



Wonderware

Application Note

Wonderware's Server for Modicon Modbus

About this Application Note

This application note is designed to help configure Wonderware's Server for Modicon Modbus. It describes how to use Wonderware's Server for Modicon Modbus to communicate with Allan-Bradley PLC's, SLC's, and MicroLogix devices through Equustek's DL3500 and DL4500 products.

This Application Note assumes the following:

- Wonderware's Server for Modicon Modbus has been installed.
- You have an Equustek DL product that communicates using Modbus on one of its channels and are familiar with using the DL32 configuration software for mapping addresses between Modicon Modbus and Allan-Bradley's DF1 / DH+ / DH-485.
- You have installed the DL32 configuration software that comes with your Equustek DL product.
- You have reasonable knowledge using a PLC, SLC, or other similar devices as well as the software used for program them.

1 Setting up your DL product

Before setting up Wonderware's Modbus Server software, it is important that your DL product has been properly configured. The following is a quick guide in helping you set up your DL product as a Modbus Slave. For a more detailed setup, please refer to the *Modbus Slave* application note located on your Equustek setup CD. This document can also be found on Equustek's website www.Equustek.com. *If you have already setup your DL product and have mapped the addresses you need, please proceed to Section 2, Configuring Wonderware's Server for Modicon Modbus.*

1.1 Modbus Slave Parameters

The following section will show how to map Modicon's *Modbus registers 40001 to 40010* to Allan-Bradley's *data file N7:0 to N7:9* in your DL product. The procedure shown is for communicating with an Allan-Bradley PLC-5 on a DH+ or DH-485 network.

1. Connect your Equustek DL product to the PC that has the DL32 configuration software installed on it using a RS-232 null-modem cable. *Refer to your DL products user manual for more information.*
2. Open the DL32 configuration software and choose the product that you have purchased. Choose the COM port that is connected to your DL product and click on the **Configure/Open File** button. Now choose the settings that you want to use for your DL product and then click on **Set/Change Modbus Parameters**.

Note: Wonderware's Modbus Server only allows the following BAUD rates: 300, 1200, 2400, 4800, 9600, and 19200.

3. To map Modicon *Modbus registers 40001 to 40010* to Allan-Bradley's *data file N7:0 to N7:9*, enter the following data as shown in the window below.

MODBUS PROTOCOL PARAMETER CONFIGURATION

MODBUS DEVICE TYPE
 SLAVE MASTER

MODBUS PROTOCOL
 RTU ASCII

MODBUS SERIAL OPERATION
 RS232/RS422 RS485 (2 Wire)

MODBUS SLAVE PARAMETERS

A-B PLC TYPE
 PLC 5 PLC 3 SLC/MicroLogix/CompactLogix

BROADCAST MESSAGE
 NO YES

MODBUS TO A-B ADDRESS TRANSLATION TABLE - SLOTS 0-7

| SLOT # | MODICON START Register | MODICON END Register | A-B START File | | Floating Point |
|--------|------------------------|----------------------|----------------|------|--------------------------|
| | XXXXX | XXXXX | FILE | WORD | |
| 0 | 40001 | 40010 | 7 | 0 | <input type="checkbox"/> |
| 1 | | | | | <input type="checkbox"/> |
| 2 | | | | | <input type="checkbox"/> |
| 3 | | | | | <input type="checkbox"/> |
| 4 | | | | | <input type="checkbox"/> |
| 5 | | | | | <input type="checkbox"/> |
| 6 | | | | | <input type="checkbox"/> |
| 7 | | | | | <input type="checkbox"/> |

Reset Slave Device Parameters **Accept Current Parameters**

4. After you have entered the following data, click **Accept Current Parameters**. After you accept the parameters, the previous window should appear again. Click **Downloading Parameters** and follow the instructions. Restart you Equustek DL product and continue on to the next section.

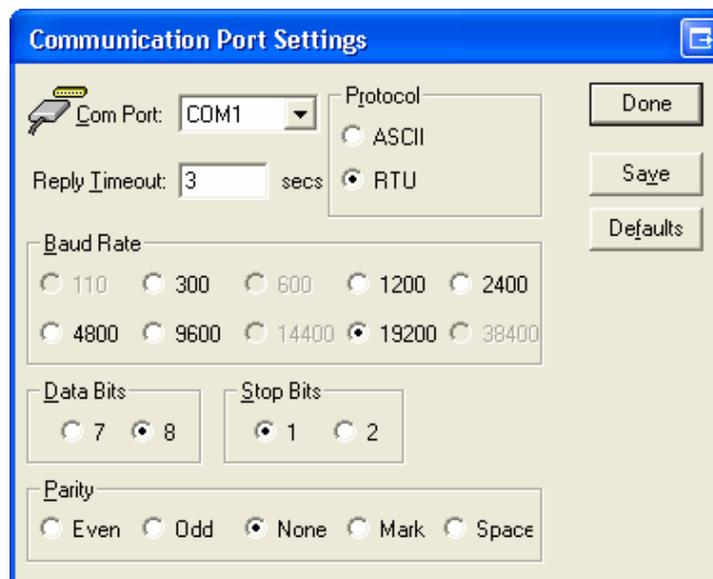
2 Configuring Wonderware's Server for Modicon Modbus

The following sections are provided to help configure Wonderware's Server for Modicon Modbus for use with your purchased Equustek DL product. The configuration of this software is very similar to that of *Wonderware's ABKF2 I/O Server*.

2.1 Setting up the Modicon Modbus Server

This section is designed to help with configuring the COM Port Settings and the Topic Definitions required for using Wonderware's Server for Modicon Modbus. Use the following steps to assist in choosing the right settings for connecting to your Equustek DL product.

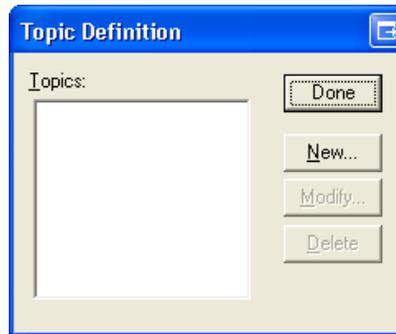
1. Open Wonderware's Server for Modicon Modbus. From the top menu bar, select **Configure** and then choose **Com Port Settings**. The *Communication Port Settings* window should appear as shown below.



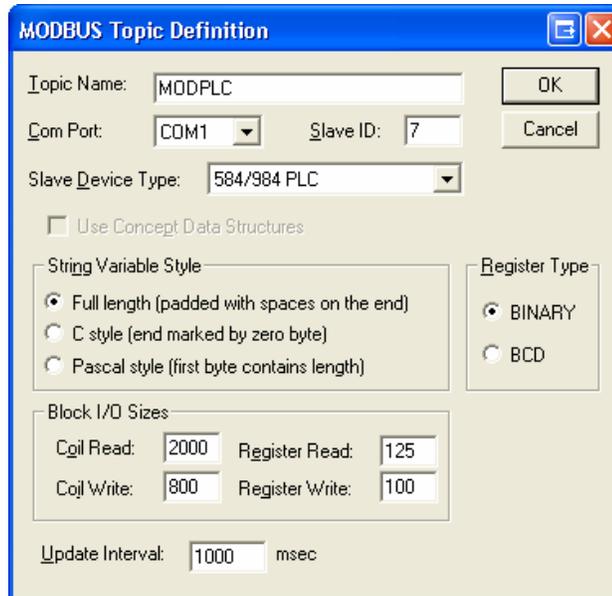
2. Choose the settings that you want to use to communicate with your DL product. It is important that the settings chosen match the settings that have been configured into your DL product using the DL32 configuration software. Choose the COM port that your DL product

is attached to. If your unit is a DL4500, choose the virtual COM port that was set up using the ComPort Redirector. *For more information about the ComPort Redirector, please refer to the DL4500 user manual.*

3. After the COM port settings are chosen, click **Save** and then **Done**. Once this is done, the *Communication Port Settings* window should close and the main window should be active again.
4. From the top menu bar, select **Configure** and then choose **Topic Definition**. The *Topic Definition* window should now appear as shown below.



5. Click **New** to create a new topic. The *Topic Definition* window should appear as shown below.



6. Enter the Topic Name (for example, *MODPLC*) for the topic you want to create and choose the appropriate COM port. The Slave ID is the node address of the PLC on the DH+ network that you want to communicate with. When finished, click **OK** to close the window. The

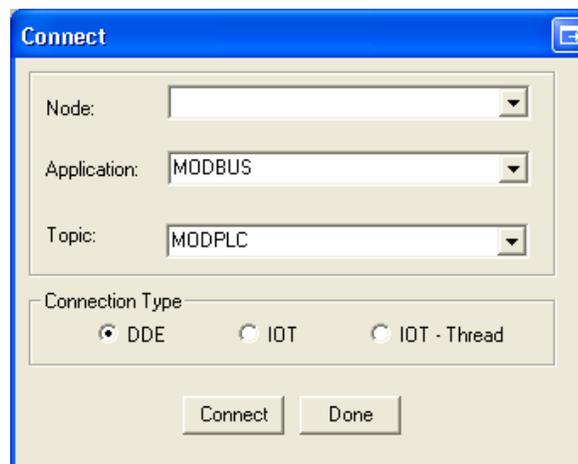
Topic that was just created should now appear in the list on the left side of the *Topic Definition* window.

7. Click **Done** to close the window. Wonderware's Server for Modicon Modbus is now configured. Continue to section 2.2 for help on configuring the Wonderware Client Software *WWClient*.

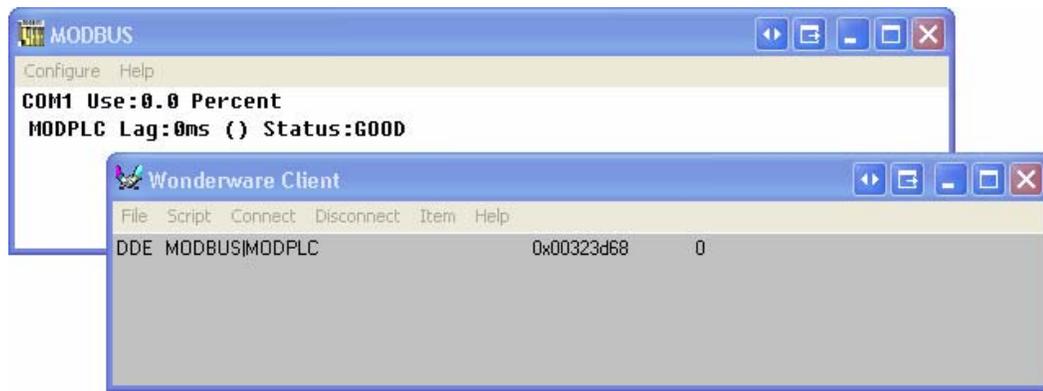
2.2 Setting up the Wonderware Client software

This section is to help setup the Wonder Client Software *WWClient* to communicate with Wonderware's Server for Modicon Modbus. Open the *WWClient* before following the steps below.

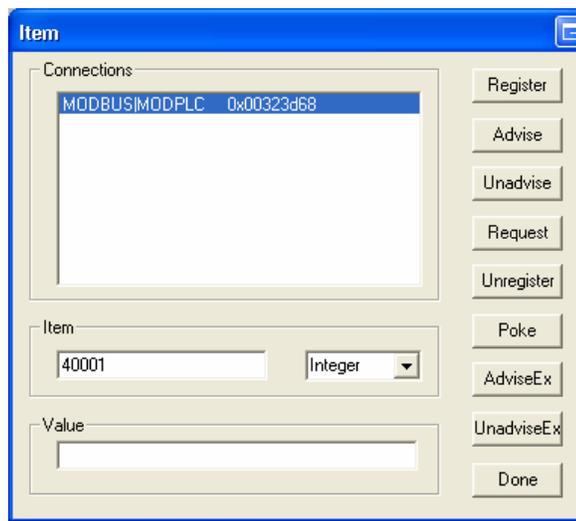
1. When the *WWClient* opens, the Wonderware *Logger* program opens as well. Minimize the Wonderware *Logger*, and click on the *WWClient* window to make it active.
2. From the top menu bar, click on **Connect**. The **Connect** window should appear as shown below.



3. On the **Connect** window, enter the following data. For the *Node*, make sure there is no value in the box, for the *Application*, enter **MODBUS**, for the *Topic*, enter the topic that was created in Wonderware's Server for Modicon Modbus (for example, *MODPLC*), and for the *Connection Type*, select **DDE**. After these settings are entered, click **Connect**. You should see the following in Wonderware's Modbus Server window and the *WWClient* window if you have connected successfully.



4. To add an item, select Item from the top menu bar. The following window should appear.



5. In the Item section, choose the item that you would like to add (for example, 40001) and its type (integer, discrete, etc.).

6. To add the item, click **Register** and then click **Advise**. The following should then appear in Wonderware's Modbus Server window and the WWClient window.

