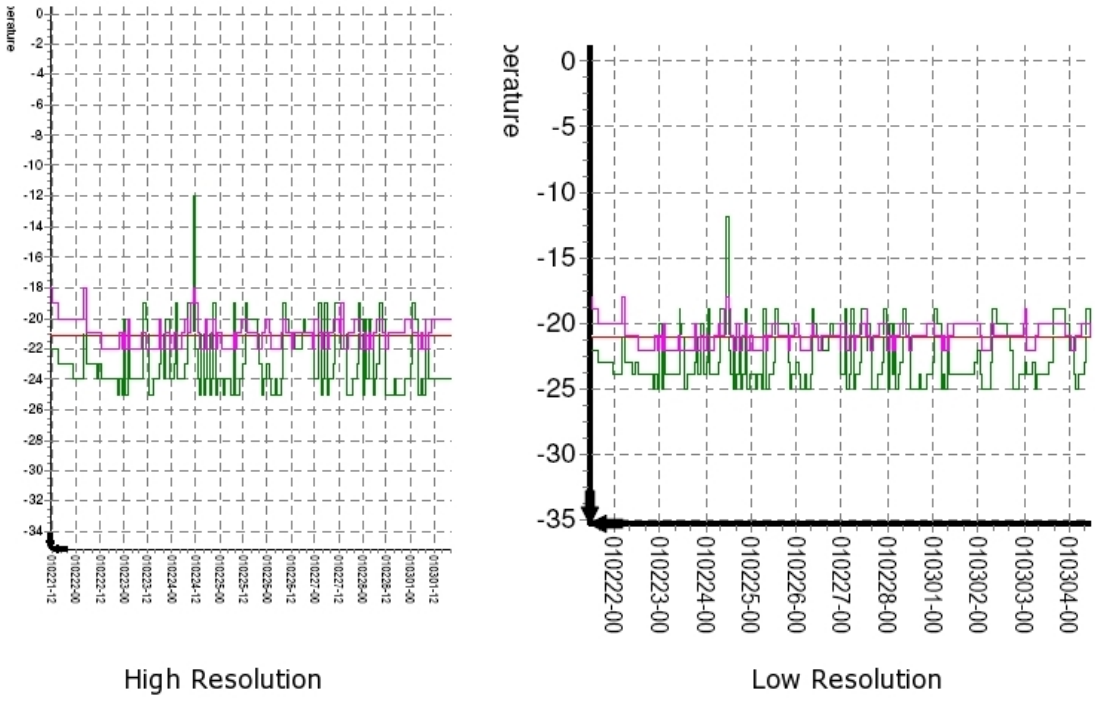
Inserting a trend graph in another document

Trend graphs can be copied to the Windows clipboard for pasting into other documents.

Step	Action
1	Click somewhere in the **Trend** window to make it the active window.
2	Press the ALT + PRINT SCREEN keys. This places a copy of the active window on your Windows clipboard.
3	Open the other document and place the cursor where you want to insert the graph. Use the application's paste command, usually **Edit** > **Paste**, to paste the graph.

About the resolution setting

The setting under **File** > **Resolution** in the **Trend** menu determines the size and number of the labels when printing graphs. **Low** gives fewer labels and larger text than **High**. Experiment for best results. The setting does not influence on-screen display.

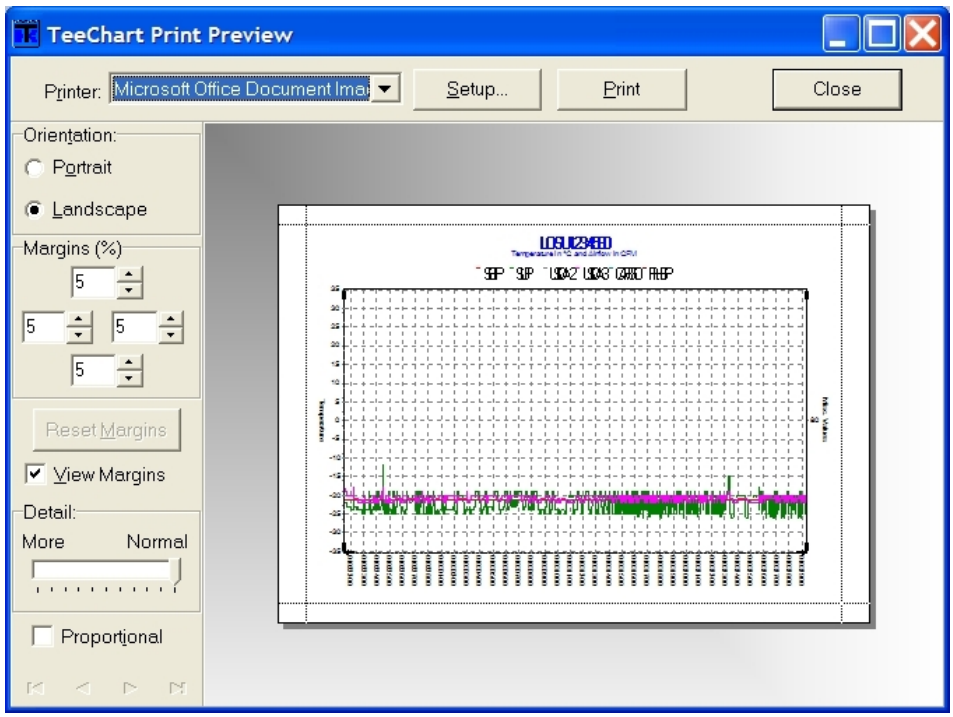


High Resolution

Low Resolution

Printing trend graphs

After you have arranged a trend graph to display the desired data, you can print it by following the steps below.

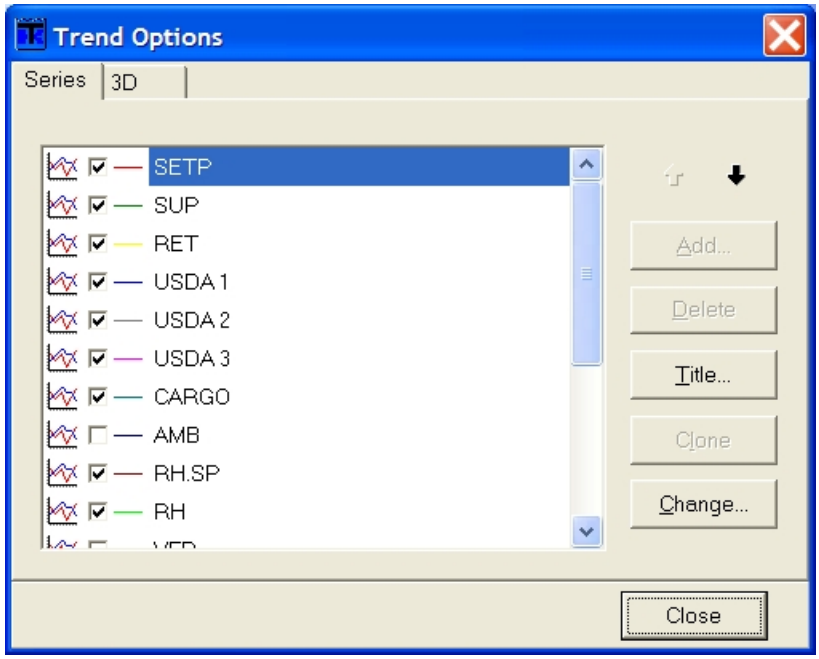
Step	Action
1	Select **File** > **Print** from the **Trend** window menu. The **TeeChart Print Preview** dialog opens. 
2	Select a printer from the **Printer** drop-down list. To check or change your printer settings, click the **Setup** button.
3	Select orientation. **Landscape** usually gives better results than **Portrait**.
4	Adjust the print margins if desired with the **Margins** controls.
5	The **Detail** slider provides the same function as the setting under **File** > **Resolution** in the **Trend** menu. **Normal** corresponds to **Low** and **More** corresponds to **High**. Sliding the control to the left increases the number of data labels and shrinks the label text size.
6	Select **Proportional** only if you need to print the graph with the same proportions as the screen display.
7	When all settings have been made, click the **Print** button. When you are done printing, click **Close**.

4.1 Trend Graph Display Options

Selecting data series options

The **Series** tab of the **Trend Options** dialog contains options for selecting data types, colors, graph style, data labels, and label order.

Step	Action
1	Click **Selection** in the **Trend** menu. The **Trend Options** dialog opens with the **Series** tab visible.

Step	Action
	
2	The **Series** tab lists each type of data. Those checked are shown in the graph. Click in the check box to hide or show the data.
3	Double-clicking the colored line allows you to change the data display color. Select a new color from the **Color** dialog and click **OK**.
4	Clicking the **Change** button opens the **TeeChart Gallery** dialog, which allows you to select other graph styles. Changing the style is not recommended.
5	To rename a data series, select the category and click the **Title** button. Enter a new name in the **New Series Title** field and click **OK**.
6	To change the order of a category label in the graph key, select the category and move it up or down by clicking the arrow buttons.
7	When you are finished setting the series options, click **Close** to return to the graph and view the changes.

About 3D graph options

The options in the **3D** tab of the **Trend Options** dialog are not recommended for presenting LogView data.

Setting color options

Trend lines can be displayed in color or in black, which may improve the appearance of printed graphs. A background color for the graph can be selected as well. Set color options as follows.

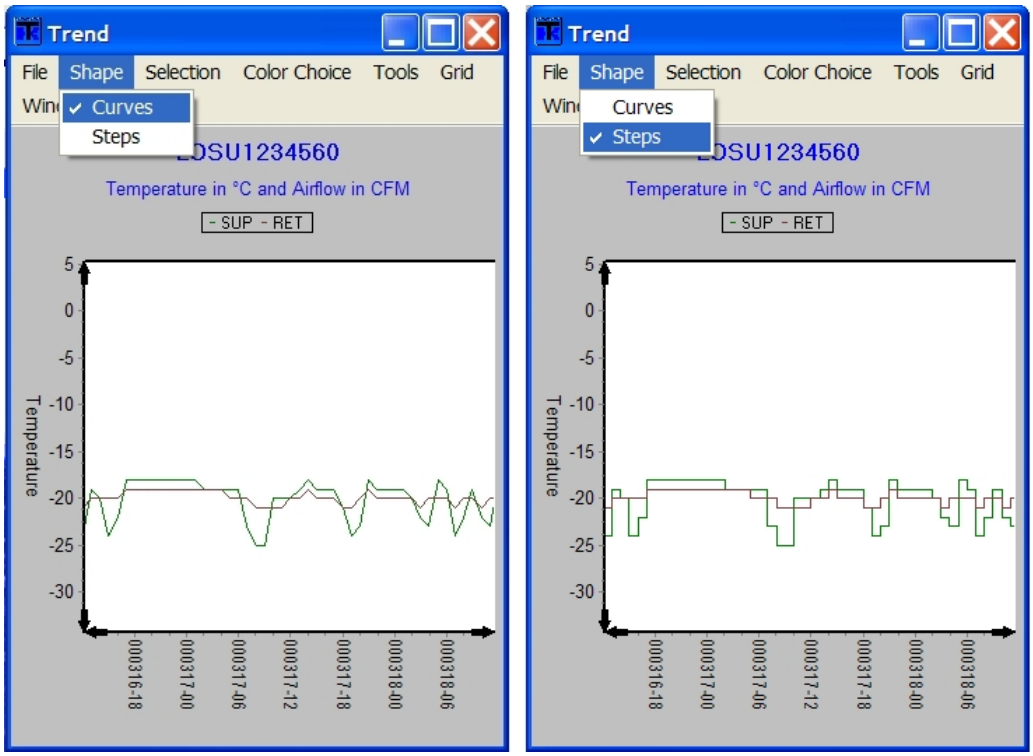
Step	Action
1	Click **Color Choice** in the **Trend** window menu.
2	Select **Color** or **Black/White** display.
3	Select **Color Choice** > **Background Color** if you would like to apply a background color to the graph. Make a selection in the **Color** dialog and click **OK**.
4	If you want to reapply the saved color scheme, click **Color Choice** > **Reset Colors**.

Displaying grid lines

LogView places vertical and horizontal grid lines in the graph by default. If you prefer no grid lines, select **Grid** > **Horizontal Axis** and/or **Grid** > **Vertical Axis** and remove the check marks.

Trend shape

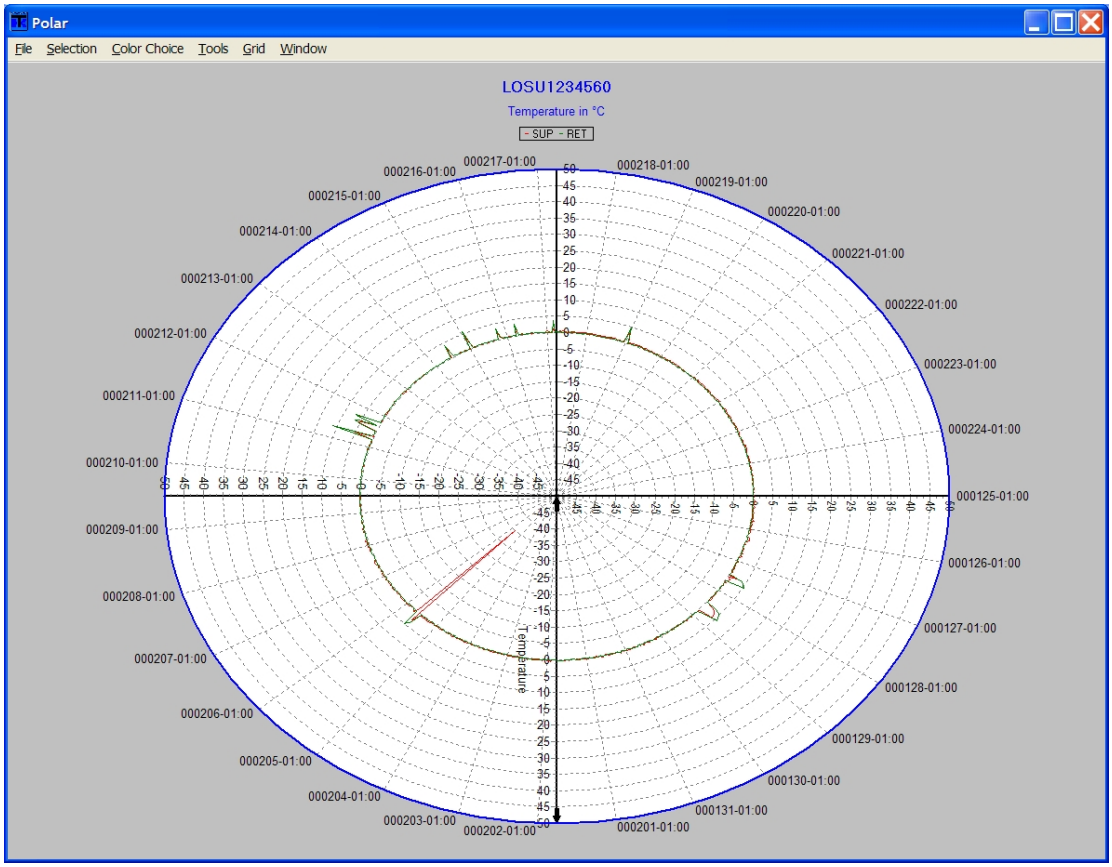
Trend lines can be viewed as curves or steps. Select **Shape** > **Curves** from the **Trend** window menu to view curved trend lines. Select **Shape** > **Steps** to view stepped trend lines. The current shape setting is saved when you select **Options** > **Save settings** from the main menu.



4.2 Polar Plots

About polar plots

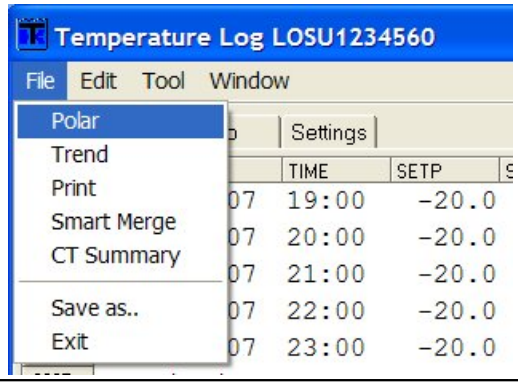
LogView can display polar plots of temperature data from MP-x logs.



Viewing a polar plot

The **Polar** menu item appears in the **File** menu when inspecting an MP-x controller temperature log.

Step	Action
1	Open the temperature log.
2	By default, polar plots show the last 31 days of data in the log. To select an earlier 31-day range of data: • In the **Temperature Log**, click the first record to view. • Hold the SHIFT key down. • Select at least one more record with the mouse or the DOWN ARROW key. • Release the SHIFT key.
3	Select **File** > **Polar** from the **Temperature Log** menu.

Step	Action
	
4	You can move and resize the **Polar** window using standard Windows techniques.

Polar plot color options

The trend lines can be displayed in color or in black, which may improve the appearance of printed graphs. A background color can be selected as well. Set color options as follows.

Step	Action
1	Click **Color Choice** in the **Polar** window menu.
2	Select **Color** or **Black/White** display.
3	Select **Color Choice** > **Background Color** if you would like to apply a background color to the graph. Make a selection in the **Color** dialog and click **OK**.
4	If you want to reapply the default color scheme, click **Color Choice** > **Reset Colors**.

Adjusting the temperature scale (Auto Size)

When **Auto Size** is enabled (checked), the temperature scale is automatically adjusted to fit the data. When the **Auto Size** feature is not enabled, the temperature scale ranges from -50°C to 50°C (-58°F to 122°F).

Select **Tools** > **Auto Size** from the **Polar** window menu to toggle the feature on or off.

Selecting the cross hair cursor

The cross hair cursor makes it easier to pinpoint specific values. When enabled, the values at the cross hair intersection are displayed below the plot.

To enable the cross hair cursor, select **Tools** > **Cross Hair**.

Displaying circles and lines

LogView places temperature circles and date lines in the graph by default. If you prefer no lines, select **Grid** > **Horizontal Axis** and/or **Grid** > **Vertical Axis** and remove the check marks.

Keeping the Polar window on top

Select **Grid** > **Stay on Top** to keep the **Polar** window on top of other LogView windows.

Closing the Polar window

When you are done viewing the graph, either select **File** > **Exit** from the **Polar** window menu or click the Close Window icon (**X**) in window's the top right corner.

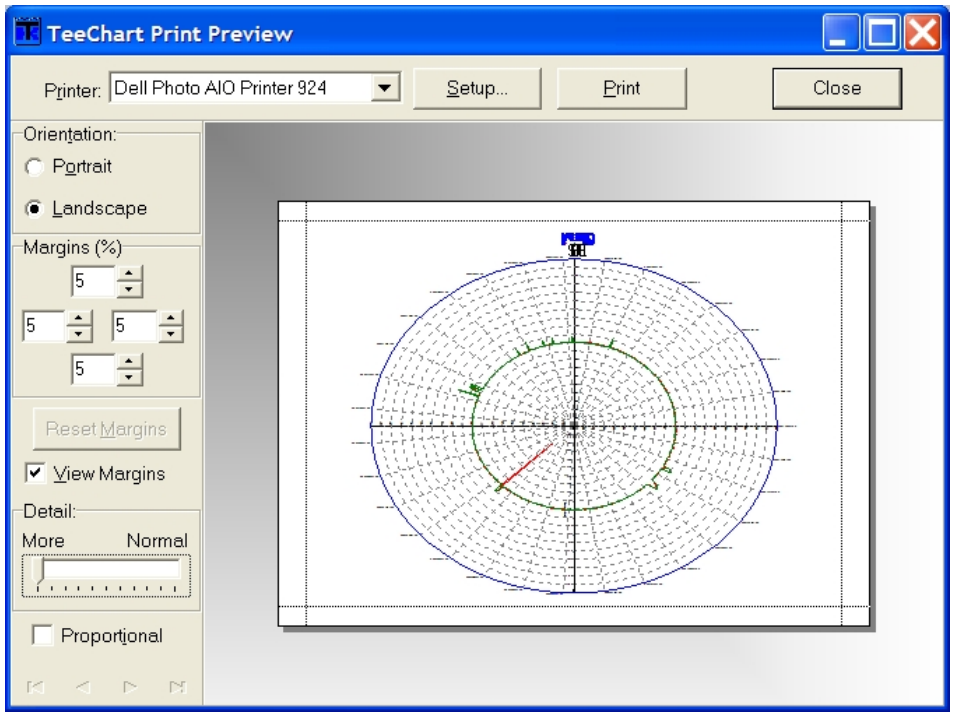
Inserting a polar plot in another document

Polar plots can be copied to the Windows clipboard for pasting into other documents.

Step	Action
1	Click somewhere in the **Polar** window to make it the active window.
2	Press the ALT + PRINT SCREEN keys. This places a copy of the active window on your Windows clipboard.
3	Open the other document and place the cursor where you want to insert the plot. Use the application's paste command, usually **Edit** > **Paste**, to paste the plot.

Printing polar plots

Follow the steps below to print a polar plot.

Step	Action
1	Select **File** > **Print** from the **Polar** window menu. The **TeeChart Print Preview** dialog opens. 
2	Select a printer from the **Printer** drop-down list. To check or change your printer settings, click the **Setup** button.
3	Select **Landscape** orientation. This usually gives better results than **Portrait** orientation.
4	Adjust the print margins if desired with the **Margins** controls.
5	The **Detail** slider provides the same function as the setting under **File** > **Resolution** in the **Trend** menu. **Normal** corresponds to **Low** and **More** corresponds to **High**. Sliding the control to the left increases the number of data labels and shrinks the label text size. This usually gives the best results.
6	Click the **Print** button. When you are done printing, click **Close**.

5 Reports

About reports

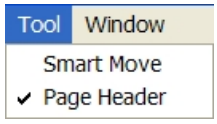
Reports are a special form of the logs that are formatted for printing. Once created, reports can be printed or saved as files for later printing, archival, and distribution.

Reports can be generated from each type of log: temperature, event, PTI, and comment. There is a “Cold Treatment” report that gives a summary of the number of hours a cargo has been below a range of temperatures, and a “Smart Merge” report can be created that combines temperature and event records in a single report.

The LogView user settings allow you to design reports to suit your needs. It is a good idea to review the user settings before creating reports.

Creating a Temperature Log Report

Temperature reports contain sensor data. You can specify the range of dates and the types of data to include.

Step	Action
1	Open the temperature log for the desired container.
2	If desired, limit the range of data included in the report by selecting it in the **Data** tab or filtering dates in the **Settings** tab. See Selecting Data for Reports 32.
3	Select **Tool** > **Page Header** to select or deselect the page header option. When checked, LogView prints the information in the **Header** tab at the top of each page in the report. 
4	Select **File** > **Print** from the temperature log menu. The report opens in the **Print Preview** dialog.

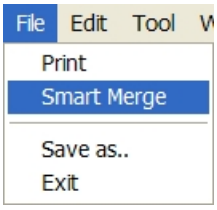
Creating an Event Log Report

Event reports list events recorded by the datalogger in chronological order.

Step	Action
1	Open the logs for the desired container.
2	Click the title bar of the **Event Log**, or select **Window** > **Event** from the **Temperature Log** menu.
3	If desired, limit the range of data included in the report by selecting it in the **Data** tab or filtering dates in the **Settings** tab. See Selecting Data for Reports 32.
4	Select **Tool** > **Page Header** to select or deselect the page header option. When checked, LogView prints the information in the **Header** tab at the top of each page in the report.
5	Select **File** > **Print** from the event log menu. The report opens in the **Print Preview** dialog.

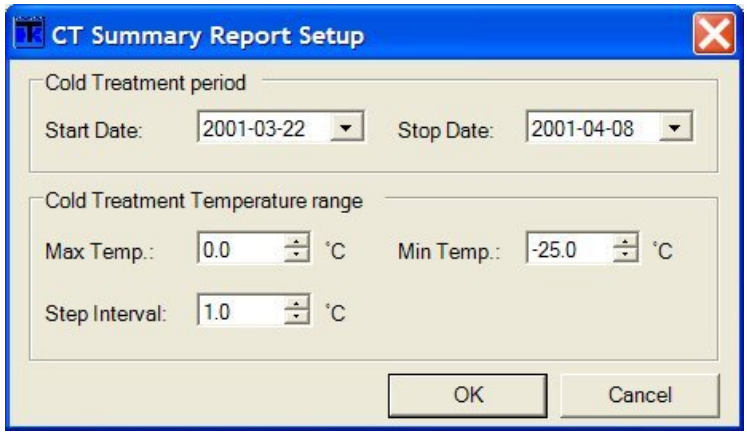
Creating a Smart Merge Log Report

A Smart Merge Log Report combines sensor data and events chronologically in a single report.

Step	Action
1	Open the desired container logs.
2	Select **Window** > **Temp/Event** from the **Temperature Log** menu. The temperature and event logs are tiled on screen.
3	To limit the range of dates, apply a date filter in the **Settings** tab of both the **Temperature Log** and the **Events Log**. See Filtering dates 32.
4	Select **Tool** > **Page Header** to select or deselect the page header option. When checked, LogView prints the information in the **Header** tab at the top of each page in the report.
5	Select **File** > **Smart Merge** from the temperature or event log menu.  The report opens in the **Print Preview** dialog.

Creating a Cold Treatment Summary Report

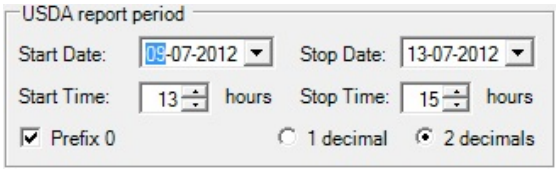
The Cold Treatment Summary Report totals the number hours that USDA sensors register below specified temperatures. If there are chronological breaks in the data, each continuous period is summarized separately.

Step	Action
1	Open the temperature log for the desired container and verify that data is available from one or more USDA sensors.
2	Select **Tool** > **Page Header** to select or deselect the page header option.
3	Select **File** > **CT Summary** from the temperature log menu. The **CT Summary Report Setup** dialog opens. 
4	To limit the range of dates in the report, change the dates in the Cold Treatment period **Start Date** and **Stop Date** fields. Clicking the button opens a calendar from which you can select dates.
5	Enter the range of cold treatment temperatures in the **Max. Temp.** and **Min Temp.** fields.
6	Enter a temperature step value in the **Step Interval** field.

Step	Action
7	Click **OK**. The report opens in the **Print Preview** dialog.

Creating a USDA Report

The USDA Report presents the readings from the USDA sensors 1..3 in a way that has been specified by United States' Department of Agriculture. You can produce the USDA Report in two versions, of which the "Clean textual only" is exactly as requested by USDA, whereas the other version has headers and page numbers, too.

Step	Action
1	Open the temperature log for the desired container and verify that data is available from one or more USDA sensors.
2	Select **Tool** > **Page Header** to select or deselect the page header option.
3	Select **File** > **USDA Report** from the temperature log menu. The **USDA Report Setup** dialog opens. 
4	To limit the time range of the report, change the USDA report period **Start Date**, **Start Time**, **Stop Date** and/or **Stop Time** fields. Clicking the button opens a calendar from which you can select dates.
5	Keep the "Prefix 0" checkmark if you want a 0 in front of all temperatures between -9.9 and 9.9. Remove the checkmark to produce the report exactly as specified by the USDA.
6	If you have selected a cargo temperature precision 11 of two decimals, and the logfile actually includes cargo temperatures with two decimals, you can select if you want one or two decimals in the report: 
7	Keep the "Clean textual only" checkmark if you need the clean textual version of the report. Remove the checkmark to obtain a LogView style report with headers and footers.
8	Click **OK**. If "Clean textual only" is checked, the report opens in Notepad; otherwise the report opens in the **Print Preview** dialog.

Creating a PTI Log or Comment Log Report

Follow the procedure below to create a report from a PTI or Comment Log.

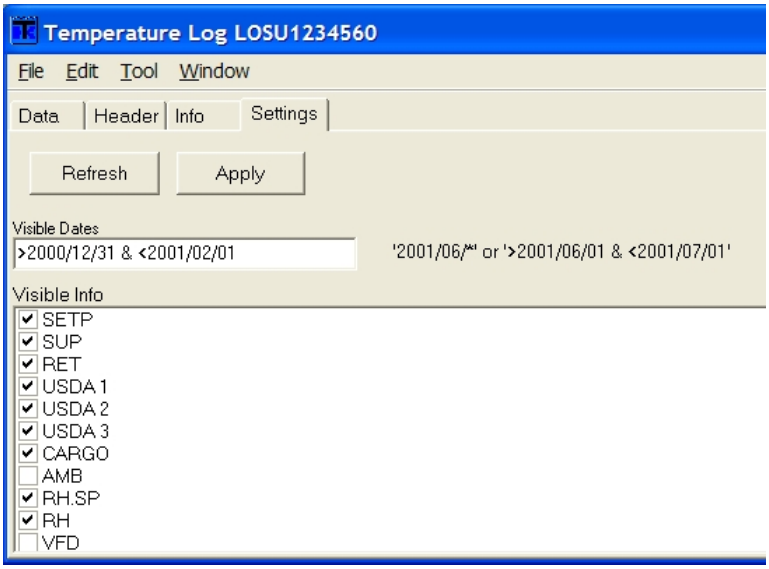
Step	Action
1	Open the container logs.

Step	Action
2	Select the desired log from the **Window** menu of the **Temperature Log**.
3	Select **Tool** > **Page Header** to toggle the option on or off.
4	Select **File** > **Print** from the log menu. The report opens in the **Print Preview** dialog.

5.1 Selecting Data for Reports

Filtering dates

The dates to include in a report can be selected in the **Visible Dates** field of the **Settings** tab of the **Temperature Log** and **Event Log**. All dates must be entered in YYYY/MM/DD format.

Step	Action
1	Go to the **Settings** tab in a **Temperature Log** or **Event Log**.
2	Enter the filter criteria in the **Visible Dates** field. To enter a date range: • Type the “greater than” operator: > • Enter the date one day before the first day to include in YYYY/MM/DD format • Press the SPACE bar once • Type the “and” operator: & • Press the SPACE bar once • Type the “less than” operator: < • Enter the date one day after the last day to include. For example, the filter for January 1 to January 31, 2001 is: **>2000/12/31 & <2001/02/01** 
3	Click **Apply**.
4	To clear a filter, clear the **Visible Dates** field and click **Apply**.

Filter examples

The following are some examples of valid filter criteria.

- Specific date, January 28, 2005: **2005/01/28**
- Multiple dates: **2005/01/28;2005/01/29;2005/01/30**
- Single character match, February 1 – 9, 2003: **2003/02/0?**
- Single character match, March, 2003: **2003/03/??**
- Multi-character match, March, 2003: **2003/03/***
- Multi-character match, 2006: **2006/*/***
- After December 31, 2005: **>2005/12/31**
- Before January 1, 2007: **<2007/01/01**
- After December 31, 2005, and before January 1, 2007: **>2005/12/31 & <2007/01/01**

Filter operators

The following operators may be used to filter dates:

*	Multi-character match.
?	Single character match.
>	Greater than (after).
<	Less than (before).
=	Equal to.
!	Not equal to.
&	And
^	Or
;	Or

Selecting records from the table

You can select the log records to include in the report using your mouse or keyboard in the **Data** tab. This method, however, does not work with SmartMerge reports..

Step	Action
1	Go to the **Data** tab in the **Temperature Log** or **Event Log**.
2	Click the first record to include in the report.
3	Press and hold the SHIFT key.
4	Select the last record to view using the UP/DOWN ARROW keys, the PAGE UP/ PAGE DOWN keys, or, using the mouse, scroll down and click the last record.
5	Release the SHIFT key.

Selecting sensors to include

Smart Merge and Temperature Log reports can be configured to show only the types of sensors that you need. See Hiding sensors from view 18.

5.2 Working with Reports

Previewing reports

The **Print Preview** toolbar has seven buttons to help you view reports on screen.

The number of the current page and the total number of pages in the report are displayed at the bottom-left of the **Print Preview** window.

Button	Function
	Zoom to fit: Fits the entire page on screen.
	100%: Displays report at full size.
	Zoom to width: Fits page width to screen.
	First page: Jumps to first page of report.
	Previous page: Jumps to previous page.
	Next page: Jumps to next page.
	Last page: Jumps to last page.

Printing reports

To print a report, follow the steps below.

Step	Action
1	Create the report.
2	Preview the report to verify that it fits on the paper and includes the intended information.
3	Click on the **Print Preview** toolbar. Select a printer from the **Print** dialog.
4	To verify or change print settings, click **Properties** in the **Print** dialog. If the report is too wide to fit on the page, select Landscape orientation or go back and deselect some sensors in the temperature log's **Settings** tab.
5	Click **OK** to close the **Print** dialog.
6	To print the report, click the button on the **Print Preview** toolbar.
7	Click **Close** to exit the **Print Preview** dialog.

Saving reports

Reports can be saved in QuickReport (.QRP) format for later printing or electronic distribution to other LogView users.

Step	Action
1	Create the report and verify that it contains the required information.
2	Click on the **Print Preview** toolbar.
3	Select a file location and name in the **Save Report** dialog. Note: the value in the **Save as type** field at the bottom of the dialog must be QuickReport file(*.QRP). Reports cannot be saved as text files.
4	Click **Save**.
5	Click **Close** to exit the **Print Preview** dialog.

Loading reports

To load a previously saved report for viewing or printing, follow the steps below.

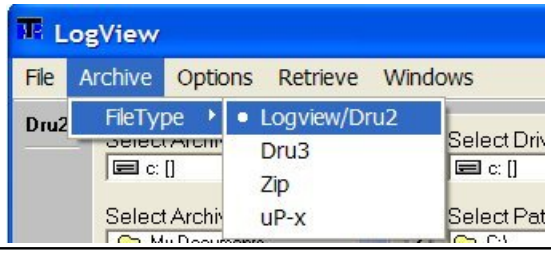
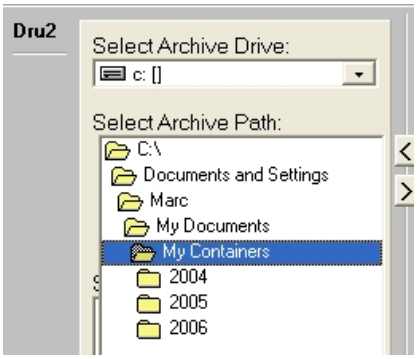
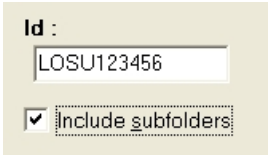
Step	Action
1	Select **File** > **Open report** from the LogView menu.

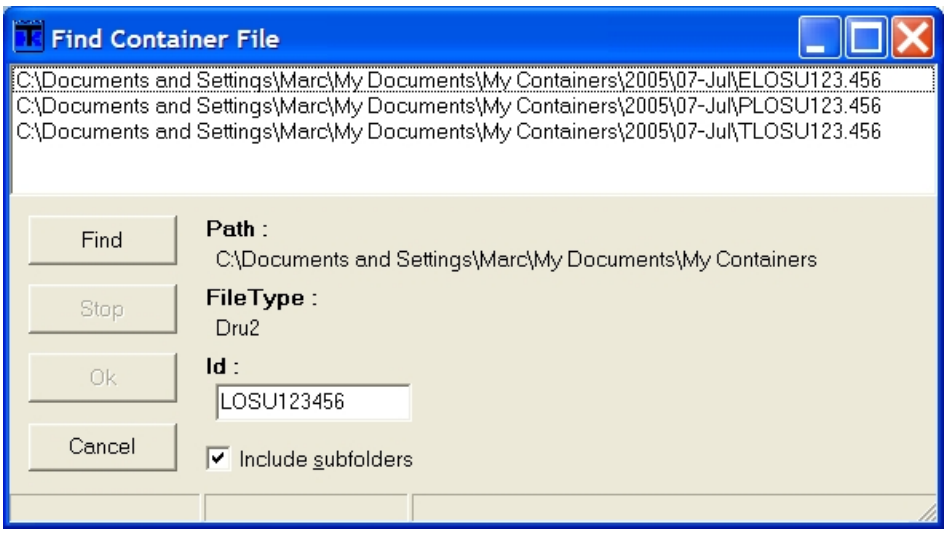
Step	Action
2	Navigate to the report folder.
3	Select the report file to open.
4	Double click the file or click **Open**.
5	Reports can also be opened by clicking on the **Print Preview** toolbar.

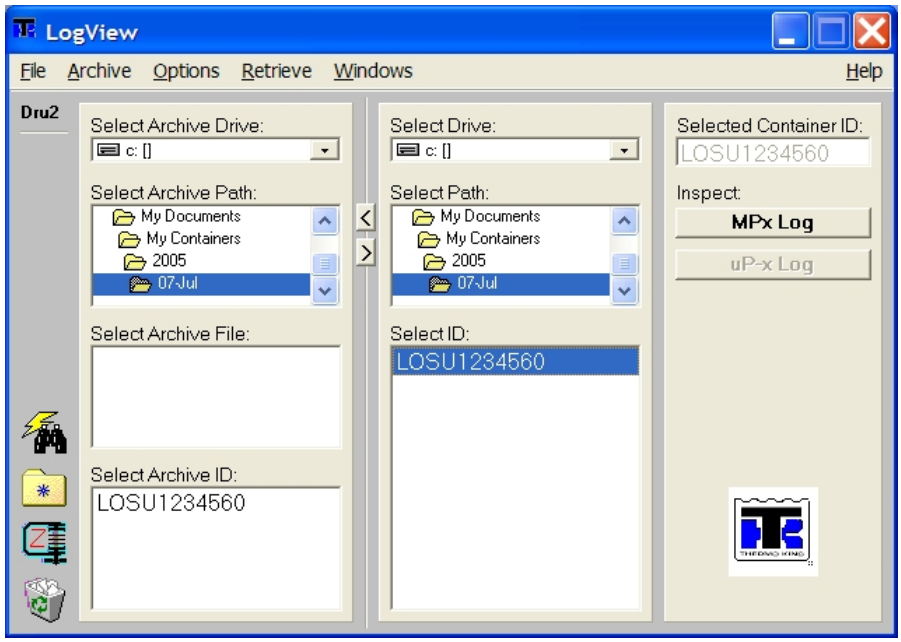
6 Managing Container Data

Locating LogView log files

Use the following procedure to locate and open LogView-format log files. To locate other types of files, see Locating archive files 41.

Step	Action
1	Select **Archive** > **File Type** > **Logview/Dru2** from the main menu. 
2	Select the drive containing log files from the **Select Archive Drive** list.
3	In the **Select Archive Path** list, open (double-click) the lowest level folder that you are sure contains the desired log file. Select the root directory if in doubt.  Tip: Right-click in the list to extend it.
4	Click the icon.
5	Type the 10-character container ID in **Id** text box of the **Find Container File** dialog. Do not include the container ID's check digit. If **Include subfolders** is not selected, click in the check box. 

Step	Action
6	Click **Find**. Note the path and file names listed in the **Find Container File** dialog, then close the dialog.  If no files are found, try the following: • Verify that **Include subfolders** is selected. • Verify that **LogView/Dru2** is the selected archive file type. • Search again from the root directory. • Search other drives that you may have.
7	Open (double-click) the folder in the **Select Archive Path** list box. 

Step	Action
8	Click to open the same folder on the right side. The Container ID now appears in the **Select ID** list box on the right. To open the container logs, double-click the container ID in the **Select ID** list box. 

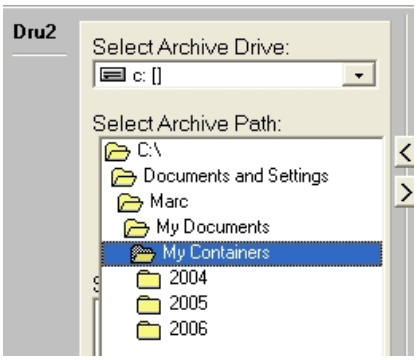
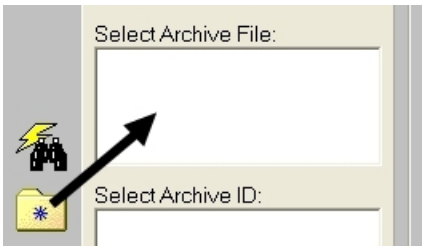
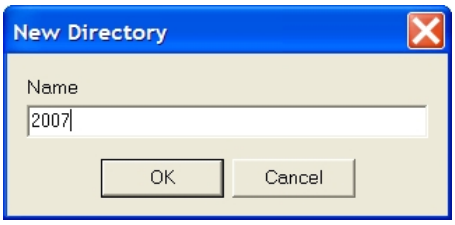
Creating a Zip archive

LogView allows you to create an empty Zip archive file. Depending on your system, additional software may be required to place files in the zip archive..

Step	Action
1	Select **Archive** > **FileType** > **Zip** from the main menu.
2	In the **Select Archive Path** list, open (double-click) the folder in which to place the Zip archive.
3	Drag the icon to the **Select Archive File** window. The **New Archive** dialog opens. If it does not, verify that Zip is selected in the **FileType** menu.
4	Enter a name for the zip file in the **Name** field of the **New Archive** dialog. Click **OK**.
5	The new archive file appears in the **Select Archive File** window. You can now add files to the new zip archive with separate data compression software.

Creating a directory folder

Follow the steps below to create new folders for your data.

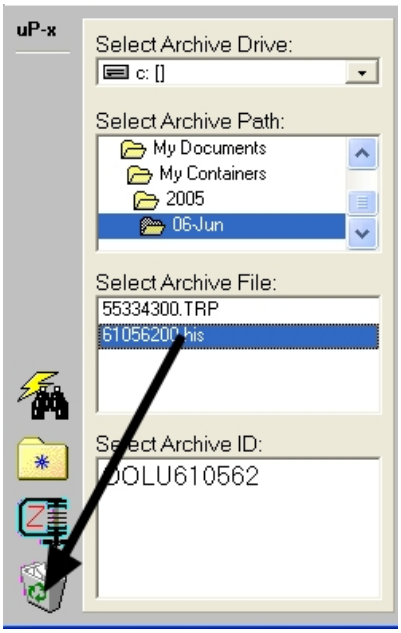
Step	Action
1	In the **Select Archive Path** list, open (double-click) the folder in which to place the new folder. 
2	Drag the icon to the **Select Archive File** window. 
3	The **New Directory** dialog appears. Type the folder name in the **Name** text box. Click **OK**. 
4	The new folder appears in the **Select Archive Path** list.

Deleting data

Dragging an object to the **Recycle Bin** icon in LogView moves it to the recycle bin of your computer. It is not permanently deleted until you empty the computer's recycle bin.

CAUTION: Because LogView displays your entire computer directory in the **Select Archive Path** list, you can accidentally delete system and other folders from your computer.

Step	Action
1	Select the folder, archive file, or container ID to delete from one of the list boxes on the left.
2	Drag the object to delete from the list box over to the icon.

Step	Action
	
3	The **Confirm File Delete** dialog opens. Click **Yes** to delete.

Retrieving data from recycle bin

To retrieve a file or folder that has been deleted accidentally, double-click the **Recycle Bin** icon on your desktop. Select the file or folder to restore and click **File** > **Restore** from the **Recycle Bin** menu.

6.1 Organizing Container Data

Recommended file location

Note: Saving files in the root directory of your hard disk is not recommended because the root directory contains critical system files, and placing all files in one directory makes them difficult to find.

It is recommended that you create a “My Containers” folder for all container data and place this folder in your “My Documents” folder. See A suggested folder structure 39.

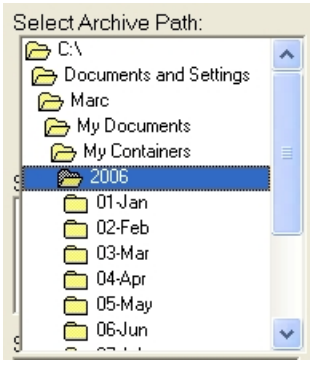
Risk of overwriting files

Log files are typically assigned a file name based on the container’s ID. If a container log file is stored on your computer, it may be overwritten by a second log file from the same container if placed in the same folder.

It is your responsibility to save log files in a safe archive storage location.

A suggested folder structure

A chronological folder system is a convenient way to organize container data. The suggested folder structure has a “My Containers” folder with sub-directories (folders) for each year. Each year folder has numbered folders for each month. Log files are saved in the month folders.



With this structure

- All logs are in a common folder, which helps when using the search function.
- You do not have to think about where to place new files.
- Folders are listed in chronological order.
- It is easy to identify obsolete files that can be deleted.
- You will not accidentally overwrite earlier files from the same container.
- If you have multiple files from the same container, it is easy to identify which one is the latest.

Creating the suggested folders

To create the suggested folder structure, follow these steps.

Step	Action
1	Select the drive where your **My Documents** folder is located, usually C:, from the **Select Archive Drive** dropdown list.
2	Open (double-click) your **My Documents** folder in **Select Archive Path** list box.
3	Drag the icon to the **Select Archive File** list box.
4	Enter “My Containers” in the **New Directory** dialog and click **OK**.
5	The **My Containers** folder appears in the **Select Archive Path** list box. Double-click it.
6	Again, drag the icon to the **Select Archive File** list box. Name the new directory for the year and click **OK**.
7	The folder appears under **My Containers**. Double-click the year folder to open it.
8	Drag the icon to the **Select Archive File** list box. Name the new directory “01-January” or something similar. (Numbering the month folders forces LogView to display them in order.) Click **OK**.
9	Repeat step 8 for each month.

6.2 Working with Archive Files

About archive files

In LogView, an archive file is a file that contains log data that LogView cannot read directly. Archive files can come from proprietary data retrieval tools, REFCON, and data compression software such as WinZip. Files from these applications must be converted to LogView format.

Logs retrieved using the LogMan II, the LogMan or the Dru2 software are in LogView format and

are ready for viewing; no conversion is necessary. Logs retrieved using Thermo King Smartsponge are in archive format when they come from µP-series controllers, and in LogView format when they come from MP-series controllers.

Archive file types supported by LogView

LogView supports four file formats: it's own plus three types of archive files. The formats are listed below along with the associated controller types and retrieval tools. For a list of supported controllers, see Supported controllers 4.

Format	Controllers	Retrieval Tools
Logview/Dru2	All supported	LogMan, Dru2
	TK MP series	TK SmartSponge
Dru3	All supported	REFCON
Zip (.zip)	All supported	n/a
µP-X (.his, .trp)	TK µP series	TK SmartSponge

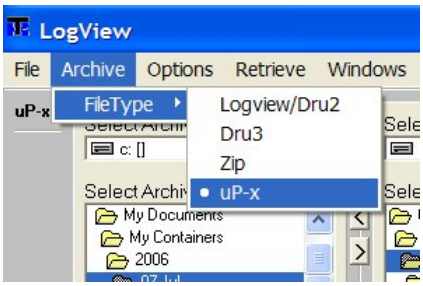
Listing archive files

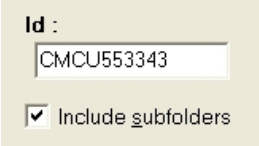
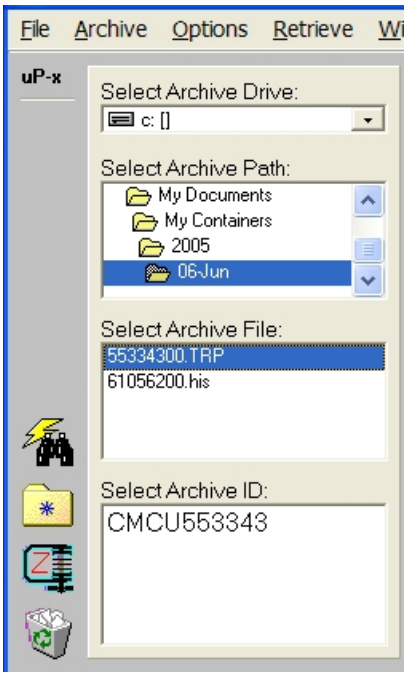
Archive files are listed on the left side of the LogView window in the **Select Archive File** list box. LogView can only list one type of file at a time! The type currently selected is displayed on the left side of the window, just under the menu bar.

The container ID associated with the file appears in the **Select Archive ID** list box when the file is selected in the list box above.

Locating archive files

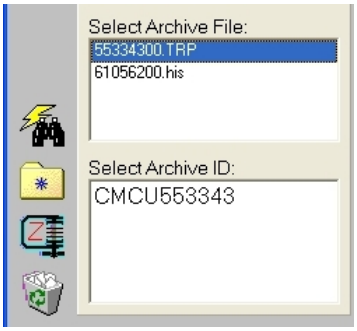
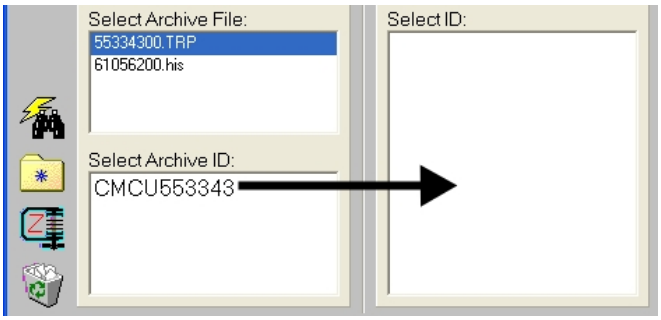
Use this procedure to locate and convert an archive file.

Step	Action
1	Select **Archive** > **File Type** from the main menu and then select the type of archive file to search for. 
2	Select the drive to search from the **Select Archive Drive** list.
3	In the **Select Archive Path** list, select the lowest level folder that is likely to contain the log file. Select the root directory if in doubt.

Step	Action
	
4	Click the  icon.
5	Type the 10-character container ID in **Id** text box of the **Find Container Data** dialog. Do not include the container ID's check digit. If **Include subfolders** is not selected, click in the check box. 
6	Click **Find**. Note the drive, path, and file name listed in the **Find Container File** dialog. If no matches are found, try the following: • Verify that **Include subfolders** is selected. • Search again from the root directory. • Search other drives that you may have. • Search for other types of archive files.
7	Open (double-click) the folder in the **Select Archive Path** list box.
8	Select the file returned by the search in the **Select Archive File** list box.  The container ID appears in the **Select Archive ID** list box. To convert the archive file to LogView format, see Converting archive files 43.

Converting archive files

To create LogView files from an archive file, follow the steps below.

Step	Action
1	Select the archive file type from the **Archive** > **File Type** list.
2	Select the drive where the archive file is located from the **Select Archive Drive** dropdown list.
3	Open (double-click) the folder containing the archive file in the **Select Archive Path** list box.
4	Select the archive file in the **Select Archive File** list box. One or more container IDs appear in the **Select Archive ID** list box. 
5	Select the drive for the converted container logs from the **Select Drive** list on the right side. Then open (double-click) the folder where you want to save the logs in the **Select Path** list. Tip: Click  to open the same folder on the right as is open in the left.
6	Drag the container ID from the **Select Archive ID** list on the left over to the **Select ID** list box on the right.  When the container ID appears on the right, in the **Select ID** list, the container logs have been successfully converted and are ready for viewing. See Opening logs 16.

7 Appendix 1: LogView Help Resources

Online help

To open LogView's online help file, select **Help** > **Index** from the main menu.

Additional support

If you require additional help using LogView, please contact Emerson LogView Customer

Support by email. Please include the LogView version number in your message.

LogView version information

To view the version number of your LogView software, select **Help** > **About LogView** from the main menu.

LogView dll file information

LogView makes use of dynamic link library (dll) files to convert archive files to LogView format. The dll file names and version numbers may be viewed in the **About LogView** dialog. To open the dialog, select **Help** > **About LogView** from the main menu.

8 Appendix 2: Document Revision Record

List of document revisions

Rev.	Date	Author	Brief description of change	Pages affected
1.0			Original issue	All
1.1	060427	HPL	Layout finished	All
1.2	060802	HPL	Minor adjustments	Most
1.3	060915	MA	Updates for 5.8.0.0 and modified for D2H	All
1.4	120620	MCH	Updated for Emerson	Most
2.0	150519	HPL	Change of tool and structure, thorough update	All

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