



Quick Start for tSH-700 Series

English/ Oct. 2015/ Version 1.1

1

What's in the Shipping Package?

The package includes the following items:

- ❶ tSH-700 Series ❷ Quick Start (This Guide) ❸ Software CD ❹ DC Connector Power Cable



2

Installing Software on Your PC

Decompress **eSearch Utility**, which can be obtained from either the companion CD-ROM or the web site:



CD: \NAPDOS\software\eSearch\



<http://ftp.icpdas.com/pub/cd/tinymodules/napdos/software/esearch/>

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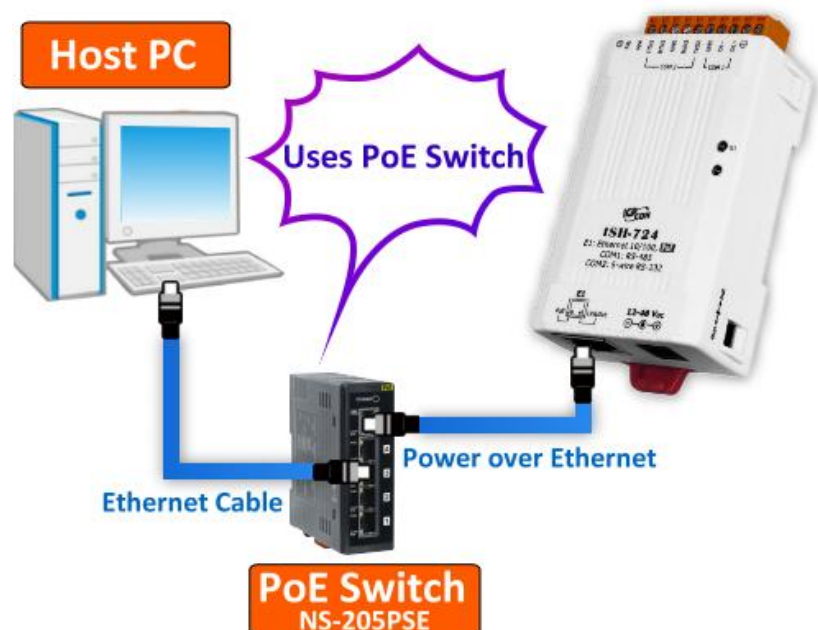
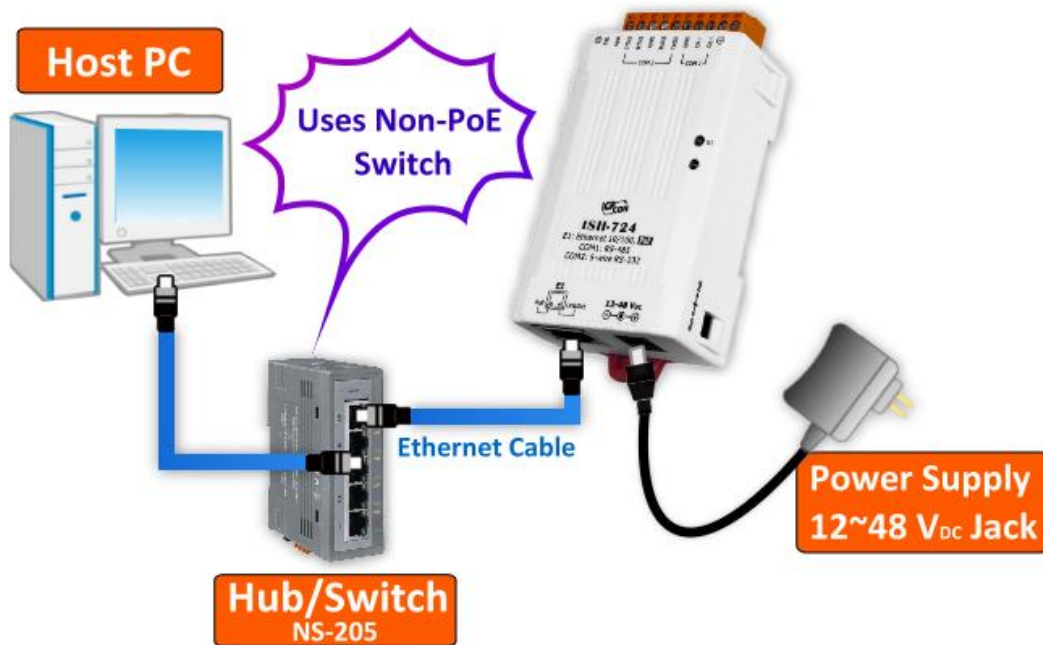
Connecting the Power and Host PC

❶ Make sure your PC has workable network settings.

Disable or well configure your Windows firewall and Anti-Virus firewall first, else the “Search Servers” on Chapter 5 may not work. (Please contact with your system Administrator)

❷ Connect both the tSH-700 and your PC to the same sub network or the same Ethernet Switch.

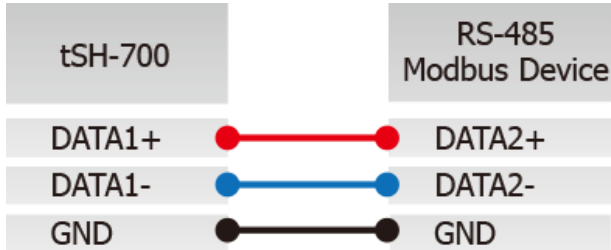
❸ Supply power (PoE or +12 ~ +48 V_{DC}) to the tSH-700.



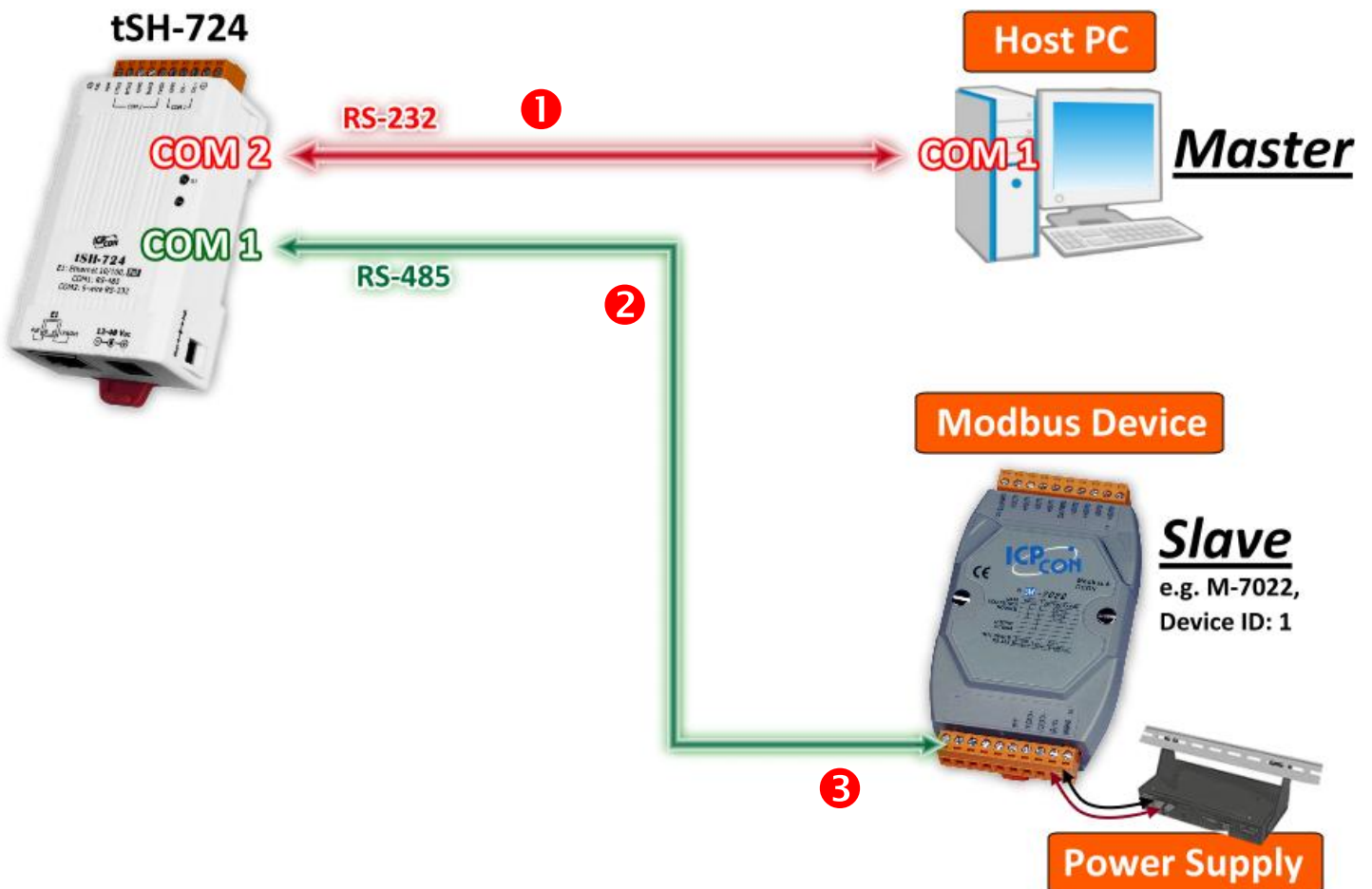
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Connecting the Master and Slave Devices

- 1 Connect the serial port of PC (Master) to COM1 on the tSH-700 (e.g., tSH-724).
- 2 Connect the Modbus device (Slave, e.g., M-7022, optional) to COM2 on the tSH-700 (e.g., tSH-724).



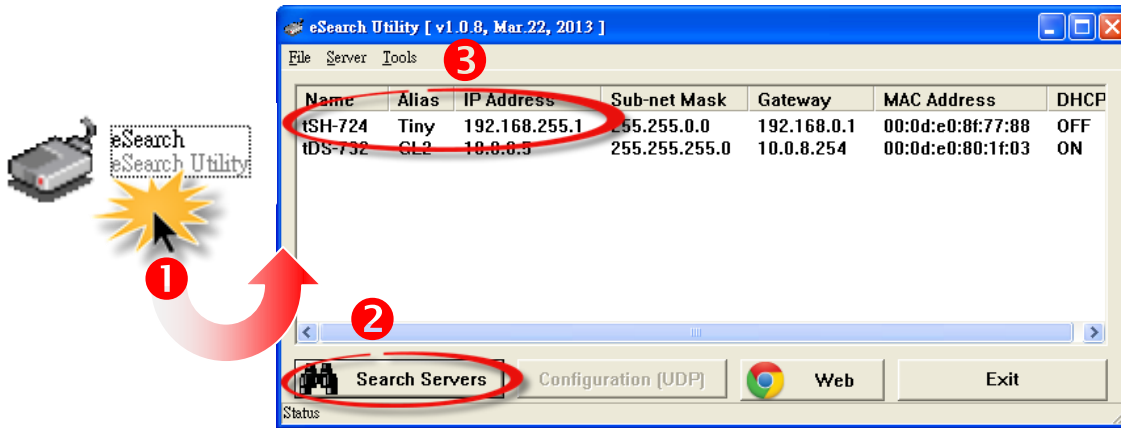
- 3 Supply power (+10 ~+30 V_{DC}) to the Modbus device (e.g., M-7022, Device ID: 1)



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Configuring the Correct Network Settings

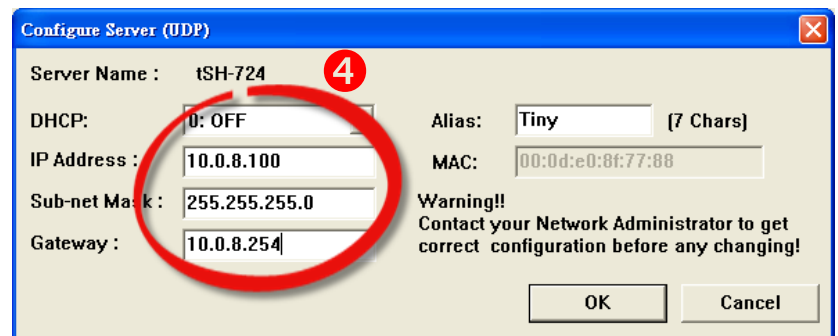
- 1 Double click the eSearch Utility shortcut on the desktop.
- 2 Click the “Search Servers” button to search your tSH-700.
- 3 Double click the name of tSH-700 to open the “Configure Server (UDP)” dialog box.



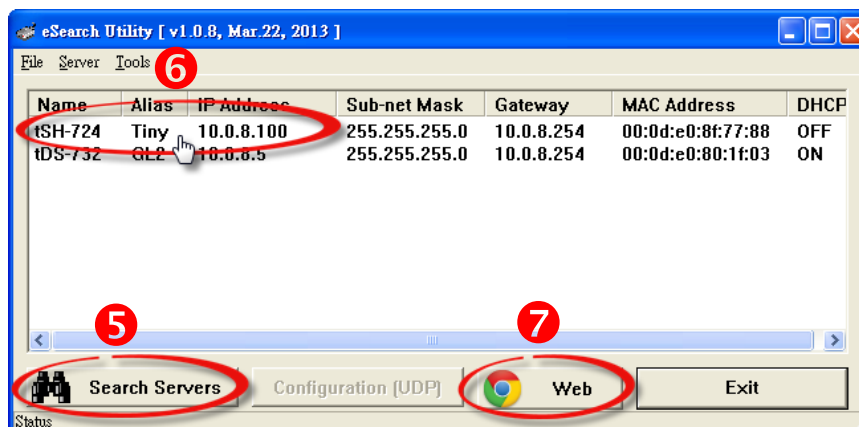
Factory Default Settings for the tSH-700:

IP	192.168.255.1
Gateway	192.168.0.1
Mask	255.255.0.0

- 4 Contact your Network Administrator to obtain a correct network configuration (such as IP/Mask/Gateway). Enter the network settings and then click “OK”. The tSH-700 will use the new setting 2 seconds later.



- 5 Wait 2 seconds and then click the “Search Servers” button again to ensure the tSH-700 is working well with new configuration.
- 6 Click the name of the tSH-700 to select it.
- 7 Click the “Web” button to log in to the web configuration pages. (Or enter the URL address of the tSH-700 in the address bar of the browser.)



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Configuring the Application Mode

❶ Enter the password (use the default password “admin”) in the Login password field and click the “Submit” button.

Tiny Serial Port Sharer (tSH-700)
Home | Application Mode | Port1 | Port2 | Network S

The system is logged out.
To enter the web configuration, please type password in the following field.

Login password: [.....] [i] Submit

Note:
This web configuration requires JavaScript enabled in your browser (Firefox)

❷ Click the “Application Mode” tab to display the Application Mode Settings page.

❸ Check the “RAW Data (Half-Duplex)” option

❹ Select the M-7022 (slave device) connected to COM port of the tSH-700 (e.g. “Port2”) from the “Slave Device Connected on:” option button.

❺ Enter the timeout value of the Port2 (e.g. “500”) in the “Slave Timeout (ms)” field and click the “Submit” button to save your settings.

Tiny Serial Port Sharer (tSH-700)
Home | Application Mode | Port1 | Port2 | Network Setting | Filter | Monitor | Change Password | Log

• RAW Data (Half-Duplex)

Slave Devices Connected on : Port 1 Port 2 Port 3

Protocol : Port1: RTU , Port2: RTU , Port3: RTU
Slave Devices Connected on : Port 1 Port 2 Port 3

Slave Timeout (ms): 500 Submit

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Configuring the Serial Port

- 1 Click the **"Port1"** tab to display the **Port1 Settings** page.
- 2 Select the appropriate **Baud Rate and Data Format** settings depending on the serial COM Port of PC (Master) from the relevant drop down options. (e.g. **Baud Rate: 9600** and **Data Format: 8N1**)
- 3 Click the **"Submit"** button to save your settings.

The screenshot shows the 'Port1 Settings' page of the Tiny Serial Port Sharer (tSH-700) web interface. The breadcrumb navigation includes 'Home | Application Mode | Port1 | Port2 | Network Setting | Filter | Monitor | Change Password'. The 'Port Settings' table is highlighted with a red box and contains the following data:

Port Settings	Current	Updated
Baud Rate (bps):	115200	9600 bits/S
Data Size (bits):	8	8 bits/character
Parity:	None	None
Stop Bits(bits):	1	1

The 'Submit' button is circled in red. Red callout numbers 1, 2, and 3 are placed on the 'Port1' tab, the Baud Rate/Data Size fields, and the Submit button respectively.

- 4 Click the **"Port2"** tab to display the **Port2 Settings** page.
- 5 Select the appropriate **Baud Rate and Data Format** settings depending on the M-7022 (Slave) from the relevant drop down options. (e.g. **Baud Rate: 115200** and **Data Format: 8N1**)
- 6 Click the **"Submit"** button to save your settings.

The screenshot shows the 'Port2 Settings' page of the Tiny Serial Port Sharer (tSH-700) web interface. The breadcrumb navigation includes 'Home | Application Mode | Port1 | Port2 | Network Setting | Filter | Monitor | Change Password | Log'. The 'Port Settings' table is highlighted with a red box and contains the following data:

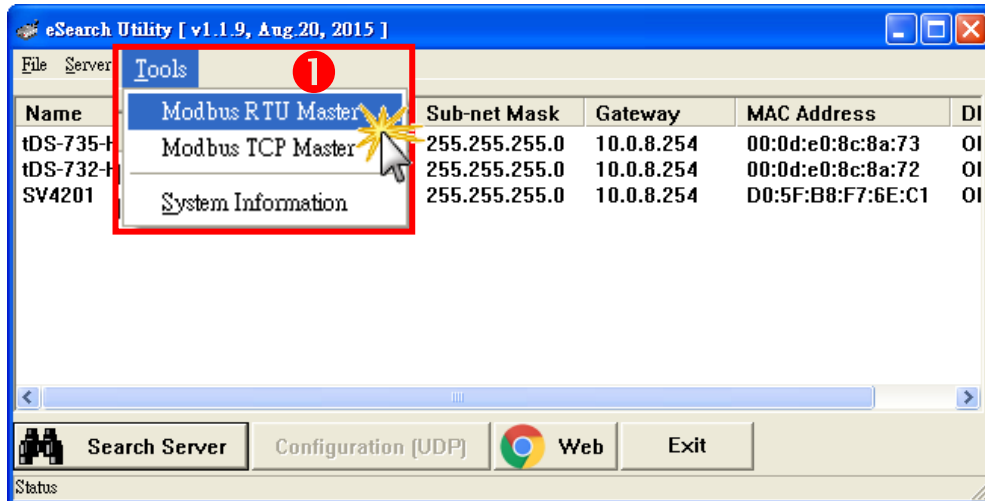
Port Settings	Current	Updated
Baud Rate (bps):	115200	115200 bits/S
Data Size (bits):	8	8 bits/character
Parity:	None	None
Stop Bits(bits):	1	1

The 'Submit' button is circled in red. Red callout numbers 4, 5, and 6 are placed on the 'Port2' tab, the Baud Rate/Data Size fields, and the Submit button respectively.

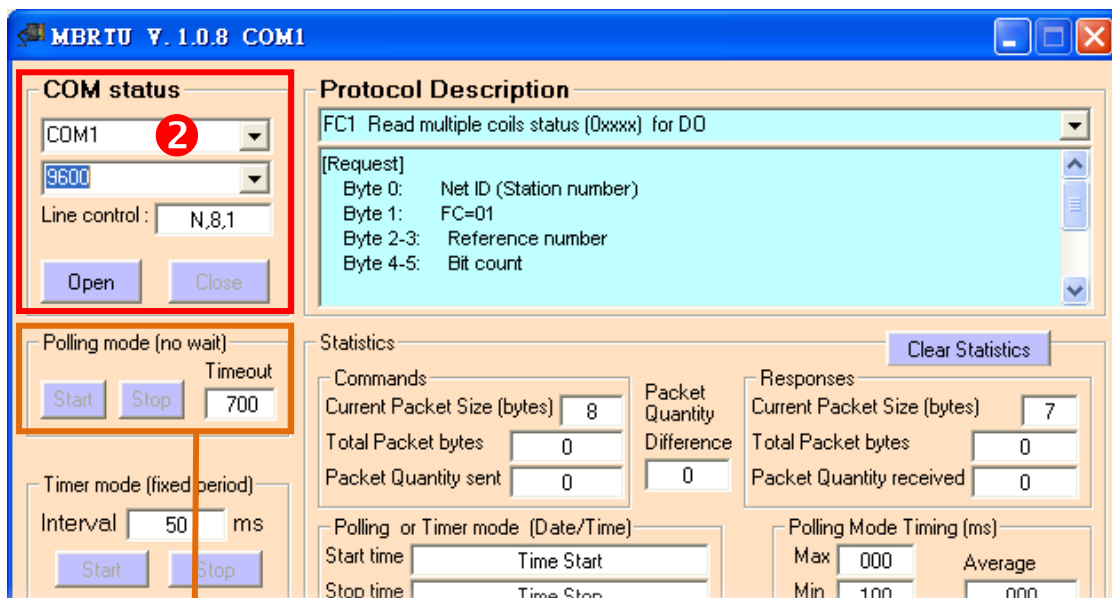
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Self-Test

❶ In the eSearch Utility, select the “**Modbus RTU Master**” item from the “**Tools**” menu to open the Modbus RTU Master Utility.



❷ In the Modbus RTU Modbus Utility, select your COM port, Baud Rate and Data Format (e.g. **COM1/9600/N,8,1**) on the PC (Master) and then click the “**Open**” button in the “**COM status**” section.

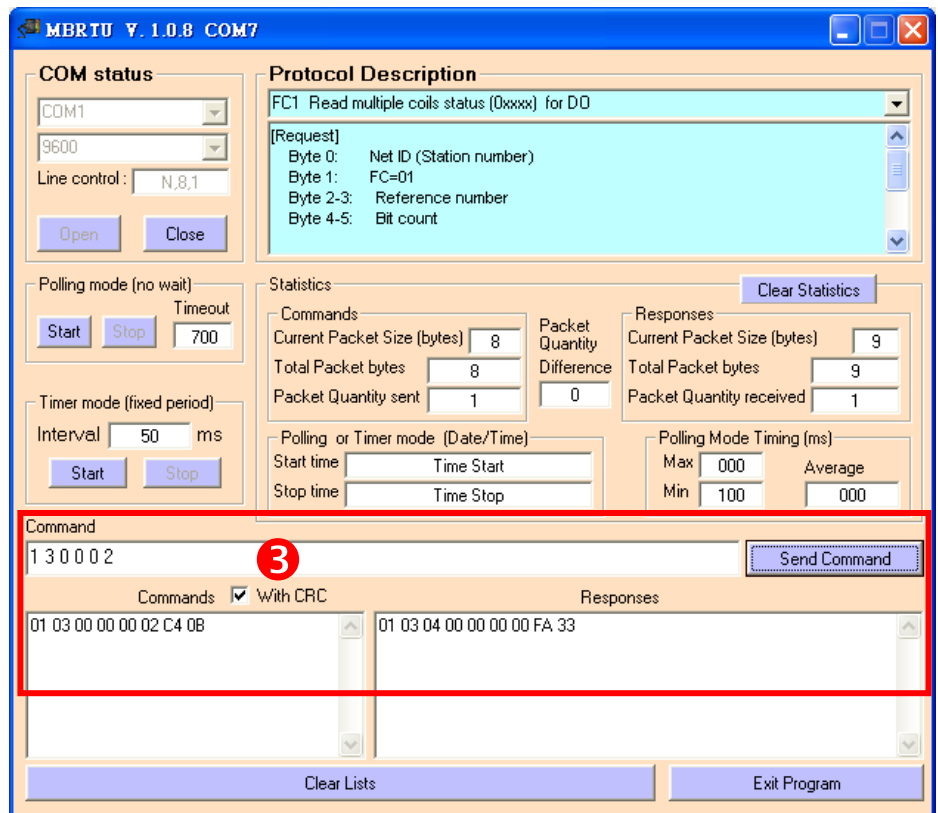


If you use the Modbus polling mode, please note that the Slave timeout in the port which the Slave Device connected on must be smaller than the timeout value in your application software (e.g. Modbus Utility). It cannot be less than 100 ms.

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Successful Testing

③ Refer to “**Protocol Description**” section and type the command in the “**Command**” field then click the “**Send command**” button. If the response data is correct, it means the test is success.



Related Information

- tSH-700 product page:
http://www.icpdas.com/root/product/solutions/industrial_communication/pds/tsh-700.html
- Documentation:
CD: \Napdos\tSH-700\Document
<http://ftp.icpdas.com/pub/cd/tinymodules/napdos/tsh-700/document/>
- Firmware:
CD: \Napdos\tSH-700\Firmware
<http://ftp.icpdas.com/pub/cd/tinymodules/napdos/tgw-700/firmware/>
- M-7022 and I-7520 product page (optional):
http://www.icpdas.com/root/product/solutions/remote_io/rs-485/i-7000_m-7000/i-7022.html
http://www.icpdas.com/products/Remote_IO/i-7000/i-7520.htm