

Q. How do I access multiple Modbus TCP slave devices from a single Modbus RTU/ASCII master device?

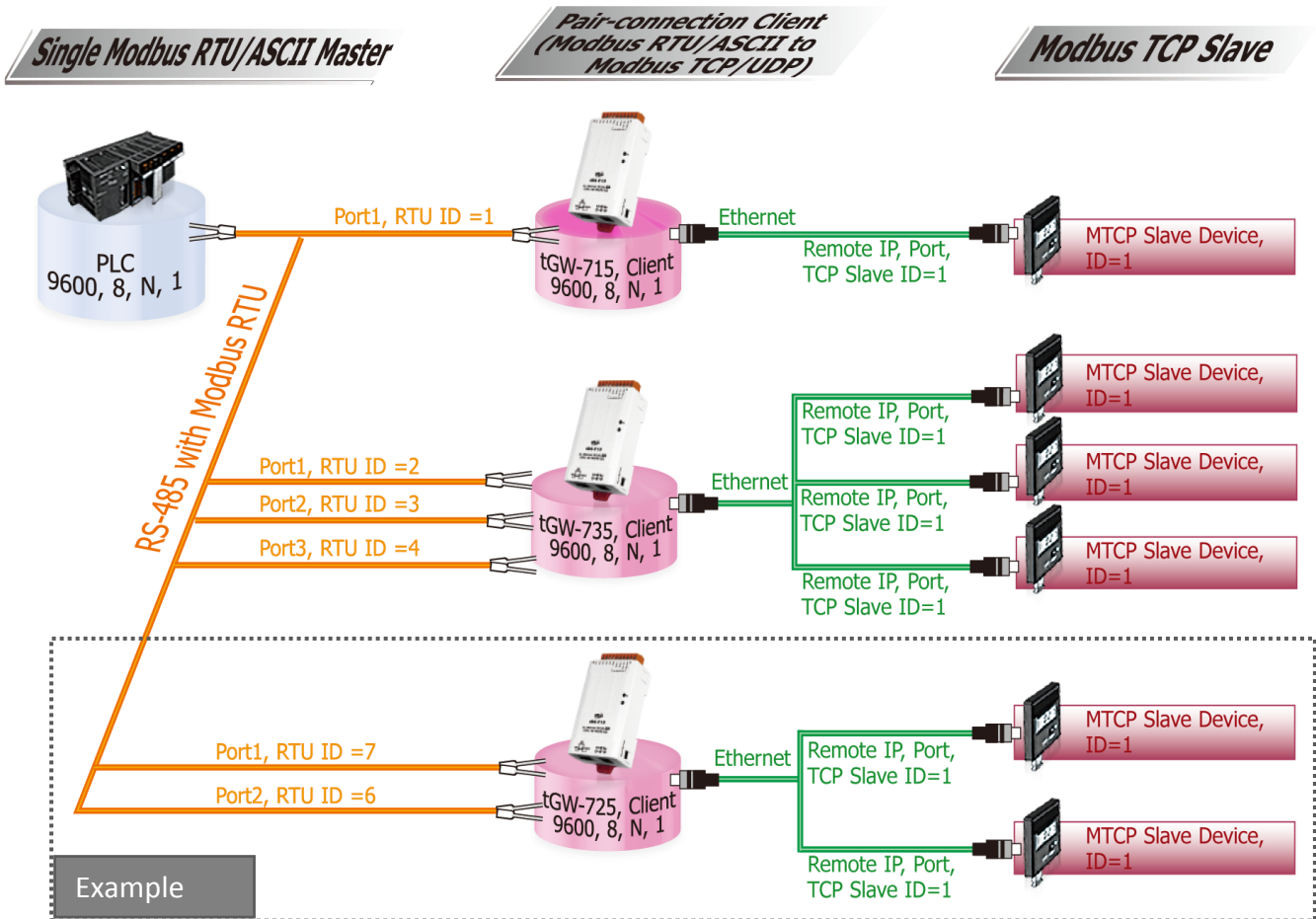


Figure 1-1

A: When connecting multiple tGW-700 modules in an RS-485 network, the Modbus RTU ID for a COM port on the tGW-700 can be used to access a specific Modbus TCP slave device. The following is a detailed description of the Modbus RTU ID and Modbus TCP ID mapping configuration for the tGW-725 module:

Step 1: Confirm that both the Ethernet connection and the tGW-700 series module are functioning correctly. For detailed information regarding how to install, configure and operate your tGW-700 series module, refer to the tGW-700 Quick Start Guide, which can be downloaded from:



[Download the Quick Start Guide.](#)

eSearch Utility [v1.0.8, Mar 22, 2013]

Name	Alias	IP Address	Sub-net Mask	Gateway	MAC Address
tGW-725	#2	10.0.8.7	255.255.255.0	10.0.8.254	00:0d:e0:80:09:2f
tDS-734	Tiny	192.168.255.200	255.255.255.0	192.168.255.254	00:0d:e0:80:03:c7

Buttons: Search Servers, Configuration [UDP], Web, Exit

Figure 1-2



Step 2: Execute the eSearch Utility to search for any tGW-700 modules connected to the network, and then click the name of the tGW-700 module to select it.

Step 3: Click the **“Web”** button to log in to the web configuration pages for the tGW-700 module (use the default password **“admin”**), or enter the URL address of the tGW-700 in the address bar of the browser.

Step 4: Check that the firmware version for the module is **v1.3.4 [Aug. 19, 2013] or later**.

Note that if your firmware version is earlier than v1.3.4 [Aug. 19, 2013], the firmware must first be updated to the latest version. For detailed information regarding the firmware update process, refer to the tGW-700 firmware update documentation, which can be downloaded from:



[Download the tGW-700 firmware update documentation.](#)

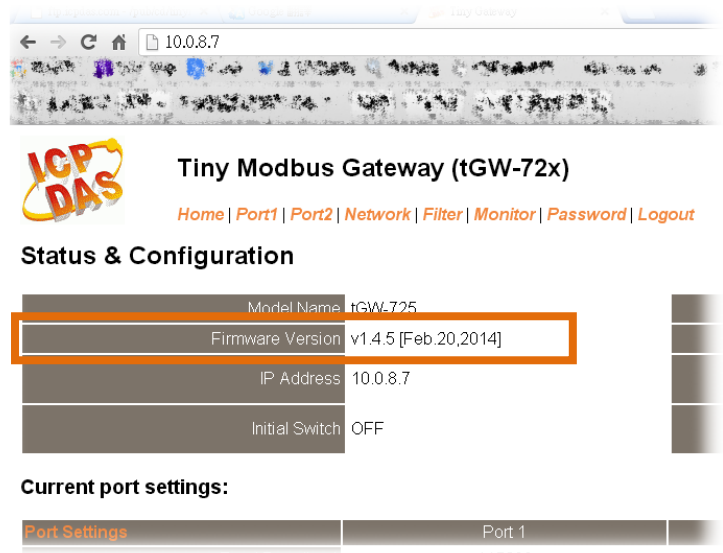


Figure 1-3

Step 5: Click the **“Port1”** tab to display the **Port1 Settings** page.

Step 6: Select the appropriate **Baud Rate, Data Format and Modbus Protocol** settings from the relevant drop down options. The following is an example: Baud Rate (bps) **“9600”**, Data Size (bits) **“8”**, Parity **“None”**, Stop Bits (bits) **“1”** and Modbus Protocol **“Modbus RTU”**.



Tiny Modbus Gateway (tGW-72x)

[Home](#) | [Port1](#) | [Port2](#) | [Network](#) | [Filter](#) | [Monitor](#) | [Password](#) | [Logout](#)

Settings:

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
Slave Timeout (ms)	300	300 (Default: 300)
Char Timeout (bytes)	4	4 (4 ~ 15, Default: 4)
Silent Time (ms)	0	0 (0, 10, 20... 65530, Default: 0)
Read Cache (ms)	980	980 (10, 20... 65530, Disable: 0)
Local TCP Port	502	502 (Default: 502)
TCP Timeout (seconds)	180	180 (1 ~ 65535, Default: 180, Disable: 0)
Modbus Protocol	Modbus RTU	Modbus RTU

Figure 1-4

Step 7: In the Pair-connection settings area for Port1, check that the configuration details are same as those shown in the table below:

Field	Server Mode	Modbus Protocol	Remote Server IP	Remote TCP Port	TCP Slave ID (1~247)	RTU Slave ID (1~247)
Pair-connection Settings	Client	TCP	10.0.8.49	502	1	7
		Modbus Protocol, IP address, TCP port, TCP Slave ID for the MTCP Slave Device				RTU Slave ID for the tGW-700

Step 8: Amend any details as required and then click the **“Submit”** button to complete the configuration.

Pair-Connection Settings (Master/Slave Mode)	Current	Updated
Server Mode	Server	Client (Server=Slave, Client=Master)
Modbus Protocol	TCP	TCP
Remote Server IP	Disabled	10 . 0 . 8 . 49
Remote TCP Port	Disabled	502
RTU Slave ID (1~247)	0	7 (0: Bypass, No check)
TCP Slave ID (1~247)	0	1 (0: Same as RTU)
		Submit

Figure 1-5

Step 9: Click the **“Home”** tab to confirm that the pair-connection settings for Port1 are correct.

Current port settings:

Port Settings	Port 1	Port 2
Baud Rate (bps)	9600	115200
Data Size (bits)	8	8
Parity	None	None
Stop Bits (bits)	1	1
Modbus Protocol	RTU	RTU
Slave Timeout (ms)	300	300
Char Timeout (bytes)	4	4
Silent Time (ms)	0	0
Read Cache (ms)	980	980
Local TCP Port	502	503
TCP Timeout (Seconds)	180	180
Pair-Connection Settings (Master/Slave Mode)	Port 1	Port 2
Server Mode	Client	Server
Remote Server IP	10.0.8.49	-
Remote TCP Port	502	-
RTU Slave ID	7	-
TCP Slave ID	1	-

Figure 1-6

Step 10: Click the **“Port2”** tab to display the **Port2 Settings** page.

Step 11: Select the appropriate **Baud Rate, Data Format and Modbus Protocol** settings from the relevant drop down options. The following is an example: Baud Rate (bps) **“9600”**, Data Size (bits) **“8”**, Parity **“None”**, Stop Bits (bits) **“1”** and Modbus Protocol **“Modbus RTU”**.

※ Refer to **Figure 1-4** for an illustration of how to perform the above procedure.

Step 12: In the Pair-connection settings area for Port2, check that the configuration details are the same as those shown in the table below:

Field	Server Mode	Modbus Protocol	Remote Server IP	Remote TCP Port	TCP Slave ID (1~247)	RTU Slave ID (1~247)
Pair-connection Settings	Client	TCP	10.0.8.50	502	1	6
		Modbus Protocol, IP address, TCP port, TCP Slave ID for the MTCP Slave Device				RTU Slave ID for the tGW-700

Step 13: Amend any details as required and then click the **“Submit”** button to complete the configuration.

Pair-Connection Settings (Master/Slave Mode)	Current	Updated
Server Mode	Server	Client (Server=Slave, Client=Master)
Modbus Protocol	TCP	TCP
Remote Server IP	Disabled	10 . 0 . 8 . 50
Remote TCP Port	Disabled	502
RTU Slave ID (1~247)	0	6 (0: Bypass, No check)
TCP Slave ID (1~247)	0	1 (0: Same as RTU)
		Submit

Figure 1-7

Step 14: Click the **“Home”** tab to confirm that the pair-connection settings for Port2 are correct.

※ Refer to **Figure 1-6** for an illustration of how to perform the above procedure.

