

# STRIDE MODBUS GATEWAY OPERATING MODE EXAMPLES

---



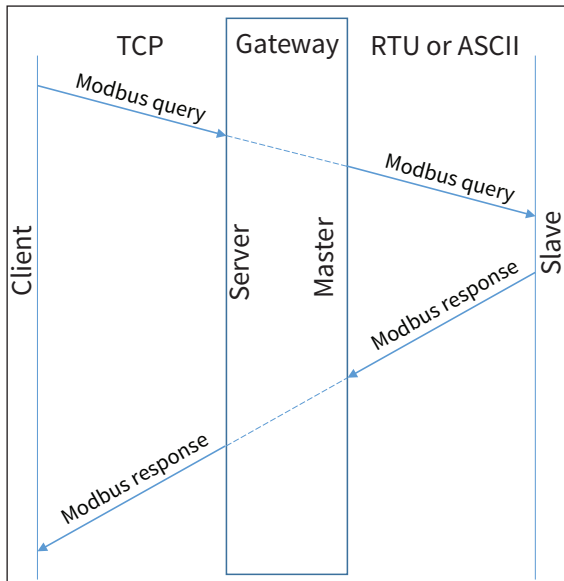
## APPENDIX

# B

### IN THIS CHAPTER...

<i>Example 1:</i> TRANSPARENT Mode, with Modbus TCP Master (Client) Devices to Modbus RTU/ASCII Slave Devices . . . . .	.B-2
<i>Example 2:</i> TRANSPARENT Mode, with Modbus RTU/ASCII Master Devices to Modbus TCP Slave (Server) Devices . . . . .	.B-6
<i>Example 3:</i> AGENT Mode, with Modbus TCP Master (Client) Devices to Modbus RTU/ASCII Slave Devices . . . . .	.B-11
<i>Example 4:</i> AGENT Mode, with Modbus RTU/ASCII Master Devices to Modbus TCP Slave (Server) Devices . . . . .	.B-16

**EXAMPLE 1:  
TRANSPARENT MODE, WITH MODBUS TCP MASTER (CLIENT) DEVICES TO  
MODBUS RTU/ASCII SLAVE DEVICES**



Provide power to the *STRIDE* Modbus Gateway, connect to an Ethernet port and log on to the gateway configuration interface.

Our example assumes default values in the gateway. Click Load Factory Default.

Set the operation mode to Transparent Mode.

Browse to “Operating Settings” to select S1 and set its parameters, as shown in Figure 1.

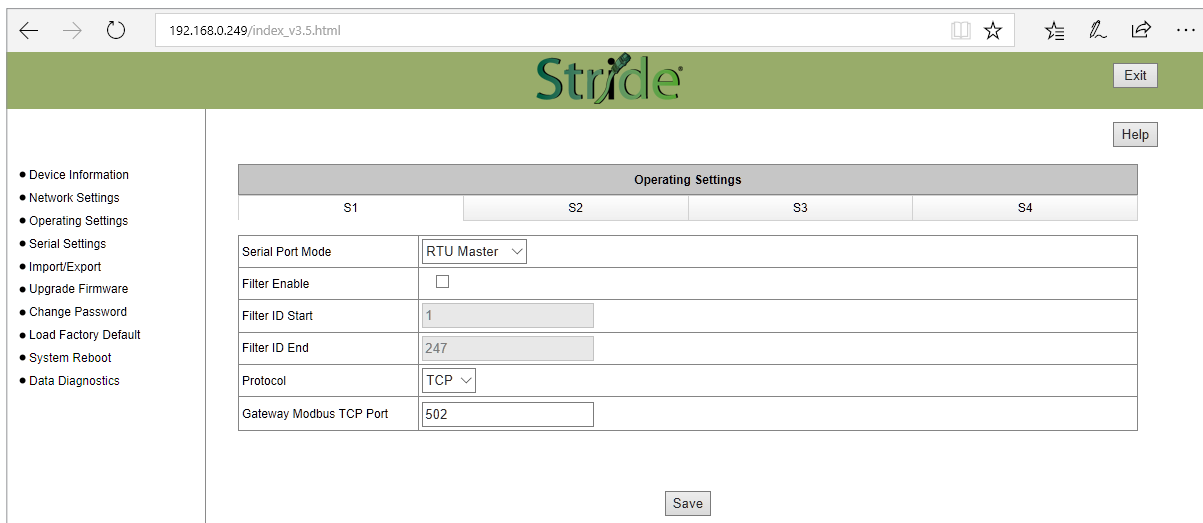


Figure 1. *STRIDE* Modbus Operating Settings.

Click Save.

Then browse to “Serial Settings” to configure serial port S1 as shown in Figure 2.

Click the Save button to save and apply the changes.

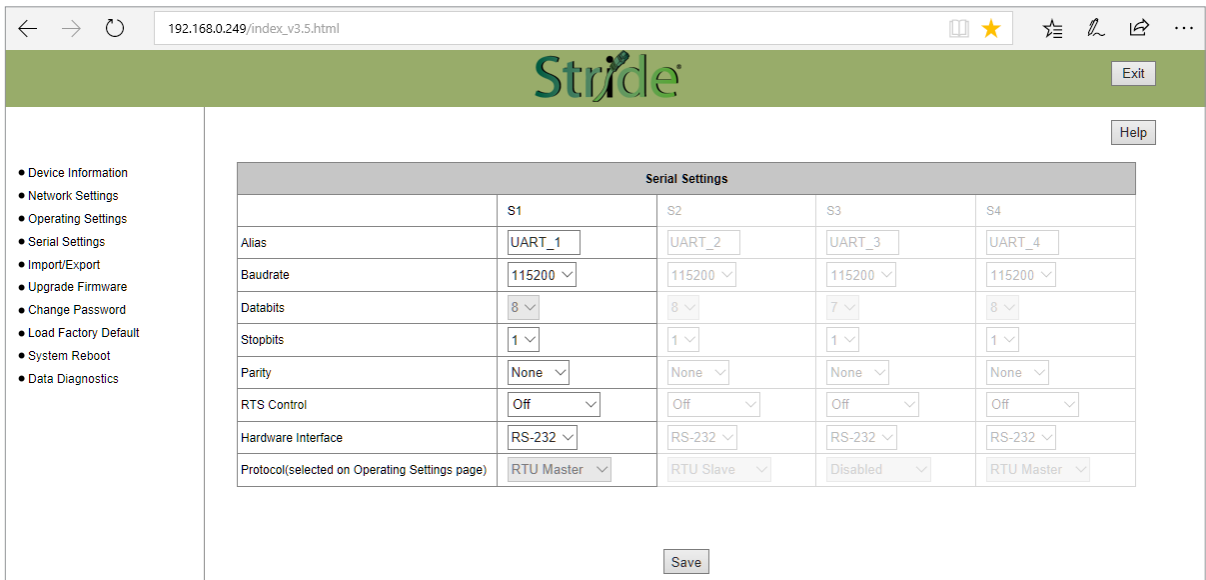


Figure 2. STRIDE Modbus Serial Settings.

Connect the STRIDE Modbus Gateway serial port S1 to your PC’s serial port (possibly requiring a USB to serial converter), and run Modbus Slave software on the PC. The Modbus Slave parameters must be configured as shown in Figure 3.

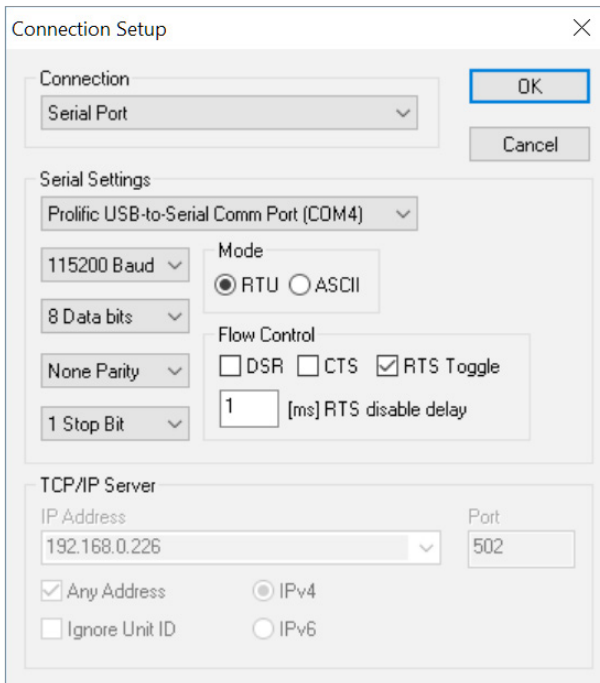


Figure 3. Modbus Slave Configuration.

Click OK button (shown in Figure 3) to return to the data window shown in Figure 4.

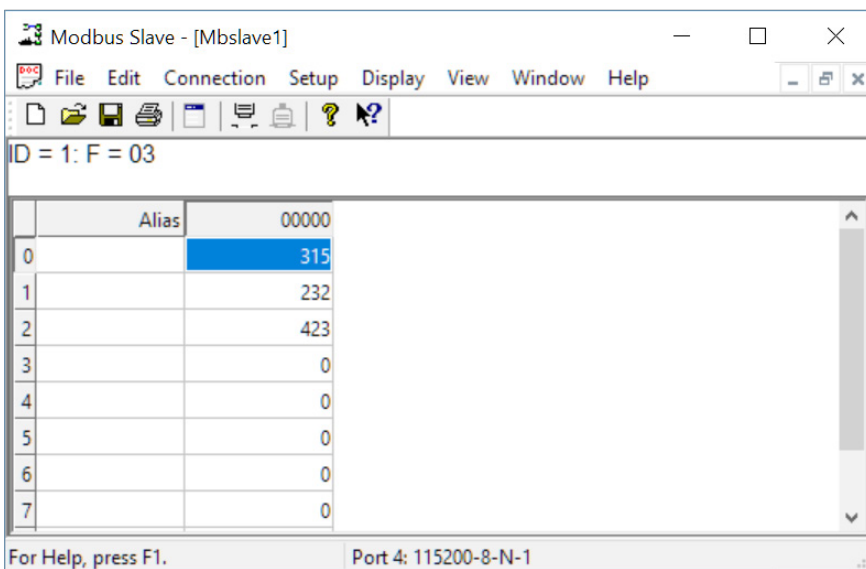


Figure 4. Modbus Slave.

Open Modbus Poll on your PC and set the parameters as shown in Figure 5.

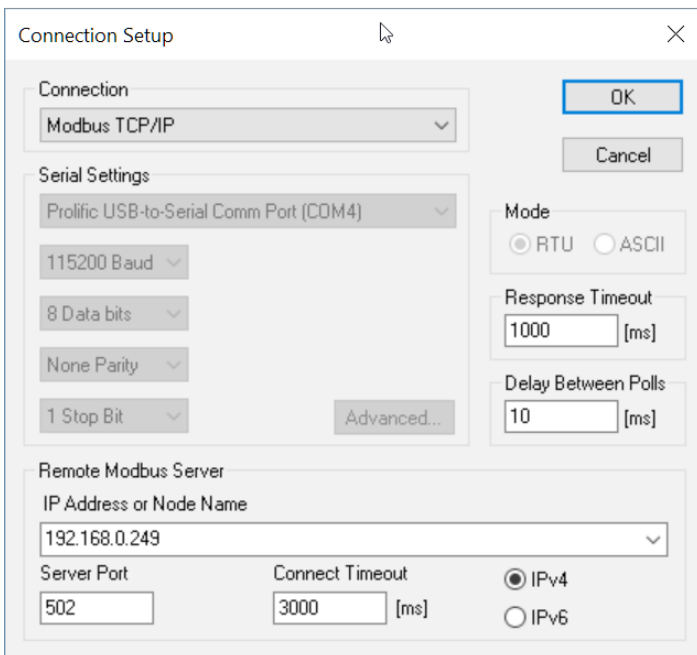


Figure 5. Modbus Poll Configuration.

Click OK button (shown in Figure 5) to return to the data window shown in Figure 6.

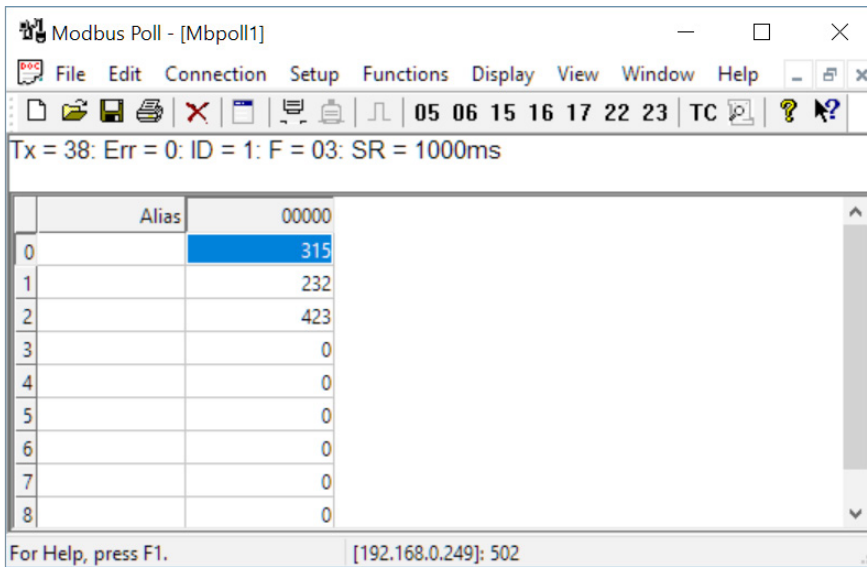


Figure 6. Modbus Poll.

Now let's experiment with our master reading data from our slave. Enter data in address 1 and address 2 in Modbus Slave and watch as Modbus Poll reads that data, as shown in Figure 7.

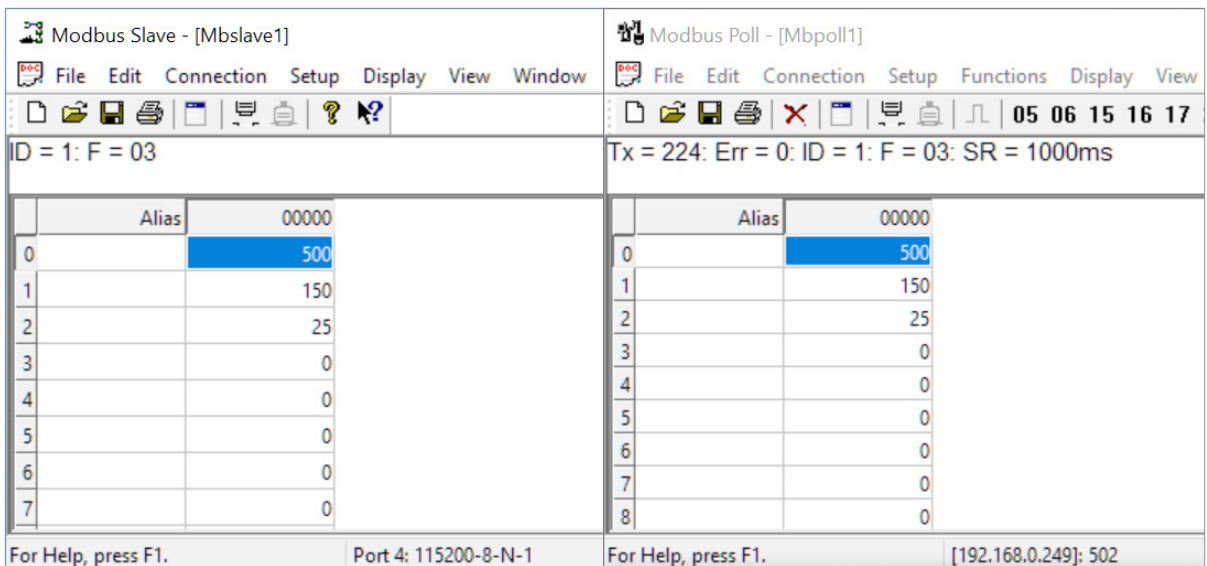
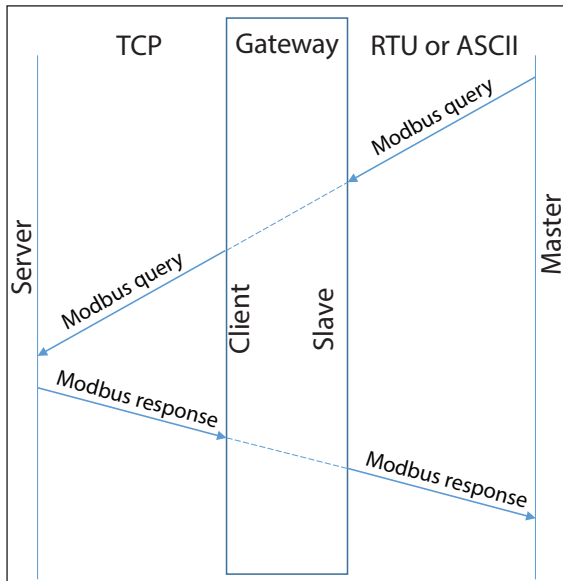


Figure 7. Data Test Result.

**EXAMPLE 2:  
TRANSPARENT MODE, WITH MODBUS RTU/ASCII MASTER DEVICES TO  
MODBUS TCP SLAVE (SERVER) DEVICES**



Provide power to the *STRIDE* Modbus Gateway, connect to an Ethernet port and log on to the gateway configuration interface.

Our example assumes default values in the gateway. Click Load Factory Default.

Set the operation mode to Transparent Mode. Browse to “Operating Settings” to configure serial port S1 as shown in Figure 9. Note that the Remote IP Address is your PC’s IP address, since the PC (Modbus Slave) is the slave device for this example.

Click Save.

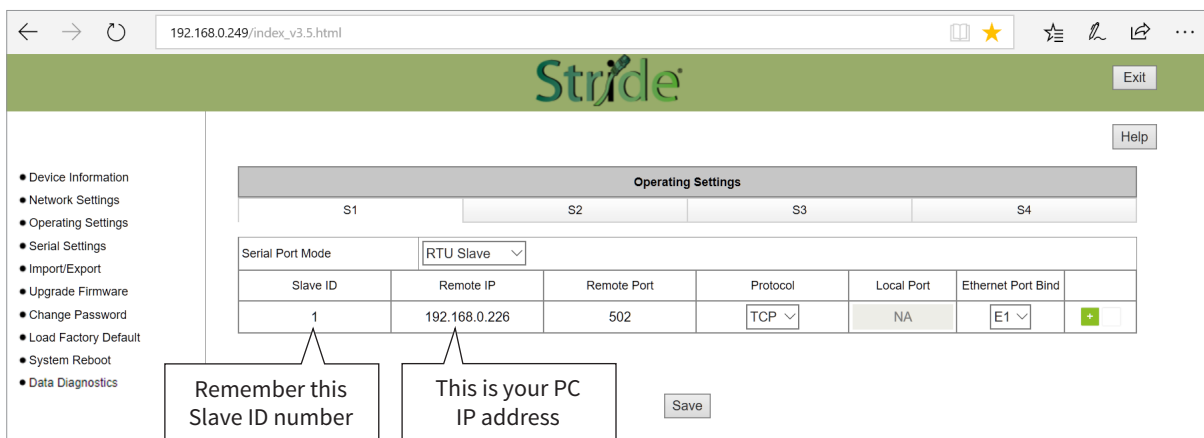


Figure 9. *STRIDE* Modbus Gateway Serial Settings.

Browse to *STRIDE* Modbus “Serial Settings” to select S1 and set its parameters, as shown in Figure 10. Click Save to save and apply the changes.



Figure 10. **STRIDE** Modbus Gateway Serial Settings.

Connect the **STRIDE** Modbus Gateway serial port S1 to your PC’s serial port (possibly requiring a USB to serial converter), and run Modbus Poll software on the PC. The Modbus Poll parameters must be configured as shown in Figure 11.

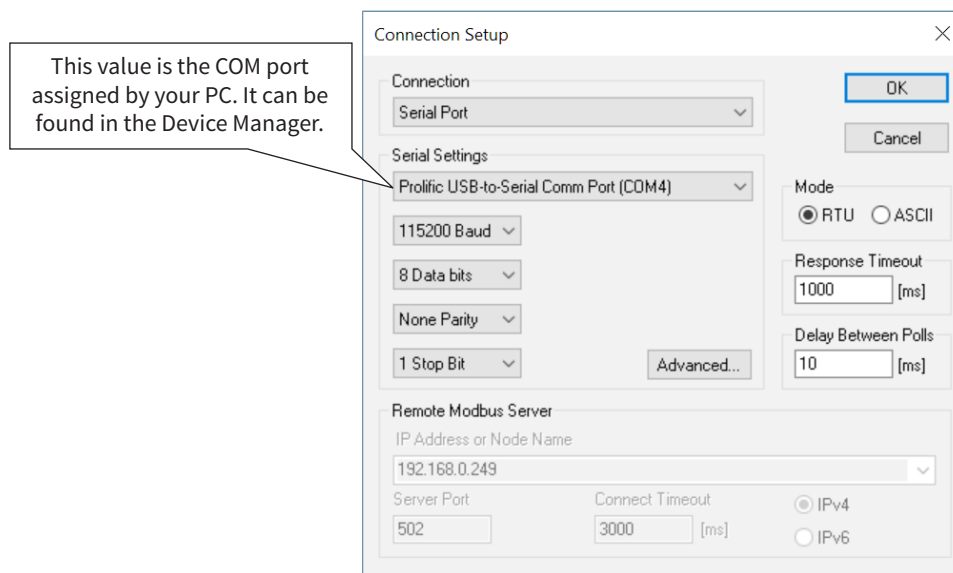


Figure 11. Modbus Poll Configuration.

Click OK in Figure 11 to return to the Modbus Poll main window.

Select Setup - Read/Write Definition.

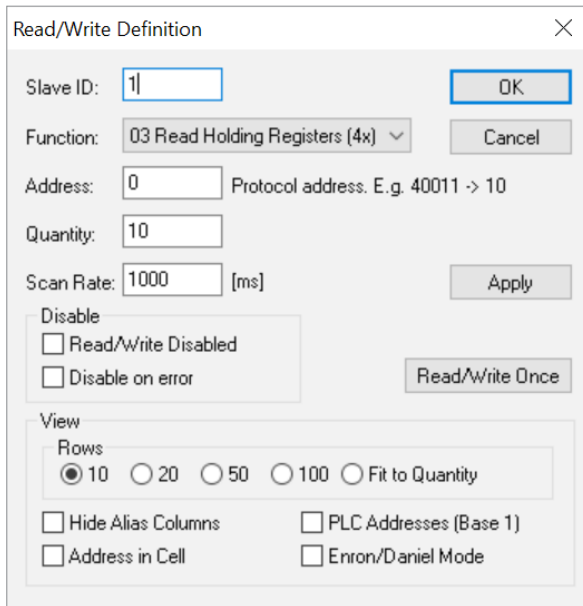


Figure 12. Modbus Poll Read/Write Definition.

Enter the Slave ID of the Gateway as shown in Figure 12. This is the Slave ID you assigned to the Gateway in its “Operating Settings” configuration.

Click OK shown in Figure 12 to return to the application interface shown in Figure 13.

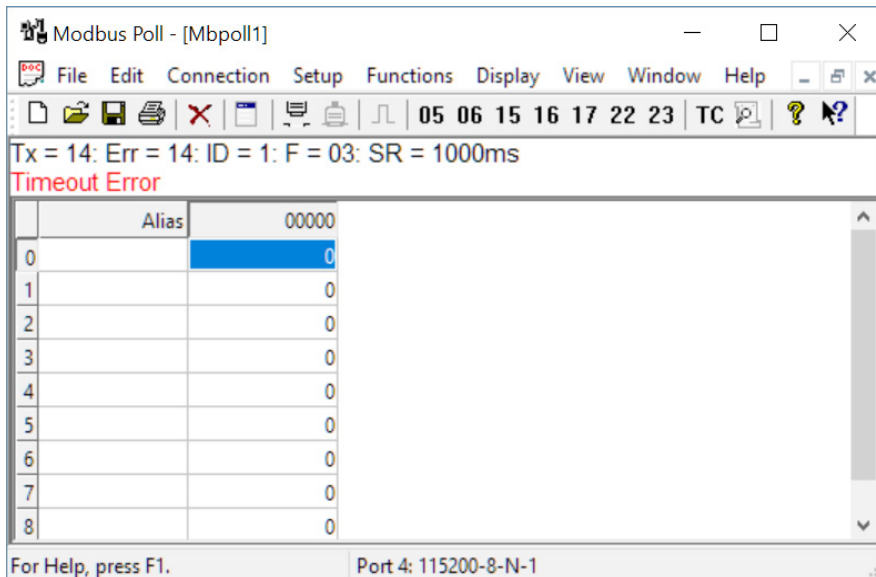


Figure 13. Modbus Poll Initial Connection.

The Modbus Poll software will indicate a Timeout Error until the Modbus Slave software is connected in the next step.



Run the Modbus Slave software on your PC and set the parameters shown in Figure 14.

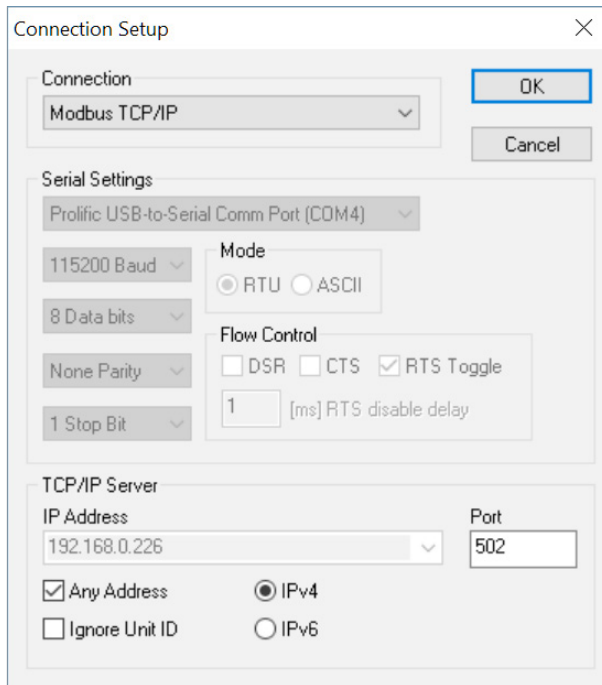


Figure 14. Modbus Slave Configuration.

Click OK shown in Figure 14 to return to the Modbus Slave main window.

Select Setup - Slave Definition.

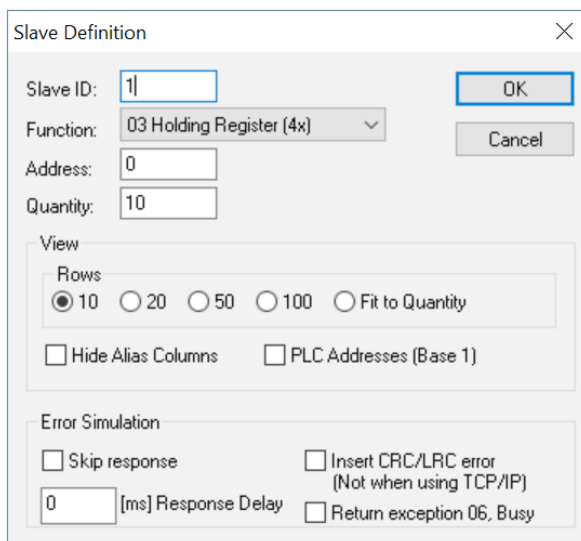


Figure 15. Modbus Poll Read/Write Definition.

Enter the Slave ID as shown in Figure 15. This is the Slave ID you assigned to the Modbus TCP Client in the “Operating Settings” configuration.

Click OK shown in Figure 15 to return to the application interface shown in Figure 16.

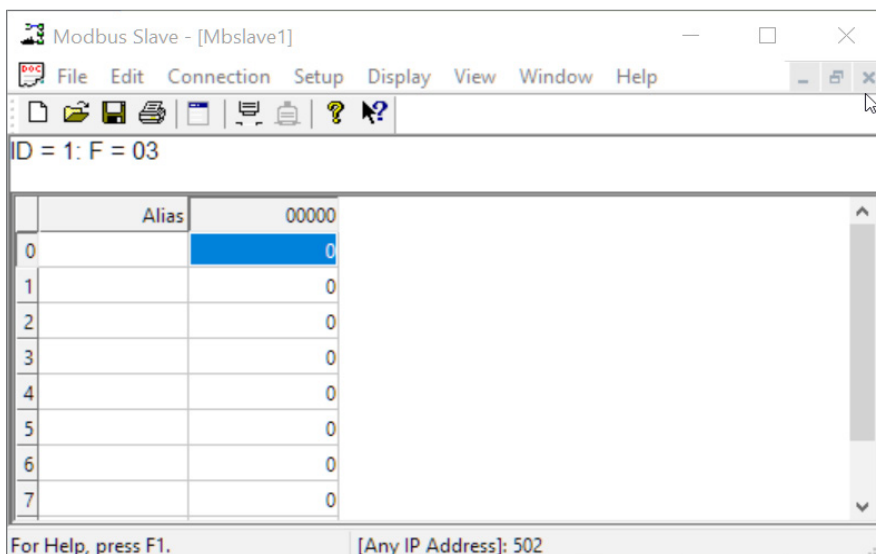


Figure 16. Modbus Slave.

Now let's experiment with our master reading data from our slave. Enter data in address 2 and address 3 in Modbus Slave and watch as Modbus Poll reads that data, as shown in Figure 17.

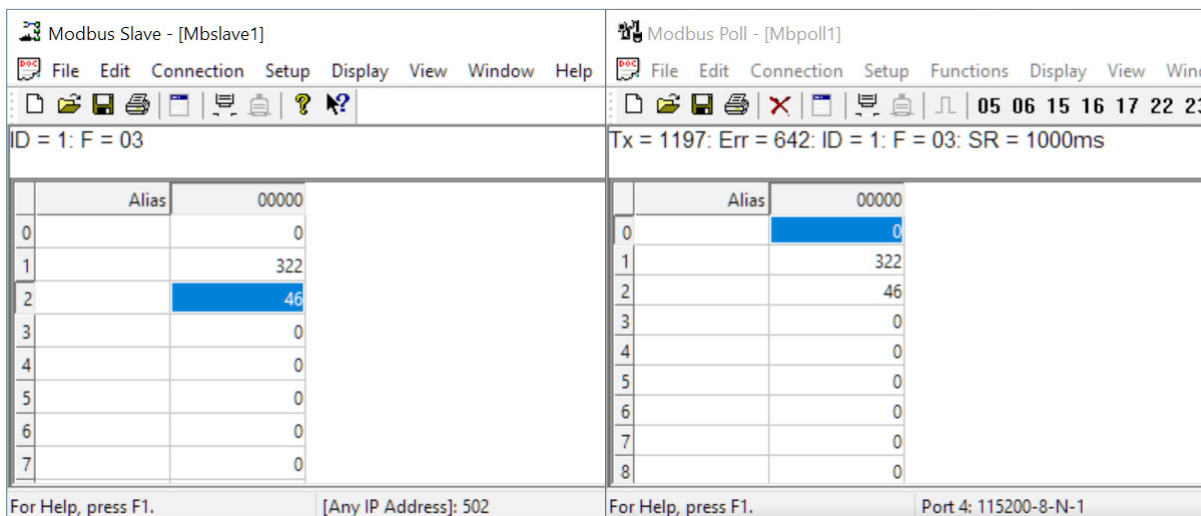
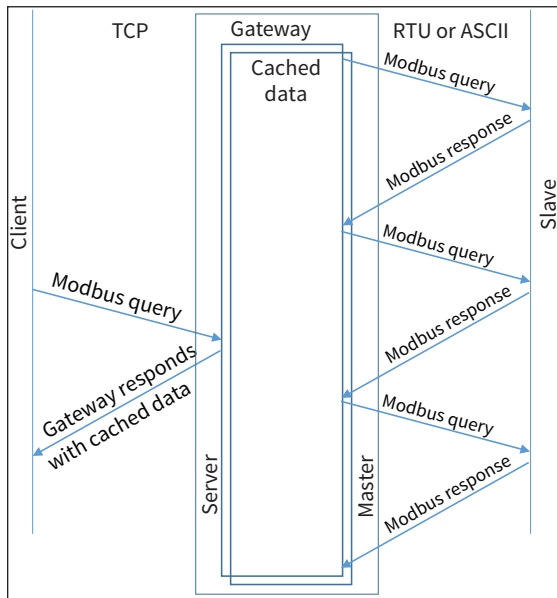


Figure 17. Data Test Result.

**EXAMPLE 3:  
AGENT MODE, WITH MODBUS TCP MASTER (CLIENT) DEVICES TO  
MODBUS RTU/ASCII SLAVE DEVICES**



Provide power to the STRIDE Modbus Gateway, connect to an Ethernet port and log on to the gateway configuration interface.

Our example assumes default values in the gateway. Click Load Factory Default.

Set the operation mode to Agent Mode. Browse to “Operating Settings” to configure serial port S1 as shown in Figure 18. Click Save.

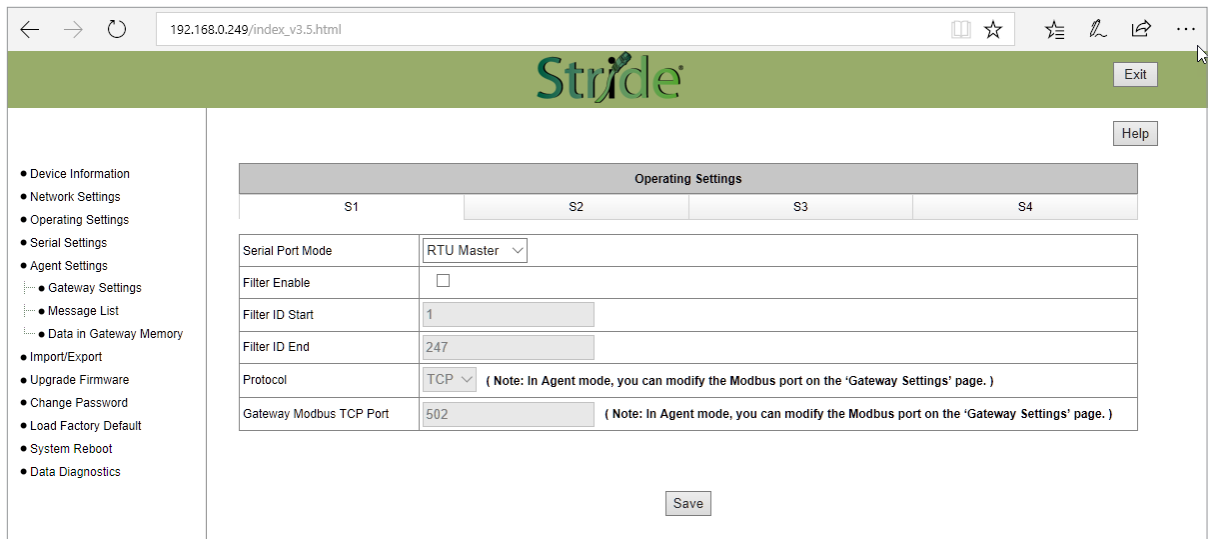


Figure 18. STRIDE Modbus Operating Settings.

Browse to “Serial Settings” to select S1 and set its parameters, as shown in Figure 19.

Click Save to save the changes.

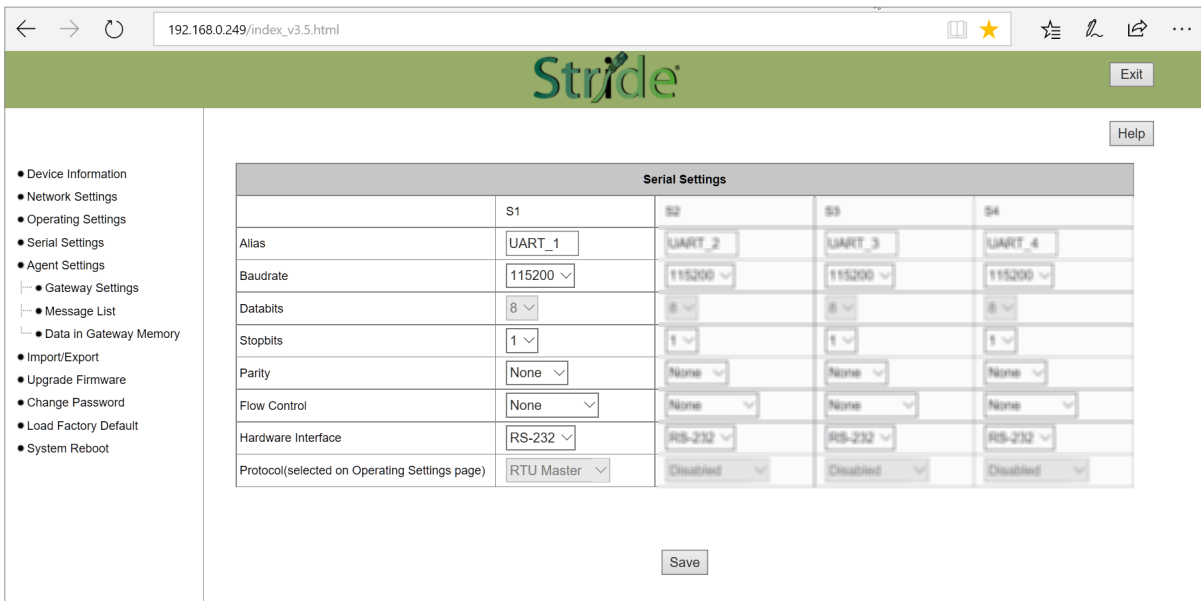


Figure 19. Serial Settings Configuration.

Browse to “Gateway Settings” and configure the parameters as shown in Figure 20.

Click Save to save and apply the changes.

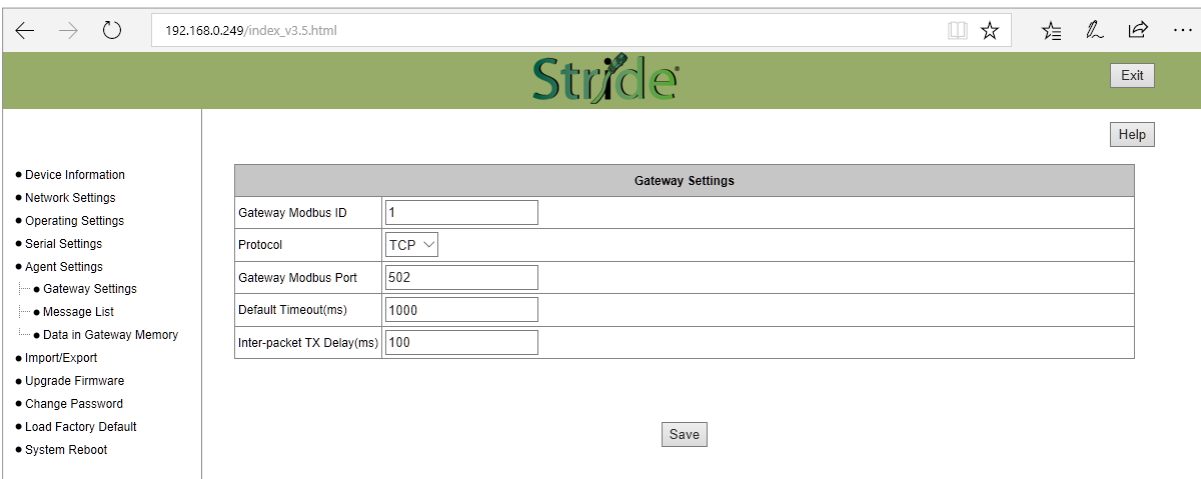


Figure 20. STRIDE Modbus Gateway Operating Settings.

Browse to Message List-Add Message to add a message, shown in Figure 21.

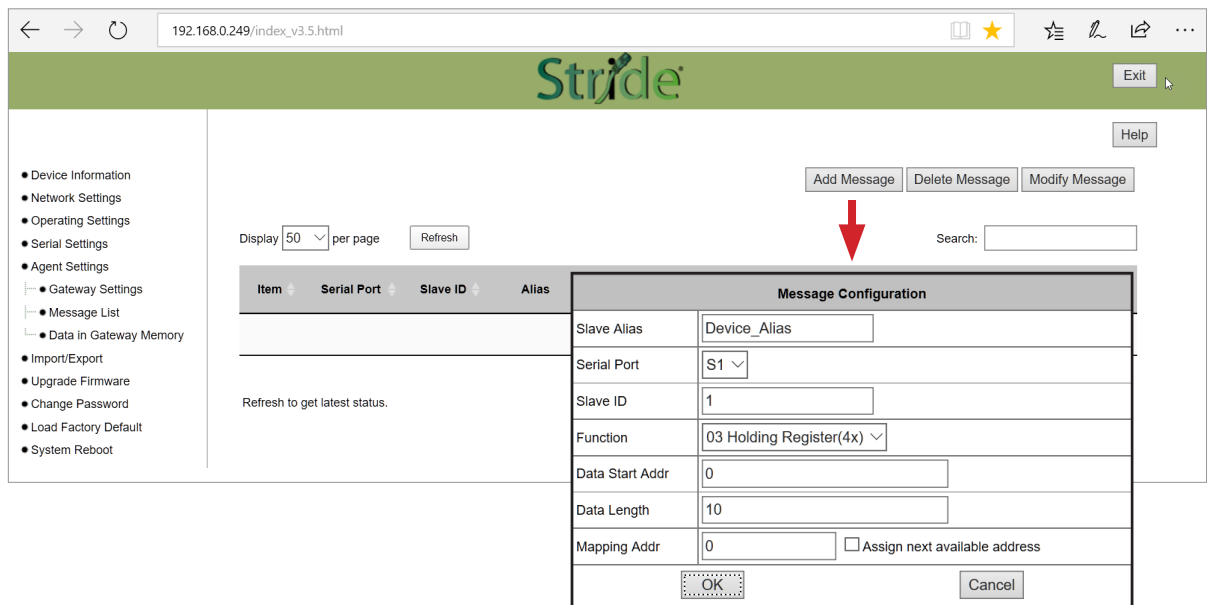


Figure 21. Add Message.

Connect the STRIDE Modbus Gateway’s serial port S1 to PC’s serial port (possibly requiring a USB to serial converter), and run the Modbus Slave software on PC. The Modbus Slave parameters must be configured as shown in Figure 22.

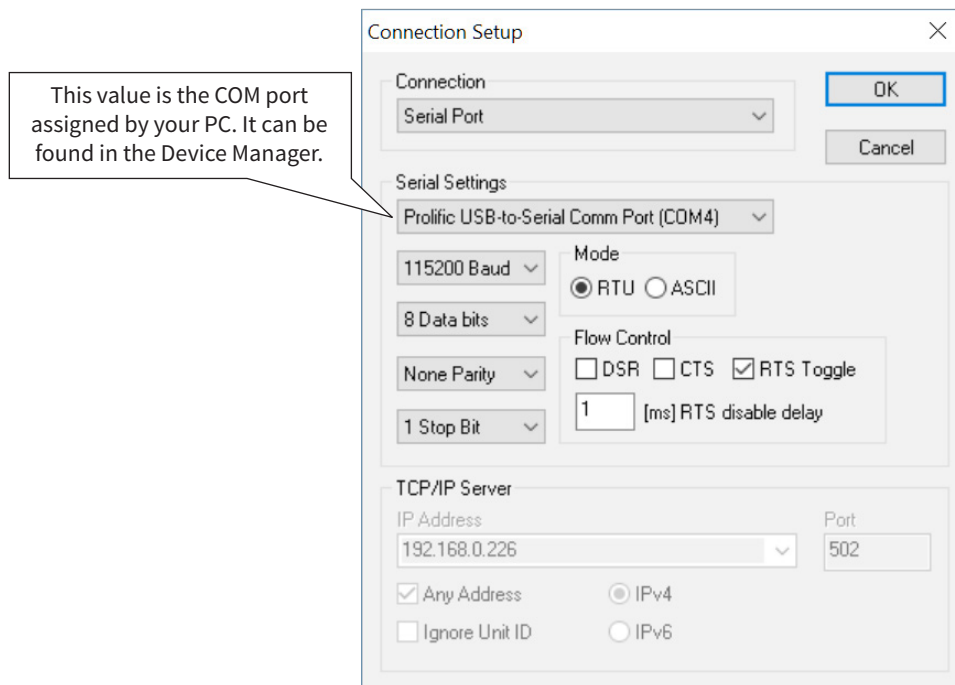


Figure 22. Modbus Slave Configuration.

Click OK as shown in Figure 22 to return to the application interface shown in Figure 23.

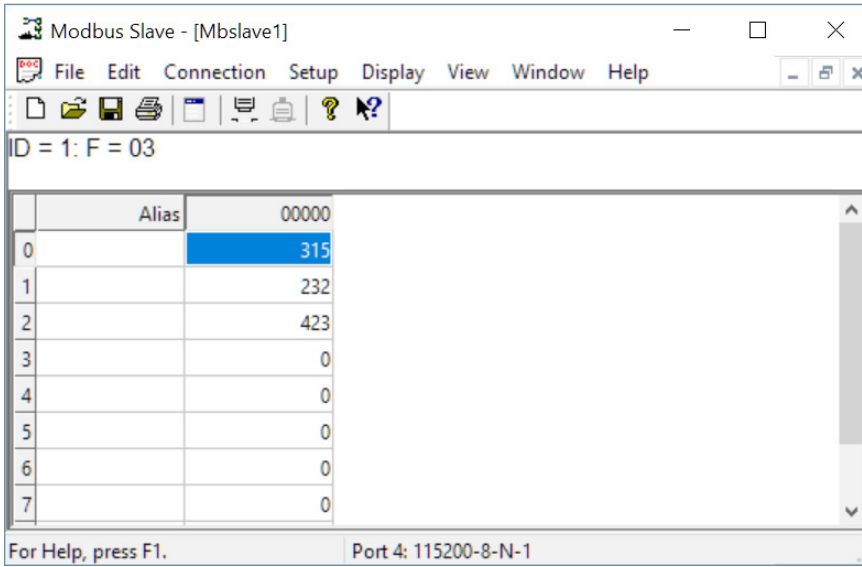


Figure 23. Modbus Slave.

Open Modbus Poll on your PC and set the parameters as shown in Figure 24.

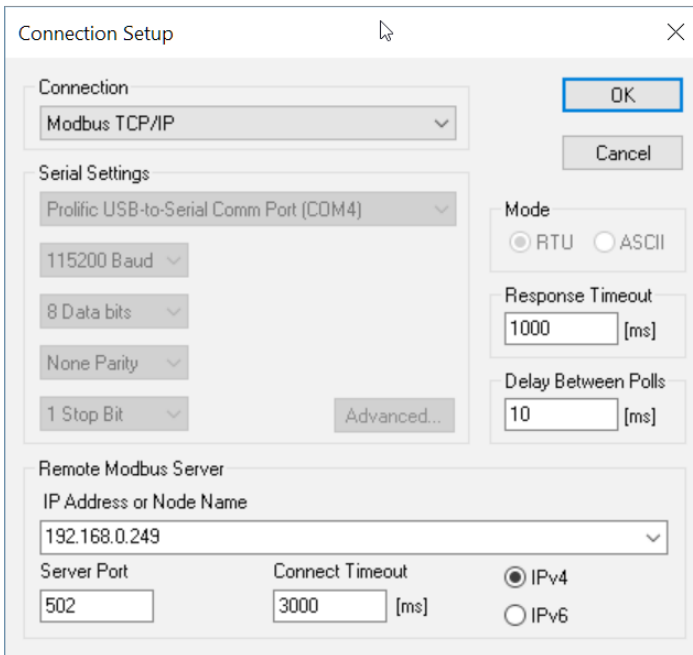


Figure 24. Modbus Poll Configuration.

Click the OK button shown in Figure 24.

Now let’s experiment with watching data as it is read from Modbus Slave by the gateway then read from the Gateway by Modbus Poll. Enter data in address 1 and address 2 in Modbus Slave and watch the values change in Modbus Poll, as shown in Figure 25.

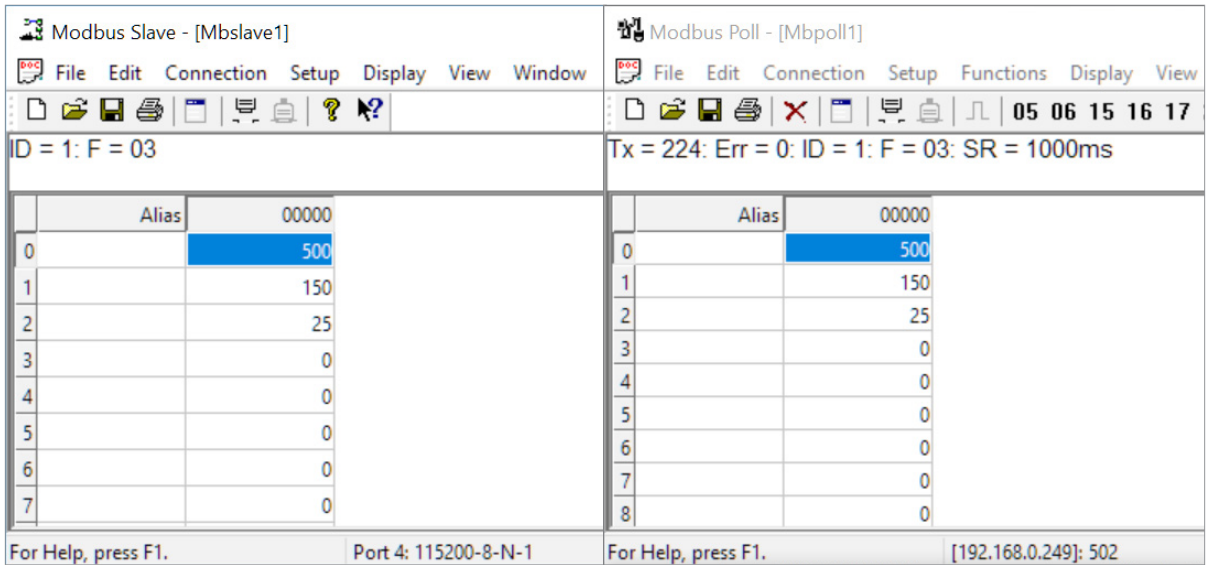


Figure 25. Data Test Result.

Now let’s take a look at the data as it’s stored in the gateway.

In the gateway User Interface, browse to the Data in Gateway Memory page.

Enter the Mapping Address (found on the “Message List” page) and the quantity of values you’d like to view. For our example, these values are 0 and 4, respectively.

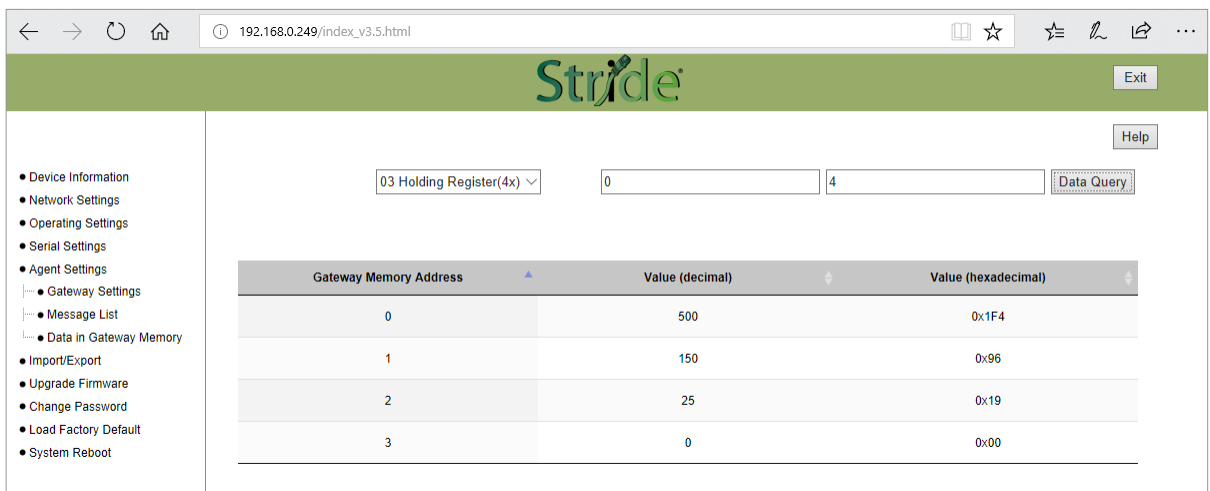
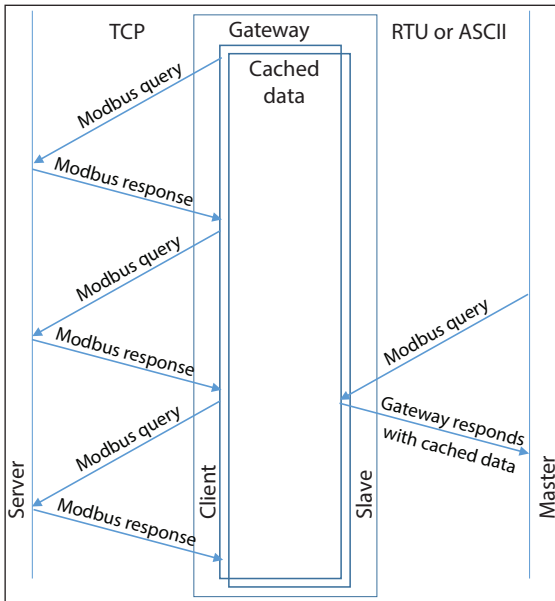


Figure 26. STRIDE Modbus Data in Gateway Memory.

Make changes in the Modbus slave user interface and watch the values change in the gateway’s memory.

**EXAMPLE 4:  
AGENT MODE, WITH MODBUS RTU/ASCII MASTER DEVICES TO  
MODBUS TCP SLAVE (SERVER) DEVICES**



Provide power to the *STRIDE* Modbus Gateway, connect to an Ethernet port and log on to the gateway configuration interface.

Our example assumes default values in the gateway. Click Load Factory Default.

Set the operation mode to Agent Mode. Browse to “Operating Settings” and select S1. Setup parameters for one Modbus TCP server as shown in Figure 27. Note that the Remote IP Address is your PC’s IP address, since the PC (Modbus Slave) is the slave device for this example. Remember the Slave ID you assign here.

Click Save.

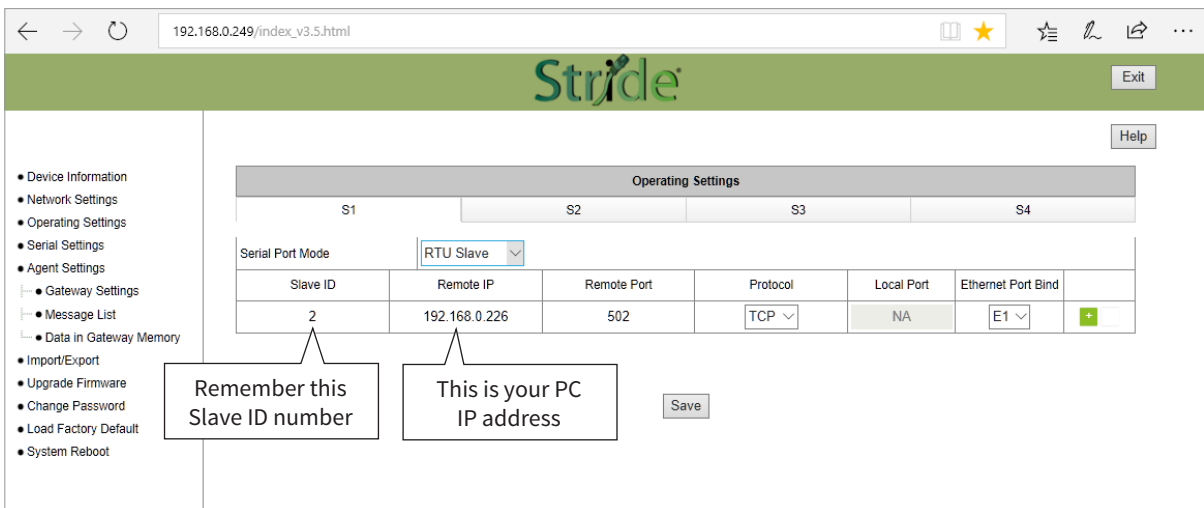


Figure 27. *STRIDE* Modbus Operating Settings.



Browse to “Serial Settings” to configure the gateway shown in Figure 28.

Click Save to save the changes.

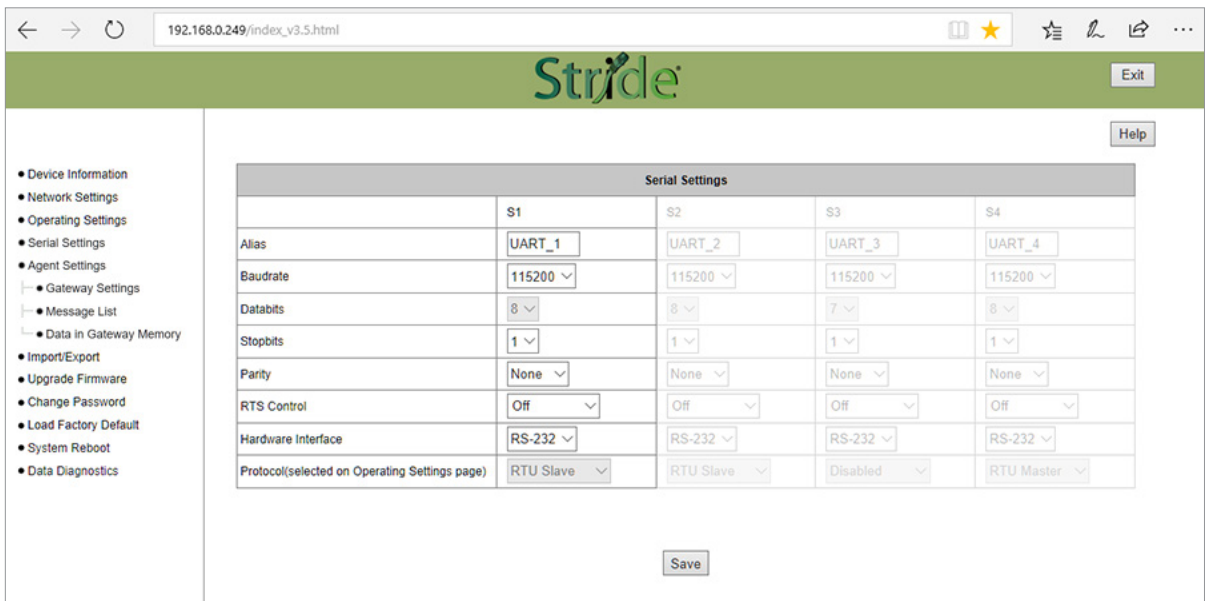


Figure 28. Serial Settings Configuration.

Browse to the “Gateway Settings” page to configure the gateway as shown in Figure 29. Click Save to save and apply the changes.

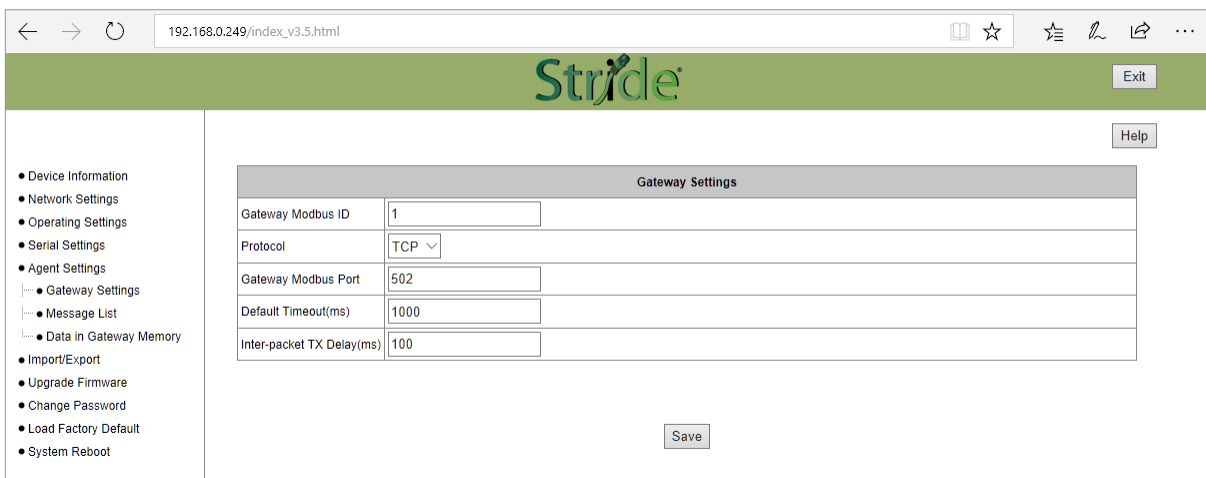


Figure 29. Gateway Settings Configuration.

Browse to Message List-Add Message to add a message, shown in Figure 30. The Slave ID is the ID you assigned to the slave device in the Operating Settings configuration in Figure 27.

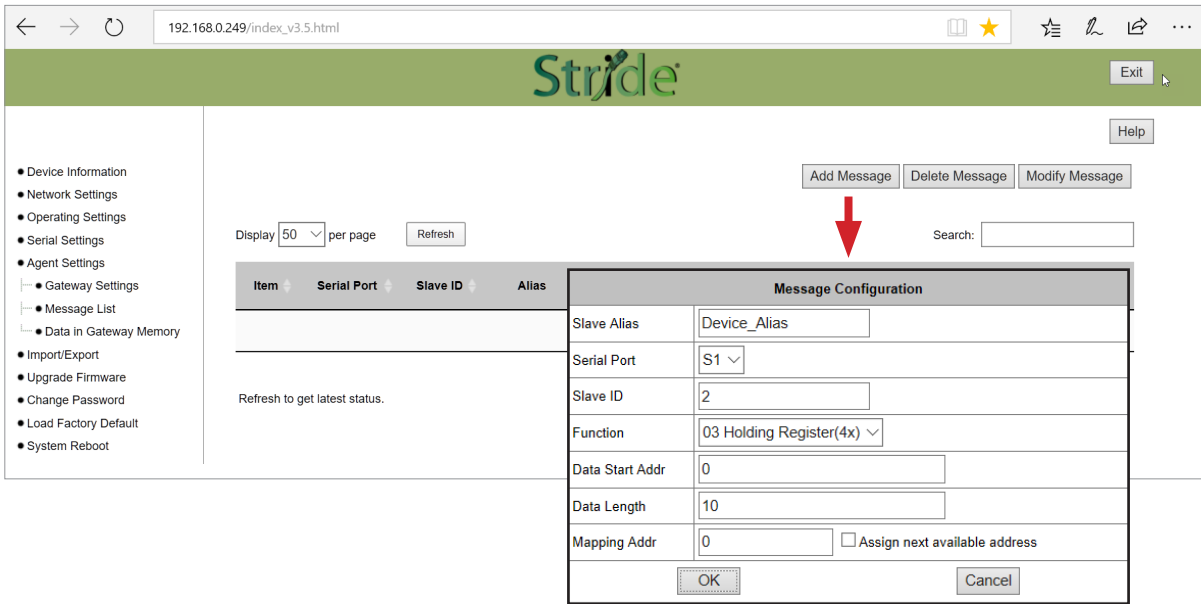


Figure 30. Add Message.

Connect the STRIDE Modbus Gateway serial port S1 to your PC’s serial port (possibly requiring a USB to serial converter), and run Modbus Poll software on the PC. The Modbus Poll parameters must be configured as shown in Figure 31.

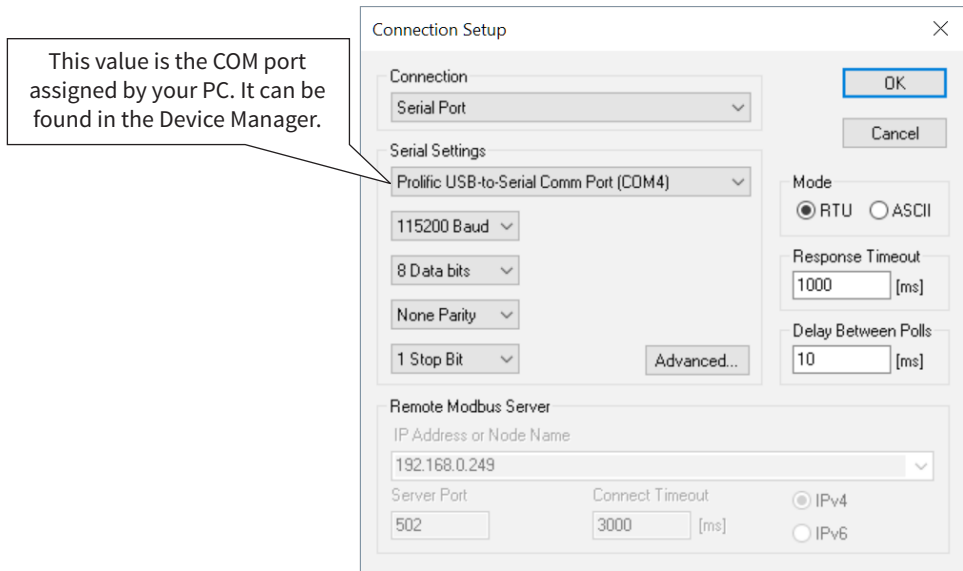


Figure 31. Modbus Poll Configuration.

Click OK in Figure 29 to return to the application interface shown in Figure 32.

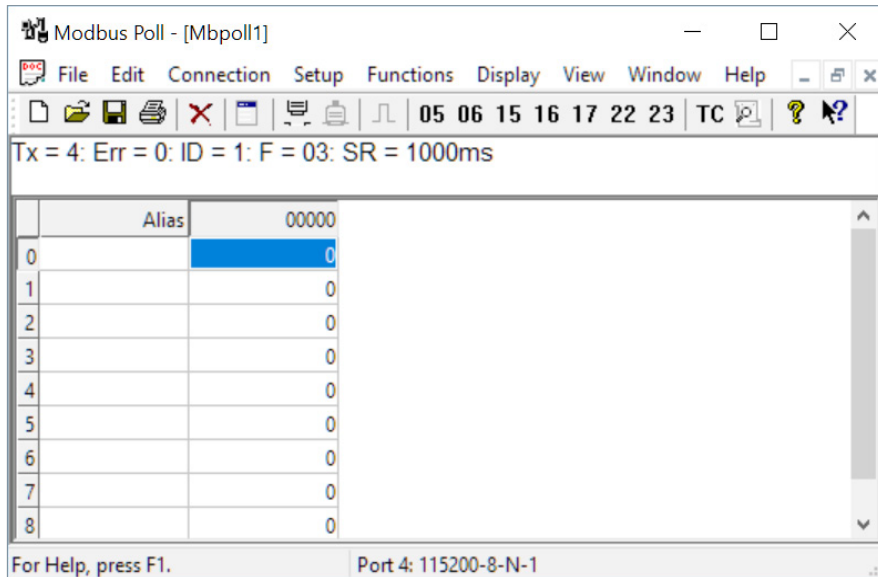


Figure 32. Modbus Poll Initial Connection.

The Modbus Poll software will return zero values for all data from the Modbus Gateway Agent until the Modbus Slave software is connected to the gateway in the next step.

Run the Modbus Slave software on your PC and set the parameters shown in Figure 33.

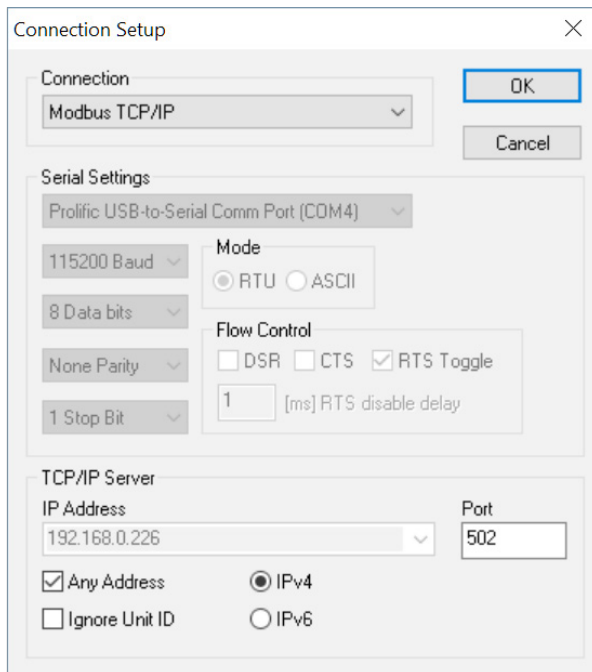


Figure 33. Modbus Slave Port Configuration.

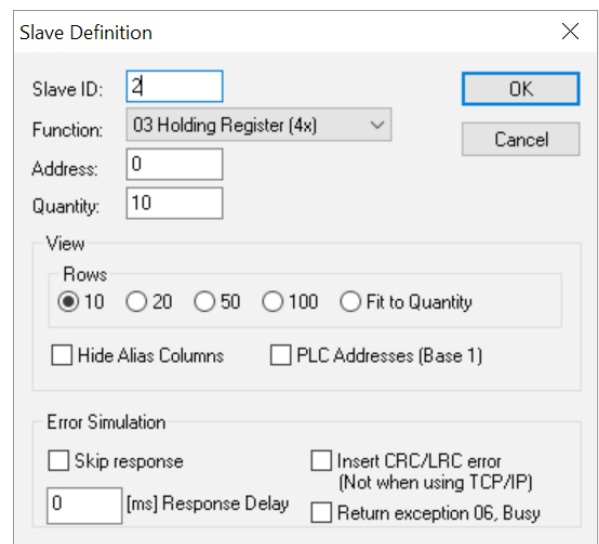


Figure 34. Modbus Slave Definition.

Click OK shown in Figure 33 to return to the Modbus Slave main window.

Select Setup - Slave Definition.

Enter the Slave ID of the Gateway as shown in Figure 34. This is the Slave ID you assigned to the Gateway in its “Operating Settings” configuration.

Click OK shown in Figure 34 to return to the application interface shown in Figure 35.

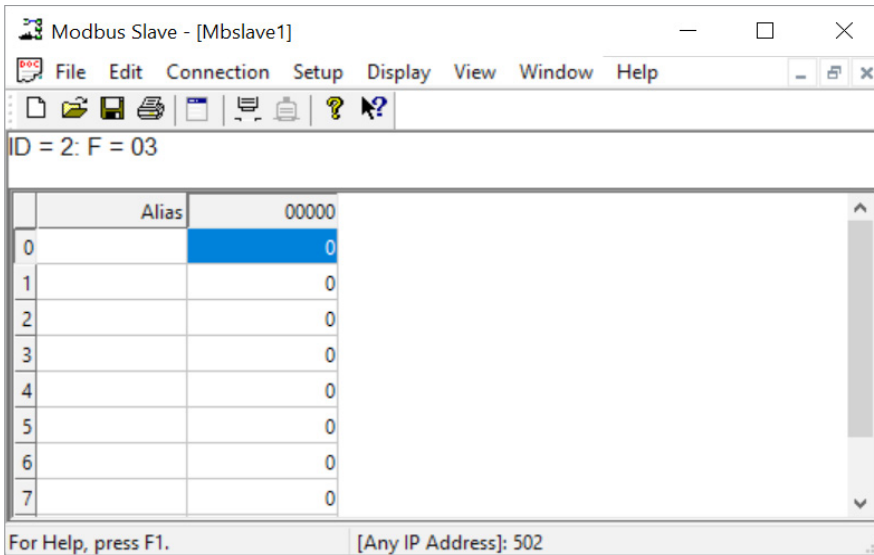


Figure 35. Modbus Slave.

Now let’s experiment with watching data across our network. Enter data in address 2 and address 3 in Modbus Slave and watch as that data is stored in the Agent then read by Modbus Poll, shown in Figure 36.

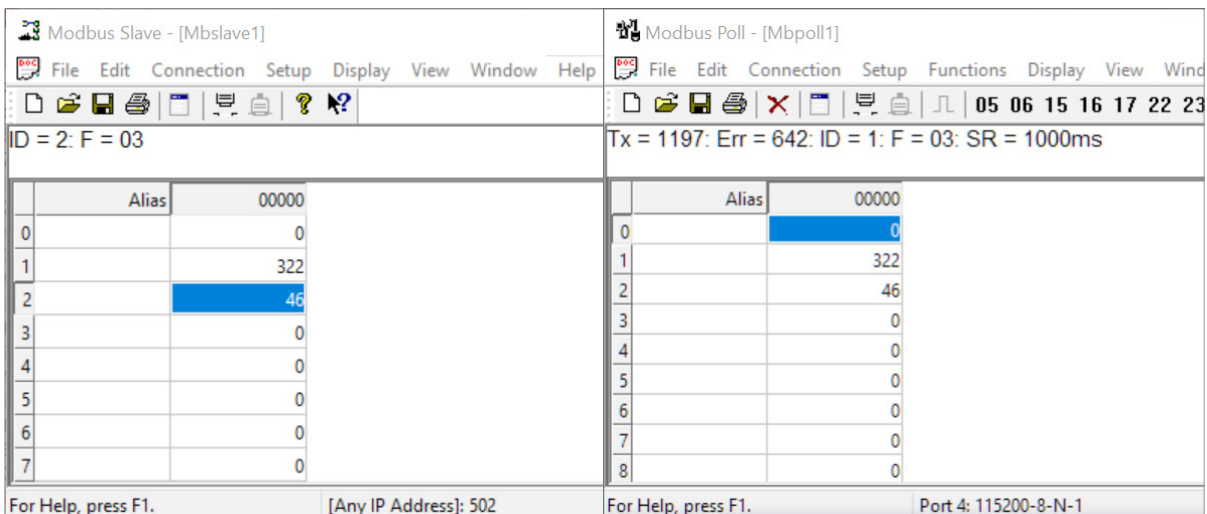


Figure 36. Agent Test Result.

Now let’s take a look at the data as it’s stored in the gateway.

In the gateway User Interface, browse to the Data in Gateway Memory page.

Enter the Mapping Address (found on the Gateway Settings page) and the quantity of values you'd like to view. For our example, these values are 0 and 4, respectively.

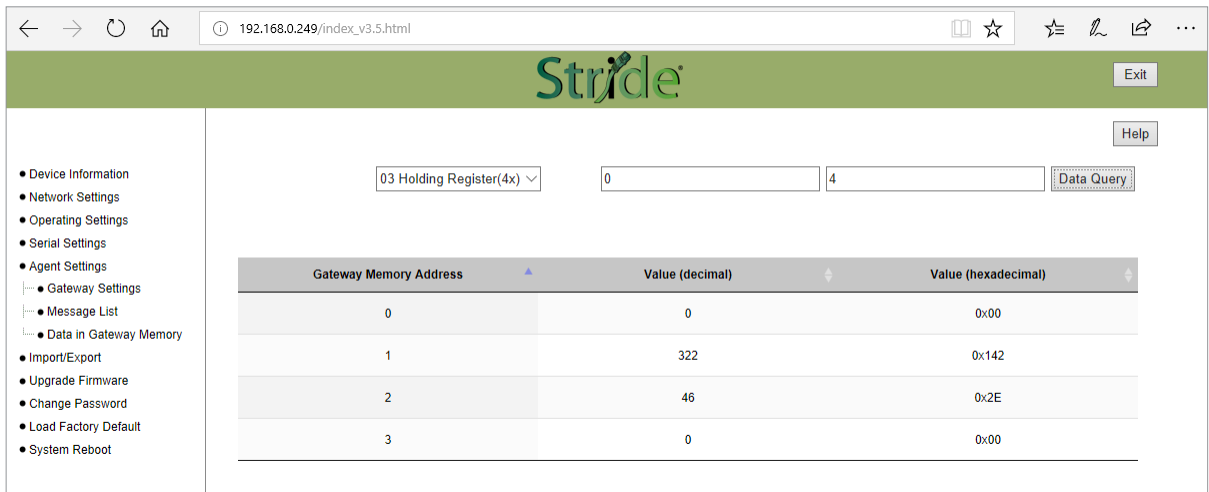


Figure 37. Data Stored in Gateway Modbus Registers.

Make changes in the Modbus slave user interface and watch the values change in the gateway's memory.

