Temprecord User's Manual

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Temprecord User's Manual

Version 6.3

This is the User's Manual for the Temprecord for Windows software and associated temperature and humidity loggers. The contents of this manual mirror the online help provided with the application, but the format of this PDF file is better suited to printing.

Temprecord User's Manual

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Contents

Index

311

1 Introduction

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Welcome to Temprecord on-line Help as a PDF.

This PDF document contains the same content as the on-line help that you can display by pressing the **F1** key w hile Temprecord is running. This help text pertains to versions of the Temprecord softw are from version 6.3 onw ards. Earlier versions of Temprecord may not have some of the features described in this help.

This screen lists the major help topics. You can jump to other topics by clicking on text that is <u>displayed like this</u>. For more information on how to use the Temprecord help system, see <u>How to Use Help</u>.

<u>License Information</u>

<u>File Menu</u>

<u>Program Menu</u>

<u>View Menu</u>

<u>Options Menu</u>

<u>Help Menu</u>

<u>Pop-up Menus</u>

<u>Toolbars and Speed Buttons</u>

<u>Installation</u>

<u>How to Use Help</u>

<u>Getting Started w ith Temprecord</u>

<u>How do I...</u>

<u>Common Problems</u>

<u>Error and Warning Messages</u>

<u>Command-Line Parameters</u>

1.1 What's new in version 6.3?

What follows are the release notes, changes, and fixes for the releases of the Temprecord software, with the most recent release (6.3, release 24) shown at the top.

1.2 License Information

The **Temprecord** program is supplied free by **Temprecord International Limited** ("**TIL**"). You may not charge for the softw are. You are free to distribute the softw are installation package to any other person or organization. It must be supplied in it's unmodified complete form (generally a compressed file named **trw-setup.zip).**

You may not disassemble or reverse-engineer the **Temprecord** softw are or hardw are.

The softw are is provided on an "as-is" basis. **TIL** does not w arranty the softw are nor guarantee it's operation in all environments. **TIL** accepts no claim f or damages incidental to the use of their softw are.

1.3 Help Menu

While you can access Temprecord on-line help at most times by pressing F1, the Help menu provides a quick w ay of jumping to f requently accessed topic groups, such as common problems that might be experienced and how to deal w ith them, or a list of the error and w arning messages.

Contents

How Do I...

Common Problems

Error and Warning Messages

View Help as PDF

About Temprecord

1.4 How do I find out what version of Temprecord I have?

You can find out w hat version of the Temprecord program you are running by:

- w atching the "splash screen" that displays as Temprecord starts up.
- Clicking on **Help/About Temprecord**.

When reporting problems or contacting Temprecord support about issues involving the Temprecord program, be sure to quote the version (all f our numbers, e.g. "5.28.0.1234").

Note that you can also see the version of Temprecord that w as current w hen this help f ile w as produced (6.3) by navigating to the help topic About Temprecord Help. It does not necessarily correspond to the version of Temprecord installed on your computer. You should alw ays use either of the tw o methods above (the splash screen, or **Help/About Temprecord**) w hen reporting the softw are version to Temprecord.

See Also
About Temprecord Help
How do I...
Common Problems

1.5 Getting Started with Temprecord

If you are new to Temprecord, this topic provides a step by step tutorial on how to use a logger to record temperature and then reading and displaying the recorded temperature data. The follow ing steps assume you have just taken delivery of a 'starter pack' consisting of the Temprecord program, a Temprecord Scientific or Multi-trip logger, and a Temprecord Reader Interface.

- Connect the Temprecord Reader Interface to your computer's serial port or USB port. If you are unsure about this step, see the topic Where do I plug my reader in?
- Insert the Temprecord logger into the Reader, making sure it is pushed all the w ay in.

- Select File/Query Logger by opening the File Menu and clicking on Query Logger. After a few seconds, a window should display showing a summary of the logger. Otherwise, see the topics Unable to Access Temprecord Logger or Unable to open COMx.

- Select Program/Parameters. After a few seconds you will see the Logger Parameters screen, which allows you to set the logger up. Change the sample period to 00:00:10 (one sample every 10 seconds). Set the start delay to 00:00:20 (20 seconds).

- Click on 'OK'. After a few seconds the logger parameters screen will close.

- When the logger parameters screen has closed, remove the logger from the reader interface. The logger will flash the green LED every ten seconds to indicate the start delay is counting down. When the start delay has counted down to zero, the logger will flash the red LED four times in quick succession and take the first sample, and the LED's from that point will then flash every ten seconds to indicate the state of the limits (a brief green flash for inside the upper and lower limits, a red flash for outside the limits). On the LCD logger this behaviour is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits.

- Place the logger in an environment you wish to measure the temperature of (e.g. a refrigerator) and leave it for a few minutes.

- Retrieve the logger, and insert it into the Reader Interface.

- Select the File/Read Logger function. A window will open indicating the data is being read from the logger. When this step is complete a graph of the recorded samples will display.

- Select the View/Values function. The Window will change to display the logged temperatures as a series of temperature values.

- Select the File/Save function. This allows you to save the logged temperatures to a file so that they can be read from disk later. Temprecord initially chooses a filename based on the serial number of the logger, but you are free to change this if you wish.

- Click on OK to save the data to disk.

Your Temprecord logger continues to record samples until it is stopped (see Program/Stop Logger) or the maximum number of samples is taken (unless the Loop Overwrite Option is turned on). You do not need to stop the logger in order to read and display the logged temperature.

On the LCD logger the behaviour of the LED's when limits are transgressed is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits. See Enable Status LEDs for more information.

Congratulations! You have just used your Temprecord logger to record and display temperature samples.

See also:
How Do I...?
Common Problems
Error and Warning Messages

1.6   How To Use Help

There are several ways to find information about a particular help topic.

- If you are new to Temprecord and want to find out how to use the product, try Getting Started with Temprecord.

- To search for help on a particular topic, click on the button marked 'Search' near the top of this Help window.

- To find out more about an item on a Temprecord menu, open the menu, move the mouse over the menu entry, and press F1.

- To find out more information about an error message that is displaying, press F1 while the error message window is displayed, or click on the button marked 'Help'. You can also refer to the Help topic Error and Warning Messages.

- For a brief summary of the steps involved in the more common Temprecord operations, such as programming a logger, starting a logger, reading a logger's data, etc., see the topic How Do I....

- If you are having a particular problem, try looking at the Help topic Common Problems.

When viewing Temprecord help, these symbols are used as an aid to your quickly finding the information you require:

indicates a note of caution - w here care needs to be taken w ith a Temprecord function.

is used to bring your attention to text that describes a quicker w ay of performing some function - for example a short-cut or hint.

Folder and File Names

When folder and filenames are discussed in this help text, examples are show n in **this font**, for example **C:\Program Files\Temprecord\TRW**. The example folder and filenames assume a default installation on a computer running the Window s XP operating system. If you are running another operating system such as Window s 7 or Vista, these pathnames w ill be different.

1.7   Pop-Up Menus

At most times w hen Temprecord is running, you can click the right mouse button and get a menu of the most common commands.

For example, a frequent operation is changing from one view mode to another. This can be done in the conventional w ay, by opening the View Menu and clicking on the view mode you require, but a much quicker w ay is to place the mouse cursor in the Temprecord data w indow you w ant to change the view mode in, and click the right mouse button. You can then select the view mode you w ant from there.
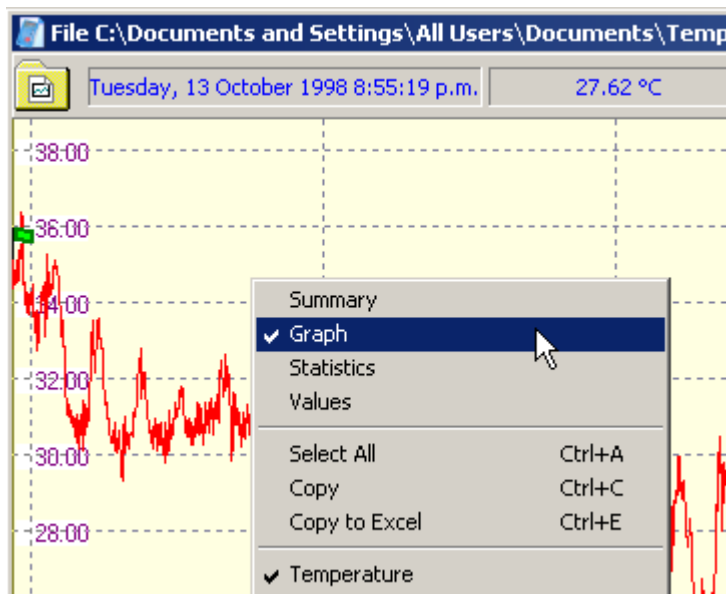
You can perform the follow ing operations from the pop-up menu in the current Temprecord data w indow :

- Select one of the four view modes (summary, values, statistics, or graph).
- Select betw een view ing Temperature data, Humidity data, or both.
- Select all the samples in the file.
- Copy the selected samples to the clipboard
- Copy the selected samples to a new Microsoft Excel spreadsheet file.
- Access the Go To functions.

- Access the Zoom functions.
- Set the current sample as the start sample.
- Set the current sample as the end sample.
- Read data from a logger.
- Print from the current Temprecord data window.
- Save the data in the current window to a file.
- Export the data in the current window to a file.
- Email the **.TR** file or a **.PDF** file.
- Edit the comments for the current window.
- Add a comment to the data in the current window.
- Access the display options. This menu entry will access the options page for any one of the four view modes, i.e. summary, values, statistics or graph, depending on the current view mode.
- Close the current data window.

Some of these functions may not be available and the pop-up menu entries are displayed in gray in that case. For example, the Zoom entry will be grayed unless the view mode of the current window is graph view.

You can also perform the following operations from the pop-up menu that displays when the right mouse button is clicked when there are no Temprecord data windows open, or the mouse is not positioned over a data window:

- Query a logger -i.e. check for the presence of a logger and display the summary data from that logger in a new window.
- Read data from a logger.
- Open an existing Temprecord data file.
- Exit Temprecord

A pop-up menu is also accessible from each toolbar my right-clicking on any of the buttons. See Toolbar Options for more details.

1.8   Toolbars and Speed Buttons

Many of the common operations you will need to perform with Temprecord can be accessed by the row of buttons (called 'speed buttons') along the top of the Temprecord window. These buttons are arranged as four groups. Each group of buttons is on its own toolbar. These toolbars can be repositioned and "docked" in any of the top, left, bottom, or right edges of the Temprecord main window. They can also be "undocked", that is, dragged outside the Temprecord main window and floated above the desktop in any position.
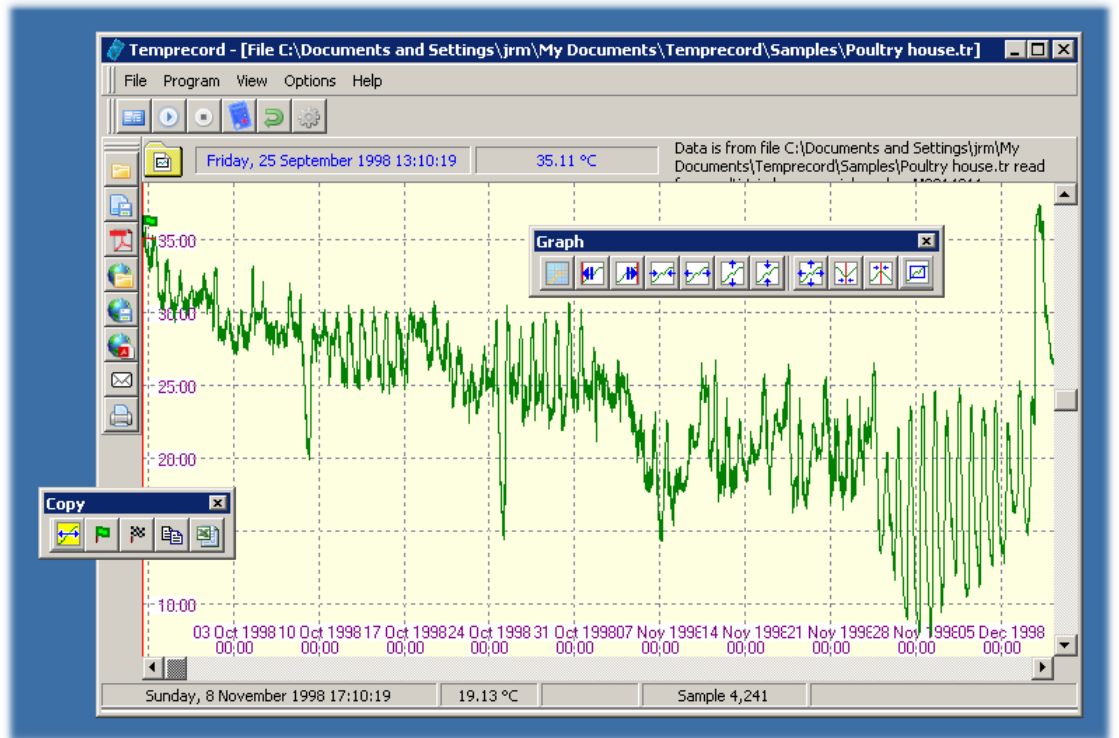
The main menu is also on it's own toolbar and can be moved or undocked.

To dock a toolbar again, just drag it over any of the 4 edges of the Temprecord main window.

When you click on the close button of a toolbar, it will disappear. It will remain invisible even after you exit and start Temprecord again. To make the toolbar visible again, click on View in the main menu and select Toolbars:
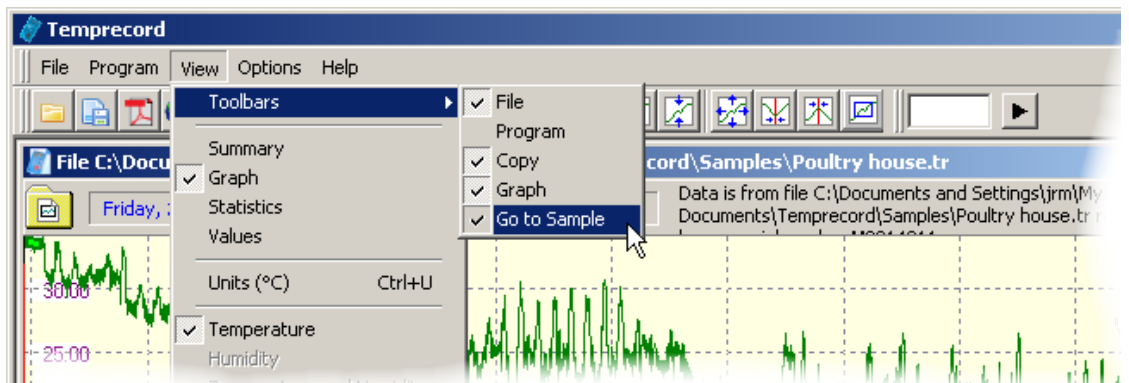
When you exit Temprecord, the position and state (docked or undocked) of each toolbar is saved. When you start Temprecord next, the toolbars are restored to their saved positions.

 The toolbars can be "locked", that is, prevented from being moved, docked, or undocked. If the Lock Toolbars checkbox on the general options tab is checked, the current state and positions of all the toolbars cannot be changed, and when Temprecord starts again they will be restored and remain locked.

Menu Toolbar
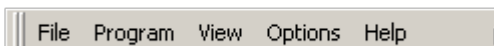
The Menu toolbar contains five menu entries w hich w hen clicked on open submenus. See File Menu, Program Menu, View Menu, and Options Menu for more information.

File Toolbar

Opens a file. The same function is available w ith the File/Open menu entry.

Saves the data in the current Temprecord data w indow to a disk file. The same function is available w ith the File/Save menu entry

Saves the data in the current Temprecord data w indow as a PDF report file. You can specify the form that the PDF report takes w ith the PDF options. The same function is available w ith the File/Save to PDF menu entry.

Opens a file from Temprecord Web storage

Saves the data in the current Temprecord data w indow to a file to Temprecord Web storage.

Saves the data in the current Temprecord data w indow as a PDF report file to Temprecord Web storage. You can specify the form that the PDF report takes w ith the PDF options.

Emails the data in the current Temprecord data w indow as an attached .TRX file. If the data in the w indow is from a file, or it w as from a logger and w as subsequently saved to a file, the attachment is given that name. If the data in the w indow has been read from logger but not yet saved to a file, the name of the attachment is created from the default TRX filename. The details of the email, such as the recipients and accompanying message body are determined be the email options.

Prints the data in the current Temprecord data w indow . You can specify the form that the printed report takes w ith the printing options. The same function is available w ith the File/Print menu entry.

Program Toolbar

Query Logger. When clicked, this causes the logger to read the status information from the logger, and also to optionally (depending on the **Read T/H when querying logger** setting in the General Options) perform an "on-demand" temperature and/or humidity conversion. The resulting status information van be seem summarized in the summary view . The same function is available w ith the File/Query Logger menu entry, or by pressing the space-bar.

Sometimes a logger is unable to respond to a request to read-on-demand the temperature and/or humidity, because of the need to occasionally carry out internal processing. If this occurs, repeating the request will usually work.

Allows you to program the parameters of a logger. You must have a logger inserted in the reader interface and the logger must be in the 'ready' state. The same function is available with the Program/Parameters menu entry

Starts a logger. You must have a logger inserted in the reader interface and the logger must be in the 'ready' state. Once a logger has been started, you cannot alter the parameters. The same function is available with the Program/Start menu entry.

Stops a logger. You must have a logger inserted in the reader interface and the logger must be in the 'logging' state. The same function is available with the Program/Stop menu entry.

Reads the data from a logger. You must have a logger inserted in the reader interface and the logger must be in the 'logging' or 'finished' states. The same function is available with the File/Read Logger menu entry

Reuses a logger. You must have a logger inserted in the reader interface, the logger must be in the 'finished' state, and it must be a multi-trip or scientific type. The same function is available with the Program/Reuse menu entry.

Starts Temprecord Auto Mode.

Graph Toolbar
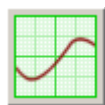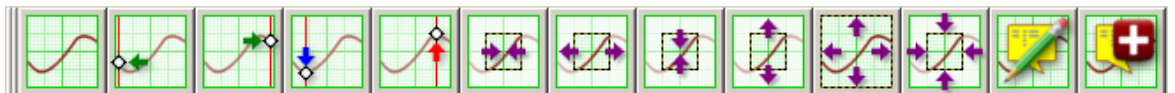
Selects graph view. This button is only functional if there is logger or file data loaded.
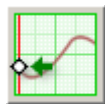
Moves the cursor to the first sample in the record. This button is only functional if there is logger or file data loaded and graph view or values view mode is selected. The same function is available with the View/Goto/First Sample menu entry, or by pressing the 'Home' key.

Moves the cursor to the last sample in the record. This button is only functional if there is logger or file data loaded and graph view or values view mode is selected. The same function is available with the View/Goto/Last Sample menu entry, or by pressing the 'End' key.
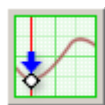
Moves the graph sample cursor to the minimum values sample. This button is only functional if there is logger or file data loaded and graph view mode is selected. The same function is available with the View/Goto/Minimum menu entry, or by pressing the F5 key. Note that only the samples between the start and end samples are considered when Temprecord searches for the minimum value.
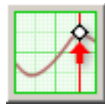
Moves the graph sample cursor to the maximum values sample. This button is only functional if there is logger or file data loaded and graph view mode is selected. The same function is available with the View /Goto/Maximum menu entry, or by pressing the F6 key. Note that only the samples between the start and end samples are considered when Temprecord searches for the maximum value
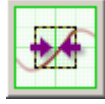
Zooms in (i.e. expands) the trace horizontally. This button is only functional if there is logger or file data loaded and graph view mode is selected. The same function is available with the View /Zoom/X+ menu entry, or by pressing the '+' key with the shift key held down.
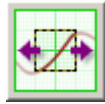
Zooms out (i.e. compresses) the trace horizontally. This button is only functional if there is logger or file data loaded and graph view mode is selected. The same function is available with the View /Zoom/X- menu entry, or by pressing the '-' key with the shift key held down.
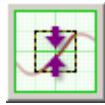
Zooms in (i.e. expands) the trace vertically. This button is only functional if there is logger or file data loaded and graph view mode is selected. The same function is available with the View /Zoom/Y+ menu entry, or by pressing the '+' (plus) key.

Zooms out (i.e. compresses) the trace vertically. This button is only functional if there is logger or file data loaded and graph view mode is selected. The same function is available with the View /Zoom/Y- menu entry, or by pressing the '-' (minus) key.
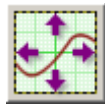
Zooms to show the whole data set. This button is only functional if there is logger or file data loaded and graph view mode is selected. The same function is available with the View /Zoom/All menu entry, or by pressing the F4 key.
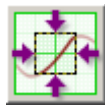
Zooms to the preset values for the time and temperature axes specified in the graph view options page. See the topic Using the Zoom Presets for more information

Displays the comments list, from where individual comments can be edited.

Creates a new empty comment and allows you to specify the position on the graph, and the test of the comment title and body.

Go to Sample Toolbar

This toolbar is used when positioning the graph view or values view at a particular sample. If the toolbar is docked or

visible, just click in the entry field and type a sample number, followed either by the **Enter** key, or by clicking the ▶ button just to the right of the field. If the toolbar is not visible, using the **View/Goto/Sample** menu function, or the shortcut key **^G** will cause the toolbar to be made visible.

Copy Toolbar
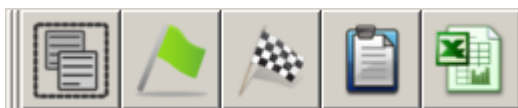
Selects all the samples. This is equivalent to clicking on the first sample, pressing **F7** to set the start sample to the first sample, then clicking on the last sample, pressing **F8** to set the end sample to the last sample. Any Copy operation will then copy all of the samples to the clipboard. The select all samples operation can also be carried out by pressing Ctrl-A while in the graph view, or selecting **Select All** from the right-click menu in graph view. This button is only functional if there is logger or file data loaded and graph view mode is selected

Sets the start sample to the graph sample cursor, i.e. the position on the graph of the cursor. This is equivalent to pressing **F7.** This button is only functional if there is logger or file data loaded and graph view mode is selected.

Sets the end sample to the graph sample cursor, i.e. the position on the graph of the cursor. This is equivalent to pressing **F8.** This button is only functional if there is logger or file data loaded and graph view mode is selected.

Copies the samples between (and including) the start and end samples to the clipboard. From the clipboard the samples can then be pasted into a spreadsheet such as Microsoft Excel or a word processing document. See copying samples to the clipboard for more information. This button is only functional if there is logger or file data loaded and graph view mode is selected

Copies the samples between (and including) the start and end samples to an Excel spreadsheet file. By default, an XLS file with the same filename as the .TRX file is created. See copying samples to Excel for more information. This button is only functional if there is logger or file data loaded and graph view mode is selected

A pop-up menu is also accessible from each toolbar my right-clicking on any of the buttons. See Toolbar Options for more details.

All of the functions accessible from these speed buttons are also available as menu entries, and some are also available through the keyboard function keys.

1.9   Toolbar Options

You can right-click on any button on a toolbar and display a pop-up menu with options for that toolbar.
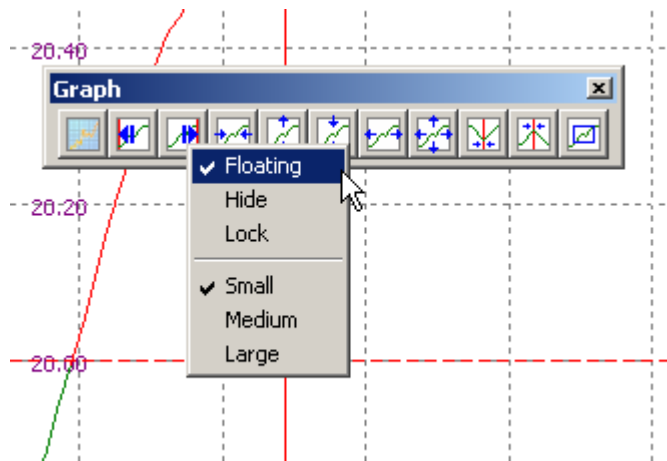
Floating

When checked, the toolbar will "float" above the main form and can be positioned anywhere on the desktop. You can "dock" the toolbar again by dragging it to any or the four edges of the main form, or by unchecking this item.

Hide

You can hide a toolbar that is floating or docked by unchecking this option. When this item is checked, the toolbar will not be visible (and neither will the pop-up menu!).

Lock

If this item is checked, the toolbar is "locked". A locked toolbar that is floating cannot be repositioned or hidden. A locked toolbar that is docked cannot be moved outside of its current dock or hidden, but it can be repositioned within that docking edge.

Small

If this item is checked, the buttons displayed on the toolbars are a small size (25 pixels square).

Medium

If this item is checked, the buttons displayed on the toolbars are an intermediate size (50 pixels square) that can be more useful in situations where there is minimal room to use a mouse and positioning the mouse cursor over smaller buttons is difficult.

Large

If this item is checked, the buttons displayed on the toolbars are a large size (100 pixels square) that is appropriate for touch-screens.

Each toolbar has its own set of these options. You can have some toolbars locked but not others, or some toolbars with large buttons, and some with small buttons, etc.

If the General Option **Lock all Toolbars** is checked, you can't do anything from this pop-up menu.

1.10 Command-Line Parameters

When starting Temprecord from the command line (from a "DOS Prompt", there are numerous command-line options that can be used. Some of these enable you to perform repetitive tasks from a batch file and are useful when setting up or reading a large number of loggers.

Temprecord already implements the ability to specify TRX files to load on the command-line. These existing command-line parameters are unaffected.

All settings (such as COM port, parameter defaults, export settings, etc) that are currently in use are also used for any operations specified through command-line options.

As an example of the use of the added command-line options, entering the command:

trw /stop /read /save fred /reuse /start /exit

will stop the logger, read the data, save it as a file FRED.TR, reuse the logger, start the logger again, and TRW will then exit. If any errors occur, all processing of commands stops and a message describing the problem is displayed.

The command:

trw /read

w ill start TRW, read the logger data, and remain open w ith the logged data displayed.

These command-line parameters are useful for performing a series of operations on one logger. If you have a batch of loggers to read and reconfigure, auto mode operation is probably preferable.

Using the Command-Line Options

Commands can be carried out by any of the follow ing methods:

From a DOS Command Prompt:

- Click on Start
- Click on Programs
- Click on MS-DOS Prompt
- At the **C:>** prompt, type the Temprecord command, i.e. **"trw"**, follow ed by a space, follow ed by the command-line options, follow ed by the "Enter" key.

From a Batch File:

- Click on **Start**
- Click On **Programs**
- Click on **Accessories**
- Click on **NotePad**
- In **NotePad**, enter the commands you w ish to execute, one per line.
- Click on **Save**, and enter the folder and name of the file. Be sure to give it an extension **.BAT**, e.g. **"doit.bat"**.

To execute the batch file, type its name at a DOS command prompt, or create a shortcut to it.

From A Shortcut:

- Open the folder you w ant to create the shortcut in, unless you w ant the shortcut to be on your desktop.
- Right-click in the folder (or on the desktop).
- Click on "New "
- Click on "Shortcut"
- Enter the TRW command-line, including the path, e.g.:
  "C:\Program Files\Temprecord\TRW\trw.exe" /read
- Don't forget to add the ".EXE" to the TRW program name.
- Click on Next
- Enter a name for the shortcut.
- Click on Finish.

To use the shortcut, double click it.

WARNING The TRW program contains many prompts and safeguards w hen dealing w ith Temprecord data. As an example, TRW w ill prompt you before reusing a logger if it believes you have not yet read and saved the data, as reusing a logger makes any data in it inaccessible. These prompts are NOT issued w hen using the command-line functions of TRW. It is the user's responsibility to make sure that data has been saved before reusing a logger w ith the **/REUSE** command line option.

Command-Line Reference

The command-line options are described in the order you would normally carry out the commands if you were using them from TRW. Note however that the command-line options can be specified in any order on the command line.

The order of execution of the commands is NOT necessarily the order in which you specify them, but is instead the order that would make the most sense. As an example, if you specify the command:

    trw /export /read

the logger would be read first, then the data would be exported.

Some combinations of command-line options are not sensible and in this case an error message will be displayed and no commands will be executed.

Command	/STOP
Example	trw /stop
Function	Stops the logger. If the logger is not in the logging state an error message is issued. If the logger is already stopped, no error is issued.

Command	/OPEN <filename>
Example	trw /open fred
Function	Opens a Temprecord data file from disk. An error is raised if no filename is specified, if the file is not found or if it is not a valid Temprecord data file. If no filetype is specified, .TRX is assumed. If the filename contains spaces, you need to enclose it in double quotes, e.g. **trw /open "data from fred.tr"**.

Command	/READ
Example	trw /read
Function	Reads the data from the logger. The logger must be present, and either logging or stopped or an error results.

Command	/SAVE [<filename>]
Example	trw /read /save trw /read /save fred
Function	Saves the loaded Temprecord data to a disk file as a Temprecord data file. An error results if there is no data loaded, i.e. a /READ or /OPEN command line option must also be specified. If no filename is specified and the loaded data is from a file, an error is issued. If no filename is specified and the loaded data is from a logger, a filename is constructed from the logger serial number. If a filename is specified and no filetype, .TRX is assumed. NOTE: If the file already exists it is overwritten. You will not be prompted before overwriting, even if that option is checked in TRW. If the filename contains spaces, you need to enclose it in double quotes, e.g. **trw /read /save "data from fred.tr"**.

Command	/EXPORT [<filename>]
Example	trw /read /export trw /read /export fred

Function	Saves the loaded Temprecord data to a disk file as an ASCII file (i.e. performs the same function as the 'Export' function from within TRW). An error results if there is no data loaded, i.e. a **/READ** or **/ OPEN** command line option must also be specified. If no filename is specified and the loaded data is from a file, the name of the export file is the name of the loaded TRX file, but with filetype as specified in the Options/Export settings of TRW. If no filename is specified and the loaded data is from a logger, a filename is constructed from the logger serial number, and the filetype is as specified in the Options/Export settings of TRW. If a filename and filetype is specified, it is used as the exported filename. If no filetype is specified but no filetype, the filetype as specified in the Options/Export settings of TRW is used.
	When exporting data with this option, the export settings as specified in the Options/Export settings of TRW apply.
	NOTE: If the file already exists it is overwritten. You will not be prompted before overwriting, even if that option is checked in TRW.
	If the filename contains spaces, you need to enclose it in double quotes, e.g. **trw /read /export "data from fred.txt".**

Command	**/REUSE**
Example	**trw /reuse**
Function	Reuses the logger. If the logger is not present, not a multiple use type, or it is not in the stopped state, an error message is issued. If the logger is protected with a password and no password is supplied with the /PASSWORD option, or the password supplied is incorrect, an error results. When the logger is reused, all parameters are left unchanged. If you require different parameters to be used, specify them using the Options/Defaults settings in TRW and use the /DEFAULTS command-line option also.
	NOTE: No warning is issued if the data in the logger has not been read and/or saved. This option should not be used unless the data from the logger has been successfully read and saved, either by previous operations, or on the same command line.

Command	**/PASSWORD**
Example	**trw /reuse /password 1234**
Function	Supplies a password to be used when reusing the logger or setting the logger parameters to the defaults. This option is required when the logger is protected by a password and the /REUSE or /DEFAULTS command-line options are used.

Command	**/START**
Example	**trw /start**
Function	Starts the logger. If no logger is present, or if the logger is not in the READY state, an error results.

Command	**/AUTO**
Example	**trw /auto**
Function	Starts Auto Mode when TRW starts. This option would normally be used on it's own, or only with the **/KIOSK** option below.

Command	**/KIOSK**

Example	trw /kiosk
Function	Starts TRW in "Kiosk mode", w ith a reduced set of functions and capabilities.

Command	/EXIT
Example	trw /open fred /export /exit
Function	Exits TRW w hen all command have been successfully carried out. If any command resulted in a error, a message w ill be displayed, and TRW w ill exit after this message has been cleared.

Examples

Some examples of common functions follow :

Example	trw /stop
Function	Stops the logger and leaves TRW running.

Example	trw /stop /save /reuse /exit
Function	Stops the logger, saves the data to a filename based on the logger serial number (overw riting any file of the same name), reuses the logger, and then exits TRW.

Example	trw /open sample1 /export /exit
Function	Reads the file SAMPLE1.TRX from disk, exports it as SAMPLE1.PRN (or w hatever the current export filetype is set to) and then exits TRW.

Example	trw /stop /read /save sample2 /export sample2 /exit
Function	Stops the logger, reads it, saves the data to SAMPLE2.TR, exports it to SAMPLE2.PRN (or w hatever the current export filetype is set to) and then exits TRW. Note that in this example if no filetype is specified after the /EXPORT option, the export filename w ill be based on the logger serial number, even though a filename w as supplied w ith the /SAVE option. If you enter the above command line into a batch file, and replace the filename w ith **"%1"**, i.e. create a file called **exportit.bat** w ith the follow ing line in it:. **trw /stop /read /save %1 /export %1 /exit** you w ill be able to type the command: **exportit sample2** to carry out the commands.

1.11   Where do I plug my reader in ?

The Temprecord program requires an available serial port or USB port on your computer to operate. The serial connector for this w ill be on the back of your computer, along w ith the connectors for the display and keyboard. It w ill be either a DB-9M (9-pin male) or a DB-25M (25-pin male) connector. A 25 pin-to-9 pin converter is supplied w ith the Reader Interface and you should use this if your computer is only fitted w ith a DB-25M connector.

If your reader has a USB connector, you need to plug it into a SUB port. These are normally located on the rear of desktop PCs, or on the side or rear of laptop/notebook PC's.

Unplugging the USB reader interface from the computer's USB port while Temprecord is running can have unpredictable effects and result in the loss of communication with the logger. It is best to exit Temprecord before unplugging or plugging in the reader interface.

Don't confuse the DB9-M serial port connector with the display connector. The display connector is normally the same size as a DB-9M connector but will be a 15-pin female connector

Don't confuse the DB25-M serial port connector with the printer connector. The printer connector is normally the same size as a DB-25M connector but will be a 25-pin female connector.

WARNING   **The Temprecord Reader model SR2 is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.**

1.12   What is a "passphrase?"

A passphrase, as the name suggests, is like a password but can be a collection of words and can include spaces and punctuation characters. Temprecord uses passphrase for two different purposes:

- As a key used to calculate a digest to include with Temprecord data files. A digest, or "hash", is used to protect datafiles against tampering or damage. This digest is calculated using the passphrase key you supply and the data in the file to produce a unique collection of characters that can only be produced with that combination of passphrase and data in the file. A typical digest stored in the file might be:

    35ACEA2AC2B8D664411A8CD605EC101A1F7896EF5AAA824DA9C986FA12B8DC5D

    If any part of the data in the file is changed, or the digest in the file is changed, then a new digest calculated using the data in the file and the same key will not agree with the digest in the file.

- To protect loggers against unauthorized modification. Knowledge of the passphrase is required to reuse and program the loggers if a passphrase is assigned. Previous versions of Temprecord loggers could be protected with "passwords", although strictly speaking these were more like "PIN numbers", as they could only be numeric. We now allow loggers to be protected with "passphrases".

    The passphrase is not stored in the logger, rather the passphrase is used as a key to produce a hash digest and the digest is stored in the logger.

There are a few important facts to remember about passphrases:

- Case is significant, that is to say a passphrase of "**Fred**" is different from "**fred**". It is for this reason that the Temprecord software will issue a specific warning if you enter an incorrect passphrase and you also have "Caps Lock" turned on.
- A passphrase can include spaces, but leading and trailing spaces are ignored.
- Characters past 32 are ignored.
- Only characters from the ASCII 7-bit character set are permitted.
- It is not possible (apart from a lucky guess) for anyone else (including Temprecord) to determine what passphrase has been used to protect a logger.

Although the hashing method used (SHA256) is very secure, the integrity of your data is still compromised if a weak passphrase is used.

Remember that a passphrase should be easy to remember, but difficult to guess.

Finally, anywhere in this help text you see the word "password", we mean "passphrase".

1.13 Temprecord Humidity Loggers

Data from Temprecord RH loggers can only be viewed with Temprecord software version 3.28 or later.

The principal difference between Temprecord RH loggers and Temprecord temperature loggers is the presence of an aperture in the front of the RH logger case where the humidity sensor is located.

The operation of Temprecord Humidity loggers is the same as for Temperature only loggers as described elsewhere in this documentation

Dust on the Humidity Sensor

To minimize the effects of airborne dust building up on the Humidity sensor use an optional dust cover to protect the Humidity sensor. Tests have proven that the proprietary dust cover that is shown below protecting the Humidity sensor does not affect the performance or accuracy of the Temprecord RH logger.

The dust covers have been designed and manufactured to allow maximum airflow to reach the humidity sensor while at the same time preventing dust and other airborne contaminants settling on or around the RH sensor. The dust cover slides over the logger and is held in place by the tight fit of the cover around the logger case.

When the dust cover becomes congested, try washing the cover in warm water after removing it from the logger, then rinse the dust cover out thoroughly in clean water. Make sure the cover is 100% dry before fitting it to your logger again. If the dust cover becomes unusable because of damage or soiling you can obtain replacement dust covers from your Temprecord distributor. The dust covers are manufactured from a non-absorbent material. Do not use a substitute such as filter paper as other materials can become saturated with moisture. This will cause the RH logger to record humidity values higher than the actual humidity level present in the logged environment.

Drying the Humidity Sensor

NEVER USE A MICROWAVE OVEN TO DRY THE HUMIDITY SENSOR! Doing so will immediately void the warranty of the logger and seriously damage the electronics and battery inside the unit beyond repair.

If the humidity sensor in the logger needs to be dried out the following procedure applies:

- Place the logger face down for six hours in a conventional oven that has been set to 50 degrees Celsius / 122 degrees Fahrenheit.
- Turn the logger over for a further 18 hours.

There should be no more than 5% Relative Humidity present inside the oven during the drying process. Leave the logger inside the oven for a minimum drying time of 24 hours to return the RH sensor to calibration conditions. Never exceed 60 degrees Celsius / 140 degrees Fahrenheit during the drying process as this could damage the logger electronics or plastic casing.
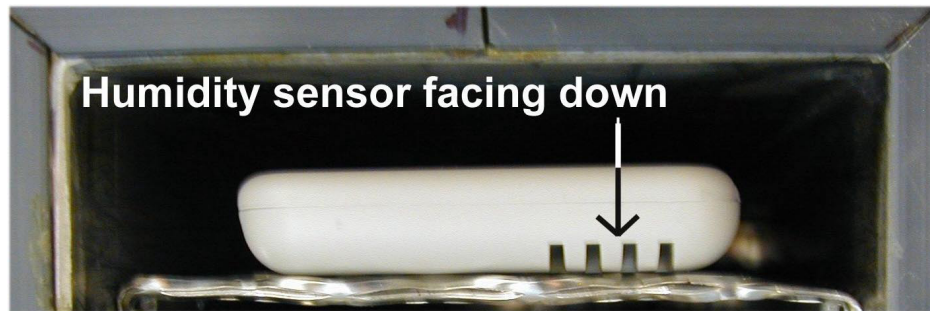
Drying the Humidity sensor in a conventional oven.

See also:
Setting Up Humidity Loggers

1.14 Temprecord Dual Temperature Loggers

Data from Temprecord Dual Temperature loggers can only be viewed with Temprecord software version 6.3 and above.

Dual temperature loggers measure the temperature of an internal sensor, and the temperature of an attached probe.

The operation of Temprecord Dual Temperature loggers is the same as for Temperature only loggers as described elsewhere in this documentation

1.15 How Do I...

- Installation of Temprecord
- How do I install Temprecord on another computer ?
- How do I find out what version of Temprecord I have?
- How do I set up a logger to record temperatures ?
- How do I see the temperature values as numbers, instead of as a graph ?
- How do I save my data after I have read it from the logger ?
- How do the upper and lower limits work when Temprecord displays data ?
- How do I see my data as a graph and as a set of values at the same time ?
- How do I use comments ?.
- What are 'Presets' and how do I use them ?

See also:
Common Problems
Error and Warning Messages

1.16 View Help As PDF

Use this menu item to see the help file as a PDF file. The PDF format help can be more convenient as it is organized more like a book. It is also possible to print all or some of the help file, whereas Windows help only allows you to print one topic at a time.

You need to have Adobe Acrobat Reader installed to be able to view the on-line help as a PDF, or to view the PDF reports that Temprecord produces.

See Also
View Help on the Web
Unable to open PDF file

1.17 View Help on the Web

Use this menu item to open a browser and load the Temprecord web-based help. The contents of the web-based help are basically the same as in the help provided from the Temprecord program, but the web version is likely to be more recent and will possibly contain additional resource material. Bear in mind that the web-based help may also refer to features and products that the Temprecord program version you are running does not support.

You need to have a browser (such as Microsoft Internet Explorer, Mozilla FireFox, or Google Chrome) installed and have a connection to the Internet to view the web-based help.

You don't need to have the Temprecord program running to see the web-based on-line help. All you need to do is point your browser at http://www.temprecord.com/help/tr6

See Also
View Help as PDF
Unable to open browser

1.18   About Temprecord Help

Temprecord v. 6.3

English-Language PDF Help
Window s 2000/NT/XP/Vista/7/8/8.1

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Authored using Help And Manual	http://w w w .helpandmanual.com
Produced	June 2019

2 Installation of Temprecord

Important! Temprecord saves your program settings in a file so that w hen you start the program again your settings are restored. Normally w hen you upgrade the softw are these settings are carried over to the new er version, but you should not assume this is the case. It pays to check the program settings (start the Temprecord program and click on on the main menu) after you have finished installing.

Pay particular attention to the topic of Named Parameter Sets, and how these affect the the use of default logger parameters.

Setup Welcome Screen

To install Temprecord, run the file TRW-SETUP.EXE. The setup w elcome screen w ill display:

At most points in the installation you can click on the **Cancel** button to abort the process. Any changes setup had made to your computer should be "rolled back", and any existing settings if any should be preserved. You can also click on the **Back** button to return to a previous step.

The setup w elcome screen w ill show the softw are revision of the version of Temprecord you are about to install. Click on the Next button to continue and display the Installation Type screen:

Selecting the Installation Type
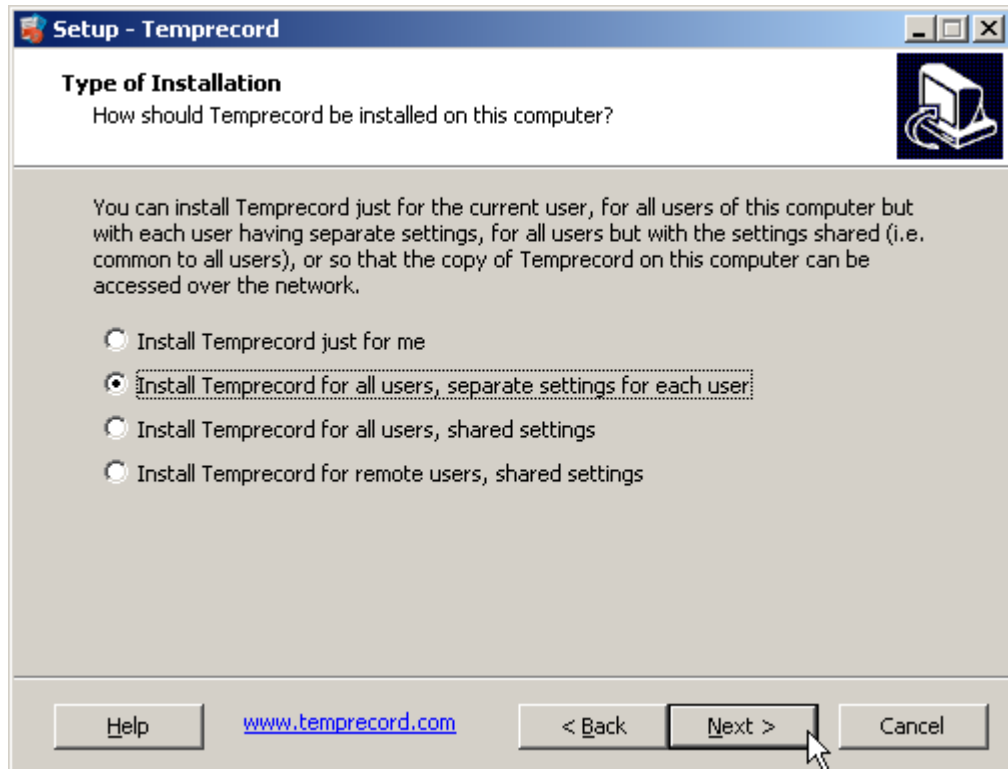
Install Temprecord Just For Me

If you choose this option, Temprecord w ill be only be installed for the current user. That user w ill have an entry on their start menu and a shortcut on their desktop unless these options are deselected in the later steps. Other users w ill not be able to see any shortcuts or data unless they have been granted access to the relevant files of that user. Use this option w hen there are several users of the same computer, and the other users w ill not require to use Temprecord. Installing Temprecord "Just for Me" avoids cluttering up the desktops or start menus of the other users.

Install Temprecord for All Users, Separate Settings

If you choose this option, Temprecord w ill be installed for all users, but each user w ill have separate settings. Each user of the computer w ill have an entry on their start menu and a shortcut on their desktop unless these options are deselected in the later steps.

 With this option, if any user makes changes to the settings, any subsequent users w ill find their settings unchanged - i.e. the settings are independent for each user. This option is intended for situations w here one computer is used by many users, but it is necessary for each user to have private settings and/or data. Each user w ill need to set up the correct COM port and any other settings required.

Install Temprecord for All Users, Shared Settings

If you choose the first option, Temprecord w ill be installed for all users and the settings w ill be shared. Each user of the computer w ill have an entry on their start menu and a shortcut on their desktop unless these options are deselected in the later steps.

 If any user makes changes to the settings, any subsequent users w ill find those settings altered. This option is intended for situations w here one computer is used by many users and it has a reader attached. Once one user sets up the correct COM port for the reader, it w ill be correct for all users.

Install Temprecord for All Users, Shared Settings, Remote EXE

Choose this option if the Temprecord executable file will be installed on a remote server (i.e. a network drive) and workstations on the network will access Temprecord over the network. All users will share the settings.

Temprecord recommends that where possible the software be installed on all computers that will be running the program. This installation option is provided for those cases where deployment to all workstations is impractical, however the operation of Temprecord will be less than optimal.

With this option, there are several points to be borne in mind:

- Temprecord should only be installed on the remote server. It should not be installed on the workstations as well.
- Unless you have good reason for not doing so, we recommend you stay with the default installation folder of

     C:\Program Files\Temprecord\TRW

- All users must have write access to the above folder if they need to be able to change the program settings. If they do not have write access, Temprecord will be unable to save the settings INI file when the program exits. In this instance Temprecord will not report an error.
- If any user makes changes to the settings, any subsequent users will also find those settings altered. For this reason, the settings for the COM port may not be correct on all machines, depending on the configuration of the serial ports. Also, the list of recently accessed files will be of little use, as the pathname stored will likely refer to another user's computer.
- If network users are intending to use the Temprecord Reader Interface to read loggers, the USB drivers will need to be manually installed.
- The file association between **.TR** files and Temprecord will need to be manually set up, if users want to be able to open **.TR** files by double-clicking them.

You will not be able to advance to the next page unless one of the four options is selected.

Importing Existing Settings

The Temprecord installer searches for existing copies of **TRW.INI** (this files stores the settings for Temprecord) on the computer. Earlier versions of Temprecord placed the **TRW.INI** file in different locations and the installer looks in those locations. If it finds one it offers the user the chance to import the settings from that file. If it finds more than one it will offer the most recently accessed copy.

You won't see this screen if:
- the installer didn't find any **TRW.INI** files in the usual locations.
- the installer found a **TRW.INI** file but it was located in the location that it was going to install anyway. In this instance the existing INI file will be left intact and those settings should be inherited by the new installation.
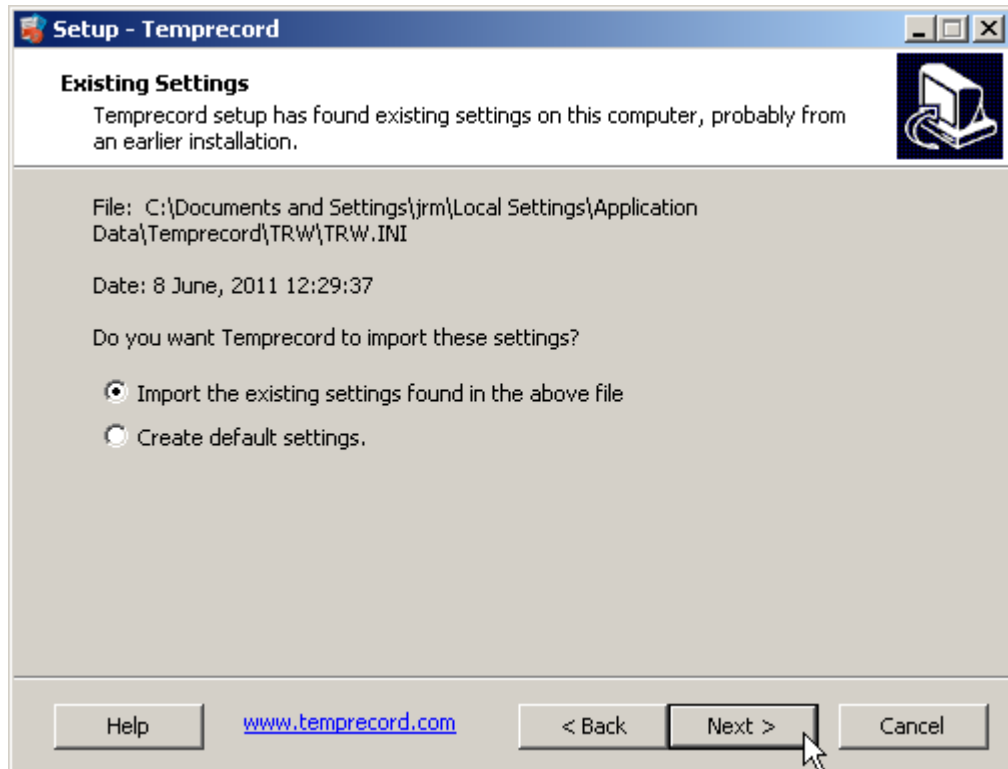
If you choose Create default settings the existing file will not be imported and all of the settings will be assigned default values. You will likely have to set (at least) the reader before you can use Temprecord.

Selecting the Destination Location

The next screen allows you to choose the folder the Temprecord program files will be installed into.
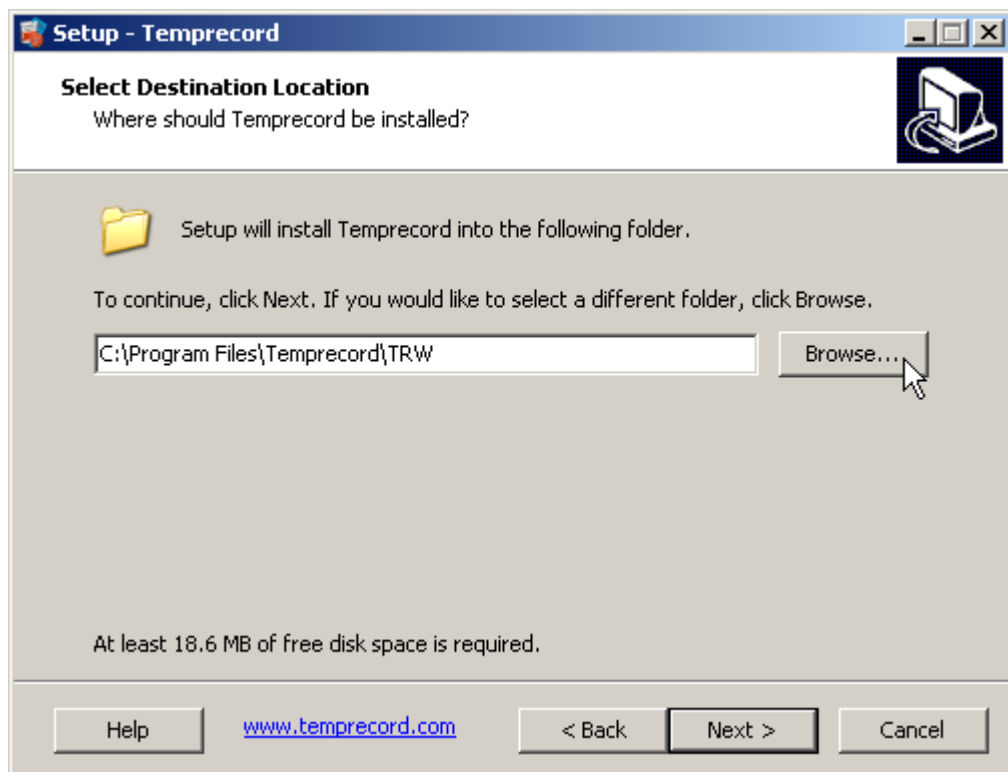
Selecting the Start Menu Folder

The next screen allows you to specify where the start menu entry will be located. Once again, unless you have good reason, we recommend you stick with the defaults. If you don't want the Temprecord program entries to appear on the start menu, check the box labeled **Don't create a start menu folder**.
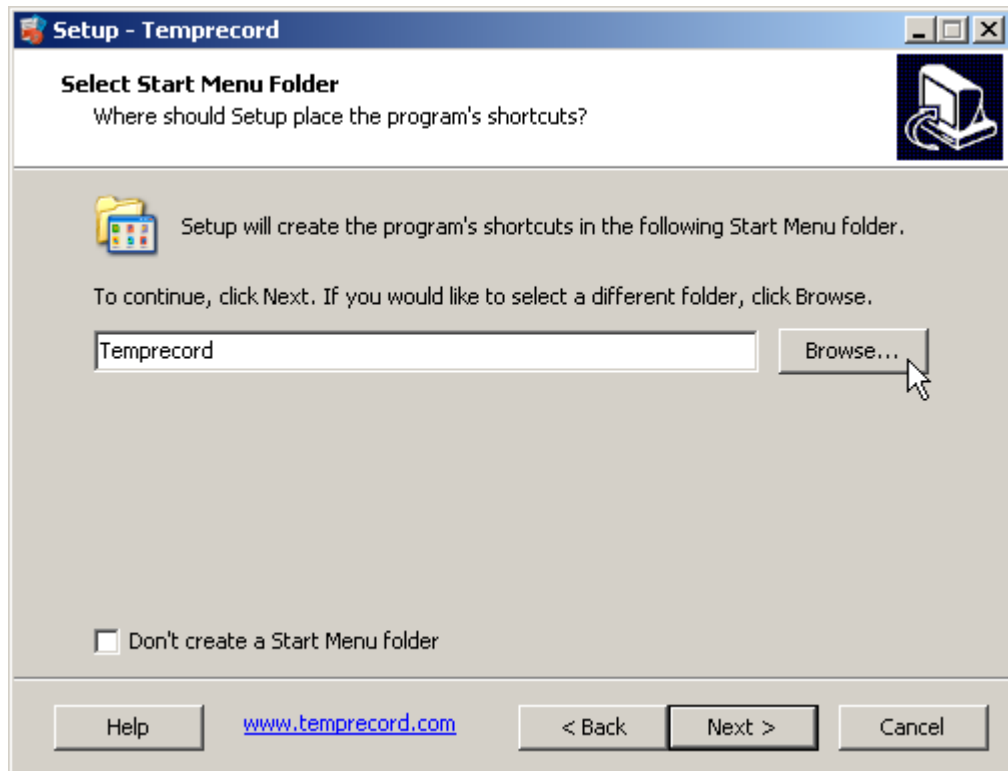
Additional Installation Tasks
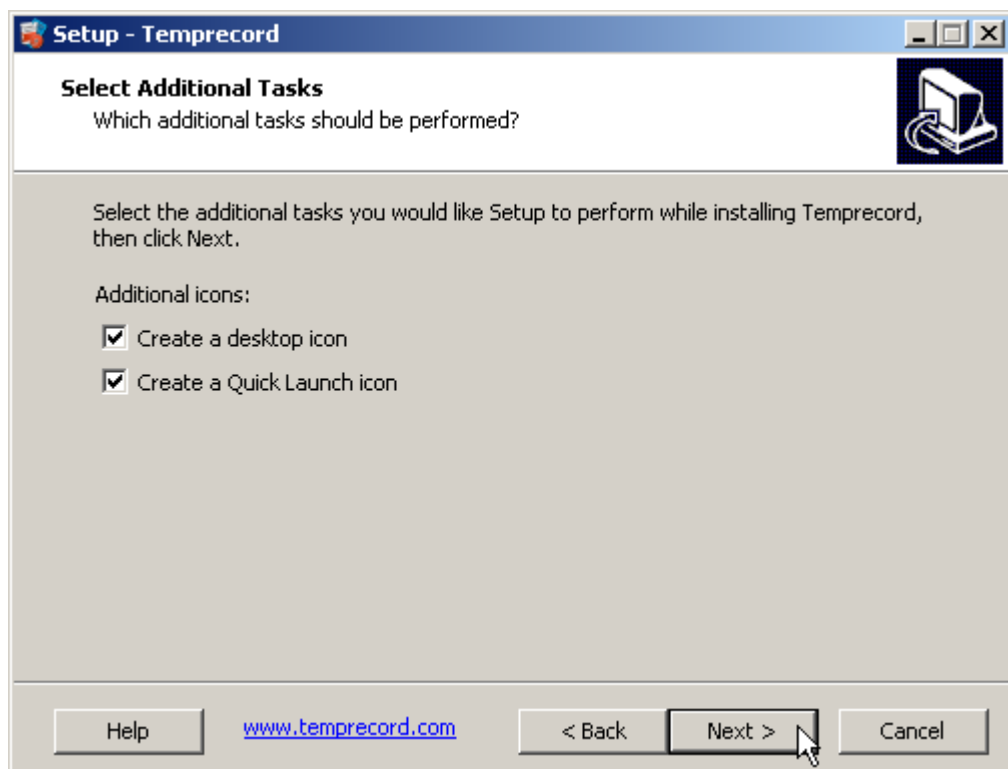
If you don't want an icon to be added to the desktop, uncheck the box labeled **Create a desktop icon** on the next screen. Similarly you can decide whether a quick launch icon is added to the taskbar.
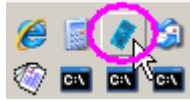
A "Quick Launch" icon is a small button ( ) on the computer taskbar that you can click to start the program. Quick launch icons are specific to the current logged in user only. If you install Temprecord and ask for a quick launch icon to be installed also, it will only appear on the desktop of the user who was logged in when Temprecord was installed. Other users of the computer will not see the quick launch option unless they manually add one to their taskbar also.

Summary of Installation Settings

Before installation starts, the installer will show this screen which will contain a summary of the options you have selected. If you are satisfied, click the Install button and the installer will begin copying files and creating menu entries and shortcuts. If you're not satisfied, use the **Back** button to go back and change settings, or use the **Cancel** button to abort installation.
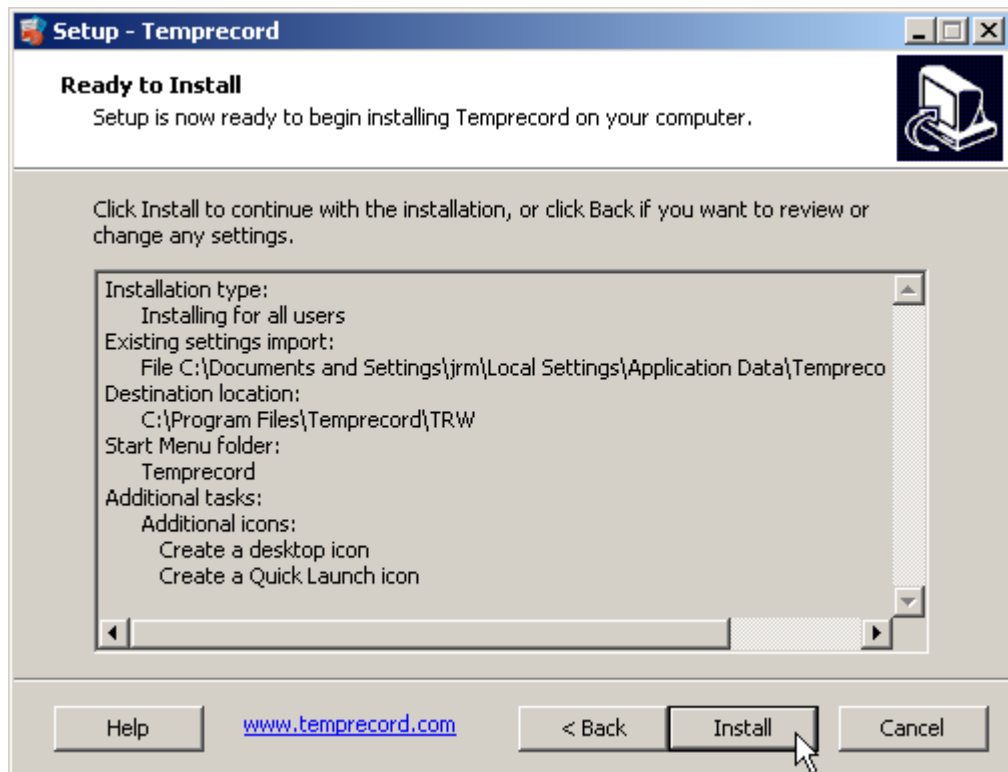
Release Notes

After installation completes, the release notes for the version you are installing will be shown. The changes and fixes to the program are shown with the most recent at the top.

It's a good idea to read the contents of this file, as there might have been changes made to the program that require you to check settings.
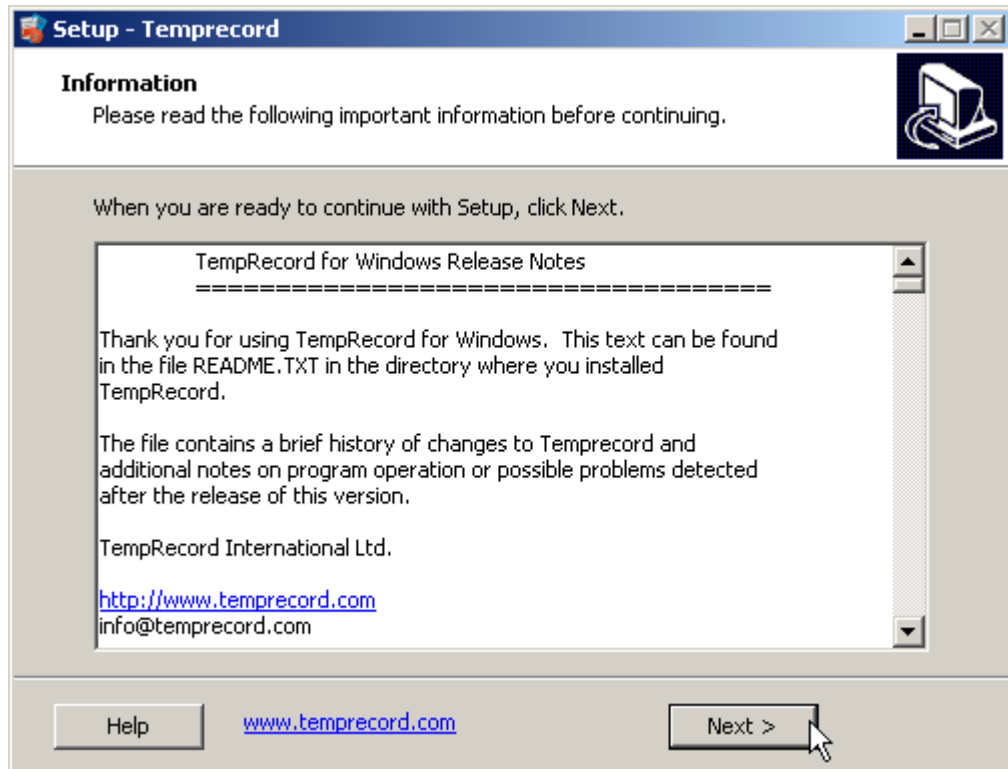
Installation Completed

The final screen of the installer gives you the opportunity to start the Temprecord program when the installer has exited.

Reinstalling

The Temprecord program can be installed on as many computers as you wish. Just take the original installation disk that you installed this copy of Temprecord with, place it in the drive of the computer you wish to install it on, and run **TRW-SETUP.EXE** from the drive.

Installing the Reader Interface

Important! Don't plug in your reader interface before installing the Temprecord software.

Of course you will require another reader interface unit if you wish to program and start loggers on the second computer.

In order to use the reader interface unit, your computer must have a spare USB port. As part of the installation process, the necessary USB driver files are normally copied to your computer and installed. This part of installation normally proceeds without problems, but you might need to manually install these drivers with some computers or versions of Windows. See the topic Installing Temprecord Reader USB Drivers for more information.

When you first start to install Temprecord, you may see this warning:
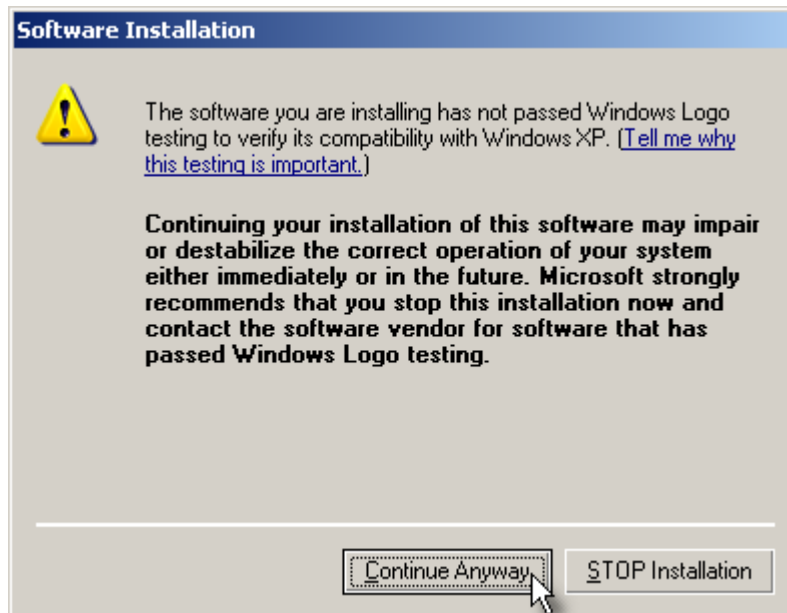
Click on **Continue Anyway**. You may need to repeat this step as the installation involves copying two distinct sets of driver files.

When the installation has completed, plug in the reader interface. You may see the following warning:

Select **No, not this time** and click the **Next** button. You will see the following screen:
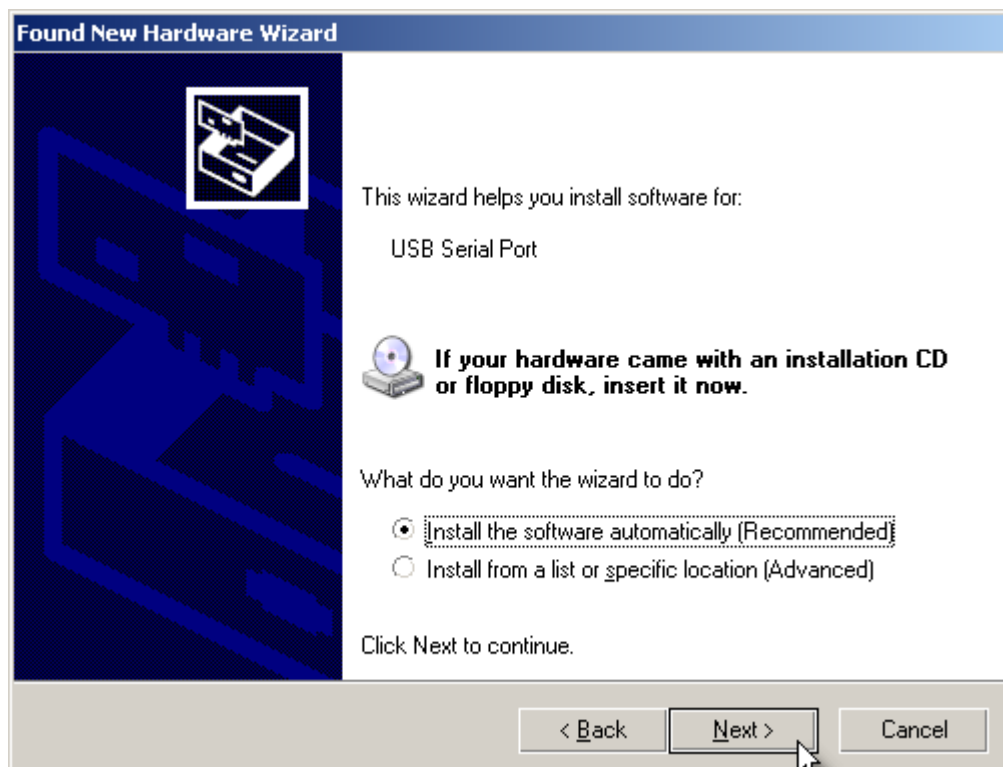
Select **Install the software automatically** and click the **Next** button.

Once again, the same procedure will likely repeat as there are two separate sets of driver files that need to be installed for the Temprecord Reader.

To install Temprecord on another workstation on a network, see the topic Installing Temprecord on Networks

See Also
Installing Temprecord on Networks
Installing Temprecord Reader USB Drivers
Notes for System Administrators
Batch Installation
Setup command line parameters

2.1 Installing Temprecord on Networks

This topic will mainly be of interest to network administrators.

Like most modern Windows applications, Temprecord has been designed to be installed on each workstation it is required on. Once installed, the default data file and reports folders are set to the current users profile, and also shared documents folders are created for the PC and have modify permissions set for all users. The installer creates all folder required with the appropriate permissions set. The installer will not run unless an administrator account is logged in.

Installing TRW on a common shared network drive is not recommended. The installation process creates file associations between the Temprecord program and .TRX data files which will not be present if the program is not installed on the workstation. It also pre-installs USB driver files for the Temprecord Reader. These files are not provided for in the Windows driver set, so users running from a shared network copy of TRW.EXE will not be able to access loggers with a Temprecord Reader interface. The installer does however specifically provide for installation on a network drive. See the topic Selecting the installation type for more information.

Changes in the way Windows Help is implemented mean that it is more difficult to install the help files on a shared drive. Windows help files (CHM files) will not function properly unless they are located on the same machine as the user, i.e. they cannot be on a network drive. The simplest way to circumvent this problem is to install Temprecord on every machine that will be running it.

Windows XP/Vista

Windows XP and Windows Vista have additional security measures which prevent a user opening a help file on a remote (network) drive. If you receive the message "Navigation Canceled" displayed in a help window this is the reason. To prevent this, make sure that Temprecord is installed on every machine that needs to run it -i.e. "locally".

We have provided a batch installer to enable rapid deployment of Temprecord software across multiple machines. See the file Install.txt in the distribution package, and also the topics Batch Installation and Notes for System Administrators

See Also
Installation of Temprecord
Installing Temprecord Reader USB Drivers
Selecting the installation type
Batch Installation
Notes for System Administrators

2.2 Installing Temprecord Reader USB Drivers

Normally installation of the USB drivers required for the Temprecord Reader Interface will happen automatically as part of the software installation. If you experience difficulty with the automatic installation of the USB drivers required for the reader interface, follow the instructions given here.

Important! Don't plug in your reader interface before installing the Temprecord software.

If the instructions given below do not work for you, you can always install the USB drivers manually

⚠️ **Important!** If you are running Windows 2000 or Windows XP prior to Service pack 2 ("XP SP2"), you must ensure that your computer is not connected to the Internet when you install the USB drivers. Otherwise Windows will load an incorrect driver file from the Internet. If you are running Windows XP SP2 or above the installer will ask if it can check the Internet for the driver. You must answer **No** to this question.

If the installation of the drivers is incomplete, you may see this dialog when you plug in the reader for the first time:

Select **Install from a specific location (Advanced)**, and click **Next**.
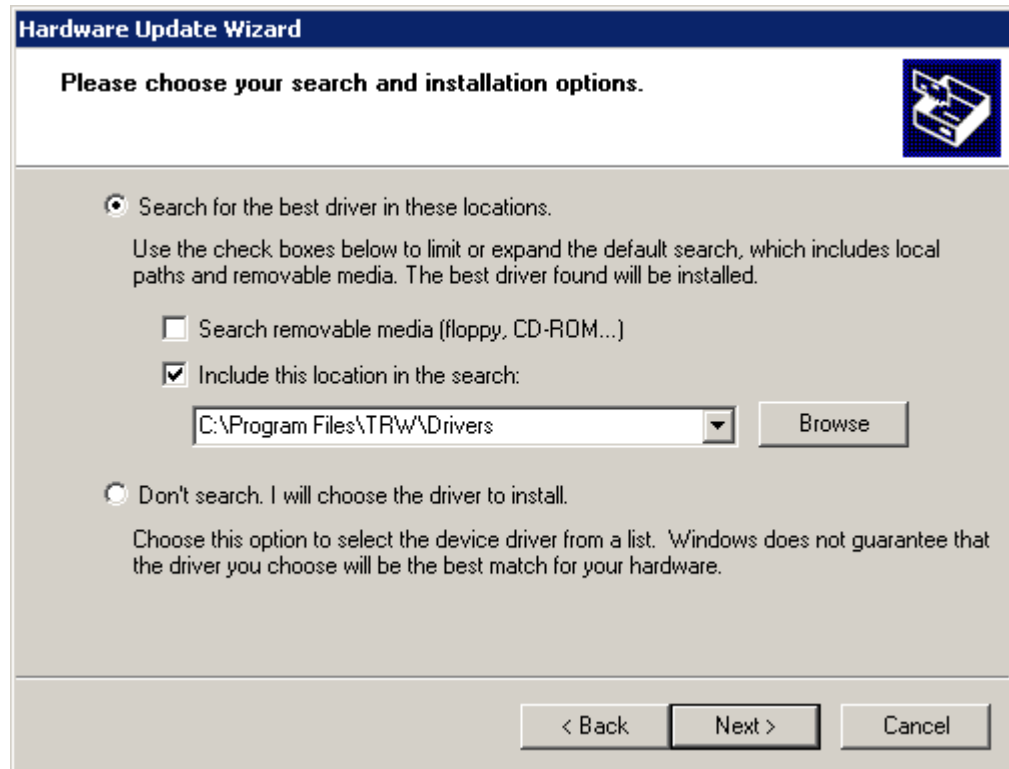
Make sure **Search for the best driver in these locations** is selected, **Search removable media** is not checked, and **Include this location in the search** is checked. Then click the **Browse** button. Navigate to the folder **C:\Program Files\Temprecord\TRW\Drivers** (If you installed to a folder other than **TRW\,** select that folder instead). When you have selected the folder, close the **Browse** dialog and click **Next**.

After some time (up to a minute) you may see a warning that the drivers are not Microsoft-certified and asking you to confirm that you wish to install them anyway:

Click on the **Continue Anyway** button. After a short time you should receive a dialog announcing the successful completion of the installation.
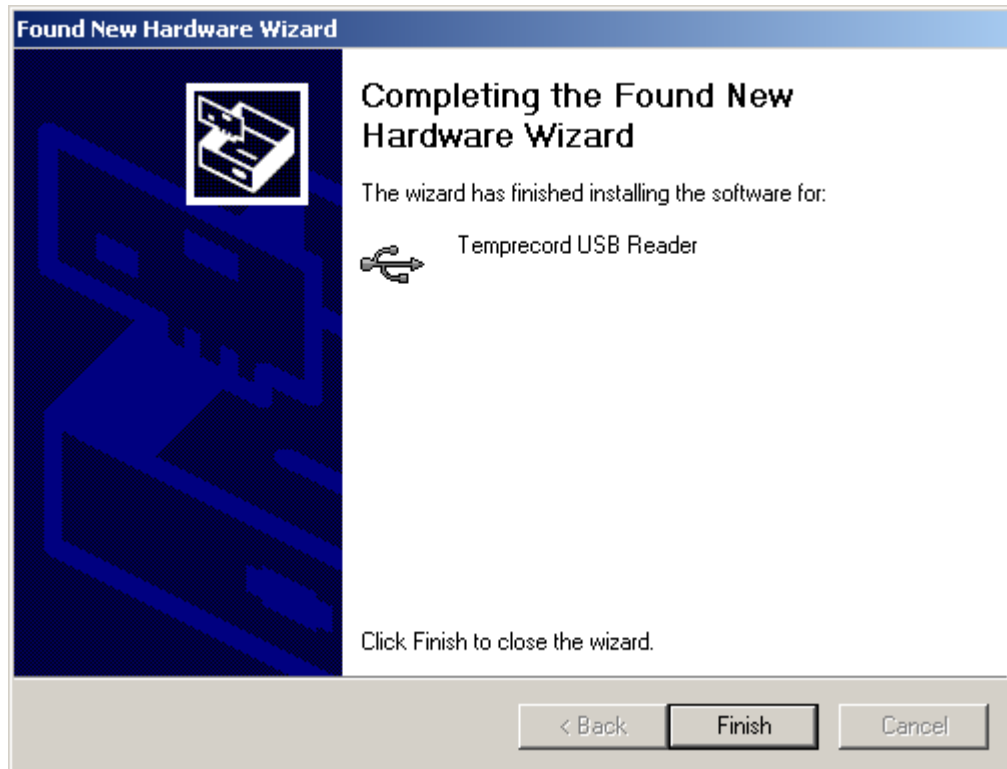
At this point, the w hole process w ill repeat for the driver named "USB Serial Port". After this has completed (make the same selections as detailed above for installation of the Temprecord USB Reader) your reader should be ready for use. If you encounter difficulties, you can try to install the USB drivers manually

See Also

install the USB drivers manually
Installation of Temprecord
Installing Temprecord on Netw orks
Notes for System Administrators

2.3 Notes for System Administrators

These notes w ill serve as a guide to administrators, IT support personnel and other installers of Temprecord.

Installation

Temprecord installation requires the user to have administrator rights. Four installation scenarios are provided (for details see Selecting the Installation Type). If Temprecord is installed for all users, after installation Temprecord w ill be available to all users of the computer, w hether administrators or limited users.

Batch installation (see below) carried out on computers w ith an existing installation of Temprecord can automatically import those settings, but you should inspect the example batch file to determine the behaviour w hen it is run.

Manual installation is just a matter of running the executable **trw-setup.exe**.

Warning

Temprecord keeps the program settings in a text file called TRW.INI. If Temprecord is reinstalled using different installation settings (for all users, Just for Me, etc.) then it may not be possible for the installer to inherit the settings of any earlier installation.

It is a good idea to check all the settings in the Options dialog when you have completed installation.

Installation Logs

Temprecord installation produces two log files with names that reflect the release version and date. These files are written to the Temprecord local settings application data folder (normally **C:\Documents and Settings\<User name>\Local Settings\Application Data\Temprecord\TRW**). For example:

> **C:\Documents and Settings\<User name>\Local Settings\Application Data\Temprecord\TRW\Installation Logs\TRW Installation Log 5.28.0.2019 2011-06-09 11-22-20 .txt**
> **C:\Documents and Settings\<User name>\Local Settings\Application Data\Temprecord\TRW\Installation Logs\TRW Reader Installation Log 5.28.0.2019 2011-06-09 11-22-20 .txt**

Each time you install, re-install or update Temprecord a pair of these installation log files will be added to the folder. These files can be used to troubleshoot installation issues and should be included if you report an installation problem. If you submit a , these files will be included in the information sent to Temprecord. Temprecord will keep the installation logs from the 20 most recent installations.

Folder Use and Permissions

Installation of Temprecord creates the following folders off the root folder **C:\Documents and Settings\<User name>**:

..My Documents\Temprecord	Default folder for Temprecord (.TR) files
..My Documents\Temprecord\Reports	Default folder for PDF report files
..Local Settings\Application Data\Temprecord\TRW	Folder for TRW.INI settings file and email queue file
..Local Settings\Application Data\Temprecord\TRW\Email Files	Folder for temporary attachment files for emails. Files remain in here until the email with attachments is successfully sent, when these files are deleted.
..Local Settings\Application Data\Temprecord\TRW\Event Log	Folder for the event log
..Local Settings\Application Data\Temprecord\TRW\Installation Logs	Log files from installations of Temprecord on the users computer. Up to 20 installation logs from Temprecord program installations and 20 files from Temprecord Reader installations are retained and when this limit is reached the oldest is deleted.
..Local Settings\Application Data\Temprecord\TRW\Startup Logs	A startup log file is written to this folder each time Temprecord starts. Up to 20 are retained as for installation log files.
..Local Settings\Application Data\Temprecord\TRW\Error Logs	Error log files are produced when unexpected program errors occur. Up to 20 are retained as for installation log files.
..Local Settings\Temp\Temprecord\TRW\Preview	Folder for temporary PDF files created when PDF preview is used.

An installation for all users, shared settings, shared executable creates a folder on the installation machine located at:

> **C:\Program Files\Temprecord\TRW\Application Data**

This folder is set up to have permissions to allow all users to modify the contents, and is used to store the common INI file.

The **System** tab in the Temprecord program **Options** show s the actual pathname to the above folders. It is possible to open an explorer w indow in any of the folders by right-clicking on the folder name. In addition, if the name show n includes a filename, and the file has an extension of **TXT**, **CHM**, or **PDF** it is possible to open the file from the right-click menu.

It is assumed that these folders are all created w ith modify permissions for the current user, so that a limited user can still run Temprecord, create and save files and email attachments, etc.   Temporary PDF preview files are created in the logged-in user's **TEMP** folder

In addition to the above folders, Temprecord creates the follow ing folders off the shared documents root folder **C: \Documents and Settings\All Users\Documents\:**

..Temprecord	Default folder for shared Temprecord (.TR) files for shared settings installations.
..Temprecord\Reports	Default folder for shared PDF report files for shared settings installations.
..Temprecord\Application Data\TRW	Folder for TRW.INI settings file for shared settings installations.

The sample Temprecord data files and batch installation template files are installed into both the local user's **My Documents\Temprecord** folders and the shared documents folder. Temprecord places no restrictions to w hich folders you use, but if you w ant your Temprecord data files and report files to be available to others you need to make sure they are placed in a folder accessible to other users.

Executables and other Program Files

The Temprecord executable and other program files consist of:

TRW.EXE	The Temprecord program executable file.
TRW_EN.CHM	English-language compiled HTML help.
TRW_EN.PDF	PDF document version of the English-language help.
*.dll	Dynamic-link library files needed to Temprecord operation.
Drivers	Various driver files needed for the USB reader interface. This folder is alw ays located w ithin the folder containing the above **TRW.EXE** executable and help files.

The placement of Temprecord program files is dependent on the type of installation selected (these are the installation default locations - the user can generally override these locations at install time, but unless there is good reason, w e do not recommend you do so):

Just for me

The program files are installed into: **C:\Program Files\Temprecord\TRW**

All users, separate settings

The program files are installed into: **C:\Program Files\Temprecord\TRW**

All users, shared settings

The program files are installed into: **C:\Program Files\Temprecord\TRW**

All users, shared settings, remote EXE

The program files are installed into: **C:\Program Files\Temprecord\TRW** of the remote server computer. There is no requirement for Temprecord to be installed on the client machines (and it should not be installed).

After a default "All users, shared settings, remote EXE" installation, Temprecord will be unable to display help topics from a client workstation that is running the Temprecord program. This because security updates to Windows XP have introduced some severe restrictions for accessing CHM Help files across network drives. Without registry changes on the user's computer Temprecord Help will be unavailable on network installations.

It is possible to circumvent this restriction with registry changes. See the topic Modifying the Registry to Enable CHM Help across Network Drives.

An alternative is to copy the Help file to the client machine. If the file **C:\Program Files\Temprecord\TRW\TRW_EN.CHM** on the remote server computer is copied to the Temprecord common application data folder **C:\Documents and Settings\All Users\Application Data\Temprecord\TRW** on the client machine, Temprecord will find the file on startup.

Distribution

The Temprecord program is generally distributed as a ZIP file named **trw-setup.zip.** Within the ZIP archive are three files:

trw-setup.exe	The setup executable. Run this file to install Temprecord.
readme.txt	Late-breaking news and version history
Install.txt	These notes
TRW Batch Installation Template.bat	A sample batch file to illustrate unattended batch installation

The installation ZIP archive file contains EXE and BAT files. These file types are often blocked by system administrators because of the fear they might harbor viruses. You may need to find alternate ways of distributing the installable other than email attachments. A possible alternative is to unzip the files to a temporary folder and then create another archive that is encrypted.

A note about INI files

The INI file (usually called **TRW.INI**) is responsible for remembering all the settings of TRW when the application exits.. From TRW version 5.26 onwards, the INI file is handled differently to previous TRW versions:

- When TRW starts it first checks the folder the EXE file is located in for the INI file. If one is found it is read. This folder is usually called something like:

   C:\Program Files\Temprecord\TRW

   If Temprecord has been installed and is running from a network drive for shared use, an INI file will be checked for in that folder instead.

- If the INI file is not found the common application data folder of the PC is checked. If **TRW.INI** is found there it is read. This folder is normally called something like:

   C:\Documents and Settings\All Users\Documents\Temprecord\Application Data\TRW

- If **TRW.INI** is not found in the common application folder, the local settings application folder is checked. If **TRW.INI** is found there it is read. This folder is normally called something like:

   C:\Documents and Settings\<User name>\Local Settings\Application Data\Temprecord\TRW

- If **TRW.INI** is not found in any of these three locations, a new default one is created in the local settings application data folder,

- When **TRW** exits, the INI file is written back to the folder it was read from. If the user does not have write access to that folder, or the file is marked as read-only, no error message is issued.

The above behaviour enables various configurations to be accommodated. The installation default is for each user to have their own INI file. Alternatively the INI file can be copied to the common application data folder and it will be used by all users on that workstation. Finally, the INI file can be copied to a network server folder containing a shared copy of TRW.INI and all users on the network will share the INI settings.

The installer creates a new TRW.INI file unless it finds an existing one from a previous installation, so existing settings should be preserved on re-installation of versions 5.26 onwards.

If you require a custom configuration for your users you can create this by installing **TRW** on your local machine, setting up the desired options, then copying the **TRW.INI** file to your installation image such that the file is available in the same folder as **TRW-SETUP.EXE** when this file is run. If the installer finds this custom copy of **TRW.INI** in the same folder **TRW-SETUP.EXE** is running in, and there is no local **TRW.INI** file there already, the custom one is copied across.

You need to deploy your edited batch file and the file **trw-setup.exe**. The other files **readme.txt** and Install.txt are already present in the setup EXE file.

To carry out the batch installation:

- Copy the deployment files (edited batch file and setup executable) to a temporary folder on the target installation machine.
- Change to that folder.
- Execute the batch file.

If you encounter problems with batch installation, the file TRW Installation Log... .txt created as part of installation can be inspected for clues as to what might be wrong. This file should be included in any request for technical support.

Customizing Installation

If you require your installation to have customized settings, these are the steps required:

- unzip all the files in trw-setup.zip to a temporary folder
- install Temprecord on your computer.
- open the **Options** dialog.
- set any custom options you require.
- exit Temprecord.
- open Explorer and navigate to **C:\Documents and Settings\<User name>\Local Settings\Application Data\Temprecord\TRW**
- copy the file **TRW.INI** into the temporary folder

The contents of the temporary folder are what you need to distribute as an installation image.

See Also

2.3.1 Batch Installation

Batch Installation

The file **TRW Batch Installation Template.bat** is provided as an example of how Temprecord can be installed without user intervention in situations where the installation destination folder is known in advance. System administrators should

examine this file and edit it to suit their environment is necessary, although using it in its current form will generally install Temprecord satisfactorily.

The setup EXE file accepts some command line parameters and system administrators may need to modify these when deploying the application. See Setup command line parameters for more information.

To prepare the batch installation template to install Temprecord, the following steps are required:

- Unzip the TRW setup files into a temporary folder
- Copy the file **TRW Batch Installation Template.bat** to a new name.
- Edit the new batch file and change the five items shown in **red** on the following lines if required:

  set InstallFolder=**%ProgramFiles%\Temprecord\TRW**
  set InstallLogFilename=**%InstallFolder%TRW Batch Installation Log.txt**
  set InstallGroup=**Temprecord**
  set InstallType=**AllUsers**
  set InstallImport=**ImportSettings**

You will find the batch installation template both in the folder **C:\Documents and Settings\<user>\Temprecord\Samples** and the folder **C:\Documents and Settings\All Users\Documents\Temprecord\Samples.**

See Also
Notes for system administrators
Setup command line parameters
Installation of Temprecord
Installing Temprecord on Networks
Installing Temprecord Reader USB Drivers

2.3.2   Setup command line parameters

The topic deals with the command-line parameters of the Temprecord setup program, not those of the Temprecord program itself. For information on the Temprecord program command line parameters see the topic .

The normal setup procedure for a manual interactive installation is to execute the setup file with no parameters, i.e. just run:

   trw-setup.exe

The setup executable accepts some command line parameters to modify the behaviour and allow unattended installation.

Parameter	Function
/SP-	Disables the **This will install... Do you wish to continue?** prompt at the beginning of Setup.
/SILENT	Instructs Setup to be "silent". The wizard and the background window are not displayed but the installation progress window is. Everything else is normal so for example error messages during installation are displayed and the startup prompt is (if you haven't disabled it with the '**/SP-**' command line option explained above).
/VERYSILENT	Instructs Setup to be "very silent". The wizard and the background window are not displayed, nor is the installation progress window. Everything else is normal so for example error messages during installation are displayed and the startup prompt is (if you haven't disabled it with **DisableStartupPrompt** or the '**/SP-**' command line option explained above).
/SUPPRESSMSGBOXES	Instructs Setup to suppress message boxes. Only has an effect when combined with '**/SILENT**' and '**/VERYSILENT**'.

	The default response in situations where there is normally a choice for the user during installation is: • Yes in a 'Keep newer file?' situation. • No in a 'File exists, confirm overwrite.' situation. • Abort in Abort/Retry situations. • Cancel in Retry/Cancel situations. • Yes (=continue) in a DiskSpaceWarning/DirExists/DirDoesntExist/NoUninstallWarning/ExitSetupMessage/ConfirmUninstall situation. Some message boxes will always display. These include: • The About Setup message box. • The Exit Setup? message box. • Any error message box displayed before Setup (or Uninstall) could read the command line parameters.
/DIR=<folder>	Overrides the default directory name displayed on the Select Destination Location wizard page. A fully qualified pathname must be specified.
/GROUP=<group name>	Overrides the default folder name displayed on the Select Start Menu Folder wizard page.
/MERGETASKS=<list of tasks>	Specifies a list of tasks that should be added to the default tasks the installer will be carrying out. When installing Temprecord via a command line or batch file you would normally specify: **/MERGETASKS="desktopicon,quicklaunchicon"**
/JUSTME	Instructs Setup to install for the current user only. When this option is specified the wizard page asking the user to choose the setup type will not be displayed.
/ALLUSERS	Instructs Setup to install for all users of the computer. Each user of the computer will have **separate** program settings. When this option is specified the wizard page asking the user to choose the setup type will not be displayed.
/ALLUSERSSHARED	Instructs Setup to install for all users of the computer. Each user of the computer will have **the same** program settings. If one user makes changes to the settings, the next user to start Temprecord will inherit those settings. When this option is specified the wizard page asking the user to choose the setup type will not be displayed.
/ALLUSERSREMOTE	Instructs Setup to install for all users of the computer, where those users access the TRW program file from remote machines across a network. Each network user of the computer will have **the same** program settings. If one user makes changes to the settings, the next user to start Temprecord will inherit those settings. When this option is specified the wizard page asking the user to choose the setup type will not be displayed. This option would be used when installing Temprecord on the server. No installation is required (or should be carried out) on the remote network workstations.
/IMPORTSETTINGS	If this option is specified, any existing INI file found in a different folder to the new installation INI folder will be copied across. This only applies to the folders normally used by previous installations of Temprecord. If this option is specified, Setup will not display the page allowing the user to choose to import the settings from an existing INI file:

	The page is also not displayed if there is no existing INI file found in any of the usual places, or the existing INI file is in the same folder as the new installation would install an INI file into. Note that this option is only provided for situations where a previous installation of TRW had settings stored in an INI file in a different folder. If an existing INI file is found in the destination folder of the new install, this option has no effect, as the existing INI file is already "imported".
/NOIMPORTSETTINGS	If is option is specified, any existing INI file in a folder other than the destination INI install folder is ignored. Any existing INI file in the destination INI install folder is left alone and will be used by the new installation. If this option is specified, Setup will not display the page allowing the user to choose to import the settings from an existing INI file:

Examples

trw-setup.exe

Starts a normal interactive install.

trw-setup.exe /JUSTME

Starts a normal interactive install, but assumes an install for the current user only. The page giving the user the chance to choose the installation type will not display.

trw-setup.exe /NOIMPORTSETTINGS

Starts a normal interactive install, but will ignore any existing INI file found. The page giving the user the chance to import an existing INI file's settings will not display.

trw-setup.exe /NOIMPORTSETTINGS /JUSTME /SILENT /SP- /SUPPRESSMSGBOXES /DIR="Temprecord" /GROUP="Temprecord" /MERGETASKS="desktopicon,quicklaunchicon"

Starts a unattended install with the options shown (installs for the current user only, will not import any existing settings). No user prompt pages will display.

trw-setup.exe /SILENT /SP- /SUPPRESSMSGBOXES /DIR="Temprecord" /GROUP="Temprecord" /MERGETASKS="desktopicon,quicklaunchicon"

Starts a unattended install with the options shown. Note that even though there are no options specified for the installation type or importing of settings, these pages will not display as "silent" installation has been specified, and default settings (**/ALLUSERS**, **/IMPORTSETTINGS**) will be assumed. No other user prompt pages will display.

See Also
Notes for system administrators
Batch Installation
Installation of Temprecord
Installing Temprecord on Networks
Installing Temprecord Reader USB Drivers

2.3.3   Installing the USB Drivers Manually

If things go wrong with the USB installation, you can try installing the USB drivers manually.

Important! Don't plug in your reader interface before installing the Temprecord software.

Important! If you are running Windows 2000 or Windows XP prior to Service pack 2 ("XP SP2"), you must ensure that your computer is not connected to the Internet when you install the USB drivers. Otherwise Windows will load an incorrect driver file from the Internet. If you are running Windows XP SP2 or above the installer will ask if it can check the Internet for the driver. You must answer **No** to this question.

First, plug the reader in to an available USB port.

To check if the drivers are installed, check the Device Manager (in Windows XP, click **Start**, **Control Panel**, and double-click **System**. Click on the **Hardware** tab from the **System Properties** page:

Click the **Device Manager** button.
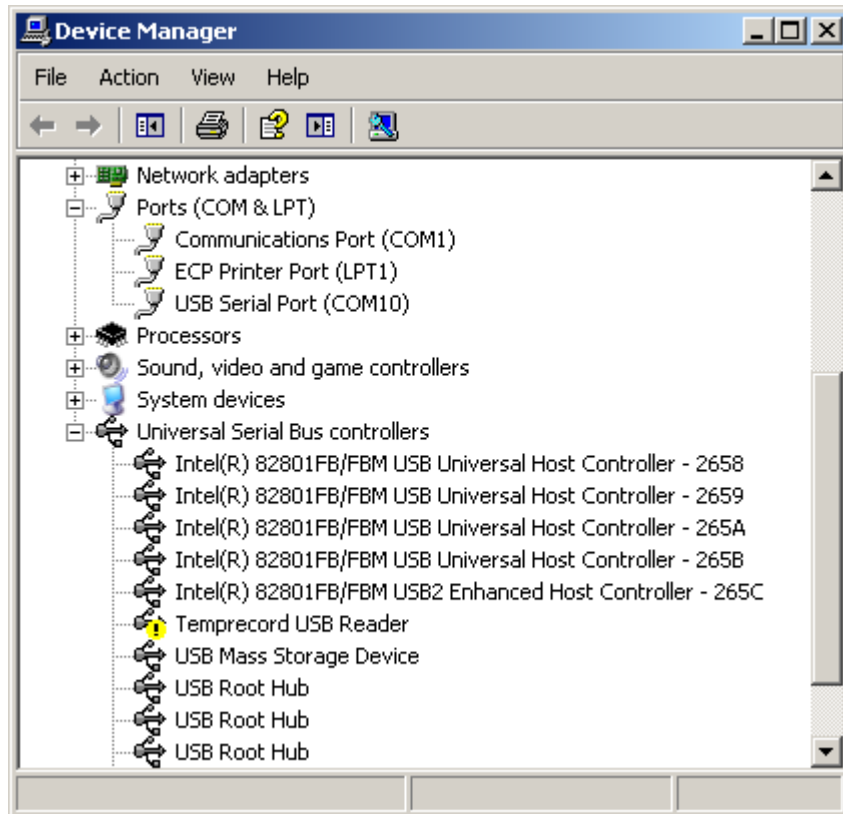
If the driver for the Temprecord Reader Interface is missing or incorrectly installed, and the a yellow exclamation mark will show beside the USB symbol in the hardware list. Right-click the **Temprecord USB Reader** entry and select **Update Driver**. The following dialog will display:

Select **Install from a specific location (Advanced)**, and click **Next**.
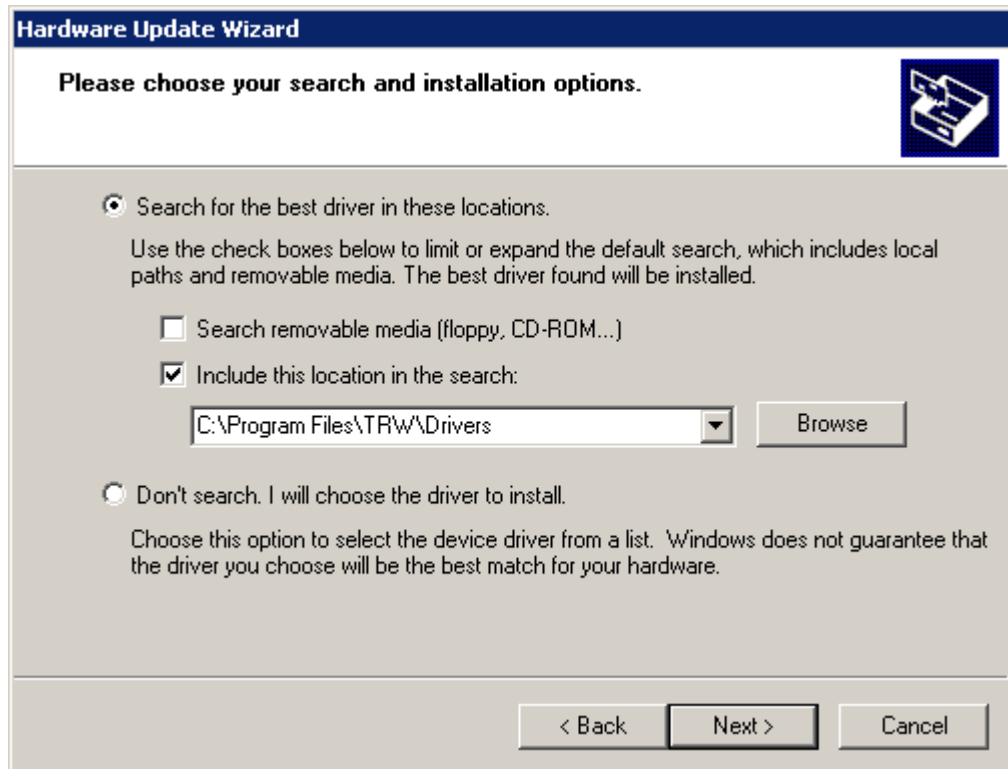
Make sure **Search for the best driver in these locations** is selected, **Search removable media** is not checked, and **Include this location in the search** is checked. Then click the **Browse** button. Navigate to the folder **C:\Program Files\Temprecord\TRW\Drivers** (If you installed to a folder other than **TRW**, select that folder instead). When you have selected the folder, close the **Browse** dialog and click **Next**. You will probably receive a warning that the driver is not certified:
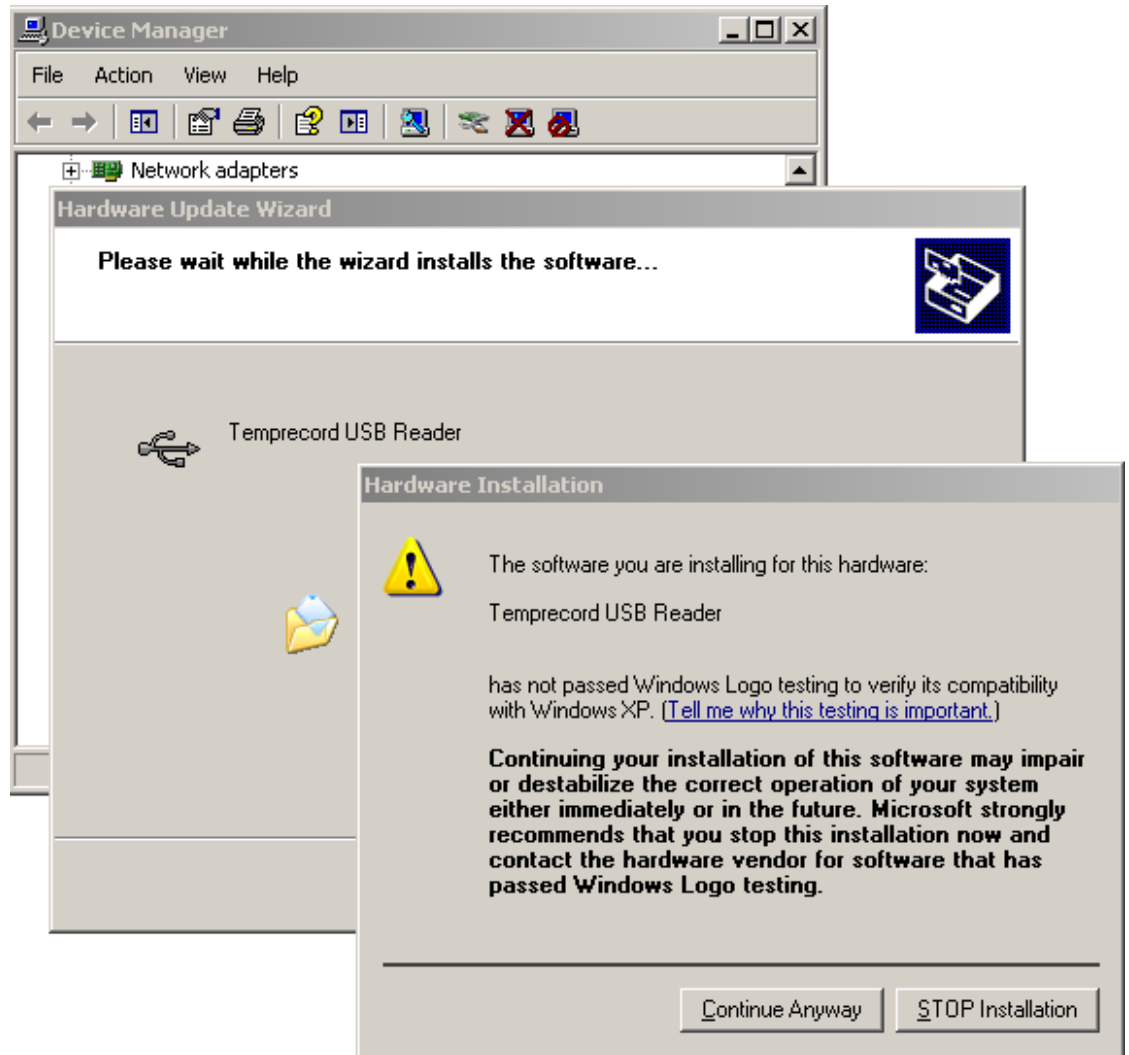
Click the **Continue Anyway** button, and you should see the following screen.

At this point the whole process will repeat to install a second set of drivers that are required. Follow the same procedure as outlined above.

See Also

Installation of Temprecord

Installing Temprecord on Networks

Installing Temprecord Reader USB Drivers

Notes for System Administrators

2.3.4 Specific issues when installing Temprecord on a network server

The default behaviour of a "Remote" installation (All Users, Shared Settings, Remote EXE) of Temprecord is to install a default INI file to the Application Data folder off the EXE folder on the server (i.e. **\\Server\Program Files\Temprecord\TRW\Application Data**). This means that all users on all computers will share the INI file settings. The client computers will have no local INI file, and if there are any INI files on the local machine they will not be used.

This behaviour can be modified as described below. This discussion only applies to "All Users, Shared Settings, Remote EXE" installations

To have all users on all client PCs accessing the executable on the server share the same settings

This is the default installation setup. Ensure there is an INI file in the folder **\\Server\Program Files\Temprecord\TRW\Application Data**

To have all users on one client PC accessing the executable on the server share the same settings

Ensure there is no INI file in the folder **\\Server\Program Files\Temprecord\TRW\Application Data**

Ensure there is no INI file in the folder **\\Server\Program Files\TRW**

Ensure there is an INI file in the folder **C:\Documents and Settings\All Users\Documents\Temprecord\Application Data\TRW**

To have all users on one client PC accessing the executable on the server have separate settings

Ensure there is no INI file in the folder **\\Server\Program Files\Temprecord\TRW\Application Data**

Ensure there is no INI file in the folder **\\Server\Program Files\TRW**

Ensure there is no INI file in the folder **C:\Documents and Settings\All Users\Documents\Temprecord\Application Data\TRW**

Ensure there is an INI file in the folder **C:\Documents and Settings\<user>\Local Settings\Application Data\Temprecord\TRW**

To have all users on all client PCs accessing the executable on the server have separate settings

Ensure there is no INI file in the folder **\\Server\Program Files\Temprecord\TRW\Application Data**

Ensure there is no INI file in the folder **\\Server\Program Files\TRW**

Ensure there is no INI file in the folder **C:\Documents and Settings\All Users\Documents\Temprecord\Application Data\TRW** on all client PC's

Ensure there is an INI file in the folder **C:\Documents and Settings\<user>\Local Settings\Application Data\Temprecord\TRW** on all client PCs

See also

Installation of Temprecord
Selecting the installation type

2.3.5 Modifying the Registry to Enable CHM Help across Network Drives

This procedure involves modification of the registry. Incorrect modification of the registry can result in serious damage to Windows or installed applications and may leave the computer in an unusable state. Temprecord accepts no liability for any damage or loss that results from the procedure described below.

With a tool capable of modifying the registry (e.g. **RegEdit**), locate the key:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\HTMLHelp\1.x\ItssRestrictions

Create a string value called **UrlAllowList**. Give it a value of:

\\hostname\sharename\TRW_EN.chm;file://;

where **<hostname>** is the name of your server and **<sharename>** is the folder path where the Temprecord help files are located.

Paths containing full stops (periods) will not work.

You can also used mapped drive paths ("drive letters" if the mapping from that PC will not be changed in the future.

See also

Installation of Temprecord
Selecting the installation type

3 Common Problems

Listed here are some of the more common problems users of Temprecord experience. To see an explanation of the problem and its remedy, click on one of the topics below.

- Temprecord will not start
- Temprecord won't recognize my logger
- The arrow keys don't move the cursor on the graph
- The trace isn't visible on the graph
- I can't alter some of the parameters
- I get an error when I try to update the parameters
- I can't print anything with Temprecord
- I can't print my data as a list of values
- I get a 'SPOOL32 Error' when I print
- I can't view a PDF report with Adobe Reader.
- When I open a menu, some of the items are grayed
- When I click on a button, nothing happens apart from a beep
- My logger says it exceeded the limits, but I can't see where
- I have set different colors for display of values above the upper limit and below the lower limit but my values still display and print in one color only.
- The statistics report shows a section "Statistics from Logger" - What are these and how are they different?
- The start time displayed changes every time I insert a marker.
- Why don't the logger statistics agree with the statistics in the report?
- I can't get the TTV statistics to display or print, or export them to a file.
- I can't get the PHI (growth) statistics to display or print, or export them to a file.
- I can't select the Humidity options when I program the logger parameters
- The temperature exceeded the limits but the summary does not show this
- My filenames are all garbled
- Why doesn't my printed graph look the same as the one I see on screen?
- The format of the displayed date format doesn't match my Control Panel regional settings
- My Main Menu toolbar has disappeared
- Common questions about file digests
- Temprecord reports that my logger is "locked" and I can't save the parameters.

3.1 Temprecord will not start

If Temprecord does not start at all, - i.e. when you click on the Temprecord icon, or Click on Start/All Programs/ Temprecord, nothing happens - the most likely reason is anti-virus software. Try disabling the anti-virus software and start Temprecord again.

Temprecord only allows one instance of the application to be running at once. If you try to start Temprecord when it already running an error message will display:
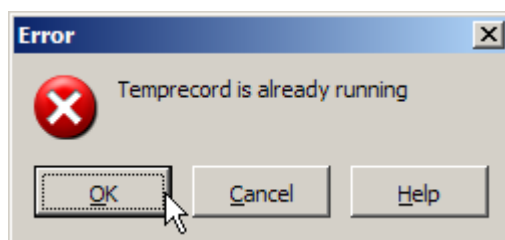
3.2 Temprecord won't recognize my logger

The most common reason for this is confusion over COM Ports. If you receive the error message Unable to open COMx. the port selected is either in use by another device or program, or the port doesn't exist.

If you receive the message Unable to Access Temprecord Logger it means that Temprecord has found the COM Port but was unable to communicate with the logger.

3.3 The arrow keys don't move the cursor on the graph

In Graph View mode the left and right arrow keys move the sample cursor one sample to the left or right. If the current zoom factor is such that there are more samples across the screen than there are pixels across the screen (a pixel is the smallest screen element your computer's screen can display), the displayed cursor will not necessarily move on screen when the cursor is moved with the arrow keys.

Use the View /Zoom In Horizontally function to change the zoom factor so that the samples are displayed more widely apart.

3.4 The trace isn't visible on the graph

In Graph View mode at higher Zoom levels it is possible to scroll the displayed area to a point in the graph where the trace is not visible. If this occurs, you can use the View /Go To/Find Trace function to position the trace near the centre of the window. The zoom factor and horizontal position are not altered.

If you are viewing data from a Humidity logger, you can select whether Temperature, Humidity, or both are displayed by right-clicking on the graph.

3.5 I can't alter some of the parameters

When using the Program/Parameters function to set up a logger, you may notice some of the parameters are displayed in gray and you cannot alter them.

- The parameters Lower and Upper Temperature Limits, Start at Date Option, Limits Delay Option, and the group of enables (Loop Overwrite, Start and Stop with Button, and Allow Markers) are only possible with the newer Mk II and Mk III Temprecord Loggers. If you are programming an older Temprecord logger, these parameters will appear grayed. If you are programming a humidity logger, and it is configured to log Humidity only, the temperature options will appear grayed.
- The parameters Start Date and Start Time can only be programmed if the Start on Date option is enabled.
- The function Limit Delay can only be altered if the Enable Safe Range parameter is checked.
- The upper and lower humidity limits can only be altered if the logger being programmed is a humidity logger, and it is set up to log humidity only, or both temperature and humidity.

3.6 I get an error when I try to update the parameters

This can occur when accessing the logger with Bluetooth serial ports. Set the option Bluetooth Compatibility

3.7 I can't print with Temprecord

You should check the following:

- Can you successfully print with any other application? Try printing a document with your word processor. If this is also unsuccessful, the problem lies with the printer or your computer.
- Check that the selected printer is available to your computer.
- Do you get a blank sheet when you print? Check the printing options and make sure that at least one of summary, values, statistics, or view is selected.
- Check that you have the latest printer driver for your printer and version of Windows.

Some earlier versions of the Windows 3.11 printer drivers for the HP LaserJet 5P series of printers may give this error. If you are unable to get an updated printer driver for the LaserJet 5 that fixes the problem, try installing a printer driver for an earlier compatible printer, such as the HP LaserJet III.

Some HP DeskJet printers will require installation of other HP drivers. For example the HP 820 and 870 require use of the HP DeskJet 310 driver. This driver is available from the HP web site (http://www.hp.com) or from your Temprecord dealer. Install the driver as if you were adding another printer, then select that printer when printing from Temprecord.

See Also
I get a 'SPOOL32 Error' when I print

3.8   I get a 'SPOOL32 Error' when I print

This is an internal error in the Windows printer driver. Problems have been observed with some HP printers, for example.

If you have a DeskJet 400 and are experiencing problems, try using the printer drivers for the 550C printer. You will need to install the 550C as another printer and select this whenever you wish to print from Temprecord.

3.9   I can't view a PDF report with Adobe Reader.

Under some conditions, PDF reports produced with Temprecord cannot be opened with Adobe Reader. This is a known problem with Temprecord reports and Acrobat Reader when the report is produced on a computer running a Windows operating system with Asian languages. The PDF will not display and instead Adobe Reader reports "Error 109".

You can work around this problem by either of the following methods:

- Use a different PDF reader such as Foxit.
- Generate the PDF by printing to a PDF printer driver such as FinePrint PDF Factory or PDF995.

3.10   When I open a menu, some of the items are grayed

There are occasions when an item on a menu is not applicable because certain conditions are not met. For example, if you do not have any data windows open (because you have not opened any files, or loaded data from a logger), it is not sensible to save data, as there is no data to save..

Under these circumstances Temprecord will 'gray' the File/Save menu entry, as a reminder that you need to do something else before you can use that entry.

Other examples of menu entries that are 'grayed' are:

Menu Entry	Disabled When
File/Save File	No data Windows are open or only summary data loaded from a logger.
File/Close File	No data windows are open
File/Edit Comments	No data windows are open or only summary data loaded from a logger.

File/Export	No data windows are open or only summary data loaded from a logger.
File/Print	No data windows are open
View/Go To	No data windows open or view mode is not graph or values.
View/Go To/Previous Marker View/Go To/Next Marker	There are no user markers present in the is data loaded.
View/Zoom	No data windows open or view mode is not graph.
View/Set as Start Sample View/Set as End Sample	No data windows open or view mode is not graph.
View/Temperature	Only humidity data has been logged
View/Humidity	Only temperature data has been logged
View/Temperature and Humidity	Only humidity data or only temperature data has been logged (this menu option is only available when both temperature and Humidity have been logged).

3.11 When I click on a button, nothing happens apart from a beep

There are occasions when a speed button action is not applicable because certain conditions are not met. For example, if you do not have any data windows open (because you have not opened any files, or loaded data from a logger), it is not sensible to print data, as there is no data to print.

Under these circumstances Temprecord will 'beep' when the button is clicked on, as a reminder that you need to do something else before you can use that entry.

The following describes when each of the speed buttons is inoperative:

Speed Button	Disabled When
File/Open	Always enabled.
File/Save	No data windows are open
File/Print	No data windows are open
Program/Parameters Program/Start Program/Stop Program/Read Logger Program/Reuse	Those buttons associated with programming and reading a logger are always enabled, but a logger needs to be present in the reader interface.
Zoom in horizontally	No data windows open or view mode is not graph

Zoom out horizontally Zoom in vertically Zoom out vertically Zoom all Zoom to presets Select all samples Set start sample Set end sample Copy to clipboard Copy to Excel	
Go to minimum sample Go to maximum sample	No data windows open or view mode is not graph or values.

3.12 My logger says it exceeded the limits, but I can't see where

The red LED on Mk III loggers will flash if the logged temperature has gone above the upper limit or below the lower limit since the logger was started. If loop overwrite is on however the sample record contained in the logger will not necessarily have any samples that are outside the limits, as these may have been overwritten.

On the LCD logger the behaviour of the LED's when limits are transgressed is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits. See Enable Status LEDs for more information.

3.13 The start time displayed changes every time I insert a marker

Temprecord calculates the time of the first sample displayed on the summary tab by taking the current time and counting backwards, using the number of samples taken and the sample period. If the sample record contains markers as well as temperature values, the start time will be earlier by the number of markers multiplied by the sample period if the data has not been read from the logger.

Thus if there are samples with markers in the logger, the time of the first sample in the logger will be earlier than the true value.

The time that is annotated **First Sample** in the summary display is the time of the first sample in the logger. If the logger is not overwriting, this corresponds to the time the logger took the first sample after it was started, but if the logger is overwriting, it corresponds to the time of the earliest sample in the logger. Every time the logger takes another temperature sample and stores it, the oldest sample is overwritten and lost, and the time of the first sample will advance by one sample period.

The time that is annotated **Time Logger Started** on the other hand, is the time the very first sample of the trip was taken. If the logger is overwriting, this sample is no longer available.

3.14 I have set different colors for display of values above the upper limit and below the lower limit but my values still display and print in one color only

The display option Show upper and lower limits needs to be checked for Temprecord to show values above the upper limit or below the lower limit in different colors.

3.15 The statistics report shows a section "Statistics from Logger" - What are these and how are they different?

G4 loggers record statistics inside the logger. Most of the time these values will be the same as the statistics the Temprecord program calculates from the sample values read from the logger, but the logger statistics include all the samples taken on the trip, including those samples lost to overwriting, so if your logger has started overwriting, then the statistics reported by the logger display won't agree with the samples calculated from the samples read by the Temprecord program.

3.16 I can't get the TTV statistics to display or print, or export them to a file

Temprecord only displays the Total Temperature Value (TTV) statistics if Show TTV Statistics is checked in the Statistics Options tab. This option must be checked if you want to print the TTV statistics or export then to a file also.

3.17 I can't get the PHI statistics to display or print, or export them to a file

Temprecord only displays the PHI (growth) statistics if Show PHI Statistics is checked in the Statistics Options tab. This option must be checked if you want to print the PHI statistics or export then to a file also.

3.18 Why don't the logger statistics agree with the statistics in the report?

G4 loggers can display limited statistical information (mean, maximum and minimum values, and the time spent outside the limits) on the LCD display, and this statistical information is also summarized in the statistics report.

The parameters time below lower limit, time above upper limit, maximum, minimum, mean, elapsed time, and total markers which are displayed by the logger are all calculated over the samples taken in the trip since the logger started sampling. If the logger is overwriting and is read with Temprecord, these statistics as reported by Temprecord and those as reported in these screens will not agree, because the samples read from the logger by the Temprecord program do not include those samples lost to overwriting, whereas the statistics displayed by the logger include these "lost" samples.

Another reason for differences is rounding. The data values in the Temprecord program are stored to a precision of 0.01 degrees C, but the statistics displayed on the LCD display comes from calculations which use the values as they were measured in the logger, and these are stored with a higher precision. As a result the mean values may not agree.

3.19 I cant print my data as a list of values

Temprecord can print data in any or all of the four different view modes. By default, new installations of Temprecord have the printing of numeric values disabled.

Use the Options/Printing page to turn on printing of the values. You can access the printing options by either:

- Opening the Options menu, and selecting the 'Printing' tab.
- Clicking on the 'Options' button w hen the Print dialog is displayed.

3.20 COM Port Issues

An unused COM port is required to use the Temprecord Reader Interface to program and read loggers. You specify the COM port to use using the Options/COM Port dialog.

If you have the type of Reader Interface that plugs into a USB port, it may not be obvious w hich COM port that it is using, as the COM port is sometimes assigned dynamically by Window s according to w hat port numbers (COM1, COM2 etc) are already taken.

If you need to establish w hat COM port your USB reader interface is using, the follow ing procedure should guide you to find out.

- Click on Start
- Click on Control Panel:
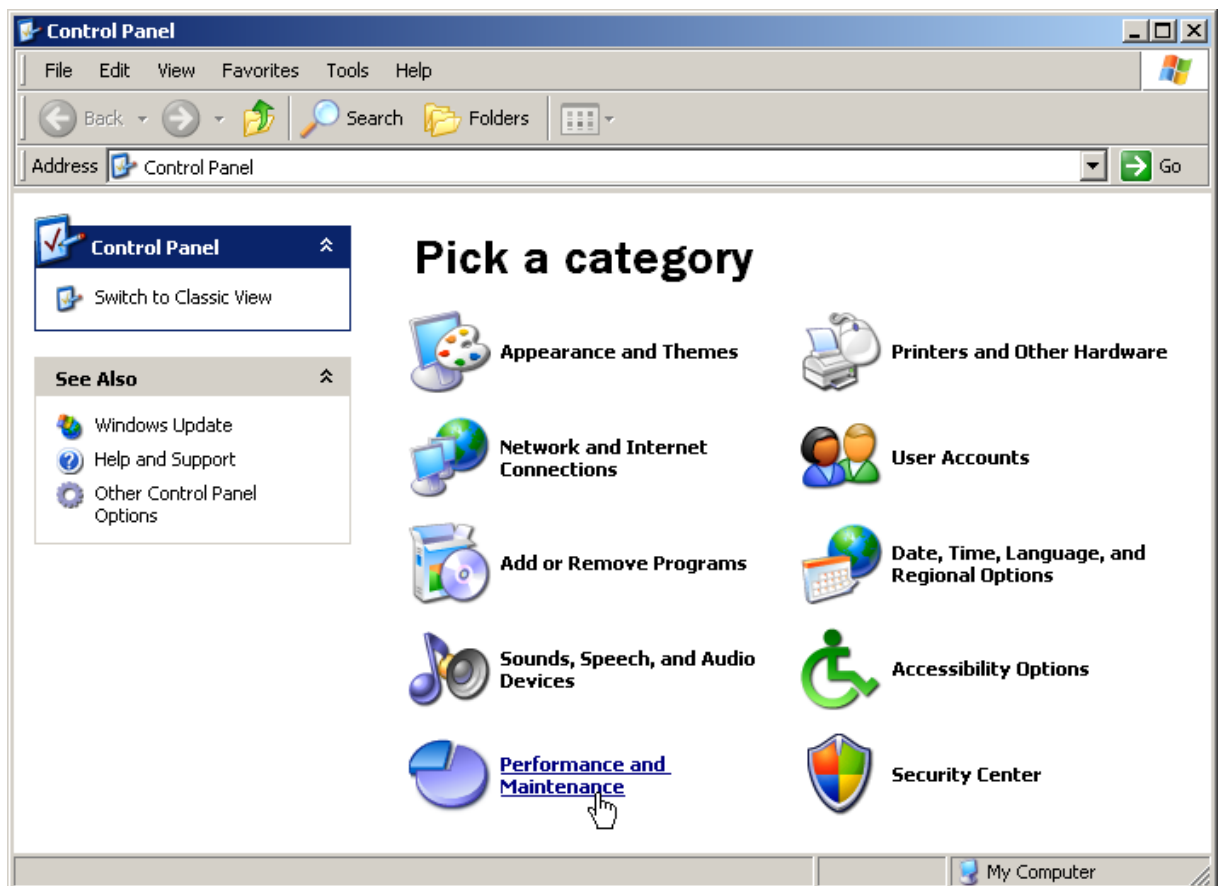
- If your control panel w indow show s the "category" view (as show n above), click on **Performance and Maintenance**.
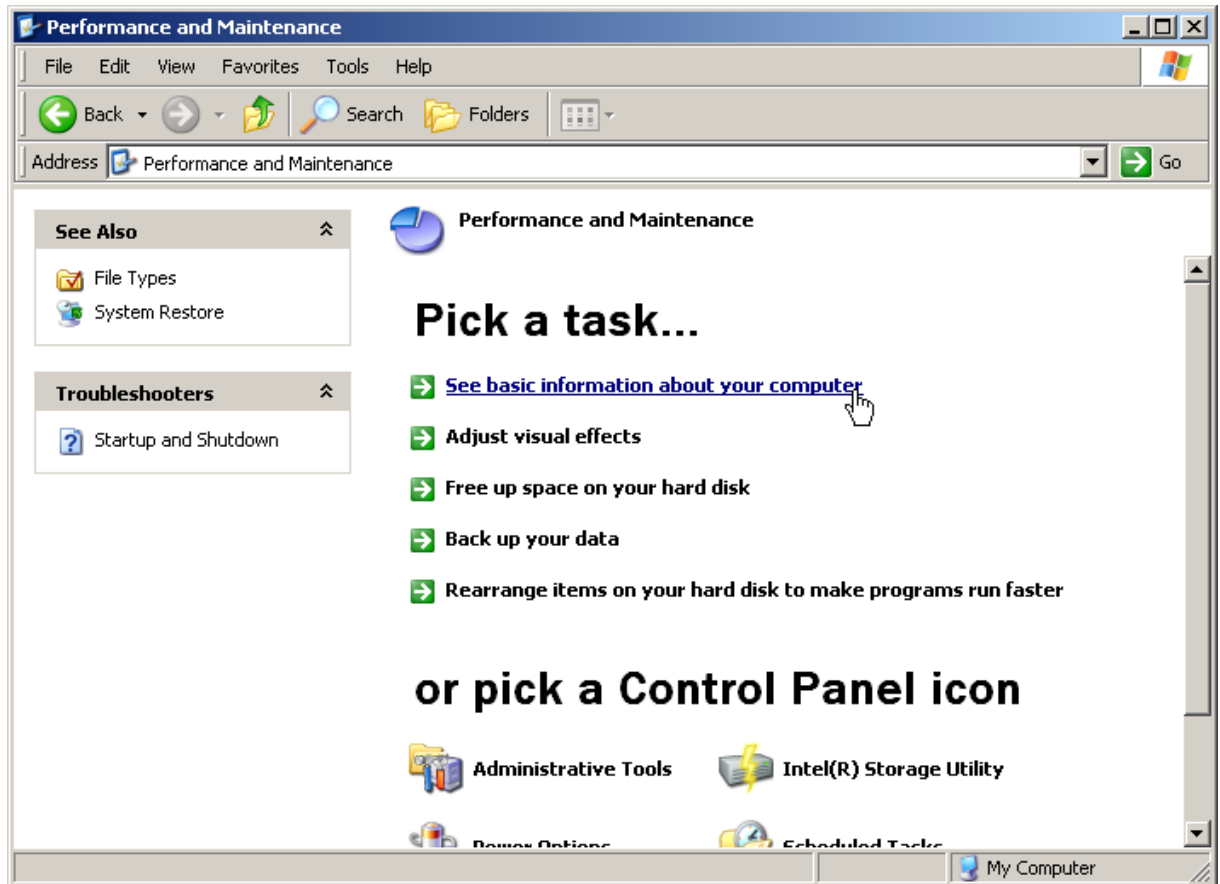
- Now, Click on **See basic information about your computer**. This will open the **System Properties** window.

- If instead, your control panel window shows the "classic" view (as shown below):
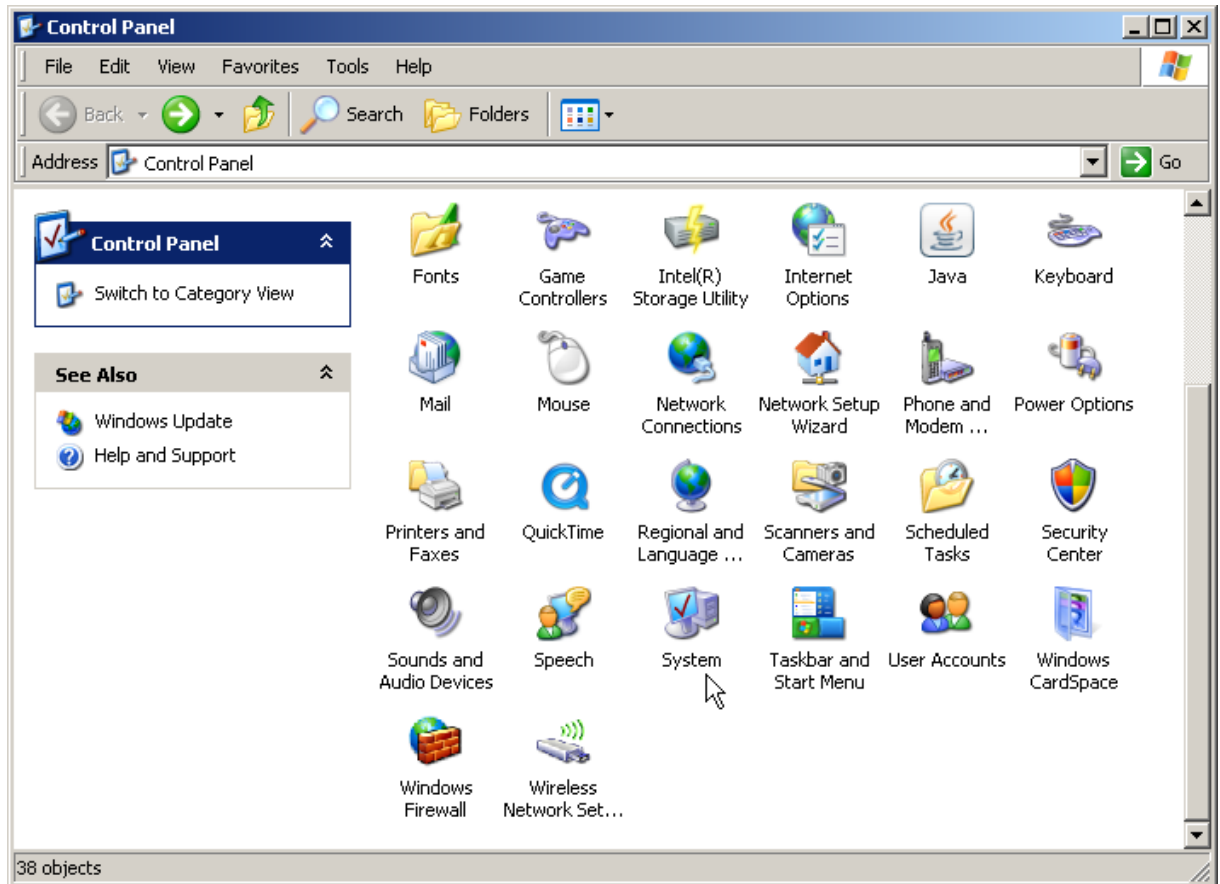
- Click on **System**. This will open the **System Properties** window.
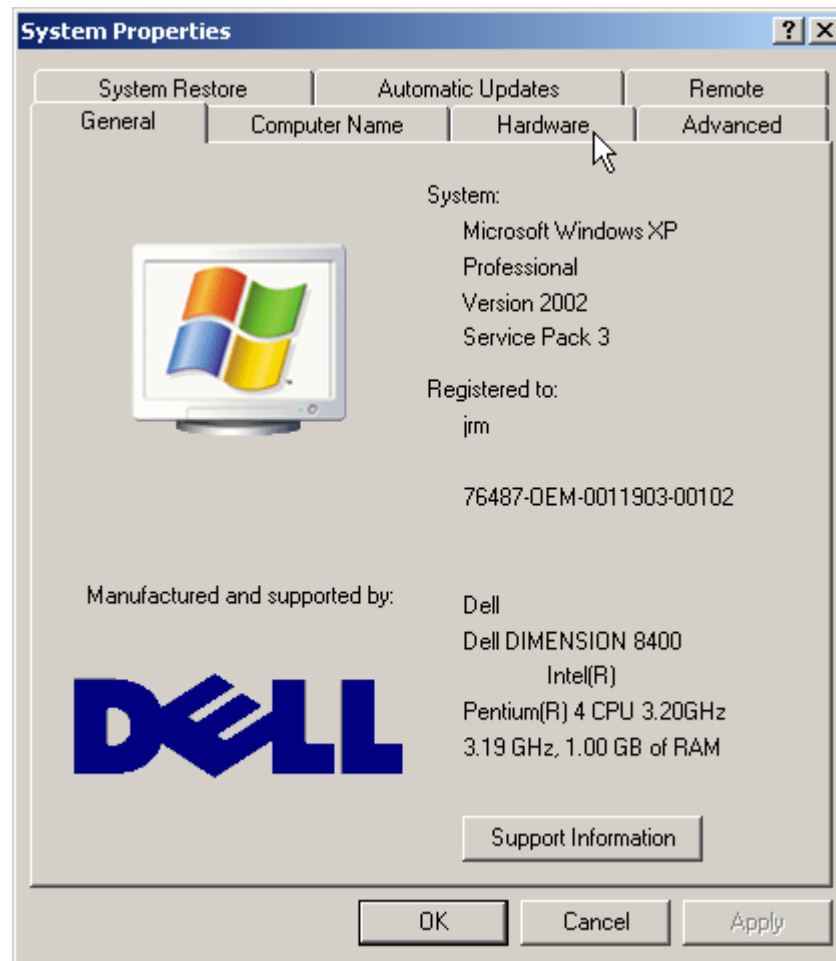
- Click on the **Hardware** tab.
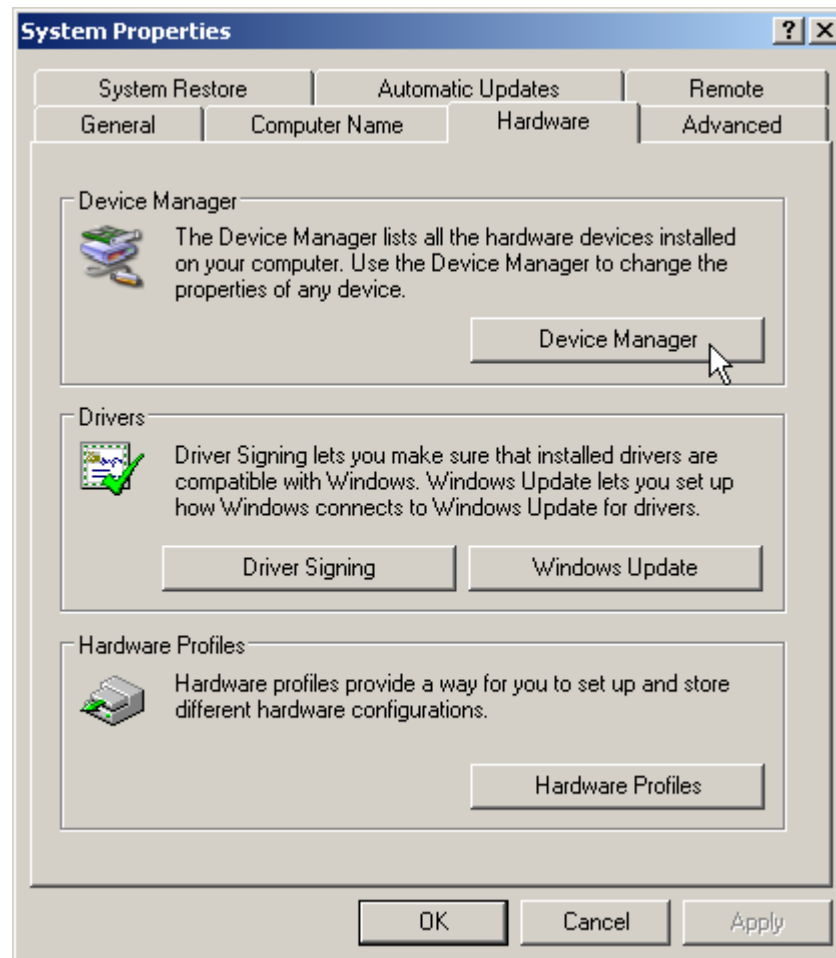
- Click on the **Device Manager** button.
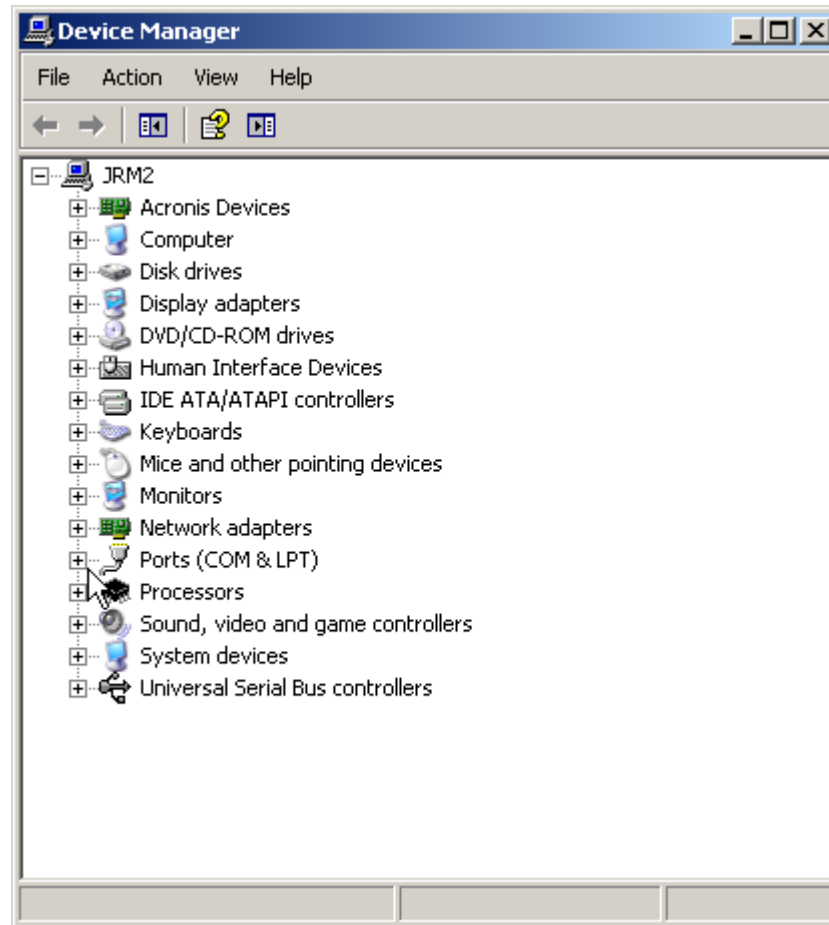
- Click on the plus (**+**) sign to the left of the **Ports (COM & LPT)** line to expand the line:
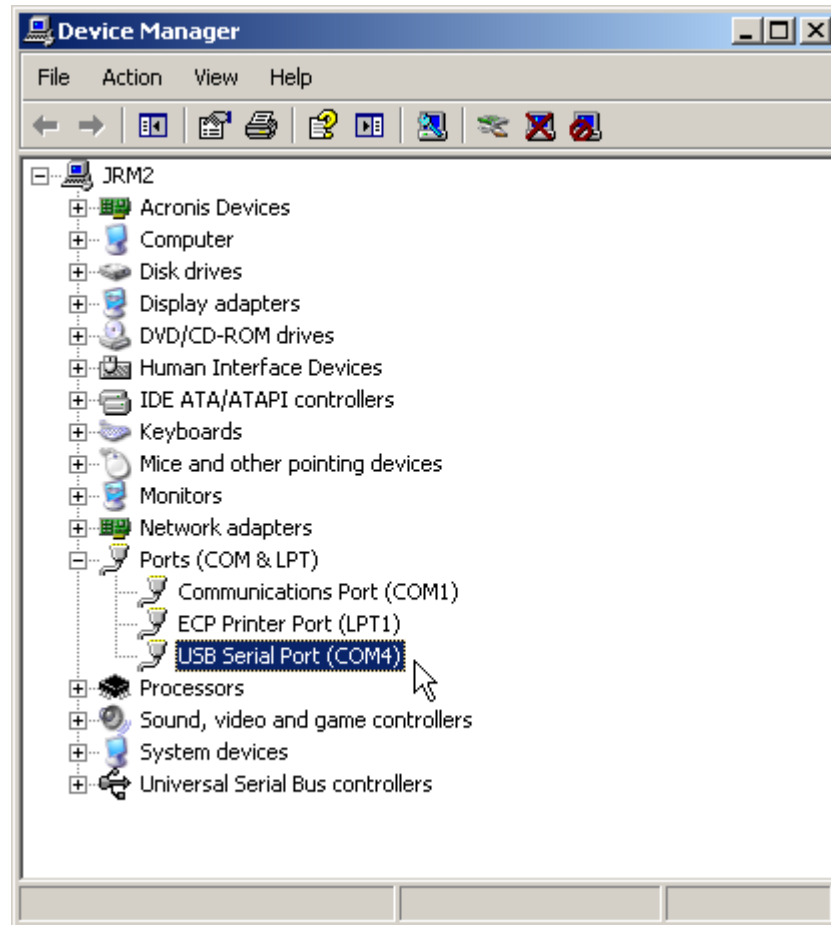
- This will show the COM numbers of any ports connected to your PC. You can find out which one the Temprecord Reader Interface is by unplugging it and seeing which COM port disappears.

HINT When you open the Options/COM Port dialog, Temprecord tries to select the most likely USB-based COM Port. You can either select **Look for USB reader** to use the USB-based COM port that Temprecord has located, or select **Use this COM Port** to tell Temprecord to use a specific port.

3.21   I cant select the Humidity options when I program the logger parameters

Your logger may not be a Humidity-capable logger. If the case does not have a small grille at one corner it is probably a temperature-only logger.

3.22   The temperature exceeded the limits but the summary does not show this

You may have the limit delay parameter on the logger set to a non-zero value. If the limit delay is set to 5 for example, the logger will allow 5 consecutive samples outside the limits before it reports an out-of-limits condition.

If you want the logger to report an out-of-limits condition as soon as a sample is outside the limits, set the limit delay to zero.

3.23   My filenames are all garbled

If you notice that your filenames are unusually long and contain all manner of characters and underscores, the most likely reason is that you have forgotten to "quote" some characters in the filename or folder specification. For example, if you wanted your Temprecord data files to always have the same name, and you entered a default filename specification of:

Data from Green Logger.TR

The filename actually used when the data was saved to a file would be something like this!:

1a4_20 p.m.a fro11r0920 S0001234o9r.4_20 p.m.r

This is because Temprecord is using the characters you entered as [formatting codes](). To achieve the result you intended, make sure the characters in the specification you don't want used as formatting characters are enclosed in double-quotes:

"Data from Green Logger.TR"

If you do want to include formatting characters, make sure they are outside quotes, e.g.:

"Data from Green Logger" L".TR"

would cause a filename to be generated similar to:

Data from Green Logger S1234567.TR

Another reason for garbled filenames can be the use of [meta-strings]() outside of double-quotes. Meta-string specifiers must be inside double-quotes to be recognised and handled correctly.

See also:
[Default filename specification]()
[Meta-strings]()

3.24 Why doesn't my printed graph look the same as the one I see on screen?

When the ['Visible Samples' printing option]() is selected, the sample range shown on the printed graph corresponds to that shown on screen. This means that the temperature/humidity values span in the vertical axis and the time span in the horizontal axis are the same for printed graph and the one on screen.

You may however, not see the same axis annotation values for each. There are two reasons for this.

- The font used for the on-screen graph annotation differs from the font used in the printed report.
- The aspect ratio (height vs. width) of the graph will be different. For the screen graph, the aspect ratio is determined by the dimensions of the window the graph is displayed in. For the printed graph the aspect ratio depends on the paper size, the paper orientation, and the height of the graph as a percentage of the page.

Temprecord spaces the graticule annotation so that the time and date text can be written comfortably in the space allocated without becoming difficult to read because of crowding. The format of the date and time is determined by your computer's regional settings. See [setting the date and time format on graph view]() for more information.

The colors used for the printed report are configurable (see the [Print Colors]() options) and may be different to the ones used on screen. If you want the graph colors to match the screen color, make sure that the [Use screen colors on printer output option is checked]().

See also:
[Print Options]()
[Print Colors options]()
[Setting the date and time format on graph view]()

3.25 Why does Temprecord keep asking me if I want to Save my file?

When you close a Temprecord dataset window or exit the Temprecord program, you may be asked if you want to save the dataset to a file.
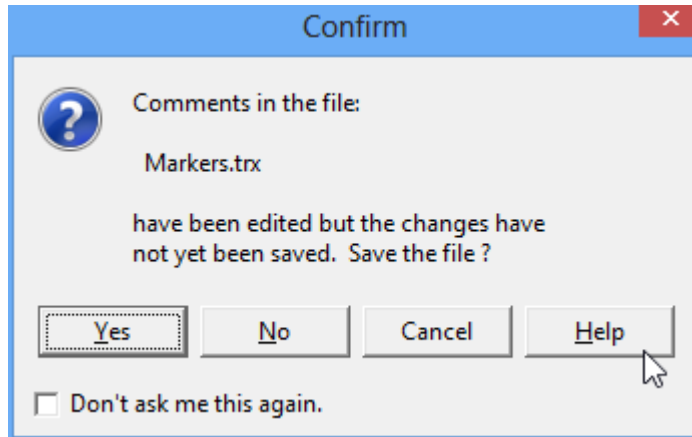
There are several situations w hen you might be presented w ith this prompt:

- the dataset has just been read from a logger and has not yet been saved to a local disk file.

- the dataset has had changes made to the display limit controls (the upper and low er limit controls at the top of the dataset w indow).

- the dataset has had comments added, deleted, moved or otherw ise edited.

You can suppress this prompt from this point on by checking the checkbox labeled **Don't ask me this again**. In this case if you exit the dialog w ith the **Yes** button the file w ill be automatically saved if the comments or limits have been altered w ithout the user being prompted.

You can also suppress this prompt by unchecking **Prompt to save edits** in the Options/General tab. The file w ill be automatically saved and updated if any changes have been made to the display limits or comments.

NOTE: If the checkbox labeled **Don't ask me this again** is checked and you exit the dialog w ith the **No** button the file w ill not be saved if the comments or limits have been altered, and you w on't be prompted if the file has been altered. In this case the only w ay to have Temprecord automatically save the comments is to have this dialog displayed again by checking **Prompt to save edits** in the General Options.

Temprecord data files store additional information as w ell as the logger data. This includes comments that you might have entered onto the
graph, the settings of the display limits controls, the current graph "zoom" factor, the temperature/humidity at the bottom of the graph, and the date/time at the left-hand end of the graph.

How ever, only the comment and display limits changes w ill result in a prompt w hen you close the w indow . If you alter the zoom factor for example (and don't change the comments or display limits), no prompt w ill be issued on closing the w indow , and the altered zoom factor w ill not be saved to the file. If you w ant to save the file w ith changed graph zoom and positions, simply save the file explicitly w ith **Ctrl-S**.

See Also

See Also
Saving a file
Comments
Prompt to save edits
Error and Warning Messages

3.26 The format of the displayed date format doesn't match my Control Panel regional settings

When displaying the date and time on the horizontal axis of graph view , Temprecord uses the short date settings from the computer's regional settings. However, if your computer is running Windows 7 you may experience some problems getting the date to display in the desired format. This is because Windows 7 does not correctly update this format in the regional settings under some circumstances

See the topic setting the date and time display format in graph view for more information.

3.27 My Main Menu toolbar has disappeared

If you should accidentally close the main menu toolbar, exit Temprecord and restart it again. The Main Menu toolbar will reappear.

See also
Common Problems

3.28 Common questions about file digests

Temprecord data files can optionally be protected with a file digest. Here are some of the more common questions people have about digests.

What's the difference between a digest and encryption?

Protecting a file with encryption is the process of making a file such that nobody can tell what the file contains unless they know the key, which is normally a password or passphrase.

Protecting a file with a digest is the process of creating a piece of data based on a file's contents and some user **key** (which also is normally a password or passphrase) such that nobody can alter the file without destroying the relationship between the digest and the file's data. It doesn't stop somebody from inspecting the file or even printing it or exporting the data.

Why do I need a passphrase if the file is going to be visible to anyone anyway?

You don't. If you don't provide a passphrase then Temprecord will use its own one.

Why would I want to provide my own passphrase/key then?

If you specify your own passphrase/key then the digest stored in the file will be based on both the data in the file, and the key you provided when the digest was calculated. Someone loading the file with Temprecord in another location will only be able to load the file without Temprecord complaining if they also know that passphrase and have supplied it in the "**Use this passphrase**" option. This provides an additional layer of security. They will still be able to view the file however.

Doesn't the digest make the file larger?

Yes, but not by much. Here's a typical digest:

    32572A8EC0734084E590C6C5055B000E1B263C656B3EFE63E74E80735C65DB00

which is a few percent at most of the total datafile size.

How secure is the file digest?

The digests are calculated using the HMAC (Hash-based Message Authentication Code) algorithm with a SHA256 cryptographic hash function. Provided the passphrase is very secure, the digest is very secure. The chance of two different files having the same digest is 1 in 115,792,089,237,316,195,423,570,985,008,687,907,853,269,984,665,640,564,039,457,584,007,913,129,639,936. That is a fairly small chance, by anyone's measure.

If your passphrase is "password", or "1234", the digest is as secure as your bank account contents would be if that was the password for your bank account. Remember, a good password should be easy to remember, and difficult to guess.

If the recipient of the file doesn't know the passphrase used to create the digest, how will they be able to read the file?

Not knowing the passphrase doesn't stop anybody being able to load the file, and Temprecord will load files that contain digests that don't agree with the key you provide. It will however provide an indication that the digest doesn't agree the data in the file.

Surely I can just edit the plain text files with a text editor? That doesn't seem very secure.

Yes you can, but any changes you make will violate the digest. When the file is loaded by Temprecord next, it will complain that the digest doesn't match.

Are the comments I add to a file also protected by the digest?

Yes. If you alter the comments and save the file, the digest will be recalculated, and will be different.

Why don't you call them "passwords"?

Because they are more than just "words" - they can contain several words and include spaces and punctuation characters. Note also that case is significant - **Katy Perry**, **katy perry**, **KATY PERRY** are all considered to be distinct passphrases.

What makes a good passphrase?

A good passphrase is easy to remember, and difficult to guess. Most of the commonly used successful attacks on sensitive data only work because people use easy-to-guess passphrases - ones like:

- "**1234**",
- "**password**",
- the year they were born,
- the name of their cat, etc.

Is the digest algorithm you use secret?

No, it's not secret. The digests are calculated using the HMAC (Hash-based Message Authentication Code) algorithm with a SHA256 cryptographic hash function. The only thing that needs to be secret is your key, if you have used one.

OK, then what's to stop somebody tampering with the data in a file, calculating a new digest from the tampered data, and putting that digest in there?

Nothing. But they couldn't get away with it undetected because the new digest would be different to the one the sender had created, and the passphrase used to create the digest would be different, so the recipient would receive a warning when they opened the file using the digest they had received from the sender.

Aha! I altered some text in a datafile and Temprecord still loads the file without warning me that the file has been tampered with.

Non-critical information in the header part of the file is not included in the digest calculation. These are items such as the positions of the start and end samples on the graph, the position of the graph cursor, etc.

Is the passphrase stored in the file?

No (that would be silly).

3.29 Temprecord reports that my logger is "locked" and I can't save the parameters.

Some customers require loggers to be "locked" at the time of manufacture. Locked loggers can be started, stopped, and reused in the same way as normal loggers, but it isn't possible to alter the logging parameters.

You will be able to inspect the logging parameters if the logger is in the **ready** state, but you won't be able to save them again.

A locked logger will show a padlock overlay on the picture of the logger shown on the summary tab.

A logger being "locked" has nothing to do with the logger being protected with a passphrase - they are completely separate. A logger can be locked and not require a passphrase to access it, and vice-versa.

5 Temprecord Loggers

Temprecord manufactures a wide variety of data loggers, but they can be divided into 3 broad classes as shown below. The Temprecord program can program and read all of these loggers - there is no need for separate programs for each logger class. In addition, all loggers communicate with the same Temprecord Reader Interface, and the data files produced from each logger class are compatible with each other. For more detail on the range of loggers provided and their specifications see: http://www.temprecord.com/products.html

Each class of logger has a different feature set. In general the Temprecord program will not display controls for functions not present in a particular logger, or the controls will be "grayed out".

Temprecord Mk3 Loggers

There a several variants of "Mk3" loggers. The Inland and Export models are single use loggers that are started and stopped by snapping off corner tabs. The remainder of the Mk3 loggers are multi-use loggers. The Scientific and RH (relative humidity) loggers are individually corrected and have enhanced accuracy specifications.

Temprecord Mon-T Logger

The Mon-T logger is a smaller form factor low -cost logger intended for mass deployment in produce shipping. Despite the smaller size it can still be inserted into the Temprecord Reader Interface and programmed and read.

Temprecord G4 (LCD) Loggers

The G4 logger is a completely new design that incorporates a Liquid Crystal Display (LCD). As w ell as providing the logging functions of the Mk3 loggers, the G4 logger displays the most recent logged temperature. It can also display the temperature on demand, and various statistics computed from the logged data.

The LCD logger is intended for applications where it can be useful to interrogate the logger for maxima and minima, etc. without the need for a PC.,

5.1   Operation of the G4 LCD logger

The G4 LCD Logger provides the same accuracy and resolution of its predecessors, with the added advantage of a custom Liquid Crystal Display (LCD). The LCD display provides the following additional features:

- Operations such as start, stopping and reusing the logger show visual feedback.
- The last sampled temperature and/or humidity are shown on the display and are available at the press of a button.
- Numerous additional screens are available which can display data such as minimum and maximum temperatures, mean temperatures, time outside limits, etc.
- An indication of whether the temperature and/or humidity has exceeded the programmed limits.
- An indication of the state of the battery.
- An indication of whether loop overwrite is on or off.

The G4 logger is available in three variants:

- One temperature channel
- One temperature channel, and one humidity channel
- Dual temperature channels

The humidity is always measured by a sensor mounted inside the case, which has a grille to permit the sensor to be exposed to ambient conditions.

The temperature channel sensor can be internal, or mounted inside a specially designed probe. In the case of the Dual Temperature Logger, one sensor is inside the case, and one is in the probe.

Under normal operation, pressing the button briefly moves between the various screens in the logger in a circular fashion, i.e. when the button is pressed while the last screen is displayed, the first screen (called the "home" screen) is displayed.

If the logger is left for more than a few seconds on any screen, it will revert to the home screen.

LCD Display

The follow ing show s the LCD display w ith all symbols that can display. Some of the screen icons only have meaning in combination w ith other icons:

prompt
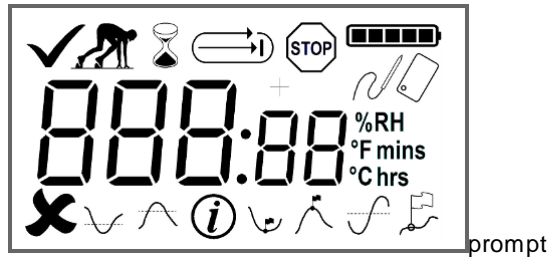
No limits have been exceeded in the current trip.

One or more limits have been exceeded. The limit(s) that has been exceeded is shown by the upper limit symbol and/or lower limit symbols.

Logger is ready to be started.

The logger is counting down the start delay.
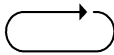
Loop overwrite mode ON. The logger will start to overwrite the oldest samples when it fills. If the logger is configured with overwriting enabled this symbol will display regardless of the operating state of the logger. If this symbol is displayed by itself, the logger is currently logging with overwrite enabled.

Loop overwrite mode OFF. The logger will stop recording samples when it is full. If the logger is configured with overwriting disabled this symbol will display regardless of the operating state of the logger. If this symbol is displayed by itself, the logger is currently logging with overwrite disabled.

The logger is stopped.

Battery capacity indication. Each "bar" corresponds to roughly one-fifth of the logger battery capacity. The battery state is an approximation, but is conservative. The logger should not be used if the battery symbol shows no "bars", as there is a significant chance that the battery will be exhausted before the trip can complete.

External sensor. The temperature or humidity displayed is from a sensor contained outside the logger (i.e. a probe)..

Internal sensor. The temperature or humidity displayed is from a sensor contained inside the logger.

The lower limit has been exceeded. This symbol is also used when the information symbol is displayed to indicate that the value displayed (the time outside the lower limit) is associated with the lower limit .

The upper limit has been exceeded. This symbol is also used when the information symbol is displayed to indicate that the value displayed (the time outside the upper limit) is associated with the upper limit

The current display is informational. The context of the display is given by other symbols (such as the upper and lower limit symbols) on the display

The current display shows the minimum value of the samples taken so far.

The current display shows the maximum value of the samples taken so far.

The current display shows the mean value of the samples taken so far.

A marker insertion is pending. The symbol will remain displayed until the next sample has been taken and the marker stored with it in the logger. This symbol also shows in combination with the information symbol when the display is showing the number of markers that have been inserted on the the current trip.

%RH   The value displayed is a relative humidity in percent.

°C   The value displayed is a temperature in degrees Celsius.

°F   The value displayed is a temperature in degrees Fahrenheit.

mins   The value displayed is a time in minutes and seconds.

hrs   The value displayed is a time in hours and minutes.

Operating the G4 LCD Logger

The operation of the G4 LCD Logger is carried out by means of the button. The button is the only user control on the logger. By default the LCD display show s the most recent conversion value. Pressing the button moves you through various ancillary screens.

The display always returns to the default "home" screen after a short delay if no buttons are pressed.

⚠️ The button only requires moderate force to operate it. Never use an implement such as a pencil or other object to operate the button.

Remember that keeping the button pressed for more than a second or so is used to control starting, stopping, reusing, and the insertion of markers. Only keep the button pressed long enough to perform the desired operation, which will in most cases will be made obvious by a change in the display.

The "Home" Screen

This screen displays by default after a period of 10 seconds. It always shows the most recent value of the first enabled channel, i.e. it will show the most recent temperature logged unless the logger is configured to log humidity only.
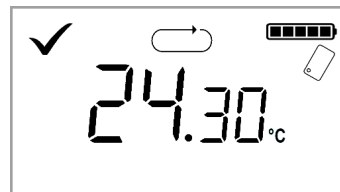
The "Home" Screen (when a limit has been exceeded)

If a limit has been exceeded during the trip so far the display shows a cross rather than a tick, and a symbol on the bottom row indicates whether an upper or lower limit has been exceeded.
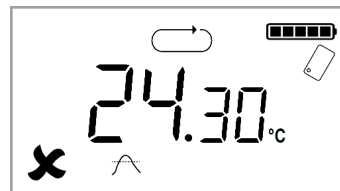
Last Results

Pressing the button while the **home** screen is displayed causes the logger to show the **last results** screen. This is much like the home screen except there is no indication of whether the limits have been exceeded, and the display alternates between the enabled channels if more than one parameter is being logged.
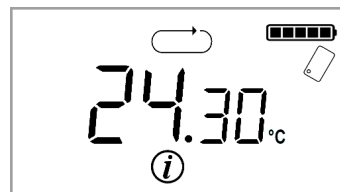
Lower Limit

Pressing the button while the **Last Results** screen is displayed causes the logger to show the **Lower Limit** screen. The time below the lower limit (in minutes and seconds) is displayed. If the logger is configured to log more than one parameter the time outside the limit for each channel is displayed in turn.

Upper Limit

Pressing the button while the **Lower Limit** screen is displayed causes the logger to show the **Upper Limit** screen. The time above the upper limit (in minutes and seconds) is displayed. If the logger is configured to log more than one parameter the time outside the limit for each channel is displayed in turn.
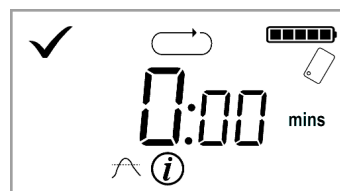
Minimum

Pressing the button while the **Upper Limit** screen is displayed causes the logger to show the **Minimum** screen. The minimum temperature and/or humidity since the logger was started is displayed. If the logger is configured to log more than one parameter the minimum value for each channel is displayed in turn.

Maximum

Pressing the button while the **Minimum** screen is displayed causes the logger to show the **Maximum** screen. The maximum temperature and/or humidity since the logger was started is displayed. If the logger is configured to log more than one parameter the maximum value for each channel is displayed in turn.

Mean

Pressing the button while the **Maximum** screen is displayed causes the logger to show the **Mean** screen. The mean temperature and/or humidity since the logger was started is displayed. If the logger is configured to log more than one parameter the mean value for each channel is displayed in turn.
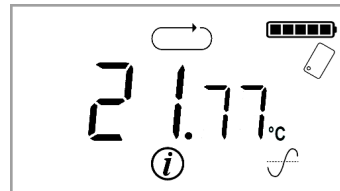
Elapsed Time

Pressing the button while the **Mean** screen is displayed causes the logger to show the **Elapsed Time** screen. This is just the time that has elapsed since the logger started taking samples.

Markers

Pressing the button while the **Elapsed Time** screen is displayed causes the logger to show the **Markers** screen. This is the count of markers recorded in the logger since the logger was started
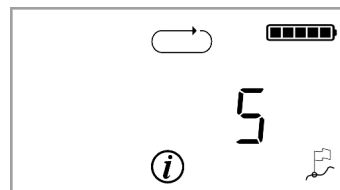
Pressing the button while the **Markers** screen is displayed causes the logger to cycle back to the **Last Results** screen.

The parameters time below lower limit, time above upper limit, maximum, minimum, mean, elapsed time, and total markers which are displayed by the logger are all calculated over the samples taken in the trip since the logger started sampling. If the logger is overwriting and is read with Temprecord, these statistics as reported by Temprecord and those as reported in these screens will not agree, because the samples read from the logger by the Temprecord program do not include those samples lost to overwriting, whereas the statistics displayed by the logger include these "lost" samples.

If you wait for longer than ten seconds at any screen the display will revert to the home screen.

See also

Temprecord loggers

6   File Menu

The File menu provides functions for loading and saving Temprecord data files, and reading and printing data from a logger.

6.1   Checking for a Logger

Use the File/Query Logger function to check for a logger in the Reader Interface and read the summary data from the logger. This only reads enough information to display a summary of the logger status. Use the File/Read Logger function to read the logged temperature values and display them.

You can also check for a logger by pressing the spacebar, by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window, or from the pop-up menu that displays when you press the right-hand mouse button.

6.2   Reading a Logger

Use the File/Read Logger function to check for a logger in the Reader Interface, read the summary data, then read the logged temperatures. Once the logged temperatures have been read, the window view mode will change to Graph View mode and the logged temperature values are shown plotted as temperature against time.

You can also read the data from a logger by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window, or from the pop-up menu that displays when you press the right-hand mouse button.

When a **Mon-T** logger is read, the display units are set to the **Mon-T** programmed logger units. I.e. if you program a logger in Fahrenheit units and read the logger with Temprecord set to display temperatures in Celsius, the display units will change to Fahrenheit after you read the logger's temperature data.

6.3 Accessing Temprecord ...

Temprecord is accessing your logger. If you decide you do not wish to continue, click the 'Cancel' button and the operation will aborted.

6.4 Saving a File

Use the **File/Save File** function to save the contents of the currently selected window to a disk file. The data can be that loaded previously from another file or from a logger.

If the data in the currently selected window is from a logger, **Temprecord** will suggest a filename based on the serial number of the logger. You can type in a new name here if you wish.

If the data in the currently selected window is from a file, **Temprecord** will suggest the same filename be used to save the data. You can type in a new name here if you wish. If you leave the name, or use the name of an existing file, you will be prompted whether you wish to overwrite that file.

Unless you explicitly specify it, the file type of Temprecord data files is always set to '**.TRX**'. You can change this if you wish, but it is not recommended, as other Temprecord functions assume the use of this filetype.

Previous versions of the **Temprecord** program saved data files with a filetype of "**.TR**". The **Temprecord** data file format has undergone significant changes, and the new format files have a filetype "**.TRX**". The Temprecord program can still read **.TR** files still, but can no longer save files in this format.

If you have existing **.TR** files you can still read them, but if you want to use some of the extended features of the new **TRX** file format, such as embedded comments, you will need to read the **TR** file, and save it again as a **TRX** file first.

Temprecord can save **TRX** files in a number of formats, depending on whether you wish to make the data within the files accessible for other applications to read. See the Saved File Format options for more information

The **File/Save File** and **File/Save as...** functions create files in **Temprecord** format. You cannot view these files with a word processor or Notepad/Wordpad. To save the temperature data in text form, or in a form suitable for importing into a spreadsheet, use the File/Export function

You must have read the temperature data from the logger before you can save it to disk. If you have only read the summary data by using the File/Query Logger function, you will not be able to save the temperature values to disk until you also read the logged temperature data using the File/Read Logger function.

You can save the data in the current window by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window, or from the pop-up menu that displays when you press the right-hand mouse button.

See also:
Questions about Save File and Save File As...
Save File dialog

6.5 Save File Dialog

Enter the name of the file you wish to save and click the 'OK' button. If the file exists you will be asked if you want to overwrite the existing file.

If you do not want to save the Temprecord data as a file, click the 'Cancel' button.

If you do not specify a filetype in the save file or export file dialog, Temprecord will choose one for you.

- If you do not specify a filetype in the 'Save Temprecord Data File' dialog, Temprecord assumes a filetype of '.TR'. Unless you have good reason to change, we recommend that you stay with this convention.
- If you do not specify a filetype in the 'Export Temprecord Data' dialog, Temprecord assumes the filetype specified in the export options ASCII filetype field. You should set this option to correspond to the requirements of the application you are exporting the data to.
- If you specify no filetype after the filename, but you do specify the period, Temprecord saves or exports the file without a filetype

You can also determine whether Temprecord prompts you before overwriting existing files of the same name (see General Options.).

See also

Saving a file
Questions about Save File and Save File As...

Exporting data
Export options

6.6 Questions about Save File and Save File As...

What is the difference between the Save File and the Save File As... functions?

When you click on the **File/Save File As...** item on the **File** menu, **Temprecord** will always open a dialog asking you to enter then name of the file. This is exactly how the similarly-named function in a word processor works.

When you click on the **File/Save File** item on the **File** menu, **Temprecord** might open a dialog asking you to enter then name of the file, or it might just go ahead and save the file. The dialog will be displayed when:

- the data has been read from a logger. You will see a **File/Save** dialog that lets you specify the name of the file.
- the data has been read from the Web. Temprecord assumes you want to save a local copy of the file. You will see a **File/Save** dialog that lets you specify the name of the file.
- the data has been read from a file produced with an earlier version of Temprecord -i.e. a **.TR** file.. Temprecord assumes you want to save a copy of the file in the newer **.TRX** format. You will see a **File/Save** dialog that lets you specify the name of the file.

Why would I need to save a file anyway?

When you save a file **Temprecord** also saves any comments you might have edited or added. It also saves:

- the current graph cursor position,
- the current graph zoom factors,
- the current graph horizontal position (the date-time at the left hand side),

- the current graph vertical position (the temperature at the bottom of the graph) and
- the current settings in the display upper and lower limits

So if you have altered any of those parameters and would like the file to open at the same position, zoom factors, etc, then you should save the file.

Temprecord only prompts you to save if the comments have been edited however. It doesn't care if you have modified any of the other parameters like the display limits or position. If you have changed those settings they won't be remembered unless you save the file explicitly.

Why does Temprecord sometimes ask if I want to save a file when I close the program?

When you close the **Temprecord** program it checks any datafile windows that are open to see if the contents need to be saved. This will happen if:

- the data has been read from a logger. Temprecord will open a Save File dialog where you will be able to specify the name of the file.
- the datafile has been modified by adding, deleting, or editing comments.

Clicking on the **Save file** button on the file toolbar is equivalent to using the **File/Save File** menu entry - i.e. the dialog asking for a filename may or may not be displayed, depending on the conditions outlined above.

See also:
Saving a file
Save File dialog

6.7   Saving Web Files

You can save Temprecord data files and PDF report files on the Web. In order to use this service you must have arranged the facility with Temprecord. Contact Temprecord for further details.

To save a Temprecord data file to the web, click on the   speed button. To save a Temprecord PDF report file to the web, click on the   speed button.

When Temprecord saves a file to the web, the filename is generated automatically and any folders that are required are also created for you, according to the following rules.

- If the data in a window has been read from a local disk file, Temprecord assigns the web file the same name. The folder name is created according to the setting defined in the web save folders option.

- If the data in a window has been read from a logger, Temprecord creates the filename according to the settings defined in web save filenames options. The folder name is created according to the setting defined in the web save folders option.

When a datafile is saved to the web, the web filename is added to the list of recently accessed files that show in the **File** menu. These entries are shown in the menu with a **Web:** prefix.

See also:
Opening Web files
File saving options - Web files

6.8 Opening a File

Use the **File**/**Open File** function to load a Temprecord data file from disk and display it in graph form. You can use this function to inspect Temprecord data files previously saved on disk.

Temprecord data files have the filetype or extension of **.TR**. In Explorer and they will show in the Open Dialog with this icon:

By default the Temprecord data file open dialog only shows .TRX files, even though other file types may be present in the folder. You open a file by selecting it and clicking the Open button. You can also open a Temprecord data file by double-clicking it in the File Open dialog. You can open several files at once by selecting them each (hold the Ctrl key down and click on each one you want to open) and then clicking the Open button.

There are other ways to open Temprecord data files:

- From explorer, drag the data file onto the Temprecord icon on your desktop.
- You can open multiple files this way by selecting them in explorer and dragging the group onto the icon.
- Drag a file or group of files onto the Temprecord window.
- Double click a file in explorer. If Temprecord is not running it will start and load the file. If it is already running the file will be loaded.

Each time you open a file, Temprecord opens another window to display the file in. The number of files you can have displayed is limited only by the amount of memory your computer has, but in practice is many more than you would normally want. You can alter the way each of these windows is displayed with the View menu.

You can alter the view_mode of the window to any one of summary, values, statistics, or graph by using the View menu, or from the pop-up menu that displays when you press the right-mouse button

You can open the same file more than once and have it displayed in two or more windows simultaneously. This allows you to view and compare different parts of the graph for example, or have the data displayed in graph view in one window, and in values view in another. See the topic How do I see my data as a graph and as a set of values at the same time ?.

Unless you explicitly specify it, the file type of Temprecord data files is always assumed to be '.TR'. You can change this if you wish, but it is not recommended, as other Temprecord functions assume the use of this filetype.

You can also open a file by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window, or from the pop-up menu that displays when you press the right-hand mouse button.

The File/Open File function only reads files in Temprecord format. You cannot load an ASCII file or a file that was created with the File/Export function. If you try to load a file that is not a Temprecord data file, an error message will be displayed.

See also:

6.9   Opening Web Files

You can open Temprecord data files and PDF report files that you previously stored on the Web.   In order to use this service you must have arranged the facility with Temprecord. Contact Temprecord for further details.

Folders are created automatically when you save files to the web. See Saving Web Files for more information.

To open a web file, click on the   speed button. A dialog will open showing the files stored on the web, and any folders that are present.

Select the file you wish to open and click the Open button. Alternatively you can double-click the filename. There will be a brief delay while the file is retrieved from the Web before the file loads.

+When a datafile is loaded from to the web, the web filename is added to the list of recently accessed files that show in the **File** menu. These entries are shown in the menu with a **Web:** prefix.

See also:
   Saving web files
   File saving options - Web files

6.10   Open File Dialog

Displayed is a dialog that allows you to specify a file or files to be loaded into the Temprecord program.

   ◆   Select the file you wish to open from the list, and click the 'OK' button.
   ◆   If you do not wish to open a file, click the 'Cancel' button.

You can open two or more files at once by selecting those files from the list. If you hold the Ctrl key down while you click in the scrolling list of files, you can selectively mark files. You can also 'unmark' them by clicking on them when they are already marked. If you hold the Shift key down when you click, all files between the last marked file and where you clicked are marked. When you click on OK, all marked files are loaded.

By default, the list of files is made up from those matching the 'wild-card' of *.TRX in the current subdirectory. You can narrow down your search by typing in another wild-card mask and clicking on 'OK'. For example, if you type

      M*.TR

into the File Name field, and click on 'OK', only those files that start with 'M" and end with '.TR' will be displayed.

See also:
Opening a File
Reading a Logger

6.11 Deleting a File

Use the File/Delete File function to remove any Temprecord data files you no longer have a use for.

Do not delete files unless you are absolutely certain you have no further use for them, or the files are also backed up safely. Once a file has been deleted, the data contained in it is no longer available.

6.12 Delete File Dialog

Displayed is a dialog that allows you to specify a file or files to be deleted from your computer system's disk.

- Select the file or files you wish to delete from the list, and click the 'OK' button.
- If you do not wish to delete any files, click the 'Cancel' button.

You can delete two or more files at once by selecting those files from the list. If you hold the Ctrl key down while you click in the scrolling list of files, you can selectively mark files. You can also 'unmark' them by clicking on them when they are already marked. If you hold the Shift key down when you click, all files between the last marked file and where you clicked are marked. When you click on OK, all marked files are deleted.

By default, the list of files is made up from those matching the 'wild-card' of *.TRX in the current subdirectory. You can narrow down your search by typing in another wild-card mask and clicking on 'OK'. For example, if you type

    M*.TR

into the File Name field, and click on 'OK', only those files that start with 'M' and end with '.TR' will be displayed

See also:
Deleting a File
Renaming a file

6.13 Renaming a File

You can change the name of a Temprecord data file by opening it and then saving it under a different name:

- Click on the File/Open File function to load the file you want to rename.
- Click on File/Save File.
- Type in the new name.
- Click on 'OK'. If you have chosen the name of an existing file, you will be asked if you want to overwrite that file.

This procedure creates an identical copy of a file with a different name. If you do not want the file with the original name you can delete it.

See also:
Opening a File
Saving a File
Deleting a File
Closing a File

6.14 Emailing Files

Temprecord provides many flexible options for emailing data files or PDF reports. Clicking on File/Email will display a submenu with six options:

You will probably need to configure the email options before you can send emails.

Email TRX file

Sends the data from the current Temprecord data window as a .TRX file by email. The recipient(s) of the email, and the subject and body of the message are determined by the email options. The file is sent as an attachment to the email. If your email options are configured to send emails by MAPI, the email will be send via your default email client (Outlook, Outlook Express, Eudora etc.) and will probably be found in the outbox. Whether the email is sent immediately or not depends on how the email client is configured. If the email options are configured for SMTP you will also need to configure these options.

If the data in the current Temprecord data window is from a file, the name of the attached file will be the same as the name of the file you have open. If the data is from a logger it will be saved to a file first. The name of the file will be determined by the default TRX filename option and the folder by the folder for TRX files option.

Email PDF File

Sends the data from the current Temprecord data window as a report in PDF format.

If the data in the current Temprecord data window is from a file, the name of the attached file will be the same as the name of the file you have open, but with an extension of **.PDF**. If the data is from a logger it will be saved to a TRX file first and then the PDF file will be created. The name of the PDF file will be determined by the default PDF filename option and the folder by the folder for PDF files option.

Email TRX and PDF Files

This option is the same as the above two, but both the TRX and the PDF file are attached to the email.

Email All TRX files

The behaviour of this function is as for emailing a single TRX file, except that TRX files from all open Temprecord data windows are attached to the email and sent.

Email All PDF Files

The behaviour of this function is as for emailing a single PDF file, except that PDF reports are generated for each of the open Temprecord data windows and attached to the email and sent.

Email All TRX and PDF Files

This function attaches a TRX file and a PDF report from all open Temprecord data windows.

The **Email TRX file**, **Email PDF File**, and **Email both TRX and PDF Files** functions are also available by clicking the right mouse button in a Temprecord data window.

See Also

Default TRX filename
Folder for TRX files
Default PDF Filename
Folder for PDF files
Email Options
SMTP Options

6.15 Closing a File

Use the File/Close File function to close a window that is currently displaying logger data from a logger or a Temprecord data file.

If you have read the data from a logger and not yet saved it, you will be asked if you wish to do so.

If you have edited the comment fields for the window you are closing and not yet saved the file, you will be asked if you wish to do so.

You can also close the current Temprecord data window from the pop-up menu that displays when you press the right-hand mouse button

See also

Closing all files

6.16 Closing all files

Use the **File/Close All** File function to close all the windows that are currently displaying logger data from a logger or a Temprecord data file.

If you have read the data from a logger in any of the open windows and not yet saved it, you will be asked if you wish to do so.

If you have edited the comment fields in any of the open windows and not yet saved the file, you will be asked if you wish to do so.

See also

Closing a file

6.17 Exporting Data

As well as saving files in Temprecord format, you can also use the File/Export function to save files in ASCII, for use by other applications.

If you have more than one data file open, you can use File/Export All to export all the open files to disk.

You can determine the format of the ASCII files saved with the Options/Export form. You can also determine whether Temprecord prompts you for the export filenames first or chooses one based on the data filename, and whether existing files can be overwritten without prompting first (see General Options),

The averaging functions built into Temprecord exporting make it relatively easy to generate a report of daily temperature averages. See Exporting daily average temperatures for more information.

If both Temperature and Humidity were logged, the data values are exported as pairs – temperature, then humidity.

See also
Saving a File
Exporting daily average temperatures
Export Options

6.18   Exporting daily average temperatures

There are occasions where you may wish to record the daily average temperatures from a sample record. While you could derive these figures manually by marking the samples for each day with the set as start sample and set as end sample functions, and then recording the mean temperature for the samples between start and end markers, this will become fairly tedious for more than a few days.

This operation can be carried out relatively painlessly however using Temprecord's export averaging function.

Say for example you have a **Temprecord** file that has recorded samples with a sample period of 15 minutes (4 samples per hour, or 96 samples per day). To get the daily averages you need to set up the export options as follows:
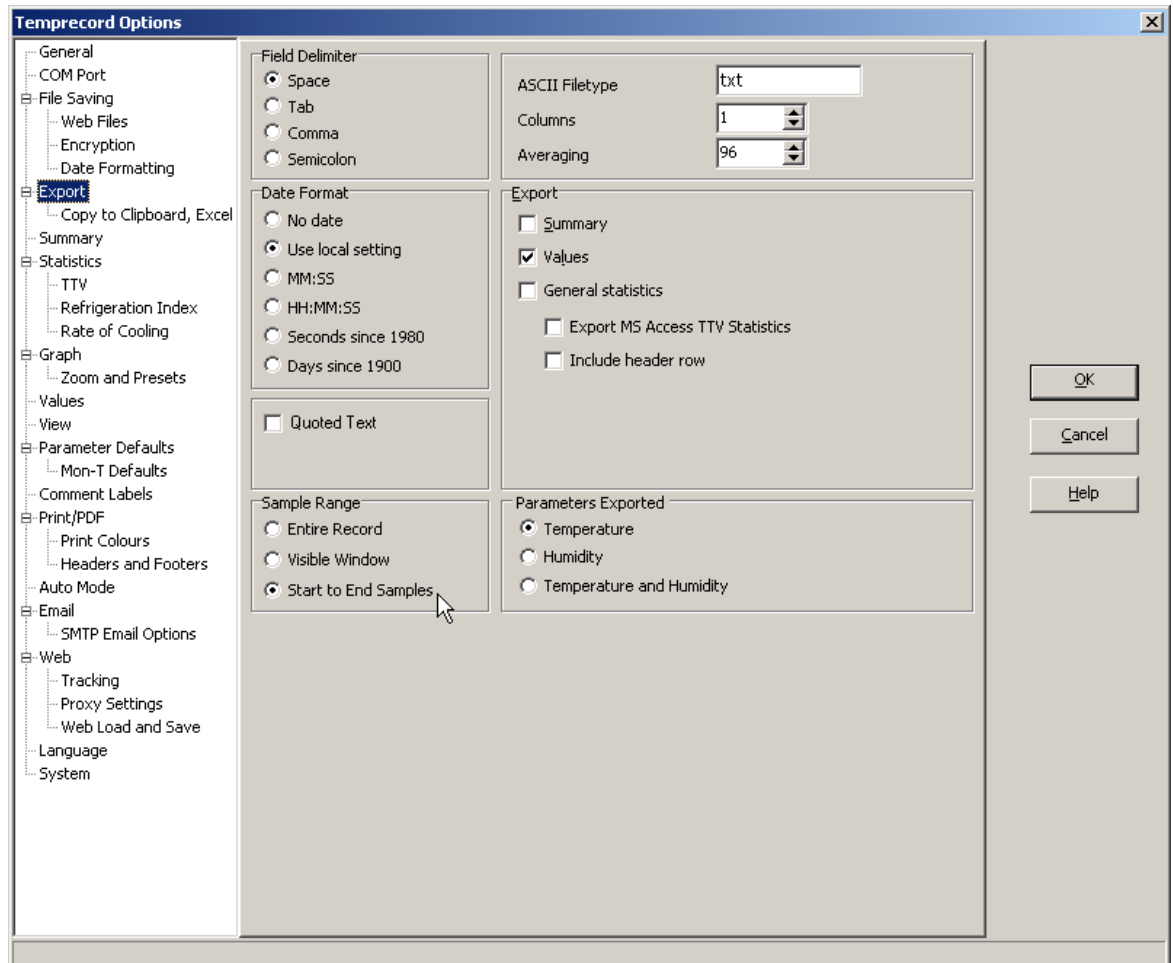
i.e. averaging every 96 samples, one column of data, only export samples between start and end markers. We chose 96 as the number to average over, as there are 96 samples in a day. If you have data with a different sample period, you would enter the number of samples in a day at that sample period.

Next, carry out the following steps:

- load the datafile you wish to analyze
- go to graph view
- decide on the time you want the average to be taken from (i.e. midnight-to-midnight, 8 a.m. to 8 a.m., etc).
- set the cursor to the first samples after the time you want to analyze from (the first sample after midnight, say)
- press F7 to set this as the start sample
- set the cursor to the last sample in the file
- press F8 to set this as the end sample
- Click on File/Export.

The exported file should contain one value per day, being the average of the samples between the first sample after midnight and last sample before midnight.

See Also
Graph View
Export options
Set as Start Sample
Set as End Sample

6.19   Print Dialog

To print your Temprecord data, click the **Print** button. The data in the currently selected window is printed when you click on the **Print** button.

You can also print all the open windows. If you click on **File**/**Print All**, the data from each open window in turn will be sent to the printer when you click on the **Print** button.

To exit this dialog without printing anything, click the **Cancel** button.

The format of the printed report is determined by the printing options. You can change these before you print by clicking the 'Options' button. For example, you can specify whether any or all of the four reports (summary, statistics, values, or graph), are printed and change the fonts used.

If you want to change your printer setup, click the 'Setup' button. The functions available from the Printer Setup dialog will depend on your installed printer, but you will generally (for example) be able to change the printer orientation from portrait to landscape, or specify a different printer, if you have more than one available.

6.20   Printing Data

Use the **File**/**Print** function to generate a printed report. When the Print dialog is opened you can specify whether any or all of the summary, values, statistics, or graph are printed. The data printed is taken from the currently selected window.

Use the **File**/**Print All** function to generate a printed report for all open windows. When the Print dialog is opened you can specify whether any or all of the summary, values, statistics, or graph are printed as for printing a single report. The data printed is taken from each of the displayed windows.

You can also open the Print dialog by clicking on this speed button ▭ on the toolbar displayed along the top of the Temprecord main window, or from the pop-up menu that displays when you press the right-hand mouse button

.

See also:
   Print dialog
   Exporting data

6.21   Saving to a PDF File

Saving data to a PDF file is just like printing, but the report that would have been printed is sent instead to a PDF file. The contents of the report are determined by the same options that determine the printed output.

If you want to alter the PDF options before you save the PDF file, click on the **Print/PDF Options** button.

Clicking on the **Save to PDF** button will open a dialog which allows you to specify the path and filename. If the data currently loaded is from a TRX file, the default name for the PDF file will be set to the same name as the TRX file, but with an extension of .PDF. If the data currently loaded is from a logger, the default name for the PDF file will be generated from the default PDF filename.

6.22   Opening recent files

When the File Menu is opened, Temprecord includes the recently opened files as menu entries, so that you can quickly return to files you have been working on. Files that you load from the web are also shown in the recent file entries. These are prefixed with "**Web:**".

A filename is added to this recent files list whenever you open or save a file to disk, and whenever you open or save a file to the Web. Filenames are also added whenever these operations occur from Auto Mode.

If you click on a file name corresponding to a file that is already open in a Temprecord data window, that window is selected as the current data window.

If you click on a file name corresponding to a file that is not open in a Temprecord data window, a new window is opened and that file loaded into it.

Whenever you access a file from the recent files list, the entry for that file is moved to the top of the list.

You can also open the same file in two different windows. This is useful if you want to see the graph and values simultaneously. See the topic How do I see my data as a graph and as a set of values at the same time ?.

The maximum number of files shown in the recent files list is limited to 20. You can clear the list at any time by selecting the **File/Clear recent files list** menu entry. Note that this only removes the entries from the list. The Temprecord data files themselves are not affected.

See also
Opening files
Saving files
Opening Web files
Saving Web files
Auto Mode

6.23 Exiting Temprecord

Use the File/Exit Temprecord function to close the Temprecord program. You do not need to close the data windows that you might have opened within Temprecord first.

When you exit Temprecord, it remembers the window size and position.

If you have read the data from a logger and not yet saved it, or you have edited the comment fields for a data window and not yet saved the data to a file, you will be asked if you wish to do this before exiting.

When you exit Temprecord, you will be asked to confirm that you want to do this. If you prefer not to be asked this question, you can uncheck the option 'Prompt before exiting Temprecord in the Options/General form.

7 Comments

Comments are free form text blocks that you can attach to Temprecord data files. Their main purpose is to annotate features of the graph data. Comments "travel" with the file and maintain their position (the "X" position - the date and time - and the "Y" position - being the temperature).
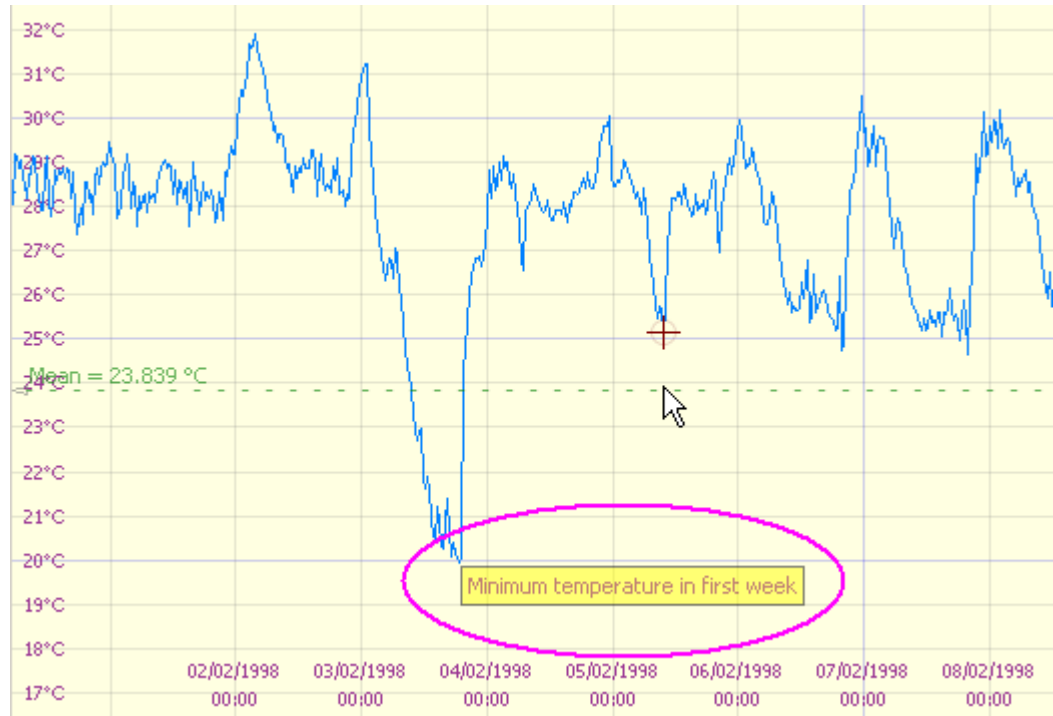
If a comment cannot be displayed within the current graph window boundaries, it is shown against the nearest edge with an indication that the comment is off-screen.
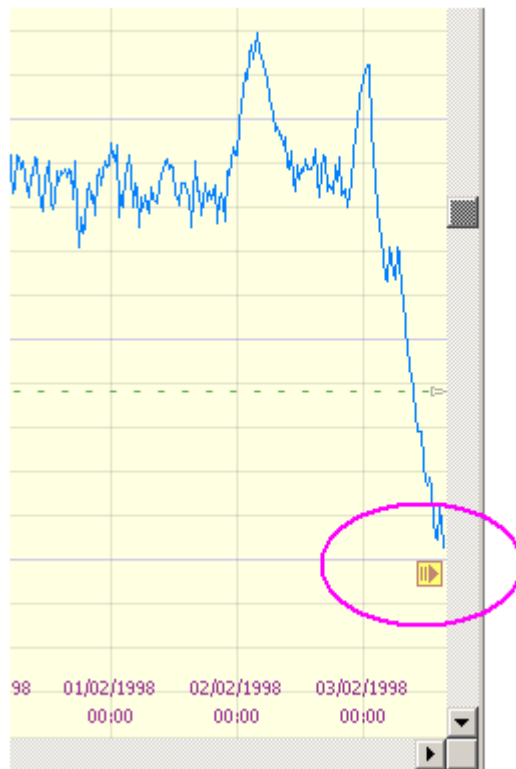
If you edit the comment fields for a file you have loaded, you must save the file again for the changes to be effective. You will be prompted to do this if you try to close the graph window or exit Temprecord without saving the changes.

Remember, all comments are associated with a Temprecord data file (a **.TRX** file). Comments you create in one data file won't appear in other data files.

Each comment usually has a time and date, and a temperature value associated with it. The comment will be displayed at that position where possible. A comment can be created with no associated time and date, in which case it will show on the graph in a fixed position. Comment strings imported from older Temprecord data files have no associated time and date or temperature, and will display near the top-left corner of the graph..

Previous versions of the Temprecord program had the ability to specify up to ten single line 64-character comments that were stored along with the Temprecord data file. These comment fields have been replaced by the current form of multi-line free format comments.

If you load a file created with a previous version of Temprecord (i.e. a **.TR** file) any comments within that file are merged into one multi-line comment in the **.TRX** file with no associated date-time or temperature.

Don't get comments confused with the user data. The comments are stored with the file - they are not stored in the logger itself. They are provided as a means of annotating the data files after they have been read from the logger, or for providing additional data when files are exported to other applications such as spreadsheets.

You can also edit and create comments from the pop-up menu that displays when you click the right-hand mouse button in a graph window.

See also:
Editing a comment
The Edit Comment dialog
Finding a comment
Repositioning a comment
How Temprecord positions your comments on the graph
Adding a comment
Deleting a comment
Locking/unlocking a comment
Duplicating a comment
Saving comments

7.1 Editing Comments

You can edit comments by any of several means:

- right-click a comment in a data file graph view and select **Edit Comment** from the popup menu. The Edit Comment Dialog will open that allows you to edit the various parameters associated with that comment.
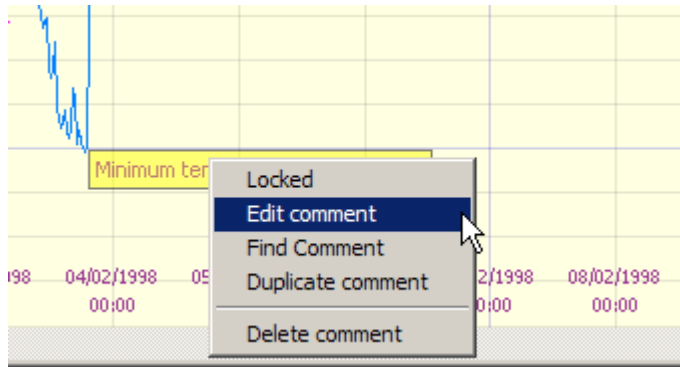
- double click a comment in the data file graph view . The Edit Comment Dialog w ill open that allow s you to edit the various parameters associated w ith that comment.
- right click anyw here on an "empty" area of the graph and select **Comments List** f rom the popup menu. The Comments List Dialog w ill open, and you can select the comment you w ish to edit f rom the list (this method can be used to edit a comment regardless of w hether it is currently visible, and you can also edit comments that have no time and date or temperature value associated w ith them.
- double-click a comment entry in list of comments displayed in the Edit Comments Dialog

See also:

Comments
The Comments List
Repositioning a comment
Finding a comment
How Temprecord positions your comments on the graph
The Edit Comment dialog
Adding a comment
Deleting a comment
Locking/unlocking a comment
Duplicating a comment
Saving comments

7.2   Edit Comment Dialog

Use the **Edit Comment** dialog to change the position or text on a single comment.
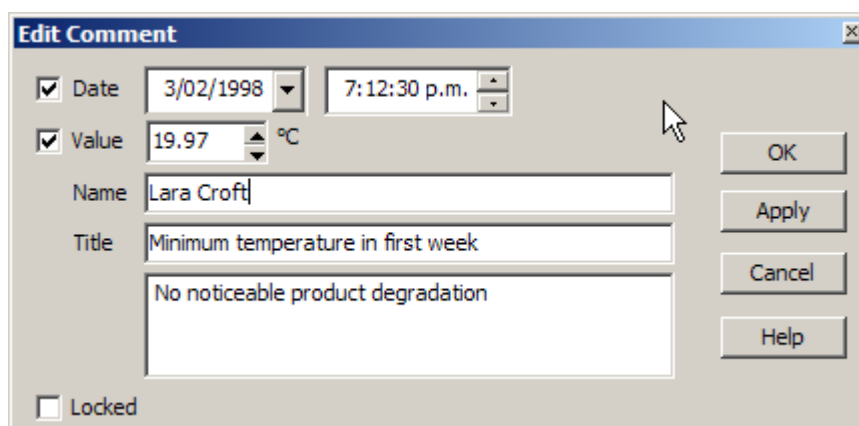
When you have completed your changes, click on **OK**. The dialog will close and the comment's appearance will change to reflect the changes you have made.

To update the comment, but keep the dialog open, click the **Apply** button. The comment's appearance will change to reflect the changes you have made, but the dialog will remain open.

To abandon your changes, click on **Cancel**. Any changes you have made (or any changes you have made since clicking on the **Apply** button) will be discarded.

In order to make any changes you have made to the comments in a data file permanent, the **TRX** file must be saved. Temprecord will prompt you if you try to close the data file or exit the program without saving the file first.

There are some things we need to be aware of when adding comments to the graph. In general terms, we can think of a comment being positioned at a particular date and time, and at a particular temperature on the graph. This behaviour can be modified somewhat by the checkboxes to the left of the date-time and value fields however.

Date

This field specifies the date and time where the comment (or more precisely, the left hand edge of the comment) will be positioned on the graph. The position of the comment on the graph and how it behaves when the graph is scrolled is determined by the checkbox immediately to the left of the date and time.

If this checkbox is checked, the comment will always appear on the graph at the date and time specified. If you scroll the graph horizontally, the comment scrolls as well. If the date and time associated with the comment is off the screen, so will the comment be. If the date and time of the comment is not visible on the displayed area of the graph, Temprecord displays an indicator at the nearest (left or right) edge of the graph in place of the comment. If you want to reposition the graph so that a comment is at the centre of the graph, right-click the comment, or the indicator that shows the comment is off screen, and select Find Comment from the pop-up menu.

If this checkbox is not checked, the comment will always appear on the graph at the same physical X (pixel) position, e.g. in at the left-hand edge. If you scroll the graph horizontally, the comment stays where it is and the graph scrolls under it. If the data window is sized so that the X and Y position of the comment is no longer on screen, Temprecord positions the comment against the nearest (left or right) edge.

Value

This field specifies the "value" at which the comment will be positioned at on the graph.

If the checkbox is checked, the comment will always appear on the graph at the position corresponding to the temperature or humidity value specified. If this field has 25.5°C for example, the comment will show with the top edge of the comment at exactly 25.5°C. If you scroll the graph vertically, the comment scrolls as well. If the "value" of the comment is not on the displayed area of the graph, Temprecord displays an indicator at the nearest (top or bottom) edge of the graph in place of the comment.

If the checkbox is not checked, the comment will always appear on the graph at the same height i.e. physical Y (pixel) position. If you scroll the graph vertically, the comment stays where it is and the graph scrolls under it. If the data window is sized so that the comment is no longer on screen, temprecord positions the comment against the nearest (top or bottom) edge.

If you want to reposition the graph so that a comment is at the centre of the graph, right-click the comment, or the indicator that shows the comment is off screen, and select Find Comment from the pop-up menu. If you want to see the text for a comment that is off-screen, move the mouse cursor over the indicator and the comment details will be shown as a hint (this needs to be enabled - see Options/Graph/Hinting).

If both the date and value checkboxes are checked, the comment will be positioned at the same position on the graph relative to the displayed temperature points. If you want to annotate an event associated with a temperature sample for example, drag the comment to be beside the sample (zooming in will enable you to position it more accurately), and make sure both checkboxes are checked. Check the Locked checkbox to give you protection against accidentally bumping the comment as well if you wish.

If neither the date nor value checkboxes are checked, the comment will always be positioned at the same position on the graph window, regardless of the zoom factors and scroll positions. If you want to add annotation that is not associated

with any particular time or temperature sample (a graph title for example) drag the comment to the desired position in the graph window and make sure both checkboxes are unchecked.

Name

Specify the name of the person authoring or editing the comment. On new comments this defaults to the logged-in Windows user name.

Title

Specify the "title" of the comment. This is the text that will display on screen.

Body

The text area below the comment is the body of the comment. You can enter any amount of text here.

Locked

If this checkbox is checked the comment cannot be moved from it's on-screen position. The comment can still be edited.

If you hover the mouse above a comment the details of the comment will display as a hint.

See also:
Comments
Repositioning a comment
Finding a comment
How Temprecord positions your comments on the graph
Editing a comment
The Comments List
Adding a comment
Deleting a comment
Locking/unlocking a comment
Duplicating a comment
Saving comments

7.3   Comments List

The Comments List shows all of the comments in a datafile as a grid.

#	Date	Value	Title	Comment Text
1	Tuesday, 3 February 1998 7:28:33 p.m.	19.98	Minimum temperature in first week	No noticeable product degradation
2	Friday, 6 February 1998 11:28:30 p.m.	31.45	Maximum temperature in first week	product showing signs of heat damage
3	Thursday, 19 February 1998 6:07:40 p.m.	14.45	Cold snap	after end of trial (trial ended 2 days prior to this point)

You can edit an individual comment by any of:

- double clicking that row of the grid
- right-clicking the row and selecting **Edit...**
- selecting the comment you want to edit and pressing the **Enter** key.

You can also carry out several other operations associated with comments from the comments list, such as deleting, duplicating and locking a comment, creating new comments, and finding where a comment is on the graph.

7.4 Repositioning a comment

You can pick up a comment and drag it to a new position by clicking on it and keeping the mouse button pressed. The cursor changes when you are positioned over a comment or off-screen indicator for a comment.
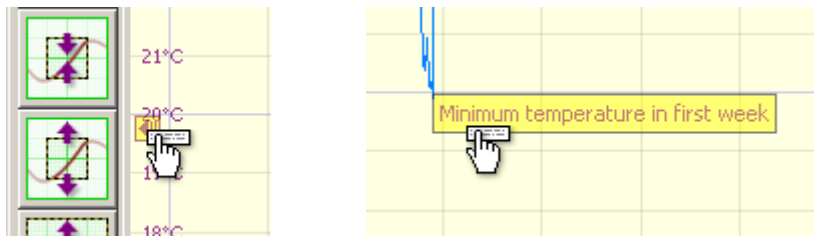
There are some things we need to be aware of when adding comments to the graph. In general terms, we can think of a comment being positioned at a particular date and time, and at a particular temperature on the graph. However it is possible to anchor comments to a particular location on the graph window (i.e. a certain number of pixels from the top or left of the graph), as opposed to a particular time and date, and/or temperature value. See How Temprecord positions your comments on the graph for more information

You can prevent comments being accidentally "nudged" by locking them.

If you reposition a comment (even accidentally), Temprecord will prompt you to save your changes when you try to close the window or the Temprecord application.

If you reposition a comment that is off-screen (i.e. is displaying as an off-screen indicator ▥▶) the comment will be moved immediately to the edge of the visible window. If you have comments that are position in important places on your graph, you should lock them to prevent them being moved.

7.5   How Temprecord positions your comments on the graph

There are some things we need to be aware of when adding comments to the graph. In general terms, we can think of a comment being positioned at a particular date and time, and at a particular temperature on the graph. This behaviour can be modified somewhat by the checkboxes to the left of the date-time and value fields however.

Comment Date

This field specifies the date and time where the comment (or more precisely, the left hand edge of the comment) will be positioned on the graph. The position of the comment on the graph and how it behaves when the graph is scrolled is determined by the checkbox immediately to the left of the date and time.

- If this checkbox is checked, the comment will always appear on the graph at the date and time specified. If you scroll the graph horizontally, the comment scrolls as well. If the date and time associated with the comment is off the screen, so will the comment be. If the date and time of the comment is not visible on the displayed area of the graph, Temprecord displays an indicator at the nearest (left or right) edge of the graph in place of the comment. If you want to reposition the graph so that a comment is at the centre of the graph, right-click the comment, or the indicator that shows the comment is off screen, and select Find Comment from the pop-up menu.

- If this checkbox is not checked, the comment will always appear on the graph at the same physical X (pixel) position, e.g. in at the left-hand edge. If you scroll the graph horizontally, the comment stays where it is and the graph scrolls under it. If the data window is sized so that the X and Y position of the comment is no longer on screen, Temprecord positions the comment against the nearest (left or right) edge.

Comment Value

This field specifies the "value" at which the comment will be positioned at on the graph.

- If the checkbox is checked, the comment will always appear on the graph at the position corresponding to the temperature or humidity value specified. If this field has 25.5°C for example, the comment will show with the top edge of the comment at exactly 25.5°C. If you scroll the graph vertically, the comment scrolls as well. If the "value" of the comment is not on the displayed area of the graph, Temprecord displays an indicator at the nearest (top or bottom) edge of the graph in place of the comment.

- If the checkbox is not checked, the comment will always appear on the graph at the same height i.e. physical Y (pixel) position. If you scroll the graph vertically, the comment stays where it is and the graph scrolls under it. If the data window is sized so that the comment is no longer on screen, Temprecord positions the comment against the nearest (top or bottom) edge.

- If you want to reposition the graph so that a comment is at the centre of the graph, right-click the comment, or the indicator that shows the comment is off screen, and select Find Comment from the pop-up menu. If you want to see the text for a comment that is off-screen, move the mouse cursor over the indicator and the comment details will be shown as a hint.

- If both the date and value checkboxes are checked, the comment will be positioned at the same position on the graph relative to the displayed temperature points. If you want to annotate an event associated with a temperature sample for example, drag the comment to be beside the sample (zooming in will enable you to position it more accurately), and make sure both checkboxes are checked. Check the Locked checkbox to give you protection against accidentally bumping the comment as well if you wish.

- If neither the date nor value checkboxes are checked, the comment will always be positioned at the same position on the graph window, regardless of the zoom factors and scroll positions. If you want to add annotation that is not associated with any particular time or temperature sample (a graph title for example) drag the comment to the desired position in the graph window and make sure both checkboxes are unchecked.

Comments are positioned vertically according to the temperature (in degrees C), or humidity. This is because Temprecord alw ays uses the same vertical axis values for both Temperature and Humidity w hen they are both displayed on the graph. This means that w hen the display units are changed betw een C and F, the vertical position the Humidity trace w ill alter. If a comment has been placed to indicate a feature on the humidity trace and the units are then changed, the comment w ill no longer be in the correct position.

This should not be an issue if the display units are set once at installation and never changed, as w ill be the case in a majority of installations.

See also:
Comments
Editing a comment
Finding a comment
Repositioning a comment
The Comments List
The Edit Comment dialog
Adding a comment
Deleting a comment
Locking/unlocking a comment
Duplicating a comment
Saving comments

7.6   Adding a Comment

You can add a comment to a Temprecord data file using any of the follow ing means:

- click anyw here on the graph, and then click on the **Add New Comment** speed button on the graph toolbar. The Add Comment Dialog w ill open and the comment date and time and value w ill be filled in such that the new comment w ill be positioned w here you clicked on the graph.

- right-click anyw here on an "empty" area of the graph in a data file graph view and select **Add Comment** from the popup menu. The Add Comment Dialog w ill open that allow s you to edit the various parameters associated w ith that comment.

- press the **Insert** key w hen the **Comments List** is open.

- Position the mouse cursor anyw here on the graph and press the **F2** key, A new empty comment w ill appear under the mouse cursor. If you w ant to fill in the comment details you can double--click the new comment and the Edit Comment dialog w ill open allow ing you to fill in the comment details. This is by far the quickest w ay to add a collection of comments to a graph. Position your left hand over the F2 key and use the right hand to move the mouse. Repeat the sequence: <move to a position on the graph>, <press F2> as many times as required. Once you are finished you can position the comments more precisely, and fill in the details.

- Position the mouse cursor anyw here on the graph and press the **F2** key, w hile holding the **Ctrl** key dow n. A new comment w ill appear under the mouse cursor and the Edit Comment dialog w ill open allow ing you to fill in the comment details. If you didn't mean to create a comment then exit the new comment dialog w ith the **Cancel** button or press **Esc**.

See also:
Comments
Repositioning a comment
Finding a comment
How Temprecord positions your comments on the graph
Editing a comment
The Comments List
The Edit Comment dialog
Deleting a comment
Locking/unlocking a comment
Duplicating a comment
Saving comments

7.7 Deleting a comment

Use the **Delete Comment** function to remove the comment from the data file. Comments cannot be recovered after deletion - i.e. there is no "undo". You can select multiple comments in the comments list and delete all the selected comments at once.

See also:

Comments
Repositioning a comment
Finding a comment
How Temprecord positions your comments on the graph
Editing a comment
The Comments List
The Edit Comment dialog
Adding a comment
Locking/unlocking a comment
Duplicating a comment
Saving comments

7.8 Locking/unlocking a comment

Locking a comment prevents the comment from being moved on the screen w hen picked up w ith the mouse. It does not prevent editing the contents of the comment by the usual means. When a comment is locked, the mouse cursor w ill change to one that show s a small padlock w hen it passes over the comment, and if you attempt to "drag" the comment.
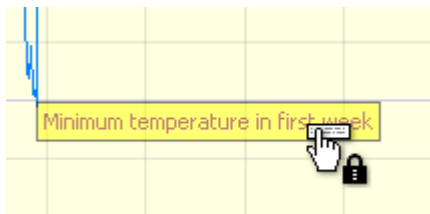
To lock a comment:

- right-click the comment (or the off-screen indicator) and select **Locked** from the popup menu.
- right-click the comment entry row in the comments list and select **Locked** from the popup menu.

See also:

Comments
Repositioning a comment
Finding a comment
How Temprecord positions your comments on the graph
Editing a comment
The Comments List
The Edit Comment dialog
 Adding a comment
Deleting a comment
Duplicating a comment
Saving comments

7.9 Duplicating a comment

Use the **Duplicate comment** to create another comment w ith using to contents of the first comment as a starting point. The second comment w ill be positioned offset from the first to make it easier to access.

To duplicate a comment:

- right-click the comment (or the off-screen indicator) and select Duplicate from the popup menu.
- right-click the comment entry row in the comments list and select Duplicate from the popup menu.

See also:
Comments
Repositioning a comment
Finding a comment
How Temprecord positions your comments on the graph
Editing a comment
The Comments List
The Edit Comment dialog
Adding a comment
Deleting a comment
Locking/unlocking a comment
Saving comments

7.10 Finding a comment

If you are unsure as to w here on the graph a comment is located, you can "find" the comment by various means:

- if the comment off-screen indicator 🔲▶ is displayed at the edge of the graph, you can right-click this and select Find Comment from the pop menu. The graph view w ill be positioned so that the comment is in the centre of the w indow .
- if the comments list is displayed you can right-click the line for the comment you w ant to find and select Find Comment from the pop menu. The graph view w ill be positioned so that the comment is in the centre of the w indow .

You can also centre the graph about any displayed comment by right-clicking the comment and selecting Find Comment from the pop menu.

See also:
Comments
Repositioning a comment
How Temprecord positions your comments on the graph
Editing a comment
The Comments List
The Edit Comment dialog
Adding a comment
Deleting a comment
Locking/unlocking a comment
Duplicating a comment
Saving comments

7.11 Saving Comments

When you create new comments or edit existing comments the resulting edited comments are stored in the data set for the w indow containing the Temprecord data file or logger contents. In order to be made permanent, the data file needs to be saved to disk w ith the Save File or Save File As... functions.

Temprecord w ill prompt you to save the file if you have made changes to the comments.

See also:

8 Program Menu

Use the program menu to set the logger parameters, and start, stop and reuse the logger.

- Programming a Logger's Parameters
- Logging Temperature, Humidity, or Both
- Setting Up Humidity Loggers
- User Data
- Sample Period
- Start Delay
- Start Time and Date
- Password
- Lower and Upper Limits
- Enable Safe Range
- Limit Delay

- Loop Overwrite
- Start and Stop with Button
- Allow Markers

- Setting up several loggers
- Setting up a default set of parameters

- Starting a Logger
- Stopping a Logger
- Re-Using a Logger
- Starting Auto Mode Operation

- What the LEDs on the logger tell you
- Using the button on the logger to mark an event
- Using the button on the logger to start and stop logging

8.1 Programming a Logger's Parameters

Before a Temprecord logger is used to record temperature, it is usually programmed first. This is not necessary, but unless the default parameter settings suit your application, you will generally want to change them.

In the case of the multi-trip and scientific loggers, which can be used more than once, you may wish to change the parameters after the logger has been reused.

The following parameters can be programmed:

- Logging Temperature, Humidity, or Both
- User Data
- Sample Period
- Start Delay
- Start Time and Date
- Password
- Lower and Upper Limits
- Enable Safe Range
- Limit Delay

◆ Loop Overwrite
◆ Start and Stop with Button
◆ Allow Markers

Other topics of particular relevance to programming parameters in the logger are:

◆ Named Parameter Sets
◆ Designated Use Loggers
◆ Factory Restore Operation
◆ Locked loggers

You can program the parameters for the logger currently in the reader interface by clicking on this

speed button on the toolbar displayed along the top of the Temprecord main window.

8.2   Program Parameters Dialog

This dialog allows you to set up the Temprecord logger before it is started.

- When you have finished changing the parameters, click the '**OK**' button to save the parameters to the logger and exit this dialog.
- If you have more than one logger to set up with the same or similar parameters, click the '**Apply**' button to save the parameters to the logger and leave this dialog open.
- Click the '**Cancel**' button to exit this dialog without changing the logger parameters.
- Click the '**Defaults**' button to set all the parameters (except for the '**Password**' and '**Confirm**' fields) from the default options.
- You can load the parameters from a Named Parameter Set, and optionally set the color associated with the parameter set.

You can change the following parameters:

◆ Logging Temperature, Humidity, or Both
◆ user data
◆ sample period
◆ start delay
◆ password.
◆ lower and upper limits
◆ limit delay
◆ start time and date
◆ enable safe range
◆ enable LED (LCD Logger only)
◆ safe range delay (LCD logger only)
◆ safe range limit (LCD logger only)
◆ loop overwrite
◆ start and stop with button
◆ allow markers

8.3   Logging Mode

The **logging mode** determines what parameters the logger reads and saved in its internal memory. For example, If your logger is capable of logging Humidity, you can choose whether it logs Temperature, Humidity, or both (for more information see the topic Setting Up Humidity Loggers).

The following logging modes are defined for Temprecord loggers:

Logging Mode	Mk3 Temperature	Mk3 RH	Mon-T	G4	G4 RH	G4 Dual Temperature
Temperature	Y	Y	Y	Y	Y	Y
Humidity		Y			Y	
Temperature and Humidity		Y			Y	
Temperature (2nd channel)						Y
Dual Temperature						Y

If your logger is capable of logging Humidity, you can choose whether it logs Temperature, Humidity, or both. For more information see the topic Setting Up Humidity Loggers.

If your logger is a Dual Temperature logger, you can choose whether it logs internal temperature, external temperature (probe), or both. For more information see the topic Setting Up Dual Temperature Loggers

When the parameters dialog is open, TRW only displays the logging modes that are available in the logger the parameters are read from., so for example, if the logger present is a dual temperature logger, the logging modes of **Humidity** and **Temperature and Humidity** will not be available to select.

If you select **Temperature and Humidity**, or **Dual Temperature** the number of samples available before the logger fills up and stops (or begins to overwrite the oldest samples) is halved, as one each of both channel values are logged each sample period. The display of logging duration will change to reflect this.

8.4   Setting Up Humidity Loggers

Logging Humidity

If your logger is capable of logging Humidity, you can choose whether it logs temperature, humidity, or both in the Program Parameters dialog.

If you select Temperature and Humidity, the number of samples available is halved, as one each of both temperature and humidity values are logged each sample period. The display of logging duration will change to reflect this.

Humidity Lower and Upper Limits

Temprecord Humidity loggers have the ability to compare the logged humidity against lower and upper limits, and report whether the limits have been exceeded via the red and green LED's on the logger.

On the LCD logger the behaviour of the LED's when limits are transgressed is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits. See Enable Status LEDs for more information.

The Program/Parameters form allows you to specify these limits. When Temprecord reads the data from a humidity logger and displays it in graph view mode, the limits that were programmed in the logger are shown on the graph. These limits are also used in the values view to change the displayed color of the values, and in statistics view when calculating the time spend outside the limits.

When displaying the data from a humidity logger in graph view or values view, you can alter the upper and lower limit and the displayed data and it's statistics will alter accordingly. The limits programmed into the logger are not changed however.

See also:
   Temprecord Humidity Loggers

8.5   Setting Up Dual Temperature Loggers

Enter topic text here.

8.6   User Data

The user data is intended to provide a means of annotating the logger with details of the monitored environment, product being shipped etc. The user data is stored in the logger and cannot be altered once the logger has been started.

In Mk3 loggers the user data consists of up to five lines of up to 40 characters each.

In the Mon-T logger up to 159 characters can be entered. Each line can be any length as long as the overall length is 159 characters.

In the LCD logger up to 255 characters can be entered. Each line can be any length as long as the overall length is 255 characters.

Don't confuse the user data with the comment fields. The comment fields are stored in the data files that Temprecord saves on disk and can be edited after the data has been read and saved. The user data cannot be changed after the logger data has been read.

Earlier Temprecord loggers provided for six lines of 40 characters each. The sixth line has been removed to allow for information to be stored at manufacture.

8.7 Meta-strings in user data

User data in Temprecord loggers sets may contain **meta-strings**. These are special predefined identifiers that are expanded whenever the logger parameter data is saved to a logger, and expanded again when the logger is started using the TRW program.

An example of their use is shown below :
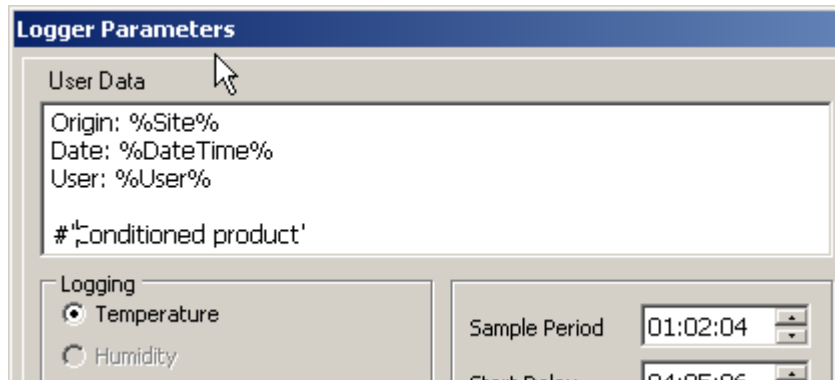
When the logger data is saved to the logger, the meta-strings will be expanded, so that the user data actually stored in the logger is equivalent to:
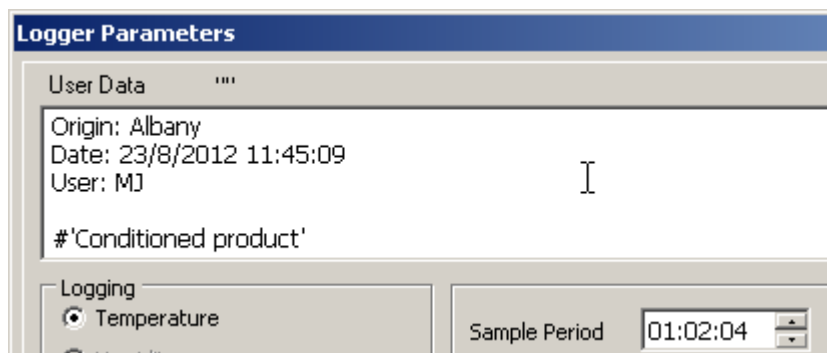
and any printed reports or datafiles saved from the logger will show this expanded meta-data.

The meta-strings shown in the table below are available everywhere it is possible to use them, i.e. in file and folder specifications, in the subject and body fields of an email message, in printed report headers and footers, and in the user data fields of the parameters dialog and the default options. The example show the meta-string, and what the meta-string would be expanded into:

Meta-string	Use	Example	Output
%Version%	TRW software version (full)	"Printed with v%Version%"	Printed with v5.28.0.2533
%Build%	TRW software version (build number)	"Saved with build %Build%"	Printed with build 2533
%User%	logged in Windows user	"Printed by user %User%"	Printed by user Fred
%Computer%	computer name	"Printed from PC %Computer%"	Printed from PC Fred's Workstation
%Workgroup%	computer workgroup	"This file is from the %Workgroup% group"	This file is from the Administration group

%Company%	organization name	%Company%	My Company Ltd
%Date%	Inserts the date in the users short date format	"Reception %Date%"	Reception 23-8-2012
%Time%	Inserts the current time in the user's long time format	"Saved at %time%"	Saved at 15_09_26
%DateTime%	Inserts the date and time in the users short date and long time format	"Saved %DateTime%"	Saved 23-8-2012 15_09_26
%%<env var>%%	environment variable	"%%TEMP%%"	C: \DOCUME~1\jrm\LOCALS~1 \Temp\

If you read the data from back from the logger after saving user data with meta-strings, Temprecord "reverts" the expanded data in the logger back to the meta-strings that generated it.

Each line of the user data is limited in the logger to 40 characters. If the expansion of the meta-strings results in a line longer than this, the excess characters are lost. You should also bear in mind that TRW adds another 4 invisible "house-keeping" characters to the expanded meta-strings, so the actual limit for the expanded line of user data with one item of meta-data in it is 36 characters, 32 characters if there are two meta-strings, etc.

The meta-strings are not expanded again if the logger is started using the button. If this occurs, the meta-strings will contain the expanded data at the time the parameter data was last saved to the logger.

See also:

Meta-strings
Meta-strings in file and folder names
Meta-strings in email messages
Meta-strings in printed reports headers and footers
Meta-strings in parameter sets

8.8 Sample Period

The sample period determines the time between samples. Enter the time you wish to elapse between each Temprecord sample.

With the Mk3 and Mon-T loggers you can set the sample period in multiples of 2 seconds. You can enter any value between 2 seconds and the upper limit of 24 hours. These loggers have an internal time resolution of 2 seconds. This means that whatever value you enter must be a multiple of 2 seconds. The time is specified in hours, minutes, and seconds.

With the LCD logger you can set the sample period in multiples of 1 second. You can enter any value between 1 second and an upper limit of 18 hours and 12 minutes and 15 seconds.

If you enter a sample period greater than these values, it will be limited to these values within the logger. The screen also calculates the logging duration, being the time to fill the logger based on the current sample rate.

The sample period is normally set at manufacture to the following values:

- 2.5 minutes for the inland model
- 5 minutes for the export model
- 2.5 minutes for the multi-trip model
- 5 minutes for the scientific model
- 2.5 minutes for the Mon-T logger

When you have entered all the data you wish to alter, click on **'OK'** to update the parameters and exit the form.

Click on **'Apply'** instead if you want to update the data in the logger, but not exit the form. This can be useful where you have several loggers to set up, each with the same or similar parameters.

Once the logger has been started, you cannot alter the user data, password, sample period or start delay. Check that these are correct before you start the logger.

The sample period also affects the behaviour of the limit delay and Safe range. These parameters both use units of the number of samples taken, so the time delay before they act is dependent on the sample period.

When a logger is reused, the sample period that was in effect for the previous use is retained. If you require a different sample period, this should be programmed after the logger has been reused.

If the logger is a humidity logger, and both humidity and temperature are enabled, the sample period applies to both, i.e. if you set a sample period of one minute, a temperature and humidity sample pair will be taken every minute. In this case the number of samples taken before the logger is full (the logging duration) will be halved.

See also:
Sample rate issues
Logging duration
Start delay
Start time and date
Start and stop with button
Limit Delay
Enable safe range
User data
Password
Re-using a logger

8.9   Logging Duration

This is the time that will elapse before the logger is full, based on the current sample period. This time will change as you enter a new sample period, so you can adjust the sample period rate so that the logger fills over a specific time interval if you desire.

If you are logging both Temperature and Humidity, or logging both temperature channels in a Dual Temperature logger, the displayed available logging duration will be halved.

See also:
Sample period

8.10   Start Delay

The start delay determines how long after the logger is started before the first sample is actually taken. The primary reason for the start delay is to allow for situations where the logger is started at room temperature, and then later placed in a controlled environment.

Enter the time you wish to elapse between starting of the Temprecord and the taking of the first sample. This is normally set at manufacture to one minute, but you can alter it to any value between 10 seconds and 24 hours.

Temprecord has an internal time resolution of 2 seconds. This means that whatever value you enter will be rounded to the nearest multiple of 2 seconds. The time is specified in hours, minutes, and seconds.

When you have entered all the data you wish to alter, click on 'OK' to update the parameters and exit the form.

Click on 'Apply' instead if you want to update the data in the logger, but not exit the form. This can be useful where you have several loggers to set up, each with the same or similar parameters.

Once the logger has been started, you cannot alter the user data, password, sample period or start delay. Check that these are correct before you start the logger.

When a MultiTrip or Scientific Temprecord logger is reused, the sample period that was in effect for the previous use is retained. If you require a different sample period, this should be programmed after the logger has been reused.

When a logger is reused the start delay is set back to the value it was programmed with for the last trip - i.e. the value is preserved. **This behaviour is different to the behaviour with versions prior to 5.28.0.2360**. In versions prior to this the start delay was set to the value programmed in the defaults options when a logger is reused. Regardless, you can still alter the start delay to a different value before starting the logger however

See also:

8.11   Start Time and Date

Temprecord Mk3 Loggers

Instead of using the start delay to determine how long after starting before the logger starts recording samples, you can program Temprecord to start at a particular time and date.

In the Program/Parameters form, you must check the box 'Enable Start on Date Option' before you can enter a time and date to start logging from.

The logger will start recording samples from within a few seconds of the time and date specified. The time and date you specify must be in the future or an error will result

.

It is still possible to start the logger by any of the other means, i.e. with the button, or by using the Program/Start Logger function of Temprecord. It is possible to program the logger so that it cannot be started with the button (see the topic start and stop with button for more information).

If the logger is started by any of these means (by the button), the programmed start time and date is ignored.

Temprecord Mon-T Loggers

The Mon-T logger does not support starting at a specific time and date.

Temprecord LCD Loggers

Temprecord LCD loggers can be programmed to start at a specific time and date, but there are important differences:

- The start time and date is achieved by setting a start delay as appropriate and then starting the logger. For example if a start time and date is programmed for 3 weeks into the future, the start delay is programmed to be three weeks and the logger is actually started when the parameters are saved to the logger.

- Once the parameters are saved to a logger with a start time and date programmed, the logger starts counting down the start delay, and it is not possible to access the logger parameters from that point on.

Remember, once the parameters are saved to a LCD logger that has a start time and date programmed, the logger is started and begins counting down the start delay. There is no way of "recovering" a logger that has inadvertently had a very long start delay programmed. You will be warned of this fact when you save or apply the parameters to the LCD logger.

Whenever an LCD logger is reused after a trip that used the **Start at Time and Date** feature to start logging, the feature is disabled, and the start delay set to ten seconds. This applies whether the logger is reused with TRW actions, with Auto Mode operations, or with the button (if this is enabled).

See also:
Sample rate issues
Logging duration
Start delay
Start and stop with button
Enable safe range
Sample period
User data

8.12 Password

Temprecord loggers can be protected with a password (actually a "pass-phrase") - this can be any combination of letters, digits and punctuation characters (including spaces) up to 32 characters).

Password and Pass-phrase - what's the difference?   No difference really, except your passphrase can include spaces, as can any encryption or hash key you provide to protect your datafiles.

Temprecord loggers can also be supplied to customers in a "locked" state. A locked logger will show a small padlock overlay on the picture of the logger shown on the summary tab. This "locking" is independent of any pass-phrase in the logger.

If a logger password has been set, it is not possible to edit the parameters, stop, or reuse the logger.

If you enter the digit zero (**0**) as the password, this is equivalent to no password, and anyone will be able to alter the user data, start delay or sample period.

The pass-phrase is case-sensitive, and leading and trailing spaces are ignored (but embedded spaces are not ignored). So the pass-phrases:

My Password
MY PASSWORD
my password
my   password

are all different. Be careful when typing (and remembering!) your pass-phrases.

The password will not display as you type it. You must enter the password twice, once in the **'Password'** field, and again in the **'Confirm'** field. These two passwords must match. You do not need to specify a minimum number of characters, but obviously the more the better.

Passwords should be easy to remember, and difficult to guess.

If you leave both the password fields blank, the current password will not be changed.

WARNING! Do not forget your pass-phrase!

If you do, you will be unable to alter the user data, start delay or sample period, stop the loggers, and in the case of the Multi-trip and Scientific models, and the Mon-T and LCD loggers, you will be unable to reuse them. You can still start or stop these loggers using the button if start with button or stop with button respectively have been enabled.

Temprecord are unable to reset passwords or determine what they have been set to. A logger with an unknown password can still be read, but it cannot be reused.

When you have entered all the data you wish to alter in the Program/Parameters form, click on 'OK' to update the user data and exit the form.

Click on 'Apply' instead if you want to update the user data in the logger, and not exit the form. This can be useful where you have several loggers to set up, each with the same or similar user data.

Once the logger has been started, you cannot alter the user data, password, start delay or sample period. Check that these are correct before you start the logger.

Removing a Password

To remove or clear a password, i.e. to allow anyone to access the logger without a password, edit the parameters, then enter a value of 0 (zero) into the password and confirm fields. Then save the parameters to the logger as normal and the password will be cleared. If the password and confirm fields are both blank when the parameters are saved, the password is not changed.

Earlier releases of the Temprecord software only allowed numeric passwords to be used. This restriction has been removed for all loggers, and pass-phrases up to 32 characters can be used with **Temprecord** Mk3, Mon-T and LCD loggers.

Mk3 and Mon-T loggers that have had their passwords set using earlier versions of Temprecord (version 5.xx and earlier) will still function correctly when read with the newer versions of Temprecord - they will accept the same numeric password as before. If the logger has the password altered with the newer version of Temprecord (version 6.xx and later) however, you will be unable to carry out any of the operations that require a password with the earlier versions of Temprecord.

See also:
Password specification errors
User data
Sample period
Start delay

8.13 Password Required

The logger you are attempting to program, stop or reuse is protected with a password. The password can be phrase of up to 32 characters.

To access the logger, enter the logger password and click the 'OK' button. If you do not want to access the logger, or you cannot because you do not know the password, click the 'Cancel' button.

See also:
Password Specification Errors

8.14 Lower and Upper Limits

Temprecord Mk III has a the ability to compare the logged temperature and humidity values against lower and upper limits, and report whether the limits have been exceeded via the red and green LED on the logger.

On the LCD logger the behaviour of the LED's when limits are transgressed is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits. See Enable Status LEDs for more information.

The Program/Parameters form allows you to specify these limits. Enter the limits in the same units as the current setting of the units option (°C or °F). In the case of the humidity the units are % RH (percentage relative humidity).

Temprecord will complain if you try to enter an upper or lower limit that is outside the operating range of the logger. Earlier versions of the Temprecord program allowed you to enter limits outside the operating range. This is inadvisable as the logger will not detect instances of the temperature exceeding the limits.

When **Temprecord** reads the data from a logger and displays it in graph view mode, the limits that were programmed in the logger are shown on the graph. These limits are also used in the values view and statistics view. See the topic how the limits are used when Temprecord displays data for more information

In some situations, the logger must be started while the temperature and/or humidity are outside the limits and it is undesirable for this situation to be reported as such. Also, there are applications where a brief excursion outside the limits may be expected, and is not to be reported as an out-of-range error. See the parameters enable safe range and limit delay for more information.

See also:
Limit delay
Enable safe range

8.15 Limit Delay

Temprecord Mk III has a the ability to compare the logged temperatures and humidity against upper and lower limits, and report whether the limits have been exceeded via the red and green LED on the logger. In some situations, the logger must be started while the temperature/humidity is outside the limits and it is undesirable for this situation to be reported as a temperature/humidity outside of the limits. Also, there are applications where a brief excursion outside the limits may be expected, and is not to be reported as an out-of-range error.

To accommodate these situations, Temprecord allows you to set a **limit delay** parameter. The limit delay is used in two ways - it affects the behaviour of both the safe range, and also the lower and upper temperature and humidity limits.

- The **limit indicators** (upper temperature exceeded, lower temperature exceeded, upper humidity exceeded, lower humidity exceeded) are only set when the number of continuous samples exceeding the respective limit is greater then the **limit delay** parameter. In other words, the limit delay specifies how many consecutive samples are tolerated outside the limits before an out-of-limits condition is flagged.

  To have the limit indicators set (and therefore the red LED flash) as soon as any single sample exceeds the respective limit, set the **limit delay** to 0.

- If the enable safe range option is checked, comparison of the temperature (and/or humidity) values starts as soon as the number of samples taken inside the safe range exceeds the value specified in the **limit delay** parameter. In other words, the limit delay specifies how many consecutive samples are tolerated inside the limits before checking of the samples against the limits begins. For example, if the limit delay is set to 5, the checking of temperatures and/or humidity against limits will not start until more than five successive samples have been recorded as inside the safe range.

To have comparison against the limits begin as soon as a sample is inside the safe range, set the limit delay to 0.

On the LCD logger the behaviour of the LED's when limits are transgressed is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits. See Enable Status LEDs for more information.

In the Mk3 Temprecord loggers, the value of the delay (in samples) also sets the safe range delay, i.e. setting the limit delay in the Mk3 logger also sets the safe range entry delay, and the limit delay in turn is shared between the temperature and humidity channels, whereas in the G4 (LCD) logger these parameters are separate and can also be independently programmed for each humidity or temperature channel.

See also:
Enable safe range
Lower and upper limits
Enable Status LEDs

8.16 Enable Safe Range

Temprecord loggers have the ability to compare the logged temperatures and humidity against upper and lower limits, and report whether the limits have been exceeded via the red and green LED on the logger. In some situations, the logger must be started while the temperature/humidity is outside the limits and it is undesirable for this situation to be reported as a temperature/humidity outside of the limits. Also, there are applications where a brief excursion outside the limits may be expected, and is not to be reported as an out-of-range error.

To accommodate these situations, Temprecord allows you to set a **safe range enable**, and an associated limit delay.

If the **enable safe range** option is not checked, logger samples are checked against the limits from the time when the logger is started. If the option is checked, the temperature/humidity must enter the 'safe range' (i.e. it must be less than the upper limit and greater than the lower limit) before it will be checked against the limits.

If humidity only is being logged, then the above comments apply to humidity instead of temperature.

If both temperature and humidity are being logged, then both the temperature and humidity must be within their respective safe ranges

If this parameter is disabled with the G4 LCD logger the safe range delay will be set to zero for that channel when the logger is updated. This is because the logger itself does not implement a separate control for safe range enable, but instead implements the function by setting the safe range delay to zero (which is equivalent).

In the Mk3 loggers, the safe range enable is shared with temperature and humidity channels, whereas the G4 LCD logger has separate enables for each channel.

If the enable safe range option is checked, comparison of the temperature (and/or humidity) values starts as soon as the number of samples taken inside the safe range exceeds the value specified in the limit delay parameter. For example, if the

limit delay is set to 5, the checking of temperatures and/or humidity against limits will not start until more than five successive samples have been recorded as inside the safe range.

To have comparison against the limits begin as soon as a sample is inside the safe range, set the limit delay to 0.

Enabling the safe range entry option does NOT mean that the logger does not start taking samples until the conditions for safe range entry are met. Enabling safe range entry means that the samples taken are not COMPARED against the limits until the conditions for safe range entry are met. The logger still takes samples from the time the start delay expires (or from the start time and date, if this is enabled).

On the LCD logger the behaviour of the LED's when limits are transgressed is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits. See Enable Status LEDs for more information.

See also:
    Limit delay
    Lower and upper limits

8.17 Enable LED (LCD Logger only)

The Enable LED checkbox determines whether the green and red LED's on the logger are used to indicate whether a limit has been transgressed. If this function is enabled, the logger will display a brief green flash if the logged data is within the limits programmed. If the logger has recorded data outside the limits then the flash is red.

This parameter is only available in the G4 LCD logger. The Mk3 and Mon-T loggers implement this functionality also (where the green and red LEDs indicate the status of the limits), but on those loggers it cannot be disabled.

8.18 Safe range delay (LCD logger only)

The safe range delay sets the number of samples that must elapse while the logger is between the limits before the logger is considered to have entered the safe range, and can be checked against limits.

This parameter is only available in the G4 LCD logger. The Mk3 Temprecord loggers also implement a safe range delay, but the value of the delay (in samples) is shared with the limit delay, i.e. setting the limit delay in the Mk3 logger also sets the safe range entry delay, and the limit delay in turn is shared between the temperature and humidity channels, whereas in the G4 (LCD) logger these parameters are separate and can also be independently programmed for each humidity or temperature channel.

8.19 Safe range limit (LCD logger only)

The safe range limit sets the number of samples that must elapse before the logger has entered the safe range before a safe range entry error condition is signalled. In other words, if the safe range limit is set to 20 samples, then the logger must have reached the safe range before 20 samples have been taken.

This parameter is only available in the G4 LCD logger. The Mk3 Temprecord loggers also implement a safe range delay, but the value of the delay (in samples) is shared with the limit delay, i.e. setting the limit delay in the Mk3 logger also sets the safe range entry delay, and the limit delay in turn is shared

between the temperature and humidity channels, whereas in the G4 (LCD) logger these parameters are separate and can also be independently programmed for each humidity or temperature channel.

8.20 Loop Overwrite

Normally when Temprecord has taken a number of samples equal to the logger capacity, recording of samples stops. It is possible however to program the logger so that when it is filled, the next sample taken overwrites the oldest sample. The logger will from that time on therefore always contain a record of the most recent 7937 samples (inland and multi-trip loggers) or 32513 samples (export and scientific loggers). If you are logging both temperature and humidity, these figures are 3969 samples and 16257 samples respectively

You can turn the loop overwrite option on and off in the Program/Parameters form. If this option is not checked, the logger will stop recording when it fills up. If this option is checked, after the logger has filled, subsequent samples taken overwrite the oldest sample.

8.21 Start and Stop with Button

You can determine whether the logger can be started and/or stopped with the button in the Program/Parameters form. If you want to be able to start the logger with the button, check the option marked 'Start with Button'. If you want to be able to stop the logger with the button, check the option marked 'Stop with Button'.

The button on the logger is used for both starting and stopping the logger, and also for recording markers in the sample record. See the topics using the button on the logger to mark an event and using the button on the logger to start and stop logging for more information.

See also:
Starting a logger
Stopping a logger
Allow markers

8.22 Allow Markers

You can determine whether pressing the button can be used to insert markers into the temperature record in the Program/Parameters form. If you want to be able to insert markers by pressing the button, check the option marked 'Allow Markers'.

the button on the logger is used for both starting and stopping the logger, and also for recording markers in the sample record. See the topics using the button on the logger to mark an event and using the button on the logger to start and stop logging for more information.

See also:
Starting a logger
Stopping a logger
Allow markers

8.23 Mon-T Temperature Logging Range Parameters

The parameters discussed here are only present in the Temprecord **Mon-T** logger. When the parameters for Temprecord Mk1 through Mk3a loggers are edited, these parameters do not apply and will not show in the parameters dialog.

The **Mon-T** logger allows the user to trade off temperature resolution against temperature range. This is achieved by allowing the user to specify the minimum temperature logged and the resolution. If a small value of resolution is specified, e.g. 0.05C, the logger will only record over a smaller range. The table below shows the temperature logging range that results from various settings of these controls

Minimum Temperature	Resolution	Range
-40	0.50	-40.00 to +86.50
-20	0.20	-20.00 to +30.60
-15	0.10	-15.00 to +10.30
- 5	0.05	- 5.00 to +7.65

Minimum Temperature

This is the lowest temperature the **Mon-T** logger can record. It can be set to any value within the specified temperature range of the logger. It serves as the starting point for the logging temperature range.

Resolution

The size of the steps between one temperature and the next. The higher the resolution, the smaller the logged temperature range. The resolutions available depend on the logger temperature units:

Resolution	Range (Celsius)	Range (Fahrenheit)
1.00	not available	253.00 F
0.50	126.50 C	126.50 F
0.20	50.60 C	50.60 F
0.10	25.30 C	12.30 F
0.05	12.65 C	not available

Maximum Temperature

This is the highest temperature the **Mon-T** logger can record. It is calculated from the Minimum Temperature and the Resolution. It is calculated using the formula:

$$Tmax = TMin + (Resolution * 253)$$

As you change the minimum temperature, resolution, or logger units, the maximum temperature is calculated and displayed.

Logger Units

This parameter determines the units (Celsius or Fahrenheit) used to set the Minimum Temperature and Resolution parameters.

Don't confuse the display units with the **Mon-T** Logger Units. The **Mon-T** Logger Units determine what units are used when programming the **Mon-T** - specific parameters (Minimum Temperature, and Resolution). The display units determine how temperatures are displayed in the Temprecord program

When a Mon--T logger is read, the display units are set to the **Mon-T** programmed logger units. I.e. if you program a logger in Fahrenheit units and read the logger with Temprecord set to display temperatures in Celsius, the display units will change to Fahrenheit after you read the logger's temperature data.

Also, when parameters are updated to a **Mon-T** logger (or to a G4 LCD logger), the temperature display units are set to the units that were programmed into the logger.

Warnings

Temprecord will warn you if you attempt to set the upper or lower limits outside the Minimum and Maximum Temperatures as defined above.

When the **Mon-T** logger is recording temperatures outside the logging range, the temperature actually recorded will be limited to the minimum or maximum temperature specified. This has implications for calculated statistics. It is important to make sure the range between the Minimum and Maximum Temperatures is greater than the expected temperature range.

These settings can only be adjusted if the option Show **Mon-T** - specific settings is enabled. If this option is not enabled, the fields for Minimum Temperature, resolution, and Logger Units do not appear and the logger temperature range and resolution are displayed in their place.

8.24   Setting up several loggers

If you have several Temprecord loggers to set up in a single session, Temprecord makes it easy for you. The button marked 'Apply" in the Program/Parameters form updates the information in the form to the logger, but leaves the form open.

To set up several loggers with the same or similar programmed data:

1. Place the first logger into the reader interface.
2. Select the Program/Parameters menu item. After a few seconds the Program/Parameters form will open with the parameters for that logger.
3. Make any changes you want to the user data, sample rate, etc.
4. Click on 'Apply'. A window will open while the Temprecord parameters are updated and after this is done you will be returned to the Program/Parameters form.
5. Remove the logger and insert the next one.

Repeat steps 3, 4 and 5 as many times as necessary to set up your loggers, then click on 'OK' to update the last logger and close the Program/Parameters form

Temprecord will not allow you to set up a logger that is protected with a password unless the passwords on all subsequent loggers matches the original logger, or the password on the subsequent loggers is zero.

Temprecord will only allow you to set up loggers of all the same type in this way. You cannot set up (for example) an inland logger, then a scientific logger

8.25   Setting up a default set of parameters

If you have a particular set of parameters that are frequently programmed into your loggers, you can create a 'default' set of parameters, which you can load into the Program/Parameters form simply by clicking on the 'Defaults' button.

To set up and use a set of default parameters:

- Select the Options/Defaults menu item. This will open the default options form, which looks very similar to the Program/Parameters form, except that there is no 'password' field.'
- Enter the parameters. You might for example have a particular set of user data, which remains the same for all loggers apart from one line, being the destination of produce being shipped. You would leave that line blank here.
- Click on OK.

To use the default set of parameters:

- Place a logger into the reader interface.
- Select the Program/Parameters menu item. After a few seconds the Program/Parameters form will open with the parameters for that logger.
- Click on the 'Defaults' button. This will load the user data with the defaults you programmed previously.
- Make any changes you want to the user data, sample rate, etc. In the example mentioned above, you would key the destination into the line left blank.
- Click on 'Apply' or 'OK'.
- Remove the logger.

8.26   Starting a Logger

Use the Program/Start Logger function to start the Temprecord logger. Before starting, you should configure the logger if you wish to set the user data, alter the sample period or start delay, or change any of the other parameters

The Temprecord logger status must be READY in order for it to be started. Once started, the start delay begins timing. After this start delay period has elapsed, the Temprecord unit will begin to log temperature. The Temprecord logger will flash when started, and again when the start delay has expired and logging begins. If you have recently read a Temprecord logger and not yet saved the contents to a disk file, you will be prompted to save the data first.

Inland and Export loggers can only be started by snapping off the tabs.

Starting a logger does not necessarily mean it will begin taking temperature readings. Logging of temperatures will not start until the start delay has counted down. While the start delay is counting down, the green LED will flash briefly very ten seconds. After the start delay has expired the green and red LEDs flash to indicate the state of the limits.

On the LCD logger this behaviour is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits.

When you use the Program/Start Logger function, you will be asked to confirm that you want to do this. If you prefer not to be asked this question, you can uncheck the option 'Prompt before starting' in the General Options form.

You can also set up a logger so that it can be started by the button on the logger, or by a programmed start time and date

You can start the logger currently in the reader interface by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window .

See also:
Stopping a logger
Reusing a logger
Sample period
Start delay
Start time and date
Limit Delay
Lower and Upper limits
Loop Overwrite
Start and stop with button
Allow markers
Auto Mode Operation

Saving a file

8.27 Stopping a Logger

Use the Program/Stop Logger function to stop the Temprecord logging temperature samples. The Temprecord logger status must be LOGGING in order for it to be stopped.

The Temprecord logger will flash the red LED four times in quick succession when logging is stopped.

If you have recently read a Temprecord logger and not yet saved the contents to a disk file, you will be prompted to save the data first.

When you use the Program/Stop Logger function, you will be asked to confirm that you want to do this. If you prefer not to be asked this question, you can uncheck the option 'Prompt before stopping' in the General Options form.

You can also stop loggers by pressing the button on the logger.

If a logger has a password or pass-phrase programmed, and **Stop with button** is not enabled, the pass-phrase will be required.

Inland and Export loggers can only be stopped by snapping off the tabs.

You can stop the logger currently in the reader interface by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window

See also:

See also:
Starting a logger
Reusing a logger
Sample period
Start delay
Start time and date
Limit Delay
Lower and Upper limits
Loop Overwrite
Start and stop with button
Allow markers
Auto Mode Operation

Saving a file

8.28 Reusing a Logger

The Program/Reuse Logger function allows Multi-trip or Scientific Temprecord loggers to be reused. The Temprecord logger must be in the 'stopped' state. If the Temprecord unit has been password-protected, you will be asked to enter the password before the unit can be restarted. If you wish to change the password, use the Program/Parameters function after you have reused the logger . If you have recently read a Temprecord logger and not yet saved the contents to a disk file, you will be prompted to save the data first.

When a Temprecord is reused, the current sample period is retained. If you want to set a different sample period, use the Program/Parameters function after you have reused the Temprecord logger.

When you use the Program/Reuse Logger function, you will be asked to confirm that you want to do this. If you prefer not to be asked this question, you can uncheck the option 'Prompt before reusing' in the General Options form.

When a logger is reused the start delay is set back to the value it was programmed with for the last trip - i.e. the value is preserved. **This behaviour is different to the behaviour with versions prior to 5.28.0.2360**. In versions prior to this the start delay was set to the value programmed in the

defaults options when a logger is reused. Regardless, you can still alter the start delay to a different value before starting the logger however

You can reuse the logger currently in the reader interface by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window

See also:

Starting a logger

Stopping a logger

Sample period

Start delay

Start time and date

Limit Delay

Lower and Upper limits

Loop Overwrite

Start and stop with button

Allow markers

Auto Mode Operation

Saving a file

8.29   What the LEDs on the logger tell you

The Mk III and LCD Temprecord loggers have two visible LED's (light-emitting diodes). These are used to both to provide a confirmation of operation of the logger, and to provide information about the temperature limits stored in the logger.

Logger Status	Red LED	Green LED
Ready to be started	off	off
When started	flashes 4 times	off
Counting start delay	off	flashes briefly every 10 seconds
When start delay expires	flashes 4 times	off
Logging, stopped	off	flashes briefly every 10 seconds
Logging or stopped, if lower or upper limit exceeded	flashes briefly every 10 seconds	off
When communicating	off	flashes briefly

The LCD (G4) logger also has two visible LED's and their behaviour is as for the Mk III logger, but the indication of the outside limits condition via a brief flash every ten seconds can be enabled/disabled when the logging parameters are set before the logger is started.

The Mon-T Temprecord logger also has two visible LED's, but their operation is different. The logger status can only be determined by pressing the button on the logger.

Logger Status	Red LED	Green LED
Ready to be started	off	off
On starting	off	6 flashes
Counting start delay	off	off
On start delay expiry	off	6 flashes
Logging, stopped (only when button pressed)	3 flashes if logger out of limits	3 flashes if logger inside limits
On stopping	off	6 flashes

On the LCD (G4) logger the behaviour of the LED's when limits are transgressed is configurable - i.e. when you program a logger you can determine whether the LED's indicate the state of the limits. See Enable Status LEDs for more information.

See also:
Starting a logger
Stopping a logger
Start delay
Start time and date
Limit Delay
Lower and Upper limits
Start and stop with button
Allow markers

8.30 Using the button on the logger to mark an event

Temprecord has the ability to record markers along with the temperature data. A marker is simply an indication of an event - no other information is stored other than the fact that the button was pushed, and the time it was pushed. The time recorded is that of the most recently taken sample.

To insert a marker, you must hold the button down for at least 2 seconds. The red LED on the logger will flash twice to confirm that a marker has been recorded.

This feature must be enabled by checking the allow markers option in the Program/Parameters form. If this option is not checked, pressing the button has no effect, unless stop with button is also checked, in which case pressing the button (for at least 10 seconds) will stop the logger taking samples.

Once the marker has been recorded (i.e. when the LED flashes), be sure to release the button immediately. Remember that the logger can also be stopped by holding the button down for at least 10 seconds!

You can enter as many markers into the logger as you wish, but the Temprecord program only displays the first 100 markers recorded.

Each marker occupies a sample position - i.e. for every marker you insert, the sample capacity of the logger is reduced by one for that use.

See also:
Stopping a logger
Start and stop with button
Allow markers
Using the button on the logger to start and stop logging

8.31 Using the button on the logger to start and stop logging

You can use the button on the logger to start and stop logging. This feature must be enabled by checking the start and stop with button options in the Program/Parameters form.

If this option is not checked, pressing the button has no effect, unless allow markers is also checked, in which case pressing the button (for at least 2 seconds) will insert a marker if the logger is taking samples

See also:
Starting a logger
Stopping a logger
Start and stop with button
Allow markers
Using the button on the logger to mark an event

8.32 Changing Logger Parameters

Make any changes you want to the logger parameters. When you have finished, click on **'OK'** and the logger will be updated and the Program/Parameters form will close.

If you have several loggers to program, clicking on **'Apply'** will update the logger, but leave the form open. You can then insert another logger and program that.

If you click on **'Default'**, the Program/Parameters form will be filled in with the parameters specified in the Options/Defaults form.

See also:
User Data
Sample Period
Start Delay
Start Time and Date
Password
Lower and Upper Limits
Enable Safe Range
Limit Delay

8.33   Accuracy and Resolution

There is often confusion over the difference between the accuracy of monitoring devices, and the resolution of monitoring devices.

'Accuracy' refers to the range of uncertainty that applies to a given temperature measurement, i.e. the temperature value logged by the device as compared to the true temperature. The accuracy of the Temprecord logger is around 0.6°C (1.0°F) over the measurement range.

'Resolution' refers to the number of decimal places to which the temperature values are recorded, and also displayed. The resolution of the logger varies with temperature, but at 0C it is around 0.01°C (1 one-hundredth of a degree). The displayed resolution in Temprecord is usually 0.01°C. While it may not seem sensible to record and display the temperature values to a greater resolution than the accuracy of the logger, it can be in fact quite useful. Temprecord is able to record and display very small fluctuations in temperature - changes that would be much smaller than the resolution of other loggers, which often have a resolution of as much as 2.0°C.

The humidity values are normally displayed to a resolution to 0.01 %RH. The accuracy of the humidity measurements is dependent on the grade of logger. Please see the specification sheet for more details.

See also

8.34   Differences between the displayed temperature and the logged temperature

Temprecord G4 loggers include a LCD display which shows the result of the most recently measured temperature. This is updated each time the logger takes a sample. The displayed value is the most recent measurement, but this value is subject to further processing before it is stored in the logger. Under most conditions, the displayed value will be the same as the value that was stored in the logger, but there are some circumstances where they will differ.

If the temperature is changing rapidly in between sample instants, the stored value may "lag behind" the displayed temperature. This effect is transient, in that it will normally never persist for longer than one sample past the interval while the temperature was rapidly changing. Under conditions of normal use this effect will not be noticed, and we only bring it to user's attention because it might be noticed in artificial environments.

As an example, consider a test where a G4 logger is being validated. The logger is programmed with a sample period of 1 minute and started. Every minute, the value shown on the display is noted down. During the test the logger is subjected to a burst of hot air from a heat gun (not a treatment we recommend!). At the end of the test the logger is read and the logged values compared with the values noted from the LCD display.

The following table shows the test results.

Time	Displayed Value	Logged Value	Difference
00:00	25.70	25.70	0.00
01:00	25.86	25.86	0.00
02:00	26.83	26.82	0.01
03:00	27.10	27.10	0.00
04:00	32.12	32.03	0.09
05:00	41.71	41.80	-0.09

06:00	36.51	36.48	0.03
07:00	33.34	33.36	-0.02
08:00	31.31	31.31	0.00
09:00	29.80	29.80	0.00
10:00	28.83	28.84	-0.01
11:00	28.02	28.01	0.01
12:00	27.60	27.60	0.00
13:00	27.30	27.30	0.00
14:00	27.13	27.13	0.00
15:00	27.13	27.13	0.00
16:00	27.16	27.16	0.00
17:00	27.15	27.15	0.00
18:00	27.13	27.13	0.00
19:00	27.04	27.04	0.00
20:00	26.91	26.91	0.00
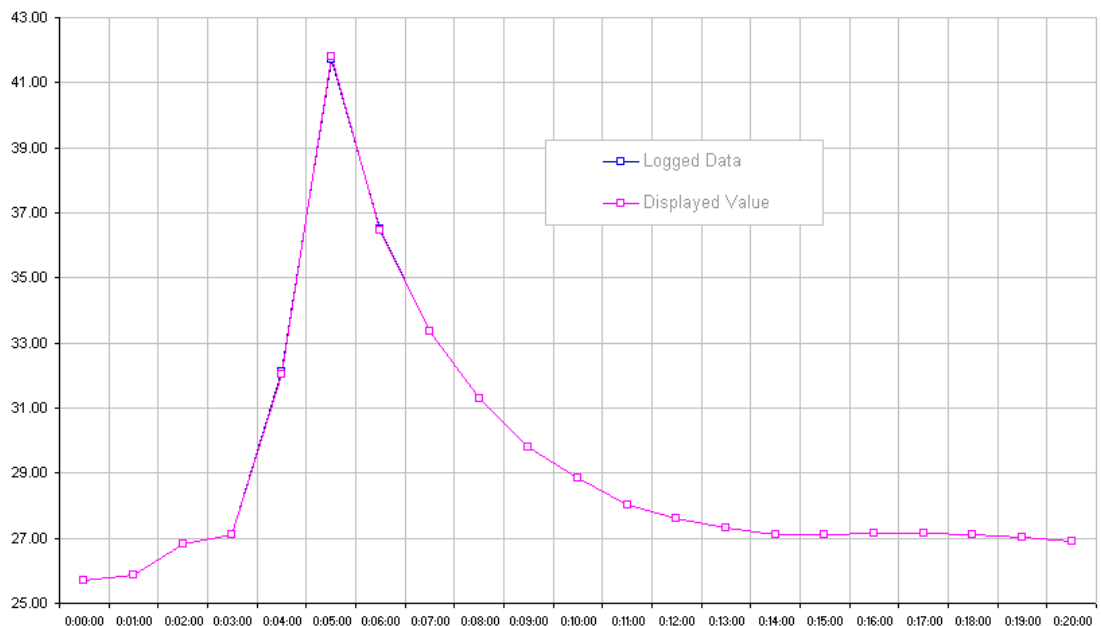
See also:

Sample Period
Sample Rate Issues
Accuracy and Resolution

8.35   Sample Rate Issues

The sample rate determines how often the Temprecord logger measures and stores the temperature.

With Temprecord, this is specified by the sample period, which is the time that elapses between samples. Bear in mind that while a longer sample period will increase the length of time the logger will run before the memory is filled, you should consider the effects of *undersampling*. This situation arises when the samples are too infrequent to pick up changes in the temperature. As an example, if the sample period is set to 1 hour, you cannot guarantee to pick up instances where the temperature exceeds a maximum value for a period of only ten minutes.

This discussion also applies to humidity, if humidity is being logged instead of temperature, or if both are being logged

8.36 Auto Mode Operation

Auto mode operation allows you to carry out a sequence of operations on a batch of loggers. For example, you can stop, read, save, reuse, program the parameters, and start a logger in sequence by doing nothing more than placing the logger in a reader. Temprecord detects when the logger has been inserted, programs it, then waits for it to be removed before waiting for the next logger.

You can determine what operations are carried out by changing the Auto Mode Options

To start Auto Mode, select Auto Mode from the Program menu. Once the Auto Mode window is displayed, you can click on the Start button and Temprecord will wait for a logger. When one is inserted into the reader it will be detected and the sequence of operations defined by the Auto Mode Options will be carried out. When the operations are complete Temprecord waits for the logger to be removed.

To end logging mode click the Stop button. Click the Exit button to close the Auto Mode window.

Never remove the logger from the reader while Auto Mode operations are underway. Wait until operations have finished and REMOVE LOGGER is displayed. If you need to remove a logger while processing is underway, click on the Stop button first and wait until Auto Mode has stopped.

You cannot use Auto mode to load a parameter set into the logger if that logger is locked.

You can also start Auto Mode operation by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window.

8.37 Kiosk Mode Operation

The "Kiosk" mode operation of Temprecord is intended for environments where the sender of a shipment monitored by Temprecord loggers wants to impose limits on the range of operations that can be performed on the logger.

An example is where the Temprecord user programs loggers which are dispatched to a remote location and the condition of the shipment is then assessed by examining the LED indicators. If a problem is indicated, the receiver would read the logger and email the data file back to the sender. Kiosk mode (often in conjunction with auto mode operation) allows the shipper to restrict the receiver to carrying out a certain subset of operations.

In kiosk mode the user is only able to perform the following operations:

- start the logger.
- stop the logger.
- read the logger.

- [save](#) the logger data.
- save a PDF report.
- [email](#) the TRX data file.
- [email](#) a PDF report file.
- [exit](#) the Temprecord program.

The user cannot:

- select [values](#) or [graph](#) view s.
- [reuse](#) the logger.
- alter any of the [options](#).

Temprecord Kiosk Mode can only be started by providing a [command line option](#) at startup.

8.38 Designated Use Loggers

Temprecord provides special manufacture runs of their loggers to suit particular customers. These loggers, called **designated use loggers** are programmed w ith a particular named parameter set, and that parameter set is tied to the ow ner and case color of that logger.

Temprecord w ill issue a w arning if any attempt to is made to alter the parameters in a designated use logger. The user can agree to this w arning and alter the parameters, but the Temprecord program "know s" that this logger w as a designated use logger and has had its parameters changed. The logger then becomes available for general use.

A general use logger can be reverted again to a designated use logger by using the [factory restore function](#). The factory restore function is carried out from the [parameters dialog](#), but the button to initiate this is only visible if the logger w as originally manufactured as a designated use logger.

See also:
[Factory restore operation](#)
[Named parameter Sets](#)

8.39 Factory Restore Operation

Temprecord provides special manufacture runs of their loggers to suit particular customers. These loggers, called **designated use loggers** are programmed w ith a particular [named parameter set](#), and that parameter set is tied to the ow ner and case color of that logger.

Temprecord w ill issue a w arning if any attempt to is made to alter the parameters in a designated use logger. The user can agree to this w arning and alter the parameters, but the Temprecord program "know s" that this logger w as a designated use logger and has had its parameters changed. The logger then becomes available for general use.

A general use logger can be reverted again to a designated use logger by using the **factory restore function**. The factory restore function is carried out from the [parameters dialog](#), w ith the button labeled **Restore**.
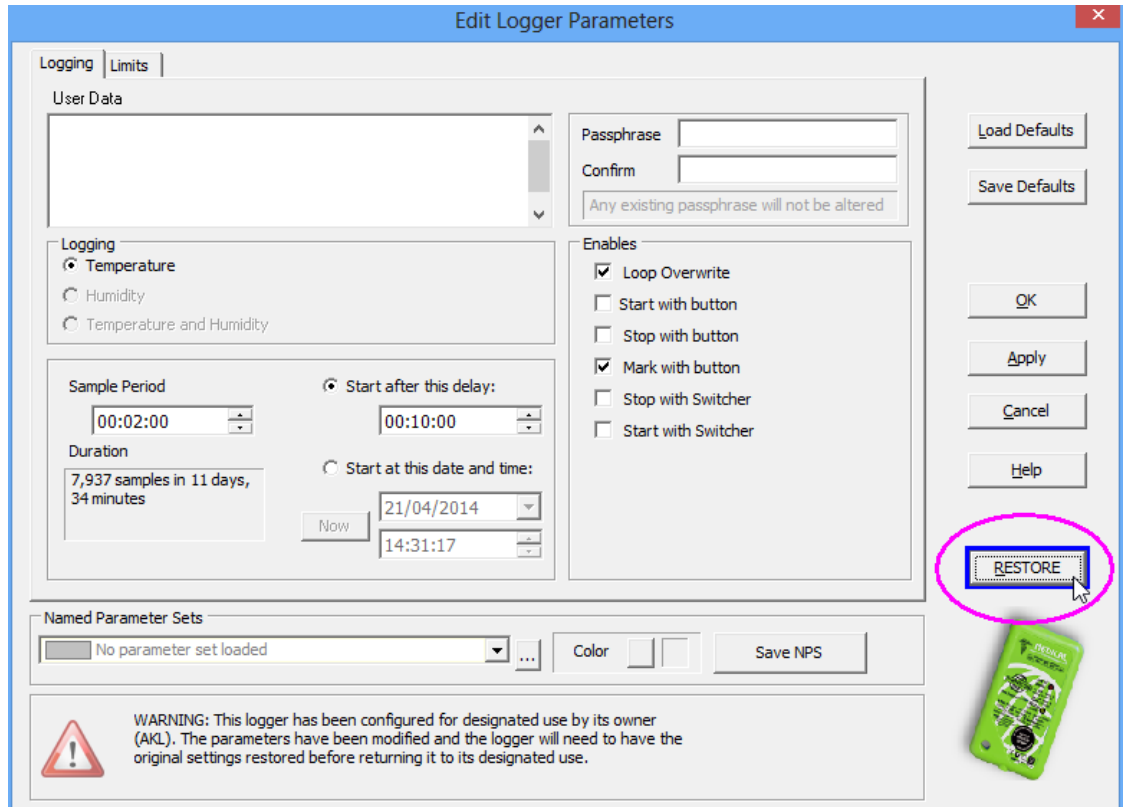
The **Restore** button visible on the dialog if the logger was originally a designated use logger. If the button is visible but disabled, it indicates that the logger is already configured for designated use.

See also:
Designated use loggers
Named parameter Sets
***

8.40   Named Parameter Sets

We call the collection of settings that are applied to a Temprecord logger (sample period, overwrite enabled, and so on) a **parameter set.** We have extended this concept so that the user can have various parameter sets and refer to them by name.

Named parameter sets (or **NPS** for short) are accessed and managed by controls that have been added to the Program/Parameters dialog and the Default options.

When the Program/Parameters dialog is displayed, it is possible to load any parameter set by name. You can create, rename, edit, and delete parameter sets just like files - in fact they are files, and can be renamed, moved, deleted, emailed and backed up, just like any other file.

Loading a named parameter set from disk into the Program Parameters dialog does not update the logger. If you want to program a logger with a named parameter set, the following steps should be carried out:

- Place the logger in a Reader Interface.
- Click on **Program/Parameters** to open the dialog.

- Click on the small button to the right of the Named Parameter Set control.
- Select the Named Parameter Set file you want to load.
- Click on the **Open** button to load the Named Parameter Set into the parameter controls.
- If the settings in the NPS aren't what you require, make any changes you want.
- Click on the **Apply** button or the **OK** button to update the parameters in the logger.

See also
Parameter Sets and reading parameters from a logger
Loading a parameter set
Creating a new parameter set
Editing a parameter set
Renaming a parameter set
Deleting a parameter set
Parameter sets and the default options
Parameter sets and Auto Mode operation
Meta-strings in user data
Meta-strings in parameter sets
Named Parameter Sets technical information

8.40.1 Loading a parameter set

You can load a parameter set from disk when the Program/Parameters dialog is displayed by clicking on the [...] button to the right of the parameter set field:
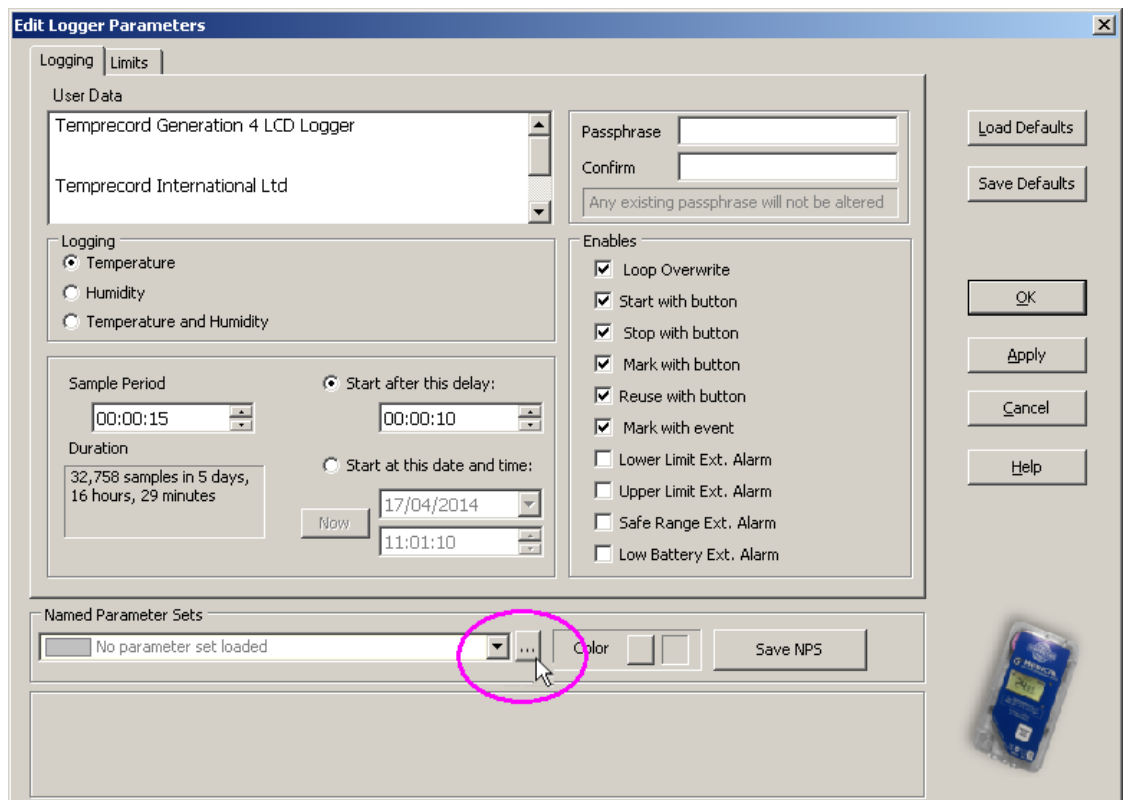
If you choose a file and exit the Load Parameter Set File dialog with the **Open** button, the contents of the NPS file will be read and the data in the parameters dialog will be replaced with the file contents.

In addition to this, Temprecord inserts the name of the NPS file that the data came from to the 5th line of the user data. Temprecord uses this item to assist in its management of NPS's.

Don't edit or delete this part of the line. You can add user data in the unused part of the line (to the right of the NPS name) if you want. While you can delete the NPS identifier information in the user data, it means that Temprecord will be unable to match up the logger with an NPS file at a later date (and this can have some disadvantages, particularly where the logger is traveling to different destinations).

Temprecord works with NPS files on the basis that they are all stored in one folder. You can navigate to other folders to load or save NPS files, and you can copy or move NPS files to other folders, but Temprecord always opens the load file dialog positioned in its default NPS folder at **C: \Documents and Settings\All Users\Documents\Temprecord\NPS.**

See also

Creating a new parameter set
Editing a parameter set
Renaming a parameter set
Deleting a parameter set
Parameter sets and the default options
Parameter sets and Auto Mode operation
Meta-strings in user data
Meta-strings in parameter sets
Named Parameter Sets technical information

8.40.2 Creating a new parameter set

A new parameter set is created by loading an existing parameter set and saving the data to a new name. This process is more or less the same as creating a new document using the "**Save As..**" function of a word processor. The new NPS will be identical to the one used to save the copy, and you can then edit the NPS as required.

The NPS is automatically saved to a file when you exit the Program/Parameters dialog with the **OK** button, or use the **Apply** button to update the data in the logger without closing the dialog. If you exit the dialog with the Cancel button, changes that you have made since last saving it will be lost, and no prompt will be issued

See also

Loading a parameter set
Editing a parameter set
Renaming a parameter set
Deleting a parameter set
Parameter sets and the default options
Parameter sets and Auto Mode operation
Meta-strings in user data
Meta-strings in parameter sets
Named Parameter Sets technical information

8.40.3 Editing a parameter set

To edit an existing named parameter set file, click on the [...] button in the Named Parameter Set field of the Options/Default tab, select the NPS from the dialog, and exit the dialog with the **Open** button. The NPS will be loaded into the default options.
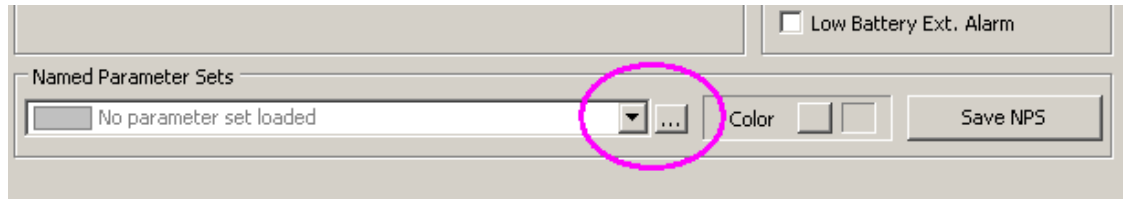
Note that the contents of that NPS file will from that point on <u>become</u> the default options, and those settings will be used if the default parameter set is selected for Auto Mode operation, or the Load from Defaults button is clicked in the Program/Parameters dialog.

See also

Loading a parameter set
Creating a new parameter set
Renaming a parameter set
Deleting a parameter set
Parameter sets and the default options
Parameter sets and Auto Mode operation
Meta-strings in user data
Meta-strings in parameter sets
Named Parameter Sets technical information

8.40.4 Renaming a parameter set

Renaming a parameter can be achieved by:

- Loading the parameter set and saving it to a different name
- Renaming the NPS file directly

See also

Loading a parameter set
Creating a new parameter set
Editing a parameter set
Deleting a parameter set
Parameter sets and the default options
Parameter sets and Auto Mode operation
Meta-strings in user data
Meta-strings in parameter sets
Named Parameter Sets technical information

8.40.5 Deleting a parameter set

To delete a named parameter set file, use the same techniques as you would for any other file, i.e. navigate to the folder **C:\Documents and Settings\All Users\Documents\Temprecord\NPS** with Windows Explorer and delete the file **<name>.NPS**.

See also

Loading a parameter set
Creating a new parameter set
Editing a parameter set
Renaming a parameter set
Parameter sets and the default options
Parameter sets and Auto Mode operation
Meta-strings in user data
Meta-strings in parameter sets

Named Parameter Sets technical information

8.40.6   Parameter sets and the default options

The default options are used w henever a logger is reused in Auto Mode and the **Load Default Parameters** checkbox is enabled, and w hen the **Load Defaults** and **Save Defaults** buttons are clicked in the Program/Parameters dialog.

With named parameter sets the default parameters w ork in exactly the same w ay as before, except that you can load any of the available NPS files as your default parameters.

Once you have done this (loaded a NPS file into the defaults), the NPS file and the defaults are no longer connected. If for example you load **fred.nps** into the defaults, any changes you make to to **fred.nps** from that point on w ill not be reflected in the defaults, and changes to the defaults w ill not be reflected in the file **fred.nps**

Temprecord saves the default parameters to a file called **defaults.nps**. This is just like any other NPS file, but bear in mind that **Temprecord** alw ays saves the contents of the default parameter options to this file w hen it exits, and loads them again on startup.

See also
Default options
Auto Mode

Loading a parameter set
Creating a new parameter set
Editing a parameter set
Renaming a parameter set
Deleting a parameter set
Parameter sets and Auto Mode operation
Meta-strings in user data
Meta-strings in parameter sets
Named Parameter Sets technical information

8.40.7   Parameter sets and Auto Mode operation

When a logger is processed using Auto Mode, it is possible to optionally load the logger parameters w ith the default settings. With named parameter sets, this has been extended so that you can load either the default parameter set, or a NPS file of your choosing.

If the option to load a NPS is selected and the NPS file specified can't be found, auto mode w ill stop w ith an error.

See also
Auto Mode
Loading a parameter set
Creating a new parameter set
Editing a parameter set
Renaming a parameter set
Deleting a parameter set
Parameter sets and the default options
Meta-strings in user data

8.40.8 Parameter Sets and reading parameters from a logger

Temprecord takes special steps w hen you are editing the parameters in a logger that has previously been programmed w ith a Named Parameter Set.

When Temprecord saves a named parameter set to a logger, it adds a "tag" to the 5th line of the user data. This tag contains the name of the NPS, and is used by Temprecord w hen the logger user data is read at a later date.

Specifically, Temprecord carries out the follow ing extra actions:

- When parameters are read from a logger to initialize the Program Parameters dialog, the 5th line of the user data is checked.
- If a NPS name is found there, Temprecord looks for a corresponding NPS file on the user's computer.
- If one is found, it is loaded into the parameters dialog, effectively overw riting w hat w as read from the logger.

The purpose of this behaviour is to "refresh" the parameters, so that if they have been changed in the meantime, the logger can be quickly updated w ith the new er NPS.

When Temprecord saves a named parameter set to a logger, it adds a "tag" to the 5th line of the user data:

This tag contains the name of the NPS, and is used by Temprecord w hen the logger user data is read at a later date.

DO NOT edit this tag. If it is modified in any w ay Temprecord w ill not be able to associate the logger w ith a Named Parameter Set.

See also

8.40.9 Meta-strings in parameter sets

When the user data contains meta-strings they are saved as part of the user data w hen a named parameter set is saved to a file. They are saved in their "reverted" form, i.e. exactly as they are displayed in the user data w hen the parameters dialog or default options are displayed.

See the topic meta-strings in user data for more information.

See also:

8.40.10 Named Parameter Sets technical information

Files

Temprecord Named Parameter Sets are XML files and as such can be edited with traditional text editing tools, though this shouldn't be necessary. The functions of the various nodes within the XML tree should be obvious from the name. The files have the extension **.NPS** and it is necessary that this is preserved for correct operation.

Folder

Parameter set files are always stored in the folder **C:\Documents and Settings\All Users\Documents\Temprecord\NPS**. While it is possible to store them elsewhere, Temprecord is "hard-wired" to always look in this folder when it is attempting to match a parameter set name in the user data to the corresponding NPS file.

User Data

When a named parameter set is loaded, the name of the NPS (called the NPS identifier, or **NPS ID**) is stored in the last (5th) line of the user data with a **'#'** character in column 1 as a prefix. The name stored is the filename part (no path, no extension, no period) of the NPS file. If the filename contains spaces, it will be surrounded by quotation marks.

```
Temprecord Scientific Logger
%Company%
%User%

#"Chilled Carcasses"
```

If there is no correctly formatted NPS name in the start of the 5th line of user data, no NPS processing will be performed, and no error issued.

Correct operation of named parameter sets depends on Temprecord being able to find a correctly formatted NPS identifier in the user data. The NPS ID can in fact be at the start of any line in the user data, but Temprecord will always move it to be at the start of the 5th line should it be found.

As a general rule, you shouldn't mess with the NPS ID.

See also

Loading a parameter set
Creating a new parameter set
Editing a parameter set
Renaming a parameter set
Deleting a parameter set
Parameter sets and the default options
Parameter sets and Auto Mode operation
Meta-strings in user data
Meta-strings in parameter sets

9 View Menu

Use the View menu to display the logged temperature data and change the format in which it is displayed.

- Toolbars
- Status Icons
- Summary View
- Statistics View
- Values View
- Graph View
  - ◆ The Sample Cursor
  - ◆ Changing the view mode
  - ◆ Viewing Temperature, Humidity, or Both
  - ◆ Getting the same file displaying in 2 or more windows
  - ◆ Getting data read from the logger displaying in 2 or more windows
  - ◆ Viewing Temperature, Humidity, or Both
- Units
- Go to Functions
  - ◆ Find Trace
  - ◆ Go to First, Go to Last Sample
  - ◆ Go to Start, Go to End
  - ◆ Go to Next, Go to Previous Marker
  - ◆ Go to Min, Go to Max Sample
  - ◆ Set as Start, End Markers
  - ◆ Using the Start and End Markers
  - ◆ Using the Min and Max Markers
  - ◆ Using the User Markers
- Zoom Functions
  - ◆ How zooming works
  - ◆ Horizontal Zoom
  - ◆ Vertical Zoom
  - ◆ Zoom Between Start and End markers
  - ◆ Zoom All
  - ◆ Zooming with the Mouse
  - ◆ Zoom Window to Presets
  - ◆ Zoom all Windows to Presets
  - ◆ Assign Presets from Window
  - ◆ Edit Presets
- View Info
- Cascade
- Tile Vertically
- Tile Horizontally
- Close

9.1 Toolbars

You can enable or disable the display of the four toolbars **Program**, **Copy**, **Graph** and **Go to Sample**. The **File** toolbar cannot be hidden or closed.

If you close a floating toolbar by clicking on the ⊠ it will no longer be displayed:

You can how ever make the toolbar visible again by either

- exiting **Temprecord** and starting it again, or
- Clicking on the **View**/**Toolbars** main menu entry and checking the menu entry corresponding to the toolbar you w ish to make visible.
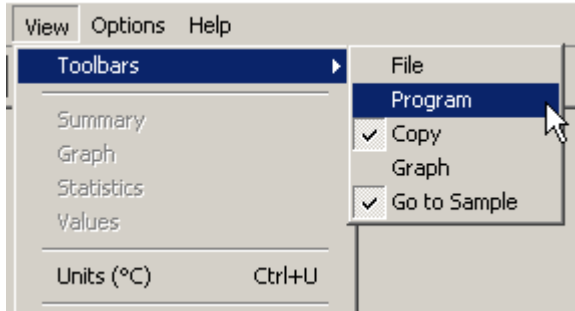
These toolbars can be dragged from their docking position and sit as a small w indow in front of the Temprecord main w indow . You can also dock them to any of the four edges of the main w indow .

See also

Toolbars and Speed Buttons
Toolbar Options

9.2 Status Icons

Temprecord displays status icons at the top right-hand corner of all data w indow s. These icons provide an at-a-glance display of status of various parameters of the loaded logger data set.

Battery Status

This icon show s the estimated remaining capacity of the logger battery. Hovering the mouse over the icon w ill display the remaining capacity in percent.

The battery remaining capacity is betw een 35 and 100%.

..

The battery remaining capacity is betw een 25 and 35%. This is a w arning that you should monitor the remaining battery capacity.

The battery remaining capacity is critical and less than 25%. It is not advisable to use the logger. It should be discarded or returned to Temprecord.

The battery remaining capacity is less than 5% and the battery should be considered to be exhausted. The logger should be discarded or returned to Temprecord.

The battery remaining capacity is a 'best estimate' only, based on the age of the logger, the total number of samples taken, the total number to trips, and the total number of data downloads.

The battery status may not be available for some logger types (e.g. the Mon-T logger).

The display of the battery status can be disabled in the General options tab.

Comments Status

This icon indicates whether comments are present in the dataset and whether the display of comments is enabled.

- If the yellow comment test balloon appears partially transparent ( ), there are no comments in the file. If it is opaque ( ), there are comments present.
- If there is a diagonal stroke ( ) through the yellow comment test balloon, comments display is disabled. If it is not present, comments display is enabled.

No comments are present in the dataset, and display of comments is disabled.

One or more comments are present in the dataset, but display of comments is disabled so they will not be visible on the graph.

No comments are present in the dataset, but display of comments is enabled.

One or more comments are present in the dataset, and display of comments is enabled so they will be visible on the graph.

The comments status icon will only be visible when the graph view tab is selected.

Adding a comment to a graph will automatically enable the display of comments.

Dataset Status

This icon shows the status of the dataset, providing general information about the file or logger data. Hovering the mouse over the icon will display a brief synopsis of the dataset.

Digest Status

This icon shows the status of any digest associated with the dataset. Hovering the mouse over the icon will display a detailed explanation of the current dataset digest.

The digest status could not be determined

An internal error occurred calculating the digest of the datafile

The datafile w as derived from a legacy Temprecord datafile and that datafile had an incorrect CRC (earlier Temprecord datafiles w ere protected against tampering and damage by a 32-bit **C**yclic **R**edundancy **C**heck or **CRC.** This method of detecting file damage and tampering is not as robust as the currently used SHA256 digest).

The datafile w as derived from a legacy Temprecord datafile and that datafile had a correct CRC.

The datafile has no digest.

The datafile has a digest but the format of the digest is not know n by the version of Temprecord you are running. Contact your dealer about an upgrade.

The datafile has a digest included, but there is no local passphrase specified, so the file's digest cannot be checked.

The datafile has a digest included, but it does not match the digest calculated using the local passphrase. Either the local passphrase is not the same as the passphrase used to save the file, or the file has been damaged or deliberately modified in some w ay.

The datafile has a digest included, and it matches the digest calculated using the local passphrase. The integrity of the file can be guaranteed to the level of confidence offered by the SHA256 digest, assuming that the passphrase used w as robust.

The dataset is from a logger and no digest has yet been calculated. When the dataset is saved to a file the digest w ill be calculated (if the Include Digest option is enabled).

Saturation Status

This icon show s the status of any saturation condition that has been detected in the logger data.

The upper logging limit of one of the enabled channels has probably been exceeded. The statistics for maximum, mean and standard deviation values for the channel are unreliable, and if the channel is a temperature channel then the derived statistics such as TTV, MKT, etc w ill also be unreliable.

The low er logging limit of one of the enabled channels has probably been exceeded. The statistics for minimum, mean and standard deviation values for the channel are unreliable, and if the channel is a temperature channel then the derived statistics such as TTV, MKT, etc w ill also be unreliable.

The upper and low er logging limits of one or either of the enabled channels has probably been exceeded. The statistics for maximum, minimum, mean and standard deviation values for the channels concerned are unreliable, and if any channel is a temperature channel then the derived statistics such as TTV, MKT, etc w ill also be unreliable.

Saturation is detected by scanning the data and checking these are no more than tw o successive samples at the maximum or minimum range of the logger. It is possible or course (but highly unlikely) that "real" genuine sample data could exhibit such behaviour.

The saturation status icon does not display if no saturation w as detected in any enabled channel.

9.3   Summary View

The temperature data in a Temprecord data window can be displayed in one of four view modes. These are summary view, statistics view, values view and graph view. The summary view displays the user data, logger serial number, sample period, etc. You do not need to read the logged temperature data to see the summary view of the logger. Using the File/Query Logger function reads the summary data and changes the view mode of the window to summary view.

You can select the summary view mode by opening the View menu and clicking on 'Summary'.

The time that is annotated **First Sample** in the summary display is the time of the first sample in the logger. If the logger is not overwriting, this corresponds to the time the logger took the first sample after it was started, but if the logger is overwriting, it corresponds to the time of the earliest sample that is recoverable from the logger. Every time the logger takes another temperature sample and stores it, the oldest sample is overwritten and lost, and the time of the first sample will advance by one sample period.

The number of samples in the logger in the summary display is an estimated value. If user markers are also present in the sample record, these occupy sample places also, and will inflate the number of samples displayed in the summary screen. For example, if the logger has taken 1000 samples, and the user has also inserted 12 markers while the samples were being taken, the samples logged will show as 1012. If the logger data has been read, then **Temprecord** will know the number of markers taken, and so will display the correct number of samples.

You can also change the view mode from the pop-up menu that displays when you press the right-hand mouse button.

See also:
Changing the view mode
Statistics view
Values view
Graph view

9.3.1   Owner name

Sometimes **Temprecord** programs an *owner name* into the logger at manufacture time. This owner name cannot be changed - it just serves as a way of identifying the owner of a logger in environments where the loggers travel from one branch of a company to another and are likely to be mixed with loggers owned by other branches or organizations - the transport of perishable foods or blood products being examples.

The owner name can be used in the same way as other meta-strings such as the serial number (**% SN%**) to construct file and folder names.

The display of the owner name in the summary, and also in the printed reports, can be disabled by unchecking the Display Owner Name checkbox in the Options page.

See also:
Meta-strings
Display Owner name summary view option

9.4   Statistics View

The temperature data in a Temprecord data window can be displayed in one of four view modes. These are summary view, statistics view, values view and graph view. The statistics view displays an analysis of the temperature data in relation to the display lower and upper limits, and the start and end samples. You need to read the logged temperature data to see the statistics view of the logger. Using the File/Query Logger function only reads the summary data.

You can select the statistics view mode by opening the View menu and clicking on 'Statistics'.

When the logger is recording temperatures outside its logging range, the temperature actually recorded will be limited to the minimum or maximum temperature specified, and in the case of the **Mon-T** logger the temperature will be limited to the values specified or displayed on the **Mon-T** parameters. This has implications for calculated statistics, as the values used in the calculations do not reflect the actual temperatures the logger was subjected to.

Take care when interpreting statistics from Mon-T loggers that have exceeded the programmed Minimum or Maximum temperature range, and in general when interpreting temperatures outside the specifications of the logger

General Statistics

The statistical information displayed consists of:

- the mean temperature (i.e. the average temperature)
- the standard deviation
- the maximum temperature reached
- the minimum temperature reached
- the number and percentage of samples that were above the display upper limit.
- the number and percentage of samples that were below the display lower limit.
- the number and percentage of samples that were both above the display upper limit and below the display lower limit.

If Humidity was logged instead, these statistics are available for the logged humidity samples. If both Humidity and Temperature were logged, these statistics are available for both. You can select between them by using the **View/Temperature**, **View/Humidity**, and **View/Temperature and Humidity** menu options.

The general statistical information is presented for up to three separate groups - all samples, samples between start and end markers, and samples in the visible graph window.

Statistics for all Samples

The statistical information is presented for all samples in the logger. This group is always presented in the statistics view on screen and in the printed report, if the Show General Statistics option is checked.

Statistics for Samples Between Start and End Markers

If you have set start and end samples that are different from the first and last samples in the logger, the above parameters are calculated again using only those samples between the start and end samples. The statistical information is then presented for those samples. This group also is presented in the printed report, if the Show General Statistics option is checked.

This is useful w hen you w ant to exclude a portion of the data record, e.g. the time w hen the logger w as not in a controlled environment.

Statistics for Samples Visible in the Graph View

If you have the graph view of the logger samples displayed, and the displayed range is not the entire sample record, and the displayed range is different to the range betw een the start and end markers, then the above parameters are calculated again using only those samples that are visible on the graph view w indow . The statistical information is then presented for those samples. This group also is presented in the printed report, if the Show General Statistics option is checked.

Note that although this statistics option is called "Samples Visible in the Graph View", w hat w e really mean is "samples present in the date range currently displayed in the graph view". This can affect the statistics in the follow ing manner:

- the mean and standard deviation statistics may be calculated including samples that you can't currently see in the graph view .
- the maximum and/or minimum samples could be off-screen.

The averaging functions built into Temprecord exporting make it relatively easy to generate a report of daily temperature averages. See Exporting daily average temperatures for more information.

TTV (Total Temperature Value) Statistics

Temprecord can also calculate and display TTV (Total Temperature Value) statistics. To enable this facility, click on Options/Statistics, and make sure Show TTV Statistics is checked. The TTV statistics are displayed after the statistics for all samples and statistics for samples betw een the start and samples are displayed. The TTV statistics are calculated for one or more periods starting from the start sample. The temperature limits, duration and number of TTV periods are set using the statistics view options

For more information on the derivation and application of TTV statistics, see the topic Total Temperature Value. There are also options that control w hether the TTV statistical data is show n, printed or exported. See Graph View Options, Printing Options, and Export Options for more details.

PHI Statistics

Temprecord can also calculate and display PHI (Process Hygiene Index) statistics. To enable this facility, click on Options/Statistics, and make sure Show Grow th Statistics is checked. The PHI statistics are displayed after the statistics for all samples and statistics for samples betw een the start and samples are displayed. The PHI statistics are calculated betw een the start and end samples only.

The PHI statistics are presented as a guide only. They do not represent any actual measured grow th of organisms present in the monitored environment. The statistics calculated are based on information and techniques developed by the Meat Research Institute of New Zealand.

For more information on the derivation and application of PHI statistics, see the topic Process Hygiene Index.

Mean Kinetic Temperature (MKT)

Mean Kinetic Temperature (MKT) is a w ay of expressing the overall effect of temperature fluctuations during storage or transit of perishable goods w ith a single temperature value, the Mean Kinetic Temperature.

MKT is a calculated, single temperature that is better represents the effects of temperature variations over a period of time then a simple averaging of the temperatures.

Temprecord calculates the MKT value for the samples betw een the start and end samples and displays the value on the graph view and Statistics view .

For more information on MKT, see the topic Mean Kinetic Temperature.

Refrigeration Index (RI) Statistics

Temprecord can also calculate and display RI (Refrigeration Index) statistics. To enable this facility, click on Options/Statistics, and make sure Show Refrigeration Index Statistics is checked. The RI statistics are displayed after the PHI statistics. The RI statistics are calculated between the start and end samples only. Remember that if a file has just been loaded the start sample is set to the first sample and the end sample to the last sample.

The RI value is calculated for each sample and is cumulative. If the temperature falls below 7.0 degrees C the RI value at this point is reported. The RI value is also reported at the end sample, regardless of whether the 7.0 degree C temperature was reached.

The time interval taken for the temperature to fall to 7.0 degrees C is also reported.

The RI value displayed is a logarithmic value, and represents the base 10 log of the number of generation increases over the time period.

If the Show Refrigeration Index Statistics option is checked the refrigeration index is also plotted on graph view. See Refrigeration Index Graph View for more information.

The RI statistics are presented as a guide only. They do not represent any actual measured growth of organisms present in the monitored environment. The statistics calculated are based on information and techniques developed by Meat and Livestock Australia.

For more information on the derivation and application of RI statistics, see the topic Refrigeration Index.

The settings of the lower and upper limits affect how the statistical data is displayed. See the topic how the limits are used when Temprecord displays data for more information.

You can also change the view mode from the pop-up menu that displays when you press the right-hand mouse button.

See also:
  Changing the view mode
  Summary view
  Values View
  Graph view
  Total Temperature Value
  Mean Kinetic Temperature
  Graph View Options
  Statistics View Options
  Printing Options
  Export Options
  Exporting daily average temperatures
  Process Hygiene Index
  Refrigeration Index

9.4.1   Total Temperature Value (TTV)

In many applications the is a need to evaluate thermal performance - how well was a certain temperature band maintained over time. In some applications the ideal ambient temperature changes over time. At any given time there is an optimum temperature range for best results.

This optimum temperature profile - sometimes called the **zone of thermal neutrality** - can be modeled as a single or a series of equal length time periods, where each period has a lower an upper temperature. An index can be calculated for that period based on the distance the actual temperature strays outside the two limits. The total temperature value (TTV) for that period is calculated as the sum of the number of degrees outside the limits for each temperature sample in the period. Samples that are within the limits are not counted - only samples where the temperature is outside the limits are counted, and the further outside the limits the sample is, the higher its contribution for the TTV value for that period. The TTV value is thus a temperature-time integral of the deviation from the ideal range.

Temprecord allows you to specify up to 20 TTV periods of any duration, and then specify a lower and upper temperature limit for each period. The TTV value is calculated separately for the lower and upper limits for each time period, and total TTV results are also calculated.

If the number of samples corresponding to the TTV periods specified exceeds the number of samples between the start sample and the last sample, the number of periods actually shown may be less than the number specified. Also, this may mean that the number of samples used to calculate the TTV value for the last shown TTV period is less than a full TTV period's worth. In this case the TTV value for the final period will have less relevance.

The units of the TTV values are **degree-samples**, because the method of calculation involves summing the temperature deviation for each sample. This means that the displayed value depends on both the sample rate and the selected units (degrees F or degrees C). When comparing TTV values from different data records, the sample rate, selected units, and TTV period should be the same for both files, if the comparison is to be meaningful.

The TTV statistics are shown in the statistics view. The TTV statistics can also be printed and exported.

See also:
    Changing the view mode
    Statistics view
    Statistics View Options
    Printing Options
    Export Options
    Process Hygiene Index

9.4.2   Mean Kinetic Temperature (MKT)

Mean Kinetic Temperature (MKT) is a way of expressing the overall effect of temperature fluctuations during storage or transit of perishable goods with a single temperature value, the Mean Kinetic Temperature.

MKT is a calculated, single temperature that is better represents the effects of temperature variations over a period of time than a simple averaging of the temperatures.

Temprecord calculates the MKT value for the samples between the start and end samples and displays the value on the graph view and Statistics view.

Technically speaking, MKT is an expression of cumulative thermal stress experienced by a product at varying temperatures during storage and distribution. In other words, MKT is a calculated, single temperature that is analogous to the effects of temperature variations over a period of time.

MKT is not a simple weighted average. The calculation of MKT gives the higher temperatures a greater weight when computing the average than would a simple numerical average or an arithmetic mean. This weighting is determined by a geometric transformation--the natural logarithm of the absolute temperature.

9.4.3 Product Integrity Profile (PIP)

A frequent use of Temprecord data loggers is to monitor the temperature of a shipment with passive refrigeration, i.e where cooling of the product is achieved by adding refrigerated ballast such as ice packs to the consignment. The temperature profile thus starts off at a relatively higher temperature, falls to a minimum, then warms back to ambient. The goal is to ensure the product cools quickly and remains in the safe storage temperature zone for the anticipated duration of the journey. Blood products tend to use this type of refrigeration where the container is made from expanded polystyrene foam.

If a Temprecord logger is included with the shipment, the Temprecord program provides the ability to quickly analyse a temperature record and determine key indicators via the Product Integrity Profile. The information is presented in the form of annotations on the graph, and a report as part of the statistics. Both of these functions can be enabled with the Show Product Integrity Statistics option.

Definitions

PIP	Product Integrity Profile
Cool zone	the desired temperature range in which the product should remain
Above cool zone or ambient	temperatures above the cool zone, i.e. where the product is too warm
Below cool zone	temperatures below the cool zone - i.e. where the product is too cold
Time to cool	the time taken for the temperature to cool from the start until the upper limit of the cool zone
Time in cool zone	the time the product spent inside the cool zone. If the product cooled below the lower limit, the time in the cool zone will be shown as two sections: the time taken to cool from the upper temperature limit down to the lower temperature limit (when the temperature enters the blow cool zone), and the time taken to warm from the lower temperature limit up to the upper temperature limit (when the temperature enters the above cool zone or ambient). The time when reported in the statistics report is the sum of these values.
Time below cool zone	the time spend below the lower temperature of the cool zone
Time warming	the time taken for the temperature to reach the end after exiting the cool zone

The Product Integrity Profile statistics are intended for situations where the temperature does not enter and leave the cool zone repeatedly. In an environment where the temperature was cycling due to the action of a thermostat, and the temperature was repeatedly crossing the upper or lower limit, the PIP statistics are less likely to be relevant and should be used with care.

The start sample sets the start position of the PIP analysis. The end sample sets the end position. For a logger or file that has just been read the start and end samples are set to the first and last samples. This may be appropriate or you can change them at any time, and the PIP statistics will be recalculated and displayed for the data between the new start and end samples.

The upper temperature limit sets the upper boundary of the cool zone and the lower temperature limit the lower boundary. For a logger or file that has just been read these limits are set to the limits the logger was programmed with. You can change the limits at any time, and the PIP statistics will be recalculated and displayed for the new upper and lower limits.

In the example below, the upper and lower limits are set to 10C and 2.3C, and the start and end samples are set to the first and last samples.
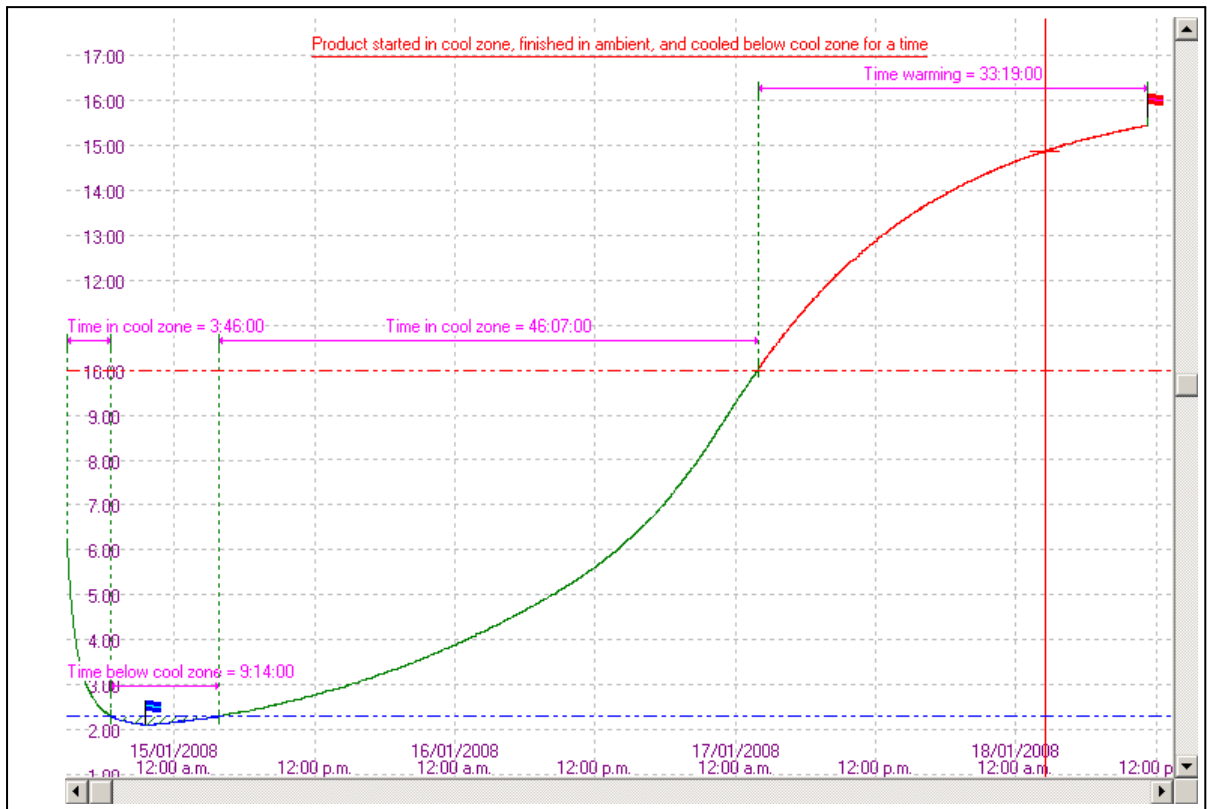
To avoid small temperature variations near the limits causing confusing results, the average of the last three temperature samples is used when determining if the temperature has progressed from one zone to the next. For this reason, there can be a delay of several samples before the temperature progresses to another zone.

You should bear this in mind when comparing the temperature limits with the reported times.

9.4.4   Process Hygiene Index

Introduction

The following text is based on a document supplied by The Meat Research Institute of New Zealand. It describes how to apply the PHI values calculated by Temprecord.

Microbes and meat

Meat at slaughter is sterile (Gill, 1979). Microbes that can cause food poisoning and/or spoilage begin their activities after contaminating the exposed surfaces of meat. A typical organism often found associated with meat is Escherichia coli. This organism is an important pathogen. It also has growth characteristics that are similar to other mesophilic pathogens (viz. organisms that grow well in warm environments) such as the salmonellae. Measuring the ability for E. coli to grow on meat is therefore a useful indication of the potential for mesophilic pathogens to grow generally.

Bacterial growth

Bacteria grow and multiply on the meat surface at a rate determined by physiological capacity and the availability of water, space and nutrients. Fresh meat provides a moist and nutritious environment for bacteria to grow on. This means that bacterial growth will be effectively limited only by the cells physiology. Having said this, meat surface drying is sometimes used to control growth. However, it is difficult to prove effective application of drying on a non-uniform product such as fresh meat. Furthermore, the effect of drying is difficult to quantify. It should be assumed then, unless proven otherwise, that there will always be areas on the surface of meat that can allow unrestricted growth of bacteria. Control is then best effected by manipulating the physiological growth capacity of the organisms. This is best done using temperature.

Generally speaking, bacteria grow faster as the temperature rises. The faster they grow, the faster they can reach numbers that can result in disease or spoilage. Thus, by minimizing initial bacterial numbers (using hygienic processing techniques), cooling meat quickly, and maintaining low storage temperatures food safety and storage potential will be maximized. To have confidence in the product such techniques need to be 'measured'. Initial bacterial numbers can be minimized by good manufacturing practice and assessed by classical microbiological techniques. The ability for the bacteria to grow during processing can be assessed by re-assaying meat at the process end. This is, however, a slow process and does not give an indication as to how each processing step contributes to the overall microbial bio-load. An alternative method uses predictive microbiology in the form of the Process Hygiene Index (PHI).

The Process Hygiene Index

PHI is a means of assessing the potential growth of a microbial indicator organism during a process. The PHI is a numerical value that is equivalent to the growth of a microbial indicator organism (E. coli) over a process temperature history collected by an electronic data-logger. The higher the index value, the greater the potential for E. coli growth. For example, an index of 0 (zero) indicates no growth potential, 10 indicates a potential for 10 generations of growth (i.e. an E. coli cell has the potential to reproduce 10 times).

The probe

A special probe is manufactured for use in PHI applications. The logger probe is tapered and composed of Teflon. This allows easy insertion and retrieval from product (especially after freezing when other materials may stick). Teflon also is a poor conductor of heat so the probe tip, which contains the sensor, will allow a faithful measurement of the local temperature.

Positioning the probe

The probe is positioned to measure temperature at a site that reflects the process's greatest ability to allow bacterial growth. This means that the logger's probe must be attached to the warmest meat surface site (where bacterial contamination occurs) and the monitored meat must follow the process through its warmest path. Deep tissue temperature, whilst warmer than the surface during the initial carcass cooling phase, is NOT used because deep tissue is sterile and bacterial growth does not therefore need to be considered. If the warmest path is not known, or is variable, a number of samples (e.g. carcasses) are monitored that are representative of the load. For a carcass the slowest cooling site is adjacent to the aitch-bone pocket (bovine) or within the cavity adjacent to the 5th and 6th lumbar vertebrae (ovine). After cold boning, the probe should be placed on the surface of a small cut, which has the ability to re-heat at the fastest rate. After warm/hot boning a large cut is used because it will cool the slowest. After packaging (including offals) the probe is placed at the thermal centre of the load (e.g. between two cuts at the centre of a box in the centre of the load). Further specifications can be tailored for your own process or obtained from the appropriate regulatory literature.

Types of processes

Before calculating a process PHI an operator must decide what type of process they have monitored. This involves two considerations. Firstly, is the process one or two-phase? Secondly, is the process aerobic, anaerobic, or a mixture of the two?

One-phase or Two-phase?

Processes such as carcass cooling and offal cooling are termed 'single phase' processes because they are composed of a single cooling period containing no periods where product is handled requiring removal of the temperature logger. A temperature history is collected simply by attachment of the probe to the slowest cooling site. For surface sites, the probe is inserted into a stainless steel disc which is then pinned to the meat surface using a non-heat conducting (i.e. Teflon®) staple. The logger should be placed with the product as soon as possible. There may be regulatory requirements relating to your process describing when and where probes are placed. For carcass cooling, the surface temperature should be above 25° C at the beginning of the process and below 7° C at the end (which is the minimum temperature for E. coli growth). At the end of the process the logger is interrogated and a PHI produced. Note that 2 models of disc are available - one for beef and one for mutton.

Temprecord expresses PHI values both with and without lag. This lag refers to the period of time that bacteria need to adjust to a new environment before they can start to grow. For use with fresh meat processing DO NOT USE VALUES EXPRESSED AS 'WITH LAG'. This is because bacteria that contaminate meat are considered to have resolved their lag phase by the time process monitoring is commenced.

When a single-phase process is followed by a second operation the overall process is termed 'two-phase'. An example is where a carcass is cooled (first phase), boned and the packaged cuts chilled (second phase). During this operation the temperature logger is used to measure the first phase as described for the single-phase operation. The logger is then removed for the boning operation and then placed with the packaged product to continue the monitoring process. There may be a regulatory limit on the maximum length of time the logger can be absent from the product between the phases (e.g. one hour for carcass/cuts assessment). The PHI value for a two-phase process can be calculated as follows:

Remember that you must have the Statistics option 'Show Growth Statistics' checked in order for Temprecord to display PHI statistics.

1. In Graph View, mark the start and end of the first phase of cooling. You can do this quickly by positioning the sample cursor at the start of the first phase of cooling, and pressing F7. Then position the cursor at the end of the first phase of cooling and press F8.

2. Switch to Statistics View. Temprecord will then show a value for the PHI for the first phase. The expressed PHI will either be for aerobic growth (e.g. carcass cooling) or anaerobic growth (e.g. offal cooling- although this will be a one-phase process only).

3. Repeat step 1. for the second phase of cooling.

4. Repeat step 2. for the second phase. The PHI will be either for anaerobic growth (e.g. warm-boned bulk packed meat or vacuum packaged cuts) or aerobic growth (e.g. unwrapped cuts).

5. Manually calculate the potential for aerobic growth during the inter-phase period. This is done by firstly choosing the maximum temperature occurring at either the end of the first phase or the start of the second phase and then calculating the amount of potential aerobic growth for the inter-phase period using the following formula, used by the PHI software algorithm and presented in the paper of Reichel et. al. (1991).

$Y = (0.0513x - 0.17)2$, when x is between 7 and 30°C

$Y = (0.027x + 0.55)2$, when x is between 30 and 40°C

$Y = 2.66$, when x is between 40 and 47°C and

$Y = 0$ when x is <7°C or >47°C

Example:

If the first phase ends at 7° C and the second phase starts 0.75 hr later at 12° C, you need to calculate 0.75 hours aerobic growth at 12° C.

$((0.0513 \times 12) -0.17)2 = 0.2$ generations potential growth per hour.

The inter-phase PHI is therefore 0.75 x 0.2 = 0.15

6. The three PHI values (first phase, second phase and inter-phase) are then added together to give a process PHI.

7. For two-phase processes that contain an aerobic first phase followed by an anaerobic second phase, results that are marginally (e.g. within 0.2 generation) above specified upper limits for the process, can be recalculated taking into consideration the short aerobic-to-anaerobic lag period during which cells cease to grow while converting their metabolisms to anaerobic respiration. This method is described in Reichel et al. It is a tedious process to accomplish manually and may not significantly influence your result - however it is an option for those operators who want to keep their results faithful with those generated by MIRINZ AP1 software (presently incompatible with Temprecord loggers). A future release of Temprecord will produce a PHI value for a two-phase process and will calculate the lag automatically.

Uses for PHI

In addition to establishing if a process allows a potential for E. coli proliferation that is within certain guidelines the PHI technique can be used for:

- comparing processes (e.g. chiller runs).
- assessing the effect of process modifications on allowing microbial growth.
- HACCP (Hazards Analysis Critical Control Points) applications.

Inappropriate applications of PHI

PHI is not a method to calculate actual bacterial growth on product. A PHI value reflects the maximum potential for a process to allow the growth of E. coli and similar organisms. There may be reasons why actual E. coli growth is lower. For example, some product may have a pH unfavorable for maximum growth, some product may dry sufficiently to retard growth, while other product within the process may not be contaminated with E. coli.

Further Notes (provided by MIRINZ - the Meat Industry Research Institute of New Zealand)

Growth of micro organisms is measured in the number of times they multiply. If they stop multiplying, then they are considered to have stopped growing. If the part of the product where any E.coli are located is below 7degC they will stop growing/multiplying. A PHI of 3.5 doesn't mean 3.5 Log per hour; it means 3.5 generations/hour. A generation is a doubling, a Log is a factor of ten. So starting with one cell, a generation of growth will give us 2 cells, whereas a Log growth will give us 10 cells.

The PHI only tells you the number of generations of growth that would occur if the product is at that temperature for one hour. If the temp is changing with time then you have to work out the number of generations of growth in separate time steps. For example, the first hour is 37degC so the PHI might be 6 generations / hr for that hour, the second hour at 35degC so the PHI = 4.8 generations / hr for that hour. If we add the two hours of growth together we get 10.8 generations (these PHI figures are just made up).

We can extend this to minutes too: If at 37degC for 1 minute gives PHI of 6 generations / hr then must be (6/60) = 0.1 generations / minute, then at 35degC for 1 minute gives PHI of 4.8 generations / hr then must be (4.8/60) = 0.08 generations / minute. Hence in the two minutes we have 0.18 generations of growth.

To convert generations to a straight multiplication factor, just multiply by 2 to the power of the number of generations.

For example, 10 generations = 2 to the power of 10 = 1024. So the number of micro organisms has increased by a factor of 1024. You can see that this is about the same as 3 Logs, 10 to the power of 3 = 1000.

The Future

MIRINZ and Temprecord International Ltd. are continuing to develop and improve software and hardware for extending the scope of the PHI. In addition to pursuing this application of predictive microbiology for food safety, they are also working on a similar application for predicting the growth of spoilage organisms. This will allow processors to monitor and optimize storage processes to minimize the growth of spoilage organisms and thus maximize the storage life of chilled product.

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9.4.5 Refrigeration Index

Introduction

Temprecord can calculate and display Refrigeration Index values. The Refrigeration Index is calculated from the start sample to the end sample, or over the whole sample record if these have not been set. See Refrigeration Index Graph View for details.

The following text is based on a document supplied by Meat Livestock Australia. It describes how to apply the RI values calculated by Temprecord.

Lag phase

A lag phase may occur when a bacterium moves from one environment to another, especially if it has to adjust to a new environment. The hot boning work described above demonstrated a good correlation when 5 generations of lag were introduced to the equation. 5 generations of growth (1.5 log10) can be subtracted from the calculated refrigeration index in situations where a lag may occur.

The question 'the starting temperature is hot' determines whether a lag is applied. If the meat is hot or warm, then it is assumed that *E. coli* has recently been introduced to the meat surface and a 5 generation lag is allowed. If the meat is cold, then it is assumed that *E. coli* may already be present on the meat, has adjusted to the environment and is ready to grow as soon as the temperature rises.

The lag phase can be programmed from the RI options.

Temperature

Temperature is the only parameter that can be entered by the user. Temprecord uses the temperature samples from the Start Sample and calculates the RI value cumulatively from then on until the end sample is reached. If the temperature record cools to below 7C the RI value at this point is recorded also.

The Predictive Model

The predictive model used in this calculator was developed by Dr Tom Ross and colleagues at the University of Tasmania. The model has been published (Ref. 1 below).

An evaluation of the model against data in the literature has also been published (Ref. 2 below).

The use of these models in hot boning applications and validation data has been described in an MLA publication that accompanies the Hot Boning Index Calculator CD ROM (Ref 3 below).

Remember that you must have the Statistics option 'Show Refrigeration Index Statistics' checked in order for Temprecord to display RI statistics

References/Further reading

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concentration on the growth rate of Escherichia coli. Int.J.Food Microbiol. 82: 33-44.

2. Mellefont, L.A., McMeekin, T.A. and Ross, T. (2003) Performance evaluation of a model describing the effects of temperature, water activity, pH and lactic acid concentration on the growth of Escherichia coli. Int.J.Food Microbiol. 82: 45-58.

3. Meat & Livestock Australia (2004) Validation of the chilling of hot boned manufacturing meat and primals. PRMS.020

9.4.6   Rate of Cooling

Rate of cooling statistics are a measure of the rate at which an environment or product cools after reaching a peak value. Temprecord always calculates these statistics between the start (F7) and end (F8) marker samples, in the following way:

- The temperature record between the start and end samples is scanned for the maximum value.
- The interval between the maximum sample and the Zone 1 End temperature is called 'Zone 1' and is treated as the first rate of cooling interval.
- The interval between the point at which the Zone 1 End temperature is reached, and the point at which the Zone 2 End temperature is reached is called 'Zone 2' and is treated as the second rate of cooling interval, and so on.
- The statistics (duration, rate of cooling in degrees per hour) are calculated for each interval.
- The statistics for these intervals are calculated until the end of the measurement period, which is until the number of zones specified has been reached, until 5 zones have been done, or until the end (F8) sample is reached.

Temprecord also prints and displays two total durations after the rate of cooling values. The first total is the time taken from the maximum temperature till the end of the measurement period. The second total is the time taken from the end of zone 1 (i.e. from flag 2) until the end of the measurement period - i.e. it does not include zone 1

9.5   Values View

The temperature data in a Temprecord data window can be displayed in one of four view modes. These are summary view, statistics view, values view, and graph view. The values view displays the temperatures as a list of values in degrees C or degrees F, depending on the setting of the Units option. You need to read the logged temperature data to see the values view of the logger. Using the File/Query Logger function only reads the summary data.

The settings of the lower and upper limits affect how the values are displayed. See the topic how the limits are used when Temprecord displays data for more information.

In values view mode, temperatures that are above the upper limit or below the lower limit can be displayed in a different color. You can change these colors with the values view options. By default, these colors are set to **red** and **blue** respectively.

If you have Total Temperature Value (TTV) statistics enabled, then these limits determine the color used to display the TTV values, rather than the lower and upper limits.

You can select the values view mode by opening the View menu and clicking on 'Values'.

If Humidity was logged instead, the values shown are for the humidity samples If both Humidity and Temperature were logged, you can show the values for either or both. You can select between them by using the **View/Temperature**, **View/Humidity**, and **View/Temperature and Humidity** menu options.

You can also change the view mode from the pop-up menu that displays when you press the right-hand mouse button.

See also:
Changing the view mode
Summary view
Statistics view
Graph view

9.6   Units

Changes the display units from degrees Celsius to degrees Fahrenheit, or vice-versa.

You can quickly swap between degrees C and F with the **Ctrl-U** key. You can also set the units from the Options/General tab.

Don't confuse the display units with the **Mon-T** Logger Units. The **Mon-T** Logger Units determine what units are used when programming the **Mon-T** - specific parameters (**Minimum Temperature**, and **Resolution**). The display units determine how temperatures are displayed in the Temprecord program

When a **Mon-T** logger is read, the display units are set to the **Mon-T** programmed logger units. I.e. if you program a logger in Fahrenheit units and read the logger with Temprecord set to display temperatures in Celsius, the display units will change to Fahrenheit after you read the logger's temperature data.

9.7   Graph View

The temperature data in a Temprecord data window can be displayed in one of four view modes. These are summary view, statistics view, values view, and graph view. The graph view displays the temperatures as a graph of temperature (in degrees C or degrees F, depending on the setting of the **Units** option) against time . You need to read the logged temperature data to see the graph view of the logger. Using the File/Query Logger function only reads the summary data.

When you read the data from a logger, the view mode of the data window is switched to graph view .

In graph view mode, the upper limit is shown as a dotted **red** line, and the lower limit as a dotted **blue** line, though you can change the colors used if desired. See the topic how the limits are used when Temprecord displays data for more information.

A vertical solid red line indicates the position of the sample cursor. You can move the sample cursor with the left and right arrow keys, or by clicking on the graph. See the sample cursor topic for more information.

You can select the graph view mode by opening the View menu and clicking on **Graph**.

If Humidity was logged instead, the trace shown will be for the humidity samples If both Humidity and Temperature were logged, you can show the trace for either or both. You can select between them by using the View/Temperature, View/Humidity, and View/Temperature and Humidity menu options. See Setting the Display Mode for more information.

If the Show Refrigeration Index option is enabled, the graph is overlaid with the Refrigeration Index values calculated over the range of sampled specified by the start and end samples.

You can also change the view mode from the pop-up menu that displays when you press the right-hand mouse button.

Temprecord provides a powerful set of zooming functions for displaying and printing your temperature data as a graph. See the topic Zoom Functions for more information

Need replacing

Temprecord displays key points on the graph with flags:

- start sample (set by **F7**)
- end sample (set by **F8**)
- minimum temperature (**F4**)
- maximum temperature (**F5**)
- user marker position
- start of rate of cooling zone 1
- start of rate of cooling zone 2
- start of rate of cooling zone 3
- start of rate of cooling zone 4
- start of rate of cooling zone 5
- end of rate of cooling zones

See also:
Changing the view mode
Summary view
Statistics view
Values view
Zoom Functions
Using the Zoom Presets
Rate of Cooling

9.7.1 The Sample Cursor

The sample cursor is a vertical red line on the graph that you can position with the mouse, or any of the Go To functions. At all times, the time and temperature at the sample cursor are displayed at the top of the Temprecord data window.

The position of the sample cursor is also important when the zoom functions are used. See the topic Zoom Functions for more information.

The following operations affect the sample cursor:

- The left and right arrow keys. These move the cursor horizontally by one sample. If the sample cursor reaches the edge of the window, the window will scroll horizontally. Note that at lower horizontal zoom factors, more than one sample can be represented by a display pixel. In this case, the arrow keys will change the sample under the cursor, but the cursor may not necessarily move on the display.

- Clicking on the graph. If the graph view window is clicked, the cursor sample is set to the closest sample to the sample cursor. If the mouse button is held down, the sample cursor is 'dragged' along with the mouse cursor.

- The Find Trace function. This function does not actually move the sample cursor from the sample it is currently on, but instead shifts the trace vertically so that you are guaranteed of seeing the trace. It is useful when you have 'lost' the trace at higher zoom factors.

- The Go to First, Go to Last Sample functions. These move the sample cursor to the first and last sample respectively of the logged temperatures. Note that if loop overwrite was enabled when the logger was recording, the first sample in the sample record will not necessarily be the first one taken by the logger.

> You can also move quickly to the first sample with the Home key, and to the last sample with the End key

- The Go to Start, Go to End functions. These move the sample cursor to the start sample and end sample respectively of the logged temperatures.

  The start sample and end sample are set to the first and last sample when a logger or file is read, but you can alter them to select a particular range of samples. See Using the start and end markers for more information.

> The start sample is marked on the graph with the ⚑ flag symbol. The end sample is marked on the graph with the 🏁 flag symbol.

- The Go to Next, Go to Previous Marker functions. These move the sample cursor to the next user marker in the record, or the previous user marker in the record, using the sample at the cursor as the starting point. If there are no more markers from that point on, the cursor does not change. User marker are those inserted into the sample record by pressing the button on the logger. The allow_markers parameter must be checked before markers can be inserted into the sample record.

> You can quickly move to the next marker by pressing the **Ctrl-N** key (hold the **Ctrl** key down and press the '**N**' key. You can also move quickly to the previous marker with the **Ctrl-P** key.

> The markers are shown on the graph with the 🚩 flag symbol.

- The Go to Min, Go to Max Sample functions. These move the cursor to the minimum value sample and maximum value sample respectively of the logged temperature and/or humidity values.

  The behaviour of these functions changes somewhat when both temperature and humidity traces are displayed. If the cursor is not currently positioned at a minimum temperature or humidity sample, then the Go to Min function moves the cursor to minimum temperature sample. If the cursor is already on the minimum temperature sample then the Go To Min function moves it to the minimum humidity sample. If the cursor is already on the minimum humidity sample then the Go To Min function moves it to the minimum temperature sample. Equivalent behaviour exists for the Go To Max function.

> The maximum and minimum are only calculated between the start and end samples. When a file or logger is first read, the start and end sample are set to the first and last sample respectively, so the minimum and maximum displayed are for the whole sample record. If the start and/or end samples are altered however, the maximum and minimum are recalculated. See Using the start and end markers for more information.

The maximum and minimum are only calculated over the samples stored in the logger at the time the logger was read or saved to a file. If loop overwrite is enabled, there may well be samples that have since been overwritten that would have been below the minimum or above the maximum

You can move quickly to the minimum sample by pressing the F4 key, and to the maximum sample by pressing the F5 key.

The maximum sample is marked on the graph with the flag symbol. The minimum sample is marked on the graph with the flag symbol

9.7.2   Setting the date and time format on graph view

When displaying the date on the horizontal axis of graph view, Temprecord uses the short date settings from the computer's regional settings.

If your computer is running Windows 7 you may experience some problems getting the date to display in the desired format. This is because Windows 7 does not correctly update this format in the regional settings under some circumstances.

If you find that the date format displayed in graph view does not match your regional settings, the following procedure should remedy the situation:

- Open your computer's Regional Settings by clicking on **Start**/**Settings**/**Control Panel**/**Regional and Language Options**
- On the first tab, make sure that the drop-down shows your country/language (e.g. "**English (United States)**").
- Click on the **Customize** button
- Select the **Date** tab
- Enter your desired date format for the graph view into the **Short Date Format** field.
- Click on **OK**
- Click on **Apply**
- (This step is required for Windows 7 users only). Select a different country/language to your locale (e.g. **German (Germany)**).
- (This step is required for Windows 7 users only). Click on **Apply**
- (This step is required for Windows 7 users only). Select your correct country again.
- Click on **OK**
- Start Temprecord. The date should be shown in the correct format for your locale.

When displaying the time on the horizontal axis of graph view, Temprecord uses the time format settings from the computer's regional settings, but will only display the seconds part of a time if they are significant.

9.7.3 Changing the view mode

The temperature data in a Temprecord data w indow can be displayed in one of four view modes. These are summary view , statistics view , values view , and graph view .

You can change the view mode of a w indow by:

- opening the view menu and clicking on the view mode you w ant to select.
- opening the pop-up menu by clicking the right mouse button and clicking on the view mode you w ant to select.
- Using the File/Query Logger function. This alw ays opens a data w indow and selects the summary view mode.
- Using the File/Read Logger function. This alw ays opens a data w indow , reads the Temprecord logged data, and selects the graph view mode.

9.7.4 How the limits are used when Temprecord displays data

The appearance of the values view, statistics view, and graph view is affected by the **display upper and lower limits:**
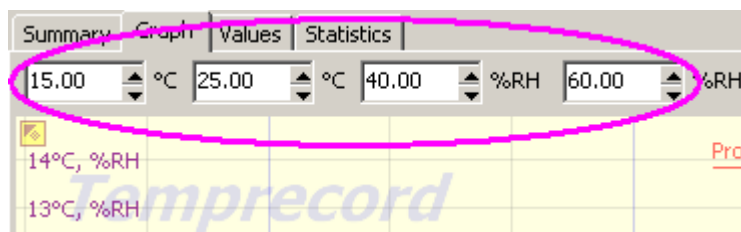
These controls are visible w henever the graph, statistics, or values view tabs are displayed.

When using the low er and upper limit temperature and/or humidity values you need to bear in mind the follow ing:

- The display upper and low er limits for a data w indow that has data freshly read from the logger are alw ays the same as the logger's programmed low er and upper limits.
- If you adjust the low er and/or upper limits in a Temprecord data w indow the data in that w indow is altered to reflect the new limit value. If the statistics view tab is displayed, any statistics item that is dependent on a limit (e.g. time above upper limit) w ill change to reflect the new value for the limit.
- When you alter the low er and/or upper limits in a Temprecord data w indow , that change is 'local' to that w indow . The limits programmed into the logger are not changed, and the limits as set in the default options are not changed. The limits used to display the data in other Temprecord data w indow s are not changed, so It is quite possible then to have a file opened in tw o different Temprecord data w indow s and to have data from that file displayed in each, but w ith tw o different sets of low er and upper limits, and these limits can be adjusted independently.

The datafiles saved from the **Temprecord** program "remember" the programmed limits of the logger as w ell as the settings of the display limits. These values are not necessarily the same. When data is read from a logger the display limits are set from the programmed limits for the logger, but w hen data read from a logger is saved to a **.TRX** file the logger upper and low er limits, and the display upper and low er limits, are both saved in the datafile separately. When data is read back from a **.TRX** file into the **Temprecord** program, the display limits are set to w hatever they w ere set to w hen the file w as saved. So the potential exists for the display limits (and therefore the statistical information that depends on the display limits) to be different to the logger's programmed limits.

The appearance of the display limits controls alter according to w hether they are set to the same value as the corresponding limit in the logger. For example, w hen the logger temperature low er and upper limits are the same as the logger's programmed limits, the controls appear as:
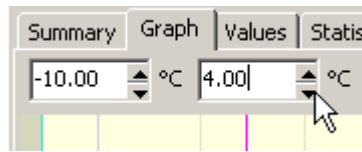
When a display limit is not the same as the logger's programmed limits, that control appears with pink background and red digits, i.e:
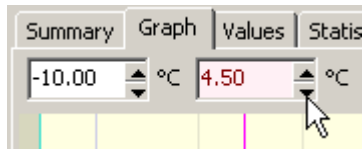
9.7.5   Viewing Temperature, Humidity, or Both

If the logger or file contains samples from more than one channel (i.e. temperature and humidity channels, or two temperature channels) you can choose to display either channel by itself, or both channels in the statistics view, values view, or graph view modes. This is called the **display mode.**

To set the display mode, use the **View/Temperature**, **View/Humidity**, **View/Temperature and Humidity, View/Temperature 2**, **View/Temperature and Temperature 2** menu functions. Alternatively, you can right-click in the window and select these functions from the pop-up menu. Options that are not available to you are grayed out. For example, you can't select **View/Humidity** if the logger isn't a humidity logger, or if the logger is set up to log temperature only.

You can't select a display mode that doesn't apply to the currently loaded logger data. For example, if the logger data is from a logger which was configured to log only humidity, the menu entries for **Temperature** and **Temperature and Humidity** will be disabled.

You can cycle through the display modes quickly by using the "**+**" key on the numeric keypad, if your computer has one. For example, if you are viewing a graph from a logger that has both temperature and humidity data, pressing the "**+**" key will cycle the display mode through the display modes in the order [**Temperature**], [**Humidity**], [**Temperature and Humidity**], [**Temperature**], [**Humidity**], etc.

When humidity values are displayed on the graph, the Y axis in use for temperature is also used for humidity. This means that a humidity value of 50%RH is shown at the same vertical position on the graph as a temperature value of 50°C if the display units are set to Celsius, and is shown at the same vertical position on the graph as a temperature value of 50°F if the display units are set to Fahrenheit.

This means that the vertical position of the humidity trace will change according to the setting of the display units.

The display mode setting also determines the following aspects of Temprecord display and reporting:

If a logger contains humidity data (i.e. the logger was recording humidity, or temperature plus humidity), the humidity trace, humidity values and humidity statistics will only display and print if the display mode is **Humidity** or **Temperature and Humidity**.

If a humidity logger contains both temperature and humidity data (i.e. the logger was recording temperature plus humidity), the temperature trace, temperature values, temperature statistics, and also the derived temperature statistics such as TTV (Total Temperature Value), PHI (Process Hygiene Index), Rate of Cooling, Product Cooling Alert, Refrigeration Index, MKT (Mean Kinetic Index), and Product Integrity Profile will only display and print if the display mode is **Temperature** or **Temperature and Humidity**..

9.7.6 Displaying the same file in 2 or more windows

It is sometimes useful to see the data from a file displayed as both a graph, and as a list of values, or to see the statistical data along with the graph. You can switch from one view mode to another within a window, but this does not allow you to see the two display modes at the same time.

To see a data file displayed twice, you simply open the same file again. You then have two windows with the same data file loaded and you can change the view mode of either of them to whichever view mode you require. There is no limit to the number of data files you can have open (other than the amount of memory your computer has available).

When Temprecord opens another data window, it will normally be opened over the top of any existing windows. To have Temprecord arrange the windows so that they do not overlap, use the View/Tile Vertically or View/Tile Horizontally functions. To have Temprecord arrange all of the open windows as a cascade of overlapping windows, use the View/Cascade function.

See also:
Tile Vertically
Tile Horizontally
Cascade
Zoom Functions
Using the Zoom Presets
Displaying data read from a logger in 2 or more windows

9.7.7 Displaying data read from a logger in 2 or more windows

It is sometimes useful to see the data read from a logger displayed as both a graph, and as a list of values, or to see the statistical data along with the graph. You can switch from one view mode to another within a window, but this does not allow you to see the two display modes at the same time.

To see the data read from a logger displayed in two different windows, you need to save the data from one of them first as a file. This is because Temprecord will only ever allow one window to be opened containing data from a logger.

These are the steps involved in displaying the data from 2 or more different loggers:

- Use the File/Read Logger function to read the first logger. Temprecord will open a window (if there is not already a window open with data read from a logger - if there is, this one will be used) and display the temperature data as a graph.
- Use the File/Save function to save the logger data to a disk file. You can use the filename provided by Temprecord (which will be derived from the serial number of the logger), or you can type in a new file name of your choice.
- Use the File/Read Logger function to read the data from the second logger. This will open another window and display the data from that logger in graph view.

These are the steps involved in displaying the data from the same logger in 2 windows:

- Use the File/Read Logger function to read the first logger. Temprecord will open a window (if there is not already a window open with data read from a logger - if there is, this one will be used) and display the temperature data as a graph.

- Use the File/Save function to save the logger data to a disk file. You can use the filename provided by Temprecord (which will be derived from the serial number of the logger), or you can type in a new file name of your choice.
- Use the File/Open function to read the file again This will open another window and display the data from that logger in graph view.

When Temprecord opens another data window, it will normally be opened over the top of any existing windows. To have Temprecord arrange the windows so that they do not overlap, use the View/Tile Vertically or View/Tile Horizontally functions. To have Temprecord arrange all of the open windows as a cascade or overlapping windows, use the View/Cascade function.

See also:
Tile Vertically
Tile Horizontally
Cascade
Zoom Functions
Using the Zoom Presets
Displaying the same file in 2 or more windows

9.7.8   Go to Functions

Temprecord provides a comprehensive array of functions for moving quickly to important points on the graph. You can access these functions from the view menu or from the pop-up menu that displays when you click the right-mouse button.

- Go to Any Sample
- Go to First, Go to Last Sample
- Go to Start, Go to End
- Go to Next, Go to Previous Marker
- Go to Min, Go to Max Sample
- Using the Start and End Markers
- Using the Min and Max Markers
- Using the User Markers

See also:
Moving about the graph

9.7.8.1   Find Trace

Use the **View/Go To/Find Trace** function to shift the vertical axis of the graph view so that the trace is near the middle of the data window. This function is useful when you have 'lost' the trace at higher zoom factors. The horizontal position, sample cursor position and zoom factor are not changed.

9.7.8.2   Go to Sample

Use the **View/Go To/Sample** to position the sample cursor at a sample specified by number. When you use this function focus is transferred to the **Goto Sample** toolbar. If this toolbar is not visible it is made visible and appears "floating" over the top of the Temprecord main window. You can enter a sample number in this dialog and press **Enter**. Temprecord numbers samples starting from 1. If you enter a sample number less than 1 or greater than the number of samples the cursor is positioned at the first or last sample respectively.

After you have finished with it, the **Goto sample** toolbar can be closed, moved out of the way, or "docked" on any of the 4 sides of the Temprecord main window.

You can also quickly open the **Go To Sample** dialog with the **^G** key (Hold the **Ctrl** key down and press the **G** key).

The **View**/**Go To Sample** function also works in [values view](#) mode, where it positions the sample at the top of the window to be sample of interest.

You can leave the **View**/**Go To Sample** dialog open while you work and still access the menus and open and close files etc. The **Go To Sample** function always operates on the window that last had focus.

9.7.8.3 Go to First, Go to Last Sample

Use the View/Go To/First Sample and View/Go To/Last Sample to position the sample cursor at the first sample and last sample in the sample record.

Don't confuse the first and last samples with the start and end samples. The first and last samples always refer to the first sample in the record and the last sample in the record respectively. The [start and end samples](#) refer to the position of the start and end markers, which are used in the calculation of statistical information.

You can also move quickly to the first sample with the Home key, and to the last sample with the End key

The View/Go To/First Sample and View/Go To/Last Sample functions also work in [values view](#) mode, where they position the sample at the top of the window to be the first or last sample.

9.7.8.4 Go to Start, Go to End

Use the View/Go To/Start Sample and View/Go To/End Sample to position the sample cursor at the start marker sample and end marker sample in the sample record.

Don't confuse the first and last samples with the start end samples. The [first and last samples](#) always refer to the first sample in the record and the last sample in the record respectively. The start and end samples refer to the position of the start and end markers, which are used in the calculation of statistical information.

You can also move quickly to the first sample with the Home key, and to the last sample with the End key

The start sample is marked on the graph with the ⚑ flag symbol. The end sample is marked on the graph with the ⚑ flag symbol.

You can set the current sample under the cursor as the start sample with the F7 key, and as the end sample with the F8 key.

The View/Go To/Start Sample and View/Go To/End Sample functions also work in values view mode, where they position the sample at the top of the window to be the start or end sample.

9.7.8.5 Go to Next, Go to Previous Marker

Use the View/Go To/Next Marker and View/Go To/Previous Marker to position the sample cursor at the next user marker or the previous user marker with reference to the current sample cursor position.

You can also move quickly to the next user marker with the Ctrl-N key, and the previous sample with the Ctrl-P key

The user markers are shown on the graph with the ⚑ flag symbol.

The View/Go To/Next Marker and View/Go To/Previous Marker functions also work in values view mode, where they position the sample at the top of the window to be the next or previous sample with a user marker.

9.7.8.6 Go to Min, Go to Max Sample

Use the View/Go To/Minimum and View/Go To/Maximum functions to position the sample cursor at the maximum or minimum temperature between the start and end markers.

The behaviour of these functions changes somewhat when both temperature and humidity traces are displayed. If the cursor is not currently positioned at a minimum temperature or humidity sample, then the **Go to Min** function moves the cursor to minimum temperature sample. If the cursor is already on the minimum temperature sample then the **Go to Min** function moves it to the minimum humidity sample. If the cursor is already on the minimum humidity sample then the **Go to Min** function moves it to the minimum temperature sample. Equivalent behaviour exists for the **Go to Max** function.

The minimum and maximum functions only pertain to the samples between the start and end markers. Be sure to set the start marker position to the first sample and the end marker position to the last sample if you want to see statistical data for the whole temperature record

You can move quickly to the minimum sample by pressing the F4 key, and to the maximum sample by pressing the F5 key.

You can also move directly to the minimum sample by clicking on this speed button on the toolbar displayed along the top of the Temprecord main w indow , or from the pop-up menu that displays w hen you press the right-hand mouse button.

You can also move directly to the maximum sample by clicking on this speed button on the toolbar displayed along the top of the Temprecord main w indow , or from the pop-up menu that displays w hen you press the right-hand mouse button.

The maximum sample is marked on the graph w ith the flag symbol. The minimum sample is marked on the graph w ith the flag symbol

The View /Go To/Minimum and View /Go To/Maximum f unctions also w ork in values view mode, w here they position the sample at the top of the w indow to be the minimum or maximum valued sample.

9.7.9   Select all samples

The Select all samples f unction sets the start and end markers to the beginning and end of the logged samples. Use this function if you w ant to copy all the samples to the clipboard w hen the Copy f unction is used.

You can select all the samples by:

- Clicking on Select All speed button on the graph toolbar.
- Pressing the Ctrl-A key w hen in graph view .
- Right-clicking w hile in graph view and selecting Select All f rom the menu.

See also:
Copy to clipboard
Copy to Excel

9.7.10   Copy to Clipboard

When you are in Graph view , you can use the **Copy** function to place sample values into the clipboard. From the clipboard the sample values can be transf erred to other Window s applications such as w ord processors and spreadsheets.

The explanation below is f or copying a range of samples to the Window s clipboard. This is of general use w hen importing sample data into other applications. For the specif ic task of importing samples into a Microsoft Excel spreadsheet, it is recommended you use the Copy to Excel f unction. This creates a .XLS f ile directly and is much more convenient.

As an example, to copy a range of samples to a table in a Microsoft Word document, follow the steps below :

- In Graph view , select the start sample on the trace of the range you wish to transfer. Click on the sample, and then press the **F7** key.
- Now select the end sample of the range. Click on the sample, and press the **F8** key. The range of samples selected is shown on the graph in a different colored background.
- Open the Graph right-click menu by clicking the right-hand button on your mouse.
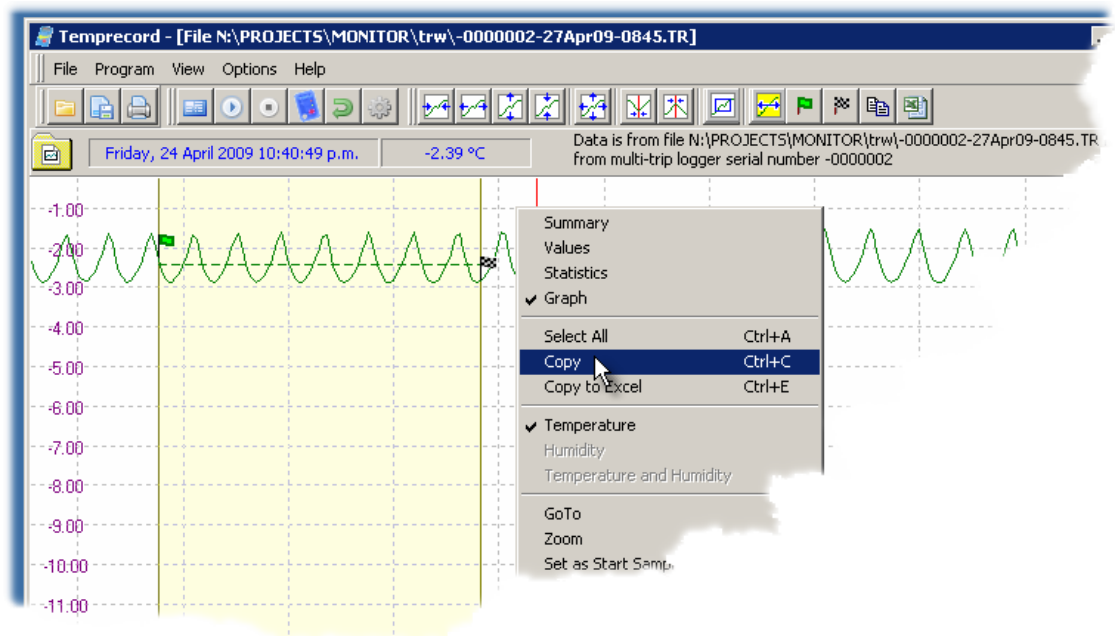
- Select Copy from the menu.
- Open the Microsoft Word document that contains the table you wish to copy the samples to.
- Select the column in the table where you want to paste the data (the entire column should show as black when it is selected)
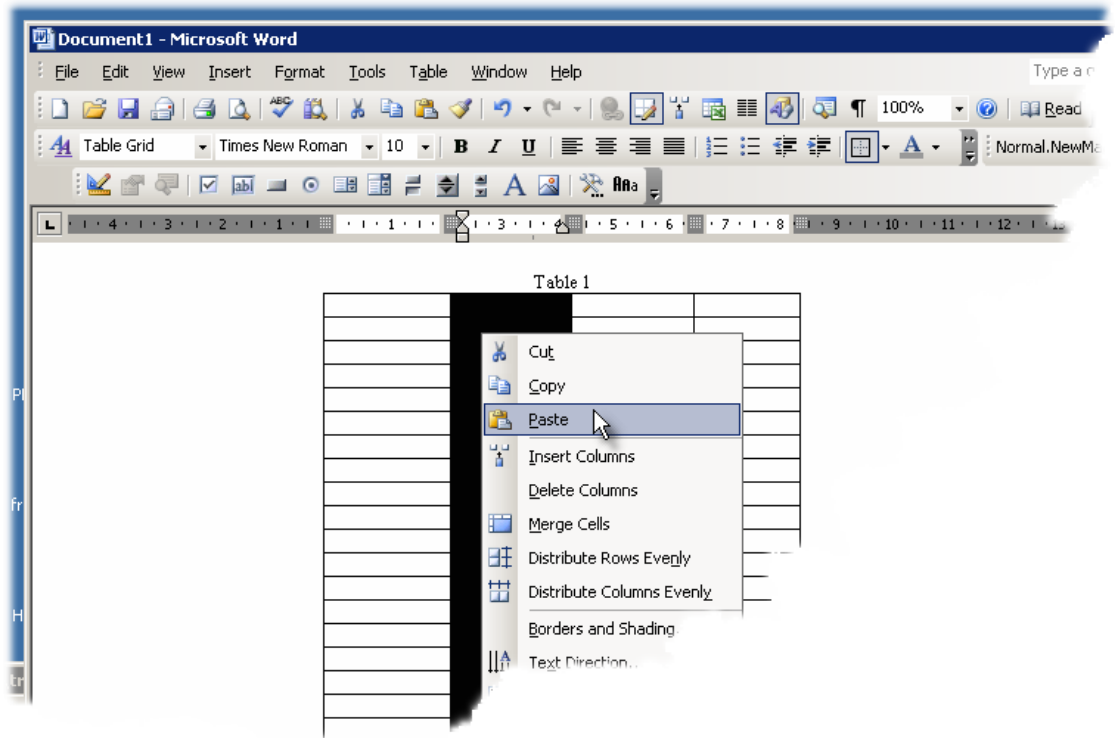
- Right-click on the mouse and select Paste from the right-click menu.
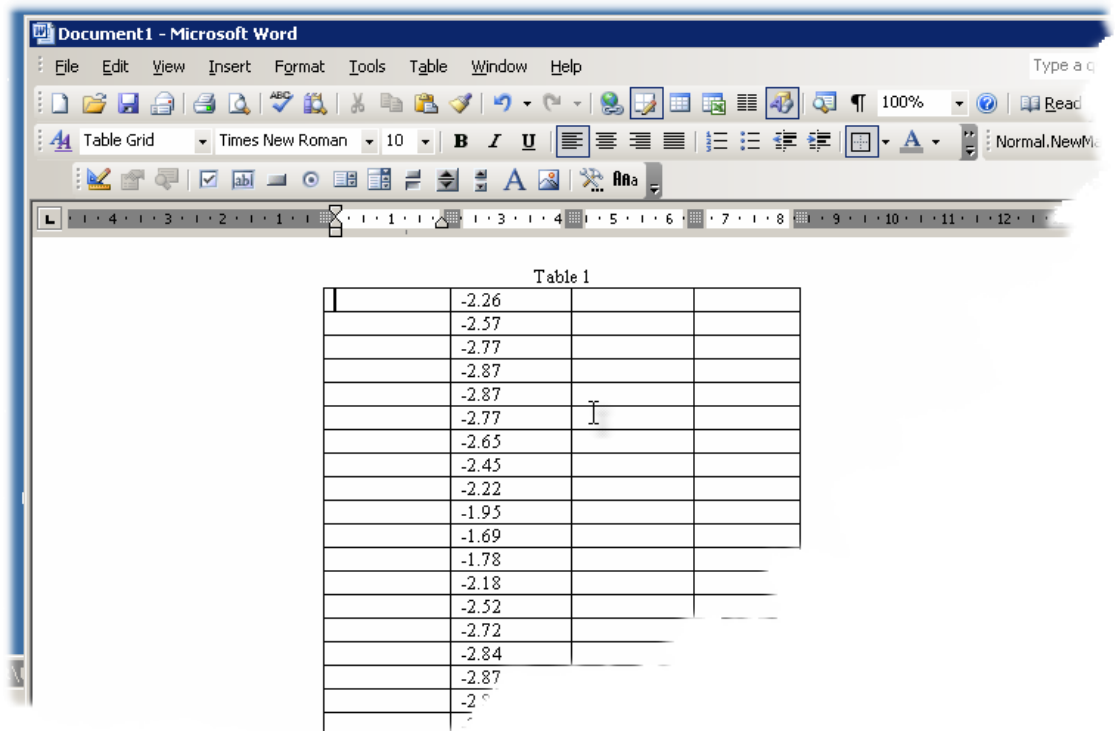
The data will be pasted into the table.

- If you are displaying humidity data the humidity values will be copied instead. If both humidity and temperature are displayed you will get two columns of values in the clipboard.

- You can also enable the include date in copy to clipboard option and the date and time will be copied as well.

- You can also use the **Ctrl-C** key or the **Copy to clipboard** speed button to achieve the same result

- You don't need to close Temprecord after you copy the samples to the clipboard and before you open Word. If you do close Temprecord, the samples you copied to the clipboard will still be available on the clipboard to copy into other applications until they are replaced by another copy operation.

holding the shift key down and selecting **Copy** from the right-click menu will copy the mean temperature (and/or humidity) between the start and end samples to the clipboard.

See also:
Select all samples
Copy to Excel
Copy to Clipboard Options

9.7.11 Copy to Excel

When you are in Graph view , you can use the **Copy to Excel** function to create a new Excel spreadsheet and place the selected sample values (samples between the start and end samples) into the spreadsheet. There are options that allow you to:

- include or exclude the date column.
- prompt for the filename of the XLS file, or default to using a file with thee same name as the .TRX file, but with an extension of .XLS
- prompt before overwriting an existing XLS file of the same name.
- open the XLS file with Microsoft Excel after it is created (requires Excel to be installed on the computer).

The explanation below is for copying a range of samples directly to Excel. To copy a range of times/samples to other applications, such as Microsoft Word, see the Copy to clipboard function.

To copy a range of samples to Excel, follow the steps below :

- In Graph view , select the start sample on the trace of the range you wish to transfer. Click on the sample, and then press the **F7** key.
- Now select the end sample of the range. Click on the sample, and press the **F8** key. The range of samples selected is shown on the graph in a different colored background.
- If you want to copy all the samples into the spreadsheet, type **Ctrl-A** to select all the samples.
- Open the Graph right-click menu by clicking the right-hand button on your mouse.
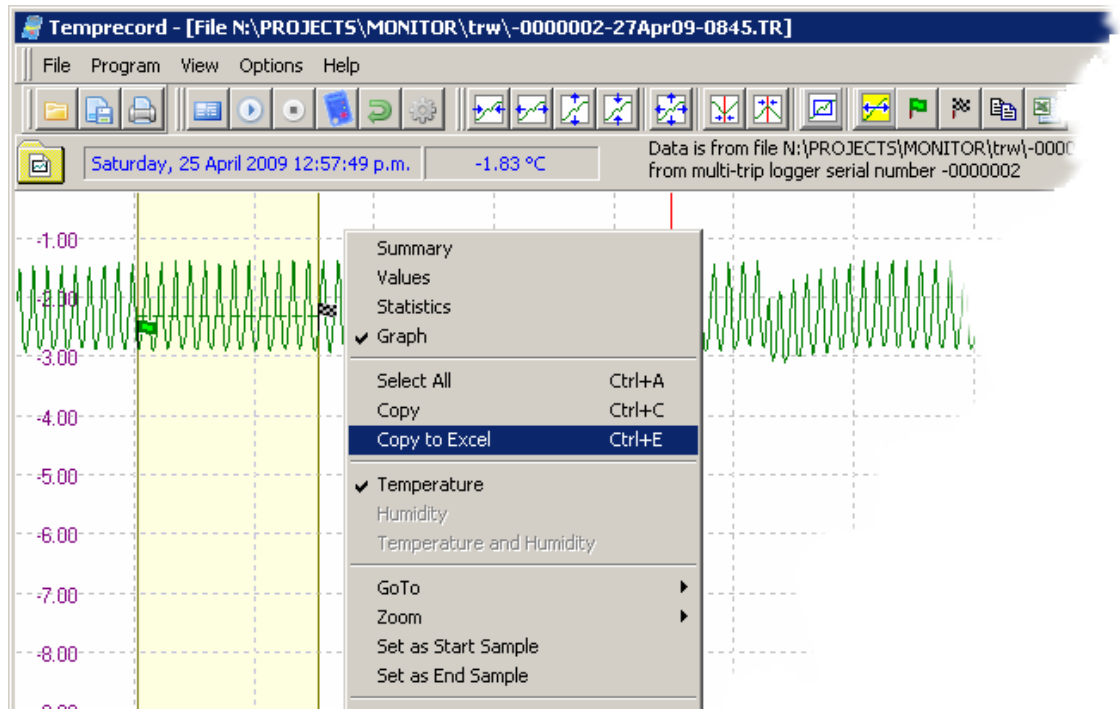
- Select **Copy to Excel** from the menu.

The data will be pasted into the spreadsheet as one to three columns:

1. The date and time of the sample. This column can be suppressed if required.
2. The temperature of the sample (in the selected display units) if temperature was logged.
3. The humidity of the sample, if humidity was logged.

The temperatures will be copied in the current display units (C or F).

You can also use the **Ctrl-E** key or the **Copy to Excel** speed button [icon] to achieve the same result

When Temprecord copies your data to an Excel spreadsheet, it makes choices for you as to how the data should be displayed. You can alter these formatting choices on your spreadsheet if you wish but there should be no need to do so.

- When a temperature or humidity value is copied to the spreadsheet, the display format is set to 2 decimal places. Temprecord uses a format specifier of "**0.00**" for these cells.
- When a date is copied to the spreadsheet, the display format is set to show the date according to the users local regional settings short date format, and the time as a fixed setting. Temprecord uses a format specifier of "**<users short date format> hh:mm:ss AM/PM**" for these cells.
- When a duration is copied to the spreadsheet, the display format is set to show the duration in hours, minutes and seconds, with the number of hours increasing past the value of 24 as necessary. For example:

  a duration of 4 hours will display as 4:00:00
  a duration of 1 day will display as 24:00:00
  a duration of 1 week will display as 168:00:00

  Temprecord uses a format specifier of "**[h]:mm:ss;@**" for these cells.
- Any other field copied to the spreadsheet that is not one of the above formats is generally a string (a collection of characters) and the display format is set to "general".

Note that dates and durations are represented within Excel as numbers, being the number of days for durations, and the number of days since 31 December 1899 for dates. Although these dates and durations are displayed in non-numeric formats, you can still reference the cell as a value if you wish and use dates and durations in calculations.

See also:
Select all samples
Copy to Clipboard
Copy to Excel Options

9.7.12 Set as Start, End Markers

Use the **Set as Start** and **Set as End** functions to define the region over which Temprecord will calculate statistics.

A quick way of defining a region on the graph with the mouse is:
- Click on the graph where you want the start sample to be.
- With the Shift key held down click on the graph where you would like the end sample to be.

See also:
Using the start and end markers

9.7.12.1 Using the Start and End Markers

The start and end markers are provided as a convenient way of defining an area of interest of the graph. The information presented in statistics view mode normally pertains to the sample record as a whole, but if the start sample marker is not placed at the first sample, or the end sample marker is not placed at the last sample, the same statistics are also presented for the samples defined between the start and end samples.

The start sample is marked on the graph with the ![flag] flag symbol. The end sample is marked on the graph with the ![flag] flag symbol. You can set any sample to be the start sample by positioning the [graph sample cursor](#) at that sample, and using the [View/Set as Start Sample](#), function or by pressing **F7**. You can set any sample to be the end sample by positioning the [graph sample cursor](#) at that sample, and using the [View/Set as End Sample](#), function or by pressing **F8**.

The start and end samples can also be used to quickly determine the [daily average temperatures](#) of a sample record.

A quick way of defining a region on the graph with the mouse is:

- Click on the graph where you want the start sample to be.
- With the Shift key held down click on the graph where you would like the end sample to be.

9.7.12.2 Set as Start Sample

Use the View/Set as Start Sample function to make the start sample the same as the current sample cursor sample.

The start sample is used in conjunction with the end sample to define an area of the sample record to be used for calculation of statistical data such as the mean, maximum and minimum.

You can also set the start sample to the current sample cursor position with the **F7** key.

A quick way of defining a region on the graph with the mouse is:
- Click on the graph where you want the start sample to be.
- With the Shift key held down click on the graph where you would like the end sample to be.

The start sample is marked on the graph with the ![flag] flag symbol.

See also:
[Using the start and end markers](#)
[Set all windows start and end samples from this one](#)

9.7.12.3 Set as End Sample

Use the View/Set as End Sample function to make the end sample the same as the current sample cursor sample.

The end sample is used in conjunction with the start sample to define an area of the sample record to be used for calculation of statistical data such as the mean, maximum and minimum.

You can also set the end sample to the current sample cursor position with the **F8** key.

A quick way of defining a region on the graph with the mouse is:
- Click on the graph where you want the start sample to be.
- With the Shift key held down click on the graph where you would like the end sample to be.

The end sample is marked on the graph with the ![flag] flag symbol

.

See also:
Using the start and end markers

9.7.12.4 Using the Min and Max Markers

The minimum and maximum markers displayed on the graph indicate the extremes of the temperature between the start and end samples If you have just read a logger or file, the start and end markers are set to the first and last samples, so the minimum and maximum pertain to the whole sample record. If you move the start or end markers, the minimum and maximum positions will be recalculated and displayed.

The sample corresponding to the maximum temperature is marked on the graph with the ![flag] flag symbol. The minimum sample is marked on the graph with the ![flag] flag symbol. You can position the graph sample cursor at the minimum value with the View /Go To/Minimum, function or by pressing F5. You can position the graph sample cursor at the maximum value with the View /Go To/Maximum, function or by pressing F6.

The behaviour of these functions changes somewhat when both temperature and humidity traces are displayed. If the cursor is not currently positioned at a minimum temperature or humidity sample, then the Go to Min.function moves the cursor to minimum temperature sample. If the cursor is already on the minimum temperature sample then the Go To Min function moves it to the minimum humidity sample. If the cursor is already on the minimum humidity sample then the Go To Min function moves it to the minimum temperature sample. Equivalent behaviour exists for the Go To Max function.

9.7.12.5 Using the User Markers

The user markers are events recorded in the logger data record by the pressing of the button on the front of the logger. These events are logged along with the temperature data, and each event takes up the equivalent space of one logged sample.

When the graph is displayed, samples with user markers attached are displayed with the ![flag] flag symbol.

You can use these markers to indicate when key events occurred while the logger was sampling, for example when the logger was placed in a controlled environment, or to indicate when some unexpected event was observed that you suspect might be influencing the temperature.

See also:
Using the buttons on the logger to mark an event

9.7.12.6 Set all windows start and end samples from this one

It is sometimes useful to assign times of the start and end samples in one window to be the same as another window . As an example, say you have employed several loggers to record data at various points in a room, and you wanted to know the mean daytime temperature (say between 8am and 4pm) at each point. You could accomplish this easily with the following sequence:

- Read all the loggers and display the graphs in Temprecord.
- Pick one and set the start sample to 8am (**F7**) and the end sample to 4pm (**F8**) on the day of interest.
- Right click the window and select **Set all windows start and end sample from this one** from the pop-up menu. Alternatively use the shortcut key **Ctrl-F10**.

Now all the windows will have the start and end samples set from the first window. It is then a simple matter of reading the mean temperatures between the start and end samples.

Note that this function does not assign the start and end sample <u>number</u>, but instead chooses the sample that is closest in <u>time</u> to the time of the sample in the first window. This means that the files do not have to aligned in time, or even have the same sample period.. For example:

File1 contains samples from 1:00pm to 11:00pm, sampled every 10 seconds and the start and end samples are set at 2:00pm and 2:30pm

File2 has samples from 1:00pm and 6:00pm, sampled every 15 seconds.

If we use **Ctrl-F10** on the graph of **File1**, the start and end samples of **File2** will be set to 2:00pm and 2:30pm, or whatever samples are closest to these times.

It is not possible to use this function when the open windows contain a mixture of data from **TRX** files and data from "legacy" **TR** files. This is because time information was recorded differently for TR files and timezone information was not recorded.

9.7.13   Zoom Functions

Temprecord provides various methods for changing the horizontal (time axis) and vertical (temperature axis) zoom factors.

How zooming works
Horizontal Zoom
Vertical Zoom
Zoom Between Start and End markers
Zoom All
Zooming with the Mouse
Zoom Window to Presets
Zoom all Windows to Presets
Zoom All Windows To This One
Assign Presets from Window
Edit Presets

See also:
Moving about the graph

9.7.13.1 How zooming works

Temprecord provides a rich array of zooming functions to help you "drill down" into your data quickly and accurately.

When a file or logger data is first read, the horizontal axis is scaled so that the entire sample record occupies the width of the data window. Similarly, the vertical axis is scaled so that the height of the data window corresponds to the span from the minimum temperature to the maximum temperature.

Horizontal zoom and vertical zoom with the view toolbar zoom speed buttons always work relative to the sample cursor position. After a zoom operation, Temprecord always attempts to position the view window so that the graph sample cursor is in approximately the same location in the window after the window has been zoomed. Horizontal and vertical zoom can be changed independently.

Zooming is also possible w ith the [mouse](#), by clicking and dragging to select an area of the graph, and w ith the [mouse w heel](#) (if your mouse is fitted w ith one).

If you have data displayed in several w indow s from different loggers, the [Zoom Window to Presets](#) function is a useful w ay of displaying and printing the graphs for comparison purposes. See the topic [Using the Zoom Presets](#) for more information.

See also
[The Sample Cursor and Mouse Cursor](#)
[Zooming w ith the mouse](#)
[Zooming w ith the mousew heel](#)

9.7.13.2 The Sample Cursor and Mouse Cursor

Temprecord uses the concept of tw o cursors w hen dealing w ith the [graph view](#) :

The **sample cursor** is a vertical red line the indicates a given sample. The sample cursor alw ays remains "attached" to a sample w hen the graph view is scrolled, unless an attempt is made to scroll it past the edge of the screen, in w hich case it is constrained to the edge.

- The sample cursor is used w henever the [Set as start sample](#) and [Set as end sample](#) functions are used.
- When the [Goto sample](#) function is used, the sample cursor is alw ays moved to the new sample position.
- When the [horizontal](#) and [vertical](#) zoom functions are used, the zoom operation alw ays takes placed centered on the graph position indicated by the intersection of the sample cursor and the graph trace.

The mouse cursor alw ays indicates the current position on the screen of the mouse, and w hen the mouse is positioned over the graph, the cursor changes to a cross-hair.

- The mouse cursor is used to mark out a rectangular area w hen [zooming w ith the mouse](#) is carried out.
- Whenever the left mouse button is clicked, the sample cursor is changed to the position of the mouse cursor.
- When the [mousew heel](#) is used to zoom, the zoom is alw ays carried out centered on the mouse cursor.
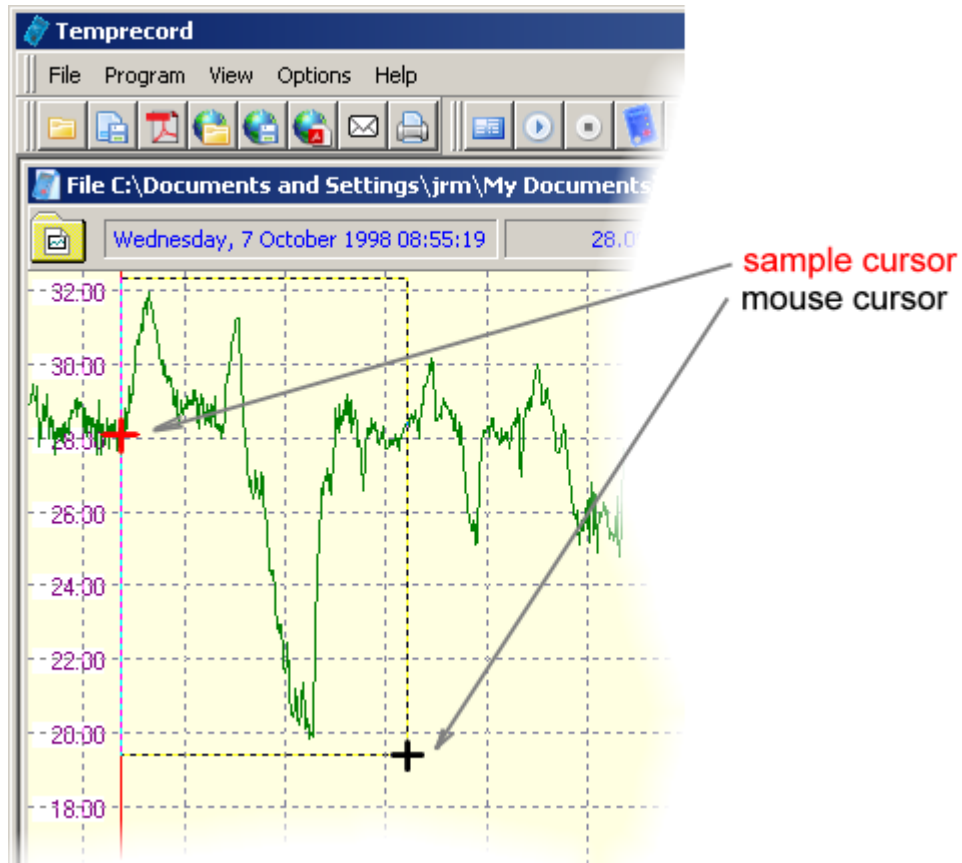
See also:
[Zooming w ith the mouse](#)
[Zooming w ith the mousew heel](#)

9.7.13.3 Zooming with the mouse

Using the mouse it is possible to zoom in about an arbitrary area of the graph.

To zoom w ith the mouse you mark the area of the graph you w ish to zoom about by clicking and dragging w ith the mouse w ith the **Ctrl** key pressed.

- Press the **Ctrl** key and keep it pressed
- Click at the top-left corner position of the rectangular area on the graph you w ish to zoom about. The cursor w ill
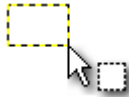
    change from a cross-hair to

- Holding the **Ctrl** key and the mouse button dow n, "drag" the mouse cursor to the bottom-right corner position of the desired zoom area. The active zoom area w ill be show n on the graph as a dotted rectangle.

- Release the mouse button. The graph view w ill change to show only that portion of the graph that you marked out w ith the mouse.
- release the **Ctrl** key

The area displayed on screen w ill be changed to be the same as that area described by the zoom function.

  If you don't press the **Ctrl** key, instead of zooming, dragging the mouse cursor w ill carry out a "pan" operation, that is, the graph w ill "drag" along w ith the mouse cursor.

  If you change your mind you can abandon the zoom w ith the mouse operation in one of tw o w ays:
- release the **Ctrl** key before you release the mouse button.
- make the zoom are as small as possible and then release the mouse button.

The current zoom settings w ill not be changed.

You can quickly return the graph view to show all of the trace by pressing the F4 (Zoom All) key or by clicking the Zoom All [icon] speed button.

9.7.13.4 Zooming with the mousewheel

If your mouse has a "wheel" you can use this to quickly zoom about an arbitrary position on the graph. Normally the mousewheel is used to scroll the graph vertically. To use it to zoom the graph view, hold the **Ctrl** key down.

When you press the **Ctrl** key, the mouse cursor will change to

- If the mouse wheel is moved away from you, the graph is "zoomed in" about the position of the mouse cursor.
- If the mouse wheel is moved towards you, the graph is "zoomed out" about the position of the mouse cursor.

Each click of the mousewheel results in a change of approximately 25% in the zoom factor. The zoom factor cannot be increased or decreased past certain limits. When these limits are reached, turning the mousewheel has no effect.

See also
Zooming with the mouse
How zooming works

9.7.13.5 Horizontal Zoom

In graph view mode, you can alter the horizontal zoom factor with the Shift-plus and Shift-minus keys (hold the shift key down while you press the plus (**+**) and minus (**-**) keys).

You can also access the horizontal zoom functions from the view menu (**View**/**Zoom**/**X+** and **View**/**Zoom**/**X-**), or from the pop-up menu that displays when you click on the right-mouse button.

You can also zoom in horizontally (expand the time axis on your displayed graph) by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window .

You can also zoom out horizontally (compress the time axis on your displayed graph) by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window .

If you have data displayed in several windows from different loggers, the Zoom Window to Presets function is a useful way of displaying and printing the graphs for comparison purposes. See the topic Using the Zoom Presets for more information.

On computers with reduced keyboards (such as notebook computers), use the equals (**=**) key instead of the plus (**+**) key.

9.7.13.6 Vertical Zoom

In graph view mode, you can alter the vertical zoom factor with the plus and minus keys.

You can also access the vertical zoom functions from the view menu (View /Zoom/Y+ and View /Zoom/Y-), or from the pop-up menu that displays when you click on the right-mouse button.

You can also zoom in vertically (expand the temperature axis on your displayed graph) by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window.

You can also zoom out vertically (compress the temperature axis on your displayed graph) by clicking on this speed button on the toolbar displayed along

If you have data displayed in several windows from different loggers, the Zoom Window to Presets function is a useful way of displaying and printing the graphs for comparison purposes. See the topic Using the Zoom Presets for more information.
the top of the Temprecord main window.

On computers with reduced keyboards (such as notebook computers), use the equals (=) key instead of the plus (+) key.

9.7.13.7 Zoom Between Start and End markers

Use the View /Zoom/Between Start and End function to set the horizontal zoom factor so that the start sample is at the left-hand side of the data window and the end sample is at the right-hand side. The vertical zoom factor is not altered.

You can also zoom between start and end markers with the F9 key.

9.7.13.8 Zoom All

Use the View /Zoom/All function to adjust the zoom factors so that the trace exactly fills the data window. This is equivalent to the setting of the horizontal and vertical zoom factors that takes place when a new file is opened or a logger is read.

You can also perform the zoom all function by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window.

You can also perform the 'Zoom All' function with the F4 key.

If you have data displayed in several windows from different loggers, the Zoom Window to Presets function is a useful way of displaying and printing the graphs for comparison purposes. See the topic Using the Zoom Presets for more information.

9.7.13.9 Zooming with the Mouse

You can zoom about arbitrary areas of the trace by using the mouse. To do this:

- Position the mouse cursor at the top-left corner of the area you wish to zoom about.
- Press the **Ctrl** key and hold it down
- Press the left-hand mouse button and hold it down.
- Drag the mouse cursor to the bottom right corner of the area you wish to zoom about and release it.

The window will be zoomed so that the top-left corner of the data window is set to where you started dragging from, and the bottom-right corner where you stopped dragging from (released the mouse button).

You can extend the zoom about area past the window edges. If you try to drag the mouse past the window edge while zooming, the zoom area will continue to extend to the mouse position outside the window border.

The mouse zoom action is only carried out if the area marked is greater than a certain size. If you decide to abandon the mouse zoom operation after you have started dragging, make the zoom rectangle as small as possible before you release the mouse button and no zooming will occur.

If you have data displayed in several windows from different loggers, the Zoom Window to Presets function is a useful way of displaying and printing the graphs for comparison purposes. See the topic Using the Zoom Presets for more information

9.7.13.10 Zoom Window to Presets

Use the View /Zoom/Zoom Window to Presets function to set the horizontal and vertical graph axes for the current Temprecord data window to the time and temperature span specified in the Graph View Options settings.

When this function is used, the displayed graph will be scaled so that the temperature at the top and bottom of the graph will be those specified in the Preset Zoom Y fields of the graph view options. The span of the date and time across the displayed graph will be set to the dates and times specified in the Preset Zoom X fields of the graph view options.

This function is very useful when you read the data from two or more loggers and wish to align them so that the same temperature and time range is displayed for each. Provided the 'Visible Window' printing option is selected, the printed graphs will also be similarly aligned in time and temperature.

This function has no effect unless a data file is loaded or data has been read from the logger.

You can also zoom to the presets by clicking on this speed button on the toolbar displayed along the top of the Temprecord main window.

The preset zoom function will not work unless the corresponding enables are checked in the Graph View Options page. There are two enables, one for each of the X (time) and Y (temperature) axes. If only the X zoom preset is enabled, using the zoom to presets function causes the X axis span to be reset, but not the Y axis. If only the Y zoom preset is enabled, using the zoom to presets function causes the Y axis span to be reset, but not the X axis.

See the topic Using the Zoom Presets for more information.

9.7.13.11 Zoom all Windows to Presets

Use the View/Zoom/Zoom all Windows to Presets function to set the horizontal and vertical graph axes for open Temprecord data windows to the time and temperature span specified in the Graph View Options settings.

This function behaves the same as the Zoom Window to Presets function, except that all open Temprecord data windows are zoomed. It provides a quick way of setting the horizontal and vertical axes to the same values.

See the topic Using the Zoom Presets for more information.

9.7.13.12 Zoom All Windows To This One

Use this function to quickly change the X and/or Y limits of all the graphs that are open to the current window. This function is the equivalent of the following sequence:

- Use the Assign Presets From Window function in the window you wish to zoom all others to.
- Then, use the Zoom all windows to Presets function.

This function is also available via the **F10** key.

9.7.13.13 Assign Presets from Window

Use the View/Zoom/Assign Presets from Window function to set the horizontal and vertical graph axes preset values from the current Temprecord data window.

This function is useful when you wish to align a second displayed or printed graph to the axes settings of an existing graph.

You can also directly set the presets from the Graph View Options page.

See the topic Using the Zoom Presets for more information.

9.7.13.14 Using the Zoom Presets

The 'Zoom Presets' are a powerful tool for aligning and comparing your Temprecord data. It provides a means of setting the horizontal (time and date) and vertical (temperature) axes of the displayed or printed graph to match the axes in another window, or to set the axes to arbitrary values.

Example 1 - Displaying a fixed region of data

Assume you have data loaded from several loggers displayed in several Temprecord data windows. The loggers all have data that covers the time and temperature range you are interested in, but the loggers have differing sample periods and start times, and the temperature range recorded by each is different. By default, when a logger's data is read, Temprecord will scale the graph of data from each logger to fully occupy the window, so the scaling of the graph view will depend on the temperature range of the data and the number of samples taken. The following procedure will align any or all displayed windows to a set temperature and time range:

- Select one of the Temprecord data windows and determine from the graph which date and time and temperature range you wish to display.
- Open the Graph View Options page.
- Enter the date and time you wish to appear at the left-hand side of the graph into the Preset Zoom Axis 'From' date and time fields.
- Enter the date and time you wish to appear at the right-hand side of the graph into the Preset Zoom Axis 'Until' date and time fields.
- Enter the temperature you wish to appear at the top of the graph into the Preset Zoom Axis 'Upper Temperature' field.
- Enter the temperature you wish to appear at the bottom of the graph into the Preset Zoom Axis 'Lower Temperature' field.
- Click on 'OK'.
- Select a Temprecord data window.
- Select graph view mode.
- Click on View /Zoom/Zoom Window to Presets.

The graph displayed in the window will be scaled to the values you entered into the graph view options Preset Zoom fields. You can the last step for each remaining window, or you can force all windows to be scaled to these preset settings at once by using the View /Zoom/Zoom all Windows to Presets function.

Example 2 - Matching the axes of one graph to another.

The situation frequently arises where you have data from two or more loggers displayed and you wish to compare them - either on-screen or as printed graphs. The following procedure will align two or more displayed graphs to another displayed graph.

- Select the first graph of interest.
- Get the graph displaying the region you wish to compare. You can do this by using the normal zoom functions, or by zooming with the mouse.
- Click on View /Zoom/Assign Presets from Window. This function assigns the presets in the graph view options page from the axes settings for the current Temprecord data window. Once assigned, these presets are remembered until the assign function is used again.
- Select another Temprecord data window.
- Select graph view mode.
- Click on View /Zoom/Zoom Window to Presets.

The graph displayed in the window will be scaled to the values you entered into the graph view options Preset Zoom fields. You can force all windows to be scaled to these preset settings at once by using the View /Zoom/Zoom all Windows to Presets function.

The zoom presets are also applied to the printed graph, but only if the 'Print Visible Window' printing option is selected.

The preset zoom function will not work unless the corresponding enables are checked in the Graph View Options page. There are two enables, one for each of the X (time) and Y (temperature) axes. If only the X zoom preset is enabled, using the zoom to presets function causes the X axis span to be reset, but not the Y axis. If only the Y zoom preset is enabled, using the zoom to presets function causes the Y axis span to be reset, but not the X axis.

To quickly zoom all windows to match one particular window, you can use the Zoom all Windows to This One function.

9.7.14 Moving about the graph

You can move about the graph ("pan") by any one of several methods. Most involve the arrow keys on the numeric keypad, but often the quickest way of repositioning the graph is to click on it and "drag" the graph to the new position:

Key	Action
Left-arrow	moves the graph cursor left one sample
Ctrl-Left-arrow	moves the graph X-origin (the date-time at the left-hand edge of the visible graph) back one minor graticule. Thus if the graph was zoomed such that each division on the X-axis was one minute, the left arrow key would move the graph one minute earlier in time.
Shift-Left-arrow	moves the graph X-origin (the date-time at the left-hand edge of the visible graph) back one major graticule.
Right-arrow	moves the graph cursor right one sample
Ctrl-Right-arrow	moves the graph X-origin (the date-time at the left-hand edge of the visible graph) forward one minor graticule.
Shift-Right-arrow	moves the graph X-origin (the date-time at the left-hand edge of the visible graph) forward one major graticule.
Up-arrow	increases the graph Y-origin (the temperature at the bottom edge of the visible graph) one minor graticule.
Shift-Up-arrow	increases the graph Y-origin (the temperature at the bottom edge of the visible graph) one major graticule.
Down-arrow	decreases the graph Y-origin (the temperature at the bottom edge of the visible graph) one minor graticule.
Shift-Down-arrow	decreases the graph Y-origin (the temperature at the bottom edge of the visible graph) one major graticule.
Home	positions the graph at the first sample.
End	positions the graph at the last sample.
Page Up	increases the graph Y-origin (the temperature at the bottom edge of the visible graph) by the height of the screen, i.e. it displays the next "page" up of the graph.
Page Down	decreases the graph Y-origin (the temperature at the bottom edge of the visible graph) by the height of the screen.
Mousewheel	using the mousewheel is the equivalent of using the up and down arrow keys - i.e. it scrolls the graph vertically.
Click and drag	moves the graph origin in step with the mouse cursor
Goto control	moves the sample cursor to an arbitrary sample position.

See also
    Zoom functions
    Goto functions

9.7.15 Tile Vertically

Use the View /Tile Vertically function to arrange the Temprecord data w indow s so that they do not overlap and are tiled side-by-side.

See also:
Tile Horizontally
Cascade
Close

9.7.16 Tile Horizontally

Use the View /Tile Horizontally function to arrange the Temprecord data w indow s so that they do not overlap and are tiled one above the other.

See also:
Tile Vertically
Cascade
Close

9.7.17 Cascade

Use the View /Cascade function to arrange the Temprecord data w indow s so that they overlap and are cascaded dow n the screen.

This function is useful because all the data w indow title bars are visible and you can click on w hichever one you w ant to examine.

See also:
Tile Horizontally
Tile Vertically
Close

9.7.18 Close

Use the View /Close function to close the currently selected Temprecord data w indow . If you have read the data in the w indow from a logger and not yet saved it, or you have edited the comment fields and not yet saved the data, you w ill be asked if you w ish to save the data first.

See also:
Tile Horizontally
Tile Vertically
Cascade

9.7.19 View Info

If this menu entry is checked, the right-hand side of the Temprecord Window is used to display extra information about the operation of Temprecord.

Email Queue

This tab indicates the state of the email queue.. When files are sent by SMTP, they are placed in a queue and sent from the queue in the background, allow ing you to continue w orking w hile the emails and their attached files are sent. The queue contents are saved w hen you exit Temprecord, and sending of the queued items resumes w hen Temprecord is next started.

Once an email has been sent, it remains in the queue until it is past a certain age, after w hich time it is removed.

Event Log

Temprecord records significant events and writes them to an event log. Such events as starting and exiting Temprecord, sending email attachments etc. are logged.

Startup Log

As Temprecord starts up, information is written to the startup log recording the steps carried out. It can be useful to examine the startup log when troubleshooting Temprecord operation.

The startup log is a text file (Startup Log.txt) and is normally written to the Windows temporary files folder.

You can quickly toggle the display of the extra information tabs with the Ctrl-I key.

9.7.20 Refrigeration Index Graph View

Temprecord can also calculate and display RI (Refrigeration Index) statistics. To enable this facility, click on Options/Statistics, and make sure Show Refrigeration Index Statistics is checked. The RI statistics are calculated between the start and end samples only. Remember that if a file has just been loaded the start sample is set to the first sample and the end sample to the last sample.

The RI value is calculated for each sample and is cumulative. If the temperature falls below 7.0 degrees C the RI value at this point is reported. The RI value is also reported at the end sample, regardless of whether the 7.0 degree C temperature was reached.

The time interval taken for the temperature to fall to 7.0 degrees C is also reported in the statistics view.

The RI value displayed is a logarithmic value, and represents the base 10 log of the number of generation increases over the time period.

The Y axis for the refrigeration index is shown on the right-hand edge of the graph view. It is always scaled so that the trace occupies the whole graph.

You can change the colors of the refrigeration index graticule and trace in options.

See Also

Refrigeration Index in Statistics View
Options

10   Options Menu

The Options menu allows you to alter the settings that affect how Temprecord behaves, and customize Temprecord to suit your own preferences.

- How the Options work
- General Options
- COM Port Options
- File Saving Options
- Summary Options
- Values Options
- Statistics Options
- Graph Options
- View Options
- Printing Options
- Export Options
- Default Options
- Email Options
- Language Options
- Web Options
- Auto Mode Options
- Date Formatting Options
- Web Options
- System Options

10.1   How the Options work

The Options dialog consists of several 'pages'. You can select any page by clicking on the name of the page on the left-hand side of the dialog:
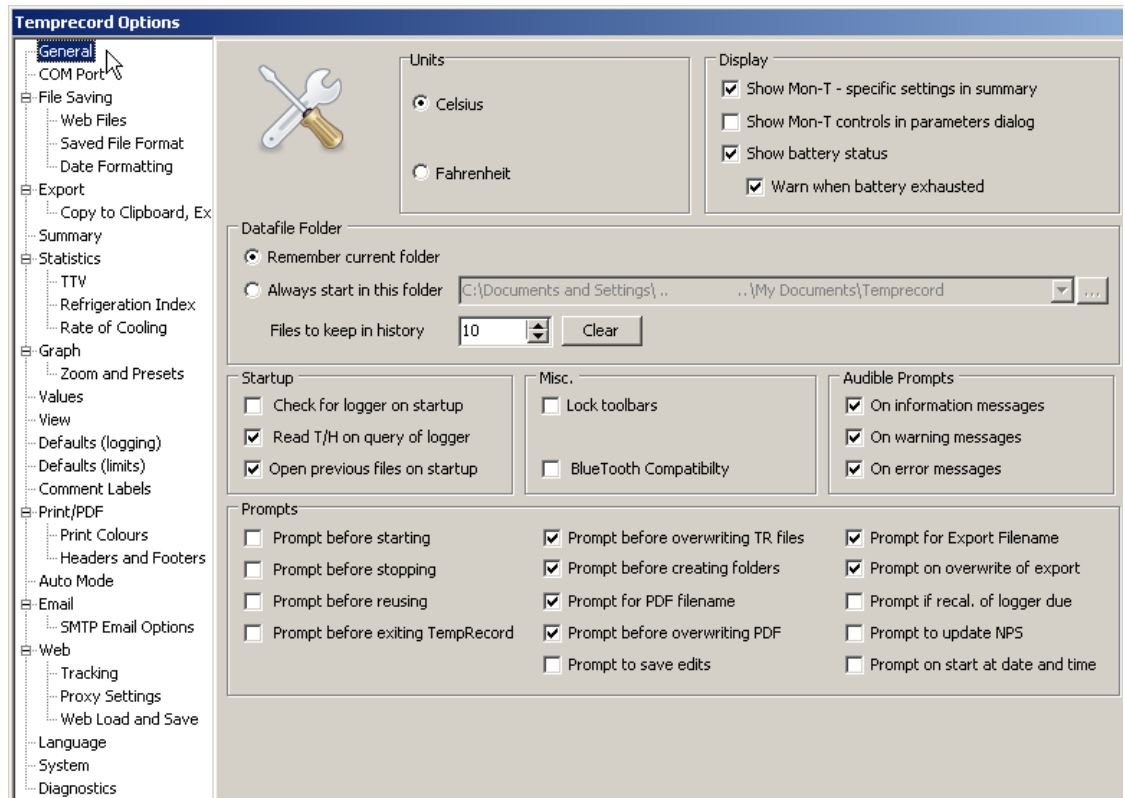
- [General](#)
- [COM Port](#)
- [File saving](#)
- [Export](#)
- [Summary](#)
- [Statistics](#)
- [Graph](#)
- [Values](#)
- [View](#)
- [Defaults](#)
- [Print/PDF](#)
- [Auto Mode](#)
- [Email](#)
- [Web](#)
- [Language](#)
- [System](#)
- [Diagnostics](#)

You can make changes to any of the fields on any page. When you click on **OK** or **Apply**, each page is checked and if an error is found, that page will be displayed, with the focus applied to the field where the error was found.

If you click on '**Cancel**', the Options pages will close and no changes will be made.

If you click on **Apply** instead of **OK**, the changes are applied (and the underlying data windows refreshed) but the **Options** dialog remains open. This is useful for seeing the effect of the different display options and still remaining in the **Options** dialog.

Any changes you make are remembered the next time you start Temprecord. If you are running Temprecord on a network, you can install Temprecord so that each network user has their own set of options. See [Installing Temprecord on Networks](#) for more information.

10.2 Font Dialog

Select the font you wish to use to print or display text with.

♦ If you are selecting the font for the summary view, statistics view, or values view, only the fixed (non-proportional) fonts available are displayed.

♦ If you are selecting the font for the graph view, you can choose from any of the screen fonts installed on your computer.

♦ If you are selecting the font for the printed report text, you can choose from any of the fixed (non-proportional) printer fonts installed on your computer.

♦ If you are selecting the font for the printed report graph axis annotation, you can choose from any of the printer fonts installed on your computer.

To use the new font you have selected, Click on the 'OK' button.

10.3 General Options

Use the Options/General page to set general preferences for Temprecord operation.

Datafile Folder

Datafile Folder
- ○ Remember current folder
- ⦿ Always start in this folder `C:\Documents and Settings\All Users\Documents\Temprecord` ▾ ⋯
  - Files to keep in history `20` ⇅ Clear

Remember current folder

Select this option if you want Temprecord to remember what folder you were last reading data files from when the program exits. When Temprecord next starts the and the open file dialog is opened it will display files in this folder.

Always start in this folder

Select this option if you don't want Temprecord to remember what folder you were last reading data files from when the program exits. When Temprecord next starts the and the open file dialog is opened it will display files in the folder specified here.

Note that the current folder is always changed to the folder that a **TRX** or **TR** file was last loaded from. If you load a data file from the command line, or have the option to open previous files on startup enabled, the current folder will be set to the folder of the last file loaded.

Files to keep in history

This option sets the maximum number of files Temprecord will remember and display as the "most recently used" files list when the **File** menu is opened.

Clear

Click this button to empty the existing recent files list.

Startup

Startup
- ☐ Check for logger on startup
- ☑ Read T/H on query of logger
- ☑ Open previous files on startup
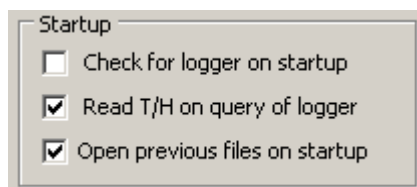
Check for logger on startup

Check this option if you want Temprecord to check for a logger when it first starts. If a logger is found, the summary data will be read and a window opened with the summary data displayed. If this option is not check, no attempt is made to check for a logger on startup. You can still check for a logger by pressing the spacebar or using the File/Query Logger function.

Open previous files on startup

Check this option if you want Temprecord to start with the files that were open when you last exited the program. If the file is a local file and it cannot be found it will be ignored and no error message will be displayed. If the file is a web file and it isn't found, an error message will be displayed.

Read T/H when querying logger

Check this option if you want Temprecord to measure the current temperature and/or humidity and update it whenever you query the logger using the File/Query Logger function. If the logger is configured to record record humidity, this will be read and displayed also.

Miscellaneous Options

Misc.
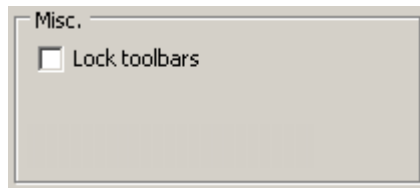
☐ Lock toolbars

Lock Toolbars

Check this option if you want to prevent the toolbars being moved or undocked. If this option is checked, you cannot move a "docked" toolbar (one that it positioned inside the Temprecord main window at one of the 4 edges of the window), you cannot close a floating toolbar, and any floating toolbars will remain floating and cannot be docked.

If this option is not checked (the installation default), toolbars can be moved, closed docked and undocked at will.

Each toolbar also has its own set of options which includes an option to lock the toolbar. This option takes precedence over that option, i.e. this option can be considered a "global" toolbar lock.

If you close a floating toolbar by clicking on the ✖ it will no longer be displayed:

Copy

You can however make the toolbar visible again by clicking on the **View**/**Toolbars** main menu entry and checking the menu entry corresponding to the toolbar you wish to make visible.

View	Options	Help		
Toolbars	►		File	
			Program	
Summary			✓ Copy	
Graph			Graph	
Statistics			✓ Go to Sample	
Values				
Units (°C)	Ctrl+U			

Units

Units

⦿ Celsius

◯ Fahrenheit
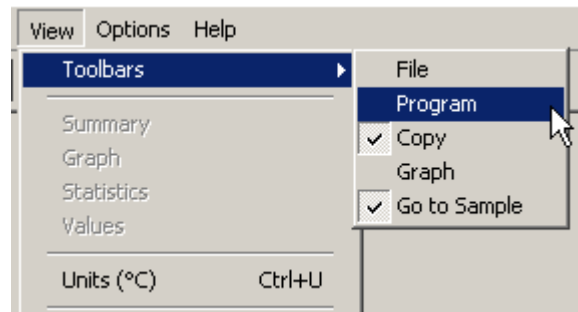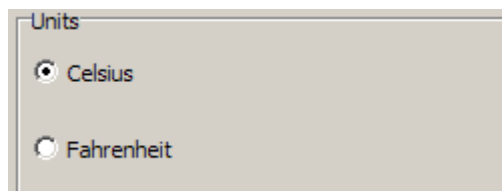
Use the units setting to determine how **Temprecord** displays temperature. You can also set the display units from the main menu, from the data window popup menu, and with the **Ctrl-U** shortcut key

.

Prompts

Prompt Before Starting

Check this option if you want Temprecord to confirm with you that you wish the logger to be started. If this option is not checked, then using the Program/Start Logger function will start the logger without any warning being displayed first

Prompt Before Stopping

Check this option if you want Temprecord to confirm with you that you wish the logger to be stopped. If this option is not checked, then using the Program/Stop Logger function will stop the logger without any warning being displayed first

Prompt Before Reusing

Check this option if you want Temprecord to confirm with you that you wish the logger to be reused. If this option is not checked, then using the Program/Reuse Logger function will reuse the logger without any warning being displayed first

Prompt Before Exiting Temprecord

Check this option if you want Temprecord to confirm with you that you wish to exit the Temprecord program. If this option is not checked, then using the File/Exit Temprecord function will close the Temprecord program without any warning being displayed first

If you have read a logger and not yet saved the data to a file, or edited the comments but not yet saved the file, you will still be given the opportunity to do this.

Warn if file digest doesn't match

Check this option if you want Temprecord to compare the digest stored in the file with the calculated digest, and warn you if they differ. When a TRX file is produced, a digest is also produced, based on the file contents. This digest is then stored in the file. If any change is made to the file, the calculated digest of the file will differ from the one stored in the file and Temprecord can warn you, as this indicates the file is damaged, or may have been tampered with.

Prompt Before Overwriting TRX files

Check this option if you want Temprecord to confirm with you before an existing Temprecord data file (a .TRX file) is overwritten. If this option is not checked, any existing file of the same name will be replaced without warning.

Prompt Before Creating Folders

When formatted file specifiers are used for generating folder names, the folder name may not necessarily exists at the time a file is saved. Normally Temprecord will prompt the user to check it is OK to create the folder. Leave this checkbox clear if you don't want to be prompted and Temprecord will create the folder without warning.

Prompt for PDF Filename

Check this option if you want the opportunity to specify a PDF filename when Temprecord saved a report to a PDF file. If this checkbox is cleared, Temprecord will generate a name automatically based on the PDF filename specifier.

Prompt Before Overwriting PDF

Check this option if you want Temprecord to confirm with you before an existing Temprecord report file (a .PDF file) is overwritten. If this option is not checked, any existing file of the same name will be replaced without warning.

Prompt to Save Edits

Check this option if you want Temprecord to confirm with you whether to save changes you have made to the comments or display limits when a data file is closed (display limits are set by the controls at the top of each data window when the graph, values or statistics tab are displayed). If this option is not checked, a TRX file will be saved without warning if any changes have been made to the comments or display units. See the topic Why does Temprecord keep asking me if I want to save my file ? for more information

Prompt on Logger-NPS Mismatch

Check this option if you want Temprecord to warn you if the case color of the logger and the the color of the NPS corresponding to the logger's parameters don't match. The case color of the logger is programmed in at manufacture and may not correspond exactly with the apparent color of the logger's case. This is because Temprecord is fairly forgiving when it compares the colors, leaving the user with some latitude when choosing the color to be associated with a NPS.

Loggers which have been manufactured as designated use loggers will always perform this check, regardless of this setting, and the user is not offered the option of overriding the check.

Prompt for Export Filename

Check this option if you want Temprecord to prompt you for the name of the file to be exported. If this option is not checked, Temprecord chooses a filename based on the Temprecord data filename (or the logger serial number if the logger data has been read but not yet saved as a file) and appends the ASCII filetype specified in the Export Options.

Prompt on Overwrite of Export

Check this option if you want Temprecord to confirm with you before an existing export file is overwritten. If this option is not checked, any existing file of the same name will be replaced without warning.

Prompt if Calibration of Logger Due

Check this option if you want Temprecord to warn you if a logger is due for calibration. If this option is not checked, no warnings are issued when the logger is accessed with the Temprecord program.

Prompt to Update NPS

Check this option if you want Temprecord to confirm with you before an existing Named Parameter Set (NPS) is updated in synchrony with a logger that has been programmed from that NPS. If this option is checked, you will be given the opportunity to indicate whether a NPS on the disk should be updated with any changed settings being programmed into a logger. If this option is not checked, any NPS with the same name as the name programmed into the logger's user data will be updated if the parameters being programmed into a logger are different to the existing settings in the NPS.

If the parameters being programmed into the logger are the same as those in the NPS no prompt will be issued, regardless of the state of this option.

Prompt on "Start at this date and time"

Check this option if you want Temprecord to confirm with you before updating a LCD logger parameters when the "Start at this date and time" option is enabled, as once the parameters have been saved, LCD loggers are automatically started and must proceed through the start delay and cannot be stopped until they have started taking samples. If this option is not checked, Temprecord will not prompt you for confirmation when you try to apply the parameters to a LCD logger if the "Start at this date and time" option is enabled.

Audible Prompts

Audible Prompts		
☑ On information messages	☑ On warning messages	☑ On error messages

The default behaviour of Temprecord is to play a sound when an information, warning, or error message is displayed, mainly so that workflows that involve working while not looking at the screen are aware of messages that appear.

The sound actually used is the one assigned to the **Exclamation** event in the Windows Sound Settings. If you want to change the sound produced when **Temprecord** is signalling an audible alert, you will need to alter this setting (in Windows XP go to **Start/Settings/Control Panel/Sounds and Audio Devices/Sounds/Program Events/Exclamation**).

Some messages that are displayed involve a modal dialog, some do not (a modal dialog is a window that appears and prevents any other interaction with the Temprecord program the window is closed. Error messages are always displayed modally).

You can disable this sound for any or each of these conditions.

On Information Messages

Information messages are those that display for a non-serious condition.. Many of these are non-modal. Some information messages are displayed in the right-most panel of the status bar:

| COM1 | | This function requires a valid sample set |

These messages usually occur as a result of a key press at an inappropriate time. The messages will disappear after a few seconds.

If this checkbox is not checked, no sound will be made when an information message is displayed.

On Warning Messages

Warning messages are always modal. They include those occasions where the user needs to supply an answer to a prompt. An example is **Temprecord** asking if logger samples should be saved before **Temprecord** exits.

If this checkbox is not checked, no sound will be made when a warning message is displayed

On Error Messages

 Error messages are always modal. These signal occasions where the user has requested an operation and that operation has failed.

If this checkbox is not checked, no sound will be made when an error message is displayed.

10.4 COM Port Options

Use the Options/COM Port page to set the COM port you want Temprecord to use. Most older computers usually have at least two, and sometimes up to four COM ports available. Newer computers may have only one COM port, or sometimes none at all. If your computer is newer and has no available COM port, you can use a USB to serial adapter. Temprecord Reader Interface units are now manufactured with a USB connector, so they can be used in any modern PC.

Use This COM Port
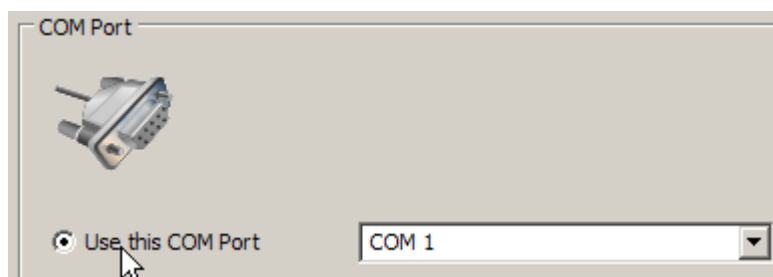
Select this option if your computer is fitted with standard COM ports, and/or you know the COM port your Temprecord reader will be connected to. Choose the COM port from the drop down list (COM1 through COM255).

Look for USB Reader

Select this option if you have a Reader with a USB connector. Temprecord will then look for the reader on the USB bus and find out what COM port it has been assigned to, and set that as the COM port. If Temprecord is unable to find a compatible USB device, when trying to open the port, it will use the COM port selected in **Use this COM Port** above.

If you experience difficulties, you can still select **Use this COM Port**, select a specific COM port from the drop-down list and force Temprecord to use that COM port, even if you are using a USB-based COM port or reader.

Users with some older computer systems may experience difficulty with selection of the COM Port. See the topic COM Port Conflicts for more information.

See also:
Options menu

10.5 File Saving Options

Important! The discussion below is necessarily detailed. TRW has a powerful filename and folder naming facility that enables you to avoid virtually all of the drudgery and possibility of errors when naming your data and report files. The good news is that we have arranged it so that the installation defaults will most likely suit your needs. If you are feeling adventurous, you can play with these settings, but in the first instance, the existing installed "out-of-the-box" settings should be fine.

Introduction

The basic idea behind formatted file and folder names is that you can give your data and report files names which convey information about when the file was created, and what logger it came from. You can similarly store the files in folders that are organized by date or by logger serial number. Finally, you can incorporate numerous other variables into your file and folder names, including such things as:

- a unique sequence number
- the timezone name
- the timezone offset
- the Windows logged-in user name
- Windows environment variables
- data extracted from the logger data set, such as the maximum temperature, or the number of samples taken.

See the topic Using the File and Folder Templates for a full list of these formatting options and examples of their use.

See also:
Default TRX filename
Folder for .TRX files
Default PDF Filename
Folder for .PDF Files
Using the File and Folder Templates
When are default filename and folders used?

Also use these settings when I save the file manually

File Saving Options - Web Files
File Saving Options - Digests
File Saving Options - Date Formatting

10.5.1 Default TRX Filename

Default TRX filename

The default TRX filename determines the form of the initial filename TRW chooses when the data from a logger is saved to a TRX file. It is important to note that what is specified here is a <u>template</u> for the filename, and the actual filename will not usually be the same as what you enter here (though it can be if you want). When TRW chooses the filename, it uses the default filename template, but treats several characters as having special meaning. For example, the character **L** means "the logger serial number", and the characters **yyyy** mean "the current year".

For a detailed discussion and examples of the way file and folder formatting characters work, see the topic Using the File and Folder Templates.

If you want to have characters in the filename but don't want them to be interpreted by the above rules, they must be enclosed in double-quotes ("..."), thus to use a filename of **My Logger.tr**, you must enclose the filename in quotes, thus: **"My Logger.tr"**.

You do not need to specify the file extension (.TRX for Temprecord data files). If you want a different extension you can enter it. Note also that you cannot use the characters "**:**" (colon), "**/**" (slash) and "****" (backslash) in your filename. If TRW finds any characters that are not valid in a filename, it will replace them with underscores ("**_**"). If you want to specify a path as well as a filename, use the Folder for TRX files option (see below). If TRW finds a path component specified in the default filename, it will be ignored.

The panel below the **Default TRX filename** field shows you what filename would be used for the given file name format specifier. As you type your filename format specifier the filename sample is updated.

The installation default specifier for the default TRX filename is **L YYYY-MM-DD hh-nn-ss**. This means that the default filename for a datafile read from logger S1234567 at 12:34:56 on the 1st of June, 2009 would be **S1234567 2009-06-01 12-34-56.tr**. Note that the **.tr** extension is added automatically. If you want a different extension, you should enter it as part of the format specifier. For example a specifier of **L YYYY-MM-DD hh-nn-ss".dat"** would result in a filename with the extension **.dat**. Note that the extension characters are surrounded by double quote characters ("**...**") to prevent them being interpreted as formatting instructions. See the topic When are default filename and folders used? for more information.

Take care with formatted filenames and folders. If careful attention is not paid to how they are used, one can unintentionally create a myriad of strangely-named files and folders!

See also:
Folder for .TRX files
Default PDF Filename
Folder for .PDF Files
Using the File and Folder Templates
When are default filename and folders used?

10.5.2 Folder for .TRX Files

Folder for .TRX files

Enter the folder name or path where you want to save your data files. Whatever filename entered in the **Default TRX filename field** is appended to this folder name. The folder name specified can be used directly if it is enclosed in double quotes ("..."), or it can be treated as a format template using the same rules as for the default TRX filename. See the topic Using the File and Folder Templates for more information.

If you wish to save the files in a date-organized tree of folders the path should be specified here. You can also use the specifiers for the logger serial number, and the sequence number in this field.

The panel below the **Folder to save files to** field shows you what folder would be used for the given file name format specifier. As you type your folder format specifier the folder sample is updated.

Sometimes the folder name generated by the formatting is too long to fit in the display panel underneath each field. In this case Temprecord shortens the displayed path name so that the start and end characters are displayed, and a portion of the middle part is replaced by an ellipsis (...). If you want to see the whole pathname, move the cursor over the sample panel and a hint will display with the full pathname.

The installation default specifier for the default folder for .TRX files is a blank string. This is a special case that places the TRX data files in folder **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files**\. If you were to enter a specifier of **"Joes Files"**, the TRX data files would be saved in folder **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files\Joes Files**.   Note that the specifier is surrounded by double quote characters ("...") to prevent it being interpreted as formatting instructions. If instead Joe wanted to store his files organized by month, he could enter as the specifier **"Joes Files for "mmmm yyyy**.   In this case the TRX data files would be saved in folder **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files\Joes Files for June 2009** for any logger he read in that month, Joes Files for July 2009 in the next month and so on. See the topic When are default filename and folders used? for more information.

When specifying the folder name used to save files, if you don't specify a path that starts with an absolute pathname (one that includes a disk specifier such as C: or \\Server\, Temprecord assumes a path starting from your Temprecord data files folder (normally C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files\).

Take care with formatted filenames and folders. If careful attention is not paid to how they are used, one can unintentionally create a myriad of strangely-named files and folders!

See also:

Default TRX filename
Default PDF Filename
Folder for .PDF Files
Using the File and Folder Templates
When are default filename and folders used?
Also use these settings when I save the file manually

10.5.3 Default PDF Filename

Default PDF Filename

The default PDF filename determines the form of the initial filename TRW chooses when How do I use the formatted file and folder names?the data from a logger is saved to a TRX file. It is important to note that what is specified here is a template for the filename, and the actual filename will not usually be the same as what you enter here (though it can be). When TRW

chooses the filename, it uses the default filename template, but treats several characters as having special meaning. For example, the character L means "the logger serial number", and the characters yyyy mean "the current year".

For a detailed discussion and examples of the way file and folder formatting characters work, see the topic Using the File and Folder Templates.

If you want to have characters in the filename but don't want them to be interpreted by the above rules, they must be enclosed in double-quotes ("..."), thus to use a filename of **My Report.pdf**, you must enclose the filename in quotes, thus: **"My Report.pdf"**.

You do not need to specify the file extension (.pdf). If you leave the extension off, "**.pdf**" is appended to any filename generated. If you want a different extension you can enter it. Note also that you cannot use the characters "**:**" (colon), "**/**" (slash) and "****" (backslash) in your filename. If Temprecord finds any characters that are not valid in a filename, it will replace them with underscores ("**_**"). If you want to specify a path as well as a filename, use the Folder for PDF files option (see below). If Temprecord finds a path component specified in the default PDF filename, it will be ignored.

The panel below the **Default PDF Filename** field shows you what filename would be used for the given file name format specifier.

The installation default specifier for the default PDF filename is **L YYYY-MM-DD hh-nn-ss**. This means that the default filename for a report printed from the data for logger S1234567 read at 12:34:56 on the 1st of June, 2009 would be **S1234567 2009-06-01 12-34-56.pdf**. Note that the .pdf extension is added automatically. If you want a different extension, you should enter it as part of the format specifier. For example a specifier of **L YYYY-MM-DD hh-nn-ss".rep"** would result in a filename with the extension **.rep**. Note that the extension characters are surrounded by double quote characters ("...") to prevent them being interpreted as formatting instructions. See the topic When are default filename and folders used? for more information.

Take care with formatted filenames and folders. If careful attention is not paid to how they are used, one can unintentionally create a myriad of strangely-named files and folders!

See also:
Default TRX filename
Folder for .TRX files
Folder for .PDF Files
Using the File and Folder Templates
When are default filename and folders used?

10.5.4 Folder for .PDF Files

Folder for .PDF Files

Enter the folder name or path where you want to save your data files. Whatever filename entered in the **Default TRX filename field** is appended to this folder name. The folder name specified can be used directly if it is enclosed in double quotes ("..."), or it can be treated as a format template using the same rules as for the default TRX filename. See the topic Using the File and Folder Templates for more information.

If you wish to save the files in a date-organized tree of folders the path should be specified here. You can also use the specifiers for the logger serial number, and the sequence number in this field.

When specifying the folder name used to save files, if you don't specify a path that starts with an absolute pathname (one that includes a disk specifier such as **C:** or **\\Server**, Temprecord assumes a path starting from your Temprecord data files folder (normally **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files**).

The panel below the **Folder to save files to** field shows you what folder would be used for the given folder name format specifier.

Sometimes the folder name generated by the formatting is too long to fit in the display panel underneath each field. In this case Temprecord shortens the displayed path name so that the start and end characters are displayed, and a portion of the middle part is replaced by an ellipsis (...). If you want to see the whole pathname, move the cursor over the sample panel and a hint will display with the full pathname.

The installation default specifier for the default folder for .PDF files is **"pdf"**. This places and PDF files in folder **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files\pdf**. If you were to enter a specifier of **"pdf\Joes Reports"**, the PDF report files would be saved in folder **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files\pdf\Joes Reports**. Note that the specifier is surrounded by double quote characters ("...") to prevent it being interpreted as formatting instructions. If instead Joe wanted to store his reports organized by month, he could enter as the specifier **"pdf\Joes Reports for "mmmm yyyy**. In this case the PDF report files would be saved in folder **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files\pdf\Joes Reports for June 2009** for any logger he read in that month, **Joes Reports for July 2009** in the next month and so on. See the topic When are default filename and folders used? for more information.

Take care with formatted filenames and folders. If careful attention is not paid to how they are used, one can unintentionally create a myriad of strangely-named files and folders!

See also:

Default TRX filename
Folder for .TRX files
Default PDF Filename
Using the File and Folder Templates
When are default filename and folders used?
Also use these settings when I save the file manually

10.5.5 Also use these settings when I save the file manually
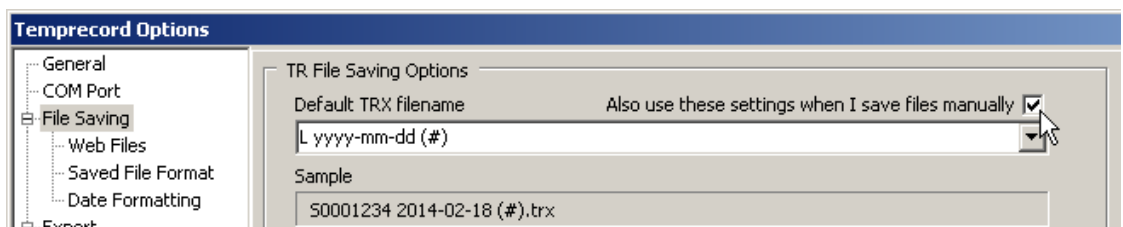
Each of the fields in the file saving options (TRX filename, TRX folder name, PDF filename, PDF folder name) has an accompanying checkbox labeled **Also use these settings when I save files manually**. The effect of this checkbox is discussed for each of the fields in turn. Bear in mind that this behaviour only applies when the data is being saved for the first time after reading the data from a logger. If the data is from a file, or from a logger which has already been saved to a file, the filename of folder name presented to you when the dialog displays is based on the file and folder the data was previously saved to.

TRX Filename

When the data loaded is from a logger and the **Also use these settings when I save files manually** checkbox is checked, the initial filename presented when the **Save file As...** dialog is displayed will be determined by the format specifier shown in the **TRX Filename** field. When the checkbox is not checked, the initial filename presented will be the filename entered when the **Save TRX file** function was last used.

TRX Folder

When the data loaded is from a logger and the **Also use these settings when I save files manually** checkbox is checked, the initial folder presented when the **Save file As...** dialog is displayed will be determined by the format specifier shown in the **TRX Folder** field. When the checkbox is not checked, the initial folder will be the folder where the last TRX file was saved.

PDF Filename

When the data loaded is from a logger and the **Also use these settings when I save files manually** checkbox is checked, the initial filename presented when the **Save PDF file** dialog is displayed will be determined by the format specifier shown in the **PDF Filename** field. When the checkbox is not checked, the initial filename presented will be the filename entered when the **Save PDF file** function was last used.

PDF Folder

When the data loaded is from a logger and the **Also use these settings when I save files manually** checkbox is checked, the initial folder presented when the **Save PDF file** dialog is displayed will be determined by the format specifier shown in the **PDF Folder** field. When the checkbox is not checked, the initial folder will be the folder where the last PDF file was saved.

When you are saving the data from a logger to a file or a PDF report from an "automatic" source such as Auto Mode operation, Temprecord uses the Folder for TRX files and the Folder for .PDF Reports settings in the File Saving Options to determine the actual folder the file will be saved in, regardless of the state of the **Also use these settings when I save files manually** checkboxes. These folder specifications are very flexible and enable you to create folder "trees" based on dynamic parameters such as the serial number of the logger, and the date.

When you are saving these files "manually" (using the File/Save File and File/Save to PDF functions), the folders used are different, and "remembered", so that Temprecord will in general use the same folder the last file was saved to.

If this option is checked however, Temprecord makes different decisions when it comes to choosing the initial destination folder for TRX and PDF report files. By default it saves to a folder determines by the Folder for TRX files and the Folder for .PDF Reports settings in the File Saving Options, just as it does in Auto Mode.

This setting only applies in the following situations:

- You are saving the data for the first time that has just been read from a Temprecord logger.
- You are saving data that was read from your Temprecord Web storage to a local file.
- You are saving data (from any source) to a PDF report file.

When a TRX file is saved from data that has been read from a logger and **Also use these settings when I save files manually** is not checked, the initial folder chosen by Temprecord when the Save File dialog opens is the folder last used to save a TRX file. The Folder for TRX files options setting is not used.

If the data loaded in Temprecord is from a local TRX file, the initial folder chosen when the Save File dialog opens is the folder the file was read from.

If a PDF file is saved with the **Also use these settings when I save files manually** option off, the initial folder chosen for the Save PDF dialog is the folder used for the last PDF save.

When this option is checked, you will still be able to adjust the folder the file is saved to. The Folder for TRX files and the Folder for .PDF Reports only determine the initial folder presented to you when the Save File dialog opens.

Creation of Folders

It may be that the **Also use these settings when I save files manually** is turned on, and the folder name chosen is one that doesn't exist. For example, you might have a Folder for PDF Files setting of:

> **"My Reports\"yyyy\mmm**

In this case the destination folder for the PDF report w ould be

> **C:\Documents and Settings\<user name>\My Documents\Temprecord\My Reports\2011**

w hich might not exist yet. If you try to save data as a PDF file and **Also use these settings when I save files manually** is turned on, Temprecord w ill prompt you:
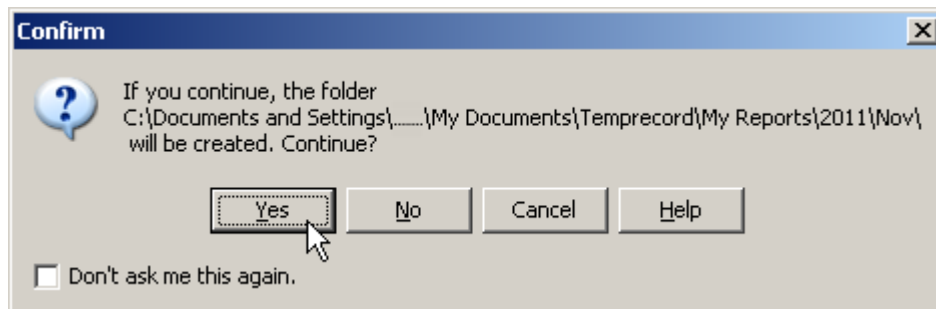
If you answ er **Yes**, the folder w ill be created and the file save dialog opened in that folder. If you answ er **No** or **Cancel**, the save operation w ill be abandoned.

 If you are happy to alw ays have Temprecord create a folder and don't w ant to be bothered w ith this prompt, make sure **Don't ask me this again** is checked before you close the confirm prompt dialog.

See also:
Auto Mode
Default TRX filename
Folder for .TRX files
Default PDF Filename
Folder for .PDF Files
Using the File and Folder Templates
When are default filename and folders used?

10.5.6 When are default filename and folders used?

Temprecord has several rules it uses when saving data files and PDF report files.

Manually Saving a TRX Data File

When you read data from a logger and try to save it, a save file dialog w ill display. The initial name chosen for the filename is determined by the Default TRX filename. You can change the proposed filename at this point. The destination folder defaults at installation to **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files**. If you change the destination folder in the save dialog, Temprecord remembers the new folder from then on.

Manually Saving a PDF Report File

When you try to save a logger's data manually to a PDF file, if the data has already been saved to a TRX data file, the initial name chosen for the PDF file is the name of the TRX data file, but w ith a PDF extension You can change the proposed filename at this point. The destination folder defaults at installation to **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files\pdf**. If you change the destination folder in the save dialog, Temprecord remembers the folder for you, independently of the folder it last saved a TRX data file to.

When you try to save a logger's data manually to a PDF file, and the data has not already been saved to a TRX data file, you will be prompted to save the TRX data file first. The initial name chosen for the PDF file is the name of the TRX data file, but with a PDF extension You can change the proposed filename at this point. The destination folder defaults at installation to **C:\Documents and Settings\Joe Bloggs\My Documents\My Temprecord Files\pdf**. If you change the destination folder in the save dialog, Temprecord remembers the new folder for you, independently of the folder it last saved a TRX data file to.

Auto-Saving a TRX Data File

When you save a TRX data file from Auto Mode, Temprecord will never prompt you for the filename. Instead, it always uses the Default TRX filename format specifier to construct the filename, and the Folder for .TRX files to determine the folder the file is store in. Also, you will never be prompted if an existing file is about to be overwritten. It is important therefore that you arrange for these specifiers to always produce a unique filename.

Auto-Saving a PDF Report File

When you save a PDF report file from , Temprecord will never prompt you for the filename. Instead, it always uses the Default PDF Filename format specifier to construct the filename, and the Folder for .PDF Files to determine the folder the file is store in. Also, you will never be prompted if an existing PDF file is about to be overwritten. It is important therefore that you arrange for these specifiers to always produce a unique filename.

Emailing TRX Data Files From Auto Mode

Temprecord always automatically saves TRX data files or PDF report files before emailing them in Auto Mode. The TRX data files are saved according to the Default TRX filename and the Folder for .TRX files. The PDF report files are saved according to the Default PDF Filename and the Folder for .PDF Files. Temprecord then makes temporary copies of the files and generates attachments for the email. After the email has been sent the temporary files are deleted.

Take care with formatted filenames and folders. If careful attention is not paid to how they are used, one can unintentionally create a myriad of strangely-named files and folders!

See also:

Auto Mode
Default TRX filename
Folder for .TRX files
Default PDF Filename
Folder for .PDF Files
Using the File and Folder Templates
Also use these settings when I save the file manually

10.5.7   File Saving Options - Web Files

These options determine the names automatically generated for files and folders when Temprecord data files and PDF report files are stored on Temprecord's World-Wide Web servers.

In order to use this facility, you need to have a web account set up with Temprecord. Contact us for more information.

The file saving options for web files work in much the same way as they do for files that you save on your computer ("local" files). See the topics Using the File and Folder Templates and When are default filename and folders used? for more information.

There is no practical limit to the length of file and folder names, the number of folders, or the depth to which they can be nested.

Your Temprecord Web storage facility provides you with a single folder. All data files and folders you save will be relative to the "root" of this folder. If any folder you specify with these options does not exist it will be created at the time the file is saved.

Folders cannot be created manually, and any filenames created will always take on the name of the corresponding file the web file was derived from. If the dataset was read from a logger, the filename used is determined by the web filenames format string.

See also:

10.5.8 File Saving Options - Saved File Format

This help topic may describe features of Temprecord products which are not all implemented at the release date of this version (6.3 or thereabouts) of the software.

.

You can specify the file format used to save local **TRX** files and also **TRX** files saved to the web.

Save in Plain Text Format

Temprecord saves the data files in it's own proprietary format with a file type of **TRX**. These files can be saved in a "human-readable" form (sometimes known as "plain text"), making the data within them available for other applications.

XML

Extensible **M**arkup **L**anguage (**XML**) is a language for describing data that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. You can read more about it in this Wikipedia article. **XML** files tend to be bulkier than the other formats and are only recommended for instances where another application requires **XML** data.

No XML-Schema is employed.

JSON

JSON or **J**ava**S**cript **O**bject **N**otation, is another text-based open standard designed for human-readable data interchange. It is derived from the JavaScript scripting language for representing simple data structures and associative arrays, called objects. You can read more about JSON in this Wikipedia article.

JSON (formatted)

The **formatted JSON** option generates the data in JSON still, but uses new lines and indentation to make the JSON structure easy to understand. JSON represented in this way is sometimes known as "prettified" JSON. Developers of third-party applications to read the **TRX** files may want to save data files as formatted JSON to aid them in parsing and interpreting the data.

Include Digest

Temprecord also allow s you to include a **digest** w ith the files that you save. A digest is a small additional fragment of data that is generated from both the logger data w ithin the file, and a **key** - this is a passphrase that you supply. The passphrase is normally only know n to yourself and the recipient of the file, though the recipient need not know it. The important thing about the digest is that changing anything in the logger data stored in the file, or in the digest - no matter how small the change is - w ill result in the digest calculated from the data no longer agreeing w ith the digest stored in the file.

Although Temprecord can save **TRX** files in a number of formats, it can read them all. Unless you have reasons not to to so, w e recommend that you stick w ith the installation default format of **JSON**. This format is compact, and faster to load and save.

If you require a **TRX** file in another format w hen you have already saved it in a particular format, simply load the file again, change this option to reflect the file format you need, and save the file again.

See also:

Default TRX filename
Folder for .TRX files
Default PDF Filename
Folder for .PDF Files
Using the File and Folder Templates
When are default filename and folders used?
Also use these settings w hen I save the file manually

Common questions about file digests

File Saving Options - Web Files
File Saving Options - Encryption
File Saving Options - Date Formatting

XML - Wikipedia article (w ill show in brow ser)
JSON - Wikipedia article (w ill show in brow ser)

10.5.9 File Saving Options - Digests

Temprecord stores an extra piece of information w ith every TRX data file called a digest. A digest is effectively a number that is determined by looking at the logged samples and other data in the file and performing a calculation on that data. The result of this calculation is called a digest. The digest is designed so that:

- no tw o files w ill ever[1] produce the same digest unless they are identical.
- changing even one data value only by the tiniest of amounts w ill result in the digest changing to a completely different value.
- there are a nearly infinite[2] number of digests.
- unless you know the digest key, you can't[3] "fake" a digest.

1. w hen w e say "ever", w e mean that it is extremely unlikely - to be precise, the chance of tw o different data sets generating the same digest value is one in 340,282,366,920,938,463,463,374,607,431,768,211,456.

2. w hen w e say "nearly infinite", w e mean a very large number (see 1. above)

3. w hen w e say "can't fake" a digest, w e mean that this strategy is unlikely to succeed, because the last step ("hand-tuning" the data set) w ill likely need to be performed a large number (yep, that big number again) of times to get the correct result.

- take delivery of a datafile.
- note w hat the digest of the file is.
- "tamper" w ith the file, e.g. use a text editor to alter potentially embarrassing or damaging values.

- "hand-tune" the data set so that w hen TRW calculates the digest of the data set it produces a digest that is the same as it w as w hen you received it.

IMPORTANT! Do not forget your digest key!

If you have chosen to use your ow n digest key for TRX files, only users w ho also know this digest key w ill be able to verify the authenticity of the file.

Not know ing the digest key for a file does not prevent you reading or printing the file - it just prevents you from determining if the file is undamaged and untampered w ith.

If you lose or forget the key, there is no w ay to recover it other than a lucky guess. Temprecord are unable to recover lost keys.

10.5.10 File Saving Options - Encryption

This help topic describes features of Temprecord products w hich are not implemented at the release date of this version (6.3 or thereabouts) of the softw are.

Check this box if you w ant to encrypt your TRX Temprecord data files.

Specify the encryption key to use. The encryption key is case-sensitive, and can include spaces. You must enter the same key in both the Encryption Key" and the "Confirm Key" fields.

WARNING! Do not forget your encryption key!

If you lose the key, there is no w ay your data can be recovered. Temprecord are unable to recover keys or the data they have been used to encrypt.

See also:

File Saving Options
File Saving Options - Web Files
File Saving Options - Saved file format
File Saving Options - Date formatting

Using the File and Folder Templates
When are default filename and folders used?

10.5.11 File Saving Options - Date Formatting

When Temprecord is saving a data file or a PDF report file and automatically generates a filename or a folder name, a date and/or time can be specified.

This option determines w hether the date and time used to format a file and folder name is:

- the current date and time (i.e. "now ")
- the date and time of the earliest sample in the logger.
- the date and time of the most recent sample in the logger.

In addition to this, you can determine whether the time used is in the local timezone of your location (provided it has been set correctly on your computer), or in UTC (Greenwich Mean Time).

See also:

File Saving Options
File Saving Options - Web Files
File Saving Options - Saved file format
File Saving Options - Encryption

Using the File and Folder Templates
When are default filename and folders used?

10.6 Summary View Options

Use the **'Summary'** tab of the options form to change the way the summary view is displayed.
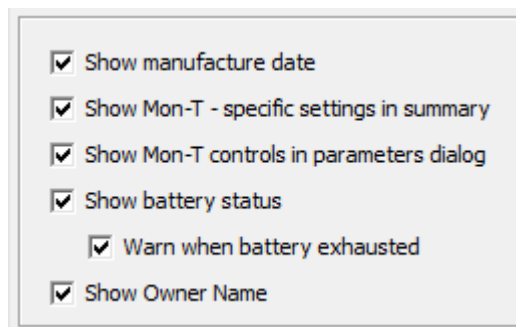
Show Manufacture Date

If this option is checked, Temprecord will display the approximate date of manufacture of the logger in the summary view, and include it in any printed PDF reports that include the summary.

Show Mon-T - specific settings in summary

If this setting is checked **Temprecord** will display Mon-T settings in the summary view when a Mon-T logger is present in the reader interface, or if the file being shown was from a Mon-T logger.

Show Mon-T controls in parameters dialog

If this setting is checked **Temprecord** will display the additional Mon-T setting controls in the parameters dialog when a Mon-T logger is present in the reader interface.

Show battery status

If this option is checked, Temprecord will display the approximate amount of battery capacity remaining as a percentage of the new battery capacity in the summary view, and include it in any printed PDF reports that include the summary..

 When the remaining battery capacity falls below 25%, this icon will show to the right of the displayed percentage.

When the remaining battery capacity falls below 5%, this icon will show to the right of the displayed percentage.

When the remaining battery capacity falls below a level where the logger cannot be expected to operate reliably, this icon will show to the right of the displayed percentage.

Warn when battery exhausted

If this option is checked, Temprecord will display the warning dialog when any attempt is made to reuse, program, or start a logger whose battery capacity remaining is less than 5%. This option has no effect unless the **Show battery status** option is checked.

The remaining logger battery capacity is not measured directly, but is calculated using Temprecord's knowledge of the past use of the logger. The estimates of battery condition are a guide only. While **Temprecord** tries to model the battery consumption of the loggers as accurately as possible, the actual battery usage is affected by the temperature, sample rate, age of the logger, the number of times the data has been read from the logger, and variabilities introduced by the battery manufacturing processes. The figure arrived at is conservative, i.e. you may well get more use out of the logger than the displayed remaining battery capacity suggests. We do not recommend this, however, and a logger with a battery that shows as exhausted should be removed from service.

Show Owner Name

If this setting is checked **Temprecord** will include the owner name in any summary display or printed summary report. Sometimes **Temprecord** programs an owner name into the logger at manufacture time. The owner name cannot be changed - it just serves as a way of identifying the owner of a logger in environments where the loggers travel from one branch of a company to another and are likely to be mixed with loggers owned by other branches or organizations - the transport of perishable foods or blood products being examples.

Font

Use the **'Font'** button to change the font Temprecord uses for the text in the summary view. You can only choose from the fixed spacing fonts installed on your computer. Proportional fonts are not available for the summary display.

Annotation Color

Use the '**Annotation Color**' button to change the color used when displaying the annotation text - i.e. the text on the left-hand column of the window.

Data Color

Use the '**Data Color**' button to change the color used when displaying the summary data text - i.e. the text on the right-hand column of the window that changes for each file or logger that is displayed.

As an example, if you select blue as the annotation color and red as the data color, your summary text would look like this:

```
Logger Type    : scientific
Serial Number  :  00001766
```

Be careful when changing these colors. If you select a color that is the same as the background of the window, any text displayed in that color will be invisible!

See also:
Show Mon-T - specific settings

10.7   Show Mon-T - specific settings

Enable this option if you want to be able to set the Minimum Temperature, Resolution, or Logger Units of **Mon-T** loggers when programming the parameters. This option also displays those parameters on the summary display when enabled.

See also:
Programming **Mon-T** parameters

10.8   Values View Options

Use the 'Values' tab of the options form to change the way the values view is displayed.

Units

Check this option if you want the units displayed as a single character (**C** or **F**) after temperature values, or as **%RH** after humidity values.

Degrees

Check this option if you want the degrees symbol (°) displayed after temperature values.

Comma

Check this option if you want a comma displayed between each pair of temperature/humidity values. This option has no effect if only one of temperature or humidity is displayed.

Parentheses

Check this option if you want left and right parentheses displayed around each pair of temperature/humidity values. This option has no effect if only one of temperature or humidity is displayed.

Preview

As you alter the above options, the three preview panels show the effect the current set of options has on the display of each temperature value, humidity value, or temperature/humidity value pair.

Auto-wrap Columns

If you want Temprecord to display only as many values as will fit across the window, then '**Auto-wrap columns**' should be checked. If you want Temprecord to display a fixed number of columns across the window, whether they would fit or not, the '**Auto-wrap columns**' should be unchecked. You can then change the number of columns in the '**Columns**' field. This option is useful when you wish each line of values to correspond to a particular time interval. If you specify a sample period of 5 minutes for example, and you set the number of columns to 12, then each line will contain 1 hours worth of samples.

Columns

The columns option sets the number of columns displayed across the window. This option is useful when you wish each line of values to correspond to a particular time interval. If you specify a sample period of 5 minutes for example, and you set the number of columns to 12, then each line will contain 1 hours worth of samples.

> If you specify more columns here than will fit across the Temprecord data window, not all of the temperature values will display. If you want all temperature values to be visible, make sure the '**Auto-wrap columns**' option is on.

Font

Use the '**Font**' button to change the font Temprecord uses for the text in the values view. You can only choose from the fixed spacing fonts installed on your computer. Proportional fonts are not available for the values display.

Date/Time Color

Use the '**Date/Time Color**' button to change the color used when displaying the date and time text in the values view window.

Above Limits Color

Use the '**Above Limits Color**' button to change the color used when displaying those samples that exceed the upper limit. If you do not want these samples to appear differently from the other samples, choose the same color as the '**In Range**' color.

If you have Total Temperature Value statistics display enabled, this color is used if the temperature of that sample exceeds the temperature for that TTV period.

In Range Color

Use the '**In Range Color**' button to change the color used when displaying those samples that are between the lower and upper limits.

Below Limits Color

Use the '**Below Limits Color**' button to change the color used when displaying those samples that are below the lower limit. If you do not want these samples to appear differently from the other samples, choose the same color as the '**In Range**' color.

There are separate colors defined for both temperature and humidity values.

If you have Total Temperature Value statistics display enabled, this color is used if the temperature of that sample is less than the temperature for that TTV period.

The display option Show upper and lower limits needs to be checked for Temprecord to show values above the upper limit or below the lower limit in different colors.

Marker Samples Color

Use the '**Marker Samples Color**' button to change the color used when displaying those samples that have user markers associated with them. If you do not want these samples to appear differently from the other samples, choose the same color as the 'In Range' color.

Be careful when changing these colors. If you select a color that is the same as the background of the window, any text displayed in that color will be invisible!

See also:
Summary view options
Statistics view options
Graph view options

10.9   Statistics View Options

Use the '**Statistics**' tab of the options form to change the way the statistics view is displayed.

Show General Statistics

If this option is checked, the general statistics (minimum, maximum, mean and standard deviation of samples, time spent inside and outside limits) are shown in the display and the printed reports.

> If the start sample is not set to the first sample in the logger or the end sample is not set to the last sample, the statistics will also be shown for the samples between the start and end samples.

> If the first visible sample displayed on the screen in graph view is not the same as the first sample in the logger or the start sample, or the last visible sample displayed on the screen is not the same as the last sample in the logger or end sample, the statistics will also be shown for the samples displayed on screen.

PHI (Process Hygiene Index) Growth statistics

Shows the bacterial growth information in the displayed and printed statistics

Product Integrity Profile

Product Integrity Profile is a means of determining how effective refrigeration of a shipment has been. When enabled, the graph is annotated with the times taken to reach key points such as the minimum temperature, and transitions of the upper and lower limits. The duration taken is also displayed. The statistics view also shows a report from this data.

Product Cooling Alerts

When the product cooling alert function is enabled, the graph shows a flag when the temperature has risen a certain amount above the minimum. The maximum temperature rise allowed before the alert is displayed can be specified.

This function is often used to determine whether blood products have been maintained adequately in a controlled environment

Show MKT Statistics

Check this box if you want the Mean Kinetic Temperature (MKT) statistics to be displayed and printed as well as the normal statistical data.

> This option must be checked in order for MKT statistics to be graphed, printed, or exported.

MKT Options - Delta H value

Enter the value of Delta-H or activation energy for your product. The nominal value used for this is 83.14472 kJ/mol , which is suitable for most materials. The calculated value of MKT varies with the activation energy entered here, but the variation is not great and you should not need to alter this parameter. If you require very accurate MKT calculations, the value of Delta-H should be determined for your monitored commodity. The activation energy for a particular commodity can be determined by a procedure known as differential scanning calorimetry (DSC) analysis.

Font

Use the '**Font**' button to change the font Temprecord uses for the text in the statistics view. You can only choose from the fixed spacing fonts installed on your computer. Proportional fonts are not available for the statistics display.

Annotation Color

Use the '**Annotation Color**' button to change the color used w hen displaying the annotation text - i.e. the text on the left of the w indow that is the same each time.

Data Color

Use the '**Data Color**' button to change the color used w hen displaying the statistics data text - i.e. the text on the right of the w indow that changes for each file or logger that is read.

As an example, if you select blue as the annotation color and red as the data color, your statistics text w ould look like this:

```
Mean                : 20.71
Standard Deviation  :  0.86
Maximum             : 24.53
Minimum             : 19.43
```

Be careful w hen changing these colors. If you select a color that is the same as the background of the w indow, any text displayed in that color w ill be invisible!

See also:

TTV statistics options
Refrigeration index statistics options
Rate of cooling statistics options
Summary view options
Values view options
Graph view options
Printing Options
Export Options
Total Temperature Value (TTV)
Process Hygiene Index
Mean Kinetic Temperature
Refrigeration Index

10.10 Graph View Options

Use the '**Graph**' tab of the options form to change the way the graph view is displayed, and to set the axes values used for the zoom preset function.

Allow hinting on graph

Enable this option to allow Temprecord to display "hints" on the graph w hen the mouse cursor is hovered above items of interest. Specific hints are displayed w hen the mouse cursor is positioned over:

☑ Allow Hinting on Graph
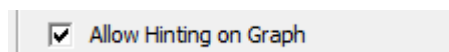
- samples. The sample number, value, and date and time are displayed
- the mean temperature betw een the start and end samples. The mean, mean kinetic temperature (if enabled), duration and number of samples are show n.
- the minimum or maximum samples. The sample number, value, and date and time are displayed.

Comments Options

Comments

- [x] Show temperature in comment title
- [x] Show date in comment title
- [x] Allow Hinting on Comments

Opacity 100%

Max. comment display width 300
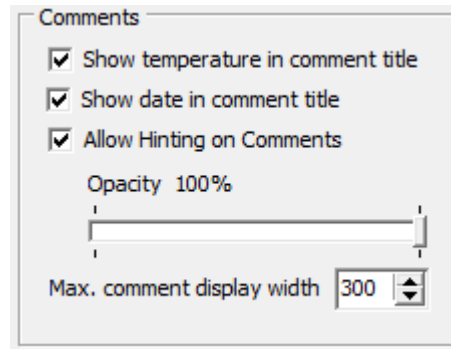
Show Temperature in comment title

Enables the display of the temperature value the comment is positioned at. The temperature (and/or date, if enabled) are shown as the first text items in the comment title, before the user-specified comment.

Show date in comment title

Enables the display of the date and time the comment is positioned at. The date (and/or temperature, if enabled) are shown as the first text items in the comment title, before the user-specified comment.

The temperature and/or date and time are only shown in the comment title if the corresponding option is checked to maintain the temperature and datetime. If these options are not checked for the comment, then the comment will display at an absolute pixel position, not at a specific date and time and temperature, so it makes no sense to show them.

Allow hinting on comments

Enable this option to allow Temprecord to display "hints" on the graph when the mouse cursor is hovered above comments, or comment off-screen indicators. The hint will show :

- the comment summary (the comment summary normally displays on screen anyway but if the summary is longer than the maximum allowed on screen, or the comment itself is off-screen, the hint is a convenient way of displaying the summary line in full).
- the author and date and time the comment was created
- the editor and date and time the comment was edited (if the comment has been altered since it was created)
- the comment dat and time position (if enabled)
- the comment value position (if enabled)

Opacity

Comments are shown on the graph with variable transparency and this option allows you to adjust the opacity of the comment summary. A value of 100% renders the comment completely opaque, and the graph under it will be completely obscured. The minimum opacity is limited to 10%, so comments cannot me made completely invisible..

Max. Comment Display Width

Sets the maximum horizontal width (in screen pixels) used to display a comment

Graph Colors

Font

Use the '**Font**' button to change the font Temprecord uses to display the axis annotation (the date and time on the horizontal axis and the temperature on the vertical axis). You can choose from any of the fonts installed on your computer.

Above Limits Color

Use the '**Above Limits Color**' button to change the color used when displaying that part of the temperature trace that exceeds the Upper limit. If you do not want the trace to appear differently from that part of the trace that is within the limits, choose the same color as the '**In Range**' color. The color you choose here is also used to display the upper limit horizontal line.`

In Range Color

Use the '**In Range Color**' button to change the color used when displaying that part of the temperature trace that is between the Lower and Upper limits.

Below Limits Color

Use the '**Below Limits Color**' button to change the color used when displaying those samples that are below the Lower limit. If you do not want the trace to appear differently from that part of the trace that is within the limits, choose the same color as the '**In Range**' color. The color you choose here is also used to display the lower limit horizontal line.

There are separate colors defined for both temperature and humidity values.

If **Show Limits** is checked, and **Show TTV Limits** is not checked, the trace will display in the 'above limit's color when the temperature is above the upper limit, and in the 'below limit's color when the temperature is below the lower limit. Otherwise, the trace will display in the 'in range's color

If **Show TTV Limits** is checked the trace will display in the 'above limit's color when the temperature is above the upper limit for the TTV period for that sample, and in the 'below limit's color when the temperature is below the lower limit for the TTV period of that sample. Otherwise, (if the temperature is in range for that TTV period, or the sample is prior to the first TTV period or past the last TTV period) the trace will display in the 'in range's color. Note that you must also have **Show TTV Statistics** checked for this to display.

Be careful when changing these colors. If you select a color that is the same as the background of the window, any part of the trace displayed in that color will be invisible

Axis Color

Use the '**Axis Color**' button to change the color used when displaying axis annotation (the time and date, and temperature values displayed along the left-hand and bottom edge of the graph).

Graticule Color

Use the '**Graticule Color**' button to change the color used when displaying the graticule lines on the graph.

Cursor Color

Use the '**Cursor Color**' button to change the color used when displaying the sample cursor.

See also:

10.10.1 Zoom and presets options

Preset Zoom X Axis

These fields set the date and time span that the X axis will be set to when the Zoom Window to Presets function is used. The 'From' date and time fields determine the date at the left-hand side of the graph, and the 'Until' fields determine the date and time at the right-hand side.

The preset zoom X values are not used unless the '**Enable**' box is checked. If you want to zoom two or more traces to the same Y (temperature) span, but do not want to alter the X axis (time) settings, make sure this box is unchecked before you use the Zoom Window to Presets function.

Preset Zoom Y Axis

These fields set the temperature span that the Y axis will be set to when the Zoom Window to Presets function is used. The '**Upper Temperature**' field determines the temperature at the top of the graph, and the '**Lower Temperature**' field determines the temperature at the bottom.

The preset zoom Y values are not used unless the '**Enable**' box is checked. If you want to zoom two or more traces to the same X (time and date) span, but do not want to alter the Y axis (temperature) settings, make sure this box is unchecked before you use the Zoom Window to Presets function.

If you want the graph to be printed to the same settings as the displayed window, make sure the '**Print Visible Window**' printing option is selected

See the topic Using the Zoom Presets for more information.

10.11 Export Options

Use the **Options/Export** page to set up the way ASCII files are saved. There are also options to determine whether you are prompted for an export filename, and whether you are prompted before an existing export file is overwritten. These options can be found with the general options.

Temprecord can also export directly to a Microsoft Excel spreadsheet. See the topic Copying data to Clipboard and Excel for more information.

Field Delimiter

This determines the character used to separate items on each line when the file is written. You can choose from a space, a comma, a tab character, or a semicolon. Choose whichever option suits the application that will be reading the ASCII file. If you will be importing the file into a spreadsheet such as Excel or Lotus 123, comma-separated values are normally used. If you will be importing data into a Microsoft Word table, use tabs.

ASCII Filetype

Use this option to set the default filetype used when the temperature data is written to a file.

Columns

Use this option to specify how many columns are written to the ASCII file. If this value is set to 1, the file will consist of a single column of values, one per line. If you do not want any line breaks in your file, set this to 99999.

Averaging

Use this option to specify how many samples are averaged before a value is written to the ASCII file. If this field is set to 1, no averaging is performed, and the 'raw' temperature values are written to the file. If this field is set to (say) 10, then a set of 10 temperatures is averaged and the mean value written to the file. In this case, there would be one tenth the number of values in the exported file - i.e. if the original .TRX file contained 2000 samples then the exported file would contain 200 values.

Temprecord always rounds the exported values to 2 decimal places. This means the average temperature may not agree with the average as calculated by other means, e.g. a spreadsheet.

As an example, if you have a sample record of 8 samples and Temprecord is set up to average every 2 values :

Sample	Value	Actual Average	Value Exported
1	30.31	30.315	30.32
2	30.32		
3	30.32	30.33	30.33
4	30.34		
5	30.35	30.355	30.36
6	30.36		
7	30.37	30.38	30.38
8	30.39		

Here, the values for the first 2 samples are 30.31, and 30.32. The actual average is 10.315 but Temprecord exports the value rounded to 2 decimal places, i.e. 30.32.

The averaging functions built into Temprecord exporting make it relatively easy to generate a report of daily temperature averages. See Exporting daily average temperatures for more information.

Date Format

Use this option to specify how the date is written to the ASCII file, if at all. The format chosen will depend on how your application requires date and time information to be formatted.

- 'No date' specifies that no time or date information is to be written. The temperature values will be written to the file without any preceding time and date information.
- 'Use local setting' specifies that the date and time are to be written in the format as selected with the 'International' settings in Windows' Control Panel.
- 'MM:SS' specifies that the time is written in that format, e.g. 12:34. The date is not written.
- 'HH:MM:SS' specifies that the time is written in that format, e.g. 11:12:34. The date is not written.
- 'Seconds since 1980' specifies that the time and date are written as an integer being the number of seconds that have passed since midnight on January 1, 1980.

- 'Days since 1900' specifies that the time and date are written as an floating point value being the number of days that have passed since midnight on January 1, 1900. The integer part of this value gives the number of days, the fractional part gives the time as a fraction of a day. This format is normally the one most suitable for exporting data to spreadsheets such as Microsoft Excel or Lotus 123.

Quoted Text

Check this option if you want all text in written annotation to be surrounded by quotes. Some applications require that text be differentiated from numerical data in this way when they import data.

Summary

Check this option if you want the summary written to the ASCII file as well. The summary includes information such as the user data, the comment fields and their associated labels, the number of samples etc.

Values

Check this option if you want the individual sample values to be exported. If this option is checked, the sample values corresponding to the specified sample range are written to the file.

Turn this option off if you want the sample values and nothing else in the exported file.

Markers

Check this option if you want the those data values with associated markers to be indicated as such when they are exported. If this option is checked, those samples with associated markers will be written to the file with an appended '*' character.

Turn this option off if the application you are using to analyse the exported data has trouble with the extra characters appended to the sample values.

General Statistics

Check this option if you want the general statistics to be exported. The statistics exported always pertain to those between the start and end samples. It is not affected by the sample range setting described below.

TTV Statistics

Check this option if you want the results of the Total Temperature Value (TTV) statistics calculations to be exported. If this option is checked, the TTV results as displayed in the statistics view are written to the export file.

Turn this option off if you do not want the TTV statistics in the exported file.

> The 'Show TTV Statistics' option (on the Statistics Options tab) must be checked in order for the TTV statistics to be exported.

> When the field delimiter is set to a non-space character, extra delimiters are inserted when the TTV totals are exported. This is so that the totals will align properly with the individual TTV period data and column headers when the exported file is imported into a spreadsheet

MS Access TTV Statistics

Check this option if you want the results of the Total Temperature Value (TTV) statistics calculations to be exported in a format more suitable for importing into Microsoft Access or Microsoft Excel.. If this option is checked, the TTV results as exported as a series of rows as shown in the following example:

"Serial No","Sample Period","Start Sample","Start Sample DateTime","TTV Period","Periods Specified","Periods Shown","Period Number","TTV Below","TTV Above"
"S2222849","60","1","4/03/1997 17:20:36","0.041667","5","5","1","0","186"
"S2222849","60","1","4/03/1997 17:20:36","0.041667","5","5","2","0","663"
"S2222849","60","1","4/03/1997 17:20:36","0.041667","5","5","3","10","0"
"S2222849","60","1","4/03/1997 17:20:36","0.041667","5","5","4","0","990"
"S2222849","60","1","4/03/1997 17:20:36","0.041667","5","5","5","0","861"

The first line is only exported if the **Include Header Row** option is checked. To import in MS Access you should have a table defined with field names the same as those shown above. Each line will then be imported as a single record in the table.

The '**Show TTV Statistics**' option (on the Statistics Options tab) must be checked in order for the MS Access TTV statistics to be exported, and the **Show Brief TTV Statistics** option must not be checked.

PHI Statistics

Check this option if you want the results of the PHI (Process Hygiene Index) statistics calculations to be exported. If this option is checked, the PHI results as displayed in the statistics view are written to the export file.

The '**Show Growth Statistics**' option must be checked in order for the PHI (Process Hygiene Index) statistics to be exported.

Rate of Cooling Statistics

Check this option if you want the results of the Rate of Cooling (ROC) statistics calculations to be exported. If this option is checked, the ROC results as displayed in the statistics view are written to the export file.

The '**Show Rate of Cooling Statistics**' option must be checked in order for the ROC statistics to be exported.

Sample Range

Use this option to specify what samples are written to the ASCII file. This option only has an effect when the **Values** export option is checked.

◆ '**Entire Record**' specifies that all samples read from the currently loaded Temprecord file or the logger are to be written to the ASCII file (or averaged and then written to the file, if **Averaging** is set to a value other than 1).
◆ '**Visible Window**' specifies that only those samples displayed in the current Temprecord data graph view window are to be written to the ASCII file (or averaged and then written to the file, if '**Averaging**' is set to a value other than 1).
◆ '**From Start to End Markers**' specifies that only those samples between the start and end samples are to be written to the ASCII file (or averaged and then written to the file, if '**Averaging**' is set to a value other than 1).

See also:

Graph view options

Statistics view options

Exporting daily average temperatures

Printing Options

Total Temperature Value (TTV)

10.11.1 Copy to Clipboard, Excel Options

Copying to the Clipboard

Temprecord can copy temperature data to the Windows clipboard. Once the data is in the clipboard it can be pasted to other applications such as Microsoft Word or NotePad.

Include date in copy to clipboard

Check this option if you wish the date and time to be copied to the clipboard when the Copy to Clipboard function is used. The date and time are formatted according to the local Control Panel settings for the display of date and time.

Exporting to Excel

Temprecord can export temperature data directly to Microsoft Excel. This is useful where you have additional data manipulation to carry out.

Include date in copy to Excel

Check this option if you wish the date and time to be copied to the clipboard or the Excel when the Copy to Spreadsheet function is used. The date and time are formatted according to the local Control Panel settings for the display of date and time.

Include "xxx" in copy to Excel

Check these other options if you wish the corresponding statistical data copied to the Excel when the Copy to Spreadsheet function is used.

- If the copied data is a date and time the date and time are formatted according to the local Control Panel settings for the display of date and time.
- If the copied data is a temperature value it is formatted with 2 decimal places.
- If the copied data is a duration it is formatted as a real number with 8 decimal places. The value of the real number is the corresponding duration in days, which is how Excel represents date and time, thus a duration of 6:00:00 hours will show as 0.25000000.

Named Ranges

When Temprecord exports spreadsheet data to an Excel file, it also sets up what are known as "named ranges". For example, if the logger sample period is exported to the Excel file, a named range called "SamplePeriod" is also defined. This allows you to reference the sample period in a formula by the name "SamplePeriod", rather than by using an absolute cell reference such as "B3". Using named ranges instead of absolute cell coordinates has the advantage that any calculations you set up that reference this cell's value will still be correct if the position in the spreadsheet of the sample period changes.

As a rule, the exported parameters have named ranges defined that is the same as the annotation with the characters such as spaces and periods (that are not permitted in Excel named ranges) removed. For example the 2nd line of User data has the annotation "User Data 2" and it's named range is "UserData2".

For the majority of named ranges, the defined range is just one cell, i.e. the named range for "SerialNumber" might be the cell "B1". There are three named ranges defined that span a group of cells. These are called "Date", "Temperature" and "Humidity", and are defined as the first entry to the last entry in the respective column.

In order to see what the name of the named range is that Temprecord has assigned to a cell, export your data to a spreadsheet and click in the cell of interest. If a named range has been defined, it will appear in the top left of the Excel window.

In the example shown below, the cell containing the lower temperature limit has been selected, and the named range for that cell is shown as "LowerTemperatureLimit".
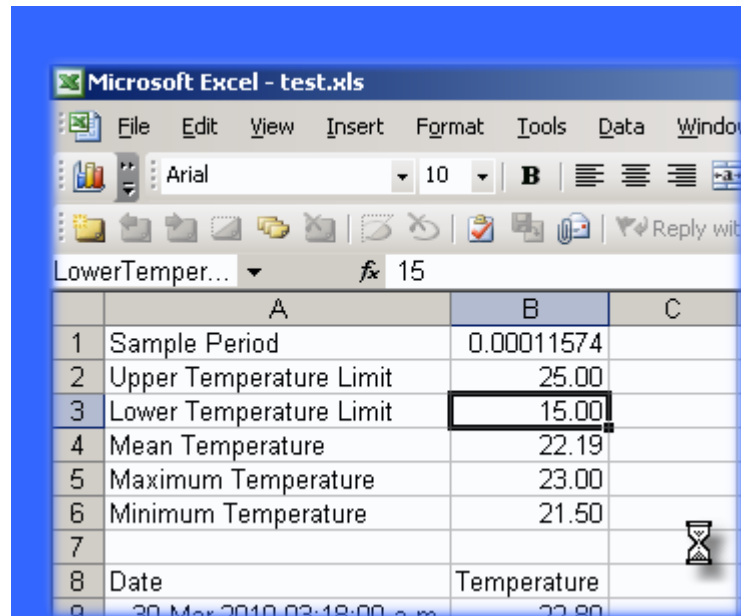
Prompt for spreadsheet filename

Check this option if you wish to be prompted for the spreadsheet (.XLS file) name when the Copy to Spreadsheet function is used. If this option is not checked, Temprecord will derive a name based on the current TRX data filename or if the current logger data has not yet been saved to a file, based on the settings for the default filename.

Prompt before overwriting spreadsheet

Check this option if you wish Temprecord to prompt you when the spreadsheet file being saved already exists. If this option is clear, an existing file of the same name will be overwritten with no warning.

Open spreadsheet after copy

Check this option if you wish Temprecord to open the data saved to a spreadsheet with Excel after the save is completed. Microsoft Excel must be installed on the machine.

See also:
Copy to Clipboard
Copy to Excel

10.12 Printing Options

Use the **Options/Printing** page to set up how your printed reports are formatted.

Summary

Check the '**Summary**' option if you wish the summary to be printed. The information printed is the same as that shown in the summary view window, except that there are options for independently determining whether the comment lines and user data are printed.

User Data Lines

Specify the number of lines (zero through 5) of user data you wish to print.

Statistics

Check the '**Statistics**' option if you wish the statistical data to be printed. The information printed is the same as that shown in the statistics view window.

If the start and end samples are not set to the first and last sample, an additional set of statistical information is printed for the samples between the start and end markers.

If the data visible in the graph view is less than the entire record, an additional set of statistical information is printed for the samples visible on the graph.

If the checkbox **On new page** is checked, the statistics data starts printing on a fresh page.

Graph

Check the '**Graph**' option if you want the temperature data to be shown as a graph. Temprecord can allocate anything from 10% of the page (not very useful!) to the whole page for the graph of temperature data (see the following option '**Graph Height**'). If there is not this amount of space remaining on the page after the printing of any the previous data, the graph will be printed on the next page. The samples that are printed depend on the settings of the '**Sample Range**' below.

If the checkbox **On new page** is checked, the graph data starts printing on a fresh page.

If the checkbox **Full page landscape** is checked, the graph will be sized to occupy the whole page, and rotated so that it is in "landscape" view (with the longer edge of the paper horizontal). This option forces the graph to start on a new page. If a PDF file is being produced or previewed and the PDF orientation is set to portrait, it is switched to landscape for the page the graph is on, then returned to portrait for any remaining pages. Similarly if the output is being sent to the printer and the printer orientation is set to portrait, it is switched to landscape for the page the graph is on, then returned to portrait for any remaining pages.

If the checkbox **Serial Number** is checked, the logger serial number is printed above the graph. If the **On new page** option is checked, the new page is forced before the serial number is printed. This option does not affect the printing of the serial number as part of the report summary.

If the checkbox **User Data** is checked, the logger user data is printed above the graph. If the **On new page** option is checked, the new page is forced before the user data is printed. This option does not affect the printing of the user data as part of the report summary. The number of user data lines printed is determined by the User Data Lines summary option described above.

The graph options **Serial Number** and **User Data** are intended for the production of single-page reports where only the graph is required and serial number and the user data.

Graph Height

Use this option to specify the height of the graph printed in the report. This option is only used if the '**Graph**' option described above is also checked. The height is specified in terms of a percentage of the available page height.

If you set the printer to Landscape orientation instead of Portrait, the graph height is measured relative to the height of the landscape page

Sample Range

Use this option to specify what samples are shown in the graph and/or values in the printed and PDF output. This option is only used if the '**Graph**' and/or '**Values**' options described above are also checked.

- 'Entire Record' specifies that all samples read from the currently loaded Temprecord file or the logger are to be printed.

- 'Visible Window' specifies that only those samples displayed in the current Temprecord data graph view window are to be printed. If this option is used, the printed graph will have the same temperature and sample span as the displayed graph view window, and the graticule positions will be the same.

- 'From Start to End Markers' specifies that only those samples between the start and end samples are to be printed.

When the 'Visible Window' option is selected, the vertical and horizontal axes may not display as they do on the screen. See the topic Why doesn't my printed graph look the same as the one I see on screen? for more information.

Values

Check the '**Values**' option if you want the sample values to be printed as a list of numerical values, i.e. in tabular fashion.

The samples that are printed depend on the settings of the '**Sample Range**' described above.

If the checkbox **On new page** is checked, the values data starts printing on a fresh page.

Only the samples between the start and end markers are included when you print the values in tabular fashion. If you want all the samples to be printed, make sure all the samples are selected (use the Select All function).

Be careful when using this option. Depending on the settings of the text font, the columns, and the sample range, you can generate a large amount of printout !

Auto-wrap Columns

If you want Temprecord to print only as many values as will fit across the page, then '**Auto-wrap columns**' should be checked. If you want Temprecord to print a fixed number of columns across the page, whether they would fit or not, the '**Auto-wrap columns**' should be unchecked. You can then change the number of columns in the '**Columns**' field.

Columns

The columns option sets the number of columns across the printed page when the temperature values are printed. This option is useful when you wish each line of values to correspond to a particular time interval. If you specify a sample period of 5 minutes for example, and you set the number of columns to 12, then each line will contain 1 hours worth of samples.

If you specify more columns here than will fit across the printed page, not all of the temperature values will print. If you want all temperature values to be visible, make sure the '**Auto-wrap columns**' option is on.

Show Date/Time

Check this option to cause the date and time to be written at the left of the page. The date and time printed is that of the sample immediately following.

Show Day Transitions

Check this option to show the transitions from one day to the next to be shown as a new line. If this option is checked, only the time is printed at the left-hand side of each line.

Units

Check this option if you want the units printed as a single character (**C** or **F**) after temperature values, or as **%RH** after humidity values.

Degrees

Check this option if you want the degrees symbol (°) printed after temperature values.

Comma

Check this option if you want a comma printed between each pair of temperature/humidity values. This option has no effect if only one of temperature or humidity is printed.

Parentheses

Check this option if you want left and right parentheses printed around each pair of temperature/humidity values. This option has no effect if only one of temperature or humidity is printed.

Preview

As you alter the above options, the three preview panels show the effect the current set of options has on the printing of each of a temperature value, humidity value, or temperature/humidity value pair.

Set Print Colors

Click on this button to display or alter a matrix of the colors currently used in printed reports. See Set Print Colors for more information.

Header and Footers, Paper Size

Click on this button to set the header and footers, and paper size and orientation used on the printed reports. See Header and Footers, Paper Size for more information.

See also:

10.13 Set Print Colors

Some monochrome printers, particularly higher-resolution laser printers, will attempt to render colored text as varying shades of gray, with the result that some graph features or text may not be readable.

Check the **Monochrome Print** option if you are printing on a black-and-white printer. Temprecord will not send any color information to the printer. Any text or graphics which are non-white will be rendered in black on the printer.

Check the **Use gray-scale** option if you want Temprecord to use shades of gray with approximately the same density as the colors defined. This can make reports printed on a monochrome printer easier to read.

You can also use these options if you have a color printer, but you do not want the printed output to be in color.

Check the **Use screen colors on printer output** option if you want Temprecord to use the same colors on the printed reports as are used for the on-screen display of Temprecord data. If this box is checked then the color options on this options page have no effect and they are disabled.

10.14 Header and Footers, Paper Size

Page Format

Select the paper size and orientation to be selected whenever a PDF report file is created or previewed.

Note that these settings will not apply to any reports printed directly from Temprecord. In this case the page format is determined by the settings for the current printer.

If a PDF file is previewed and printed from the PDF viewer, the page size and format assumed is determined by those of the PDF itself.

Print Header and Print Footer Options

Check the **Enable Print Header/Footer** option if you want a page header/footer included with the PDF reports or printed output.

Check the **Use header/footer** space for content option if you want the space on the page normally occupied by the header/footer to be included in the body of the printed report. If this option is not checked and the **Enable Print Header/Footer** option is also not checked, the header/footer will not print, but the space normally occupied by the header/footer is left blank.

Fill in the three fields with the text you want displayed in the left-hand side, the center, and the right-hand side respectively of the header/footer. The left hand text is aligned with the left margin. The center text is centered between the left and right margins. The right-hand text is right-justified against the right-hand margin.

Any of the text fields may overflow into the adjacent fields, and it is your responsibility to make sure they do not overlap. Thus it is possible to have a left-hand header or footer that extends right across the page, provided the corresponding center and right-hand header/footer are set to blank strings.

Meta-string Substitution

Header and footers may include "meta-strings". These strings are expanded (i.e. substituted by another string) at the time of report generation. There are meta-strings which are common throughout Temprecord software, and there are some which are particular to print headers and footers. The meta-strings that are common are:

Meta-string	Use	Example	Output
%Version%	TRW software version	"Printed with v%Version%"	Printed with v5.28.0.2533.tr
%Build%	TRW software build	"Saved with build %Build%"	Printed with build 2533.tr
%User%	logged in Windows user	"Printed by user %User%"	Printed by user Fred.tr
%Computer%	computer name	"Printed from PC %Computer%"	Printed from PC Fred's Workstation.tr
%Workgroup%	computer workgroup	"This file is from the %Workgroup% group"	This file is from the Administration group.tr
%Date%	Inserts the date in the users short date format	"Reception %Date%"	Reception 23-8-2012
%Time%	Inserts the current time in the user's long time format	"Saved at %time%"	Saved at 15_09_26.tr
%DateTime%	Inserts the date and time in the users short date	"Saved %DateTime%"	Saved 23-8-2012 15_09_26.tr

	and long time format		
%%<env var>%%	environment variable	"%%TEMP%%"	C:\DOCUME~1\jrm\LOCALS~1\Temp\

Additional meta-strings which are valid inside header and footer specifications are:

Meta-string	Use	Example	Output
%Page%'	current page	Page %Page%	Page 1
%Pages%'	total pages	Page %Page% of %Pages%	Page 1 of 4
%SN%	logger serial number	Logger %SN%	Logger S1234567
%User1%..%User5%	logger user data	%User4%	<logger user data line 4 will be displayed>
%Filename%	the filename part of the .TRX file associated with the data	File %Filename%	File S1234567.tr
%NPS%	the name of any named parameter set loaded	Parameters from "%NPS%.nsp"	Parameters from "Plasma.nsp"
%PrintDateTime%	date and time report printed	Printed on %PrintDateTime%	Printed on 1/2/2010 12:55:02
%StartDateTime%	date and time the logger was started	Logger started on %StartDateTime%	Logger started on 21/12/2009 15:00:56

The following meta-strings are expanded into various parameters and statistics from the logger data set:

Meta-string	Use	Example	Output
%Samples%	number of samples	Logger %SN% "(%Samples% samples)"	Logger S1234567 (1778 samples)
%SamplePeriod%	sample period	Samples were %SamplePeriod% apart	Samples were 0:02:30 apart
%Markers%	number of markers	%Markers% markers in file	17 markers in file
%StartDelay%	start delay	Logger start delay was %StartDelay%	Logger start delay was 0:01:00
%StartSample%	start sample (F7 key)	Statistics are for samples %StartSample% to %EndSample%	Statistics are for samples 100 to 199
%EndSample%	end sample (F8 key)	Statistics are for samples %StartSample% to %EndSample%	Statistics are for samples 100 to 199
%StartDate%	date of start sample	Statistics are for samples between %StartDate% and %EndDate%	Statistics are for samples between 12-11-2013 10:00:14 and 13-11-2013 02:10:44

%EndDate%	date of end sample	**Statistics are for samples between %StartDate% and %EndDate%**	**Statistics are for samples between 12-11-2013 10:00:14 and 13-11-2013 02:10:44**
%FirstDate%	date of first sample	**Logger first sample taken was at %FirstDate%**	**Logger first sample taken was at 12-11-2013 08:00:14**
%LastDate%	date of last sample	**Logger last sample taken was at %LastDate%**	**Logger last sample taken was at 13-11-2013 02:10:44**
%User1%.. %User5%	Lines 1..5 of user data.	**%User1%, %User2%**	**Contents: Frozen Lamb, Origin: Auckland Coolstore**
%UserData%	All lines of user data (only valid inside the body of an email - **%UserData%** is not recognized inside the subject line of an email)	**User Data: %UserData%**	**User Data: Contents: Frozen Lamb Origin: Auckland Coolstore Destination: Christchurch Container: SKK2311**
%NPS%	name of any programmed Named Parameter Set	**Parameters: %NPS%**	**Parameters: Conditioned blood products**
%SN%	logger serial number	**Logger %SN%**	**Logger s1234567**
%Owner%	programmed owner name	**Return logger to %Owner%**	**Return logger to Waikato**
%Firmware%	version number of logger firmware.	**%Firmware%**	**4.1.6.0**
%TMean%	mean value of temperature samples between start and end samples	**Mean temperature between %StartDate% and %EndDate% was %TMean%**	**Mean temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -18.311**
%TMax%	maximum temperature between start and end	**Maximum temperature between %StartDate% and %EndDate% was %TMax%**	**Maximum temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -17.580**
%TMin%	minimum temperature between start and end	**Minimum temperature between %StartDate% and %EndDate% was %TMin%**	**Minimum temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -18.950**
%TMaxSample%	sample number of maximum temperature	**Maximum temperature (%TMax%) occurred sample %TMaxSample% at %TMaxDate%**	**Maximum temperature (-17.580) occurred sample 3312 at 12-11-2013 23:38:14**
%TMinSample%	sample number of minimum temperature	**Minimum temperature (%TMin%) occurred sample %TMinSample% at %TMinDate%**	**Minimum temperature (-18.950) occurred sample 3465 at 13-11-2013 02:57**
%TMaxDate%	date-time of maximum temperature	**Maximum temperature (%TMax%) occurred sample %TMaxSample% at %TMaxDate%**	**Maximum temperature (-17.580) occurred sample 3312 at 12-11-2013 23:38:14**

%TMinDate%	date-time of minimum temperature	Minimum temperature (%TMin%) occurred sample %TMinSample% at %TMinDate%	Minimum temperature (-18.950) occurred sample 3465 at 13-11-2013 02:57
%MKT%	mean kinetic temperature between start and end samples	Mean kinetic temperature between samples %StartSample%-%EndSample% was %MKT%	Mean kinetic temperature between samples 100-199 was -18.905
%HMean%	mean value of humidity samples between start and end samples	Mean humidity between %StartDate% and %EndDate% was %TMean% %RH%	Mean humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 64.2 %RH
%HMax%	maximum humidity between start and end	Maximum humidity between %StartDate% and %EndDate% was %HMax% %RH%	Maximum humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 70.0 %RH
%HMin%	minimum humidity between start and end	Minimum humidity between %StartDate% and %EndDate% was %HMin% %RH%	Minimum humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 58.5 %RH
%HMaxSample%	sample number of maximum humidity	Maximum humidity (%HMax% %RH%) occurred sample %HMaxSample% at %HMaxDate%	Maximum humidity (70.0 %RH) occurred sample 3312 at 12-11-2013 23:38:14
%HMinSample%	sample number of minimum humidity	Minimum humidity (%HMin% %RH%) occurred sample %HMinSample% at %HMinDate%	Minimum humidity (58.5 %RH) occurred sample 3465 at 13-11-2013 02:57
%HMaxDate%	date-time of maximum humidity	Maximum humidity (%HMax% %RH%) occurred sample %HMaxSample% at %HMaxDate%	Maximum humidity (70.0 %RH) occurred sample 3312 at 12-11-2013 23:38:14
%HMinDate%	date-time of minimum humidity	Minimum humidity (%HMin% %RH%) occurred sample %HMinSample% at %TMinDate%	Minimum humidity (58.5 %RH) occurred sample 3465 at 13-11-2013 02:57

See also:

Printer options
Meta-strings
Meta-strings in file and folder names
Meta-strings in email messages
Meta-strings in user data
Meta-strings in parameter sets

10.15 What about the Default Parameters?

Previous versions of Temprecord software implemented a "default" set of parameters that could be loaded into the parameters dialog when the settings were read from the logger. The defaults were more or less like a named parameter set, but there was only one of them, and they didn't have a name.

Although the parameter defaults have effectively been superceded by Named Parameter Sets, the original default parameter settings are still implemented. The way in which they are used has changed slightly, but it is unlikely the changes will be visible, or affect how you use the Temprecord program.

- The defaults are now stored in a Named Parameters Set called (appropriately) **Defaults,** in a NPS file named **Defaults.nps**.
- When Temprecord starts, if the **Defaults.nps** file isn't found, a new one is created, and the default parameters initialized with whatever the existing parameter defaults were. This means that the first time you start this version of Temprecord, it will read your existing default settings and assign them to the **Defaults.nps** file.
- The **Default Options** tab is still present, but has had additional controls to allow you to load default parameters from a Named Parameters Set and also save the default parameters to a Named Parameters Set.
- The button in the Program/Parameters dialog to load a logger's settings from the defaults is still present and still behaves as it did before.
- The option to load a logger with the defaults when reusing a logger in Auto Mode is still present, and you also now have the option of loading the logger's parameters from any Named Parameters Set in Auto Mode.

Remember: The default settings are still present and still work in the same way, but you now have the added functionality of loading and saving the default settings to a Named Parameters Set.

See also
Managing Named Parameter sets

10.16 Managing Named Parameter Sets

Use the Options/Defaultss tab to manage your named parameter sets. Named Parameter Sets (NPS's) are collections of logger settings that are stored in files on your computer and can be referenced by name (the name of the file).

The fields in this page and their layout are the same as those in the Program/Parameters form, apart from the password fields. You cannot specify a password in your default parameters, and passwords are not stored in a NPS file.

All of the NPS-related functions possible in the **Options**/**Defaults** tab are also possible from the parameters dialog that is displayed when the settings are read from a logger. The difference is:

- you don't need to have a logger in order to manage your NPS's.
- it is not possible to directly save these settings to a logger.

Once you have set up your defaults, you can load them into the Program/Parameters form by clicking on the **Defaults** button.

The start delay default value specified here is also used whenever a logger is reused. If you enter a value of (say) 00:02:00 in the default start delay field, the logger start delay will be set to 2 minutes when the logger is reused. You can still change it before starting the logger.

See the topic Programming a Logger's Parameters for more information about the fields on this options page.

See also:
Where have the defaults gone?
What about the Default Parameters?
Programming a Logger's Parameters
Mon-T Parameter Defaults

10.17 Where have the defaults gone?

Previous versions of Temprecord software implemented a "default" set of parameters that could be loaded into the parameters dialog when the settings were read from the logger. The defaults were more or less like a named parameter set, but there was only one of them, and they didn't have a name.

Although the parameter defaults have effectively been superceded by Named Parameter Sets, in order to preserve the behaviour of existing installations that might be using the old default settings, they are still supported, but with the following changes:

- The defaults are now stored in a Named Parameters Set called (appropriately) **Defaults,** in a NPS file named **Defaults.nps**.
- When Temprecord starts, if the **Defaults.nps** file isn't found, a new one is created, and the parameters filled with whatever the existing parameter defaults were. This means that the first time you started this version of Temprecord, it read your existing default settings and assigned them to the **Defaults.nps** file.
- The **Default Options** tab is still present, but has had additional controls to allow you to load default parameters from a Named Parameters Set and also save the default parameters to a Named Parameters Set.
- The button in the Program/Parameters dialog to load a logger's settings from the defaults is still present and still behaves as it did before.
- The option to load a logger with the defaults when reusing a logger in Auto Mode is still present, and you also now have the option of loading the logger's parameters from any Named Parameters Set in Auto Mode.

Remember: The default settings are still present and still work in the same way, but you now have the added functionality of loading and saving the default settings to a Named Parameters Set.

See also
Managing Named Parameter sets

10.18 Mon-T Parameter Defaults

The **Mon-T** parameter defaults allow you to specify the **Mon-T** - specific parameters used when assigning default parameters in the Program Parameters dialog or when using the Load Parameters from Defaults function in Auto Mode and a **Mon-T** logger is being processed.

Don't confuse the display units with the Mon-T Logger Units. The Mon-T Logger Units determine what units are used when programming the Mon-T - specific parameters (Minimum Temperature, and Resolution). The display units determine how temperatures are displayed in the Temprecord program.

See also:
Parameter Defaults
Program Parameters dialog
Load Parameters from Defaults
Auto Mode

10.19 Parameter Defaults

Parameter defaults are still supported, but within the framework of Temprecord's Named Parameter Sets. See Where have the defaults gone? for more information.

See also:
Managing Named Parameter Sets
Where have the defaults gone?
Programming a Logger's Parameters

10.20 Email Options

The Email options are provided so that you can customize the email message that accompanies files when you send them by email.

To:

Enter the email addresses of the recipients, separated by commas.

From:

Enter your name and email address, in the format **Your Name <your email address>**.

Note that when sending mail by the SMTP method, some mail servers require a valid **"From:"** address to be supplied before they will accept the message.

Whatever you enter in this field is used to supply the data for the **%Name%** and **%Email%** meta-strings. So if you have the **From:** field set as:

Joe Bloggs <joe@mycompany.com>

then you could have in the **Message:** field:

My name is %Name% and my email address is %Email%

and it would appear in the body of the email as:

My name is Joe Bloggs and my email address is joe@mycompany.com%

Subject:

Enter the subject line of the email. This is optional. You can use special formatting keywords in the subject. These are replaced at the time the email is queued for sending by text according to the rules specified below in the section "Formatting".

Message:

Enter the body of the email message. This is optional. You can use special formatting keywords in the body of the email message. These are replaced at the time the email is queued for sending by text according to the rules specified below in the section "Formatting".

Email Method

Mail can be sent by two methods. SMTP (Simple Mail Transfer Protocol) requires no additional software to be installed on your computer, but preview of the email before sending is not possible. MAPI (Messaging Application Programming Interface) requires that the MAPI interface be installed on your computer. If you have an a mail client such as Microsoft Outlook or Outlook Express this will generally be the case. When Temprecord sends an email, the MAPI interface starts up your email client and uses that to send the email. In most cases, this will not in fact send the email, but place a copy of it in your Outbox. With MAPI therefore, you have the opportunity to review, edit, or delete the emails before they are sent.

Temprecord can send files via MAPI as long as your computer has the MAPI interface installed. No other configuration should be required. If you need to send email via SMTP, the SMTP Email Options will need to be configured.

Display message in email client before sending

(MAPI only) Check this option if you w ant to display the email in your email client before sending it. You then have the option of editing the text of the email, attaching further files manually, adding or removing recipients, etc.

If the above option is not checked (i.e. don't preview the message), some later versions of email client softw are w ill detect that another program (i.e. Temprecord) is trying to use it to send email. This behaviour is how some email viruses propagate themselves and the email client is preventing it. You might find that you need to click on **OK** or **Yes** in a dialog before the email w ill send.

Meta-strings in Email Messages

Temprecord looks for certain character combinations (called "meta-strings") in your email subject line and message text and replaces them w ith text if they are found. There are meta-strings w hich are common throughout Temprecord softw are, and there are some w hich are particular to emails. The meta-strings that are common are:

Meta-string	Use	Example	Output
%Version%	TRW softw are version	"Sent with v%Version%"	Sent with v5.28.0.2533.tr
%Build%	TRW softw are build	"Sent with build %Build%"	Sent with build 2533.tr
%User%	logged in Window s user	"Sent by user %User%"	Sent by user Fred.tr
%Computer%	computer name	"Sent from PC %Computer%"	Sent from PC Fred's Workstation.tr
%Workgroup%	computer w orkgroup	"This file is from the %Workgroup% group"	This file is from the Administration group.tr
%Company%	organization name	%Company%	My Company Ltd.
%Date%	Inserts the date in the users short date format	"Reception %Date%"	Reception 23-8-2012
%Time%	Inserts the current time in the user's long time format	"Sent at %time%"	Saved at 15_09_26.tr
%DateTime%	Inserts the date and time in the users short date and long time format	"Sent %DateTime%"	Saved 23-8-2012 15_09_26.tr
%%<env var>%%	environment variable	"%%TEMP%%"	C: \DOCUME~1\jrm\LOCALS~1 \Temp\

Additional meta-strings w hich are valid inside an email subject line or body are show n below :

Meta-string	Use	Example	Output
%To%	list of recipients	%To%	fred@mycompany.com, jane@mycompany.com
%From%	sender's name and email address	%From%	Joe Bloggs <joe@mycompany.com>

%Name%	sender's name	Regards, %Name%	Regards, Joe Bloggs
%Email%	sender's email address		joe@mycompany.com
%Files%	names of any attached files, separated by commas	%Files% attached	Report1.pdf, Report2.pdf attached

It is also possible to specify meta-strings that reference items from the logger data set. These meta-strings are shown below, along with examples of the output that would result if the meta-string was used in an email message template subject line or body.

Meta-string	Use	Example	Output
%Samples%	number of samples	Logger %SN% "(%Samples% samples)"	Logger S1234567 (1778 samples)
%Markers%	number of markers	Logger %SN% "(%Markers% samples)"	Logger S1234567 (17 markers)
%SamplePeriod%	sample period	Samples were %SamplePeriod% apart	Samples were 0:02:30 apart
%StartDelay%	start delay	Logger start delay was %StartDelay%	Logger start delay was 0:01:00
%StartSample%	start sample (F7 key)	Statistics are for samples %StartSample% to %EndSample%	Statistics are for samples 100 to 199
%EndSample%	end sample (F8 key)	Statistics are for samples %StartSample% to %EndSample%	Statistics are for samples 100 to 199
%StartDate%	date of start sample	Statistics are for samples between %StartDate% and %EndDate%	Statistics are for samples between 12-11-2013 10:00:14 and 13-11-2013 02:10:44
%EndDate%	date of end sample	Statistics are for samples between %StartDate% and %EndDate%	Statistics are for samples between 12-11-2013 10:00:14 and 13-11-2013 02:10:44
%FirstDate%	date of first sample	Logger first sample taken was at %FirstDate%	Logger first sample taken was at 12-11-2013 08:00:14
%LastDate%	date of last sample	Logger last sample taken was at %LastDate%	Logger last sample taken was at 13-11-2013 02:10:44
%User1%.. %User5%	Lines 1..5 of user data.	%User1%, %User2%	Contents: Frozen Lamb, Origin: Auckland Coolstore
%UserData%	All lines of user data (only valid inside the body of an email - %UserData% is not recognized inside the subject line of an email)	User Data: %UserData%	User Data: Contents: Frozen Lamb Origin: Auckland Coolstore Destination: Christchurch Container: SKK2311
%NPS%	name of any programmed Named Parameter Set	Parameters: %NPS%	Parameters: Conditioned blood products

%SN%	logger serial number	Logger %SN%	Logger s1234567
%Owner%	programmed owner name	Return logger to %Owner%	Return logger to Waikato
%Firmware%	version number of logger firmware.	%Firmware%	4.1.6.0
%TMean%	mean value of temperature samples between start and end samples	Mean temperature between %StartDate% and %EndDate% was %TMean%	Mean temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -18.311
%TMax%	maximum temperature between start and end	Maximum temperature between %StartDate% and %EndDate% was %TMax%	Maximum temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -17.580
%TMin%	minimum temperature between start and end	Minimum temperature between %StartDate% and %EndDate% was %TMin%	Minimum temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -18.950
%TMaxSample%	sample number of maximum temperature	Maximum temperature (%TMax%) occurred sample %TMaxSample% at %TMaxDate%	Maximum temperature (-17.580) occurred sample 3312 at 12-11-2013 23:38:14
%TMinSample%	sample number of minimum temperature	Minimum temperature (%TMin%) occurred sample %TMinSample% at %TMinDate%	Minimum temperature (-18.950) occurred sample 3465 at 13-11-2013 02:57
%TMaxDate%	date-time of maximum temperature	Maximum temperature (%TMax%) occurred sample %TMaxSample% at %TMaxDate%	Maximum temperature (-17.580) occurred sample 3312 at 12-11-2013 23:38:14
%TMinDate%	date-time of minimum temperature	Minimum temperature (%TMin%) occurred sample %TMinSample% at %TMinDate%	Minimum temperature (-18.950) occurred sample 3465 at 13-11-2013 02:57
%MKT%	mean kinetic temperature between start and end samples	Mean kinetic temperature between samples %StartSample%-%EndSample% was %MKT%	Mean kinetic temperature between samples 100-199 was -18.905
%HMean%	mean value of humidity samples between start and end samples	Mean humidity between %StartDate% and %EndDate% was %TMean% %RH	Mean humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 64.2 %RH
%HMax%	maximum humidity between start and end	Maximum humidity between %StartDate% and %EndDate% was %HMax% %RH	Maximum humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 70.0 %RH
%HMin%	minimum humidity between start and end	Minimum humidity between %StartDate% and %EndDate% was %HMin% %RH	Minimum humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 58.5 %RH

%HMaxSample %	sample number of maximum humidity	Maximum humidity (% HMax% %RH) occurred sample %HMaxSample% at %HMaxDate%	Maximum humidity (70.0 % RH) occurred sample 3312 at 12-11-2013 23:38:14
%HMinSample %	sample number of minimum humidity	Minimum humidity (% HMin% %RH) occurred sample %HMinSample% at %HMinDate%	Minimum humidity (58.5 % RH) occurred sample 3465 at 13-11-2013 02:57
%HMaxDate%	date-time of maximum humidity	Maximum humidity (% HMax% %RH) occurred sample %HMaxSample% at %HMaxDate%	Maximum humidity (70.0 % RH) occurred sample 3312 at 12-11-2013 23:38:14
%HMinDate%	date-time of minimum humidity	Minimum humidity (% HMin% %RH) occurred sample %HMinSample% at %TMinDate%	Minimum humidity (58.5 % RH) occurred sample 3465 at 13-11-2013 02:57

See also:

Meta-strings

Meta-strings in file and folder names

Meta-strings in printed reports headers and footers

Meta-strings in user data

Meta-strings in parameter sets

SMTP Email Options

Options Menu

10.20.1 SMTP Email Options

In order to send emails by SMTP (Simple Mail Transfer Protocol) Temprecord needs to know some information about your email provider. This information will normally be available from your IT support person or your ISP (Internet Service Provider). If your email provider is Google (i.e. GMail), see the topic Emailing Files from Temprecord using GMail.

Use TRW Internal SMTP Server

Select this option if you are unable to access an SMTP mail server from within your organization. This option is selected by default on new installations of Temprecord and you should have no need to alter it unless you are experiencing difficulties sending emails from the Temprecord program.

When this option is selected, emails are sent using Temprecord's SMTP mailer. The emails will show as originating from mailer@temprecord.com (this is to minimize the chance of the email being rejected by a spam filter), but the **Reply To** address will be set to whatever you have entered in the **From** settings in the email options, so that any recipient who replies to the emails will see a message that will be sent to your address.

Use This SMTP Server

Select this option is you need to use a particular SMTP email server to send mail. This may be necessary or desirable for various reasons:

Your organization may require you to send mail using a particular server.

Your organization may not permit accessing servers external to your computer network.

It may not be possible to use the Temprecord SMTP server when sending to some email recipients.

Using your particular email server may allow you to automatically keep a copy of the sent email.

SMTP Server

Enter the name of your SMTP (Simple Mail Transfer Protocol) server. This will be a string in the form of **smtp.mycompany.com** or **smtp.myISP.com**. If you are using GMail's SMTP server, enter **smtp.gmail.com**.

SMTP Port

Enter the SMTP port number. This will be set by your ISP and is normally port **25** for non-SSL SMTP servers, or port **465** for SSL SMTP servers. Note that Gmail uses a different port number, normally **587**.

Use SSL

Check this box if you want Temprecord to use SSL (Secure Sockets Layer) to transmit the emailed data. SSL is a high level of encryption used to protect sensitive data from unauthorized eavesdropping. Your ISP may not support SSL. You will need to check this option if you are using the GMail SMTP server.

Authentication Required

Check this box if your ISP requires you to provide authentication information (a user name and password) before you can use their SMTP server to send email. You will need to check this option if you are using the GMail SMTP server, and provide your GMail account username and password.

SMTP User Name

Enter the user name provided by your ISP for access to their SMTP server if your ISP requires you to provide authentication information. If you are using GMail's SMTP server, enter your GMail user name, i.e. if your GMail address is **fredsmith@gmail.com** you would enter **fredsmith** here.

SMTP Password

Enter the password corresponding to the above user name needed to access the SMTP server if your ISP requires you to provide authentication information.

See also:

Emailing Files from Temprecord using GMail

Error sending email

Email Options

Options Menu

10.20.2 Emailing Files from Temprecord using GMail

If your primary email service provider is GMail (Google), you will need to set up the SMTP options as follows:

SMTP Server	**smtp.gmail.com**
Port	**587**
Use SSL	**checked**
Server Requires Authentication	**checked**
User ID	**your gmail username**
Password	**your gmail password**

10.21 Language Options

Use the Options/Language page to specify the language Temprecord will use. When it is first installed, Temprecord will choose the language based on the language setting for your computer (this is normally set through the Windows Control Panel). This corresponds to the **Use regional settings** option. If you want Temprecord to always choose a particular one of the languages available, regardless of the Windows settings for language, select that language here, instead of the **Use regional settings** option.

Temprecord help will only be available in the selected language if that language's help file is installed. If Temprecord cannot find the help file, it will use the English language help. If you want to become part of the Temprecord collaborative translation effort, click here for more details.

10.22 Temprecord Foreign-language Translation

Temprecord is currently adding further foreign-language support to our products and we require translators in all of the supported languages.

The translation is carried out by a collaborative web-based interface, and updated translations are regularly incorporated into software releases of Temprecord.

- Translators need not be (and most likely will not be) the only person working on any given foreign language.
- Translators are required for both the Temprecord software application, and the on-line help system text.
- Translators are required for most of the Romance languages (currently Spanish, French, Dutch, German, Portuguese, Italian, and Swedish).
- Translators should have the target language, rather than English, as their first language.
- Translators must be technically conversant with the Temprecord range of temperature logging products.

If you are interested in helping with this effort, please contact us at info@temprecord.com.

10.23 Web Options

Use the Options/Web tab to set up Temprecord for transferring files to the web, and logging of logger operations via the web. In order to use this facility you must have arranged the facility with Temprecord.

Also see the topics Tracking, Proxy Settings, and Web Load and Save options for more details.

User Name

Enter the ID supplied to you by Temprecord, or by the administrator for your organization. Unless there is a valid user name and password provided here, you will not be able to upload datafiles and reports for storage on the web.

Password

Enter the password supplied to you by Temprecord., or by the administrator for your organization. The password will not display as you type it. You only need enter the user name and password once.

Temprecord Web URL

This field normally contains the path to the Temprecord website. It is set at installation to the default address of:

http://www.temprecord.com/

Unless you have been advised to do so, do not alter this setting.

Internet Connection

This displays the type of internet connection that was detected (one of **LAN**, **Modem**, **Proxy**, **Modem Busy**, or **Unknown**).

See also:
Tracking Options
Proxy Settings Options
Web Load and Save Options

10.23.1 Tracking Options

Web Logger Tracking is a service provided by Temprecord to allow customers to track the use of their loggers via the World-Wide Web.

Enable Logger Tracking

Check this box if you wish Temprecord to send tracking information to the web when logger operations such as starting, stopping, and reading are carried out. You must have arranged this facility with Temprecord before these functions can be used, and the computer used must be connected to the internet at least occasionally (if tracking information cannot be sent immediately it is queued and sent when a web connection is available).

Site Identifier

Fill this field in with a unique string that will serve to identify the site the tracking information was sent from, for example: "San Francisco Cold Store 7". The site identifier is included in all tracking entries recorded.

Advanced Tracking Options

You should not need to alter these settings unless directed by Temprecord.

Purge Tracking Queue Age (days)

When tracking entries cannot be sent because access to the Internet is not possible, they are queued and send when the connection comes available. This parameter specifies how many days the queued entries are kept for. If the tracking entries have not been sent by this time they are discarded.

Connect Timeout (sec)

This parameter specifies how long Temprecord will wait for a response from the web tracking server before giving up on that attempt.

Max Send Attempts

This parameter specifies how many times Temprecord will try to send each web tracking entry before giving up and discarding the entry. Note that Temprecord will not attempt to send tracking entries unless an internet connection is detected.

Time Between Retries (minutes)

This parameter specifies how many minutes Temprecord will wait before trying again to send a web tracking entry.

See also:
   Web Options
   Proxy Settings Options
   Web Load and Save Options

10.23.2 Proxy Settings Options

If your organization uses a proxy server to access the Internet, you may need to enter the details here. You should consult with your I.T. department before changing these settings.

No proxy

Select this option if your organization does not use a proxy server.

Auto-detect proxy

Select this option if your organization does use a proxy server, and you want Temprecord to try to determine the correct settings automatically..

Manual proxy

Select this option if your organization does use a proxy server, and you want to enter correct settings manually. If you select this option you will need to find out the information required to fill in the parameters described below .

HTTP Proxy server

Specify the name of the proxy server, and the port number.

Proxy server requires password

Check this box if your proxy server requires authentication (username and password).

Username and Password

Enter the username and password for your proxy server.

See also:
   Web Options
   Tracking Options
   Web Load and Save Options

10.23.3 Web Load and Save Options

Web List Folder - Connect Timeout (sec)

This parameter specifies how long Temprecord will wait for a response from the web server when requesting a list of data files.

Web Load - Connect Timeout (sec)

This parameter specifies how long Temprecord will wait for a response from the web server when requesting the data from the Temprecord data file or PDF report file.

Disable Saving to Web

Check this option if you do not want Temprecord to attempt to save the data files to the web. This option is useful if you want to save the files to the web eventually but do not have web access at the time. The files will be queued and sent when web access next becomes available.

Purge Web Save Queue Age (days)

When Temprecord data files cannot be sent because access to the Internet is not possible, they are queued and send when the connection comes available. This parameter specifies how many days the queued entries are kept for. If the web files have not been sent by this time they are discarded.

Connect Timeout (sec)

This parameter specifies how long Temprecord will wait for a response from the web server when saving a file before giving up on that attempt.

Max Save Attempts

This parameter specifies how many times Temprecord will try to save each queued file before giving up and discarding the file. Note that Temprecord will not attempt to save files to the web unless an internet connection is detected.

Time Between Retries (minutes)

This parameter specifies how many minutes Temprecord will wait before trying to save a file again.

See also:
Web Options
Tracking Options
Proxy Settings Options

10.24 Auto Mode Options

Use the **Options/Auto Mode** page to change the behaviour of Temprecord's Auto Mode. Auto Mode providfes a means of rapidly processing a quantity of loggers, with little more user intervention than inserting and removing the logger from a reader.

Timeout

This option sets the number of seconds before auto mode times out and exits when either waiting for a logger or waiting for the logger to be removed after completion.

Stop Logger if necessary

Check this option if you want Temprecord Auto Mode to stop a logger that is logging. If the logger is already stopped, no action is taken

Read Logger

Check this option if you want Temprecord Auto Mode to read the data from the logger.

Save TRX file

Check this option if you want Temprecord Auto Mode to read the data from the logger and save it to a disk file. The name used for the file is determined by the formatted filename option. The folder used is determined by the folder to save TRX files. If you select the **Save TRX file** option, the **Read Logger** option will be selected for you.

Save to Web (TRX files)

Check this option if you want Temprecord Auto Mode to read the data from the logger and save it to Temprecord's remote web storage facility. You must have arranged this facility beforehand with Temprecord. The name used for the file is

determined by the formatted web filename option. The folder used is determined by the folder to save web TRX files. If you select the **Save to Web** option, the **Read Logger** option will be selected for you.

Email TRX file

Check this option if you want Temprecord Auto Mode to email the TRX file. If you select the **Email TRX file** option, the **Read Logger** option will be selected for you, and the data is automatically saved to a TRX file, regardless of the **Save TRX file** auto mode option.

Save PDF File

Check this option if you want Temprecord Auto Mode to read the data from the logger and save it to a PDF file. The name used for the file is determined by the formatted PDF filename option. The folder used is determined by the folder to save PDF files. If you select the **Save PDF File** option, the **Read Logger** option will be selected for you.

The contents of the PDF report (summary, graph, etc) are determined by the printing options. The printed pages range option is ignored when generating the PDF. All pages of the report are generated to the PDF, even if a page range was selected in the print to PDF dialog.

Save to Web (PDF files)

Check this option if you want Temprecord Auto Mode to read the data from the logger, genmerate a PDF report file, and save it to Temprecord's remote web storage facility. You must have arranged this facility beforehand with Temprecord. The name used for the file is determined by the formatted web PDF filename option. The folder used is determined by the folder to save web PDF files. If you select the **Save to Web** option, the **Read Logger** option will be selected for you.

Email PDF File

Check this option if you want Temprecord Auto Mode to email the PDF report. If you select the **Email PDF File** option, the **Read Logger** option will be selected for you, and the data is automatically saved to a PDF file, regardless of the **Save PDF File** auto mode option.

Print Report

Check this option if you want Temprecord Auto Mode to send the printed report to the printer. The contents of the printed report (summary, graph, etc) are determined by the printing options. All pages of the report are printed, even if a page range was selected in the print dialog. If you select the **Print Report** option, the **Read Logger** option will be selected for you.

Reuse Logger

Check this option if you want Temprecord to reuse the logger. The logger must be stopped. Remember that reusing a logger clears any logged data so you should use the **Read Logger** and **Save TRX file** options in conjunction with **Reuse Logger** also.

Reusing the logger will only be successful if the logger is in the **Stopped** state by the time the **Reuse Logger** stage of Auto Mode is reached.

Load Parameters

Check this option if you want Temprecord Auto Mode to program a set of parameters into the logger. The parameter set programmed can be those parameters as set in the Default Parameter settings, or they can come from a Named Parameter Set.

> ⚠️ Note that if this function is used, whatever parameters are programmed into the logger will be overwritten, including the user data, which may have been set explicitly for the previous trip.

Loading parameters will only be successful if the logger is in the **Ready** state by the time the **Load Parameters** stage of Auto Mode is reached (for example, if the logger was stopped and then read by previous Auto Mode steps, then the **Reuse** Auto Mode step will need to be enabled).

Start Logger

Check this option if you want Temprecord Auto Mode to start the logger.

Starting the logger will only be successful if the logger is in the **Ready** state by the time the **Start Logger** stage of Auto Mode is reached (for example, if the logger was stopped and then read by previous Auto Mode steps, then the **Reuse** Auto Mode step will need to be enabled).

See also:

Auto Mode Operation
Named Parameter Sets
Default Options
Formatted File and Folder Names
Formatted Web File and Folder Names
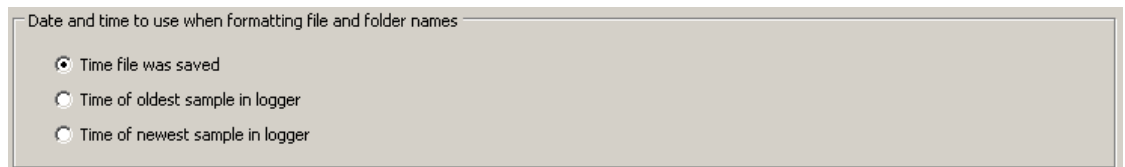
10.25 Date Formatting Options

When **Temprecord** generates a filename, either as a result of an Auto Mode save operation, or as the default filename when you save data from a logger you have just read, the date and time can be used to format the file and/or folder names.

These options affect how the date is used to affect the generated file and folder names.

Date and time to use when formatting file and folder names

This option sets what date and time is used to format the file and/or folder name.

- If **Time file was saved** is selected, the date and time at the instance the file is created is used.
- If **Time of oldest sample in logger** is selected, the date and time of the oldest sample in the logger or file is used. Note that this will not necessarily be the date and time of the first sample taken by the logger for that trip, if overwrite is enabled.
- If **Time of newest sample in logger** is selected, the date and time of the most recent sample taken in the logger will be used.
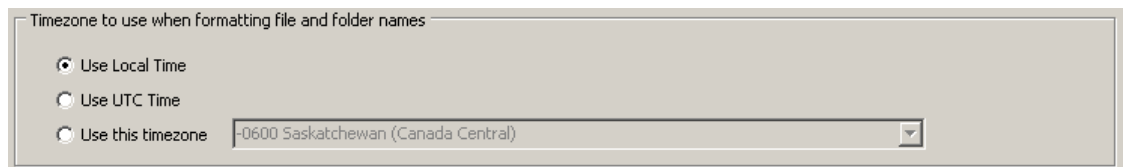
Timezone to use when formatting file and folder names

This option determines what timezone is used when a date and time is used to generate a file or folder name.

- If **Use Local Time** is selected, the local time as set on the computer currently running the **Temprecord** program will be used. This is normally the date and time displayed in the bottom right-hand corner of the desktop. Note that this time is affected by the current status of any daylight savings time ("summer" time) that may be in force. You can also have the timezone name and offset as part of the file or folder name if you wish. See using the file and folder templates for more information.

- If **Use UTC Time** is selected, the date and time used to format any file or folder names will be UTC or GMT (Greenwich Mean Time). This option may be useful when the files need to be referred to in a timezone other than that which the logger was deployed in.
- if **Use this timezone** is selected, the date and time used to format any file or folder names will be the current date and time in the timezone displayed to the right of this option. This option may be useful when the files need to be referred to in a timezone other than that which the logger was deployed in.

Timezone to use when displaying dates

```
┌ Timezone to use when displaying dates ─────────────────────────────────────────┐
│  (•) Use Local Time                                                             │
│  ( ) Use UTC Time                                                               │
│  ( ) Use this timezone    +0200 Cairo (Egypt)                            [▼]    │
└─────────────────────────────────────────────────────────────────────────────────┘
```

This option determines what timezone is used when a date and time is displayed in the **Temprecord** program or in a printed report.

- If **Use Local Time** is selected, all dates displayed in the **Temprecord** program or in printed reports will be displayed in the local time as set on the computer currently running the **Temprecord** program. This is normally the date and time displayed in the bottom right-hand corner of the desktop. Note that this time is affected by the current status of any daylight savings time ("summer" time) that may be in force.
- If **Use UTC Time** is selected, all dates displayed in the **Temprecord** program or in printed reports will be displayed in UTC or GMT (Greenwich Mean Time). This option may be useful when loggers or files traverse timezones.
- if **Use this timezone** is selected, all dates displayed in the **Temprecord** program or in printed reports will be displayed in the timezone displayed to the right of this option. This option may be useful when the files need to be referred to in a timezone other than that which the logger was deployed in.

When the **Use this timezone** is selected, the timezone offset applied will always be the standard timezone offset for the location. If the location was in daylight time at that time, this will be ignored.

When using timezone abbreviations in file and folder names, you should bear in mind that there is currently no standardization of these, and the same abbreviation can be in use for different timezones. For example, **CST** can refer to **China Standard Time** (UTC+08:00), **Central Standard Time** (UTC-06:00) or **Cuba Standard Time** (UTC-05:00).

10.26 System Options

This options page displays useful system information that may be of use the administrators who are trying to diagnose problems with Temprecord software installation or operation.

The **System** tab shows the actual pathname to the folders used by Temprecord. It is possible to open an explorer window in any of the folders by right-clicking on the folder name. In addition, if the name shown includes a filename, and the file has an extension of **TXT**, **CHM**, or **PDF** it is possible to open the file from the right-click menu.

Each entry is explained below :

Executable

The name and path of the Temprecord executable file (Usually **TRW.EXE** for the "retail" release of Temprecord').

Help File

The name and path of Temprecord Help file. For the English-language version of help this will be **<path>\TRW_EN.CHM**. Note that there are issues with CHM help files accessed over network connections. See Modifying the Registry to Enable CHM Help across Network Drives for more details.

INI File

The name and path of **TRW.INI**, the INI file for Temprecord. The INI file contains the program settings. The location of the INI file depends on the installation option chosen.

TRX files

The default folder for TRX files. Note that this is not necessarily the current folder for TRX files. Temprecord remembers the current folder last used for a load TRX file operation and will always position itself in that folder when the Load TRX file function is used. The default folder is the folder used as the base folder (the "starting point") when any automated file TRX saving operations are used, such as Auto Mode.

PDF Reports

The default folder for PDF report files. Note that this is not necessarily the current folder for PDF report files. Temprecord remembers the current folder last used for a Save PDF Report operation and will always position itself in that folder when the Save PDF Report function is used. The default folder is the folder used as the base folder (the "starting point") when any automated report file saving operations are used, such as Auto Mode.

You can quickly open any of these folders by right-clicking on the folder name.

Email Files

When Temprecord sends emails, temporary copies of any attached TRX and PDF files are created in this folder. The folder is cleaned up when the emails have been successfully sent.

Don't modify or delete any files in this folder. Doing so will result in erroneous operation of the email system. Temprecord takes care of the maintenance of the files in this folder.

Web Save Files

When Temprecord saves files to the web, temporary copies of the files to be saved are created in this folder. The folder is cleaned up when the files have been successfully saved to the web.

Don't modify or delete any files in this folder. Doing so will result in erroneous operation of the Save to Web function. Temprecord takes care of the maintenance of the files in this folder.

Event Log

The event log files are kept in this folder. Don't modify or delete any files in this folder. Doing so will result in erroneous operation of Temprecord's event logging. Temprecord takes care of the maintenance of the files in this folder.

Installation Logs

Every time you install (or re-install) **TRW** installation log files for the application and the reader USB drivers are written to this folder. Only the most recent 20 of each file are kept. When a diagnostics report is sent to Temprecord, these files are attached to the report.

Startup Logs

Every time Temprecord starts up, a log of the key events is created and w ritten to this folder. Only the most recent 20 start-ups are recorded. When a diagnostics report is sent to Temprecord, these files are attached to the report.

Error Logs

If an internal program error should occur during Temprecord operation, the details of the error are w ritten to a file in this folder. Only the most recent 20 program errors are recorded. When a diagnostics report is sent to Temprecord, these files are attached to the report.

Temp. PDF Files

Whenever the Preview PDF Report function is used, Temprecord creates a PDF file in this folder for display w ith Adobe Acrobat Reader. Temprecord cleans the contents of this folder on startup. The user need not be concerned w ith the files in this folder.

Temp. Web Files

Whenever the Load File from Web function is used, Temprecord creates a temporary copy of the file for display in this folder. The user need not be concerned w ith the files in this folder.

Send Diagnostics Report

Click this button to send a diagnostics report to Temprecord. You may be asked to do this by Temprecord personnel if you are experiencing difficulties w ith Temprecord softw are. See diagnostics reports for more information.

10.27 Diagnostics Reports

You can request that a **diagnostics report** be generated and sent to Temprecord. To do this, open the Options dialog and select the System page. Click on the button labeled **Send**.

The diagnostics report contains information about your computer system and can help Temprecord w hen diagnosing problems you may be having.

The report contains information including:

- The current settings of Temprecord, w hich are saved in a file called TRW.INI
- A log of the events occurring as Temprecord w as started up.
- A log of previous Temprecord softw are installations on the PC.
- An image of the screen contents w hen the report w as requested.
- Information about the computer system running the Temprecord program

No Temprecord data files, PDF report files, or personal information is sent.

Advanced Options

At the bottom of the Diagnostics tab of the options dialog there is a button marked "Advanced". Clicking this w ill display options w hich are not normally needed for Temprecord operation

Delay After Opening
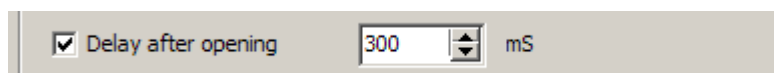
Temprecord Reader Interfaces derive their operating pow er from the control signals present on the RS232 serial port. For this reason the reader interface may not be ready for communication w ith the logger until a short time has elapsed after opening the port. These options allow you to specify a delay after opening the port before any communication is attempted w ith the logger.

The installation defaults should be suitable for most reader interfaces, but if you experience problems you might try increasing this parameter (specified in milliseconds). Bear in mind that this delay will increase the time taken to perform logger operations.

Bluetooth Compatibility

It is possible to access Temprecord loggers over a Bluetooth interface. If your computer is fitted with a Bluetooth-to-serial adapter, and you select this COM port with Temprecord, you will be able to access a logger connected to another Bluetooth-to-serial adapter. Because of the timing uncertainties of a Bluetooth connection, Temprecord needs to make changes to the way it communicates with the logger. Setting this option will ensure that the communication is reliable.

Consult the documentation for the Bluetooth-to-serial adapter for details on configuration.

See also
Unexpected errors

11 Using the File and Folder Templates

Under some circumstances when you save data and report files, Temprecord creates it's own name for the file, and chooses a folder to save the file to. These circumstances are:

- when Temprecord data files are saved from an Auto Mode operation.
- when the option is selected to create a PDF report from the Print dialog.
- when the option is selected to send a PDF report as an email attachment file.

In addition, when you read data from a logger and save it to a file, the initial name chosen when the save dialog displays is derived from the default TRX filename template.

Temprecord provides the ability to generate file names and folder names based *meta data* - for example the date the data was read from the logger, the logger serial number, the name of the currently logged in user, etc. You can also include a unique sequence number that is increased by 1 each time it is used. A full list of these meta data items is provided below.

The format of these file and folder names is determined by *templates* which you can specify and alter. When Temprecord is installed, these are set to sensible defaults, but your situation may call for a different file and folder naming convention, in which case you are free to modify them, and Temprecord will remember your preferences.

Temprecord assumes that the characters you type into a file or folder specification are meta-characters -i.e. it will try to interpret them as such. If you don't want this to happen, you *must* include double quotes around the characters you don't want interpreted.

A Quick Example

The most common use of this option is to provide filenames and/or folder names that identify the logger serial number, date and time a logger was read, or the name of the logged-in operator using the computer at the time.

For example, if you enter the single character **L** into the file format specifier, it will be expanded into the serial number of the logger when a file is saved. The filetype will be automatically set to **.TRX.**

Format Specifier	Resulting filename
L	S1234567.TRX

If you want to include literal text in the filename, so that the characters are not interpreted as codes for meta-data, include the text in double quotes. So:

Format Specifier	Resulting filename
"Logger" L	Logger S1234567.TRX

To specify meta data items in a filename or folder specification you can use a special character from the list below , or you can use a meta-string, w hich is a collection of character Temprecord recognizes as special. Meta-strings are discussed below .

The follow ing table show s how each of the special characters is used. Any other character or character group not show n in the table below is currently used unchanged in the file or folder name, i.e it is not converted into some other collection of characters.

Don't assume that a character not mentioned in the table below w ill never be used as a formatting character. Temprecord reserves the right to define additional formatting characters in the future. If you don't intend characters to be interpreted as formatting characters, it is good practice to alw ays include them in double quotes (**"like this"**).

Format Character	What it Produces
c	Displays the date using the format given by the Window s short date format, follow ed by the time using the format given by the Window s long time format, as specified for that computer in Window s Control Panel. The time is not displayed if the date-time value indicates midnight precisely.
d	Displays the day as a number w ithout a leading zero (1-31).
dd	Displays the day as a number w ith a leading zero (01-31).
ddd	Displays the day as an abbreviation (Sun-Sat).
dddd	Displays the day as a full name (Sunday-Saturday).
ddddd	Displays the date using the format given by the Window s short date format (nominally **M/d/yyyy** in the US locale).
dddddd	Displays the date using the format given by the Window s long date format (nominally **dddd, MMMM dd, yyyy** in the US locale)
e	Displays the year in the current period/era as a number w ithout a leading zero (Japanese, Korean and Taiw anese locales only).
ee	Displays the year in the current period/era as a number w ith a leading zero (Japanese, Korean and Taiw anese locales only).
g	Displays the period/era as an abbreviation (Japanese and Taiw anese locales only).
gg	Displays the period/era as a full name. (Japanese and Taiw anese locales only).
m	Displays the month as a number w ithout a leading zero (1-12). If the m specifier immediately follow s an h or hh specifier, the minute rather than the month is displayed.
mm	Displays the month as a number w ith a leading zero (01-12). If the mm specifier immediately follow s an h or hh specifier, the minute rather than the month is displayed.
mmm	Displays the month as an abbreviation (Jan-Dec).
mmmm	Displays the month as a full name (January-December).
yy	Displays the year as a tw o-digit number (00-99).

yyyy	Displays the year as a four-digit number (0000-9999).
h	Displays the hour without a leading zero (0-23).
hh	Displays the hour with a leading zero (00-23).
n	Displays the minute without a leading zero (0-59). Note that this the 'n' character, not the 'm' character.
nn	Displays the minute with a leading zero (00-59). Note that this the character string 'nn', not 'mm'.
s	Displays the second without a leading zero (0-59).
ss	Displays the second with a leading zero (00-59).
t	Displays the time using the format given by the Windows short time format (nominally **h:nn** in the US locale).
tt	Displays the time using the format given by the Windows long time format (nominally **h:nn:ss** in the US locale).
w	Displays the week number without a leading zero (1-53).
ww	Displays the week number with a leading zero (01-53).
L	Displays the Logger serial number.
U	Displays the currently logged in Windows user
#	Displays a unique sequence number. The sequence number is stepped on each time it is used to generate a file or folder name, and it remembered between Temprecord sessions. It thus provides a convenient way of ensuring unique file or folder names are generated.
z	Displays the current timezone name. The exact result of using this formatting character is dependent on the date formatting options. Temprecord attempts to make an abbreviation of the timezone name, for example in Rome during daylight savings (2 hours ahead of GMT), this character formats as "CEST" (Central European Summer Time). If UTC time is selected this formatting character will always cause "UTC" to be displayed.
o	Displays the current timezone offset, in the format SNNNN, where "S" is either "+" or "-", and "NNNN" is the timezone offset expressed relative to GMT in HHMM, for example in Rome during daylight savings (2 hours ahead of GMT), this character formats as "+0200". The exact result of using this formatting character is dependent on the date formatting options. If UTC time is selected this formatting character will always cause "+0000" to be displayed.

If you don't want Temprecord to use these date formatting rules on the file or folder name you specify, enclose the entire template in double quotes ("...").

Note that the specifier for "minutes" is "**n**" (not "**m**", which means "months").

Examples

Here are some examples of the filenames generated:

Filename Format Specified	Filename Generated	Feature Demonstrated
"data"	data.TR	No formatting
L	S1234567.TR	Logger serial number in filename
"User" U "Logger" L	User Joe Bloggs Logger S1234567.TR	Logged-in user and logger serial number in filename
mmm dd yyyy L	Jan 31 2007 S1234567.TR	Date and logger serial number in filename
mmm dd yyyy hh-mm	Jan 31 2007 12-34.TR	Date and time in filename
L yyyy-mmm-dd hh-mm z	S1234567 2007-Jan-31 12-34 CST.TR	Logger serial number, date and time, timezone in filename.
L #	S1234567 678	Logger serial number and sequence number in filename.
"Saved" dd mmm yy-#	Saved 31 Jan 07-679.TRX	Date and sequence number in filename

The same rules apply to the folder specifiers, and you can include path delimiters ("backslashes") in the specifier. Some examples:

Folder Format Specified	Folder Name Generated	Feature Demonstrated
"My data\"	My Data\	No formatting
"My Data\"yyyy\mmm\	My Data\2009\Jun\	Folder tree organized by year, then month
"My Data\"yyyy\ww\	My Data\2009\26\	Folder tree organized by year, then week number
"Files from logger "L	Files from Logger S1234567\	Logger serial number in folder name
"TRX files\"U	TRX files\Joe Bloggs\	Logged-in user in folder name
mmm dd yyyy L	Jan 31 2007 S1234567\	Date and logger serial number in folder name
mmm dd yyyy hh-mm	Jan 31 2007 12-34\	Date and time in folder name

Once again, note the use of double quotes around any part of the file or folder name that you don't want to be interpreted as a formatting character.

Meta-strings in file and folder specifiers

As well as the formatting characters above, Temprecord allows you to use meta-strings in your file and folder name specifications. There are meta-strings which are common throughout Temprecord software, and there are some which are particular to filename/folder specifications, and also another set which are recognized in printed output header and footer specifications.

The meta-strings that are common are:

Meta-string	Use	Example	Output
%Build%	TRW software build	"Saved with build %Build%"	Saved with build 2533.trx
%Company%	organization name	%Company%	My Company Ltd.trx
%Computer%	computer name	"Saved from PC %Computer%"	Saved from PC Fred's Workstation.trx
%Date%	Inserts the date in the users short date format	"Reception %Date%"	Reception 23-8-2012.trx
%DateTime%	Inserts the date and time in the users short date and long time format	"Saved %DateTime%"	Saved at 23-8-2013 15_09_26.trx
%Time%	Inserts the current time in the user's long time format	"Saved at %time%"	Saved 10_08_42.trx
%User%	logged in Windows user	"Saved by user %User%"	Saved by user Fred.trx
%Version%	TRW software version	"Saved with v%Version%"	Saved with v5.28.0.2533.trx
%Workgroup%	computer workgroup	"This file is from the %Workgroup% group"	This file is from the Administration group.trx
%%<env var>%%	environment variable	"%%TEMP%%"	C:\DOCUME~1\jrm\LOCALS~1\Temp\

The following meta-strings are expanded into various parameters and statistics from the logger data set:

Meta-string	Use	Example	Output
%Samples%	number of samples	Logger %SN% "(%Samples% samples)"	Logger S1234567 (1778 samples)
%Markers%	number of markers	Logger %SN% "(%Markers% markers)"	Logger S1234567 (17 markers)
%SamplePeriod%	sample period	Samples were %SamplePeriod% apart	Samples were 0:02:30 apart
%StartDelay%	start delay	Logger start delay was %StartDelay%	Logger start delay was 0:01:00
%StartSample%	start sample (F7 key)	Statistics are for samples %StartSample% to %EndSample%	Statistics are for samples 100 to 199
%EndSample%	end sample (F8 key)	Statistics are for samples %StartSample% to %EndSample%	Statistics are for samples 100 to 199
%StartDate%	date of start sample	Statistics are for samples between %StartDate% and %EndDate%	Statistics are for samples between 12-11-2013 10:00:14 and 13-11-2013 02:10:44

%EndDate%	date of end sample	Statistics are for samples between %StartDate% and %EndDate%	Statistics are for samples between 12-11-2013 10:00:14 and 13-11-2013 02:10:44
%FirstDate%	date of first sample	Logger first sample taken was at %FirstDate%	Logger first sample taken was at 12-11-2013 08:00:14
%LastDate%	date of last sample	Logger last sample taken was at %LastDate%	Logger last sample taken was at 13-11-2013 02:10:44
%User1%.. %User5%	Lines 1..5 of user data.	%User1%, %User2%	Contents: Frozen Lamb, Origin: Auckland Coolstore
%UserData%	All lines of user data (only valid inside the body of an email - %UserData% is not recognized inside the subject line of an email)	User Data: %UserData%	User Data: Contents: Frozen Lamb Origin: Auckland Coolstore Destination: Christchurch Container: SKK2311
%NPS%	name of any programmed Named Parameter Set	Parameters: %NPS%	Parameters: Conditioned blood products
%Filepath%	The path portion of the data file associated with the dataset	Path: %Filepath%	Path: C:\My Datafiles\
%Filename%	The filename portion (i.e. with no path and no extension) of the data file associated with the dataset	Name: %Filename%	Name: Freezer No 7
%FileID%	The fileID portion (i.e. with no path but including the extension) of the data file associated with the dataset	Name: %FileID%	Name: Freezer No 7.trx
%SN%	logger serial number in a formatted form (generally a letter followed by 7 digits)	Logger %SN%	Logger s1234567
%Owner%	programmed owner name	Return logger to %Owner%	Return logger to Waikato
%Firmware%	version number of logger firmware.	%Firmware%	4.1.6.0
%TMean%	mean value of temperature samples between start	Mean temperature between %StartDate% and %EndDate% was %TMean%	Mean temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -18.311

	and end samples		
%TMax%	maximum temperature betw een start and end	**Maximum temperature between %StartDate% and %EndDate% was %TMax%**	**Maximum temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -17.580**
%TMin%	minimum temperature betw een start and end	**Minimum temperature between %StartDate% and %EndDate% was %TMin%**	**Minimum temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -18.950**
%TMaxSample%	sample number of maximum temperature	**Maximum temperature (%TMax%) occurred sample %TMaxSample% at %TMaxDate%**	**Maximum temperature (-17.580) occurred sample 3312 at 12-11-2013 23:38:14**
%TMinSample%	sample number of minimum temperature	**Minimum temperature (%TMin%) occurred sample %TMinSample% at %TMinDate%**	**Minimum temperature (-18.950) occurred sample 3465 at 13-11-2013 02:57**
%TMaxDate%	date-time of maximum temperature	**Maximum temperature (%TMax%) occurred sample %TMaxSample% at %TMaxDate%**	**Maximum temperature (-17.580) occurred sample 3312 at 12-11-2013 23:38:14**
%TMinDate%	date-time of minimum temperature	**Minimum temperature (%TMin%) occurred sample %TMinSample% at %TMinDate%**	**Minimum temperature (-18.950) occurred sample 3465 at 13-11-2013 02:57**
%MKT%	mean kinetic temperature betw een start and end samples	**Mean kinetic temperature between samples %StartSample%-%EndSample% was %MKT%**	**Mean kinetic temperature between samples 100-199 was -18.905**
%HMean%	mean value of humidity samples betw een start and end samples	**Mean humidity between %StartDate% and %EndDate% was %TMean% %RH**	**Mean humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 64.2 %RH**
%HMax%	maximum humidity betw een start and end	**Maximum humidity between %StartDate% and %EndDate% was %HMax% %RH**	**Maximum humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 70.0 %RH**
%HMin%	minimum humidity betw een start and end	**Minimum humidity between %StartDate% and %EndDate% was %HMin% %RH**	**Minimum humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 58.5 %RH**
%HMaxSample%	sample number of maximum humidity	**Maximum humidity (%HMax% %RH) occurred sample %HMaxSample% at %HMaxDate%**	**Maximum humidity (70.0 %RH) occurred sample 3312 at 12-11-2013 23:38:14**
%HMinSample%	sample number of minimum humidity	**Minimum humidity (%HMin% %RH) occurred sample %HMinSample% at %HMinDate%**	**Minimum humidity (58.5 %RH) occurred sample 3465 at 13-11-2013 02:57**
%HMaxDate%	date-time of maximum humidity	**Maximum humidity (%HMax% %RH) occurred sample %HMaxSample% at %HMaxDate%**	**Maximum humidity (70.0 %RH) occurred sample 3312 at 12-11-2013 23:38:14**

| %HMinDate% | date-time of minimum humidity | Minimum humidity (%HMin% %RH) occurred sample %HMinSample% at %TMinDate% | Minimum humidity (58.5 % RH) occurred sample 3465 at 13-11-2013 02:57 |

⚠️ Meta-strings in file and folder specifiers are just like meta-characters, but when using meta-strings to generate file and folder names, the meta-string identifier must be <u>inside</u> double quotes, as shown in the above examples. A meta-string outside of quotes will be interpreted as a series of date-formatting characters, which will produce all manner of confusing results!

⚠️ When meta-string specifications are used in file and folder templates, the resulting filename may contain characters that are invalid in a Windows filename. If this occurs, Temprecord "sanitizes" the file or folder name by substituting the "safe" character underscore ("_"). For example a file template specification of **"Saved at %Time%"** would produce a result of **Saved at 10_08_42.trx** , rather than **Saved at 10:08:42.trx** , which would upset Windows, as a colon (":") is not a valid character in a filename.

See also:

Default TRX Filename
Folder for .TRX Files
Default PDF Filename
Folder for .PDF Files
When are default filename and folders used?
Date Formatting Options
Meta-strings
Meta-strings in email messages
Meta-strings in printed reports headers and footers
Meta-strings in user data
Meta-strings in parameter sets

12 View Options

The View options allow you to control what is displayed when Temprecord displays or prints the graph view or statistics. If an option is enabled, the corresponding parameter will be shown on the graph, on the printed graph, and in the statistics report if relevant.

Option	What it Controls
TTV (Total Temperature Value) statistics	Shows the TTV information on the displayed and printed graph, and in the statistics. ⚠️ This option also affects the display of temperature values (values view mode). If **Show TTV limits** is enabled (and **Show TTV statistics** is also enabled), the TTV limits for the current TTV period determine the color used for the values, rather than the lower and upper limits.
Brief TTV Only	Shows the TTV information in an abbreviated form.
PHI (Process Hygiene Index) Growth statistics	Shows the bacterial growth information in the displayed and printed statistics

ROC (Rate of Cooling) statistics	Shows the rate of cooling information on the displayed and printed graph and statistics.
RI (Refrigeration Index) Statistics	Shows the refrigeration index data on the displayed and printed graph and statistics. On the graph, the RI value is shown as a separate trace with values indicated on the right-hand axis. The RI value is calculated from the start sample until the end sample.
Product Cooling Alerts	When the product cooling alert function is enabled, the graph shows a flag when the temperature has risen a certain amount above the minimum. The maximum temperature rise allowed before the alert is displayed can also be specified. This function is often used to determine whether blood products have been maintained adequately in a controlled environment
MKT (Mean Kinetic Temperature) Statistics	When MKT is enabled, the graph will show the value of the mean kinetic temperature as a dotted horizontal line.
Product Integrity Profile	Product Integrity Profile is a means of determining how effective refrigeration of a shipment has been. When enabled, the graph is annotated with the times taken to reach key points such as the minimum temperature, and transitions of the upper and lower limits. The duration taken is also displayed. The statistics view also shows a report from this data.
Upper and lower limits	When enabled, the lower and upper limits are shown on the graph as horizontal dotted lines. ⚠ The display option Show upper and lower limits also needs to be checked for Temprecord to show or print values above the upper limit or below the lower limit in different colors.
Minimum and maximum flags	When enabled, flags display to indicate the minimum and maximum value samples between the start and end samples. If a logger has just been read or a file just opened, the start and end samples are set to the first and last samples respectively. The minimum sample is shown on the graph with the 🏴 flag symbol and the maximum sample is shown on the graph with the 🚩 flag symbol.
Start and end flags	When enabled, the start and end samples are marked with flags. The start sample is shown on the graph with the 🏴 flag symbol and the end sample is shown on the graph with the 🏁 flag symbol.
User marker flags	When enabled, any markers present in the sample record are displayed on the graph. The user marker samples are shown on the graph with the 🚩 flag symbol.
Mean temperature	When enabled, the mean temperature of the samples between the start and end samples is shown as a dotted horizontal line.
Comment fields	When enabled, the user comment lines are shown on the printed report.

13   Meta-strings

Meta-strings is the general term we use to refer to combinations of characters that are replaced by other combinations of characters when the time comes to use them. Temprecord uses meta-strings to add considerable power and flexibility to the tasks you can perform. Meta-strings can be used to generate <u>file and folder names</u>, <u>email</u> subject lines and message text, <u>user data</u> programmed into the logger, and <u>printed report</u> headers and footers.

Not all meta-string identifiers are recognized in all situations. Where a meta-string makes no sense, it isn't expanded and will be shown in the "reverted" state (i.e. bracketed with the percent (**%**) signs).

An example will make it clearer.

A meta-string that is recognized in all situations is **%User%**. When the item containing the meta-string (being one of <u>user data</u>, <u>print header/footer</u>, <u>email item</u>, or <u>file/ folder name</u>) is used, the **%User%** is replaced by the name of the logged-in Windows user.

So, a print footer specified as **Printed by user %User%** would appear in the printed footer as **Printed by user JoeSmith** or whoever the logged-in user might have been at the time.

The meta-strings shown in the table below are available everywhere it is possible to use them, i.e. in file and folder specifications, in the subject and body fields of an email message, in printed report headers and footers, and in the user data fields of the parameters dialog and the default options:

Meta-string	Use	Example	Output
%Version%	TRW software version	"Printed with v%Version%"	Printed with v6.2.tr
%Build%	TRW software build	"Saved with build %Build%"	Printed with build 2533.tr
%User%	logged in Windows user	"Printed by user %User%"	Printed by user Fred.tr
%Computer%	computer name	"Printed from PC %Computer%"	Printed from PC Fred's Workstation.tr
%Workgroup%	computer workgroup	"This file is from the %Workgroup% group"	This file is from the Administration group.tr
%Company%	organization name	%Company%	My Company Ltd.
%Date%	Inserts the date in the users short date format	"Reception %Date%"	Reception 23-8-2012
%Time%	Inserts the current time in the user's long time format	"Saved at %time%"	Saved at 15_09_26.tr
%DateTime%	Inserts the date and time in the users short date and long time format	"Saved %DateTime%"	Saved 23-8-2012 15_09_26.tr
%Units%	Inserts a single character	"Upper temperature limit= %TUpper% %Units%"	"Upper temperature limit= 12.50 C"

	indicating the temperature display units		
%%<env var>%%	environment variable	**"%%TEMP%%"**	**C: \DOCUME~1\jrm\LOCALS~1 \Temp**

The following meta-strings are expanded into various parameters and statistics from the logger data set:

Meta-string	Use	Example	Output
%Samples%	number of samples in logger	**Logger %SN% (% Samples% samples)**	**Logger S1234567 (1778 samples)**
%Markers%	number of markers in logger	**Logger %SN% (% Markers% markers)**	**Logger S1234567 (17 markers)**
%AllSamples%	number of samples taken this trip (includes those lost to overwriting)	**%AllSamples% taken this trip**	**9199 taken this trip**
%TotalSamples %	total samples the logger has taken in its lifetime	**%SN% Total Samples=% TotalSamples%**	**S1234567 Total Samples=100145**
%Full%	indicates if the logger is full	**%SN% Full=%Full%**	**S1234567 Full=Y**
%Overwriting%	indicates if the logger has overwritten samples	**%SN% OVR=% Overwriting%**	**S1234567 OVR=N**
%SamplePeriod %	sample period	**Samples were % SamplePeriod% apart**	**Samples were 0:02:30 apart**
%StartDelay%	start delay	**Logger start delay was % StartDelay%**	**Logger start delay was 0:01:00**
%StartSample %	start sample (F7 key)	**Statistics are for samples %StartSample% to % EndSample%**	**Statistics are for samples 100 to 199**
%EndSample%	end sample (F8 key)	**Statistics are for samples %StartSample% to % EndSample%**	**Statistics are for samples 100 to 199**
%StartDate%	date of start sample	**Statistics are for samples between %StartDate% and %EndDate%**	**Statistics are for samples between 12-11-2013 10:00:14 and 13-11-2013 02:10:44**
%EndDate%	date of end sample	**Statistics are for samples between %StartDate% and %EndDate%**	**Statistics are for samples between 12-11-2013 10:00:14 and 13-11-2013 02:10:44**
%FirstDate%	date of first sample	**Logger first sample taken was at %FirstDate%**	**Logger first sample taken was at 12-11-2013 08:00:14**
%LastDate%	date of last sample	**Logger last sample taken was at %LastDate%**	**Logger last sample taken was at 13-11-2013 02:10:44**

%User1%.. %User5%	Lines 1..5 of user data.	**%User1%, %User2%**	**Contents: Frozen Lamb, Origin: Auckland Coolstore**
%UserData%	All lines of user data (only valid inside the body of an email - **%UserData%** is not recognized inside the subject line of an email)	**User Data: %UserData%**	**User Data: Contents: Frozen Lamb Origin: Auckland Coolstore Destination: Christchurch Container: SKK2311**
%NPS%	name of any programmed Named Parameter Set	**Parameters: %NPS%**	**Parameters: Conditioned blood products**
%Filepath%	The path portion of the data file associated with the dataset	**Path: %Filepath%**	**Path: C:\My Datafiles**
%Filename%	The filename portion (i.e. with no path and no extension) of the data file associated with the dataset	**Name: %Filename%**	**Name: Freezer No 7**
%FileID%	The file ID portion (i.e. with no path but including the extension) of the data file associated with the dataset	**Name: %FileID%**	**Name: Freezer No 7.trx**
%SN%	logger serial number	**Logger %SN%**	**Logger s1234567**
%Owner%	programmed owner name	**Return logger to %Owner%**	**Return logger to Waikato**
%Firmware%	version number of logger firmware.	**%Firmware%**	**4.1.6.12**
%TMean%	mean value of temperature samples between start and end samples	**Mean temperature between %StartDate% and %EndDate% was %TMean%**	**Mean temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -18.311**
%TMax%	maximum temperature between start and end	**Maximum temperature between %StartDate% and %EndDate% was %TMax%**	**Maximum temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -17.580**
%TMin%	minimum temperature between start and end	**Minimum temperature between %StartDate% and %EndDate% was %TMin%**	**Minimum temperature between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was -18.950**
%TMaxSample%	sample number of maximum	**Maximum temperature (%TMax%) occurred**	**Maximum temperature (-17.580) occurred sample**

	temperature	**sample %TMaxSample% at %TMaxDate%**	**3312 at 12-11-2013 23:38:14**
%TMinSample %	sample number of minimum temperature	**Minimum temperature (% TMin%) occurred sample %TMinSample% at % TMinDate%**	**Minimum temperature (-18.950) occurred sample 3465 at 13-11-2013 02:57**
%TMaxDate%	date-time of maximum temperature	**Maximum temperature (%TMax%) occurred sample %TMaxSample% at %TMaxDate%**	**Maximum temperature (-17.580) occurred sample 3312 at 12-11-2013 23:38:14**
%TMinDate%	date-time of minimum temperature	**Minimum temperature (% TMin%) occurred sample %TMinSample% at % TMinDate%**	**Minimum temperature (-18.950) occurred sample 3465 at 13-11-2013 02:57**
%TUpper%	temperature upper limit	**%SN% Upper temperature limit is % TUpper%**	**S1234567 Upper temperature limit is 35.00**
%TLower%	temperature lower limit	**%SN% Lower temperature limit is % TLower%**	**S1234567 Lower temperature limit is 10.00**
%TAbove%	indicates if upper limit has been exceeded	**%SN% Temperature Above=%TAbove%**	**S1234567 Temperature Above=Y**
%TBelow%	indicates if lower limit has been exceeded	**%SN% Temperature Below=%TBelow%**	**S1234567 Temperature Below=Y**
%MKT%	mean kinetic temperature between start and end samples	**Mean kinetic temperature between samples % StartSample%-% EndSample% was %MKT %**	**Mean kinetic temperature between samples 100-199 was -18.905**
%HMean%	mean value of humidity samples between start and end samples	**Mean humidity between %StartDate% and % EndDate% was %TMean % %RH**	**Mean humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 64.2 %RH**
%HMax%	maximum humidity between start and end	**Maximum humidity between %StartDate% and %EndDate% was % HMax% %RH**	**Maximum humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 70.0 %RH**
%HMin%	minimum humidity between start and end	**Minimum humidity between %StartDate% and %EndDate% was % HMin% %RH**	**Minimum humidity between 12-11-2013 10:00:14 and 13-11-2013 02:10:44 was 58.5 %RH**
%HMaxSample %	sample number of maximum humidity	**Maximum humidity (% HMax% %RH) occurred sample %HMaxSample% at %HMaxDate%**	**Maximum humidity (70.0 % RH) occurred sample 3312 at 12-11-2013 23:38:14**
%HMinSample %	sample number of minimum humidity	**Minimum humidity (% HMin% %RH) occurred sample %HMinSample% at %HMinDate%**	**Minimum humidity (58.5 % RH) occurred sample 3465 at 13-11-2013 02:57**
%HMaxDate%	date-time of maximum humidity	**Maximum humidity (% HMax% %RH) occurred sample %HMaxSample% at %HMaxDate%**	**Maximum humidity (70.0 % RH) occurred sample 3312 at 12-11-2013 23:38:14**

%HMinDate%	date-time of minimum humidity	Minimum humidity (%HMin% %RH) occurred sample %HMinSample% at %TMinDate%	Minimum humidity (58.5 % RH) occurred sample 3465 at 13-11-2013 02:57
%HUpper%	humidity upper limit	%SN% Upper humidity limit is %HUpper%	S1234567 Upper humidity limit is 35.00
%HLower%	humidity lower limit	%SN% Lower humidity limit is %HLower%	S1234567 Lower humidity limit is 10.00
%HAbove%	indicates if humidity upper limit has been exceeded	%SN% Humidity above= %HAbove%	S1234567 Humidity above=Y
%HBelow%	indicates if humidity lower limit has been exceeded	%SN% Humidity below= %HBelow%	S1234567 Humidity below=Y

When a temperature metastring parameter is expanded, the resulting numerical value is always expressed in the current display units. If you want to encode the display units as well you can append the **%Units%** metastring, which expands to either **C** or **F**.

See also:

Meta-strings in file and folder names

Meta-strings in email messages

Meta-strings in printed reports headers and footers

Meta-strings in user data

Meta-strings in parameter sets

14 Error and Warning Messages

- An unrecognised version of Temprecord is installed on this machine
- Battery is exhausted
- Battery is nearly exhausted
- Confirm password is invalid
- Data read from logger has not yet been saved. Save first ?
- Datafile format error - probably not a Temprecord data file
- Datafile format incorrect
- Datafile format version error
- Delete comment ?
- Digest key and confirm are different
- Do you want to create a new Parameter Set from the logger settings ?
- Do you wish to exit Temprecord ?
- Do you wish to reuse the Temprecord logger ?
- Do you wish to start the Temprecord logger ?
- Do you wish to stop the Temprecord logger ?
- Encryption key and confirm are different
- Error accessing logger information (xx)
- Error carrying out command line functions
- Error identifying logger (xx)
- Error loading web file
- Error opening web file
- Error opening <filename>
- Error reading file
- Error reading logger data (xx)
- Error reading logger information (xx)
- Error restoring logger parameters (xx)
- Error reusing logger (xx)
- Error printing to PDF file
- Error previewing PDF file
- Error reading conversion results (xx)
- Error reading logger mode (xx)
- Error starting logger (xx)
- Error stopping logger (xx)
- Error viewing PDF File
- Error writing file <filename>
- Data is corrupted
- Incorrect passphrase
- Incorrect passphrase (Caps Lock is turned on)
- Invalid limit delay count
- Invalid lower temperature limit
- Invalid password submitted
- Invalid sample period
- Invalid start date
- Invalid start delay
- Invalid start time
- Invalid preset date or time
- Invalid upper temperature limit
- Logger nnn's parameters will be restored from the parameter set "xx". Do you want to continue?
- Logger is currently in xx mode and cannot be read
- Logger not in ready mode
- Logger is unconfigured
- Logger interface not found
- Lower temperature limit is below minimum range of logger

- No data loaded
- No suitable parameter sets for logger nnn found
- NOTE - This data logger remains within an accuracy of +/- 0.5C but for greater accuracy you may choose to have it re-calibrated
- Parameter Set xx not found. Reuse logger anyway ?
- Parameter restore operation completed
- Password and confirm are different
- Password is invalid
- Password is not verified
- Password Specification Errors
- Start time and date has already passed
- "Start at this date and time" is enabled. Once the parameters have been saved you will no longer be able to access the logger parameters
- Temprecord cannot be stopped until start delay expires
- Temprecord failed to reuse
- Temprecord failed to start
- Temprecord failed to stop
- Temprecord has already been reused
- Temprecord has not yet been started
- Temprecord is already running
- Temprecord is running from a network drive and an INI file from an earlier installation was also found
- Temprecord is running from a network drive and no INI file was found on that server, or locally
- Temprecord is running from a network drive and a local installation was also found
- Temprecord is running from a network drive and an unrecognised local installation was also found
- Temprecord is already started
- Temprecord is already stopped
- Temprecord Medical loggers should be programmed with a Named Parameter Set. Reuse logger without the Named Parameter Set ?
- Temprecord must be reused before starting
- Temprecord must be stopped before reuse
- Temprecord was unable to create your TRW.INI file
- Temprecord was unable to find your TRW.INI file
- Temprecord was unable to write to your TRW.INI file
- The Auto Mode option to reuse the logger is set but no options have been set to save data, Continue?
- The comments/display limits for file <filename> have been edited but the changes have not yet been saved. Save file ?
- The comment fields for logger <serial number> have been edited but the data has not yet been saved. Save logger data to file ?
- The data from this logger has not yet been read. Do you wish to read the data and save it before re-using the logger ?
- The data read from this logger shows indications that saturation has occurred
- The logging mode parameter has been changed to log only temperature
- The "Start at Time and Date" parameter has been disabled
- The calibration period on this logger will expire in 12 weeks.
- The settings you are saving to the logger have been changed and are no longer the same as the settings in the NPS file "xx"
- This logger contains parameters from a Parameter Set "xx" but there is no local file of that name. Do you want to create one ?
- This logger has been factory-configured for designated use by the owner "xx"
- This logger has been factory-configured for designated use by the owner "xx" and the Named Parameter Set name is reserved
- This logger's calibration is due in 2 weeks
- The Temprecord help file for the selected language <filename> was not found. English language help will be used instead
- This file may be damaged
- This file does not pass integrity checking
- This model Temprecord cannot be reused
- This Temprecord can only be started by snapping off a tab
- This Temprecord can only be stopped by snapping off a tab
- This version of Temprecord is not installed on this computer, or possibly an older version is also installed

- Unable access parameters. Temprecord is probably faulty
- Unable to access parameters. Temprecord has been started
- Unable to access parameters. Temprecord has finished logging
- Unable to access parameters. Temprecord must be reused first
- Unable to access Temprecord after reuse
- Unable to access Temprecord after starting
- Unable to access Temprecord after stopping
- Unable to access Temprecord Logger
- Unable to access Temprecord. Password is incorrect
- Unable to carry out command-line functions
- Unable to create spreadsheet
- Unable to create folder
- Unable to delete file <filename>
- Unable to load file - insufficient memory
- Unable to load named parameter set
- Unable to load named parameter set (Auto Mode)
- Unable to load named parameter set (reuse logger)
- Unable to open COMx
- Unable to open dialog
- Unable to open form
- Unable to open spreadsheet
- Unable to print
- Unable to read. Temprecord has not yet been started
- Unable to read. Temprecord is probably faulty
- Unable to read. Temprecord start delay has not expired
- Unable to reuse logger (Logger is in Ready state)
- Unable to reuse logger (Logger is in Start Delay state)
- Unable to reuse Temprecord. Unit is probably faulty
- Unable to save datafile to web
- Unable to save file <filename>
- Unable to save named parameter set
- Unable to save file for emailing
- Unable to save PDF file to web
- Unable to save Temprecord parameters
- Unable to start Temprecord. Unit is probably faulty
- Unable to stop Temprecord. Unit is probably faulty
- Unable to update parameters in logger
- Unable to update parameters as Temprecord is not in "ready" state
- Unable to update parameters as Temprecord is of a different type
- Unable to update parameters as Temprecord is of older type
- Unable to update parameters as Temprecord is of newer type
- Unable to update parameters as Temprecord protected with password
- Unexpected end-of-file
- Unknown command option
- Upper temperature limit is above maximum range of logger
- WARNING - File damaged. Data may not be correct
- Web file not found
- You are running Temprecord from a network drive but it is also installed locally for the current user
- You are running Temprecord from a network drive but it is also installed locally for all users
- You are running Temprecord from a network drive but it is also installed locally for all users (shared settings)
- You are running Temprecord from a network drive but it is also installed locally for use by remote users
- You are running Temprecord from a network drive but there is also an unrecognised local installation

14.1 An unrecognised version of Temprecord is installed on this machine

Temprecord could not identify the installation type on this computer. You most likely have another later version of Temprecord installed on this machine as well.

'Temprecord will run, and it will use the INI settings file located on this computer at:

C:\Documents and Settings\<user>\Local Settings\Application Data\Temprecord\TRW\TRW.INI

(the path shown is for a default installation under Windows XP. It may be different on your computer).

Temprecord may behave in an unpredictable manner, particularly where program settings are concerned. You should only have one version of Temprecord installed at once. You should uninstall the version you do not require, and install or reinstall the version you do require.

See also:
Temprecord is running from a network drive and an INI file from an earlier installation was also found
Temprecord is running from a network drive and no INI file was found on that server, or locally
Temprecord is running from a network drive and a local installation was also found
Temprecord is running from a network drive and an unrecognised local installation was also found
This version of Temprecord is not installed on this computer, or possibly an older version is also installed
You are running Temprecord from a network drive but it is also installed locally for the current user
You are running Temprecord from a network drive but it is also installed locally for all users
You are running Temprecord from a network drive but it is also installed locally for all users (shared settings)
You are running Temprecord from a network drive but it is also installed locally for use by remote users
You are running Temprecord from a network drive but there is also an unrecognised local installation

Error and Warning Messages

14.2 Bad address

Temprecord encountered an error while trying to communicate with the logger. These errors most often result from problems with the reader or logger.

- The logger battery could be exhausted.
- The reader may not have sufficient voltage to operate properly. This can occur on some laptops that do not implement the serial interface adequately.

See also:
Error and Warning Messages

14.3 Bad CRC

Temprecord encountered an error while trying to communicate with the logger. These errors most often result from problems with the reader or logger.

- The logger battery could be exhausted.
- The reader may not have sufficient voltage to operate properly. This can occur on some laptops that do not implement the serial interface adequately.

See also:
Error and Warning Messages

14.4 Bad verify

Temprecord encountered an error while trying to communicate with the logger. These errors most often result from problems with the reader or logger.

- The logger battery could be exhausted.
- The reader may not have sufficient voltage to operate properly. This can occur on some laptops that do not implement the serial interface adequately.

14.5   Battery is exhausted

The logger battery is exhausted. You should not use the logger and replace it with another.

This message will display if any attempt is made to program, start, or reuse the logger when the estimated battery capacity has reached zero.

The options Show battery status and Warn when battery exhausted must both be checked for this message to display.

The remaining logger battery capacity is not measured directly, but is calculated using Temprecord's knowledge of the past use of the logger. The figure arrived at is conservative, i.e. you may well get more use out of the logger than the displayed remaining battery capacity suggests. We do not recommend this, however, and a logger with a battery that shows as exhausted should be removed from service.

14.6   Battery is nearly exhausted

The logger battery is almost exhausted. You can use the logger but should replace it with another as soon as possible.

This message will display if any attempt is made to program, start, or reuse the logger when the estimated battery capacity has fallen below 5%.

The options Show battery status and Warn when battery exhausted must both be checked for this message to display.

The remaining logger battery capacity is not measured directly, but is calculated using Temprecord's knowledge of the past use of the logger. The figure arrived at is conservative, i.e. you may well get more use out of the logger than the displayed remaining battery capacity suggests. We do not recommend this, however, and a logger with a battery that shows as exhausted should be removed from service.

14.7   Confirm password is invalid

When specifying a password for a logger, both the 'Password' and 'Confirm' fields must be filled in with the same pass-phrase. The password will not display as you type it.

The password must conform to the following:

- any leading or trailing spaces are ignored.

- the password can be any phrase up to 32 characters in length.
- embedded spaces are permitted and significant, ie:

  hello there   (one space) and,

  hello there   (two spaces) are all considered to be different.
- case is significant, ie:

  hello there   ,

  Hello There   , and

  HELLO THERE   are all considered to be different.
- only printing characters in the range 20h (space) to 7Fh (~) are permitted. The additional European language characters such as **è** and **ñ** cannot be used in pass-phrases.

See also:

Error and Warning Messages

14.8   Data is corrupted

The data read from the logger was found to be invalid or corrupted. The temperature or humidity values logged are not reliable. The logger's battery may be exhausted or there may have been communication errors when the data was read.

Try reading the logger again and if the problem persists return the logger to Temprecord for fault analysis.

See also:

Error and Warning Messages

14.9   Data read from logger has not yet been saved. Save first ?

You have requested that Temprecord carry out an operation that will overwrite the data in the current Temprecord Logger data window, and that data has not yet been saved.

- If you want to have the opportunity to save the Temprecord data that is already in the Temprecord data window, click the **'Yes'** button.
- If you do not wish to save the data, but you still want to proceed with the operation, click the **'No'** button.
- If you want to abandon the operation and continue working with the data already in the Temprecord data window, click the **'Cancel'** button.

See also:

Error and Warning Messages

14.10   Datafile format error - probably not a Temprecord data file

The file you have tried to load is not a Temprecord data file. The default filetype for Temprecord data files is '.TR'.

You may have tried to load an ASCII data file instead. Temprecord cannot load ASCII files, it can only create them.

See also:

Error and Warning Messages

14.11   Datafile format incorrect

The file you have tried to load is possibly a Temprecord data file, but the file format is not compatible with this version of the Temprecord program. The file is possibly damaged. You will need to read the file with the same version of Temprecord that was used to produce the file.

See also:

Error and Warning Messages

14.12 Datafile format version error

The file you have tried to load is a Temprecord data file, but the file format is not compatible with this version of the Temprecord program. You will need to read the file with the same version of Temprecord that was used to produce the file.

See also:

Error and Warning Messages

14.13 Delete comment ?

You are being asked if you want to delete a graph comment from the currently loaded data set. Deleting a comment does not affect the logged data stored in the file.

- Click on **Yes** to delete the comment. If more than one comment was selected then you will be asked this question for each of them.
- Click on **No** to leave the comment as it was. If more than one comment was selected then you will be asked this question for each of them.
- Click on **All** to delete all the comments that were selected when the **Delete Comment** function was used. No further prompts will be issued.
- Click on **Cancel** to abandon the delete operation. If more than one comment was selected then no more will be deleted

See also:

Deleting comments

Comments

Error and Warning Messages

14.14 Digest key and confirm are different

When specifying the key to be used to generate the digest stored with your data files, you have not entered the identical key in the **Confirm** field.

- Either enter the same string in both fields, or make sure that the **Use this digest** checkbox is not checked.

IMPORTANT! Do not forget your digest key!

If you have chosen to use your own digest key for TRX files, only users who also know this digest key will be able to verify the authenticity of the file.

Not knowing the digest key for a file does not prevent you reading or printing the file - it just prevents you from determining if the file is undamaged and untampered with.

If you lose or forget the key, there is no way to recover it other than a lucky guess. Temprecord are unable to recover lost keys.

See also:

Digest Options

Error and Warning Messages

14.15 Do you want to create a new Parameter Set from the logger settings ?

This logger has a Named Parameter Set (NPS) specified in the user data but a NPS of the same name is not present on the disk. You are being asked if you wish to create a NPS on the disk based on the settings in the logger.

- Click on **No** to skip the creation of a local parameter set. Note that if you don't create a local copy then the same prompt will occur when this logger is processed at a later time if it still has a NPS specified in the user data.
- Click on **Yes** to create a local NPS file. The same prompt will not occur when this logger is processed at a later time.
- Click on **Cancel** to abandon the reuse operation.

See also

Parameters dialog

Named Parameter Sets

Error and Warning Messages

14.16 Do you wish to exit Temprecord ?

You have asked to exit the Temprecord program.

- If you wish to close the Temprecord program click the 'Yes' button. If you have read data from a logger and not yet saved it, you will be asked if you wish to do so. If you have edited the comment fields for a file and not yet saved the file, you will be asked if you wish to do so.
- If you do not wish to exit Temprecord, click the 'No' button. You will be returned to the Temprecord program.

If you do not wish to have this question displayed each time you exit Temprecord, open the Options/General form and clear the 'Prompt before exiting Temprecord' check-box.

See also:

Error and Warning Messages

14.17 Do you wish to re-use the Temprecord logger ?

You have asked to reuse the Temprecord logger. This will prepare it for another use. After you have reused it, you will be able to set program the parameters (such as the sample period, the Upper and Lower limits, etc).

- If you wish to reuse the Temprecord logger click the 'Yes' button.
- If you do not wish to reuse the Temprecord logger, click the 'No' button. You will be returned to the Temprecord program.

If you do not wish to have this question displayed each time you exit Temprecord, open the Options/General form and clear the 'Prompt before re-using Temprecord' check-box.

See also:

Error and Warning Messages

14.18 Do you wish to start the Temprecord logger ?

You have asked to start the Temprecord logger. This will start the start delay counting down, and when the start delay has expired, the logger will begin recording temperature samples.

- If you wish to start the Temprecord logger click the 'Yes' button.
- If you do not wish to start the Temprecord logger, click the 'No' button. You will be returned to the Temprecord program.

Once the logger has been started, you cannot alter any of the logger parameters, such as the user data, start delay, sample period, etc. You also cannot stop the logger until the start delay has expired and the logger has begun taking samples.

If you do not wish to have this question displayed each time you exit Temprecord, open the Options/General form and clear the 'Prompt before starting Temprecord' check-box

See also:
Error and Warning Messages

14.19 Do you wish to stop the Temprecord logger ?

You have asked to stop the Temprecord logger. This will stop the logger taking samples.

- If you wish to stop the Temprecord logger click the **'Yes'** button.
- If you do not wish to stop the Temprecord logger, click the **'No'** button. You will be returned to the Temprecord program and the logger will continue to record samples (unless loop overwrite is disabled and the logger has filled up).

If the loop overwrite option is turned on, once the logger is full, the oldest samples are overwritten. In this case you should always ensure that the logger is stopped after you have finished recording samples. If loop overwrite is turned off, the logger will stop recording samples when it is filled anyway, so it is not necessary to stop it until you wish to reuse it

If you do not wish to have this question displayed each time you exit Temprecord, open the Options/General form and clear the 'Prompt before stopping Temprecord' check-box.

See also:
Error and Warning Messages

14.20 Encryption key and confirm are different

This help topic describes features of Temprecord products which are not implemented at the release date of this version of the software.

When specifying the key to be used to encrypt your data files, you have not entered the identical key in the "Confirm" field.

- Either enter the same string in both fields, or make sure that the Encryption checkbox is not checked.

WARNING! Do not forget your encryption key!

If you lose the key, there is no way your data can be recovered. Temprecord are unable to recover keys or the data they have been used to encrypt.

See also:
Encryption file saving options
Error and Warning Messages

14.21 Error carrying out command line functions

An error resulted from carrying out command line functions specified when Temprecord was started.

Temprecord has the ability to automatically carry out a sequence of operations when started. This is similar to Auto Mode operation except that the operations occur once at startup of Temprecord, and Temprecord then either started normally or exits again if the /EXIT command line option is also specified.

See also:
Command line parameters
Auto Mode
Error and Warning Messages

14.22 Error accessing logger information (xx)

Temprecord was unable to read the summary data from the logger. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.23 Error identifying logger (xx)

Temprecord was identify what type of logger is connected. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.24 Error opening <filename>

Temprecord could not open the named file.

- Check the spelling of the filename.
- If your computer is part of a network, check that the file is not held open by another user.
- The file could be damaged. Run the 'SCANDISK' utility on your computer.

You will also receive this error if the name of a non-existent file is specified on the Temprecord command line.

See also:
Error and Warning Messages

14.25 Error loading web file

Temprecord is unable to load the file from the web storage folder.

- Check that the correct username and password is entered in your web options

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- Check that the file exists in your web folder. If you are attempting to open the file from the "recent files" list and the file has meanwhile been deleted, moved, or renamed you will receive this error.

- You might have experienced a temporary internet error while trying to load the file. Try to load the file again.

See also:
Error and warning messages

14.26 Error opening web file

Temprecord is unable to load the file from the web storage folder.

- Check that the correct username and password is entered in your web options

- Check that the file has a .TRX or .PDF extension. If you are attempting to open any other type of file, Temprecord tries to use the filetypes that Windows knows about, e.g. if the file is a Microsoft Excel spreadsheet (.XLS), Temprecord will attempt to open it with Excel.

See also:
Error and warning messages

14.27 Error printing to PDF file

Temprecord is unable to create the print image for some reason. When Temprecord prints a report, a PDF file image is created in memory. If an error results creating this image this error will be reported.

This error should not occur under normal circumstances.

Check that you have write-access permission to the folder used for temporary files.

See also:
Error and warning messages

14.28 Error previewing PDF file

Temprecord is unable to display the PDF preview for some reason. When Temprecord previews a PDF report or a printed report, a temporary PDF file is created, and this temporary file is then opened with Adobe Acrobat Reader.

- If any errors result creating this temporary file this error will be reported. Check that you have write-access permission to the folder used for temporary files.

- If Temprecord is unable to start Adobe Acrobat this error will be reported. Check Adobe Acrobat is installed on your computer. If you cannot open PDF files by double-clicking them in Windows Explorer, Adobe Acrobat is not installed, or is incorrectly installed. Contact your system administrator.

- Temprecord places a limit of 30 PDF preview files open at any one time. If you receive this error when you already have 30 PDF reports previewed, to can close some of the open files, and you will be able to preview further files.

See also:
Error and warning messages

14.29 Error viewing PDF File

Temprecord is unable to display the PDF file for some reason.

- If Temprecord is unable to start Adobe Acrobat this error will be reported. Check Adobe Acrobat is installed on your computer. If you cannot open PDF files by double-clicking them in Windows Explorer, Adobe Acrobat is not installed, or is incorrectly installed. Contact your system administrator.

See also:
Error and warning messages

14.30 Error reading file

Temprecord could not read from the file.

- If your computer is part of a network, check that the file is not held open by another user, and that you have permission to read from the file.
- The file could be damaged. Run the 'SCANDISK' utility on your computer.

See also:
Error and Warning Messages

14.31 Error reading logger data (xx)

Temprecord was unable to read the logged sample data from the logger. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.32 Error reading logger information (xx)

Temprecord was unable to read the summary data from the logger. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.33 Error restoring logger parameters (xx)

Temprecord was unable to update the parameter set in the logger to the set corresponding to the designated use of the logger. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred. This error may occur when applying a factory reset to a designated use logger.

Check the logger is correctly seated in the user interface.

If the factory reset operation is being carried out on a computer other than the one the logger was programmed on, it may be that the Named Parameter Set file is not present.

See also:
Designated use loggers
Factory reset of loggers
Error and Warning Messages

14.34 Error reusing logger (xx)

Temprecord was unable to reuse the logger. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.35 Error reading conversion results (xx)

Temprecord was unable to read the current temperature and/or humidity in the logger in the reader interface. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.36 Error reading logger mode (xx)

Temprecord was unable to read the mode (**ready**, **start delay**, **logging**, or **stopped**) of the logger. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.37 Error starting logger (xx)

Temprecord was unable to start the logger. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.38 Error stopping logger (xx)

Temprecord was unable to stop the logger. The "(xx)" in the error message will be replaced with a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.39 Error sending email

The following errors can result when you try to send files by SMTP (Simple Mail Transfer Protocol).

No email recipients specified'

You must enter a list of valid email addresses in the "**To**:" field on the **Email Options** tab.

No files to attach

Temprecord was unable to find the files specified.

SMTP options not set

Before you can send emails via SMTP, certain options need to be set. Click on Options/SMTP Email and specify at least the SMTP server name. Normally this w ill be a string of the form **smtp.internetserviceprovider.com** or **smtp.yourcompanyname.com**. You may need to refer to your IT administrator for this information.

Unable to queue mail for sending'

Temprecord w as unable to queue the email for sending.

Unable to send mail (error xxx')

If you receive an error of this for w ham using MAPI to send emails, the error explanation ("xxx") w ill indicate the error response returned from the MAPI interface. You may need to refer to your IT administrator for guidance on fixing these errors.

See also:

Error and Warning Messages
SMTP Email Options

14.40 Error writing file <filename>

Temprecord could not w rite to the named file.

- If your computer is part of a netw ork, check that the file is not held open by another user, and that you have permission to w rite to the file.
- Check that the file is not marked as read-only.

See also:

Error and Warning Messages

14.41 Incorrect firmware

The logger you are trying to communicate w ith contains features that mean that this version of Temprecord is incompatible w ith the logger. You w ill need to dow nload an update from http://w w w .temprecord.com.

See also

Logger Firmw are Revision 2.14
Error and Warning Messages

14.42 Incorrect passphrase

The passphrase you entered does not match the passphrase that w as used w hen the logger parameters w ere programmed.

A passw ord must be a w ord or phrase up to 32 characters. The passw ord must conform to the follow ing:

- any leading or trailing spaces are ignored.
- the passw ord can be any phrase up to 32 characters in length.
- embedded spaces are permitted and significant, ie:
  hello there   (one space) and,
  hello there   (tw o spaces) are all considered to be different.
- case is significant, ie:
  hello there   ,
  Hello There   , and
  HELLO THERE   are all considered to be different.

- only printing characters in the range 20h (space) to 7Fh (~) are permitted. The additional European language characters such as è and ñ cannot be used in pass-phrases.

See also:
[Incorrect passphrase (Caps Lock is turned on)](#)
[Error and Warning Messages](#)

14.43 Incorrect passphrase (Caps Lock is turned on)

The passphrase you entered does not match the passphrase that was used when the logger parameters were programmed.

Temprecord has detected that **Caps Lock** is turned on. Did you intend for this to be the case? As passphrases are case-sensitive, the state of **Caps Lock** will influence the passphrase you enter.

A password must be a word or phrase up to 32 characters. The password must conform to the following:

- any leading or trailing spaces are ignored.
- the password can be any phrase up to 32 characters in length.
- embedded spaces are permitted and significant, ie:
    hello there   (one space) and,
    hello there   (two spaces) are considered to be different.
- case is significant, ie:
    hello there   ,
    Hello There   , and
    HELLO THERE   are all considered to be different.
- only printing characters in the range 20h (**space**) to 7Fh (**~**) are permitted. The additional European language characters such as è and ñ cannot be used in pass-phrases.

See also:
[Incorrect passphrase](#)
[Error and Warning Messages](#)

14.44 Invalid limit delay count

The permissible range for the [limit delay](#) parameter is 0 to 255. Enter a number in this range

See also:
[Error and Warning Messages](#)

14.45 Invalid lower temperature limit

The permissible range for the lower temperature limit is from -327.68 to +327.67 degrees C. This corresponds to a range of -557.8 to 621.8 degrees F. Enter a number in this range

See also:
[Error and Warning Messages](#)

14.46 Invalid password submitted

This logger you have tried to access is protected by a password and the password you have specified is not correct.

Re-enter the password. The password must conform to the following:

- any leading or trailing spaces are ignored.
- the password can be any phrase up to 32 characters in length.
- embedded spaces are permitted and significant, ie:
  - hello there   (one space) and,
  - hello there   (two spaces) are all considered to be different.
- case is significant, ie:
  - hello there   ,
  - Hello There   , and
  - HELLO THERE   are all considered to be different.
- only printing characters in the range 20h (space) to 7Fh (~) are permitted. The additional European language characters such as **è** and **ñ** cannot be used in pass-phrases.

The password will not display as you type it.

See also:
Error and Warning Messages

14.47 Invalid sample period

The sample period is the time that elapses between samples. Enter the sample period as hours, minutes and seconds.

For MK3 and Mon-T loggers, the minimum sample period that can be entered is 0:00:02, or 2 seconds. You can enter any value between 2 seconds and the upper limit of 24 hours, and the sample period must be a multiple of 2 seconds.

For LCD loggers, the minimum sample period that can be entered is 0:00:01, or 1 second. You can enter any value between 1 second and the upper limit of 18:12:15, and the sample period can be a multiple of 1 second.

See also:
Error and Warning Messages

14.48 Invalid start date

The start date you have entered is not a valid date. Do not enter any separator characters such as '/' or '-' when you enter the date.

See also:
Error and Warning Messages

14.49 Invalid start delay

The start delay is the time that elapses between when the logger is started and when it begins to record samples. Enter the start delay as hours, minutes and seconds. The minimum start delay that can be entered is 0:00:10, or 10 seconds. You can enter any value between 10 seconds and 24 hours.

See also:
Error and Warning Messages

14.50 Invalid start time

The start time you have entered is not a valid time. Do not enter any separator characters such as ':' when you enter the time.

See also:
Error and Warning Messages

14.51 Invalid preset date or time

The date or time you have entered as one of the preset dates is not a valid date or time. Do not enter any separator characters such as ':' or '/' when you enter the date or time.

See also:
Error and Warning Messages

14.52 Invalid upper temperature limit

The permissible range for the upper temperature limit is from -327.68 to +327.67 degrees C. This corresponds to a range of -557.8 to 621.8 degrees F. Enter a number in this range

See also:
Error and Warning Messages

14.53 Logger nnn's parameters will be restored from the parameter set "xx". Do you want to continue?

This message indicates that a suitable named parameter set has been found to restore the logger to the original settings that **Temprecord** programmed the logger with.

- Click on **Yes** to proceed to program the logger parameter with the named parameter set shown.

- Click on **No** to abandon the factory restore operation.

See also:
Factory restore operation
Designated use loggers
Named parameter Sets
Error and Warning Messages

14.54 Logger Firmware Revision 2.14

Temprecord released a newer version of the Mk III logger in 2009. This version, firmware revision 2.14, implements greater reliability of communications with the logger and also faster (around ten times faster) download times.

In order to take advantage of these faster download times, loggers with firmware version 2.14 (or greater) must be used with Version 5.23 (or greater) of the Temprecord software (TRW). Newer loggers cannot be used with earlier versions of TRW.

If you have Firmware version 2.14 loggers, you will need to upgrade Temprecord to program and read these loggers. The Temprecord software can be downloaded from http://temprecord.com/software.html.

Note that the converse does not apply - that is, the current version of Temprecord can program and read both older and newer loggers, with no special action required by the user to swap between the two types of logger.

See also:
Error and Warning Messages

14.55 Logger interface not found

The operation cannot be completed because **Temprecord** w as unable to establish a connection w ith the reader interface.

See also:
Error and Warning Messages

14.56 Logger is unconfigured

The operation cannot be carried out because the logger is unconfigured. This is most likely because the battery is exhausted. The logger should be returned to Temprecord for recycling or refurbishment.

See also:
Error and Warning Messages
.

14.57 Logger not in ready mode

The read operation cannot be completed because the logger is not in the **ready** mode.

In order to program the parameters, or start logging samples, the logger must be in the **ready** mode.

See also:
Programming a Logger's Parameters
Error and Warning Messages
.

14.58 Logger is currently in xx mode and cannot be read

The read operation cannot be completed because the logger is not in the correct mode.

In order to read samples, the logger must be either **logging**, i.e.currently taking samples, or **stopped**.

See also:
Error and Warning Messages

14.59 Lower temperature limit is below minimum range of logger

The value entered in the low er temperature limit field is below the minimum temperature for the logger you are programming.

Earlier versions of the Temprecord program allow ed you to enter limits outside the operating range of the logger. This is inadvisable as the logger w ill not detect instances of the temperature exceeding the limits w hen that limit is outside the operating range.

If you are programming a Mon-T logger, the low er temperature limit cannot be low er than the Mon-T minimum temperature.

See also:
Error and Warning Messages

14.60 No data loaded

You have attempted an operation on a logger that requires that the data has been read. Read the logger data and repeat the operation.

See also:

Reading a logger
Error and Warning Messages

14.61 No suitable parameter sets for logger nnn found

A factory restore operation has been initiated but no parameter sets matching this logger can be found.

Check that the correct version of Temprecord is installed. Temprecord provides custom sets of Named parameter Set files for specific customers and the NPS files required for a factory restore operation are normally placed on the computer by the installation procedure.

See also:

Factory restore operation
Designated use loggers
Named parameter Sets
Error and Warning Messages

14.62 No wakeup from logger

Temprecord is unable to communicate with the logger.

Check that the COM port selected using the COM port options is the same port that has the Temprecord reader connected to it.

Temprecord is always improving its products. Occasionally changes to the logger's specification mean that earlier versions of Temprecord software are incompatible with newer loggers, as the earlier software is not aware of the new features and cannot take advantage of them. Where a logger requires a particular revision of software to operate correctly, the packaging will include a warning to this effect.

See also Logger Firmware Revision 2.14

See also:

Error and Warning Messages

14.63 No response from logger

Temprecord is unable to communicate with the logger.

Check that the COM port selected using the COM port options is the same port that has the Temprecord reader connected to it.

Temprecord is always improving its products. Occasionally changes to the logger's specification mean that earlier versions of Temprecord software are incompatible with newer loggers, as the earlier software is not aware of the new features and cannot take advantage of them. Where a

logger requires a particular revision of software to operate correctly, the packaging will include a warning to this effect.

See also Logger Firmware Revision 2.14

See also:
Error and Warning Messages

14.64 Parameter restore operation completed

The parameter set originally associated with the designated use logger has been restored successfully. The parameters dialog will close when you exit this message dialog.

See also:
Designated use loggers
Factory restore operation
Error and Warning Messages

14.65 Parameter Set xx not found. Reuse logger anyway ?

This logger has a Named Parameter Set (NPS) specified in the user data but a NPS of the same name is not present on the disk. When the NPS of the same name is found the parameter settings are read from the NPS on disk into the controls in the parameters dialog.

- Click on **Yes** if you want to reuse the logger even though no local copy of the NPS file was found.

- Click on **No** or **Cancel** if you don't want to reuse the logger just yet.

See also:
Reusing a logger
Parameters dialog
Named Parameter Sets

14.66 Password and confirm are different

You have entered a password in the 'Password' field that differs from the one in the 'Confirm' field. Re-enter both passwords.

Remember:

- any leading or trailing spaces are ignored.
- the password can be any phrase up to 32 characters in length.
- embedded spaces are permitted and significant, ie:
    hello there   (one space) and,
    hello there   (two spaces) are all considered to be different.
- case is significant, ie:
    hello there   ,
    Hello There   , and
    HELLO THERE   are all considered to be different.
- only printing characters in the range 20h (space) to 7Fh (~) are permitted. The additional European language characters such as **è** and **ñ** cannot be used in pass-phrases.

14.67 Password is invalid

The password you have entered is invalid.

Re-enter the password. The password must conform to the following:

- any leading or trailing spaces are ignored.
- the password can be any phrase up to 32 characters in length.
- embedded spaces are permitted and significant, ie:
  hello there   (one space) and,
  hello there   (two spaces) are all considered to be different.
- case is significant, ie:
  hello there   ,
  Hello There   , and
  HELLO THERE   are all considered to be different.
- only printing characters in the range 20h (space) to 7Fh (~) are permitted. The additional European language characters such as **è** and **ñ** cannot be used in pass-phrases.

14.68 Password is not verified

You have entered the password in only one of the two Password and Confirm fields. You must fill in both fields with the same password.

If you do not want the logger to have a password (i.e. to clear the password), enter the single digit value zero into both fields. If you want to leave the password unchanged, leave both fields blank.

14.69 Password Specification Errors

The following error messages can result from not specifying the password correctly. Check the notes below to determine the reason.

Invalid Password

A password must be a word or phrase up to 32 characters. The password must conform to the following:

- any leading or trailing spaces are ignored.
- the password can be any phrase up to 32 characters in length.
- embedded spaces are permitted and significant, ie:
  hello there   (one space) and,
  hello there   (two spaces) are all considered to be different.
- case is significant, ie:
  hello there   ,
  Hello There   , and
  HELLO THERE   are all considered to be different.
- only printing characters in the range 20h (space) to 7Fh (~) are permitted. The additional European language characters such as **è** and **ñ** cannot be used in pass-phrases.

Password Not Verified

One of the password fields was left blank. You must fill in both password fields

Password and confirm are different

The password you specified in the first field does not match that in the verification field.

General Password Notes

If you don't want the current password to be changed, leave both fields blank. If you want the password feature to be disabled, enter zero (0) in both fields.

Do not forget your password! If you do, you will be unable to alter the user data, and in the case of the Multi-trip, Scientific and LCD models, you will be unable to reuse them.

See also:

Password
User data
Sample period
Start delay
Error and warning messages

14.70 Start time and date has already passed

You have enabled the 'Start at Time and Date' option for the logger, but the start time and date specified has already passed.

Change the time and date to a future time and date.

See also:

Error and Warning Messages

14.71 "Start at this date and time" is enabled. Once the parameters have been saved you will no longer be able to access the logger parameters

This warning is issued when you try to save the parameters to a LCD logger and the "Start at this date and time" option is selected.

- The start time and date is achieved by setting a start delay as appropriate and then starting the logger. For example if a start time and date is programmed for 3 weeks into the future, the start delay is programmed to be three weeks and the logger is started automatically when the parameters are applied to the logger.

- Once the parameters are saved to a logger with a start time and date programmed, the logger starts counting down the start delay, and it is not possible to access the logger parameters from that point on.

- Once the parameters are saved to a logger that has a start time and date programmed, the logger cannot be started with the button instead.

If you click on the **Cancel** button the parameters will not be saved.

See also:

Error and Warning Messages

14.72 Temprecord cannot be stopped until start delay expires

You have attempted to stop the Temprecord logger while the start delay is still counting down. The logger cannot be stopped until the start delay has expired and the logger has begun to take samples.

14.73 Temprecord failed to re-use

Temprecord has not been able to verify that the logger reused correctly. The operation may have been successful. Check the state of the logger by using the File/Query Logger function.

You may have removed the logger from the reader too quickly. Do not remove the logger until the message window that opens has closed again

14.74 Temprecord failed to start

Temprecord has not been able to verify that the logger started correctly. The operation may have been successful. Check the state of the logger by using the File/Query Logger function.

You may have removed the logger from the reader too quickly. Do not remove the logger until the message window that opens has closed again

14.75 Temprecord failed to stop

Temprecord has not been able to verify that the logger stopped correctly. The operation may have been successful. Check the state of the logger by using the File/Query Logger function.

You may have removed the logger from the reader too quickly. Do not remove the logger until the message window that opens has closed again

14.76 Temprecord has already been re-used

You have tried to reuse a logger that has already been reused. You can now program the parameters and start the logger.

14.77 Temprecord has not yet been started

You have tried to read the data from a logger that has not yet been started. To have your logger take samples:

- Use the Program/Parameters function to set the logger up.
- Use the Program/Start function to start the logger.
- Place the logger in the environment you wish to monitor for a while.

- Use the File/Read Logger function to read the samples taken so far.

See also:

Error and Warning Messages

14.78 Temprecord is already running

You have tried to start the Temprecord program, but there is already a copy of Temprecord running on your computer. Only one copy of Temprecord can run at any one time on a single computer.

You can find the copy that is already running on your computer: Hold the Alt key down and press the Tab key. Windows will display a panel with all the running programs shown as icons. Use the Tab key to switch from one running program to the next. Repeat this until the Temprecord icon is selected. Release the Alt key and you will be placed in the copy of Temprecord that is already running.

Alternatively, if the taskbar is displayed, click on the taskbar button that shows the Temprecord icon.

See also:

Error and Warning Messages

14.79 Temprecord is already started

You have attempted to start the logger when it is already taking samples. If the logger status is shown as 'start delay', it means that the start delay period is still counting down. The logger will begin to take samples when the start delay counts down to zero.

See also:

Error and Warning Messages

14.80 Temprecord is already stopped

You have attempted to stop the logger when it has already been stopped.

You can now read the logger and reuse it.

See also:

Error and Warning Messages

14.81 Temprecord is running from a network drive and no INI file was found on that server, or locally

The Temprecord program has been started from a shortcut that points to a network drive, but no INI settings file was found on that server.

Temprecord will run, and will create an INI file in the location:

C:\Documents and Settings\\<user\>\Local Settings\Application Data\Temprecord\TRW

You should not see this message again. If other users of this computer start Temprecord they will also see this message the first time they run Temprecord.

(the path shown is for a default installation under Windows XP. It may be different on your computer).

See also:

An unrecognised version of Temprecord is installed on this machine
Temprecord is running from a network drive and an INI file from an earlier installation was also found
Temprecord is running from a network drive and a local installation was also found
Temprecord is running from a network drive and an unrecognised local installation was also found
This version of Temprecord is not installed on this computer, or possibly an older version is also installed

Error and Warning Messages

14.82 Temprecord is running from a network drive and an INI file from an earlier installation was also found

The Temprecord program has been started from a shortcut that points to a network drive, but an INI settings file from an earlier installation was found in the remote location.

Temprecord will run, and will use settings from this INI file:

\\\<network drive>\Program Files\Temprecord\TRW\TRW.INI

but the INI file should be located in this folder:'

\\\<network drive>\Program Files\Temprecord\TRW\Application Data\TRW.INI

(the paths shown are for a default installation under Windows XP. They may be different on your computer).

A system administrator should ensure that there is no INI file in the first location, and move it to the second location.

See also:

Error and Warning Messages

14.83 Temprecord is running from a network drive and a local installation was also found

You have started the Temprecord program from a shortcut that points to a network drive, and the computer you are using also seems to have Temprecord installed.

Temprecord will run, but the version installed on the remote drive is the one you will be using, not the version of Temprecord installed on this computer. Any program settings will be read from the remote drive also and saved back to that location when you have exited Temprecord.

- If you want to run a local installation of Temprecord, make sure you use a shortcut or Start Menu entry installed by the locally installed version.
- If you want to run the remote network-installed version and don't want to see this message each time you will need to uninstall the local copy.

See also:

Error and Warning Messages

14.84 Temprecord is running from a network drive and an unrecognised local installation was also found

You have started the Temprecord program from a shortcut that points to a network drive, and the computer you are using also seems to have Temprecord installed, but the local installation is unrecognised. The local installation is probably a newer version than the version you are running now.

Temprecord will run, but the version installed on the remote drive is the one you will be using, not the version of Temprecord installed on this computer. Any program settings will be read from the remote drive also and saved back to that location when you have exited Temprecord.

- If you want to run a local installation of Temprecord, make sure you use a shortcut or Start Menu entry installed by the locally installed version.
- If you want to run the remote network-installed version and don't want to see this message each time you will need to uninstall the local copy.

See also:

Error and Warning Messages

14.85 Temprecord Medical loggers should be programmed with a Named Parameter Set. Reuse logger without the Named Parameter Set ?

The logger you are about to reuse is a designated use logger that is normally always deployed with a named parameter set, but none was found to be specified in the user data.

- Click **Yes** to reuse the logger without the named parameter set anyway.

- Click N**o** or **Cancel** to abandon the reuse operation.

See also:

14.86 Temprecord must be re-used before starting

You have attempted to start the logger but it has not yet been reused.

- Use the Program/Reuse function to reuse the logger.
- Use the Program/Parameters function to set the logger up for the next use.
- Use the Program/Start function to start the logger.

See also:

Error and Warning Messages

14.87 Temprecord must be stopped before re-use

You have attempted to reuse the logger without stopping it first. The logger must be in the 'Stopped' state before reuse.

- Use the Program/Stop function to stop the logger
- Use the File/Read Logger function to read the temperature data from the logger
- Use the File/Save function to save the temperature data to a disk file.
- Use the Program/Reuse function to reuse the logger.
- Use the Program/Parameters function to set the logger up for the next use.
- Use the Program/Start function to start the logger.

See also:

Error and Warning Messages

14.88 Temprecord was unable to create your TRW.INI file

An error has occurred when Temprecord tried to create your INI file. The INI file is used to remember your preferences and settings between Temprecord sessions. You will still be able to run Temprecord, but any changes you make to the options may not be remembered.

- Check that your disk is not full.
- Check that you have sufficient access rights to your computer's Windows directory. You may not have full access if you are running on a network.

See also:

Error and Warning Messages

14.89 Temprecord was unable to find your TRW.INI file

Temprecord could not find your TRW.INI file in the Windows subdirectory of your computer. The INI file is used to remember your preferences and settings between Temprecord sessions. A new INI file will be created with default settings for all the preferences.

You may receive this message if you install Temprecord for another user on your network. This is normal and it just means that Temprecord is creating another separate preferences file for the new user. The message should not appear again.

See also:

Error and Warning Messages

14.90 Temprecord was unable to write to your TRW.INI file

An error has occurred w hen Temprecord tried to w rite your preferences to your INI file. The INI file is used to remember your preferences and settings betw een Temprecord sessions. You w ill still be able to run Temprecord, but any changes you have made to the options may not be remembered.

- Check that your disk is not full.
- Check that you have sufficient access rights to your computer's Window s directory. You may not have full access if you are running on a netw ork.

See also:

Error and Warning Messages Warning Messages

14.91 The Auto Mode option to reuse the logger is set

You have attempted to start Auto Mode but Temprecord has found that you have the option to reuse the logger set, but you have no Auto Mode option set to read the logger and save the data.

If you continue, any data contained in the logger w ill be lost w hen the logger is reused. You should make sure the data has been saved to disk at an earlier time before using auto mode w ith neither of the options to read the logger and save the data enabled.

If you do not w ant to be prompted for this question, and you understand the issues involved, make sure the checkbox labeled "Don't ask me this again" is checked.

The state of this checkbox is only remembered for the current auto mode session. If you exit auto mode, the prompt w ill be displayed the next time you start it. It is not possible to permanently disable this w arning.

See also:

Error and Warning Messages

14.92 The comment fields for file <filename> have been edited but the changes have not yet been saved. Save file ?

You have changed (added, deleted, moved or edited) the comments for the named file, or altered the display limit controls, but the data has not yet been saved to disk.

You should save the data to disk or your changes to the comment fields w ill be lost.

See also:

Why does Temprecord keep asking me if I w ant to Save my file?
Error and Warning Messages

14.93 The comment fields for logger <serial number> have been edited but the data has not yet been saved. Save logger data to file ?

You have changed the comment fields for the data from the logger show n but the data has not yet been saved to disk.

You should save the data to disk or your changes to the comment line w ill be lost.

- Click the 'Yes' button if you w ant to save the changed comment information to a disk file.
- Click the 'No' button if you do not w ant to save the edited comment information. Any changes you have made w ill be lost.
- Click the 'Cancel' button to abandon the operation.

See also:

14.94 The data from this logger has not yet been read. Do you wish to read the data and save it before re-using the logger ?

You have attempted to reuse the logger without first reading the data from the logger and saving it to disk.

You should save the data to disk before reusing the logger you will lose the data stored in the logger.

- Click the 'Yes' button if you want to read the logger data before reusing and save it to a disk file.
- Click the 'No' button if you do not want to read the logger data before reusing the logger. The data in the logger will be lost.
- Click the 'Cancel' button to abandon the operation.

See also:

14.95 The data read from this logger shows indications that saturation has occurred

There are portions in the temperature data read from this logger that contain identical consecutive values. This can be an indication that the temperature has exceeded the range over which the logger can record temperature.

The test Temprecord uses to check for saturated data values is thorough, but is not perfect. Temprecord may well warn you about saturation when none has in fact occurred, and it may fail to detect saturation when it has occurred. There is no substitute for human inspection of the data.

You should inspect the data to see if this has occurred. If there are "flat-line" portions in the data that appear as shown below, then saturation has most likely occurred. If this is the case, then you must bear in mind the following:

- The statistical data from the logger will likely be incorrect or inaccurate. In particular, the minimum value or maximum value, and the mean value will likely be incorrect.
- If the limits for the logger have been set outside the operating range of the logger, then they will not function correctly. They may show that no limits have been transgressed when in fact they have.
- There is no way of knowing what the temperature was during those periods when the operating range of the logger was exceeded.
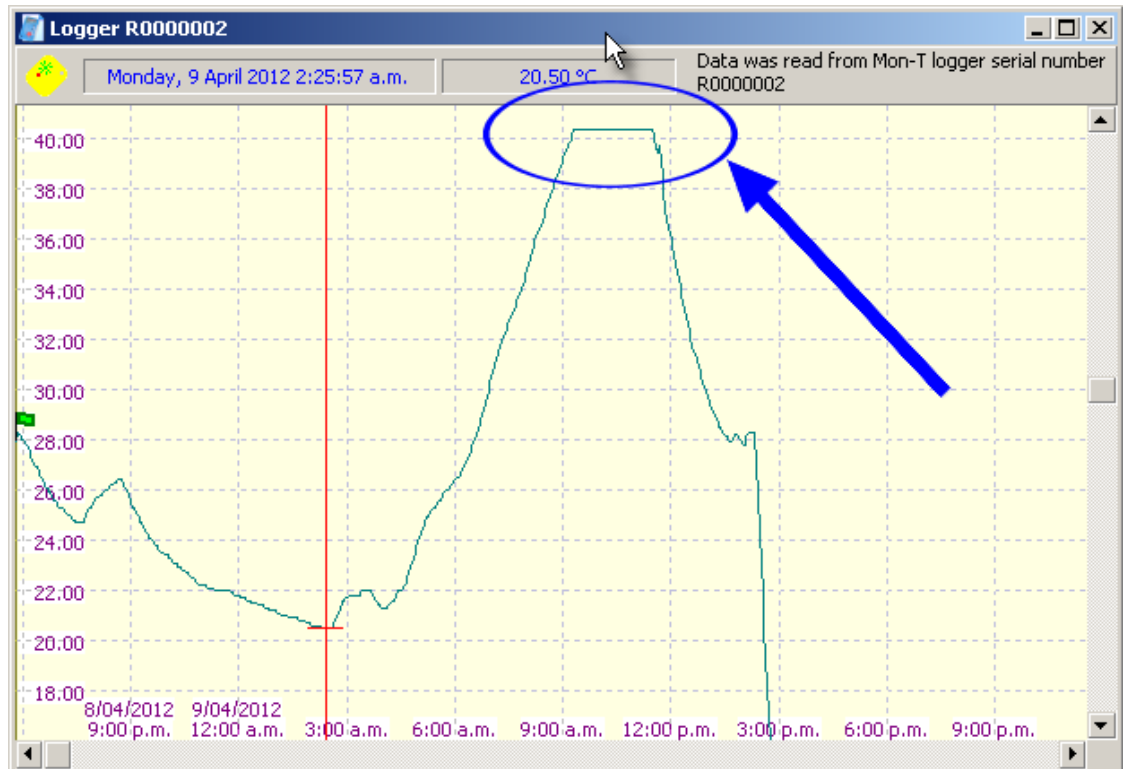
14.96 The factory calibration applied to this logger at manufacture can no longer be guaranteed

The factory calibration applied to this logger at manufacture can no longer be guaranteed.
  - The recorded temperature values will still be accurate to within 0.5°C.
  - The typical RH-accuracy (at 25°C) for the recorded humidity values will still be within ±2.0% RH from 10% to 90% RH
  - The typical RH-accuracy (at 25°C) outside this range will still be within ±4.0% RH
Please return this logger to the factory for calibration checking.

Some Mk III Temprecord loggers can contain additional calibration information to improve their accuracy. If you receive the above message it indicates that this calibration information is possibly invalid.

If this is the case, the temperatures and humidity values read from the logger are possibly less accurate than they might be, but they will still be within the accuracy range stated above. You should return the logger to Temprecord for calibration.

Logger temperature and humidity accuracy can also be affected by the following factors:

- exposing the logger to temperatures outside the specified operating temperature range.
- exposing the logger to strong electromagnetic radiation sources, such as microwaves, high voltage generators, or radio transmitters.
- immersing humidity loggers in liquids or exposing them to environments that might poison the humidity sensor.

Contact Temprecord for more information.

See also:
Error and Warning Messages

14.97 The logging mode parameter has been changed to log only temperature

This logger has a Named Parameter Set (NPS) specified in the user data and a NPS of the same name is present on the disk. When this occurs the parameter settings are read from the NPS on disk into the controls in the parameters dialog.

This means that the settings in the dialog are not necessarily the same as the settings in the logger.

On this occasion the NPS on disk has a logging mode specified that cannot be achieved with the logger being programmed. The named parameter set specifies a logging mode that includes logging humidity samples, and the current logger is a temperature-only logger. The logging mode has therefore been changed to Temperature-only.

See also
Logging Mode
Parameters dialog
Named Parameter Sets
Error and Warning Messages

14.98 The "Start at Time and Date" parameter has been disabled

This logger has a Named Parameter Set (NPS) specified in the user data and a NPS of the same name is present on the disk. When this occurs the parameter settings are read from the NPS on disk into the controls in the parameters dialog.

This means that the settings in the dialog are not necessarily the same as the settings in the logger.

On this occasion the NPS on disk has the **Start at Time and Date** feature enabled, but as a safety precaution this setting has been disabled in the dialog controls. The reason for this is that the act of saving the parameters to a LCD logger will start the logger and it will begin counting down to the **Start at Time and Date** time. The parameters in the logger cannot be accessed once this has been done.

If you require the **Start at Time and Date** feature you will need to select it again, and ensure that the time and date is in the future, and a sensible date.

See also
Start at Time and Date
Parameters dialog
Named Parameter Sets
Error and Warning Messages

14.99 The recalibration period on this logger will expire in N weeks

The calibration period on this logger will expire in 12 weeks.

You will not be able to use the logger after 15 Jan 2020

This message will display when you save the parameters for a logger which has been programmed at the Temprecord factory to prevent usage after a calibration expiry date. You will not be able to start the logger on trips after the expiry date shown.

See also:
Error and Warning Messages

14.100 The settings you are saving to the logger have been changed and are no longer the same as the settings in the NPS file "xx"

The settings you are saving to the logger have been changed and are no longer the same as the settings in the NPS file "xx". Do you want to update the Named Parameter Set

file as well as the logger?

This logger has a Named Parameter Set (NPS) specified in the user data and a NPS of the same name is present on the disk. You have edited the parameters in the dialog however, and the settings no longer match what is in the NPS on disk. The warning message lists which parameters are different and what their respective values are. You are being asked if you wish the NPS file on disk to be updated to be the same as the settings in the dialog.

- Click on **Yes** if you want the NPS on disk to be updated as well as programming the settings into the logger.
- Click on **No** if you want the NPS on disk to be left alone. The logger will be programmed from the settings in the dialog.
- Click on **Cancel** if you want to abandon the save of parameters to the logger. The logger and the NPS file on disk will be left with their existing settings.
- If you don't want to see this prompt in the future, Make sure the checkbox **Don't ask me this again** is checked.

See also:
Parameters dialog
Named Parameter Sets
Error and Warning Messages

14.101 The Temprecord help file for the selected language <filename> was not found. English language help will be used instead

The selected language does not have an associated Help file. The English-language help file will be used instead. See your distributor about obtaining a help file for the language you have selected.

You can select the language of the Temprecord program with the Options/Language function. By default, this is set to 'use regional settings', which instructs Temprecord to look at your Windows installation to see which language your computer is set up for. Temprecord will then try to choose a language to suit your setting.

You can access the regional settings for your computer as follows:

Windows XP
- Click on **Start**
- Open **Control Panel**.
- Open **Regional and Language Options**
- The **Regional Options** tab should display the language setting for your computer.

Windows 7/Vista
- Click the **Start** icon in the lower left-hand corner.'
- Select **Settings**
- Select **Control Panel**.
- Select **Change Display Language**
- The **Region and Language** tab should display the language setting for your computer.

You can force Temprecord to ignore the regional settings by selecting one of the languages shown on the **Options/Language** page instead of the **'use regional settings'** selection.

Not all the languages shown on the **Options/Language** page are implemented. If you choose one that is not yet implemented, Temprecord will use English language instead.

See also:

Error and Warning Messages

14.102 This file does not pass integrity checking

The file loaded by Temprecord has a digest included as part of the file contents. This digest is generated at the time the file is saved from by the contents of the file and is unique to those contents. The digest calculation Temprecord uses (SHA-256) is very secure. A different file will have different data and therefore a different digest. The chances of two different files having the same digest is around 1 in 115,792,089,237,316,195,423,570,985,008,687,907,853,269,984,665,640,564,039,457,584,007,913,129, 639,936. I.e. not very often.

When Temprecord loads a file it recalculates this digest and checks that it gets the same result. If a different result is returned by this calculation it means that something or somebody has altered the digest and/or the contents of the file.

Temprecord also provides the ability for you to supply a "key" that is used when generating the digest. This key is like a password. If the digest has been generated using a key, then the same key is also required at the receiving end to verify that the file hasn't been tampered with.

See also:

Common questions about digests.
Error and Warning Messages

14.103 This file may be damaged

The file appears to have been damaged, either through data corruption or intentional tampering.

This file loaded by Temprecord was created with an earlier version or the program. These files use a method called Cyclic Redundancy Check (CRC32) to determine if the data is undamaged or hasn't been tampered with. When the file was saved a CRC was calculated from the file's contents, and this CRC is then included as part of the file contents.

When Temprecord loads a file it recalculates this CRC and checks that it gets the same result. If a different result is returned by this calculation it means that something or somebody has altered the CRC and/or the contents of the file.

Datafiles created with the current version of the Temprecord program use a much more secure method of checking for file integrity.

See also:

Common questions about digests.
Error and Warning Messages

14.104 This logger contains parameters from a Parameter Set "xx" but there is no local file of that name. Do you want to create one ?

This logger has a Named Parameter Set (NPS) specified in the user data but a NPS of the same name is not present on the disk. You can create a copy of the named parameter set on this computer.

There are implication to answering Yes to this prompt: Once there is existing a Named Parameter Set file on the computer that has the same name as the NPS specified in the user data, **Temprecord** will attempt to keep then aligned.

- When you save the parameters to a logger, if there is a NPS file on disk it is also updated with those parameter settings.
- When you reuse a logger, if there is a NPS file on disk it is used to initialize the parameter settings in the logger.

See also:
Named Parameter Sets
Reusing a Logger
Error and Warning Messages

14.105 This logger has been factory-configured for designated use by the owner "xx"

This logger is a designated use logger - that is it has been factory-configured with a specific set of parameters and is intended for a particular application environment.

If you continue and save parameters to this logger, the logger will be configured for general use, and you should restore the factory settings before using it again for the designated purpose.

See also:
Factory restore operation
Designated use loggers
Named parameter Sets
Error and Warning Messages

14.106 This logger has been factory-configured for designated use by the owner "xx" and the Named Parameter Set name is reserved

This logger is a designated use logger - that is it has been factory-configured with a specific set of parameters and is intended for a particular application environment.

You cannot update the parameters in the logger while it contains the name of a reserved named parameter set in the user data. If you wish to use this logger for a purpose other than the designated use, you should clear the named parameter set in the user data, or replace it with the name of a different NPS that is not reserved for use by the owner of this logger.

If you continue and save parameters to this logger, the logger will be configured for general use, and you should restore the factory settings before using it again for the designated purpose.

See also:
Factory restore operation
Designated use loggers
Named parameter Sets
Error and Warning Messages

14.107 This logger''s recalibration is due in N weeks

⚠️ **This logger's calibration is due in 2 weeks.**

You will not be able to use the logger after 15 Jan 2020

This message will display when you try to start a logger which has been programmed at the Temprecord factory to prevent usage after a calibration expiry date. You will not be able to start the logger on trips after the expiry date shown.

See also:
Error and Warning Messages

14.108 This model Temprecord cannot be re-used

You have attempted to reuse a singleuse (Inland or Export) logger. These models can only be used once, after which they should be returned for recycling.

See also:
Error and Warning Messages

14.109 This Temprecord can only be started by snapping off a tab

You have attempted to use the Temprecord program to start an inland or export logger. These cannot be started with the program - they must be started by snapping off one of the tabs.

See also:
Error and Warning Messages

14.110 This Temprecord can only be stopped by snapping off a tab

You have attempted to use the Temprecord program to stop an inland or export logger. These cannot be stopped with the program - they must be stopped by snapping off the remaining tab.

See also:
Error and Warning Messages

14.111 This version of Temprecord is not installed on this computer, or possibly an older version is also installed

The version of Temprecord you are running now has not been properly installed. No installation type identification was found on this computer. This can mean that Temprecord is not installed, or possibly an earlier version is installed.

You should only have one version of Temprecord installed at once. You should uninstall the version you do not require, and install or reinstall this version.

See also:
An unrecognised version of Temprecord is installed on this machine
Temprecord is running from a network drive and an INI file from an earlier installation was also found
Temprecord is running from a network drive and no INI file was found on that server, or locally
Temprecord is running from a network drive and a local installation was also found
Temprecord is running from a network drive and an unrecognised local installation was also found
You are running Temprecord from a network drive but it is also installed locally for the current user
You are running Temprecord from a network drive but it is also installed locally for all users
You are running Temprecord from a network drive but it is also installed locally for all users (shared settings)
You are running Temprecord from a network drive but it is also installed locally for use by remote users
You are running Temprecord from a network drive but there is also an unrecognised local installation

14.112 TX timeout

Temprecord is unable to communicate w ith the logger due to a problem w ith the serial COM port.

Check that the port is not in use by another application and is selected correctly using the COM port options.

14.113 Unable access parameters. Temprecord is probably faulty

You have attempted to program the parameters on a logger that reports as faulty. The logger's battery may be exhausted.

See also:
Error and Warning Messages

14.114 Unable to access parameters. Temprecord has been started

You have attempted to program the parameters on a logger has already been started. You cannot alter the parameters on a logger unless it is in the 'ready' state.

See also:
Error and Warning Messages

14.115 Unable to access parameters. Temprecord has finished logging

You have attempted to program the parameters on an inland or export logger that has finished logging. You can only alter the parameters on a logger before it is started.

See also:
Error and Warning Messages

14.116 Unable to access parameters. Temprecord must be re-used first

You have attempted to program the parameters on a logger has finished logging. You cannot alter the parameters on a logger unless it is in the 'ready' state.

- Use the Program/Reuse function to reuse the logger.
- Use the Program/Parameters function to set the logger parameters up for the next use.
- Use the Program/Start function to start the logger.

See also:
Error and Warning Messages

14.117 Unable to access Temprecord after re-use

The logger could not be accessed after reusing.

You may have removed the logger from the reader too quickly. Do not remove the logger until the message w indow that opens has closed again

See also:
Error and Warning Messages

14.118 Unable to access Temprecord after starting

The logger could not be accessed after starting.

You may have removed the logger from the reader too quickly. Do not remove the logger until the message window that opens has closed again

See also:
Error and Warning Messages

14.119 Unable to access Temprecord after stopping

The logger could not be accessed after stopping.

You may have removed the logger from the reader too quickly. Do not remove the logger until the message window that opens has closed again

See also:
Error and Warning Messages

14.120 Unable to access Temprecord logger

This error is reported when the Temprecord program is unable to communicate with the logger. Of all the problems you might encounter getting Temprecord operational, this is the most likely. The reason for this could be because:

- you do not have the reader interface plugged in.
- you have it plugged in to a port different to that specified by the Options/COM Port setting.
- there is no logger inserted in the reader interface, or the logger is not pushed far enough in.
- you have inserted the logger the wrong way around. The logger must be inserted into the reader interface with the hole visible and on the left. The logger types with snap-off tabs must be inserted with the tab end visible.
- the logger is faulty.

You may see other error messages if the logger cannot be accessed. See the topics:

Unknown logger response
TX timeout
No response from logger
No wakeup from logger
Bad CRC
Bad verify
Bad address
Incorrect firmware

for more information.

See also:
Unable to open COMx
Options/COM Port
Error and Warning Messages

14.121 Unable to delete file <filename>

Temprecord was unable to delete the named file. When this error occurs and you had selected more than one file to delete, any further files you might have also selected are not deleted.

- Check the spelling of the filename
- Check that the file is not marked read-only
- Check that the file is not held open by another network user.

See also:

Error and Warning Messages

14.122 Unable to access Temprecord. Password is incorrect

You have attempted to program the parameters on a Temprecord logger that is protected with a password.

Enter the correct password.

See also:

Error and Warning Messages

14.123 Unable to load file - insufficient memory

Temprecord will report this message if it cannot create another Temprecord data window to display the data from a logger or a file. You are unlikely to see this error, but if it appears, you should try to make more memory available on your computer, by closing some other applications, or fitting more memory.

See also:

Error and Warning Messages

14.124 Unable to load named parameter set

Temprecord was unable to open the parameter set. The error message may display additional information that will lead you to the reason the load operation was not successful.

- Check the filename is valid
- Check that the file is not already held open by another network user.

See also:

Named Parameter Sets
Error and Warning Messages

14.125 Unable to load named parameter set (Auto Mode)

Temprecord was unable to open the parameter set when processing a logger in Auto Mode.

If the Auto Mode option to load a Named Parameter Set into the logger is enabled and Temprecord cannot locate the Named Parameter Set file, Auto Mode processing will halt.

- Check the filename is valid
- Check that the file is not already held open by another network user.

See also:

Named Parameter Sets
Error and Warning Messages

14.126 Unable to load named parameter set (reuse logger)

Temprecord w as unable to open the parameter set w hen reusing a logger.

If the logger user data is found to have been programmed w ith a Named Parameter Set, Temprecord w ill attempt to load the Named Parameter set from a file after reusing the logger. If the file cannot be found, an error message w ill be issued.

- Check the filename is valid
- Check that the file is not already held open by another netw ork user.

The logger w ill be reused regardless of w hether the named parameter set file is found. If you don't have access to the required Named Parameter Set file and don't require the existing logger parameters to be updated from a NPS, you can ignore the error message.

See also:
Named Parameter Sets
Error and Warning Messages

14.127 Unable to open COMx

This error is reported w hen the Temprecord program is unable to initialize the COM Port to communicate w ith the logger. The message w ill indicate w hich COM port (COM1, COM2, COM3 or COM4) it w as attempting to use. This could be because:

- the COM Port does not exist on your computer.
- the COM Port is in use by another application.

Select Options/COM Port to investigate w hich COM Ports are available. The Options/COM Port screen displays for each of COM1 to COM4, w hether the port is in use by another application, in use by Temprecord, or non-existent. You must choose a COM Port that is not in use and is fitted to your computer.

Other devices w hich also use COM Ports are a mouse and a modem.

See also:
COM Port conflicts
Unable to access Temprecord Logger
Options/COM Port
Error and Warning Messages

14.128 Unable to open form

Temprecord w ill report this message if it cannot create a form. Forms or 'dialog boxes' are used by Temprecord in order for you to enter information. Examples are:

- the Program/Parameters dialog
- the Options dialog
- the Edit Comments dialog
- the Passw ord dialog
- the Print dialog

You are unlikely to see this error, but if it appears, you should try to make more memory available on your computer, by closing some other applications, or fitting more memory.

See also:
Error and Warning Messages

14.129 Unable to open PDF help file

Temprecord w as unable to open the PDF help file. This is most likely to be because:

- The computer system you are using does not have Adobe Acrobat Reader installed. You can dow nload Adobe Acrobat Reader from http://get.adobe.com/reader/.
- The PDF help file w as not installed w hen you installed Temprecord. The PDF file should have been installed into the same folder as the Temprecord program. The English-language PDF help file is called TRW_EN.PDF and w ould normally be installed into the folder **C:\Program Files\Temprecord\TRW**.

See also:
View Help as PDF
Error and Warning Messages

14.130 Unable to open browser

Temprecord w as unable to open the brow ser-based w eb help. This is most likely to be because:

- The computer system you are using does not have a brow ser (such as Internet Explorer, FireFox, or Chrome) installed.

See also:
View Help on the Web
Error and Warning Messages

14.131 Unable to print

An error has occurred w hile Temprecord w as trying to print.

- Check that the selected printer is available to your computer.
- Check that you have the latest printer driver for your printer and version of Window s.

Some earlier versions of the Window s 3.11 printer drivers for the HP LaserJet 5P printer w ill give this error. If you are unable to get an updated printer driver for the LaserJet 5 that fixes the problem, try installing a printer driver for an earlier compatible printer, such as the HP LaserJet III.

See also:
Error and Warning Messages

14.132 Unable to read. Temprecord has not yet been started

You have attempted to read data from a Temprecord logger before it has been started.

- Use the Program/Parameters function to set the logger parameters up for the next use.
- Use the Program/Start function to start the logger.

See also:
Error and Warning Messages

14.133 Unable to read. Temprecord is probably faulty

You have attempted to read the logged data from a logger that reports as faulty. The logger's battery may be exhausted.

See also:
Error and Warning Messages

14.134 Unable to read. Temprecord start delay has not expired

You have attempted to read data from a Temprecord logger before the start delay has counted down to zero. The logger will not begin to take samples until the start delay has expired.

See also:
Error and Warning Messages

14.135 Unable to reuse Temprecord. Unit is probably faulty

You have attempted to reuse a logger that reports as faulty. The logger's battery may be exhausted.

See also:
Error and Warning Messages

14.136 Unable to reuse logger (Logger is in Ready state)

Temprecord was unable to reuse the logger because it is already in the **ready** state. You may have reused the logger earlier.

See also:
Error and Warning Messages

14.137 Unable to reuse logger (Logger is in Start Delay state)

Temprecord was unable to reuse the logger because it is in the **start delay** state. You cannot access the logger for reading, stopping, or reusing while it is in the start delay state.

See also:
Error and Warning Messages

14.138 Unable to save datafile to web

Temprecord was unable to save the data from the currently loaded data set to the web.

- Check that the computer has access to the Internet
- Check that the web access credentials are correctly entered.

See also:
Error and Warning Messages

14.139 Unable to save file <filename>

Temprecord was unable to save the data to the named file.

- Check the filename is valid
- Check that the file is not already held open by another network user.

This error can also occur if you are trying to save a file that was created with an earlier version of the Temprecord software. You can load these files and view and print the data in them, but you cannot save them again.

See also:
Error and Warning Messages

14.140 Unable to save PDF file to web

Temprecord w as unable to save the PDF report from the currently loaded data set to the w eb.

- Check that the computer has access to the Internet
- Check that the w eb access credentials are correctly entered.

See also:
Error and Warning Messages

14.141 Unable to save named parameter set

Temprecord w as unable to save the parameter set. The error message may display additional information that w ill lead you to the reason the save operation w as not successful.

- Check the filename is valid
- Check that the file is not already held open by another netw ork user.

See also:
Named Parameter Sets
Error and Warning Messages

14.142 Unable to save Temprecord parameters

An error occurred w hen Temprecord tried to save the parameter data to the logger.

You may have removed the logger from the reader too quickly. Do not remove the logger until the message w indow that opens has closed again

See also:
Error and Warning Messages

14.143 Unable to start Temprecord. Unit is probably faulty

You have attempted to start a logger that reports as faulty. The logger's battery may be exhausted.

See also:
Error and Warning Messages

14.144 Unable to stop Temprecord. Unit is probably faulty

You have attempted to stop a logger that reports as faulty. The logger's battery may be exhausted.

See also:
Error and Warning Messages

14.145 Unable to update parameters in logger

Temprecord w as unable to update the parameter data in the logger. The "(xx)" in the error message w ill be replaced w ith a more detailed description of the error that occurred.

Check the logger is correctly seated in the user interface.

See also:
Error and Warning Messages

14.146 Unable to update parameters as Temprecord is not in "ready" state

Temprecord could not update the parameter data in the logger because the logger is not in the 'ready' state.

This error can occur when you are using the 'Apply' button to set the parameters of several loggers in succession and you accidentally insert a logger that has already started.

See also:
Error and Warning Messages

14.147 Unable to update parameters as Temprecord is of a different type

Temprecord could not update the parameter data in the logger because the logger is of a type that is different to the logger the parameters were originally read from.

This error can occur when you are using the 'Apply' button to set the parameters of several loggers in succession and you accidentally insert a logger that is of a different type from the one the parameter data was originally read from.

See also::
Error and Warning Messages

14.148 Unable to update parameters as Temprecord is of older type

Temprecord could not update the parameter data in the logger because the logger in the reader interface is of the older type, whereas the logger the parameters were originally read from is of the newer type.

This error can occur when you are using the 'Apply' button to set the parameters of several loggers in succession and you accidentally insert an older logger.

See also:
Error and Warning Messages

14.149 Unable to update parameters as Temprecord is of newer type

Temprecord could not update the parameter data in the logger because the logger in the reader interface is of the newer type, whereas the logger the parameters were originally read from is of the older type.

This error can occur when you are using the 'Apply' button to set the parameters of several loggers in succession and you accidentally insert an newer logger.

See also:
Error and Warning Messages

14.150 Unable to update parameters as Temprecord protected with password

Temprecord could not update the parameter data in the logger because the logger in the reader interface is protected with a password, and the password is not the same as the password of the logger the parameters were originally read from is of the newer type.

This error can occur when you are using the 'Apply' button to set the parameters of several loggers in succession and you accidentally insert a logger protected with a password.

See also:
Error and Warning Messages

14.151 Unable to carry out command-line functions

Temprecord was started with command line parameters specified, and errors occurred when the operations were carried out. The error that occurred will be shown in the message.

14.152 Unable to create spreadsheet

Temprecord w as unable to create the Microsoft Excel spreadsheet file w hen you carried out the Copy to Excel function.

- The disk may be full.
- You may be trying to save the file to a folder that you do not have w rite-access permission f or.

14.153 Unable to create folder

Temprecord w as unable to create the folder.

When you save a file, Temprecord has the ability to create a file and folder name using formatting characters, so that the file or folder name includes such information as the logger serial number or the date.

- Your generated filename may contain characters that are not valid in a Window s file or folder name.
- The disk may be full.
- You may be trying to create the folder in a location that you do not have w rite-access permission f or.

14.154 Unable to open spreadsheet

Temprecord w as unable to open the Microsoft Excel spreadsheet file after you carried out the Copy to Excel function.

In order f or Temprecord to open the spreadsheet after you have copied data to the Excel file, your computer must have **Microsoft Excel** or **Open Office Calc** installed.

14.155 Unable to open dialog

Temprecord w as unable to open the dialog you requested.

- Your computer may be low in memory. Try closing some other applications. If the problem persists, exit Temprecord and start it again.

14.156 Unable to save file for emailing

Temprecord w as unable to save the Temprecord data file or PDF report file for emailing as an attachment.

- The disk may be full.
- You may be trying to save the file to a folder that you do not have w rite-access permission for.

See also:

Emailing files

Error and Warning Messages

14.157 Unexpected end-of-file

Temprecord has found the end of a Temprecord data file before it expected do. This error should not occur under normal operation.

- Check that the file is a Temprecord data file.
- The file may be damaged. Run a utility such as SCANDISK to try to repair the file.

See also:

Error and Warning Messages

14.158 Unexpected errors

When unexpected errors occur in the Temprecord program, a diagnostics report is generated. The diagnostics report contains information about your computer system and can help Temprecord w hen diagnosing problems you may be having.

When an error occurs, you w ill see the follow ing dialog:

Click on the button **Send report** to send the report to Temprecord.

It is helpful if you can describe what you were doing when the error occurred, and even better, if you are able to list the steps taken to reproduce the error.

The report contains information including:

- The current settings of Temprecord, which are saved in a file called TRW.INI
- A log of the events occurring as Temprecord was started up.
- An image of the screen contents when the report was requested.
- Information about the computer system running the Temprecord program

No Temprecord data files or PDF report files are sent

Click on the button **Show report** to if you want to inspect the report before it is sent.

Click on the button **Save report** to if you want to save the diagnostics report to a text file.

After you have optionally sent the diagnostics report, you can choose what action you want Temprecord to take to recover from the unexpected error.

Click on the **Cancel** button to resume operation of Temprecord. Note that the occurrence of the error may have introduced instability or cause further errors to occur.

Click on the **Exit Program** button to abandon your session and close the Temprecord program. Any unsaved data or settings will be lost. This might be necessary if the error is so serious that you cannot continue running Temprecord without further errors occurring, and restarting Temprecord also results in an unexpected error occurring.

You can also request that a diagnostics report be sent to Temprecord by clicking the button on the **System** tab in the options dialog. Temprecord may request that you do this when trying to remedy problems you may be having.

See also
Diagnostics reports

14.159 Unknown command option

The command-line parameter specified is invalid. Temprecord accepts parameters on the command line. If a filename is specified for example, Temprecord will open that file when it starts. You can enter several filenames if you wish, separated by spaces.

There are also command-line options that specify actions Temprecord is to perform when it starts. For example, you can read a logger and save the data to a file. See Command-Line Parameters for more information.

See also:
Error and Warning Messages

14.160 Unknown logger response

Temprecord encountered an error while trying to communicate with the logger. These errors can result from problems with the reader, the logger, or the USB/serial interface.

Unplugging the USB reader interface from the computer's USB port while Temprecord is running can have unpredictable effects and result in the loss of communication with the logger. It is best to exit Temprecord before unplugging or plugging in the reader interface.

14.161 Upper temperature limit is above maximum range of logger

The value entered in the upper temperature limit field is above the maximum temperature for the logger you are programming.

Earlier versions of the Temprecord program allowed you to enter limits outside the operating range of the logger. This is inadvisable as the logger will not detect instances of the temperature exceeding the limits when that limit is outside the operating range.

If you are programming a Mon-T logger, the upper temperature limit cannot be greater than the Mon-T maximum temperature.

See also:
Error and Warning Messages

14.162 WARNING - File damaged. Data may not be correct

The Temprecord data file is possibly damaged. All Temprecord data files include error-checking information to guard against tampering, and to detect damage to the files that might result in incorrect information being displayed.

- If the file was copied from some other source (e.g. a diskette, or from an e-mail attachment), retrieve the file again.

See also:
Error and Warning Messages

14.163 Web file not found

Temprecord is unable to load the file from the web storage folder.

- Check that the correct username and password is entered in your web options
- Check that the file exists in your web folder. If you are attempting to open the file from the "recent files" list and the file has meanwhile been deleted, moved, or renamed you will receive this error.
- You might have experienced a temporary internet error while trying to load the file. Try to load the file again.

See also:
Error and warning messages

14.164 You are running Temprecord from a network drive but it is also installed locally for the current user

The Temprecord program has been started from a shortcut that points to a network drive, but Temprecord is also installed locally for the current user.

Temprecord will run, and will use settings from this INI file:

C:\Documents and Settings\<user>\Local Settings\Application Data\Temprecord\TRW\TRW.INI

(the path shown is for a default installation under Windows XP. It may be different on your computer).

It is not recommended to run the Temprecord program from a network location and also have Temprecord installed on the local computer. Temprecord may behave in an unpredictable manner, particularly where program settings are concerned.

You should either run Temprecord from the local machine and remove the shortcut to the network copy, or uninstall the local copy of Temprecord.

When configuring Temprecord for use in a network environment where the Temprecord executable is started across a network, Temprecord should <u>not</u> be installed on the workstations.

See also:

14.165 You are running Temprecord from a network drive but it is also installed locally for all users

The Temprecord program has been started from a shortcut that points to a network drive, but Temprecord is also installed locally for all users of this computer.

Temprecord will run, and will use settings from this INI file:

C:\Documents and Settings\<user>\Local Settings\Application Data\Temprecord\TRW\TRW.INI

(the path shown is for a default installation under Windows XP. It may be different on your computer).

Other users will have separate settings.

It is not recommended to run the Temprecord program from a network location and also have Temprecord installed on the local computer. Temprecord may behave in an unpredictable manner, particularly where program settings are concerned. You should either run Temprecord from the local machine and remove the shortcut to the network copy, or uninstall the local copy of Temprecord.

When configuring Temprecord for use in a network environment where the Temprecord executable is started across a network, Temprecord should <u>not</u> be installed on the workstations.

See also:

14.166 You are running Temprecord from a network drive but it is also installed locally for all users (shared settings)

The Temprecord program has been started from a shortcut that points to a network drive, but Temprecord is also installed locally for the all users of this computer with the program settings shared among the users.

Temprecord will run, and will use settings from this INI file:

C:\Documents and Settings\All Users\Documents\Temprecord\Application Data\TRW\TRW.INI

(the path shown is for a default installation under Windows XP. It may be different on your computer).

Other users will have the same settings.

It is not recommended to run the Temprecord program from a network location and also have Temprecord installed on the local computer. Temprecord may behave in an unpredictable manner, particularly where program settings are concerned. You should either run Temprecord from the local machine and remove the shortcut to the network copy, or uninstall the local copy of Temprecord.

When configuring Temprecord for use in a network environment where the Temprecord executable is started across a network, Temprecord should not be installed on the workstations.

See also:

14.167 You are running Temprecord from a network drive but it is also installed locally for use by remote users

The Temprecord program has been started from a shortcut that points to a network drive, but Temprecord is also installed locally for use by other network users.

Temprecord will run, and will use settings from this INI file:

C:\Documents and Settings\<user>\Local Settings\Application Data\Temprecord\TRW\TRW.INI

(the path shown is for a default installation under Windows XP. It may be different on your computer).

Other users will have separate settings.

It is not recommended to run the Temprecord program from a network location and also have Temprecord installed on the local computer. Temprecord may behave in an unpredictable manner, particularly where program settings are concerned. You should either reinstall Temprecord on the local machine (and <u>not</u> choose the "Install for remote access" option) and remove the shortcut to the network copy, or uninstall the local copy of Temprecord.

When configuring Temprecord for use in a network environment where the Temprecord executable is started across a network, Temprecord should <u>not</u> be installed on the workstations.

See also:

An unrecognised version of Temprecord is installed on this machine
Temprecord is running from a network drive and an INI file from an earlier installation was also found
Temprecord is running from a network drive and no INI file was found on that server, or locally
Temprecord is running from a network drive and a local installation was also found
Temprecord is running from a network drive and an unrecognised local installation was also found
This version of Temprecord is not installed on this computer, or possibly an older version is also installed
You are running Temprecord from a network drive but it is also installed locally for the current user
You are running Temprecord from a network drive but it is also installed locally for all users
You are running Temprecord from a network drive but it is also installed locally for all users (shared settings)
You are running Temprecord from a network drive but there is also an unrecognised local installation

Error and Warning Messages

14.168 You are running Temprecord from a network drive but there is also an unrecognised local installation

The Temprecord program has been started from a shortcut that points to a network drive, but Temprecord is also installed locally. The local installation is unrecognised, and may be a later version of the program.

Temprecord will run, and will use settings from this INI file:

C:\Documents and Settings\<user>\Local Settings\Application Data\Temprecord\TRW\TRW.INI

(the path shown is for a default installation under Windows XP. It may be different on your computer).

Other users of this computer will have separate settings.

It is not recommended to run the Temprecord program from a network location and also have Temprecord installed on the local computer. Temprecord may behave in an unpredictable manner, particularly where program settings are concerned. You should either reinstall Temprecord on the local machine (and <u>not</u> choose the "Install for remote access" option) and remove the shortcut to the network copy, or uninstall the local copy of Temprecord.

When configuring Temprecord for use in a network environment where the Temprecord executable is started across a network, Temprecord should <u>not</u> be installed on the workstations.

See also:

An unrecognised version of Temprecord is installed on this machine
Temprecord is running from a network drive and an INI file from an earlier installation was also found
Temprecord is running from a network drive and no INI file was found on that server, or locally

Temprecord is running from a network drive and a local installation was also found

Temprecord is running from a network drive and an unrecognised local installation was also found

This version of Temprecord is not installed on this computer, or possibly an older version is also installed

You are running Temprecord from a network drive but it is also installed locally for the current user

You are running Temprecord from a network drive but it is also installed locally for all users

You are running Temprecord from a network drive but it is also installed locally for all users (shared settings)

You are running Temprecord from a network drive but it is also installed locally for use by remote users

Error and Warning Messages

Index

- " -

"Start at this date and time" is enabled. Once the parameters have been saved you will no longer be able to access the logger parameters   281

- % -

%AllSamples% meta-string   255
%Computer% - computer name (meta-string)   231
%Email% - sender's email address (meta-string)   231
%EndDate% meta-string   246, 255
%EndSample% meta-string   246, 255
%FileID% meta-string   246, 255
%Filename% meta-string   246, 255
%Filepath% meta-string   246, 255
%Files% - names of attached files (meta-string)   231
%Firmware% meta-string   246, 255
%FirstDate% meta-string   246, 255
%From% - sender's name and email address (meta-string)   231
%Full% meta-string   255
%HAbove% meta-string   255
%HBelow% meta-string   255
%HLower% meta-string   255
%HMax% meta-string   246, 255
%HMaxDate% meta-string   246, 255
%HMaxSample% meta-string   246, 255
%HMean% meta-string   246, 255
%HMin% meta-string   246, 255
%HMinDate% meta-string   246, 255
%HMinSample% meta-string   246, 255
%HUpper% meta-string   255
%LastDate% meta-string   246, 255
%MKT% meta-string   246, 255
%Name% - sender's name (meta-string)   231
%NPS% meta-string   246, 255
%Overwriting% meta-string   255
%Owner% meta-string   246, 255
%SamplePeriod% meta-string   246, 255
%Samples% meta-string   246, 255
%SN% meta-string   246, 255
%StartDate% meta-string   246, 255
%StartDelay% meta-string   246, 255
%StartSample% meta-string   246, 255
%TAbove% meta-string   255
%TBelow% meta-string   255

%TLower% meta-string   255
%TMax% meta-string   246, 255
%TMaxDate% meta-string   246, 255
%TMaxSample% meta-string   246, 255
%TMean% meta-string   246, 255
%TMin% meta-string   246, 255
%TMinDate% meta-string   246, 255
%TMinSample% meta-string   246, 255
%To% - list of recipients (meta-string)   231
%TotalSamples% meta-string   255
%TUpper% meta-string   255
%Units% meta-string   255
%User% - logged in Windows user (meta-string)   231
%User1% meta-string   246, 255
%User5% meta-string   246, 255
%UserData% meta-string   246, 255
%Workgroup% - computer workgroup name (meta-string)   231

- . -

.TR   87
.TRX   87

- / -

/ALLUSERS   52
/ALLUSERSSHARED   52
/DIR=<folder>   52
/GROUP=<group name>   52
/IMPORTSETTINGS   52
/JUSTME   52
/LOG=<filename>   52
/MERGETASKS=<list of tasks>   52
/NOIMPORTSETTINGS   52
/SILENT   52
/SP-   52
/SUPPRESSMSGBOXES   52
/VERYSILENT   52

- [-

[PICTURE Copy Samples.png]   170

- 1 -

16-bit versions of Windows   44

- A -

about Temprecord   34
Above Limits Color   213

- V -

- W -

- X -

- Z -