



GETTING STARTED GUIDE

NOTE: Fully test all datalogging and associated equipment before field installation.

LIMITATION OF REMEDIES

In no event will Lakewood be liable to any party for any damages, including any lost profits, lost savings, or other incidental or consequential damages arising out of the use or inability to use such equipment or related software, even if notice has been made of the possibility of such damages.

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SETTING UP YOUR COMPUTER

INSTALLING PROLOG

To Install Prolog, begin by inserting the CD into your computer. A splash screen should be displayed with an option to install Prolog. If the splash screen does not appear you may need to double click on the CD. Click on **Install Prolog** and the software will guide you in setting the software up on your computer.



THE INSTALLATION SPLASH SCREEN

LOADING PROJECTS

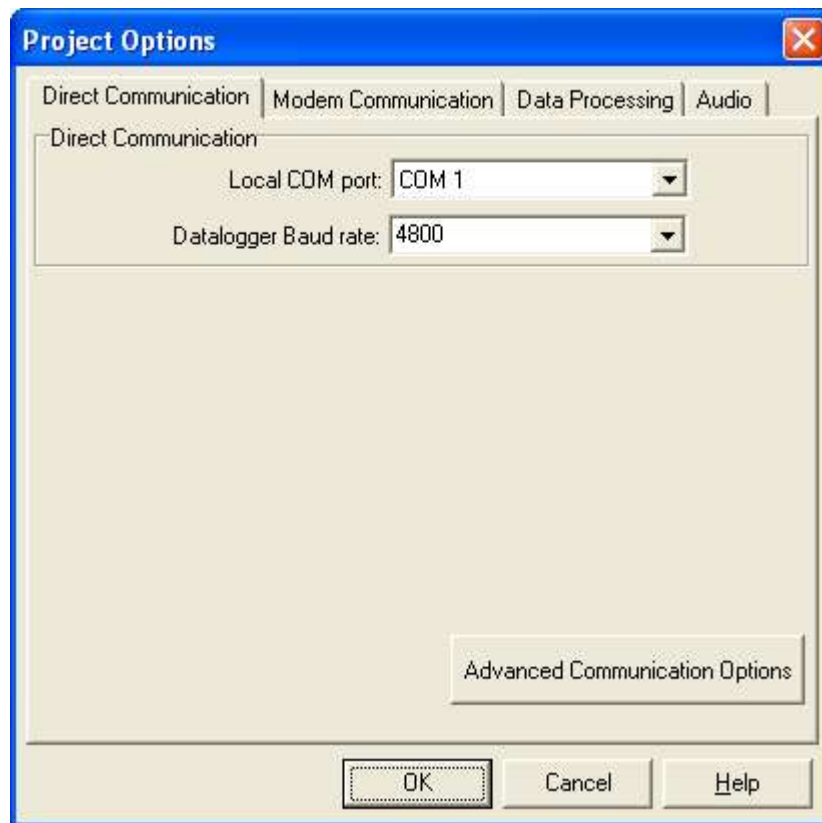
A project file contains all of the configuration information for Prolog to work with your dataloggers. Your project also contains downloaded data from your dataloggers, and specific software settings for Prolog to use. All of the information is kept in a base folder for the project. Once Prolog is installed on your computer, you can load any projects you may have. If you have a project CD insert it into your computer and click on **Load Packed Project**. If the project is a file ending in .ppf you can simply double click on it.



A PROJECT FILE

SETTING YOUR PROJECT OPTIONS

When you add a new project or run the software for the first time, the project options form will appear. It is a good idea to check your communication options at this time. Ensure that the communications port and baud rate are set correctly. If you need to change your project settings at any time, the project options form can be accessed by selecting **Options** from the **Project** menu at the top of the program.



THE PROJECT OPTIONS FORM

ENTERING YOUR KEY CODE

By default Prolog installs as a 30 day trial. To permanently unlock the program select **Registration** from the **Help** menu. You then need to enter your user name and key code to unlock the software permanently. Your user name must be entered exactly as it was given to you.

A screenshot of a Windows-style dialog box titled "Registration". The dialog has a blue title bar with standard minimize, maximize, and close buttons. The main area is light beige. It contains the text "Please enter your user name and key code:". Below this is a "User name:" label followed by a single-line text input field. Underneath is a "Key code:" label followed by three separate single-line text input fields. Further down, it says "To obtain a permanent key code please contact Lakewood:" followed by contact information: "Ph: 1-888-462-9110", "Fax: 1-780-450-3667", and "e-mail: mail@lakewood.com". At the bottom right are "OK" and "Cancel" buttons.

Please enter your user name and key code:

User name:

Key code:

To obtain a permanent key code please contact Lakewood:

Ph: 1-888-462-9110
Fax: 1-780-450-3667
e-mail: mail@lakewood.com

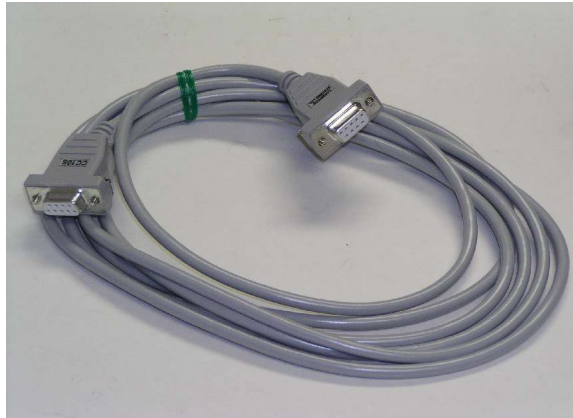
OK Cancel

THE REGISTRATION FORM

NOTE: Your key code is tied to your specific user name. They will only unlock the software if they are used together.

CONNECTING YOUR DATALOGGER TO YOUR COMPUTER

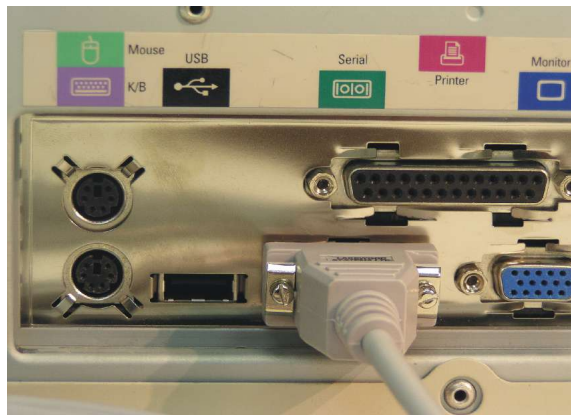
The connection from your computer to your datalogger will be made through Lakewood System's CC-10S communications cable.



CC-10S COMMUNICATION CABLE

USING YOUR COMPUTER'S COM PORT

The CC-10S cable can be plugged directly into your computer's serial port



COMPUTER SERIAL PORT

NOTE: Not all serial cables work with Lakewood dataloggers. An incorrect cable could damage your computer with certain datalogger configurations.

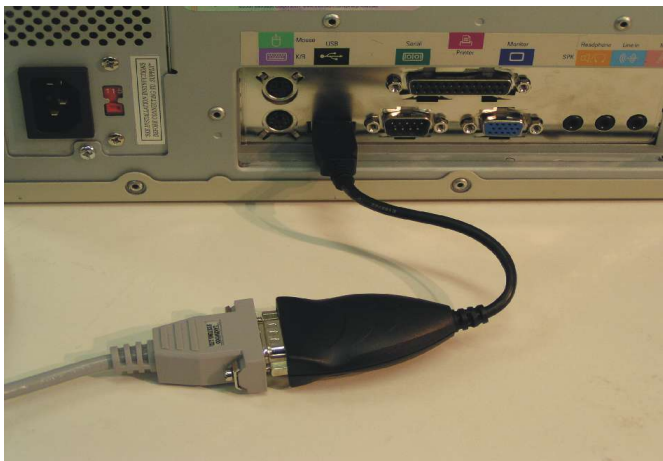
USING USB FOR COMMUNICATION

If your computer does not have a serial port, a Lakewood Systems USBA (USB Adapter) should be used to connect the CC-10S cable to a USB port.



USBA ADAPTOR CABLE

The CC10S plugs into the USBA, then into your computer. Drivers for your USBA should be installed on windows before the cable is used.

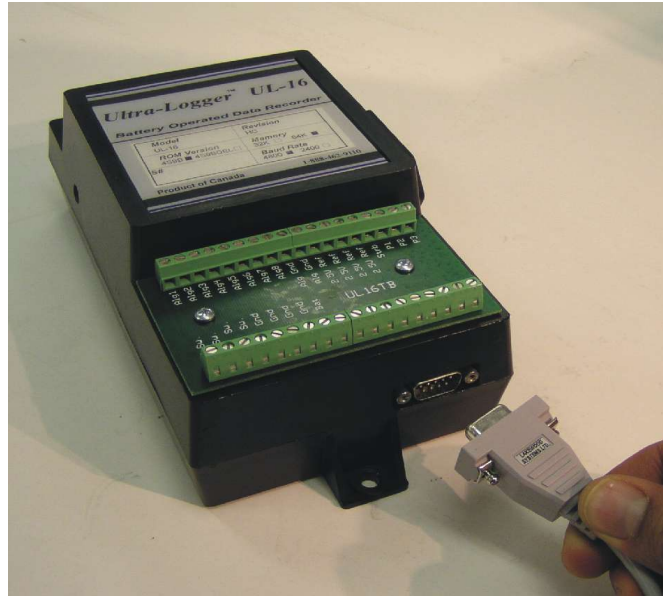


YOUR COMPUTERS USB PORT

NOTE: Not all usb to serial converters work with Lakewood dataloggers.

CONNECTING YOUR CABLE TO A UL-16

To connect your cable to a UL-16 Ultra Logger, plug your cable into the unit as shown below.



CONNECTING YOUR CABLE TO A UL-16

CONNECTING YOUR CABLE TO A CP-X

To connect your cable to a CP-X Chart Pac, plug your cable into the unit as shown below.



CONNECTING YOUR CABLE TO A CP-X

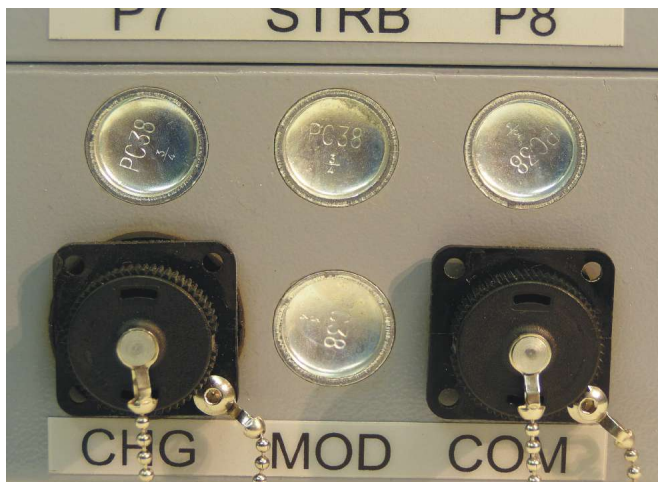
CONNECTING YOUR CABLE TO A RX DATALOGGER

In order to connect a CC-10S com cable to an RX Unit a CAP plug must be used.



CAP PLUG

To connect your CAP plug, screw it into the connector labeled COM (Communications) on the RX Datalogger as shown in the following pictures.



RX COM PORT

DOWNLOADING YOUR DATA

Lakewood Systems Prolog Software has been developed to make downloading your data a quick and easy one-step process. Before beginning your download, first ensure your datalogger is properly connected to your computer. Also confirm your project options are set correctly. To begin downloading your data simply click the **Download** button.

Once your download is complete, a graph will appear. Prolog has automatically created a Lakewood Site File (.lsf). The name of the site file is displayed on the blue bar to the right of the download button. All of the site files are saved in the site folder in your project base folder. The site file contains all the important information pertaining to your site. It includes current site readings of your sensors, datalogger settings, status, notepad, and most importantly your recorded data.



THE DOWNLOAD BUTTON

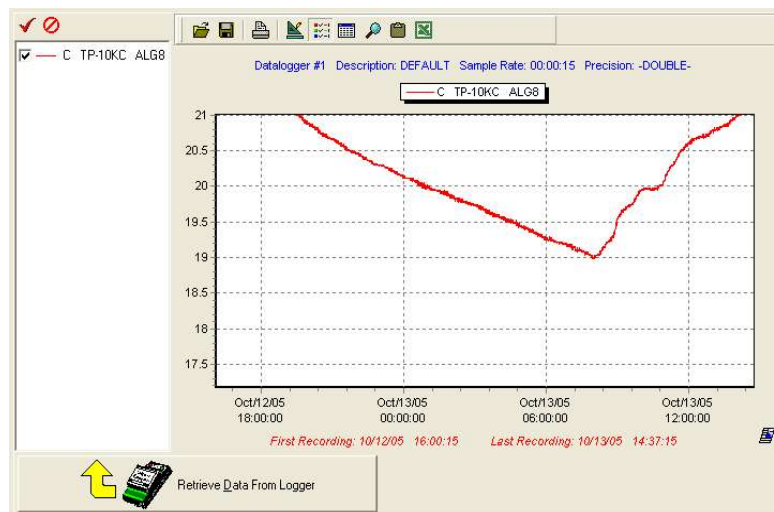
NOTE: It is important to check the condition of your battery and datalogger memory while in the field.

WORKING WITH YOUR DATA

The **Data** button allows you to view and analyze your data. Your recordings can be observed as a chart (graph) as well as in tabular form. Your data can also be transferred to spread sheets, reports, e-mails and other forms of documents.



THE DATA BUTTON



THE DATA SECTION

ACCESSING YOUR STORED DATA

The site file created by pressing the **Download** button can be reopened by clicking on the open folder icon located on the blue bar beneath the **Project** button. Once your site file is opened you will have the ability to examine your data, open it in a spread-sheet or paste it into a document.

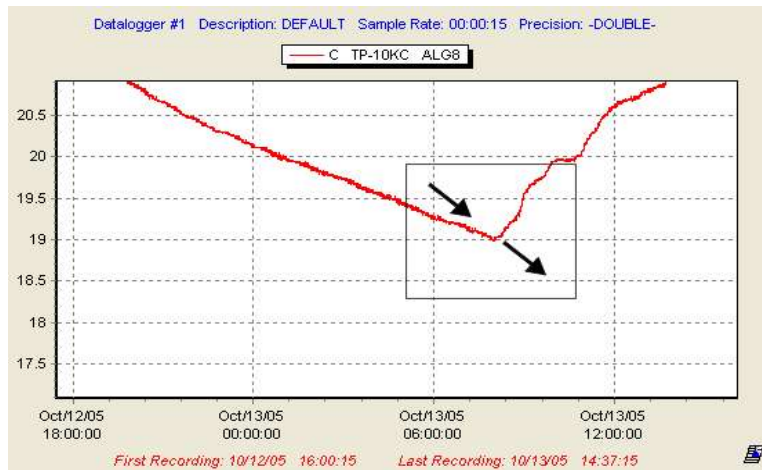


CLICK ON THE OPEN SITE DOWNLOAD BUTTON TO LIST YOUR STORED SITE FILES

WORKING WITH THE GRAPH

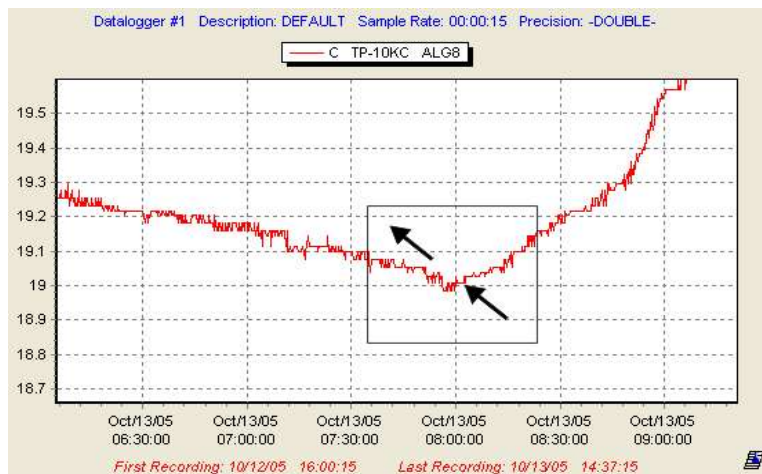
ZOOMING BY DRAWING BOXES

You can zoom into a specific region by holding down the left mouse button and drawing a box from an upper left point on the graph to a lower right point on the graph and releasing the button.



DRAWING A BOX TO ZOOM THE GRAPH

To return to the original zoomed out state, draw a box from a lower right point to an upper left point on the graph.



DRAWING A BOX TO ZOOM OUT

USING THE MOUSE SCROLL WHEEL TO ZOOM AND PAN

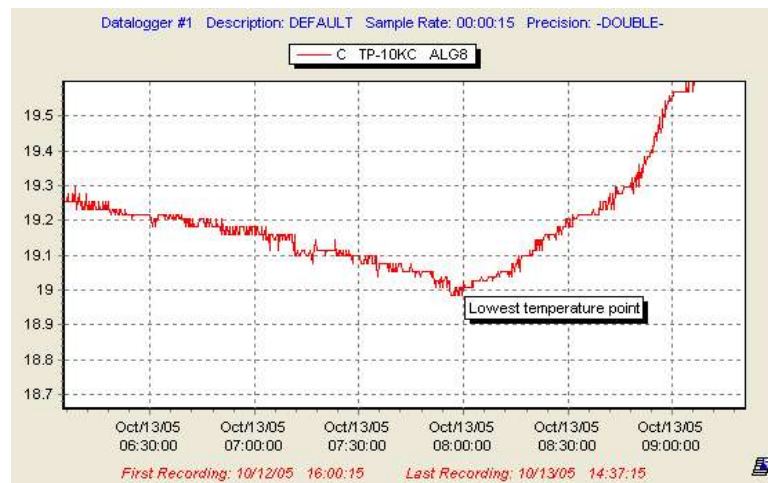
The scroll wheel of your mouse can be used to pan and zoom the graph. Panning can be achieved by pressing down on the scroll wheel and moving your mouse around. Turning the wheel up and down allows you to zoom in and out of the graph respectively.

WORKING WITH A TWO BUTTON MOUSE

If you are using a two button mouse, panning the graph can be accomplished by right clicking on the graph and selecting the **Use right mouse button to pan** option. To restore your mouse back to the default setting you must first right-click on the graph, then choose **Use middle mouse button to pan**.

ANNOTATING THE GRAPH

To add an annotation to the graph, right click on the graph and select **Add annotation**. This will enable you to enter text, which will appear in a box on the graph. The created annotation box can be moved to a desired location by clicking and holding down the left mouse button then placing it. Annotations can also be edited or deleted by right clicking on the annotation and selecting the corresponding option. Annotations and graph zoom states are preserved by saving the entire site file as a different name. All of the annotations can be cleared by right clicking on the graph and selecting **Delete all annotations**.



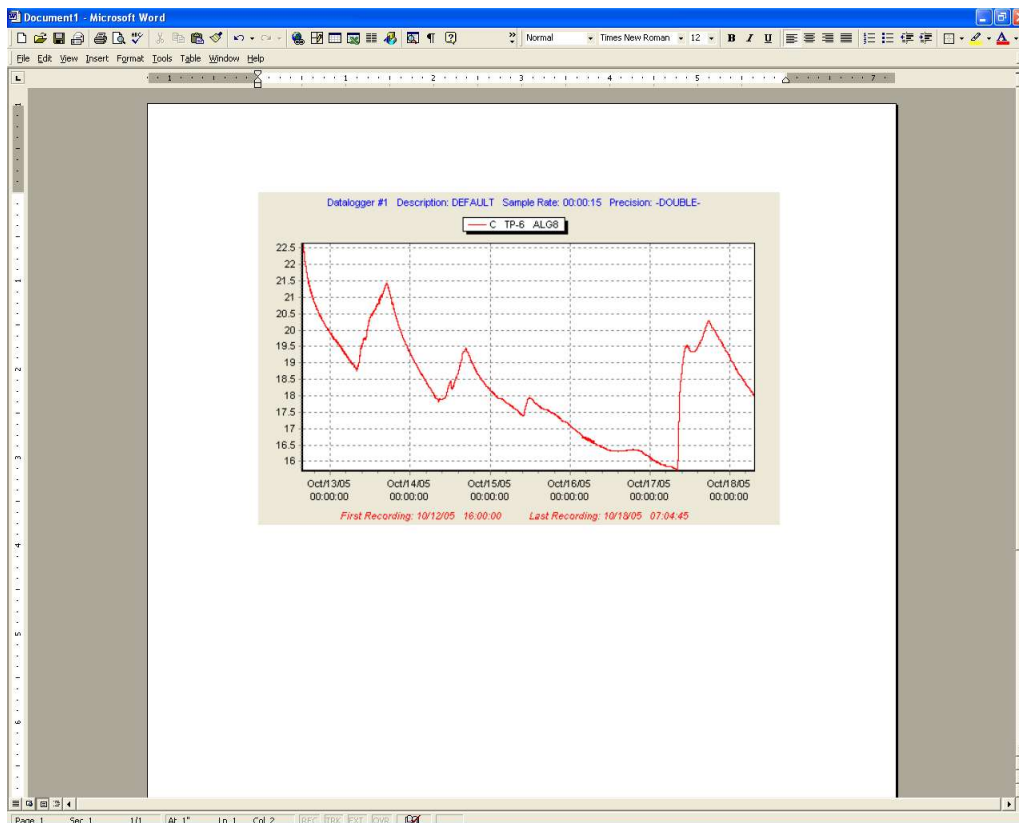
AN ANNOTATION ON THE GRAPH

COPYING THE GRAPH TO THE WINDOWS CLIPBOARD

To copy the graph to the clipboard, click the **Copy Chart To Clipboard** button. The graph is then stored as an image on the windows clipboard and can be pasted into other applications such as Outlook, Word or Excel.



THE COPY CHART TO CLIPBOARD BUTTON



MICROSOFT WORD WITH A GRAPH FROM PROLOG

VIEWING THE DATA IN A TABLE

The **View Tabular Data** button allows you to display corresponding tabular data above your chart.



THE VIEW TABULAR DATA BUTTON

WORKING WITH THE DATA IN EXCEL

The **View Data In Excel** button opens your data in an Excel spread sheet. If another program is the default viewer for comma separated variable (.csv) files that program will be used instead.



THE VIEW DATA IN EXCEL BUTTON

CHECKING THE STATUS OF YOUR DATALOGGER



The status of your datalogger can be checked by pressing the **Config** button. The Config button displays important information about your datalogger that should be checked every time you are in the field.



THE CONFIG BUTTON

CHECKING THE SUMMARY SCREEN

The **Summary** tab shows you the most important information about the state of your datalogger. It displays the site number, description, sampling rate as well as current memory, battery, and clock status.

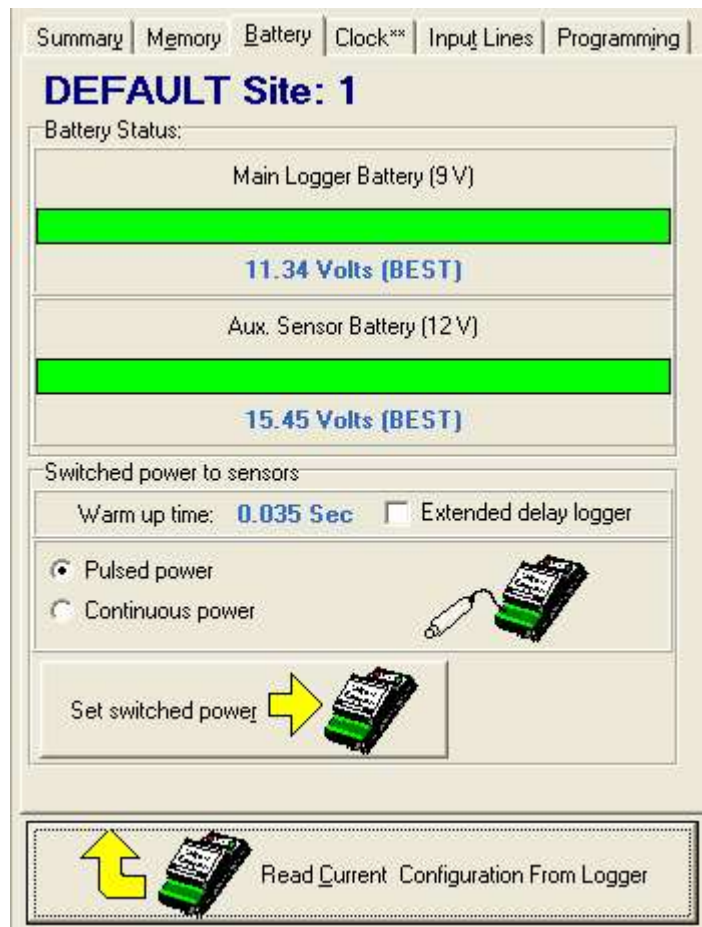
Summary	Memory	Battery	Clock**	Input Lines	Programming
DEFAULT Site: 1					
Unit Descriptors:					
Site Number:		1			
Description:		DEFAULT			
Sampling:					
Sample rate (hh:mm:ss):		00:00:15			
Memory					
Percent full:		17%			
Date when full:		10/18/2005			
Battery					
Main (9V):		11.34V			
Auxiliary (12V):		15.45V			
Clock:					
Datalogger date:		10/13/05			
Datalogger time:		2:37:07 PM			
  Read Current Configuration From Logger					

THE SUMMARY TAB

NOTE: It is important to check the status of the battery and memory when you are in the field.

CHECKING YOUR DATALOGGER'S BATTERY

The **Battery** tab shows you detailed information about the datalogger's batteries. This sheet also allows you to set your datalogger's sensors for Pulsed or Continuous power. Some sensors require a certain amount of time to stabilize to a correct reading. In Pulsed power mode the datalogger powers your sensor for the specified warm-up time, takes a reading and then goes back to sleep. With Continuous power mode the sensor has power delivered to it constantly.



The screenshot shows the 'Battery' tab of a software interface. At the top, there are tabs for 'Summary', 'Memory', 'Battery', 'Clock**', 'Input Lines', and 'Programming'. Below the tabs, the title 'DEFAULT Site: 1' is displayed. The 'Battery Status:' section shows two battery levels: 'Main Logger Battery (9 V)' at 11.34 Volts (BEST) and 'Aux. Sensor Battery (12 V)' at 15.45 Volts (BEST). Both batteries are represented by green bars indicating high charge. Below this, the 'Switched power to sensors' section shows a 'Warm up time' of 0.035 Sec and an unchecked 'Extended delay logger' checkbox. Two radio buttons are present: 'Pulsed power' (selected) and 'Continuous power'. To the right of these buttons is an image of a battery. Below the radio buttons is a 'Set switched power' button with a yellow arrow pointing to a battery icon. At the bottom, there is a button with a yellow arrow pointing up and a battery icon, labeled 'Read Current Configuration From Logger'.

THE BATTERY TAB

NOTE: Powering your sensors continuously may consume much more power and could inadvertently drain the battery if left on.

RESTARTING YOUR DATALOGGER'S MEMORY

The **Memory** tab shows you detailed information about the memory usage of your datalogger. This tab allows you to restart your datalogger and calculate the fill time based on a restart.

The screenshot shows the 'Memory' tab of a datalogger software interface. At the top, there are tabs for 'Summary', 'Memory', 'Battery', 'Clock**', 'Input Lines', and 'Programming'. Below the tabs, it says 'DEFAULT Site: 1'. The 'Memory Usage' section shows a green progress bar for 'Memory Used' at 17%. The 'Memory Wraparound' is set to 'Disabled'. The 'Memory Fill Times (given normal sampling conditions):' section shows a 'Date when full:' of 10/18/2005. Below this is a calendar for October 2005. The calendar has columns for Sun, Mon, Tue, Wed, Thu, Fri, and Sat. The dates are: Sun (25, 2, 9, 16, 23, 30), Mon (26, 3, 10, 17, 24, 31), Tue (27, 4, 11, 18, 25, 1), Wed (28, 5, 12, 19, 26, 2), Thu (29, 6, 13, 20, 27, 3), Fri (30, 7, 14, 21, 28, 4), and Sat (1, 8, 15, 22, 29, 5). The date 18 is highlighted. Below the calendar is a button 'Calculate fill time based on restart'. At the bottom, there is a 'Restart Datalogger' button with a yellow arrow pointing to a datalogger icon, and a 'Read Current Configuration From Logger' button with a yellow arrow pointing to a datalogger icon.

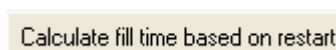
Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

THE MEMORY TAB

Pressing the **Restart Datalogger** button will restart your datalogger's memory. The **Calculate Fill Time Based On Restart** button will tell you when the datalogger memory will be full if you were to restart it now.



THE RESTART DATALOGGER BUTTON



THE CALCULATE FILL TIME BUTTON

SETTING THE DATALOGGER'S CLOCK

The **Clock** tab allows you to check and set the datalogger clock. The **Set Datalogger Clock** button will let you synchronize the clock of your datalogger to your computer's time or let you specify a different value.

Summary | Memory | Battery | **Clock**** | Input Lines | Programming

DEFAULT Site: 1

Datalogger Clock:

Datalogger time: **2:37:07 PM**

Datalogger date: **10/13/05**

October

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

4 days -01:54:24 LOGGER to COMPUTER TIME

Set datalogger clock  

  Read Current Configuration From Logger

THE CLOCK TAB



THE SET DATALOGGER CLOCK BUTTON

CHECKING AND LEAVING NOTES ABOUT THE SITE IN THE DATALOGGER

The **Notepad** button displays a section of the datalogger's memory where you can store important notes. Information is kept in text form and usually includes notes about the datalogger, sensors used and the site itself.



THE NOTEPAD BUTTON



THE NOTEPAD SECTION

There are a number of buttons which allow you to work with the notepad. The **New, Open And Save Notepad** buttons give you the capability to create a new datalogger notepad, load a notepad file that you have saved on your computer or save a file containing the notepad information to your computer.



THE NEW, OPEN AND SAVE NOTEPAD BUTTONS

The **Read From Logger** button reads the notepad from the datalogger's memory and displays the information on the screen.



THE READ FROM LOGGER BUTTON

The **Write To Logger** button writes the text on the screen and into the datalogger's memory.



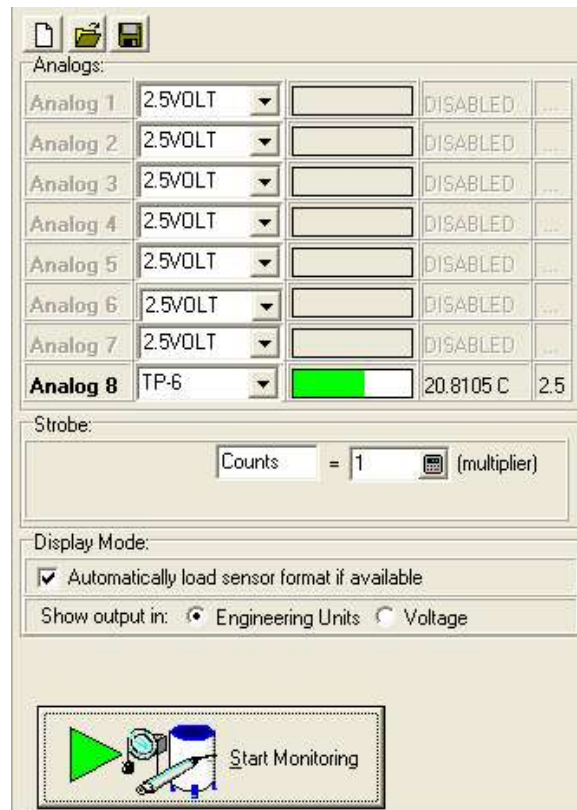
THE WRITE TO LOGGER BUTTON

CHECKING THE CURRENT READINGS OF YOUR SENSORS

The **Sensors** button will allow you to monitor current readings and change which sensors are being used in your application.



THE SENSORS BUTTON



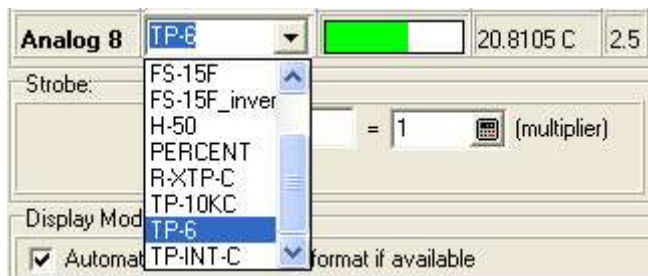
THE SENSORS SECTION

The **Start Monitoring** button shows the current readings of your sensors.



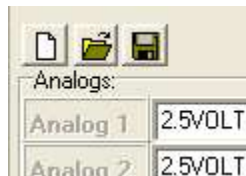
THE START MONITORING BUTTON

The sensor readings are calculated differently depending on what sensor is selected for the channel. The **sensor selection** drop down menu lets you choose which sensor is on each channel. Changing a sensor using the drop-down menu also updates your graph in the data section.



THE SENSOR SELECTION DROP DOWN MENU

Prolog saves the information about which sensor is on each channel in a sensor format file. The **New, Open And Save Sensor Format File** buttons give you the capability to create a new sensor format, load a sensor format file that you have previously saved on your computer or save a sensor format file to your computer respectively.



THE NEW, OPEN AND SAVE SENSOR FORMAT FILE BUTTONS

NOTE: If there is a sensor format file in your project with the same name as the datalogger description Prolog will automatically load it unless the Automatically load sensor file check box is unchecked.

CHANGING YOUR DATALOGGER'S CONFIGURATION

The **Programming** tab displays the current settings that are programmed in your datalogger. This section will allow you to change the site number, description, warm-up time and sampling rate. Inputs (sensors) can also be turned on or off in this screen. You can change any of these settings and then apply them to your datalogger by pressing the **Program Datalogger** button.

Summary | Memory | Battery | Clock** | Input Lines | **Programming**

Unit Info:
Site Number: 1 | Description: default

Sampling
Hours: 0 | Minutes: 0 | Seconds: 15
☒ Stop when memory full | Calculate fill time based on restart

Analog Channels:
Warm up time: .035 sec. ☐ Extended Delay Datalogger

STANDARD inputs:	1	2	3	4	5	6	7	8
Enabled / disabled:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.5 Volt Scale:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.0 Volt Scale:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

MULTIPLEXED inputs:	9	10	11	12	13	14	15	16
<input type="checkbox"/> Multiplexor Enabled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Strobe
☐ Strobe On | Strobe range: Total

Program datalogger →

↑ Read Current Configuration From Logger

THE PROGRAMMING TAB

The **New, Open And Save Logger Configuration** buttons allow you to create a new datalogger program, load a program or save a program.



THE NEW, OPEN AND SAVE PROGRAMMING BUTTONS

The **Program Datalogger** button sends new settings to your datalogger that you have modified.



THE PROGRAM DATALOGGER BUTTON

NOTE: Pressing the program datalogger button will restart the unit's memory.

The recording rate of your datalogger can be changed by changing the numbers of the sample rate. If you change the sample rate it is important to check the new memory fill time by pressing the **Calculate Fill Time** button.

Calculate fill time based on restart

THE CALCULATE FILL TIME BUTTON

You may have to change the **memory size** drop down box on the calculate fill time form to correspond to the memory size of your datalogger.

Calculate fill time

Memory Size

Memory size: 64k

Memory Fill Times (given normal sampling conditions) :

Time when: 7:02:36 AM

Date when full: 10/23/05

Fill time: 5 Days 13 Hours 40 Min. 54 Sec.

October 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

OK

THE CALCULATE FILL TIME FORM

Memory Size

Memory size: 64k

THE MEMORY SIZE DROP DOWN BOX

WHERE TO FIND MORE INFORMATION

You may obtain more information by using either the built-in Help files or by contacting Lakewood Systems directly.

ACCESSING THE HELP FILES

The Help files can be accessed by selecting Help from the Help menu of the program. The help files contain detailed information that is not covered in this getting started guide.

OBTAINING TECHNICAL SUPPORT

Technical support can be obtained by contacting Lakewood Systems directly. Please feel free to contact us if you have any questions or concerns. The following contact information can be used to obtain technical support:

Tel.: (780) 462-9110
Fax: (780) 450-3867
#112, 9704 39 Avenue
Edmonton AB
Canada
T6E 6M7

MP1205