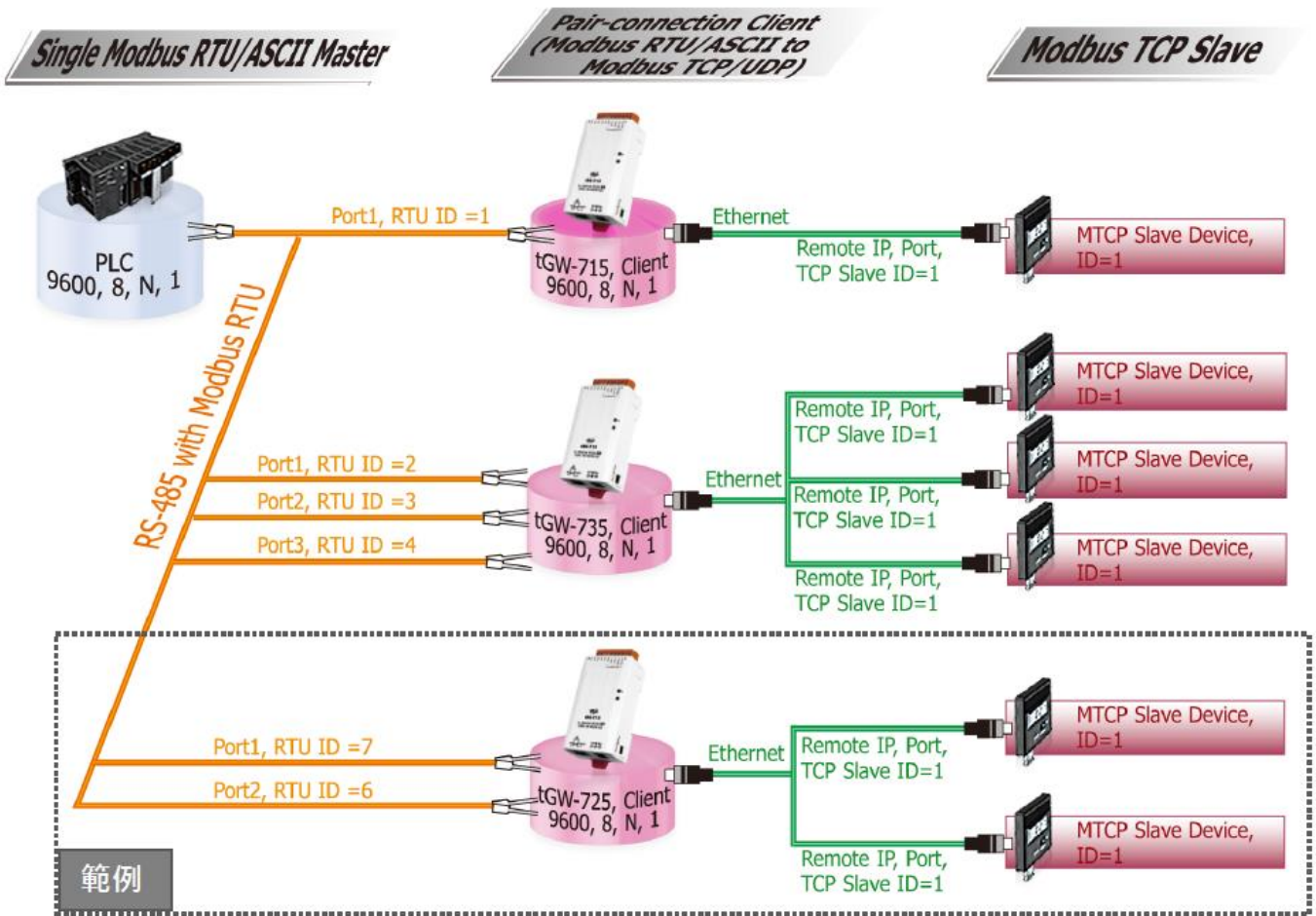


分类/Classification	<input type="checkbox"/> tDS	<input checked="" type="checkbox"/> tGW	<input type="checkbox"/> PETL/tET/tPET	<input type="checkbox"/> DS/PDS/PPDS	<input type="checkbox"/> tM-752N
	<input type="checkbox"/> I/O Card	<input type="checkbox"/> VXCCard	<input type="checkbox"/> VxComm	<input type="checkbox"/> Other	
作者/Author	Mike Chou	日期/Date	2020-06-22	编号/NO.	FAQ053

问题: 如何从单一 Modbus RTU/ASCII Master 设备来存取多个 Modbus TCP Slave 设备 ?



答:

当连接多台 tGW-700 (RS-485) 模块时, 可使用模块 COM Port 上的 Virtual ID Range 功能来联机至限定的 Modbus TCP slave 设备。详细配置 tGW-725 模块的 Virtual ID Range 及 Virtual ID Offset Mapping 功能, 请参考至下列步骤:

**步骤 1:** 请先确认您的 tGW-700 模块功能及网络联机是正常运作的, 详细启动 tGW-700 模块及网络配置设定, 请参考至 tGW-700 快速入门指南。



[下载快速入门指南](#)

Name	Alias	IP Address	Sub-net Mask	Gateway	MAC Address
tGW-725i_RevB	#1	10.0.8.101	255.255.255.0	10.0.8.254	00:0d:e0:80:f7:0
CL-20B-E	EtherIO	10.0.8.22	255.255.255.0	10.0.8.254	00:0d:e0:ff:ff:ff
ET7H16	N/A	10.0.8.222	255.255.0.0	192.168.0.1	00:0d:e0:65:8b:
WP9000	WP9000	10.0.8.20	255.255.255.0	10.0.8.254	68:C9:0B:B4:Df

**步骤 2:** 执行 eSearch Utility, 搜寻 tGW-700 模块, 然后单击模块名称。

**步骤 3:** 单击 “Web” 按钮来进入 tGW-700 网页服务器 (使用原厂默认密码 “admin” 来登入), 或在浏览器的网址列中输入 tGW-700 的 IP 地址。

**步骤 4:** 确认 tGW-700 模块 **Firmware 版本为 v2.0.1 [Jan. 16, 2020] 或更新版本**。如, Firmware 为旧版本 (版本为 v2.0.1 [Jan. 16, 2020] 之前), 请务必更新您的 tGW-700 模块 Firmware 至最新版本, 详细 Firmware 更新方式, 请参考至 tGW-700 Firmware Update 说明文件。



[下载 tGW-700 Firmware 更新说明文件](#)

The screenshot shows the Tiny Gateway web interface. The page title is "Tiny Modbus Gateway" and the URL is "10.0.8.101". The interface includes a navigation menu with links: Home, Port1, Port2, Network, Filter, Monitor, Password, and Logout. A table displays the following information:

Model Name	tGW-725i_RevB
Firmware Version	B2.0.2 [Feb. 12 2020]
IP Address	10.0.8.101
Initial Switch	OFF

Below the table, it says "Current port settings:".

**步骤 5:** 单击 “Port1” 标签来进入 Port1 Settings 设定页面。

**步骤 6:** 选择适当的 Baud Rate 值、Data Format 值及 Modbus Protocol。

设定范例如下: Baud Rate (bps) “9600”、Data Size (bits) “8”、Parity “None”、Stop Bits (bits) “1” 及 Modbus Protocol “Modbus RTU”。



## Tiny Modbus Gateway

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

### Port 1 Settings

Port Settings	Current	Updated	Comment
Baud Rate	115200	9600 ( select )	bps (bits/second)
Data Size	8	8	bits/char
Parity	None	None	
Stop Bits	1	1	
Flow Control	None	None	
Remove Errors	FE BE	<input type="checkbox"/> Parity Error <input checked="" type="checkbox"/> Framing Error <input checked="" type="checkbox"/> Break Error	Clear RX FIFO data when serial errors.
Modbus Settings	Current	Updated	Comment
Slave Timeout	300	300	10 - 65000 ms (step 10), Default: 300
Char Timeout	4	4	4 - 15 bytes, Default: 4
Silent Time	0	0	0 - 65000 ms (step 10), Default: 0
Protocol	Modbus RTU	Modbus RTU	

**步骤 7:** 在 Port1 的 Modbus Settings 区块设定 Virtual ID Range 以及 Virtual ID Offset。

设定范例如下: Virtual ID Range “7 to 7”、Virtual ID Offset “-6”。(RTU ID = 7, TCP Slave ID = 7 - 6 = 1)

Modbus Settings	Current	Updated	Comment
Slave Timeout	300	300	10 - 65000 ms (step 10), Default: 300
Char Timeout	4	4	4 - 15 bytes, Default: 4
Silent Time	0	0	0 - 65000 ms (step 10), Default: 0
Protocol	Modbus RTU	Modbus RTU	
Virtual ID Range	1 - 247	7 to 7	Range: 1 to 247. Note: Gateway skips the Modbus messages if its ID is NOT in the specified range.
Virtual ID Offset	0	-6	Offset: -246 to 246, No change=0. For example: Virtual ID = 1 to 10, offset = 10, then physical Slave ID = 11 to 20. Virtual ID = 31 to 40, offset = -10, then physical Slave ID = 21 to 30.

**步骤 8:** 在 Port1 的 Pair-connection settings 区块填入 Slave 设备信息，相关字段设定请参考至下表:

字段	Application Mode	Network Protocol	Remote Server IP	Remote TCP Port
Pair-connection Settings	Client	TCP	10.0.8.28	502
		Modbus TCP Slave 设备的 Modbus Protocol、IP address、TCP port。		

**步骤 9:** 单击 “Submit” 按钮来完成设定。

Pair-Connection Settings (Master/Slave Mode)	Current	Updated	Comment
Application Mode	Server	Client <input type="button" value="v"/>	Server=Slave, Client=Master
Network Protocol	TCP	TCP <input type="button" value="v"/>	
Remote Server IP	0.0.0.0	10 . 0 . 8 . 28	
Remote TCP Port	502	502 <input type="button" value="Submit"/>	

**步骤 10:** 单击 “Home” 标签来确认 Port1 的 Pair-connection 设定是否正确。

Current port settings:

Port Settings	Port 1	Port 2
Baud Rate (bps)	9600,8N1	115200,8N1
Flow Control	None	None
Protocol	RTU	RTU
Slave Timeout (ms)	300	300
Char Timeout (bytes)	4	4
Silent Time (ms)	0	0
Read Cache (ms)	980	980
Connection Idle (Seconds)	180	180
Local TCP Port	502	503
Virtual ID Range	7-7	1-247
Virtual ID Offset	-6	0
Pair-Connection Settings (Master/Slave Mode)	Port 1	Port 2
Application Mode	TCP Client	TCP/UDP Server
Remote Server IP	10.0.8.28	-
Remote TCP Port	502	-

**步骤 11:** 单击 “Port2” 标签来进入 Port2 Settings 设定页面。

**步骤 12:** 选择适当的 Baud Rate 值、Data Format 值及 Modbus Protocol。

设定范例如下: Baud Rate (bps) “9600”、Data Size (bits) “8”、Parity “None”、Stop Bits (bits) “1” 及 Modbus Protocol “Modbus RTU”。 ※步骤 11 - 12 可参考至步骤 5 - 6。

**步骤 13:** 在 Port2 的 Modbus Settings 区块设定 Virtual ID Range 以及 Virtual ID Offset。

设定范例如下: Virtual ID Range “6 to 6”、Virtual ID Offset “-5”。 (RTU ID = 6, TCP Slave ID = 6 - 5 = 1)

Modbus Settings	Current	Updated	Comment
Slave Timeout	300	300 <input type="button" value="v"/>	10 - 65000 ms (step 10), Default: 300
Char Timeout	4	4 <input type="button" value="v"/>	4 - 15 bytes, Default: 4
Silent Time	0	0 <input type="button" value="v"/>	0 - 65000 ms (step 10), Default: 0
Protocol	Modbus RTU	Modbus RTU <input type="button" value="v"/>	
Virtual ID Range	1 - 247	6 <input type="button" value="v"/> to 6 <input type="button" value="v"/>	Range: 1 to 247. Note: Gateway skips the Modbus messages if its ID is NOT in the specified range.
Virtual ID Offset	0	-5 <input type="button" value="v"/>	Offset: -246 to 246, No change=0. For example: Virtual ID = 1 to 10, offset = 10, then physical Slave ID = 11 to 20. Virtual ID = 31 to 40, offset = -10, then physical Slave ID = 21 to 30.

**步骤 14:** 在 Port2 的 Pair-connection settings 区块填入 Slave 设备信息，相关字段设定请参考至下表:

字段	Application Mode	Network Protocol	Remote Server IP	Remote TCP Port
Pair-connection Settings	Client	TCP	10.0.8.33	502
		Modbus TCP Slave 设备的 Modbus Protocol、IP address、TCP port。		

**步骤 15:** 单击 “Submit” 按钮来完成设定。

Pair-Connection Settings (Master/Slave Mode)	Current	Updated	Comment
Application Mode	Server	Client <input type="text"/>	Server=Slave, Client=Master
Network Protocol	TCP	TCP <input type="text"/>	
Remote Server IP	0.0.0.0	<input type="text" value="10"/> . <input type="text" value="0"/> . <input type="text" value="8"/> . <input type="text" value="33"/>	
Remote TCP Port	503	<input type="text" value="502"/>	
		<input type="button" value="Submit"/>	

**步骤 16:** 单击 “Home” 标签来确认 Port2 的 Pair-connection 设定是否正确。

Current port settings:

Port Settings	Port 1	Port 2
Baud Rate (bps)	9600,8N1	9600,8N1
Flow Control	None	None
Protocol	RTU	RTU
Slave Timeout (ms)	300	300
Char Timeout (bytes)	4	4
Silent Time (ms)	0	0
Read Cache (ms)	980	980
Connection Idle (Seconds)	180	180
Local TCP Port	502	503
Virtual ID Range	7-7	6-6
Virtual ID Offset	-6	-5
<b>Pair-Connection Settings (Master/Slave Mode)</b>	Port 1	Port 2
Application Mode	TCP Client	TCP Client
Remote Server IP	10.0.8.28	10.0.8.33
Remote TCP Port	502	502

