DataWorx WinPLC
User Manual
PC-WPLC-M

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Please include the manual number and the manual issue, both shown below, when communicating with Technical Support regarding this publication.

Manual Number: PC-WPLC-M
Issue: Second Edition, Revision A
Issue Date: 26 February 14

Publication History		
Issue	**Date**	**Description of Changes**
First Edition	15 Oct 03	Original
Second Edition	01 July 05	New logos and screen captures
Second Edition, Rev. A	26 February 14	Added Windows 7 support

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1.0 Introduction

DataWorx WinPLC provides an easy and inexpensive way to collect data from your WinPLCs. The DataWorx Server stores the information onto your PC into either a comma or tab delimited text file(s). These files can be created on a daily, monthly or yearly basis. The data can be opened in Excel, NotePad or another program of your choice. At this point, you can save the files or print the data.

The DataWorx WinPLC software package is unique in that it offers "report by exception" data collection rather than the typical data collection through polling of WinPLCs. This method allows the WinPLC complete control to store the data to a computer hard drive. Report by exception eases network traffic because, unlike polling, the WinPLC sends information only when needed, rather than continuously.

System Requirements

Hardware Required

- Pentium II with 128 megabytes of ram and 10 megabytes of hard disk space free
- One of the following AutomationDirect WinPLCs: H2-WPLCX-LV or H2-WPLCX-SD

Software Required

- The Server can run on Windows NT (SP5 or higher), 2000, XP or 7 (32 and 64 bit)
- The Monitor can run on Windows 98, NT, 2000 XP or 7 (32 and 64 bit)
- Internet Explorer 6.0 or higher

Note: *DataWorx WinPLC functions as an NT service so you do not have to be logged on for the server to acquire data. Please see the Server section of this manual for more information about the DataWorx WinPLC Server.*

2.0 Installation of DataWorx WinPLC

Before you start, ensure that the WinPLC(s) and Server/Monitor computer(s) are connected to the network.

Decide what kind of installation you want:

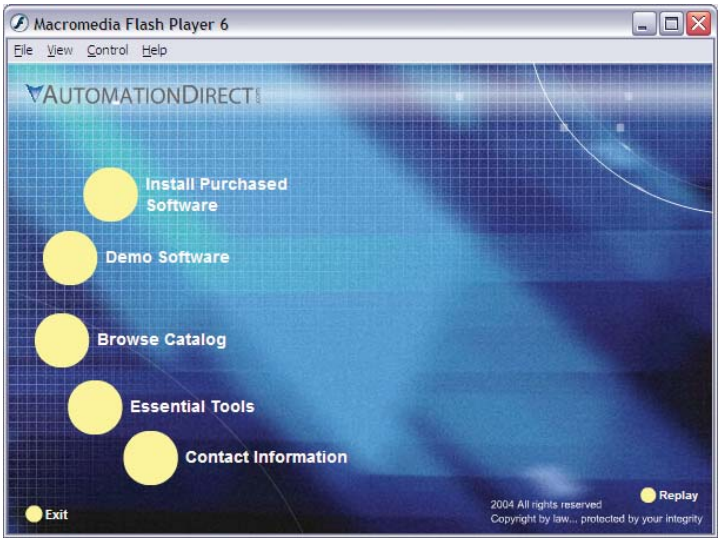
1. Server and Monitor on Same Computer
   a. Might be the only option if you have only one computer
   b. Even if you plan on hosting the Server and Monitor on different computers, you can install both the Server and Monitor on the Server computer for quick installation and configuration
2. Server and Monitor on Different Computers
   a. Ideal when the physical location of the Server is not easily accessible
   b. Must note the IP Address or name of the Server

DataWorx WinPLC software is available on the AutomationDirect Product Showcase CD. To install DataWorx WinPLC, insert the AutomationDirect CD into your PC's CD drive. The CD should start automatically and open the installation window shown below.

Note:
If the Automation Direct CD does not start automatically, go to your Windows **START** button, select **RUN**, and type:

E:\setup.exe

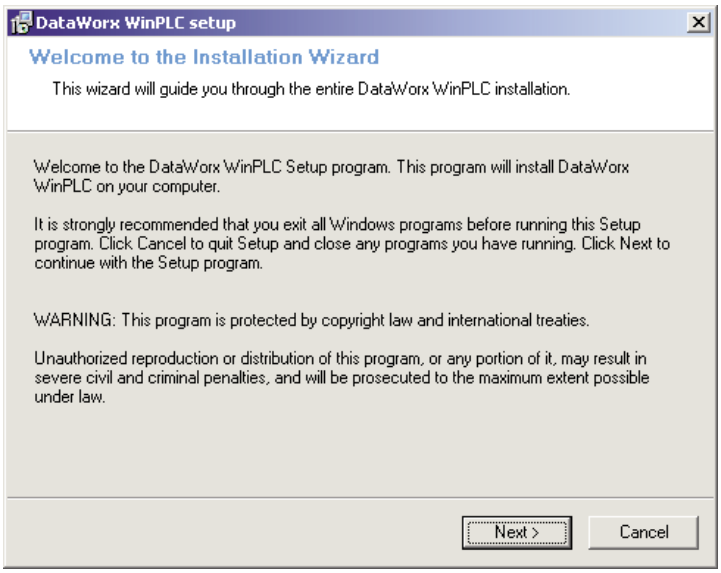
Change the letter "E" to correspond to the letter for your CD drive. Then click **OK** and the program will start.



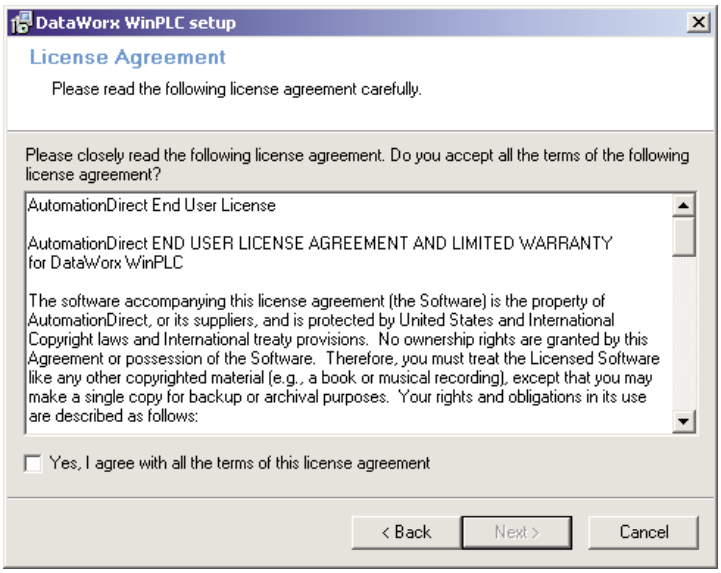
The AutomationDirect installation window will display all software options available on this CD. To install DataWorx WinPLC select the **INSTALL PURCHASED SOFTWARE** option. This selection opens the Product Key window shown below.

In the given field, enter the Product Key, located on the back cover of your CD case. This software package is protected by the Product Key. Only licensed users that have this key may install the software. After entering the Product Key, click **OK**.

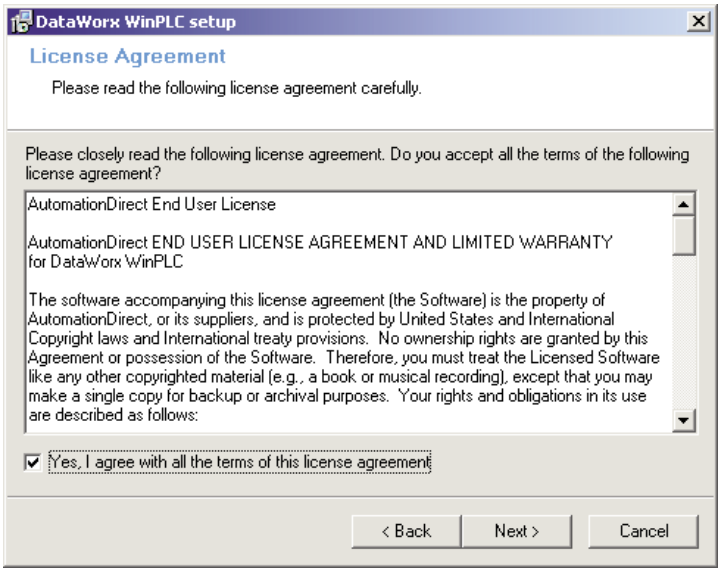
Start the installation program and click **NEXT**.



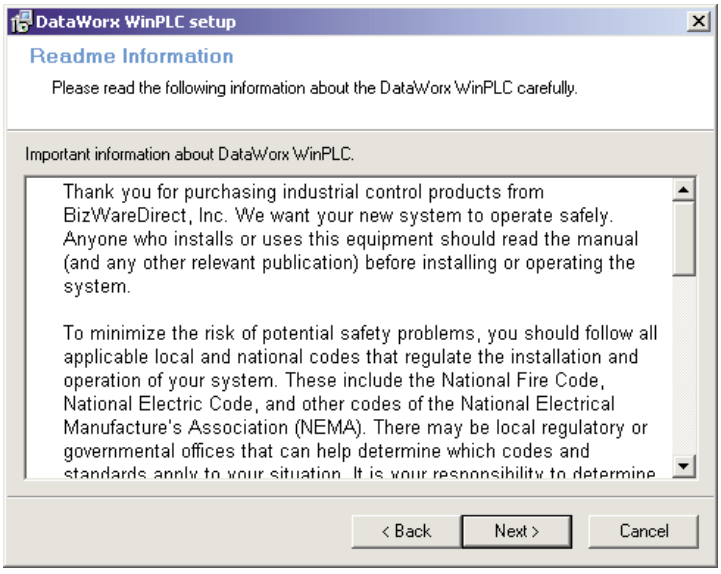
Read and make sure you understand the license agreement.



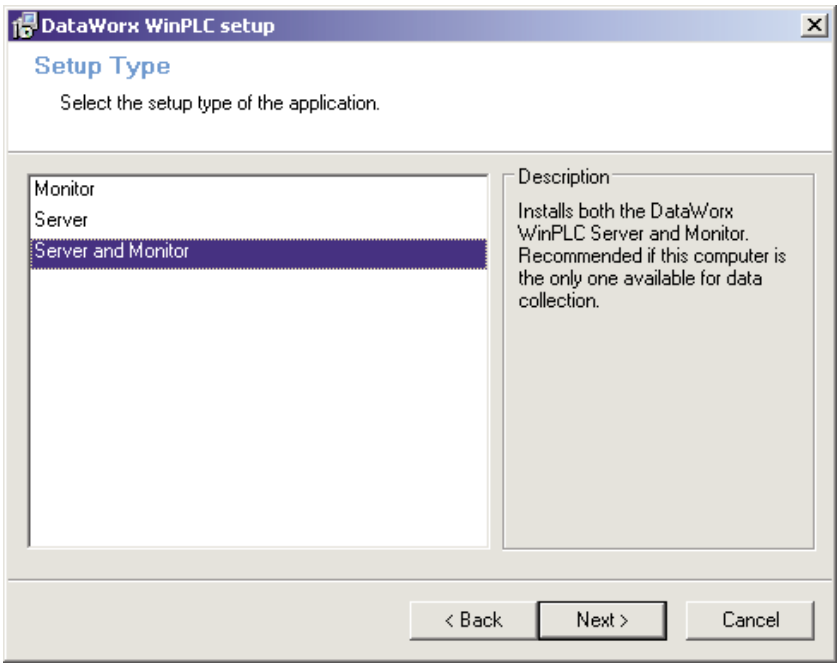
After reading and understanding the license agreement check the box next to the statement, "Yes, I agree with the terms of this license agreement." Click **NEXT**.



The next screen contains important readme information that may be pertinent to you. After reading this, click **NEXT**.



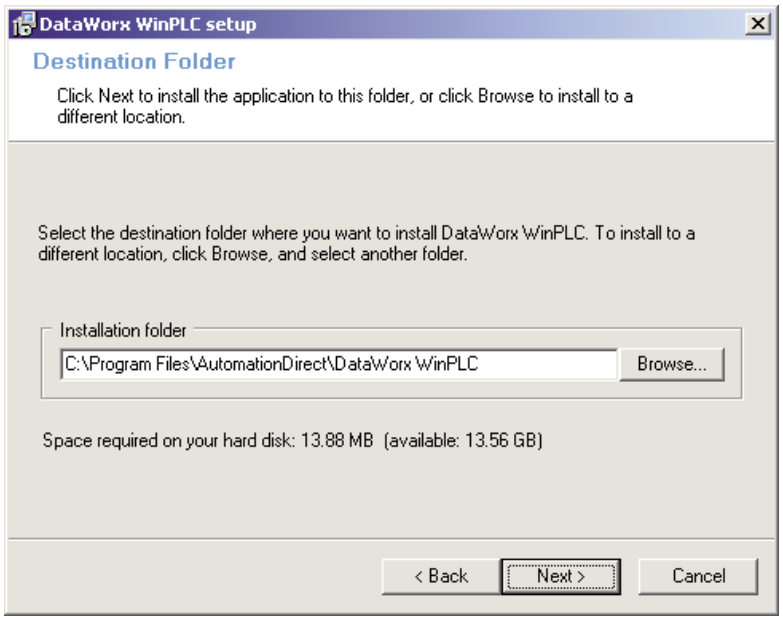
You will now be prompted for the setup type. There are three different types: Monitor, Server, and Server and Monitor. If you select a type from this list, a description of that type will appear on the right hand side, labeled "Description."



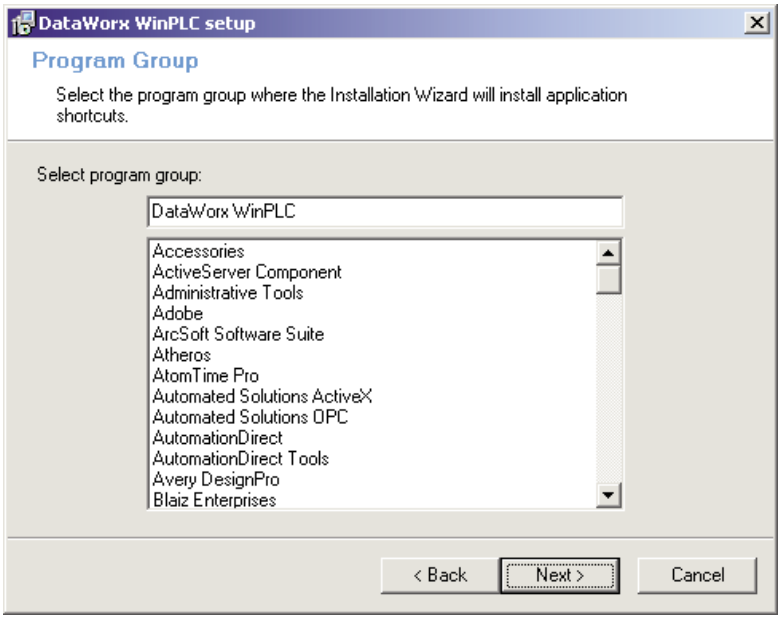
After you have determined which type of setup you want click **NEXT**, and you will be asked to choose a location in which to save the DataWorx WinPLC files. By default the files will go to:

c:\Program Files\AutomationDirect\DataWorx WinPLC

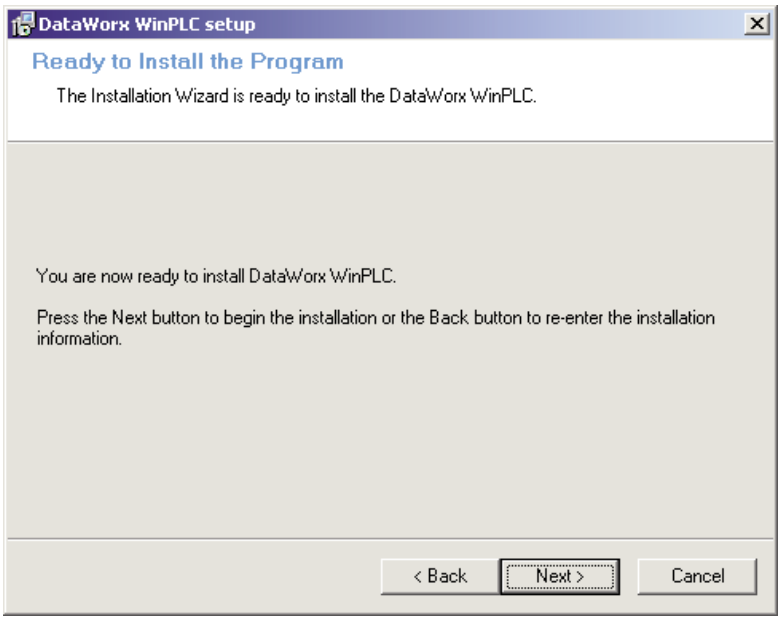
You can choose an alternative location for the DataWorx WinPLC files by clicking the **BROWSE** button.



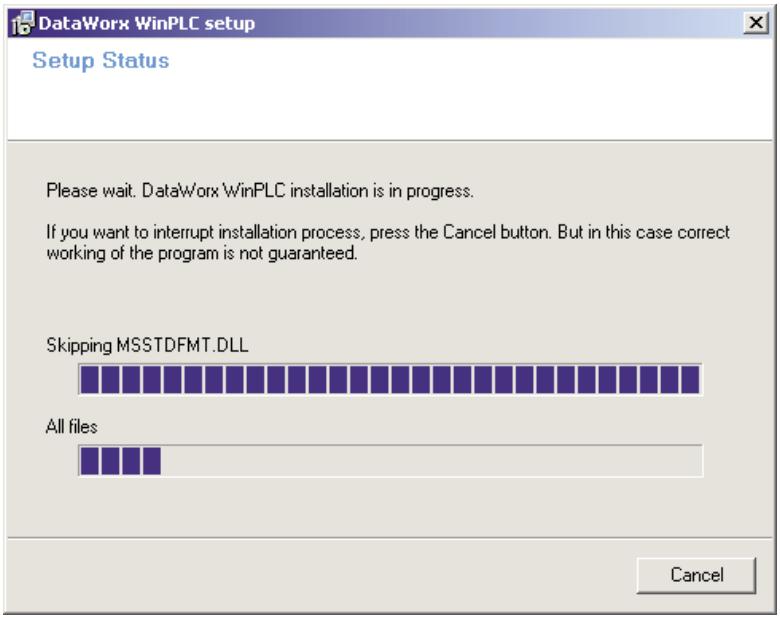
Once satisfied with the location of the files, click **NEXT** and you will be prompted for the program group. By default, the program group is "DataWorx WinPLC." This program group can be changed by entering a new name into the textbox.



Click **NEXT**. You will be prompted to begin installation. Click the **BACK** button at any time to review the settings before committing to the installation. Once satisfied with the installation settings, click the **NEXT** button.

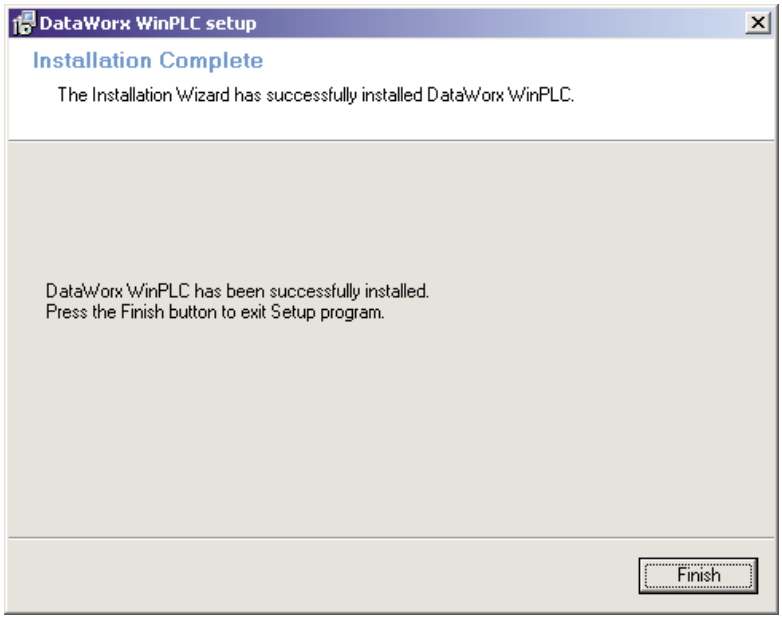


You should now see a meter indicating the installation progress.



Installation can be stopped at any time throughout the process by clicking the **CANCEL** button.

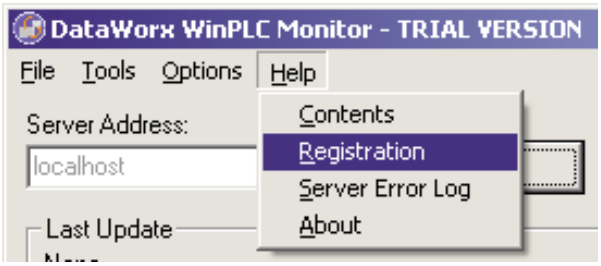
Once installation is complete, you will be notified that DataWorx WinPLC has been successfully installed. Click **FINISH** to exit the installation wizard.



3.0 Registration (required)

Registration Instructions:

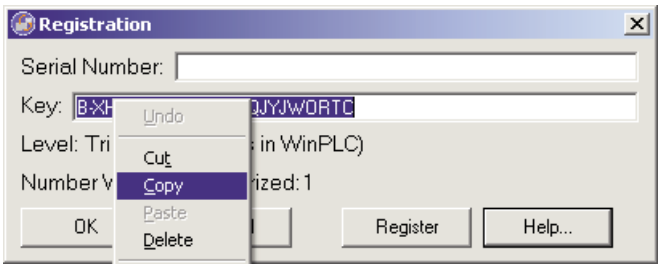
- Ensure that the Server is running
- Start the Monitor and connect to the Server
- Go to **HELP -> REGISTRATION** in the program's menu



Registration Code:

- Once the Registration window opens, copy the original registration key by highlighting the key, pressing the right mouse button, and selecting **COPY**.

Note: *If your PC does not have an active Internet connection, please write down the key provided in the registration window. Then go to a PC with an Internet connection and type your information into the web address as shown below.*



- With your browser go to ***http://www.bizwaredirect.com/dataworxregistration.aspx*** and paste the registration key into the "Key" field on the web form. Also enter the serial number, which is located on the back of the CD cover.

DataWorx Registration Form

Serial Number (From DVD Case) 222222166

Key (From DataWorx) B-XHAPERSXAC-102-QJYRTY

Note: *The registration form is case sensitive.*

• Click the **CREATE REGISTRATION** button. If all information has been entered correctly, a new unique key should be assigned to you.

Registration Code:

DataWorx Registration Form

Serial Number (From DVD Case) 222222166

Key (From DataWorx) B-XHAPERSXAC-102-QJYRTY

How did you **first** hear about BizWareDirect?

Other Please Specify

Please enter additional information below so we can provide more efficient technical support and alert you of product upgrades. Information submitted is for our internal purposes only and will not be shared with outside parties.

Name:

Company Name:

Address:

Address (Line 2):

City:

State:

Postal/Zip code:

Country (if other than U.S.)

Telephone:

Fax:

E-mail Address:

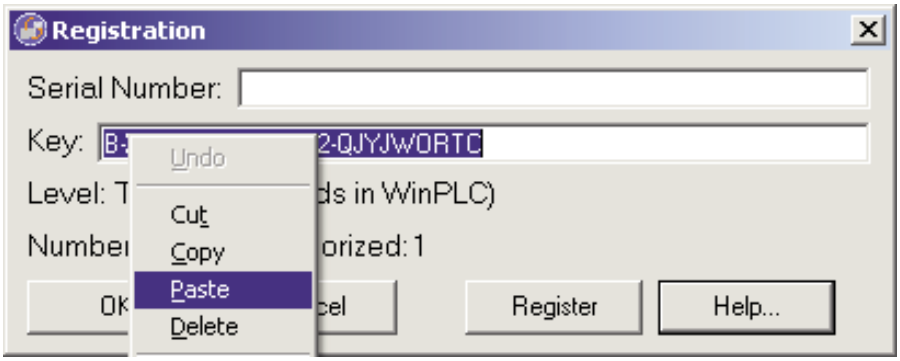
Purchased From:

Create Registration Found registration for 3 device(s).

Your assigned key B-XHAPERSXAF-105-QJYRTY

Thank you for registering!

• Copy the assigned key by highlighting it, pressing the right mouse button and selecting **COPY**. Now, go back to the DataWorx Monitor Registration screen (**HELP -> REGISTRATION** in the program's menu). Paste the newly assigned registration key over the original key by highlighting the old key code, pressing the right mouse button and selecting **PASTE**.



Click the **REGISTER** button. A success message and the registration window will show your registration status.

• Click **OK**.

4.0 Think & Do

In order for DataWorx WinPLC to receive data from the WinPLC, it is necessary to configure the WinPLC Think & Do project to send network commands to DataWorx WinPLC. The following are instructions for configuration:

(For Think & Do Version 5.4)

NOTE: *The following screen shots are for Think & Do Version 5.4. If you are using another version, the screens may be slightly different, but the underlying functionality will remain the same.*

In the project center click on the IOView icon or

go to menu TOOLS -> IOView

In I/O View

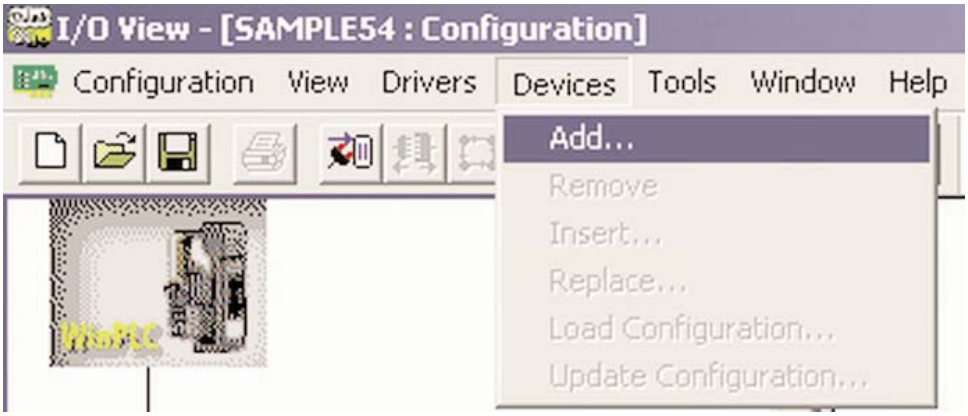
go to menu DRIVERS -> ADD…

The following prompt for the I/O driver will appear.

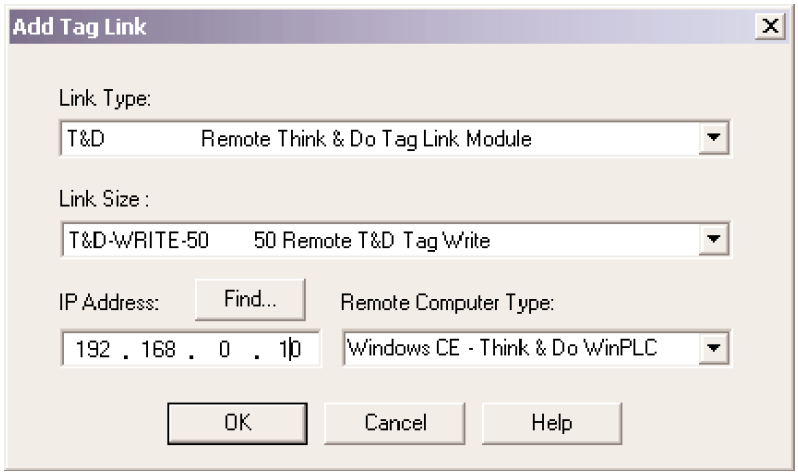
Select PEER TO PEER TAG LINK DRIVER

The next step is to add a device for this driver. Note that even though a physical device is not being added, a virtual device will be added that sends network messages to DataWorx WinPLC.

Go to menu DEVICES -> ADD



The following screen will appear.

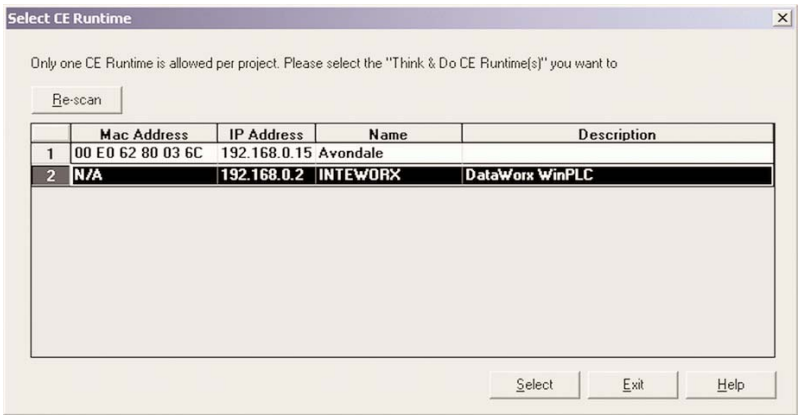


Select **T&D-WRITE-50 50 Remote T&D Tag Write** for the Link Size.

For the IP Address field, **enter the IP address of the DataWorx WinPLC host computer.**

NOTE: *The DataWorx WinPLC host computer MUST have a static* IP address configuration. If the server uses DHCP then results will be unpredictable.

Click the **FIND** button and this window will appear.

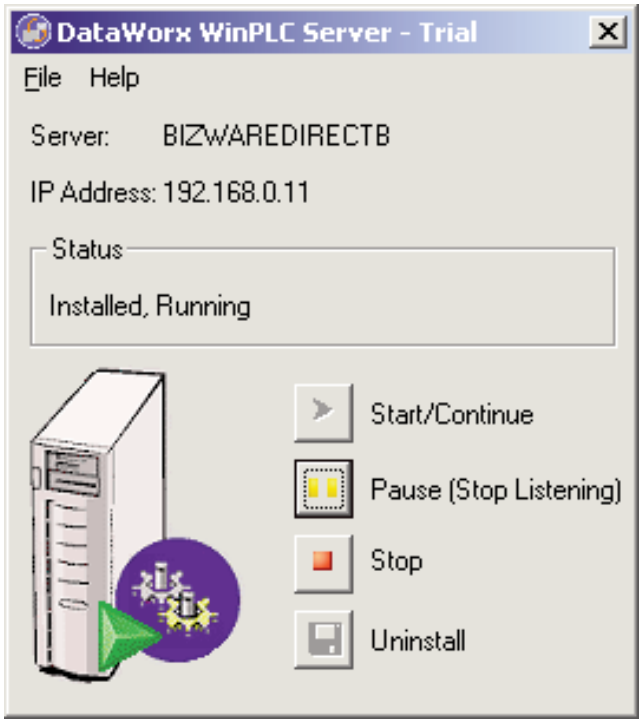


Select the **DataWorx WinPLC** item.

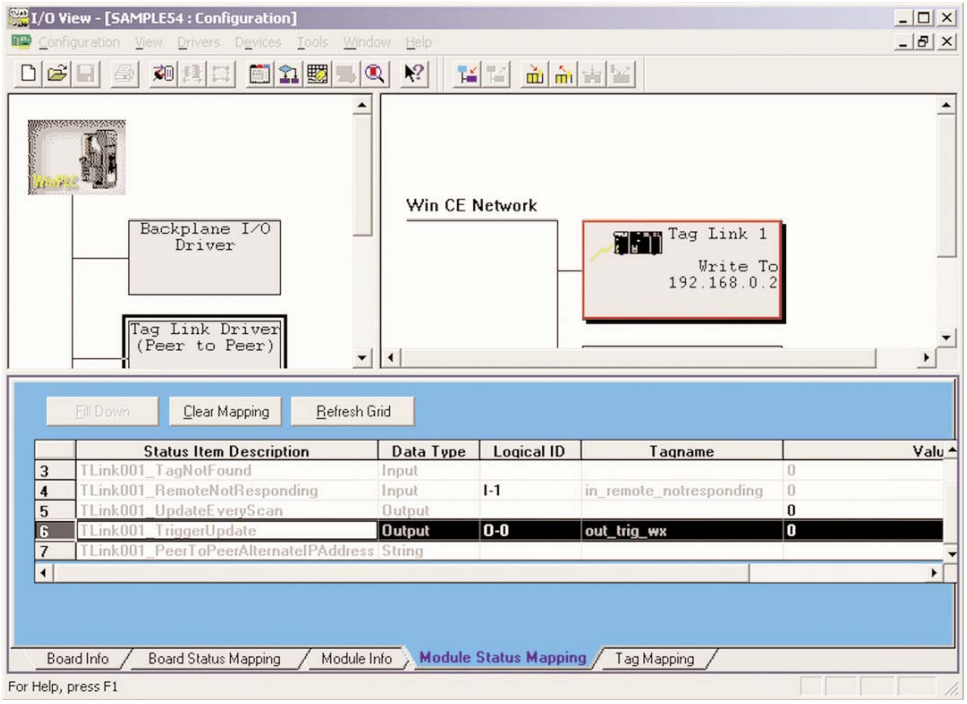
You can view the DataWorx WinPLC server IP address from the server window by following these steps:

Go to START button -> AutomationDirect -> DataWorx WinPLC -> DataWorx WinPLC Server

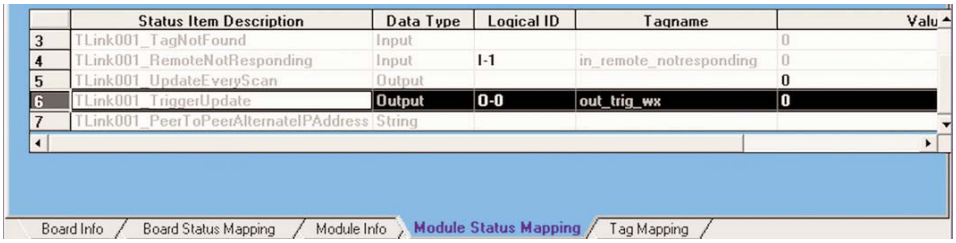
The server address will be indicated by the IP Address: label like in the following screen.



Once the parameters are established, the user needs to establish a trigger so that messages can be sent to DataWorx WinPLC whenever desired. In the I/O View screen select the **Tag Link** driver and go to the **Module Status Mapping** tab:



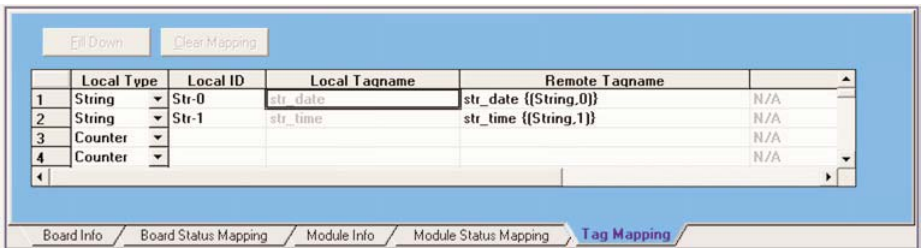
There is a TRIGGER UPDATE item, as is shown in this screen.



Map the TriggerUpdate to an output tag of your choice.

Next, decide which data items will need to be sent. Click the **TAG MAPPING** item, and add the desired tags to send.

Below is an example:

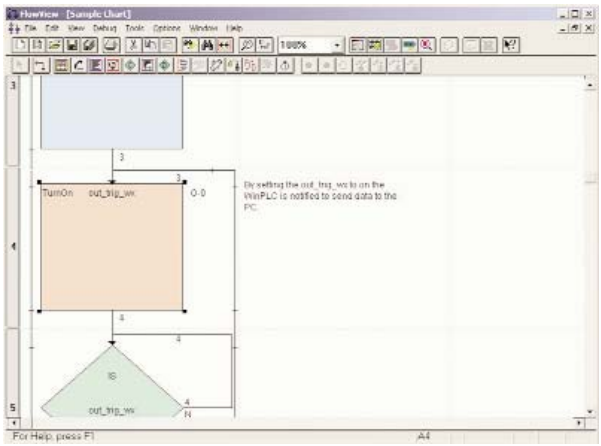


NOTE: *that in the Remote Tagname column, data must be entered in this format: tagname [Space] {(Type, Index)}*

For example, if a Number tag with index 3 and name "MyNumber" was entered, the following would have to be entered:

MyNumber {(Number, 3)}

Close I/O View and create a Flowchart. In the flowchart, activate sending the tags to DataWorx WinPLC by turning the TriggerUpdate flag on like in the following example:



To see a sample, go to:
START -> Program Files -> AutomationDirect -> DataWorx WinPLC -> Samples -> Think & Do 5.4 Sample Project

5.0 DataWorx WinPLC

5.1 Server

Overview

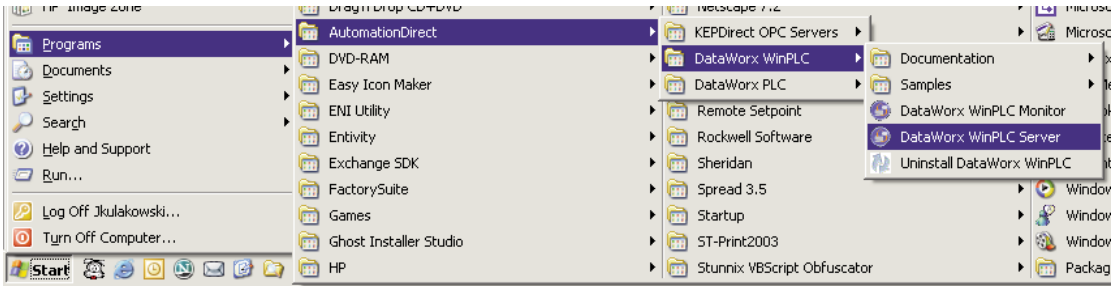
The DataWorx WinPLC Server's primary function involves listening to WinPLC(s) and recording the data into text files in the format specified by the user.

The format of the text file is set with the DataWorx WinPLC Monitor. For more information on configuring the Server with the Monitor, refer to the "Monitor" section.

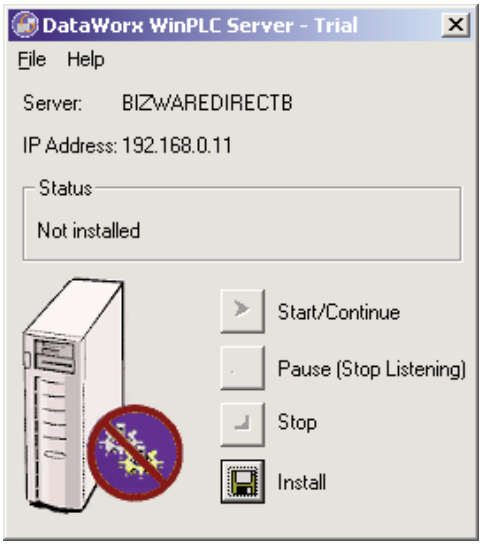
5.1.1 Installing

The DataWorx WinPLC Server needs to be installed and running in order to function without user intervention. To install the Server, go to:

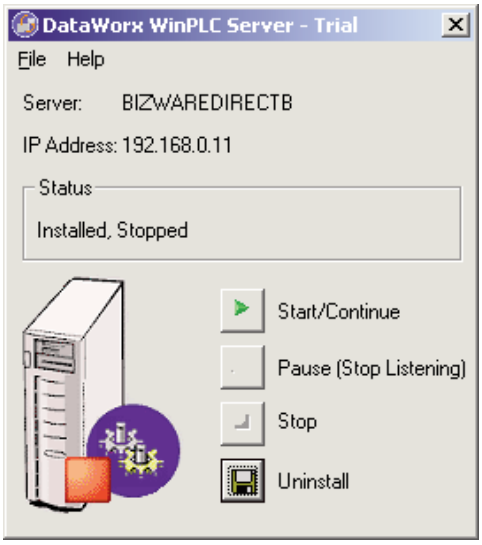
START Button -> PROGRAMS -> AUTOMATIONDIRECT -> DATAWORX WINPLC -> DATAWORX WINPLC SERVER



This window should appear, showing the Server as "Not Installed."



Click the **INSTALL** button, and the Server status should be shown as "Installed, Stopped."

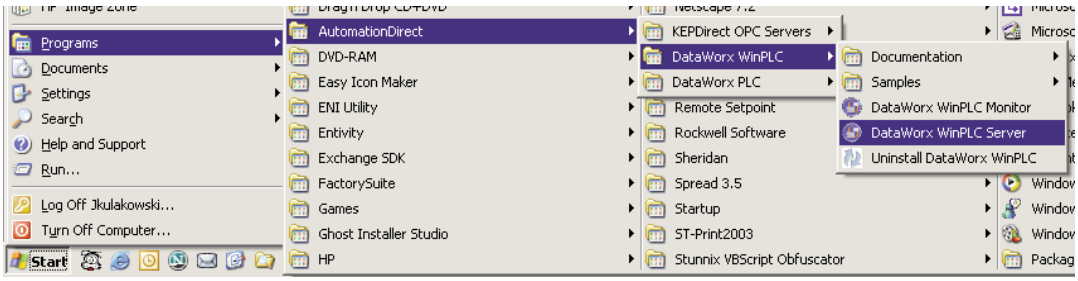


Note: *This does not start the DataWorx WinPLC Server. To start the Server refer to the Running section.*

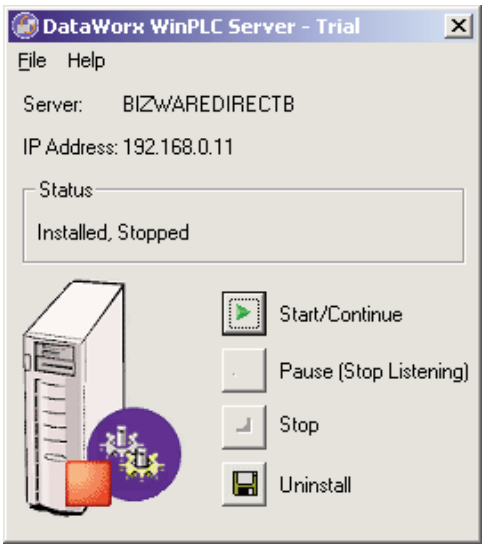
5.1.2 Running

If you do not already have the DataWorx WinPLC Server Window open, go to

START Button -> PROGRAMS -> AUTOMATIONDIRECT -> DATAWORX WINPLC -> DATAWORX WINPLC SERVER



A window will appear, showing the status of the Server as "Installed, Stopped." Click the **START/CONTINUE** button.



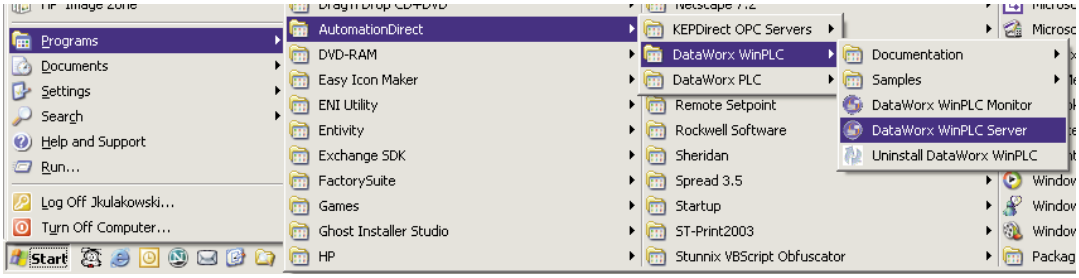
Once a connection has been made, the status will be shown as, "Installed, Running."

5.1.3 Pausing

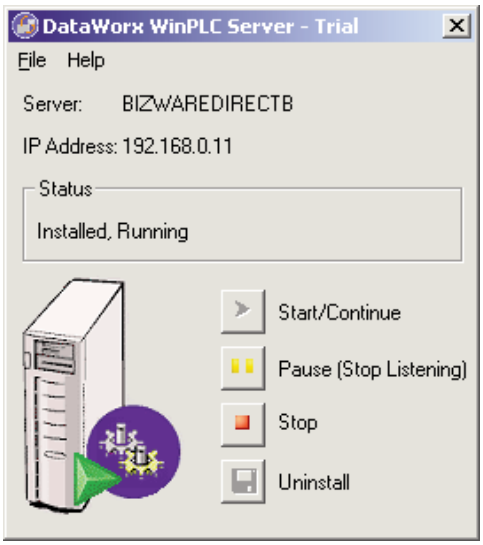
Pausing forces the Server to stop listening for WinPLC input. This can be useful when configuring the Server because it will prevent irrelevant data from being stored.

If you do not already have the DataWorx WinPLC Server Window open, go to

START Button -> PROGRAMS -> AUTOMATIONDIRECT -> DATAWORX WINPLC -> DATAWORX WINPLC SERVER

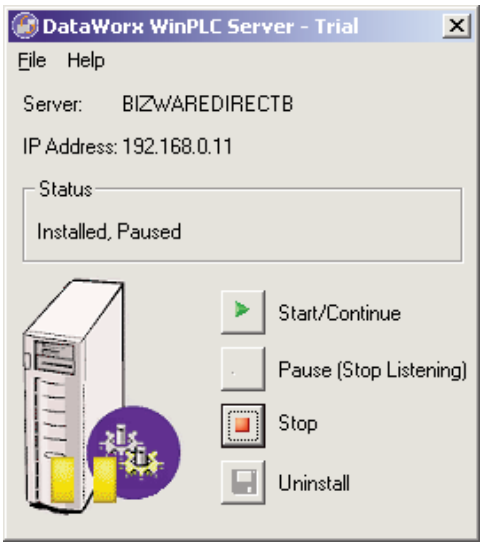


The following window will appear, showing the Server status as, "Installed, Running."



Click the **PAUSE (STOP LISTENING)** button, and this window should appear, showing the Server is paused.

Note: *This does not stop the DataWorx WinPLC Server. To stop the Server refer to the Stopping section*

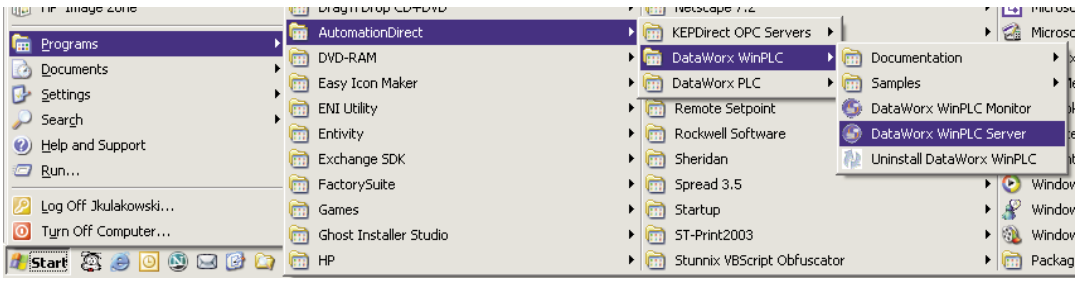


5.1.4 Stopping

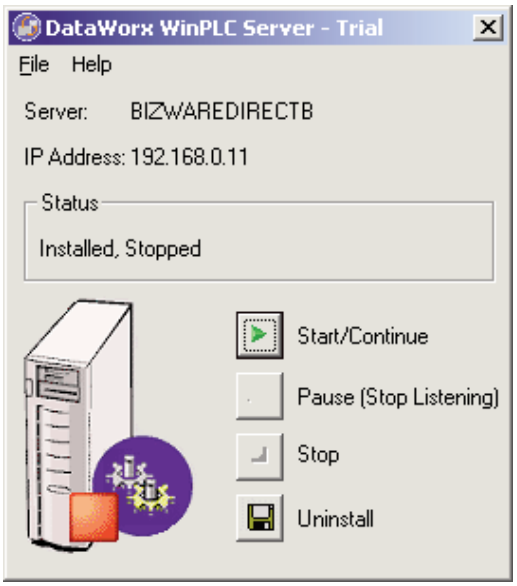
Stopping the DataWorx Server completely stops it from running, instead of just halting its listening state. This feature is useful because the Server must stop before you can uninstall it.

If you do not already have the DataWorx WinPLC Server Window open, go to

START Button -> PROGRAMS -> AUTOMATIONDIRECT -> DATAWORX WINPLC -> DATAWORX WINPLC SERVER



In the DataWorx WinPLC Server Window, click the **STOP** button, and, this window should appear.

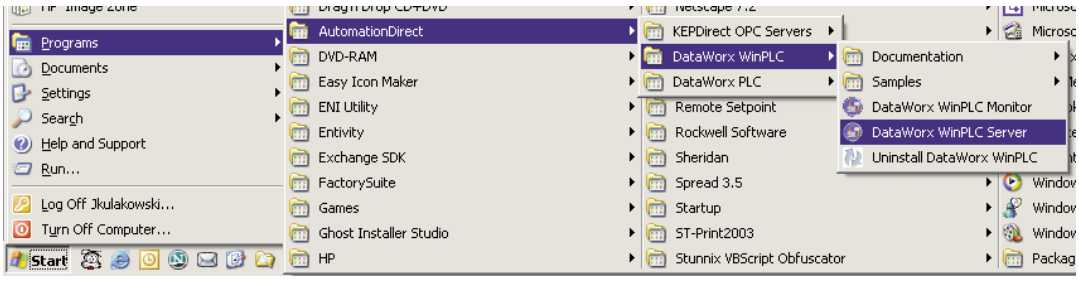


5.1.5 Diagnosing

Diagnosing the DataWorx WinPLC Server allows you to troubleshoot and view real-time events.

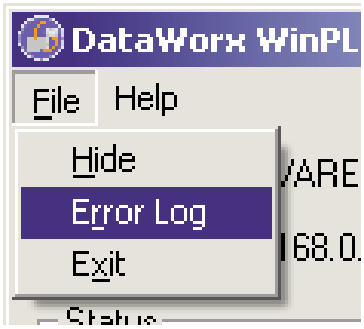
If you do not already have the DataWorx WinPLC Server Window open, go to

START Button -> PROGRAMS -> AUTOMATIONDIRECT -> DATAWORX WINPLC -> DATAWORX WINPLC SERVER

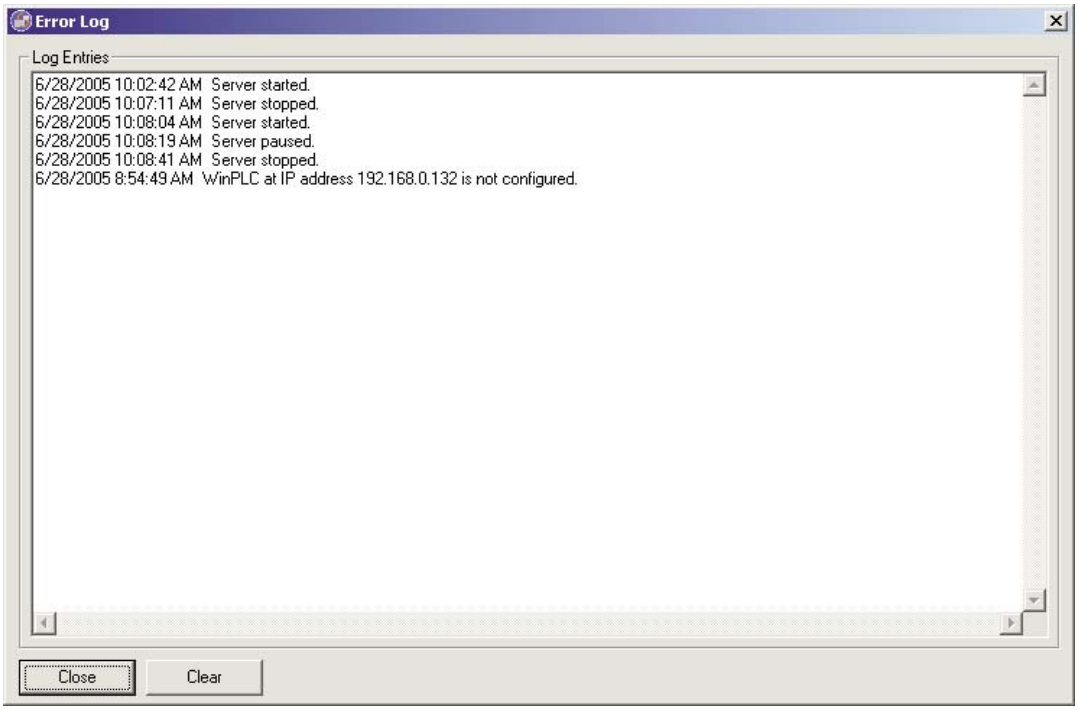


In the DataWorx WinPLC Server's main program menu, go to

FILE -> ERROR LOG



An Error Log window like the one below should appear.

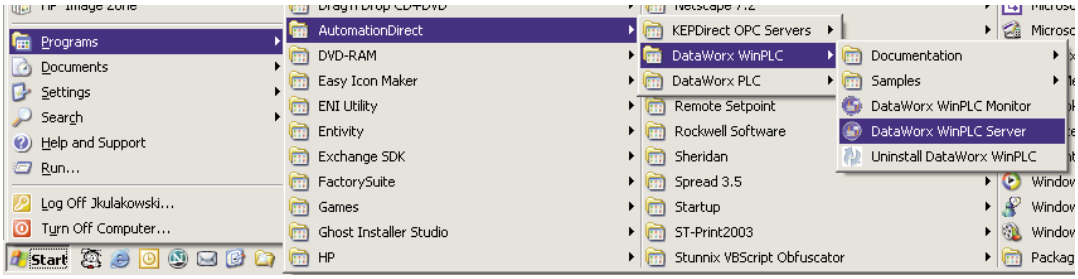


5.1.6 Uninstalling

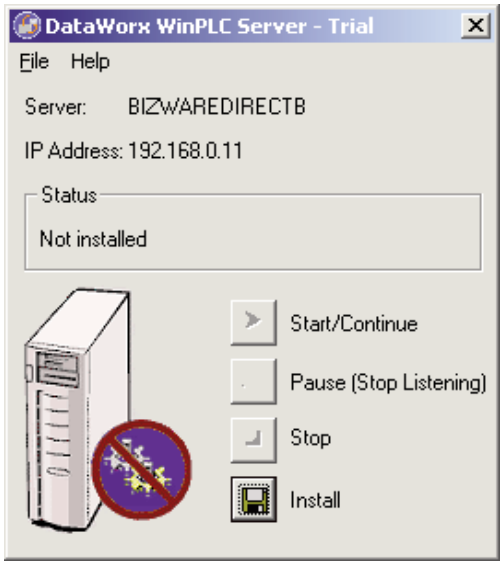
Occasionally, for troubleshooting reasons, you may want to uninstall the Server entirely.

If you do not already have the DataWorx WinPLC Server Window open, go to

START Button -> PROGRAMS -> AUTOMATIONDIRECT -> DATAWORX WINPLC -> DATAWORX WINPLC SERVER



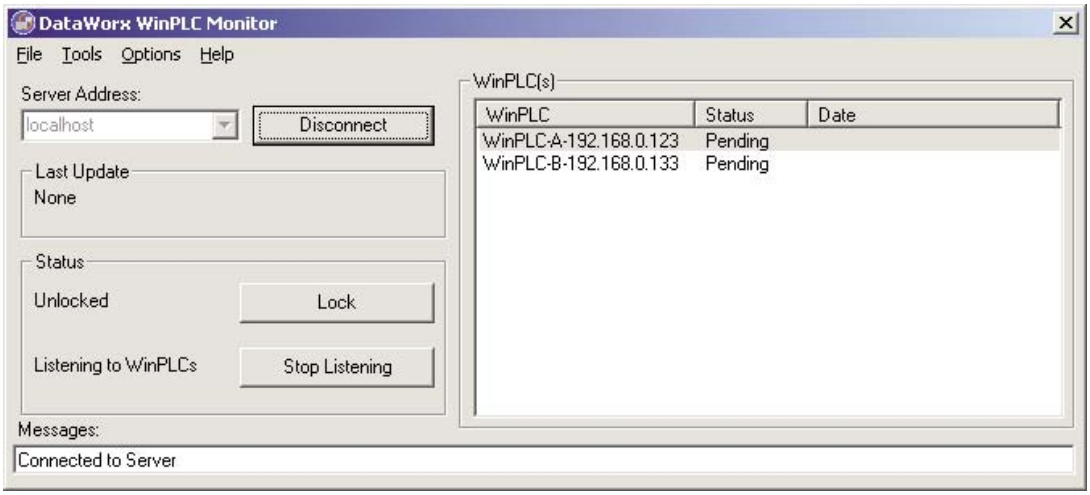
Click the **UNINSTALL** button, and this window should appear.



5.2 Monitor

Overview

The DataWorx WinPLC Monitor allows you to configure the DataWorx WinPLC Server and retrieve its data files over the network. It also enables convenient troubleshooting. Below is the Monitor's main window. Following are explanations of each of its fields.



Server Address: Field where one enters the address of the DataWorx WinPLC Server

Last Update: Denotes the most recent WinPLC input time

Status: Displays the Server's locked and listening state

WinPLC(s): Displays list of currently configured WinPLCs on the Server as well as their status

Note: *WinPLC(s) only lists the last update, you need to check the date to verify if you are receiving information when you expect.*

Messages: Displays updates from both the Server and Monitor

5.2.1 Connecting

This section will provide step-by-step instructions for connecting to a DataWorx PLC Server. This is important because it will allow you to configure the DataWorx Server and retrieve its data files.

In the main screen portion labeled "Server Address," **enter the IP Address.**

Note: *If you are running the Server and Monitor on the same PC, the Server address will be "Local Host." If you are running the Server on another PC, enter the IP address from the Server PC.*

Note: *The PC's IP address needs to be static not DHCP.*

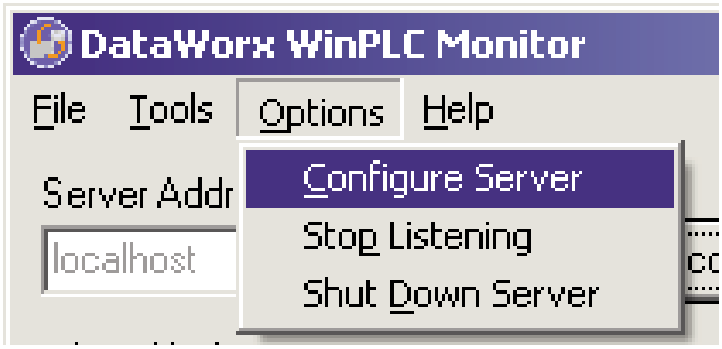
Press the **CONNECT** button. If the connection has been made, the text on the command button will now read, "Disconnect."

5.2.2 Configuring

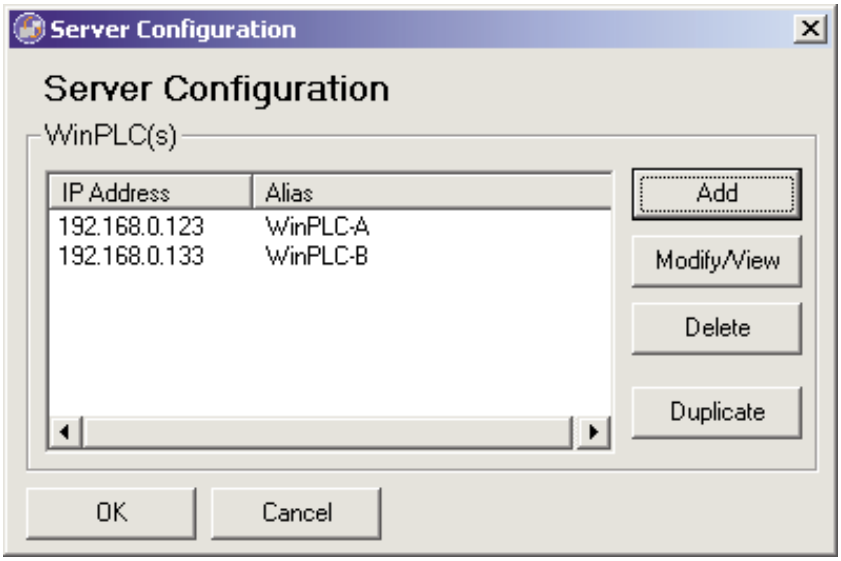
Note: *Before you can configure the Server you must connect to it.*

Go to menu

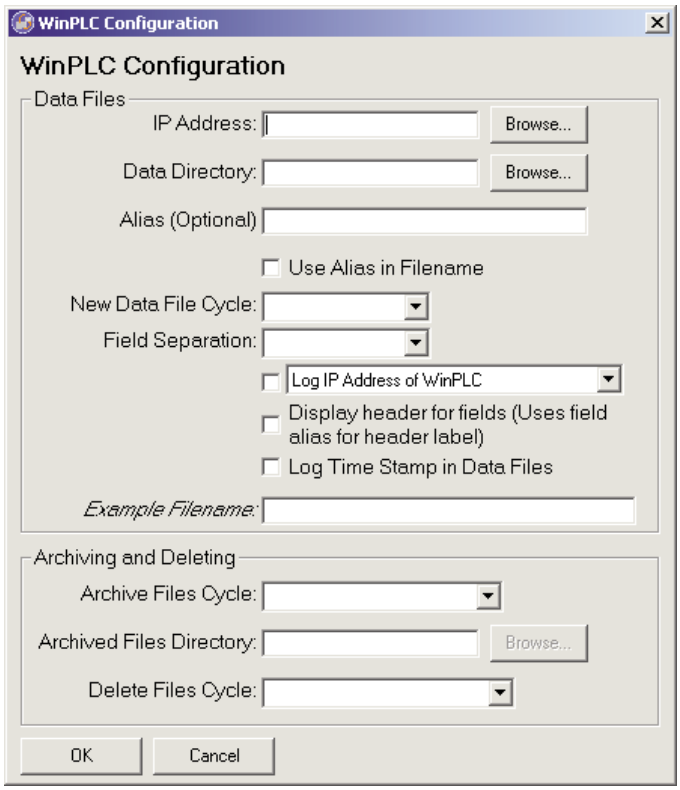
OPTIONS -> CONFIGURE SERVER



You will then see a list of WinPLCs, if any, configured for the Server, as in this example.



To add a WinPLC, click the **ADD** button, and you will see a WinPLC Configuration screen like this one.



Following are explanations of each of the WinPLC Configuration Window's fields:

Alias: Optional name for the WinPLC - can be useful compared to remembering cryptic IP Addresses

Data Directory: Folder on the Server where all the input from the WinPLC will be stored

IP Address: Address of the WinPLC

Use Alias in Filename: If set, the Server will use the alias instead of the IP address for the filename representing the WinPLC data

New Data File Cycle: Specifies how often the Server should create a new file for the WinPLC data. It is also possible to specify to never create a new file with the option "Never (one file)"

Fields Separation: The fields received from the WinPLC need to be separated in the text file. Here you can choose to use comma or tabs to separate each field

Log IP Address of WinPLC: Tells the Server to enter the IP Address of the WinPLC as well as the data received from the WinPLC

Display Header for Fields: When set, the Server not only enters the WinPLC data but also the header information labeling each column

Archive Files Cycle: Allows you to create archives of the data files every month or year into .zip files

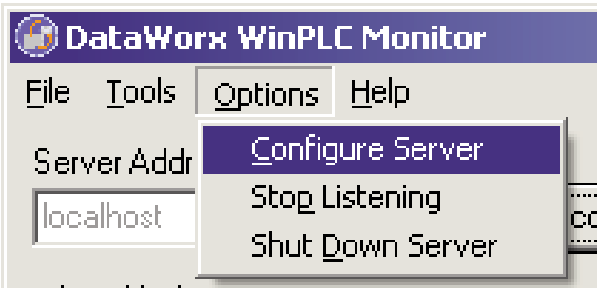
Archived Files Directory: This is the location where the Server will save the archived .zip files

Delete Files Cycle: Allows you to delete the data files every month or year

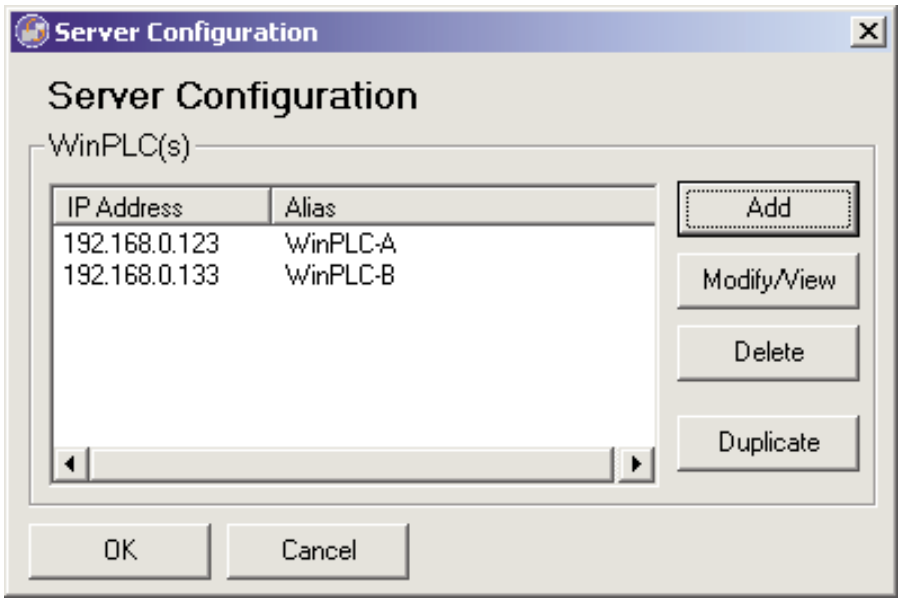
5.2.3 Modifying a WinPLC

Go to menu

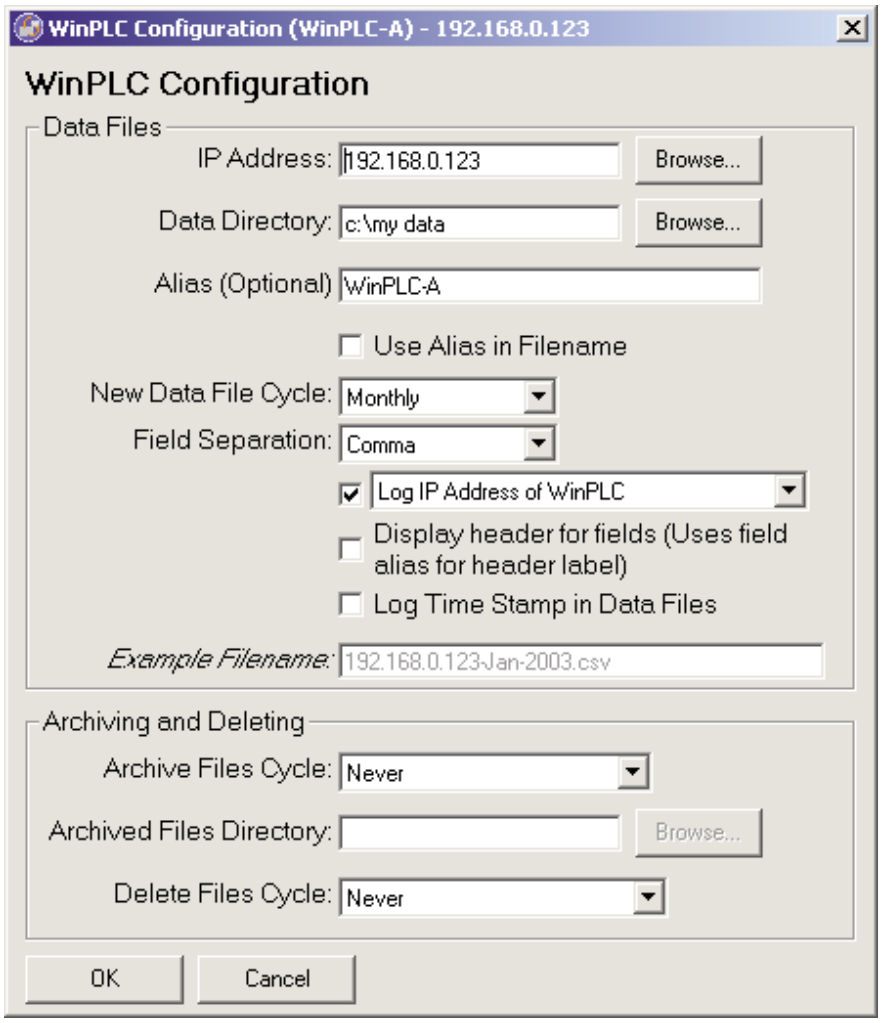
OPTIONS -> CONFIGURE SERVER



You will then see a list of WinPLCs, if any, configured for the Server:



Click the **MODIFY/VIEW** button and you will see a WinPLC Configuration screen, which shows the WinPLC data, as shown in the example below.

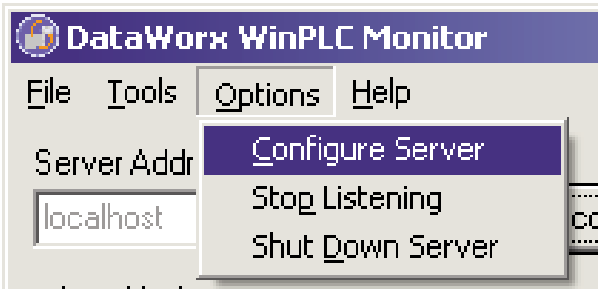


Once you are finished making changes, click **OK** to save or **CANCEL** to discard changes.

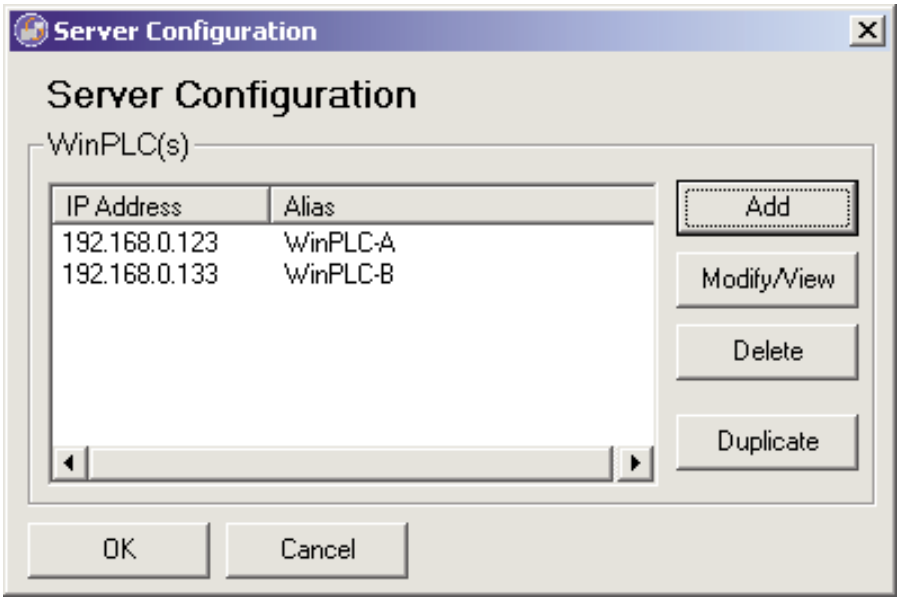
5.2.4 Deleting

Go to menu

OPTIONS -> CONFIGURE SERVER



You will then see a list of WinPLCs, if any, configured for the Server.

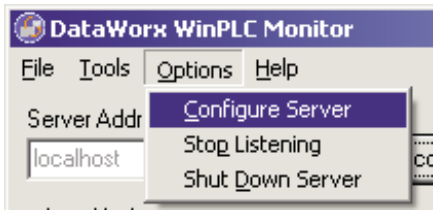


Select the WinPLC you wish to delete and click the **DELETE** button.

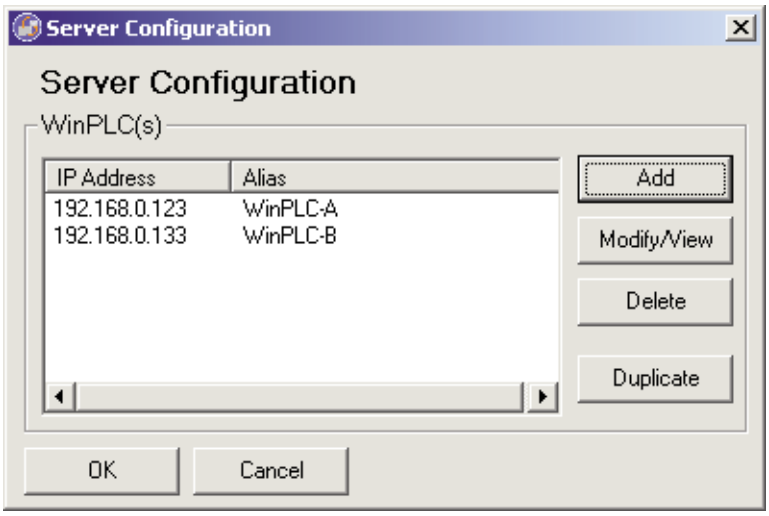
5.2.5 Duplicating

A great time-saving feature for those who have many WinPLCs with similar configurations. You can create one listing and make copies of it. Go to menu

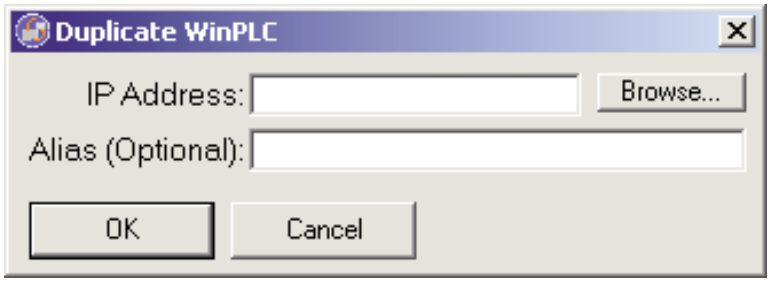
OPTIONS -> CONFIGURE SERVER



You will then see a list of WinPLCs, if any, configured for the Server.



Click the **DUPLICATE** button and you will see the following window asking for the Alias and IP Address. Enter the necessary information and click **OK** to save changes, otherwise click **CANCEL** to discard changes.



5.2.6Hiding

Hiding is a convenient feature that temporarily places the Monitor out of view for later access. To hide the Monitor, go to menu

FILE -> HIDE

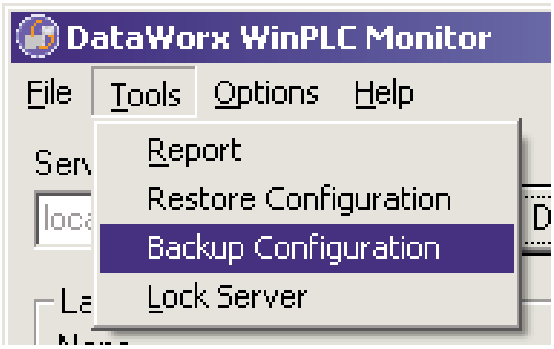
The DataWorx WinPLC icon appears on the task bar.

The application can then be restored by right-clicking on the icon and selecting **RESTORE**.

5.2.7 Backing up and Restoring

Backing up the configuration allows you to safely restore all your changes in the event of a hardware failure. To backup configuration, go to menu:

OPTIONS -> BACKUP CONFIGURATION



You will be prompted for a filename. Name the file and click **SAVE**. Make a note of the filename and its location, in case it is needed for a future restoration.

To restore the configuration in the event of a hardware failure, go to menu

OPTIONS -> RESTORE CONFIGURATION

You will be prompted for a filename. Enter the filename you chose during the backup process. Click **OPEN**, and the Server/Monitor should be restored to their original states.

5.2.8 Listening

The DataWorx WinPLC Server maintains "listening" and "not listening" states for WinPLC input. You can change the listening state from the Monitor as well as from the Server program.

Changing the listening state can be useful when in the process of installing new WinPLCs or changing the configuration, because it will prevent the Server from receiving irrelevant data.

To begin receiving data, click the **START LISTENING** button. (Note: If the text on the button reads "Stop Listening," the Server is already listening and receiving WinPLC data. The status of the Server's listening state should be displayed next to the command button.)

When the Server enters its listening state successfully, a "Listening to WinPLCs" status should be displayed and the text on the command button should read "Stop Listening."

To cause the Server to stop listening, click the **STOP LISTENING** button.

When listening stops, a "Not listening to WinPLCs" status will be displayed and the text on the command button will change back to "Start Listening."

5.2.9 Locking / Unlocking

A useful feature for preventing unwanted WinPLC configurations and Server listen state changes.

To lock the Server configuration, click the **LOCK** button.

A screen will appear asking for the lock code. Enter the lock code and click **OK**. Make note of the lock code you have chosen so Server may be unlocked when necessary.

If the Server has been successfully locked, a "Locked" status will be displayed.

Warning: If you forget/lose the lock code you will NOT be able to unlock the Server

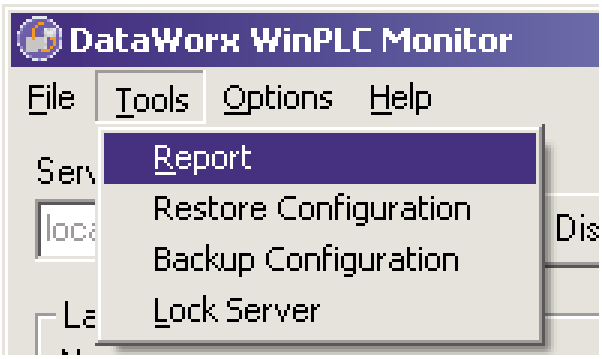
To unlock the Server, click the **UNLOCK** button, enter the lock code, and click **OK**.

5.2.10 Reporting

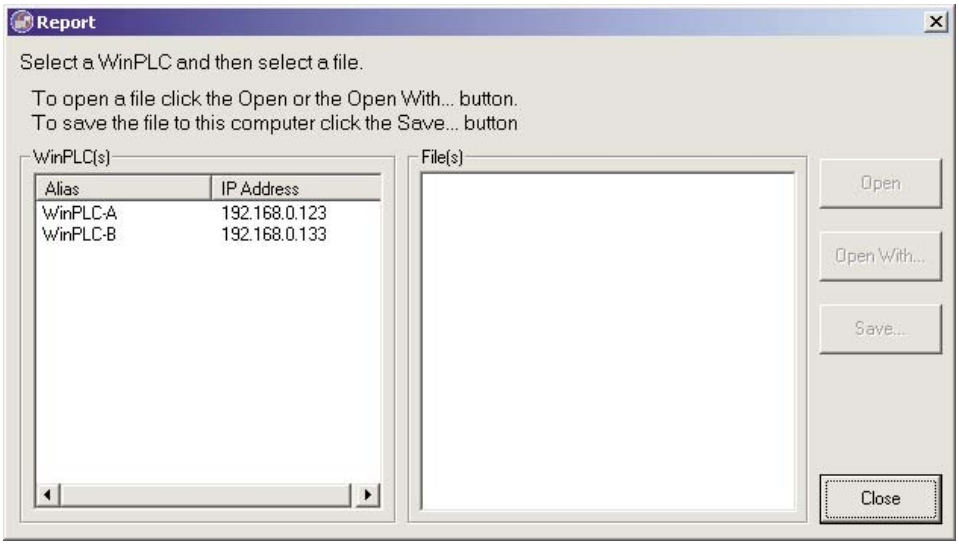
One of the most useful features of the Monitor, reporting allows you to view or save files generated by the Server over a network without having physical access to the Server.

To view the report, go to menu:

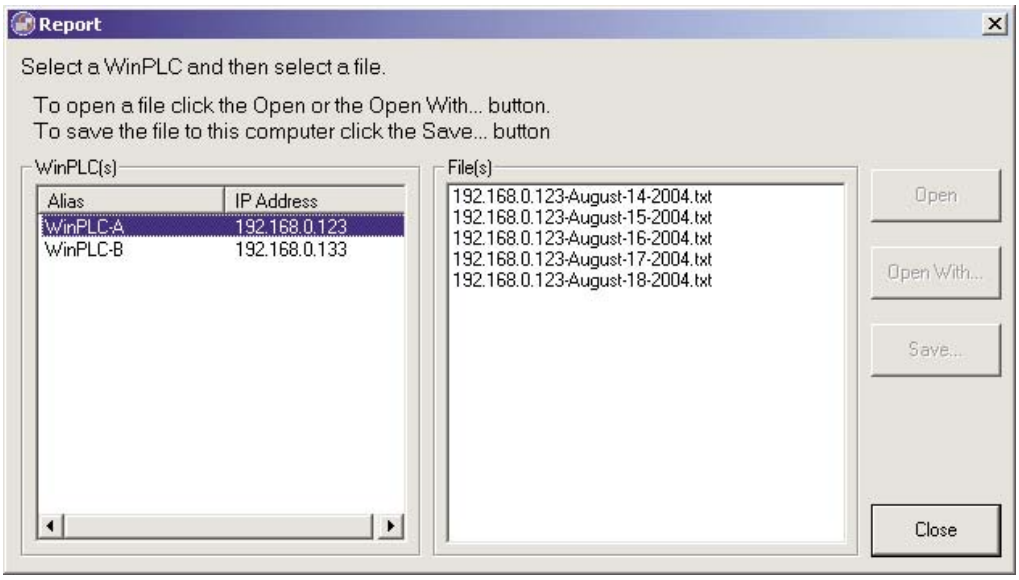
TOOLS -> REPORT



You should see a Report screen like the one shown here.



From the list on the left side of the screen, select the WinPLC from which you wish to view data.



Next, select a file from the File(s) list and click either the **OPEN**, **OPEN WITH** or **SAVE** button.

Note the difference between these three options:

OPEN uses the default application to open the file.

OPEN WITH prompts you for the application to open the file with Notepad, Excel, or a program of your choice.

SAVE allows you to place the file in a specified location on your computer or storage device, so it can be opened at a later time.

Note: *Do not open the* ***current*** *log file outside of DataWorx. If you open the current log file outside of DataWorx, (Example: opening the log file from Excel) it will lock the file and not allow DataWorx to store data to this log file.*

6.0 Troubleshooting

Cannot connect to Server

Double check the Server Address - it might be incorrect

Verify that the Server and Monitor computers are online and can access network facilities such as e-mail and Internet

Ensure that cables are connected

Verify that computers can access Internet by going to a test web site such as www.yahoo.com

Make sure the PC has a static IP address.

Server is running but not receiving WinPLC data

Verify that the Server is running, not paused

If Server is paused, click the **RUN** button

If Server is running, verify that the PLC is correctly configured to send the specified data to the Server

WinPLC is sending data, but DataWorx is not receiving updates

Verify that Server is in "listening" mode. The Server status should state, “Listening to WinPLC(s)”

If not in listening mode, click the **START LISTENING** button

Verify that the WinPLC is configured to send data to the Server

Go to Server Configuration and select the WinPLC in question

Click the **CONFIGURE PLC MEMORY** button and enter the WX start location and the module ID, if blank

Click **AUTOCONFIGURE** or manually enter the values as they are displayed

Click **OK** and confirm that no error messages are displayed