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Instruction Manual

Model 8001-3

Log View Software

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1. INSTALLING LOGVIEW

This manual is intended to facilitate the installation, launching and configuration of LogView. It is not intended to be a substitute for the online manual or for the datalogger user's manuals.

Please consult the LogView Online Help and the individual datalogger's manuals for more detailed information regarding the operation of LogView and the LC-n series dataloggers.

LogView has a built-in help system that is always available by pressing the "Help" Toolbar button, the "F1" key or by accessing the "Help topics" menu item from the Main Menu.

1.1 Installing LogView

The LogView installer is only available as a .zip file which can be downloaded from Geokon's website. The latest version will be available there, as well as a "New Features and Fixes" page where you can view its development.

Please visit the following webpage to download it: http://www.geokon.com/software.

When prompted, choose to "Save file." When download is complete, right click on your new "LogViewSetup.zip" file and select "Extract all." This will display a message asking you to "Select a Destination and Extract Files" (Figure 1) By default, it will create a new folder in the same location you saved it to. After choosing the destination folder, click the "Extract" button at the bottom of the window.

TIP: Make sure the box to "Show extracted files when complete," is checked. This opens the folder immediately, so that you do not have to locate it on the PC.

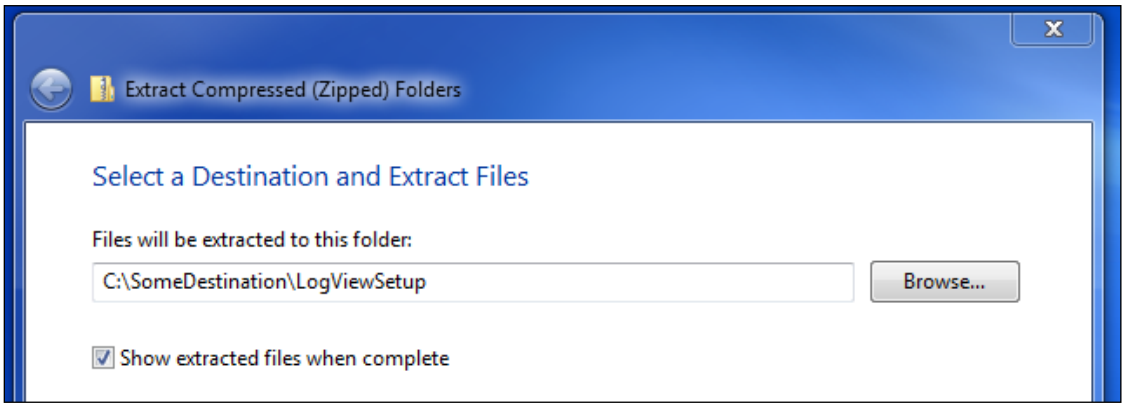

Figure 1 - Extract File Dialog

If you are installing LogView for the first time, you will need the USB drivers used to communicate with the 8003B or 8003D. By double clicking on the "start.bat" file, both the drivers and LogView will be installed. Follow the prompts for each installer.

To install the latest version of LogView only, double click on the file "setupLV_3_0_0_0000.exe" and follow the prompts, (the numbers may be different, depending on the version number.)

NOTE: The LogView Installer checks to see if there is any other version installed and, if so, the dialog box shown in Figure 2 is displayed.

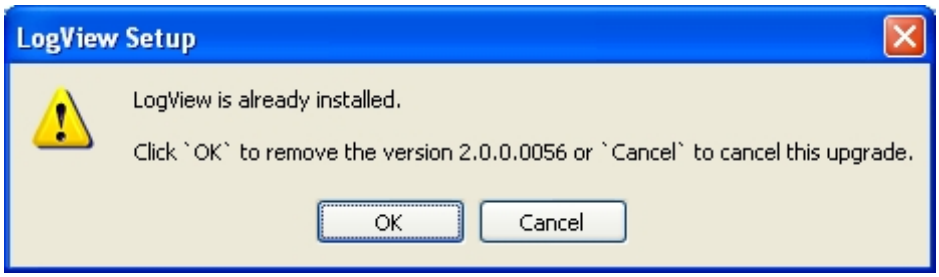

Figure 2 - LogView Already Installed Warning

To install the drivers only, double click on the "CDMv2_12_00_WHQLCertified.exe" and follow the prompts, (the numbers may be different, depending on the version number.)

NOTE: The USB drivers are only required for LC-2xN models 8002-N-2, 8002-5 (RS-485 interface) and LC-3x2 model 8003B or 8003D. Communication with an 8002-N-1 and 8003A or 8003C requires either an internal COM port or a USB-to-Serial converter (which may require its own drivers). A PC reboot may be required before the new drivers will take effect.

2. STARTING LOGVIEW FOR THE FIRST TIME

Launching LogView is easy and can be accomplished two different ways. Double clicking on the desktop icon shown in Figure 3, or via the Start button by navigating to Programs -> Geokon -> LogView.

Figure 3 - LogView Desktop Icon

2.1 Adding a Workspace

When you open LogView for the first time, you will be prompted to create a workspace. A workspace is a place where all other LogView resources are stored and contains one or more projects along with dataloggers, sensors and data files. LogView allows multiple workspaces to be defined so that projects can be logically grouped together, i.e., a company can have multiple worksites and for each worksite there can be multiple projects under way.

Workspaces can also be used to allow different users to keep their projects and data separate from others when sharing a PC.

The first dialog prompt is for the workspace name (Figure 4). The name can be any combination of letters and numbers and, ideally, will be descriptive in nature.

Figure 4 - Workspace Name

Once the workspace name has been selected, the next prompt will be to choose or create a folder where all the workspace elements will be stored (Figure 5).

Figure 5 - Workspace Folder

As can be seen in Figure 5, the default workspace location is in a folder name **the same as the workspace name** defined in Figure 4, under a special shared folder reserved for workspaces.

In Windows XP this folder is located at:
C:\Documents and Settings\All Users\Shared Documents\Geokon\LogView\Workspaces

For Vista and Windows 7 and Windows 10 the default folder is located at:
C:\Users\Public\Public Documents\Geokon\LogView\Workspaces

LogView appends the name of the new workspace to this shared folder and uses it as the default location for the new workspace. The user is free to select a different location, either by entering it directly, or the Browse button can be used to navigate to a different folder location or to create a new folder. This workspace location will be stored in the LogView configuration file for subsequent application access. After workspaces are created, all future user access to a workspace is always by name.

Figure 6 illustrates LogView's main window and shows the new workspace, PRODUCTION, in the Project Explorer.

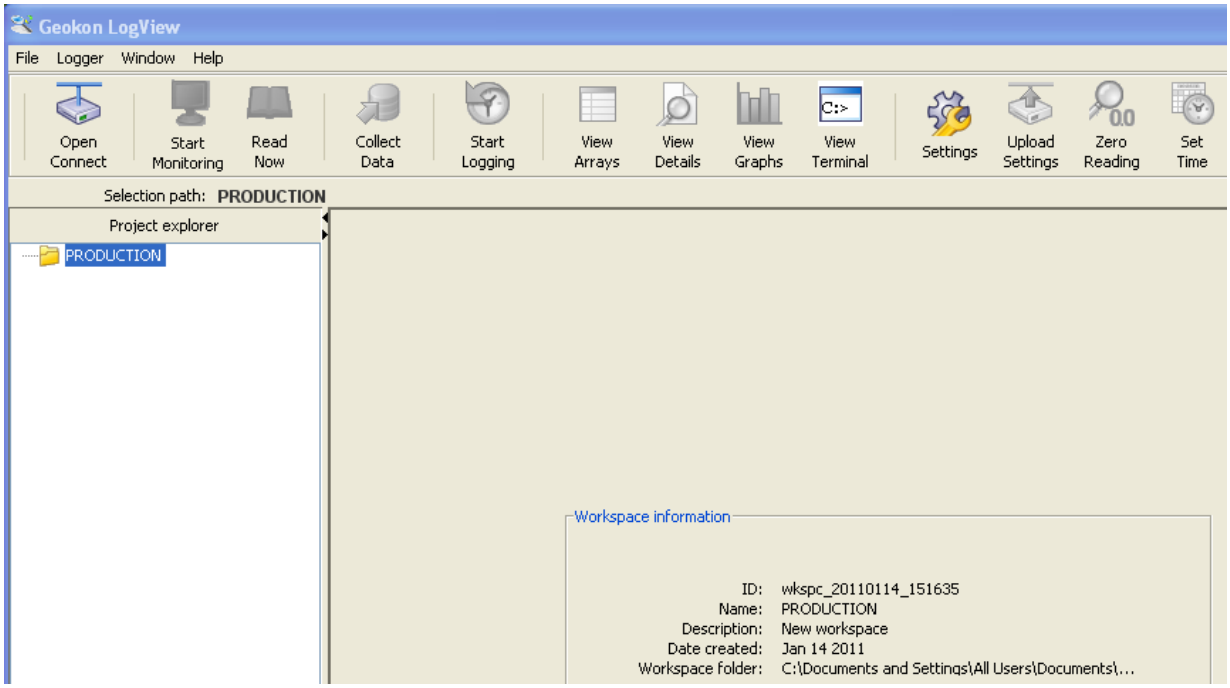

Figure 6 - Main Window

2.2 Adding Projects and Dataloggers

LogView "Project" objects can be added to a workspace by right-clicking on the workspace and using the menu tools (Figure 7).

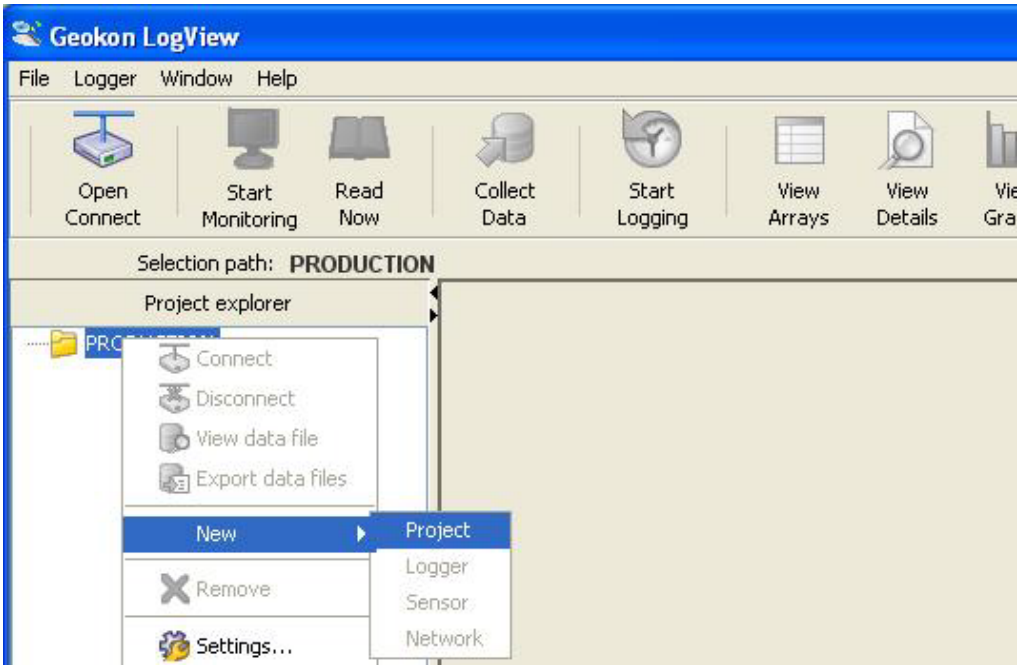

Figure 7 - Context Menu

When adding new projects, a dialog box is displayed, giving the user an opportunity to name and add a description for the new project (see Figure 8).

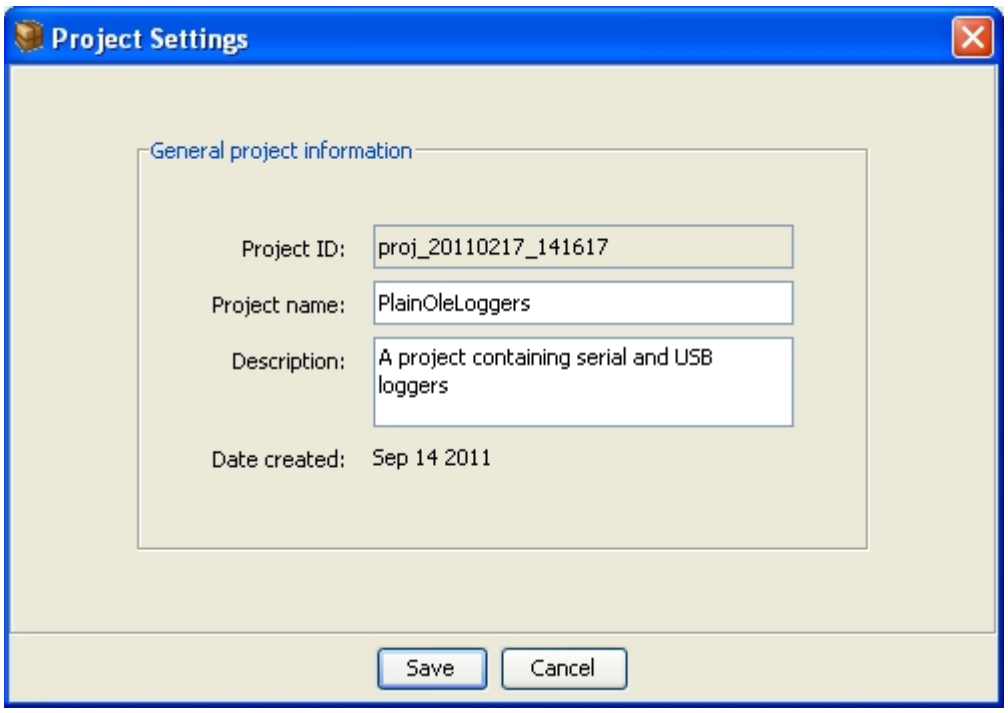

Figure 8 - Project Settings

Figure 9 shows an example of the Project Explorer after a project has been added.

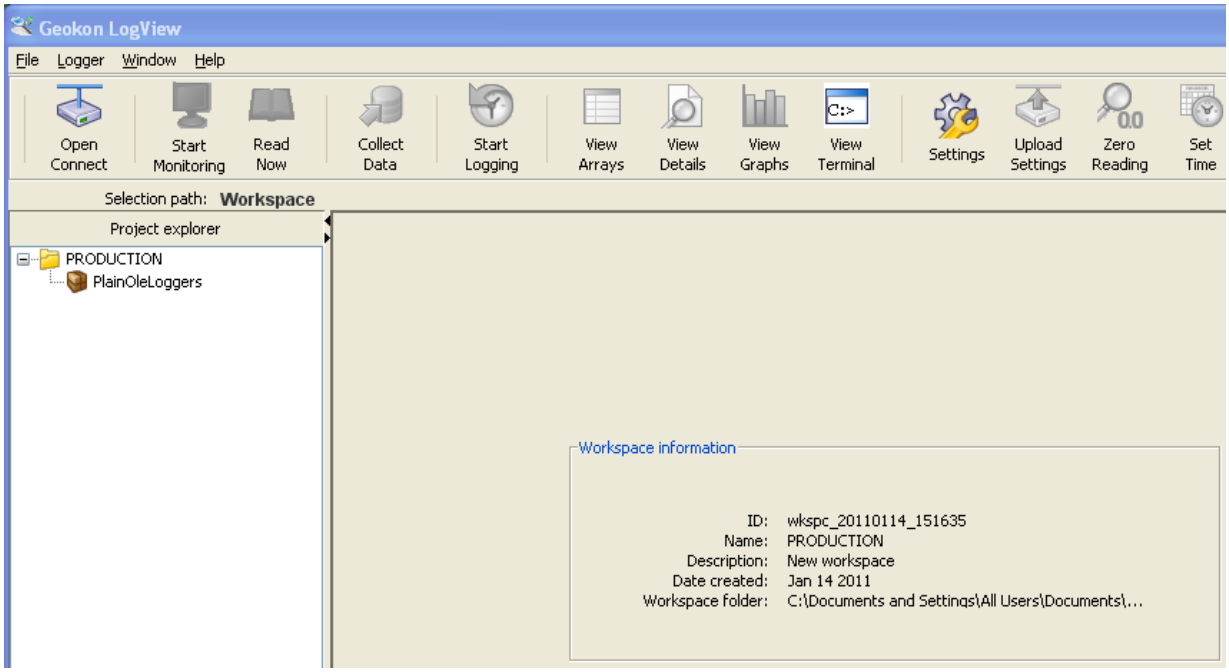

Figure 9 - Project Explorer with Project Added

In a similar fashion to adding Projects to Workspaces, Dataloggers can be added to Projects by right-clicking on the Project icon in the Project Explorer and clicking on "New", then "Logger" from the resulting context menu. (See the Geokon Datalogger Instruction Manual as well as the online help topic "Working with Dataloggers" for more details on adding dataloggers to projects.)

Adding a datalogger causes the Datalogger Settings window to be displayed (Figure 10). The General Setting tab allows entry of various settings such as, name, model and description. All the settings for a datalogger are broken up into sections accessed by clicking on the appropriate tab. See the online help topic "Configuration, Datalogger Settings" for more details on configuring a new datalogger. After the settings from all the tabs have been entered, click on "Save" to create the new logger.

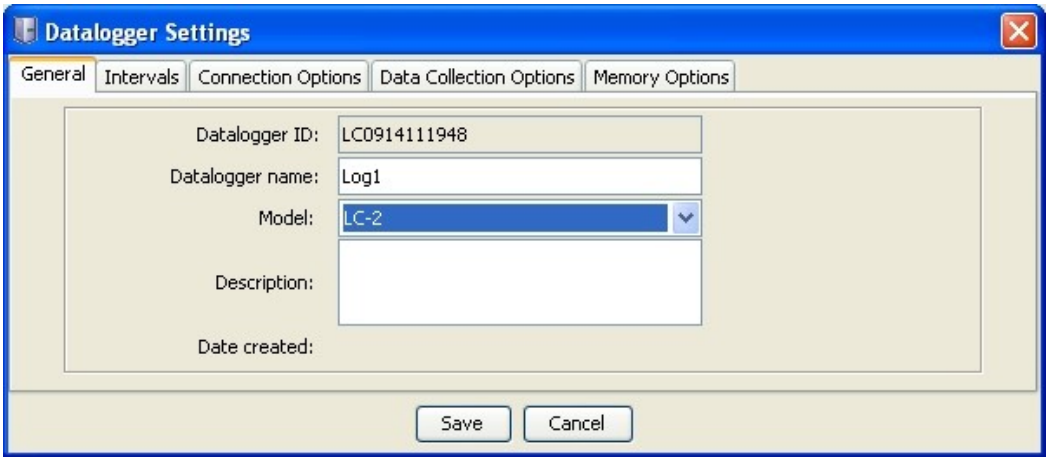

Figure 10 - Datalogger Settings

2.3 Adding Sensor(s) to a Datalogger

A Sensor is the final element that needs to be added to define the complete configuration of a data logging system. In the same manner that Dataloggers were added to Projects, Sensors can be added to Dataloggers by right-clicking on the Datalogger icon in the Project Explorer and clicking on "New", then "Sensor" from the resulting context menu (Figure 11). (Note: As of LogView version 3.0.1.X, when settings are saved for a **new** datalogger, the Sensor Setting dialog is automatically displayed.)

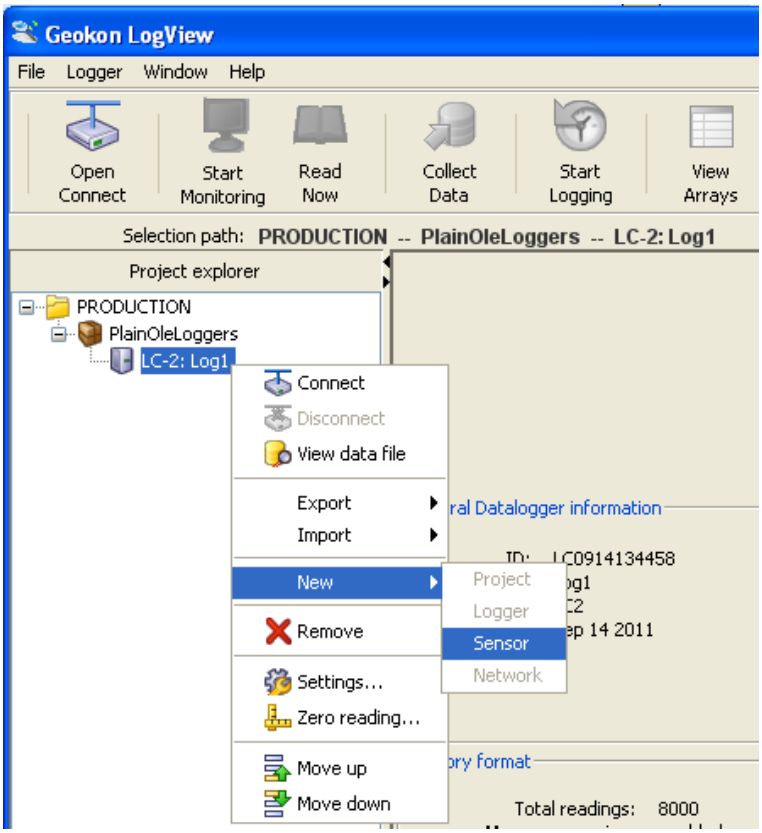

Figure 11 - Adding a Sensor

Adding a Sensor causes the Sensor Settings window to be displayed (Figure 12 on the following page). The Sensor Settings window allows one or multiple sensor's parameters to be modified. The number of channel selection "buttons" on the left-hand side of the window depends on the type of datalogger that the sensor(s) are being added to. See the Geokon Datalogger Instruction Manual as well as the online help topic "Working with Sensors" for more details on adding sensors to dataloggers.

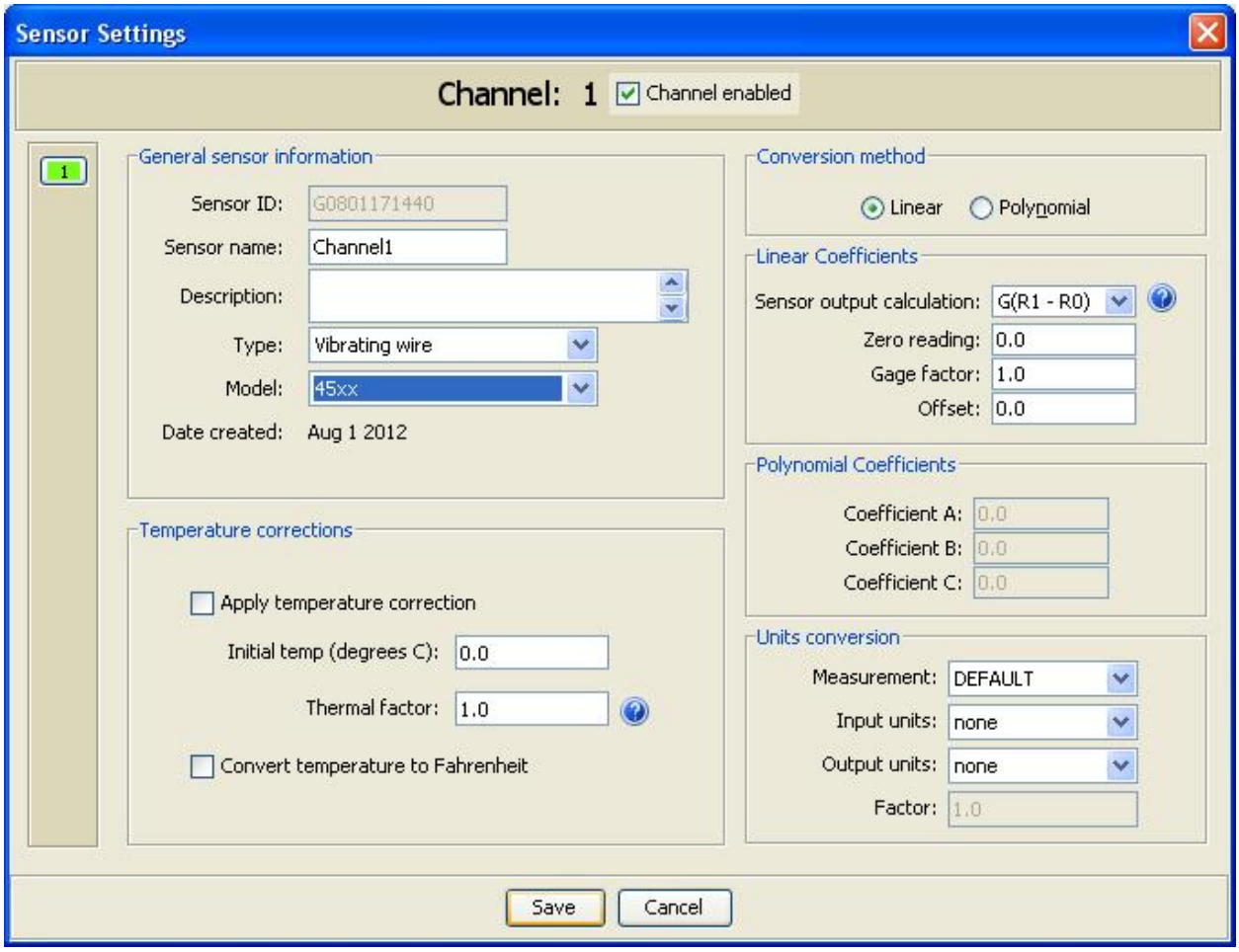

Figure 12 - Sensor Settings

Note the blue round "button" next to the Output calculation drop-down box in the Linear Coefficients section of the Sensor Settings. Clicking the button will display the following dialog box (Figure 13).

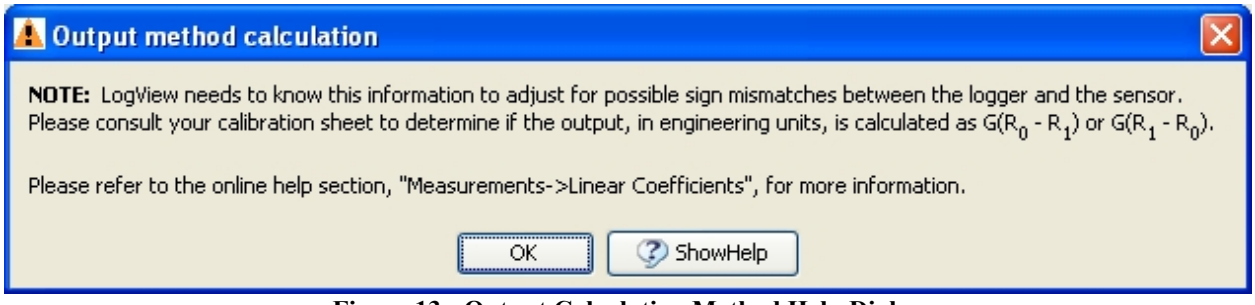

Figure 13 - Output Calculation Method Help Dialog

This dialog box is shown to inform the user that the output calculation method must be selected based on information contained in the calibration report. For all sensors calibrated after 11-02-2011, the change (from the zero value) in digits, multiplied by the gauge factor to get engineering units, is calculated as the Current Reading (**R1**) minus the Initial Reading (**R0**).

For some sensors, prior to the above date, the calculation was performed as **R0 - R1**.

Based on the entered calculation method, LogView can adjust the sign of the gauge factor accordingly, allowing the user to directly enter the gauge factor from the calibration report.

In the Temperature corrections section of Sensor Settings, if "Apply temperature corrections" is checked, the blue round "**?**" button is enabled and if clicked displays the message shown in Figure 14.

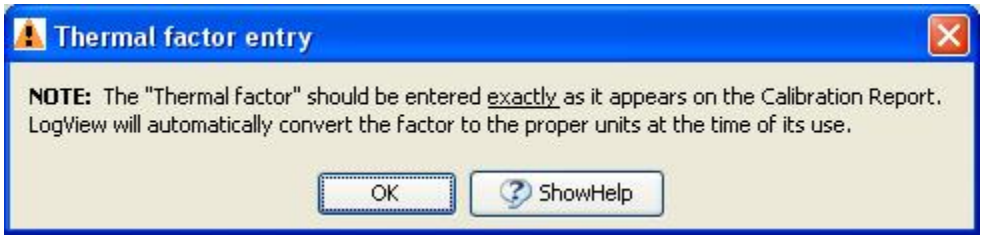

Figure 14 - Thermal Factor Help Dialog

In previous versions of LogView, the Thermal factor needed to be converted to Fahrenheit units if the "Convert temperature to Fahrenheit" checkbox was checked. After LogView 2.1.1.0029, this is no longer necessary.

If "Apply temperature corrections" is checked AND a "Units conversion factor" greater than 1.0 is displayed, then the warning shown in Figure 15 will be displayed in the Temperature corrections section.

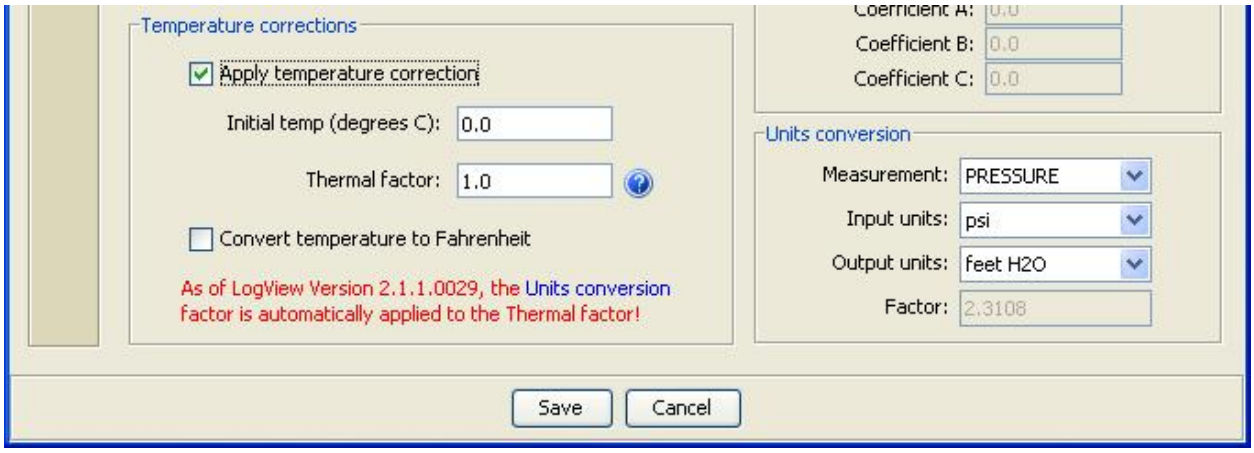

Figure 15 - Units Conversion Application Warning

In previous versions of LogView, the Thermal factor was not automatically multiplied by the "Units conversion factor" (see the Units conversion section). After LogView 2.1.1.0029, this will happen automatically.

3. CONNECTING TO A DATALOGGER

The following sections describe the basic procedure to connect a datalogger to the user's PC and to establish communications with the datalogger via LogView. LC-2s with a USB connection will **not** maintain a PC "COM" port when the logger is disconnected. **For this reason, always, connect the datalogger to the PC before launching LogView.** If LogView is already open when the datalogger is connected (to the PC), close LogView and relaunch it after connecting the datalogger.

3.1 LC-2 RS-232 Connection

For models 8002-1-1, 8002-1A-1, 8002-4-1, and 8002-16-1, connect the supplied LC-2 RS-232 Communications cable (COM-108) to the COM port of the LC-2 datalogger. The protective cap on the datalogger COM connector is removed by pushing in and turning. Plug the DB-9 end of the RS-232 Communications cable into the host computer's RS-232 port (either internal or external via a USB to Serial converter).

3.2 LC-2 USB Connection

For models 8002-1-2, 8002-1A-2, 8002-4-2, and 8002-16-2, connect the supplied LC-2 USB Communications cable (COM-109) to the USB port of the LC-2 datalogger. The protective cap on the datalogger USB connector is removed by pushing in and turning. Plug the USB-A end of the USB cable into an available USB-2.0 port on the host computer.

NOTE: On some PCs, an 8002-X-2 may require the installation of a driver to properly communicate with the PC. If the PC does not recognize the datalogger's internal USB to serial converter then the driver may need to be installed by executing the program, CDMv2_xxxx, from the LogView Install folder.

3.3 Determining COM Port Numbers

When connecting an 8002-1-1 or 8002-1A-1 datalogger to a PC with an internal serial port(s), the COM Port number that LogView requires is usually COM1 or COM2 but, occasionally may be COM3 if the PC has more than one internal serial port. Figure 16 illustrates that the PC has two serial ports, one internal (COM1) and the other via a USB to serial converter (COM13).

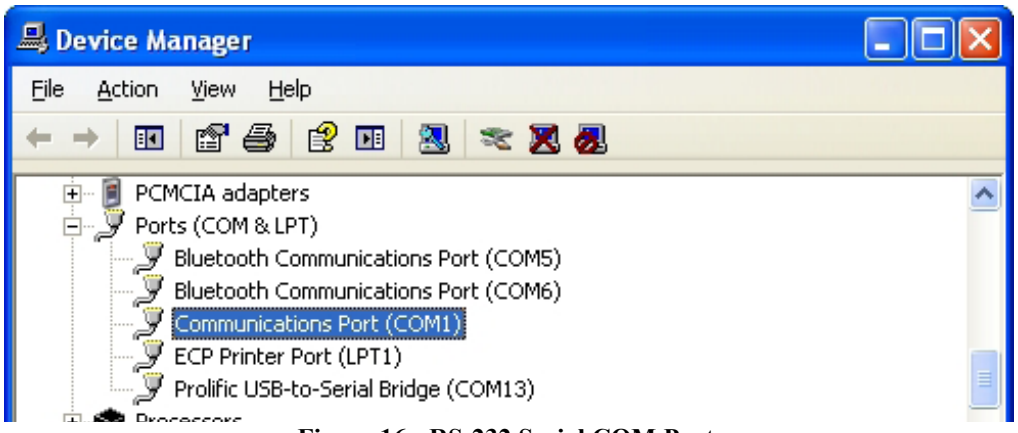

Figure 16 - RS-232 Serial COM Ports

When connecting an 8002-1-2 or 8002-1A-2 datalogger to a PC, the COM Port number that LogView requires can be any number and depends on how many other devices are attached to the PC such as, internal serial ports and wireless devices.

Figure 17 illustrates that the PC has three serial ports, one internal, COM1 and the other two via USB to serial converters, COM13 and COM3. (**HINT:** With the Device Manager (above) open, an easy way to determine which COM port an 8002-1-2 datalogger is attached to is to disconnect the cable and see which COM device disappears from the Device Manager Ports list.)

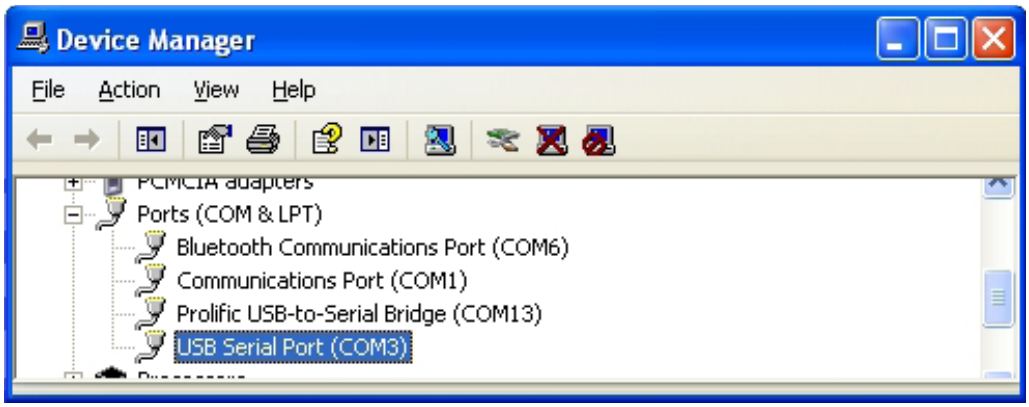

Figure 17 - USB COM Ports

3.4 Establishing a Connection

After determining the appropriate COM Port for a datalogger, a LogView connection can be established by following the steps below:

1) For USB dataloggers (8002-X-2), always make sure the USB end of the COM-109 cable is plugged into the PC and that the other end is attached to the datalogger.

2) Launch LogView.

Select a previously created Datalogger object from the Project Explorer and click on the "Settings" button from the LogView Toolbar. Alternately, a "new" Datalogger can be created by right-clicking a "Project" in the Project Explorer and selecting "New" then "Logger" from the resulting context menu; the Datalogger Settings dialog will be displayed (Figure 18).

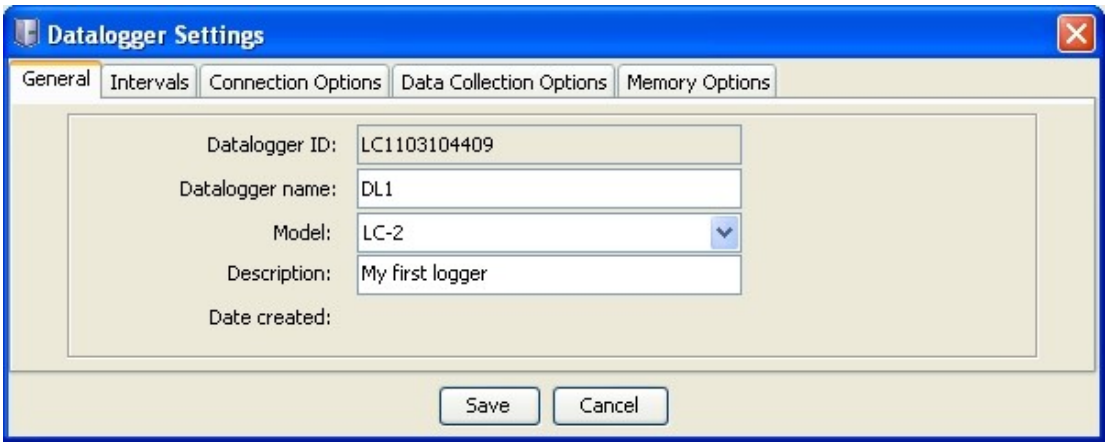

Figure 18 - Datalogger Settings

3) Click on the “Connection Options” tab to display the settings required to establish a datalogger connection (Figure 19).

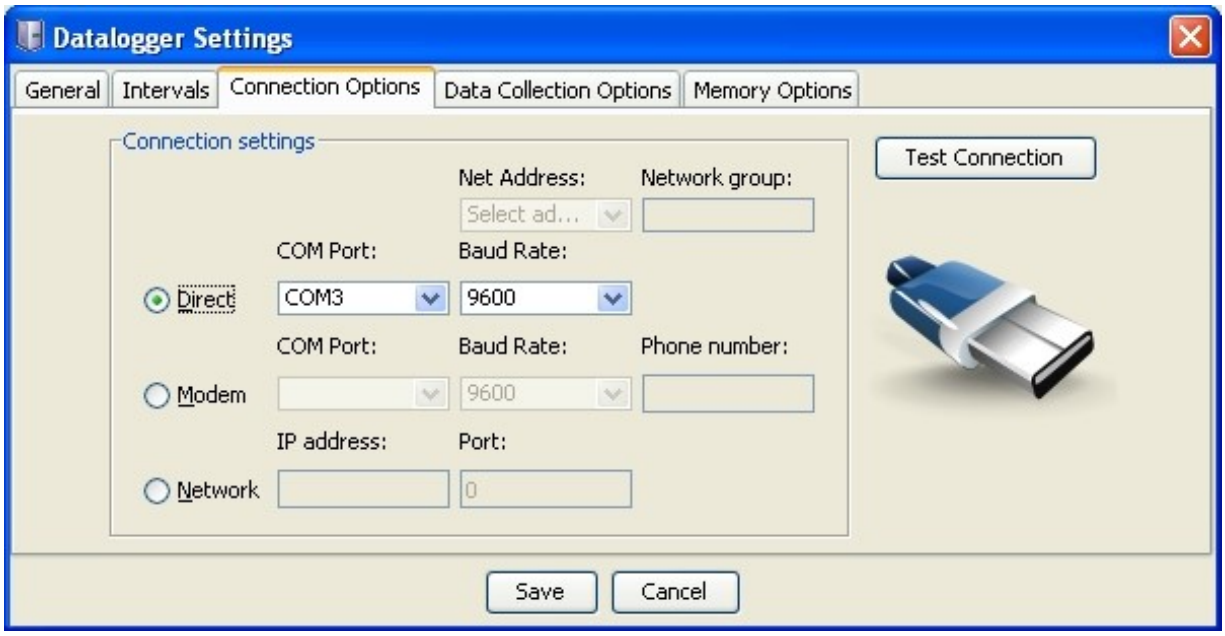

Figure 19 - Connection Options

4) Make sure the “Direct” radio button is enabled and select a COM port corresponding to the datalogger connection as determined in Section 3.3. For single channel LC-2 dataloggers with firmware versions less than V5.0.X, the proper “Baud Rate” setting will be 9600. When done, click the “Save” button. (See the datalogger’s user manual for more information regarding baud rate options.)

Click on the “Open Connect” button from the toolbar to create a connection from LogView to the selected datalogger. After several seconds, LogView should respond with a “Connected” status in the lower left-hand corner of the screen. **NOTE:** It is very likely, when connecting to a datalogger for the first time, that a warning (Figure 20) will be displayed. This is normal, it indicates that the current Datalogger ID does not match the Datalogger ID that LogView is about to assign. Click on “Continue” to finish connecting to the datalogger.

Figure 20 - Connection Warning Message

5) Upload the recently modified settings to the selected datalogger by clicking on the “Upload Settings” button from the toolbar.

6) Close the connection by clicking on the “Close Connect” button from the toolbar.

4. COLLECTING AND VIEWING DATA

Before any data is collected, ensure your "Data Collection Options" have been configured for your project (Figure 21). These can be found by selecting your datalogger and either right clicking, then selecting "Settings," or clicking the "Settings" button in the Toolbar. Choose the "Data Collection Options" tab to configure your settings.

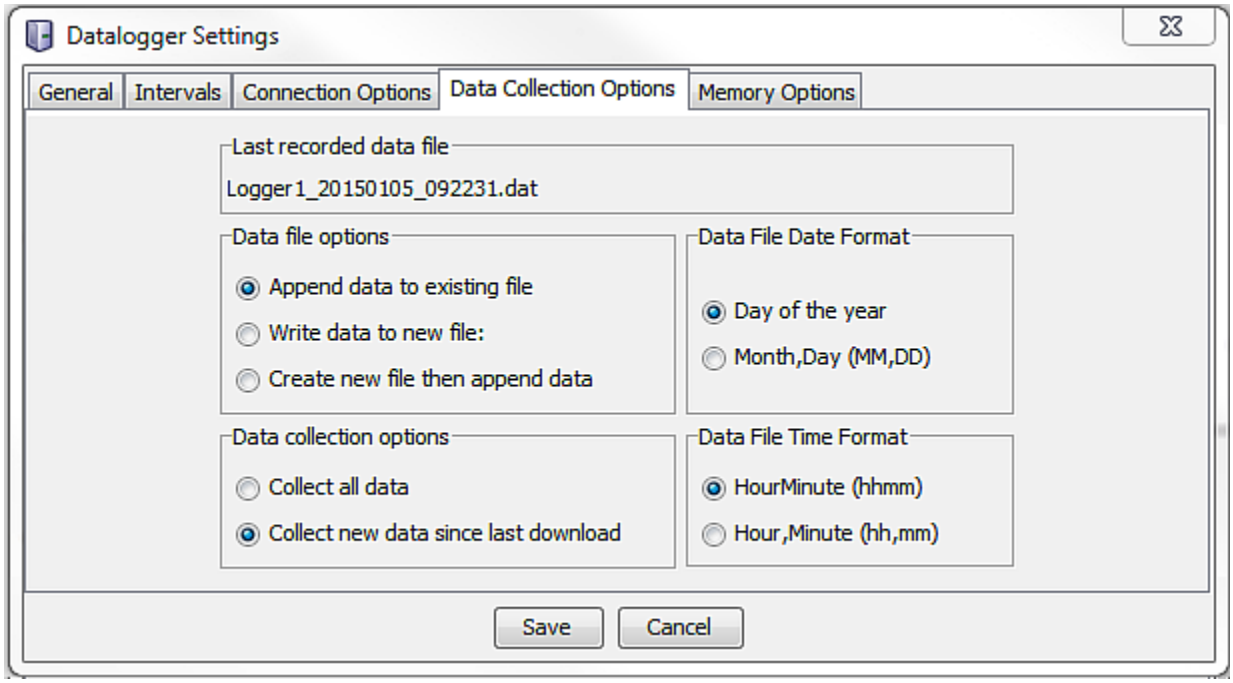

Figure 21 - Data Collection Options

Upon successful connection to a datalogger, the "Collect Data" button will be enabled in the toolbar, otherwise it is greyed out (Figure 22). **NOTE:** Once connected to a datalogger, you cannot select a different datalogger without first closing the active connection. Also, data cannot be collected from a logger that is not connected.

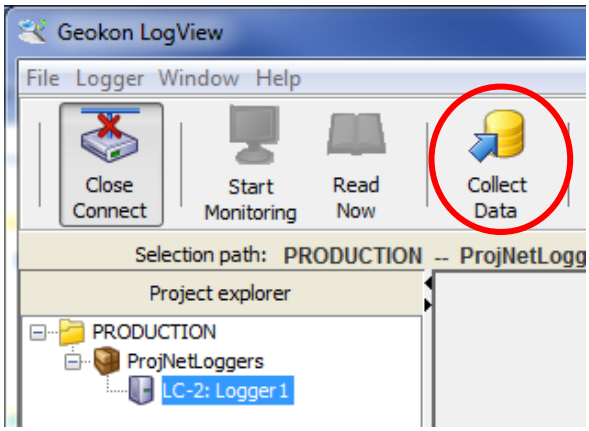

Figure 22 - Collect Data Button Enabled

When ready to collect your data, click the "Collect Data" button to begin collecting data. You will see a "Progress…" message indicating that new data is downloading (Figure 23).

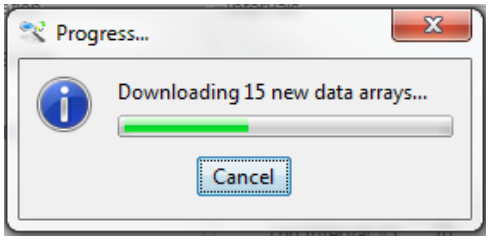

Figure 23 - New Data Downloading

Upon successful collection of data, you will see the message displayed in Figure 24.

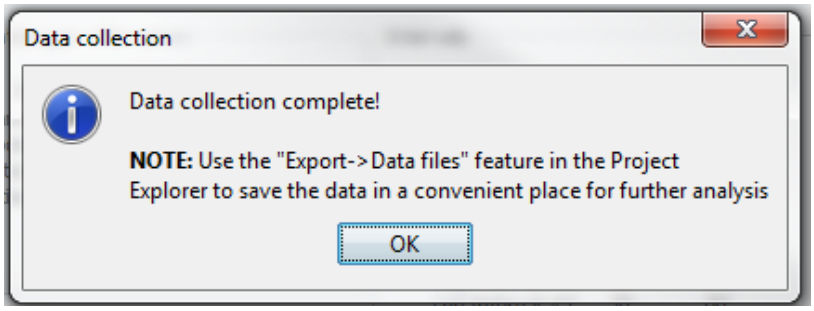

Figure 24 - Data Collection Complete Message

To view the collected data inside of LogView, right click on the desired datalogger and choose "View Data File." Next you will see a window showing "Available data files," choose the data file you want to view and click the "View" button. The data will be shown as a table with column headers and will also be shown as a graph below the table (Figure 25).

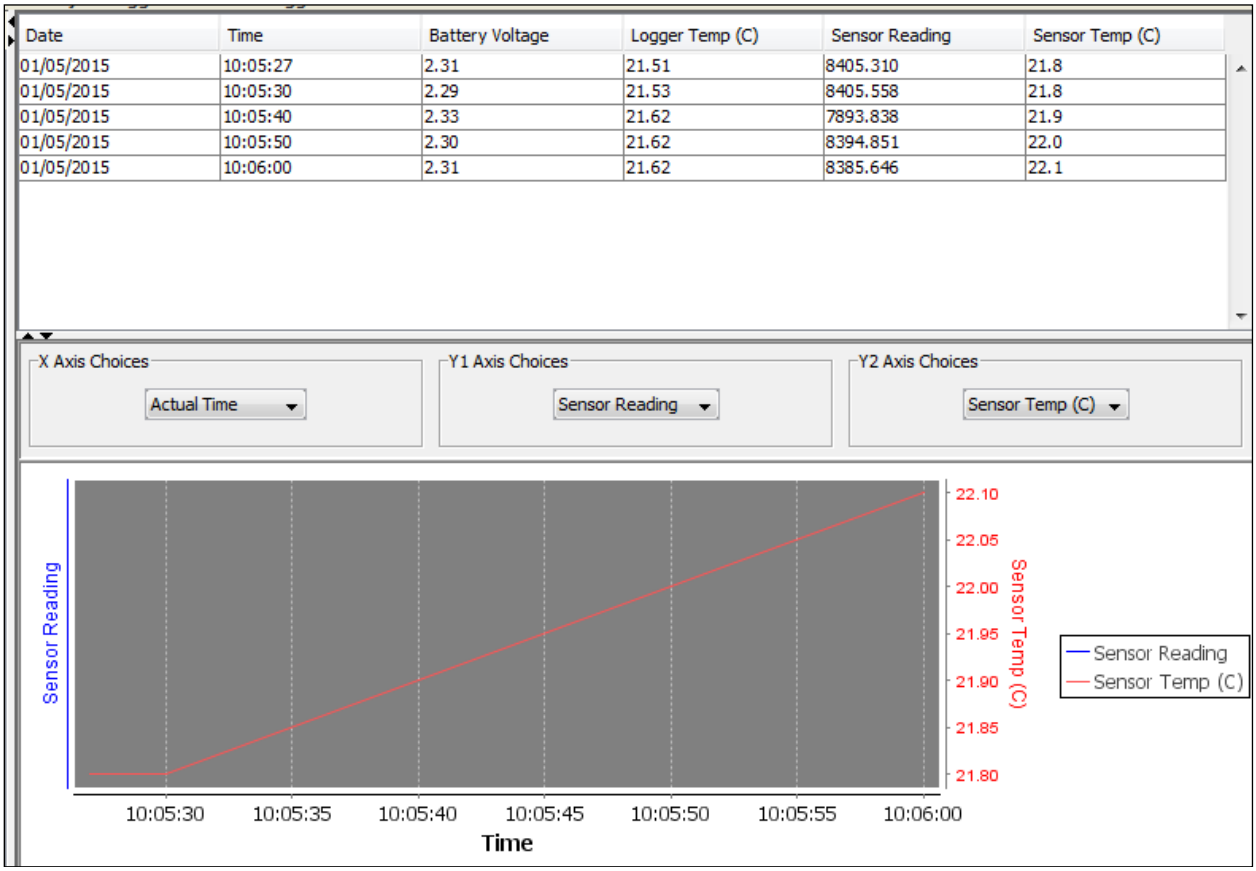

Figure 25 - Viewing Data Inside of LogView

To view the collected data outside of LogView, select the desired datalogger, right click on it, select “Export” > “Data Files” (Figure 26).

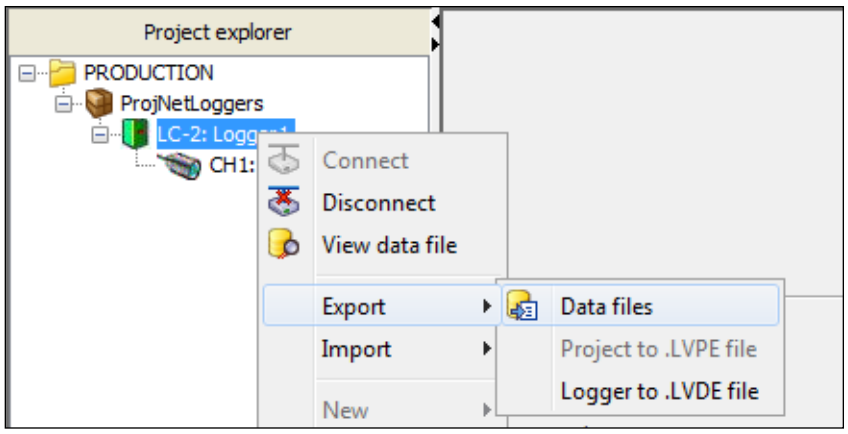

Figure 26 - Export Data Files Menu

A “Data Export” window will open where you can choose your export settings (Figure 27) You must choose your “Export folder” and “Export File Format.” The “Export Format Options” are optional. Next, select a file from the “Available files:” pane and choose one of the arrow buttons to move the file to the “Selected for export” pane. When your settings are complete, click the “Export” button at the bottom of the window to finish the data export. You will see a message indicating the “Data export completed”. You will now be able to view your collected data with your chosen settings in the program of your choice. **NOTE:** When a file is selected it will be highlighted in blue. To see the functions of the arrow buttons, hover the mouse over them for a tool tip.

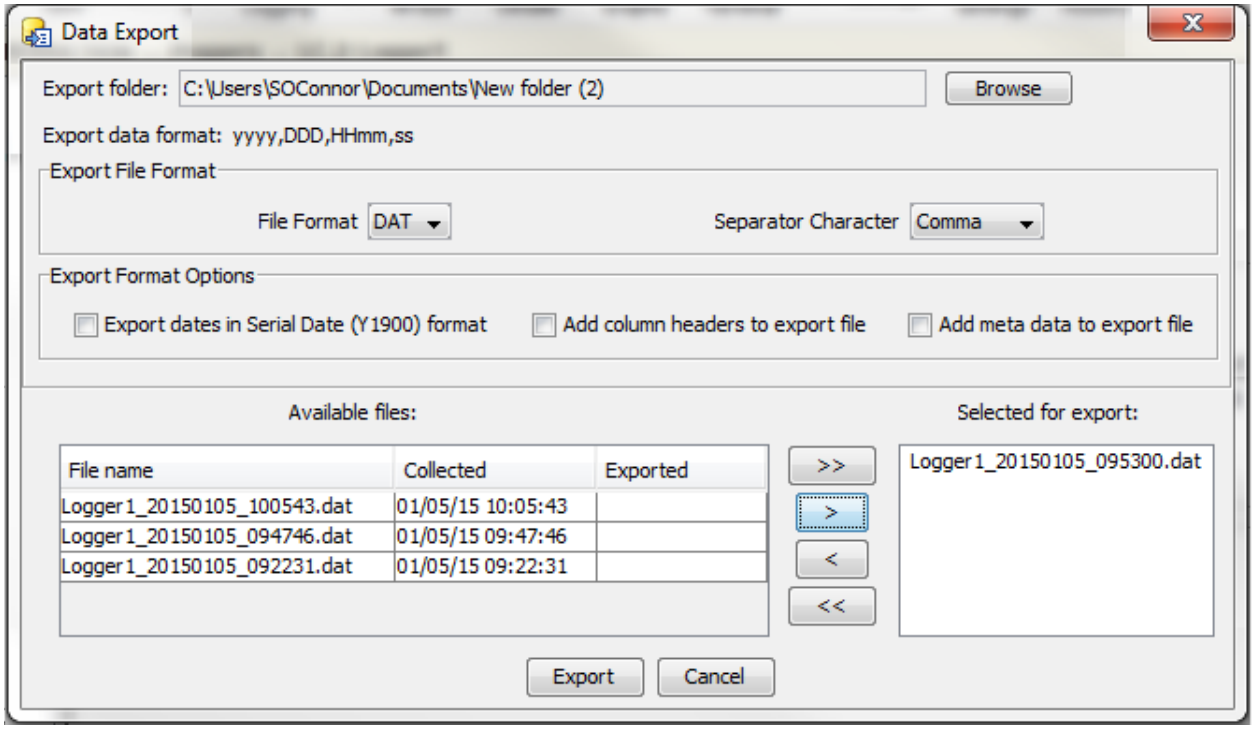

Figure 27 - Data Export Settings

5. CREATING A DATALOGGER NETWORK (RS-485)

Under the project "ProjNetLoggers" is another type of project object, the Network Group object. A network group object contains all dataloggers that are to be "networked" together via an RS-485 communication link. As above, right-clicking a project object calls up a context menu, allowing a Network Group object to be added to the project.

Right-clicking a Network Group object calls up a context menu, allowing dataloggers to be added under the Network object.

Figure 28 illustrates a typical datalogger "network". In the Project Explorer, you can see that the "ProjNetLoggers" project is expanded and contains a Network group object called "RS485 Loggers". Under "RS485 Loggers" are the networked dataloggers, "DL1" and "DL2". Also notice that both dataloggers have sensors defined.

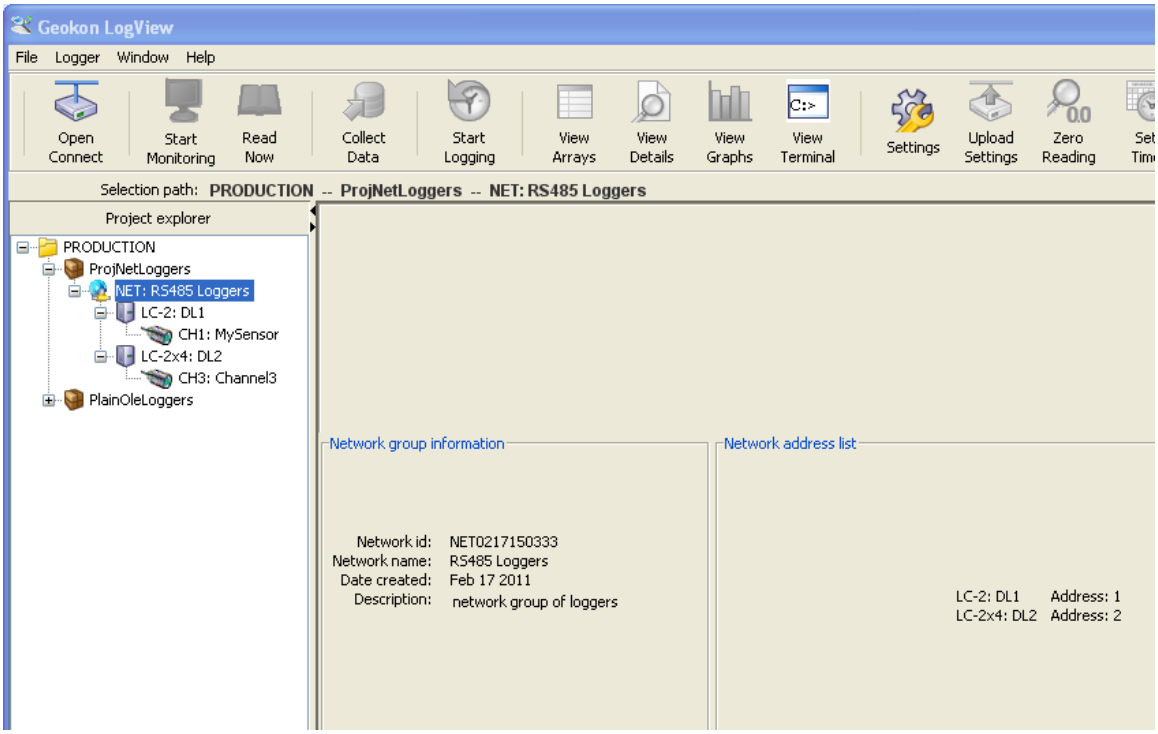

Figure 28 - Network Group

The sections below describe how to connect and communicate with networked dataloggers.

6. CONNECTING TO NETWORKED DATALOGGERS

A minimum of six components are required to create a network of two dataloggers, as listed in Table 1.

Item#	Description
1	8002-5: USB to RS-485 Conversion Module.
2	COM-109: USB cable needed communicate with Item #1.
3	8002-1-3, 8002-4-3 or 8002-16-3: **Datalogger1:** One, four or sixteen channel datalogger with RS-485 option.
4	8002-1-3, 8002-4-3 or 8002-16-3: **Datalogger2:** One, four or sixteen channel datalogger with RS-485 option.
5	8002-1-3A: RS-485 Interconnect Cable. Connects Item #1 with Item #3.
6	8002-1-3A: RS-485 Interconnect Cable. Connects Item #3 with Item #4.

Table 1 - Minimum Components for RS-485 Logger Network

In LogView, after adding two Datalogger objects to the Network Group object, and before connecting the above components together as a network, each datalogger needs settings uploaded to it. This is accomplished using the following steps:

1) Connect one end of the COM-109 cable to the first datalogger's "Network In" connector and the other end to a free USB port on the PC. After selecting one of the networked Datalogger objects in the Project Explorer, click on the "Settings" button from the toolbar. The dialog box shown in Figure 29 will be displayed.

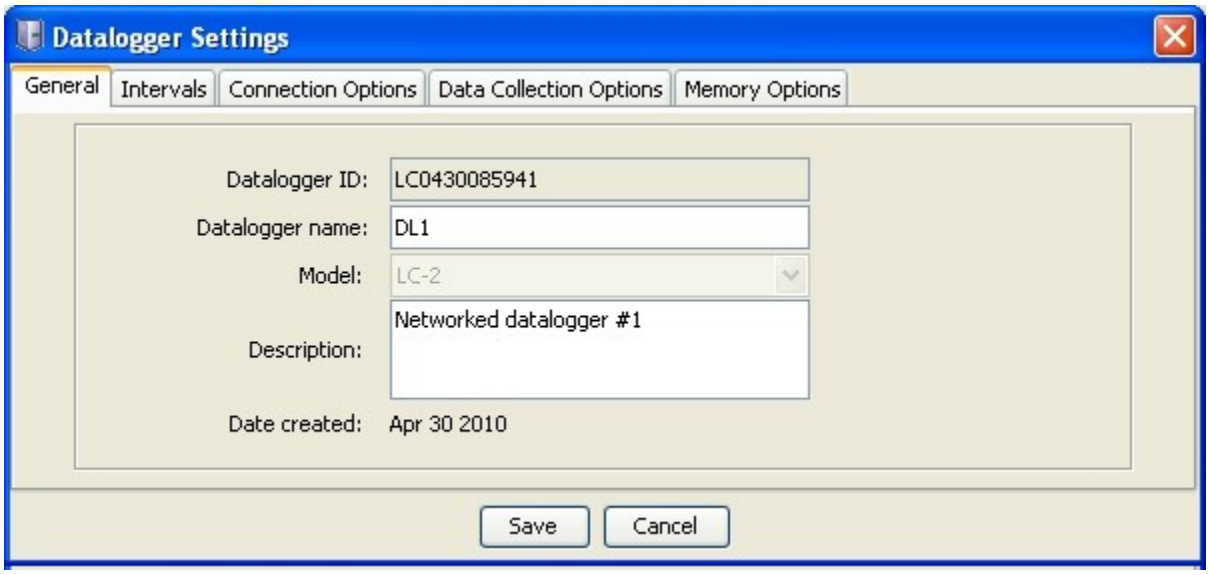

Figure 29 - Networked Datalogger Settings

2) Clicking on the "Connection Options" tab above will cause the dialog box shown in Figure 30 to be displayed.

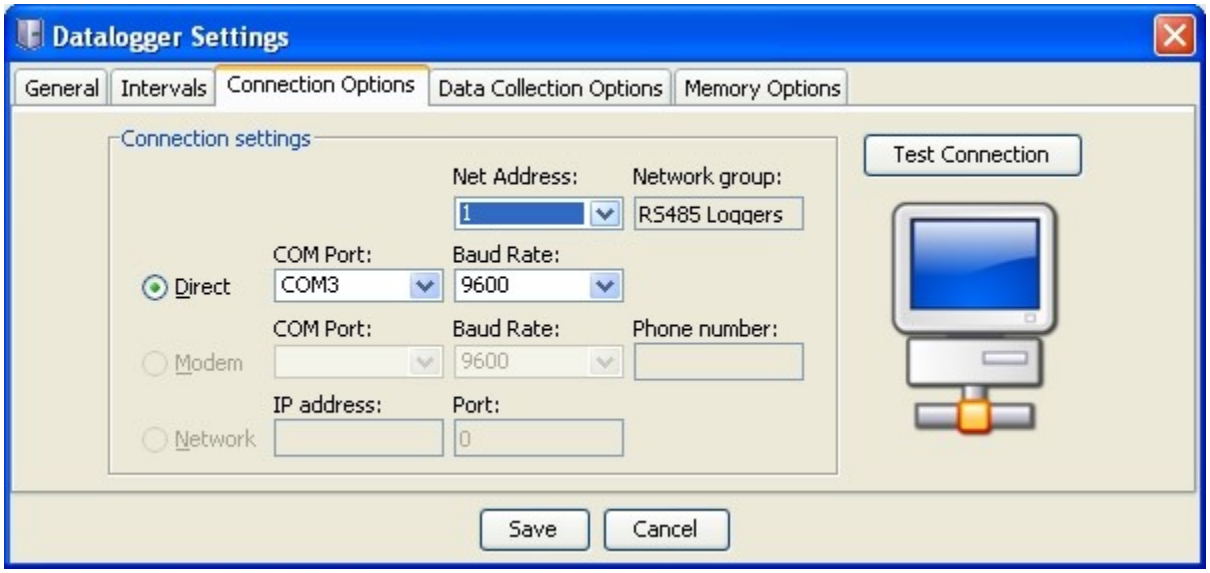

Figure 30 - Network Connection Options

3) Select a COM port corresponding to the datalogger connection. See the Geokon Datalogger Instruction Manual for more information on how to determine the appropriate COM port. Note that the network group for this datalogger has already been filled in.

4) The network address now needs to be set. Set the "Net Address" to the appropriate value; "1" for the first logger, "2" for the second, etc. It is a good idea to label the datalogger and also name it in such a way that it is easy to remember which Datalogger object matches with which physical datalogger. When done click on the "Save" button.

5) Click on the "Open Connect" button from the toolbar to create a connection from LogView to the selected datalogger. After several seconds, LogView should respond with a "Connected" status in the lower left-hand corner of the screen.

NOTE: It is very likely, when connecting to a datalogger for the first time, that a warning will be displayed (as shown Figure 20 in Section 3.4). This is normal, it indicates that the current Datalogger ID does not match the Datalogger ID that LogView is about to assign. Click on "Continue" to finish connecting to the datalogger.

6) Upload the recently modified settings to the selected datalogger by clicking on the "Upload Settings" button from the toolbar.

7) Close the connection by clicking on the "Close Connect" button from the toolbar.

8) Remove the COM-109 connection from the first data logger, attach it to the second and repeat steps one through seven for next datalogger.

9) After the settings have been uploaded for all dataloggers in the network group, connect the components together as shown in Figure 31.

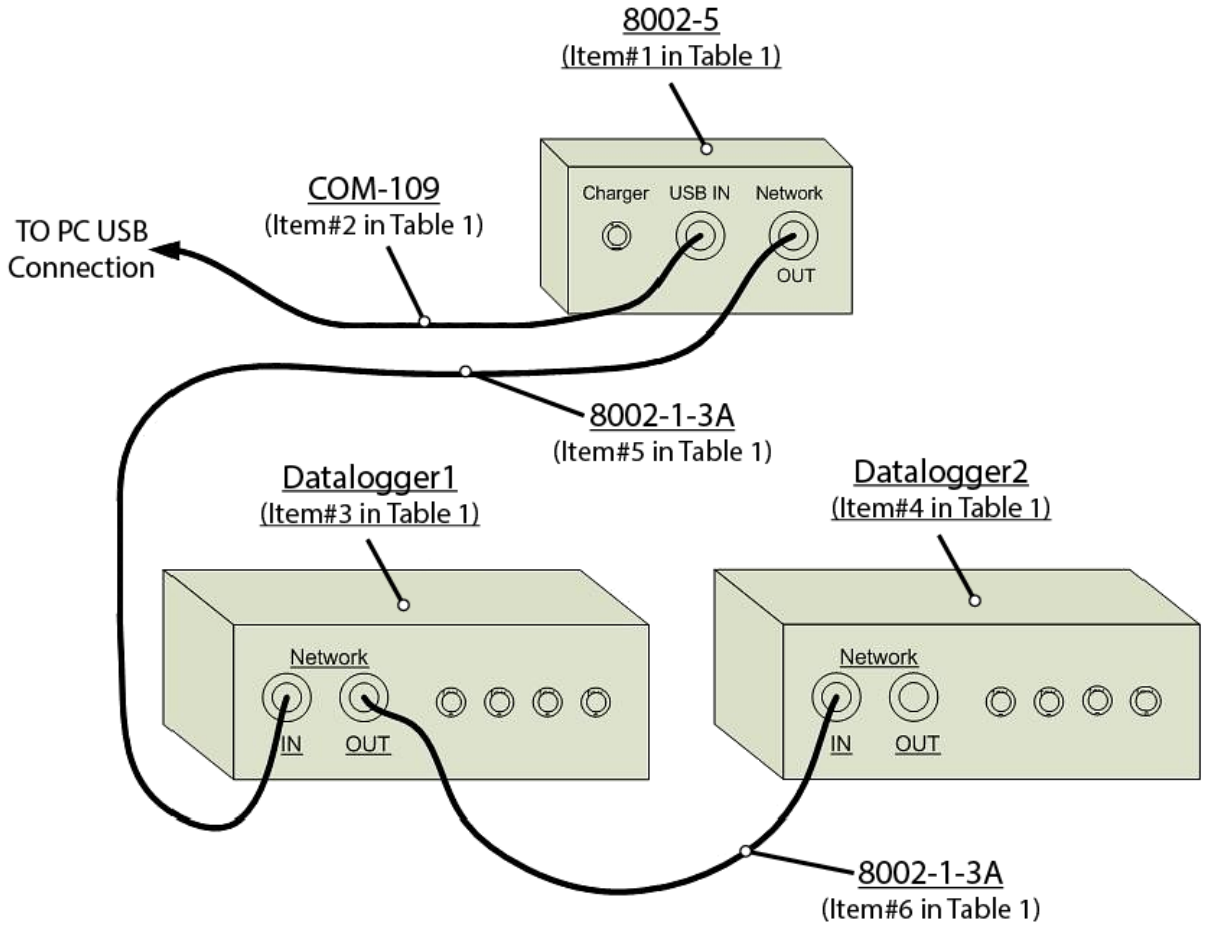

Figure 31 - Network Group Component Connections

The network group has now been setup and all attached dataloggers should be able to be accessed via LogView through the one USB connection.

NOTE: The last datalogger in the network must be terminated for proper operation. The termination procedure is described in the Datalogger Instruction Manual.