



RMV-760D-MTCP User Manual

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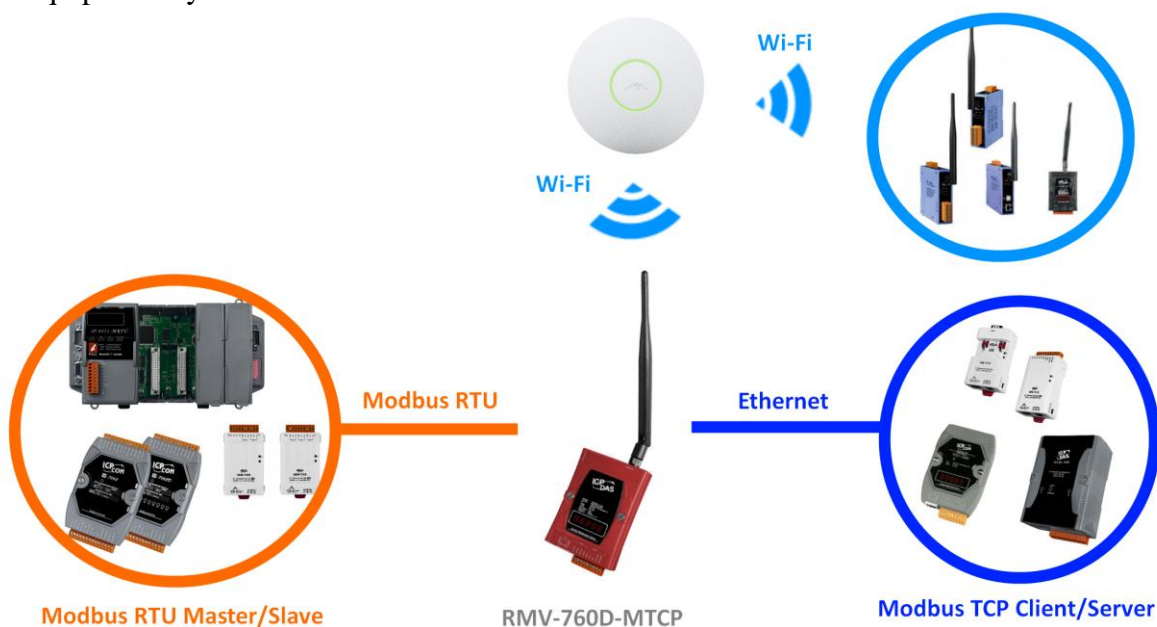
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1. Introduction

RMV-760D-TCP is a Modbus TCP/RTU gateway. It exchanges Modbus command from Modbus TCP/RTU master to Modbus RTU/TCP slave. Modbus TCP command can be transceived not only Ethernet port but also Wi-Fi interface. It supports VxServer and Pair-Connection functions. Users can choose Ethernet mode or Wi-Fi mode to do the pair connection, which provides TCP data tunneling between two serial devices.

The RMV-760D-TCP built-in Wi-Fi(802.11b/g) function can be applied to the already Wi-Fi system. It can connect to the remote equipment by Wi-Fi AP to reduce the wire cost. The RMV-760D-TCP built-in Wi-Fi(802.11b/g) function can be applied to the already Wi-Fi system. It can connect to the remote Modbus equipment by Wi-Fi AP to reduce the wire cost.

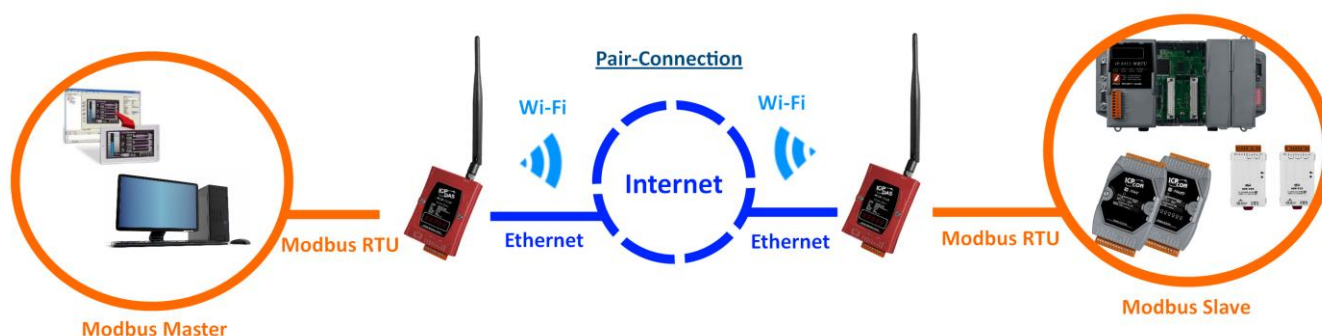


Another feature, the RMV-760D-TCP has Ad Hoc mode that can extend RS-485 or RS-232 communication distance via wireless feature without any wireless AP.



In addition, the RMV-760D-TCP has a Powerful Function, Pair Connection ,to upgrade the original serial

application to network application



1.1 Features

General Features:

- Supports pair-connection applications
- Supports Virtual COM applications
- Application Modes: Virtual COM, MB TCP Server/Client, MB RTU Master/Slave
- Supports static IP/DHCP (Ad Hoc mode don't support DHCP)
- Ethernet Protocol: TCP, UDP, IP, ICMP, ARP,RARP
- Support IEEE 802.11 b/g for Wi-Fi mode and Ad Hoc mode
- Support WEP-64,WEP-128, WPA-TKIP and WPA2-AES encryption for Wi-Fi mode
- Support WEP-64,WEP-128 encryption for Ad Hoc mode
- Auto control channel in AP mode
- Provides 1~13 RF channels
- Easy firmware update via Ethernet
- Removable terminal block connector
- RoHS compliant with Halogen-free

Statement of connection mode

- **Communication Mode:**
 - **Modbus TCP and Modbus RTU data exchange.**
Exchange data between Modbus TCP and Modbus RTU.
 - **VxServer Mode:**
In this mode, users must install VxComm Driver in the PC to use serial communication.
 - **Pair-Connection Mode:**
This mode requires two modules cooperate with each other, one is Pair-Connection Server the other is Pair-Connection Client.
- **Transmission Type:**
 - **Ethernet:**
This mode use RJ-45 Ethernet cable to connect to the Internet and transmit data with others devices.

- **AP:**

This mode use Wi-Fi AP to connect to the Internet and transmit data.

- **Ad Hoc:**

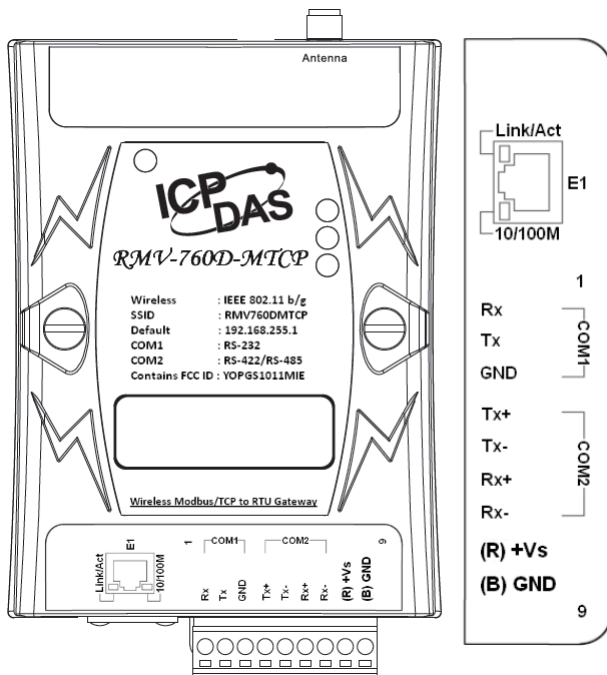
In this mode, if the PC has Wi-Fi Wireless LAN Card, users can make the PC and RMV-760D-MTCP transmit data without Wi-Fi AP and the transmission distances up to 100 meters.

2. Hardware Information

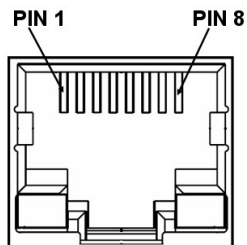
2.1 System Specifications

System	
CPU	32-bit MCU
Ethernet	10/100 Base-TX, 8-pin RJ-45 x 1
COM1	3-wire RS-232 / 2-wireRS-485 / 4-wire RS-422
Feature	
VxComm Driver	Includes a VxComm Driver for 32/64-bit Windows XP/2003/Vista/7
Pair-Connection	Supports pair-connection applications
Modbus Protocol	Supports Modbus RTU/TCP master and slave
Wi-Fi Interface	
Antenna	5 dBi (Omni-Directional)
Output Power	8 dBm @ 11Mbps
Receive Sensitivity	-83 dBm @ 11Mbps
Standard Supported	IEEE 802.11b/g
Wireless Mode	Infrastructure & Ad-hoc
Encryption	WEP, WPA and WPA2
Transmission Range	50 meters (LOS)
COM Port Format	
Baud Rate	115200 bps Max.
Data Bit	7, 8
Parity	None, Odd, Even
Stop Bit	1, 2
Power	
Power Input	+10 ~ 30 VDC
Power Consumption	0.05 A @ 24 VDC
Mechanism	
Mounting	DIN-Rail
Dimensions (WxLxH)	76 mm x 38 mm x 118 mm
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 90% RH, non-condensing

2.2 Hardware Specification



Pin	Name	Description
1	Rx	Rx of RS-232
2	Tx	Tx of RS-232
3	GND	GND of RS-232
4	Tx+	Tx+ of RS-422 / D+ of RS-485
5	Tx-	Tx- of RS-422 / D- of RS-485
6	Rx+	Rx- of RS-422
7	Rx-	Rx- of RS-422
8	(R)+Vs	V+ of Power Supply (+10~+30 VDC)
9	(B)GND	GND of Power Supply

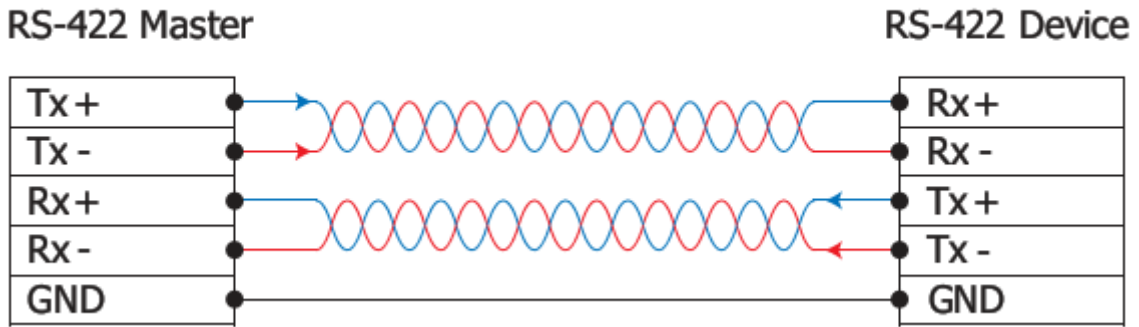


Pin	Name	Description
1	TX+	TX+
2	TX-	TX-
3	RX+	RX+
4	-	N/A
5	-	N/A
6	RX-	RX-
7	-	N/A
8	-	N/A

2.3 Wiring Note

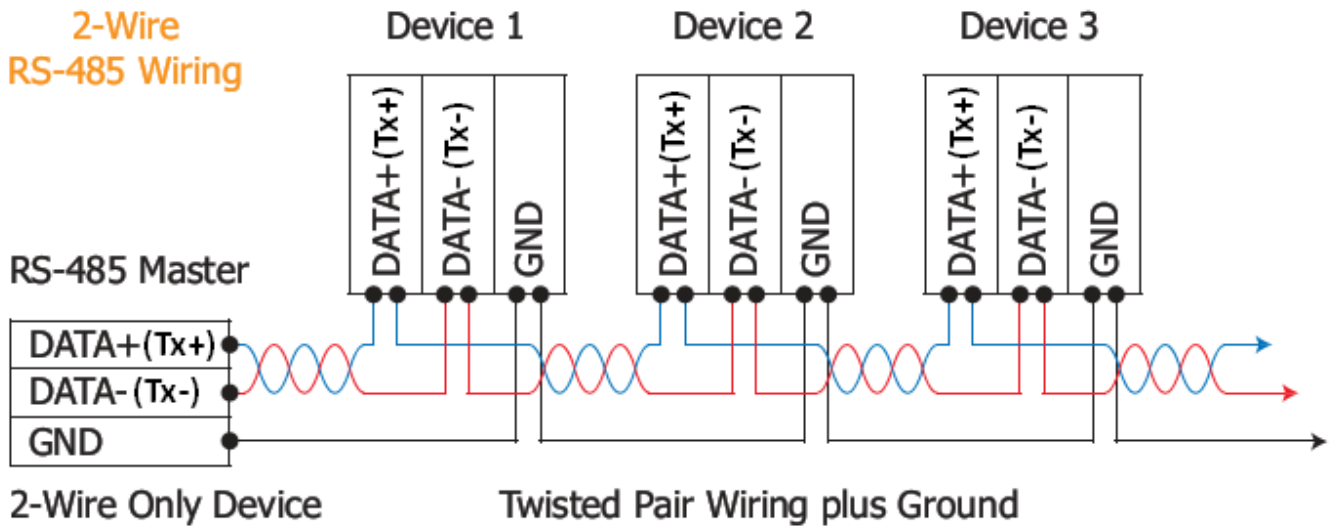
RS-422 Wire Connections

4-Wire RS-422 Wiring

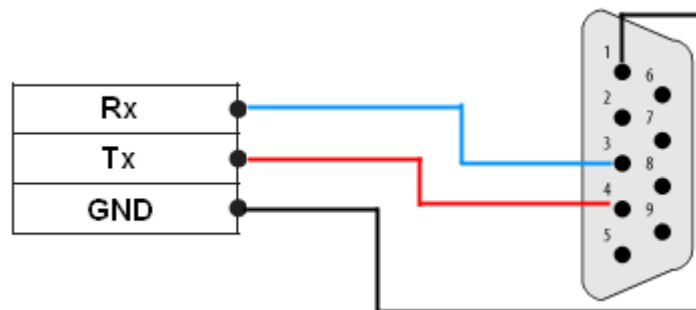


RS-485 Wire Connections

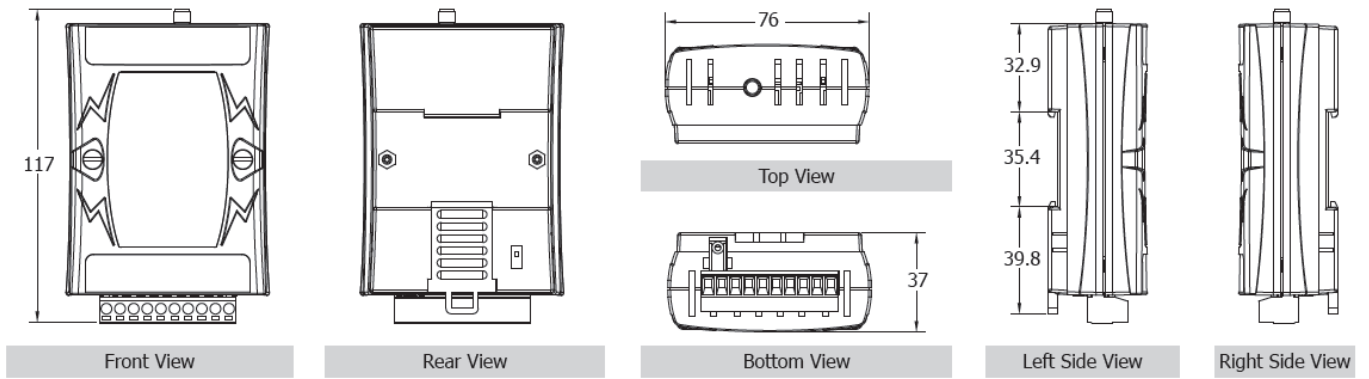
2-Wire RS-485 Wiring



RS-232 Wire Connections



2.4 Dimension(Units:mm)



2.5 5-Digital 7 Segment LED Display

The RMV-760D-MTCP is built-in 5-Digit 7 segment LED Display. User can get the system information from the starting process. The messages are shown as VxServer, Pair-Connection Server and Pair-Connection Client types. Each type is shown as Ethernet, AP, Ad Hoc modes.

3. VxComm Application

3.1 VxServer Introduction

The VxServer is a virtual com middleware software. The VxServer with VxComm Driver can create virtual COM ports in Windows and maps them to the serial ports of the RMV-760D-MTCP devices through the Ethernet and Wi-Fi network. The user's RS-232 client programs need only to change to the virtual COM port to access the serial devices connected to the device servers through the network.

Module Mode

LED Process	Information
FNC.1	Modbus RTU/TCP to Modbus TCP/RTU mode
FNC.2	Pair-Connection Mode
FNC.3	VxServer Mode

Network Configurations

LED Process	Information	
1.	Shown in 1 st time	1 st position of Ethernet IP address
	Shown in 2 nd time	2 nd position of Ethernet IP address
	Shown in 3 rd time	3 rd position of Ethernet IP address
	Shown in 4 th time	4 th position of Ethernet IP address
2.	Shown in 1 st time	1 st position of Wi-Fi IP address
	Shown in 2 nd time	2 nd position of Wi-Fi IP address
	Shown in 3 rd time	3 rd position of Wi-Fi IP address
	Shown in 4 th time	4 th position of Wi-Fi IP address
3.	Shown in 1 st time	1 st position of Server IP address
	Shown in 2 nd time	2 nd position of Server IP address
	Shown in 3 rd time	3 rd position of Server IP address
	Shown in 4 th time	4 th position of Server IP address

Connection Status

LED Process	Information
CON.1	Connect to MB TCP server via Ethernet.
CON.2	Connect to MB TCP server via Wi-Fi.
CON.3	Create a MB TCP server on Ethernet.
CON.4	Create a MB TCP server on Wi-Fi.
CON.5	Make a Pair-Connection via Ethernet.
CON.6	Make a Pair-Connection via Wi-Fi.
CON.7	Create a VxServer on Ethernet.
CON.8	Create a VxServer on Wi-Fi.
CON.9	Connect to Wi-Fi AP.
Err.1	Cannot connect to MB TCP server via Ethernet.
Err.2	Cannot connect to MB TCP server via Wi-Fi.
Err.3	Cannot create a MB TCP server on Ethernet.
Err.4	Cannot create a MB TCP server on Wi-Fi.
Err.5	Cannot make a Pair-Connection via Ethernet.
Err.6	Cannot make a Pair-Connection via Wi-Fi.
Err.7	Cannot create a VxServer on Ethernet.
Err.8	Cannot create a VxServer on Wi-Fi.
Err.9	Cannot connect to Wi-Fi AP.

3.2 VxServer Installation

Download VxComm Driver:

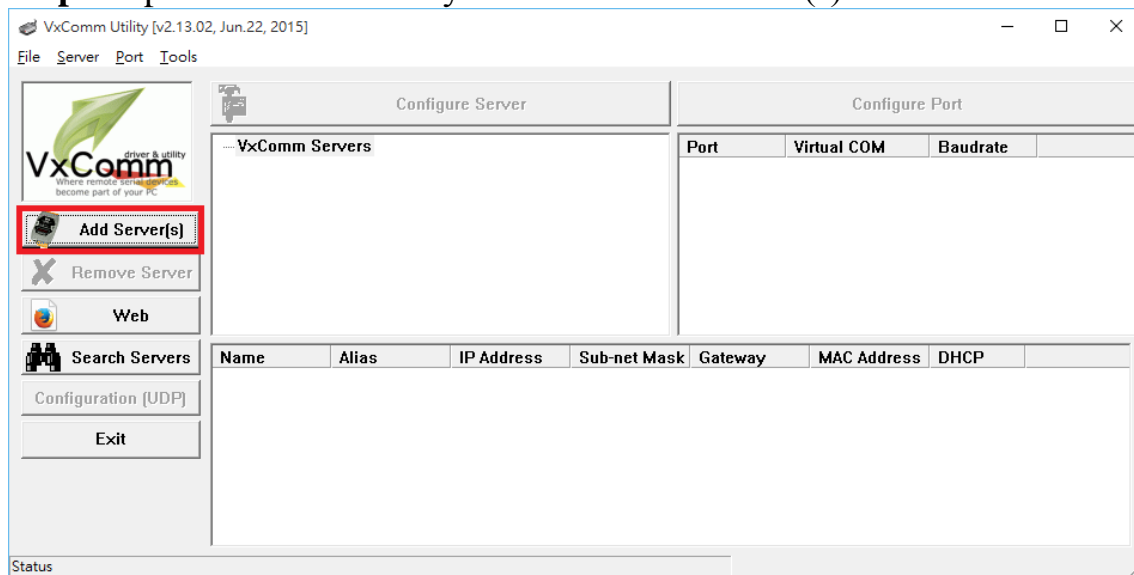
http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/vxcomm_driver/

"VxComm2K_v2.11.05_setup.exe" for Windows NT4.0, 2000
/XP/2003 and Vista32 (32-bit)

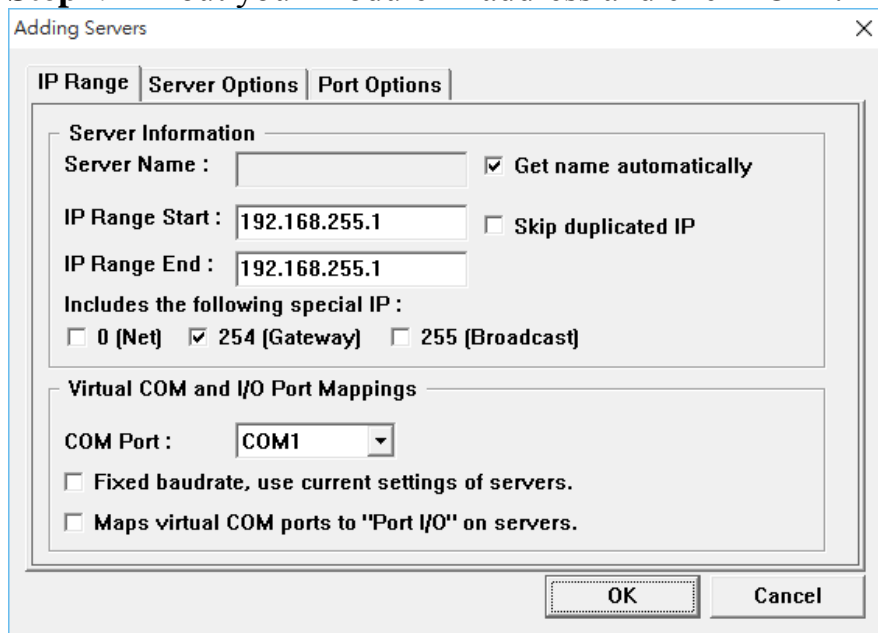
"VxComm98.exe" for Windows 95/98/ME

Please select the most suitable for your Windows and download

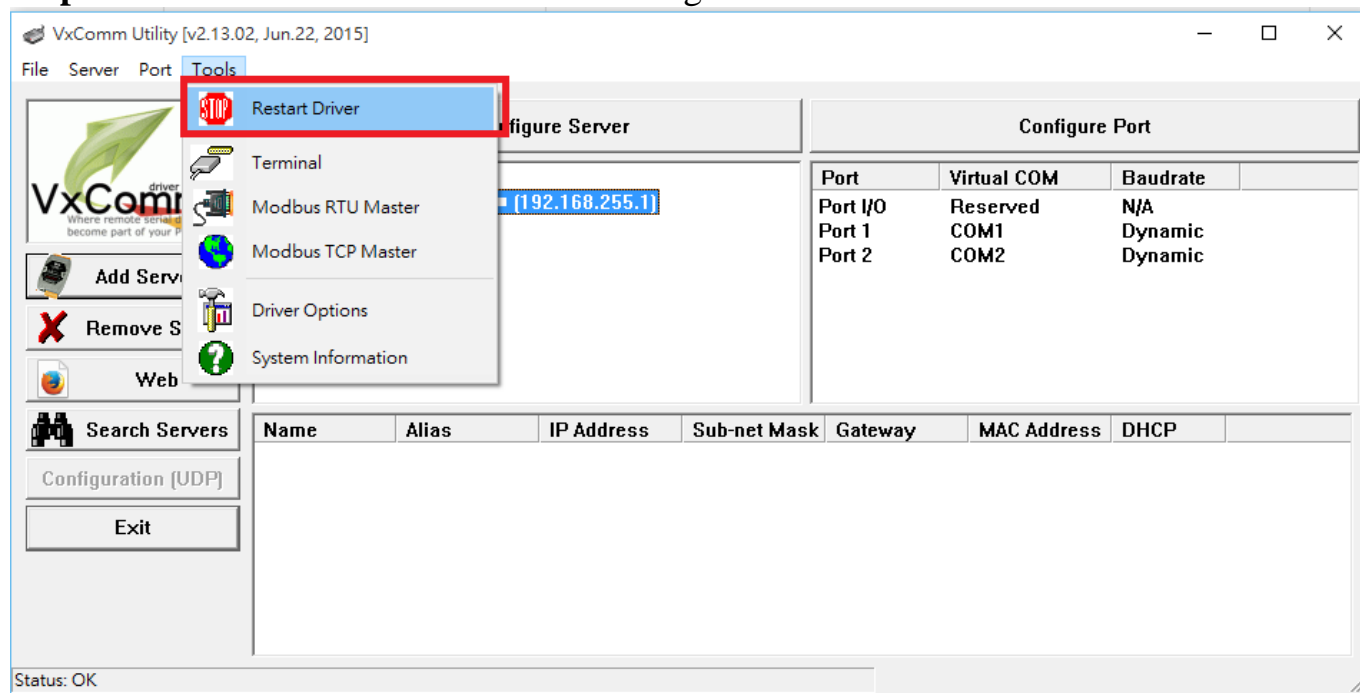
Step1: Open VxComm Utility and click “Add Server(s)”.



Step2: Fill out your Module IP address and click “OK”.



Step3: Reset VxComm Driver to make settings take effect.



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