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Software User's Manual

STM-60XC Series

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Software Manual
Version 1.0 (September 2018)

This manual applies to the following products: STM-601C(-T), STM-602(-T), STM-604(-T)

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Configuration Utility

1. Configuration Utility Overview

Antaira provided an easy-to-use utility to help configure the STM-60XC (-T) series gateways through an Ethernet connection. After installing the Antaira Modbus Gateway Device Configuration Utility, the serial device servers can be accessed and configured. You can connect and configure the local and remote Antaira Modbus Gateway STM-60XC (-T) series devices. The utility provides access to the following functions:

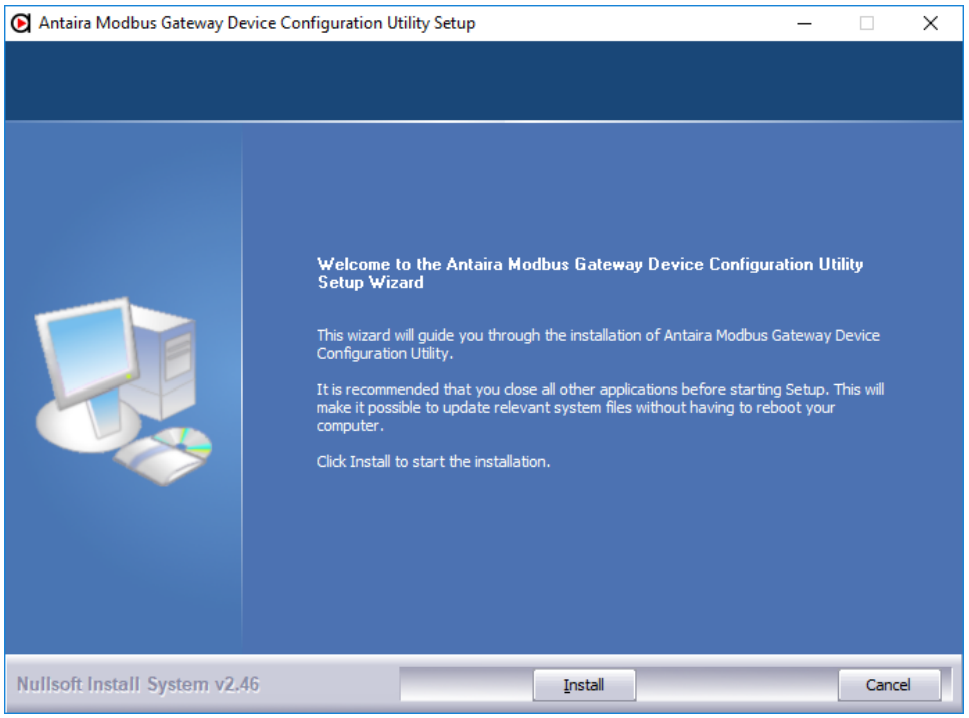
- Configure the network settings (you can set the IP address, Gateway address, and Subnet mask)
- View serial port status (operating mode, and Host IP)
- Perform administrative functions (Locate, upgrade firmware, reset, and restore factory defaults)

2. Installing the Configuration Utility

1. If there is an existing COM port mapping utility on the host PC, remove it at this time. A system reboot may be necessary before continuing the installation.

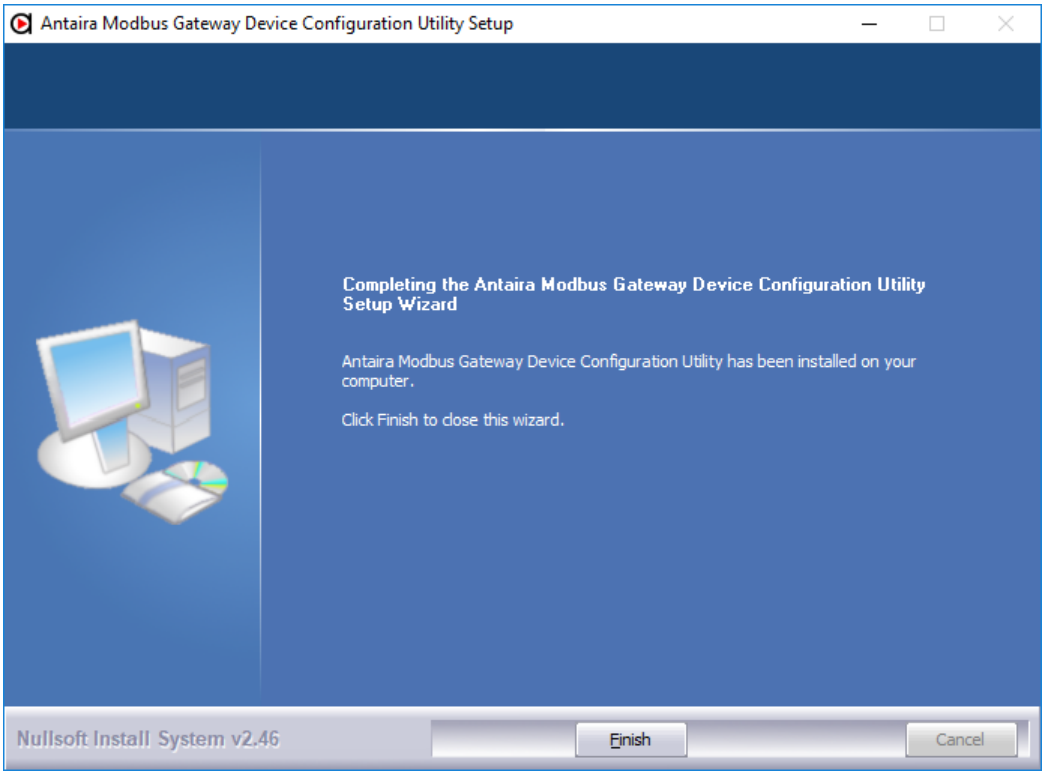
2. Download the Configuration Utility from the website. You will find it on the product page's download tab.

3. Once the Installation Wizard screen displays, click Install to proceed with the installation.



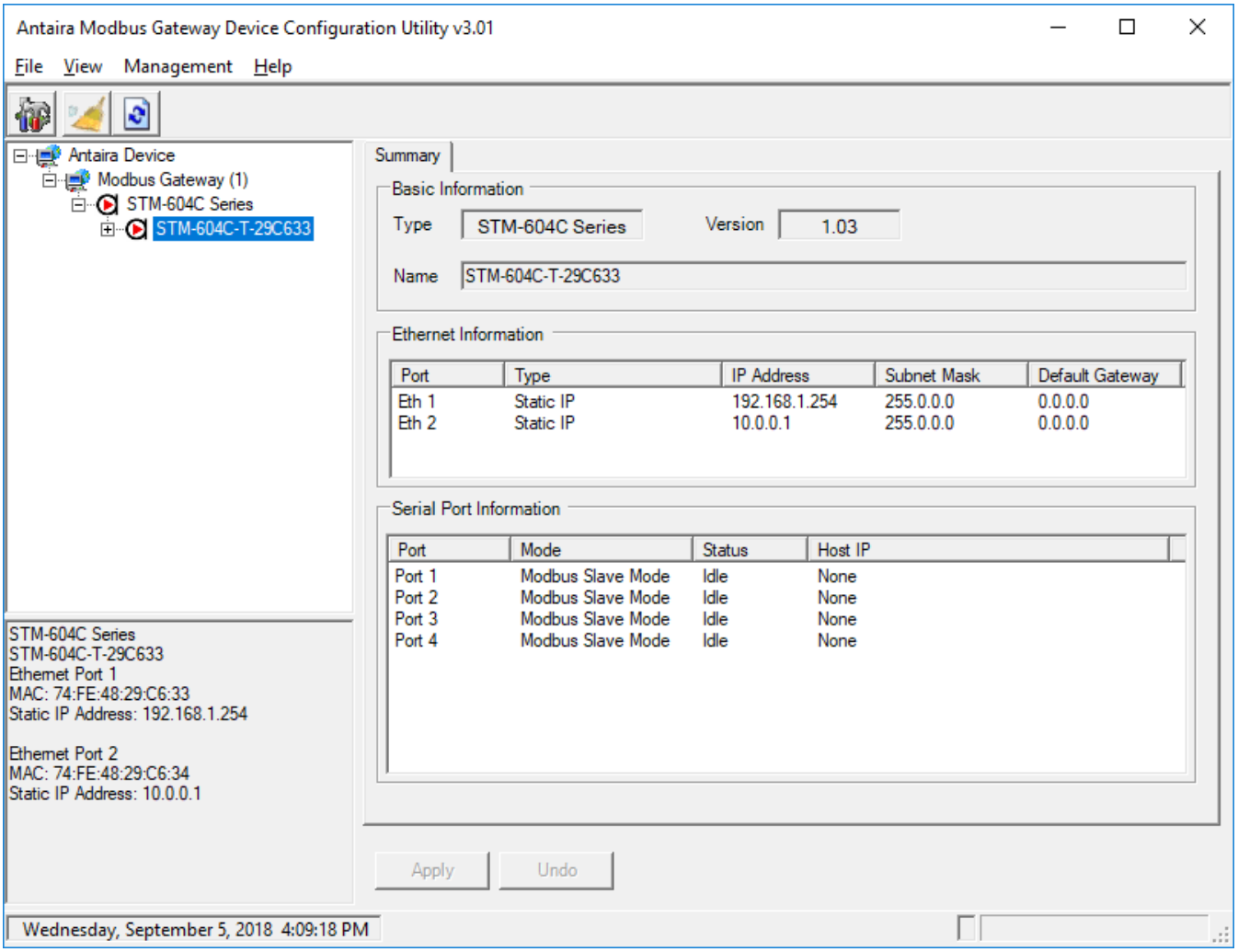
4. When the Software License Agreement displays, press I Agree to continue or Cancel to stop the installation.The InstallShield continues and a status screen displays.

5. Once the installation of the package is finished a Configuration Utility Setup screen displays. Click Finish to conclude the process and exit the InstallShield Wizard.



3. Menu Bar

You can open the Configuration Utility from the Windows Start Menu by clicking Start > All Programs > Antaira Modbus Gateway Device Configuration Utility > Antaira Modbus Gateway Device Configuration Utiility. The Configuration Utility displays as shown in the following figure (Note: you may want to run this Utility as an Administrator to gain all the functionality of the Utility).

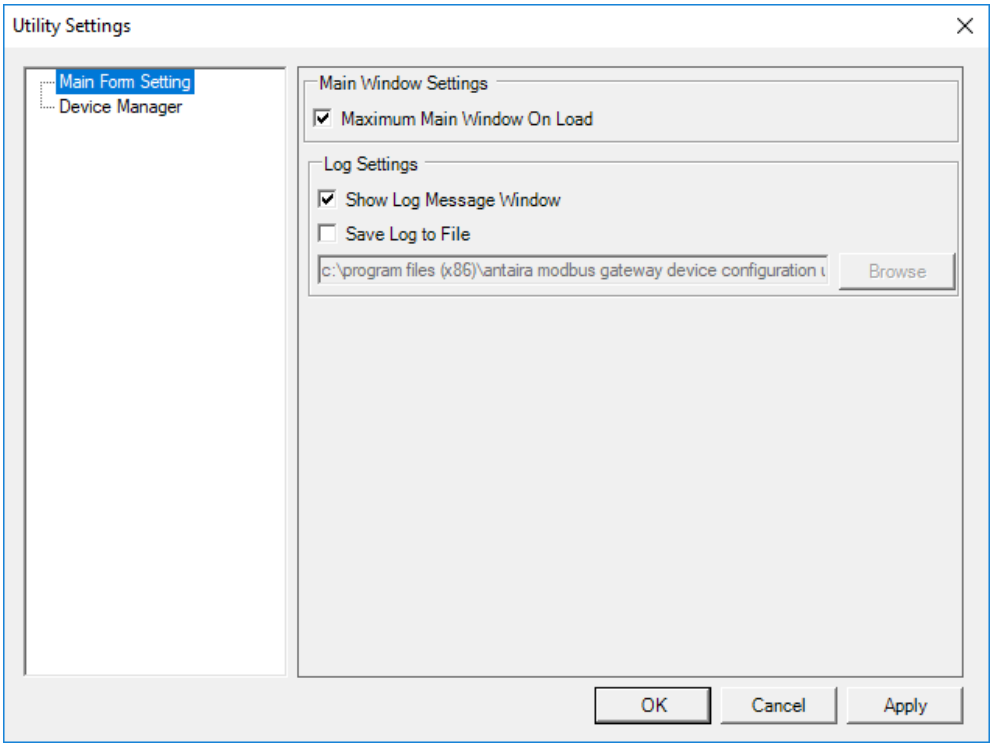


4. Quick Tool Bar

Icon	Item	Descripton
	Utility Settings	Configure settings for Utility.
	Clear Device List	Click to clear listed devices and initiate new search.
	Search Again	Click to initiate new search.

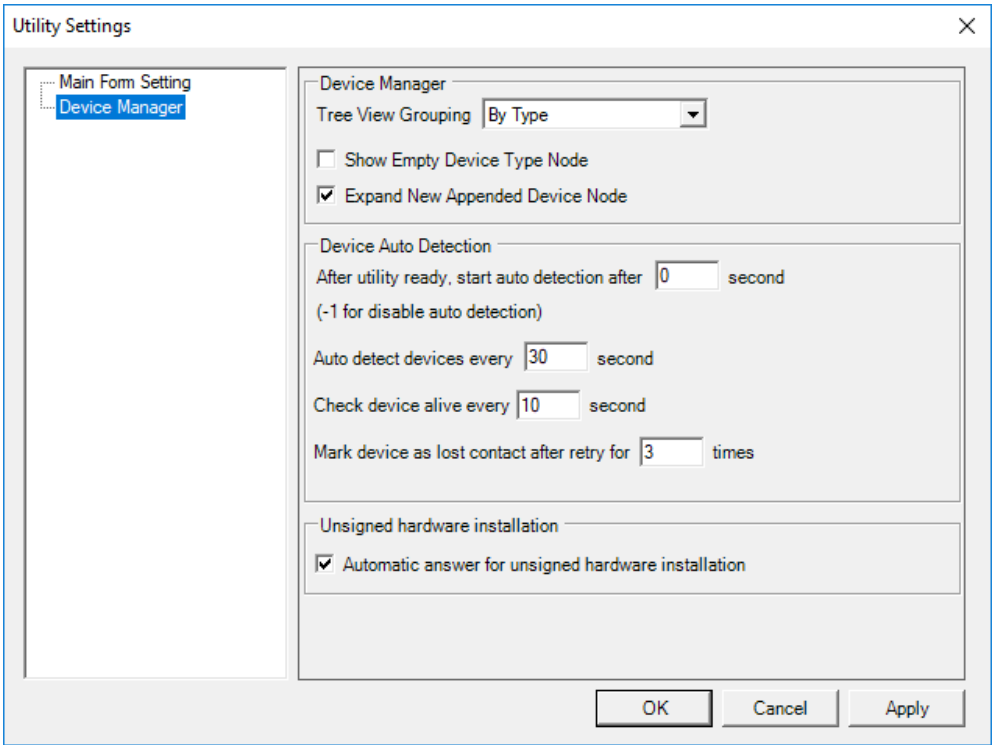
4.1. Utility Settings

Main Form Settings



Item	Description
Maximum Main Window On Load	Check the box to enable the limiting of main windows on-load to the maximum value.
Show Log Message Window	Check the check box to activate the AdvLogMessage form. The Form Log message displays.
Save Log to File	Check the check box to save log to file.

Device Manager



Item	Description
Tree View Grouping	Click the drop-down menu to enable or disable grouping.
Show Empty Device Type	Check the check box to show empty device type node or not.
Expand New Appended Device Node	Check the check box to expand a new appended device node.
After Utility Ready…	Enter a value to specify the time to auto detection time (-1 means disable auto detection).
Auto detect devices	Enter a value to specify the time to auto detect devices.
Check device alive	Enter a value to specify the time to check device alive.
Mark Devices…	Enter a value to specify the time to mark device as lost contact.
Automatic answer…	Check the check box to enable or disable answer automatically for unsigned hardware installation.

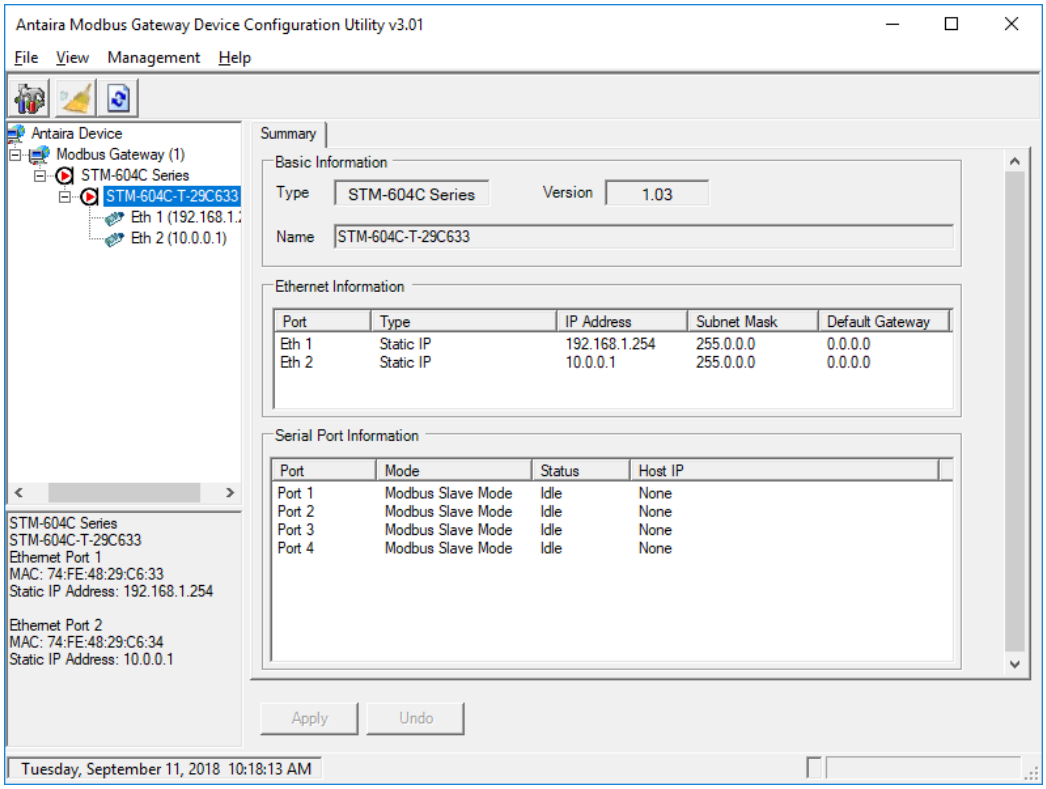
5. Discovering Devices

5.1. Auto Search

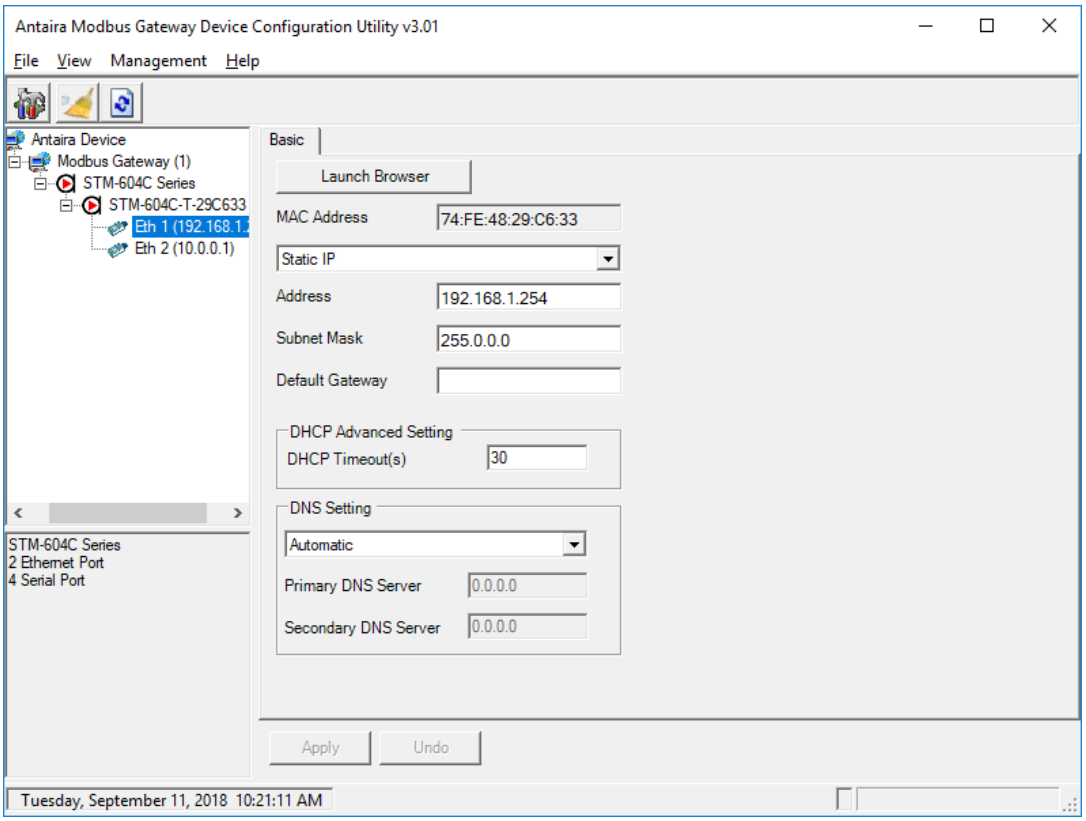
The Antaira Modbus Gateway Device Configuration Utility will automatically search all the STM-60XC Series device servers on the network and show them on the Antaira Device List Area of the utility. The utility provides an auto-search function to show your device (s) by simply executing the configuration utility program from the Start Menu.

From here all devices on the same network domain will be searched and displayed on Antaira Device List Area. You can click on a device name to show the features of the specific device.

Click on the “+” before the model name, and the utility will expand the tree structure to show the individual device name. Click on the “-” before the model name, and the utility will collapse the tree structure.



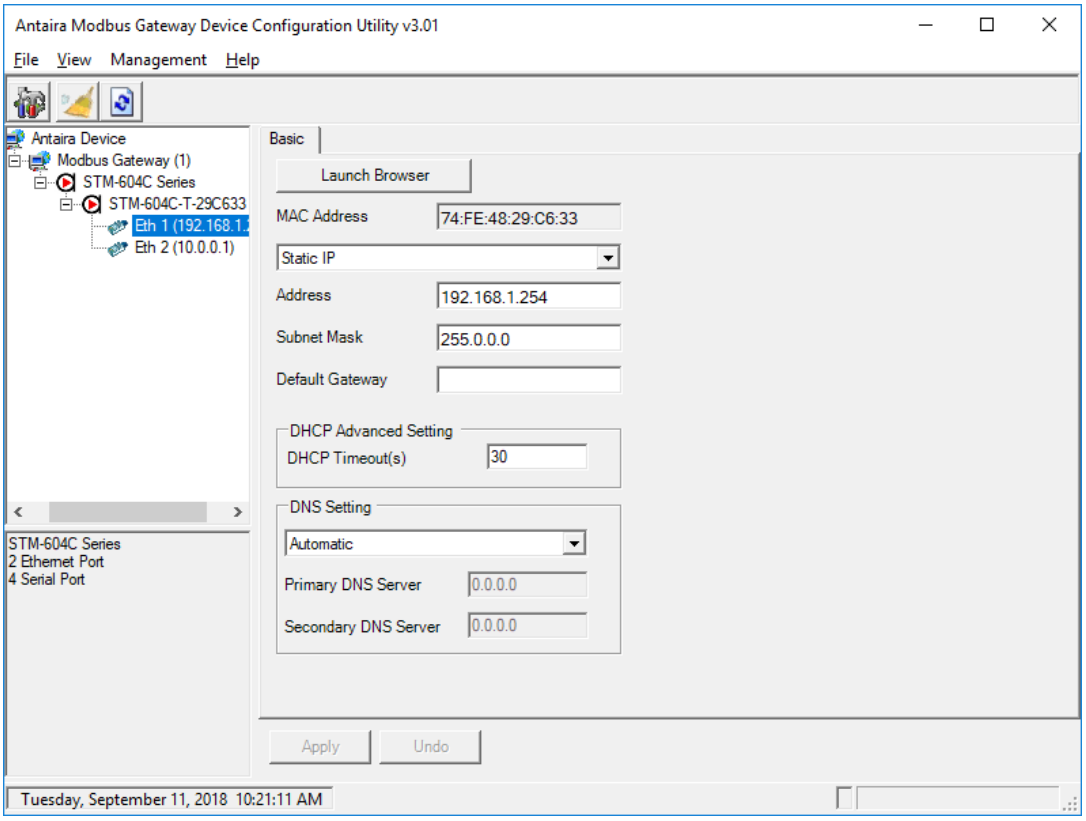
Click on each item to enter the configuration page to change the setting. The configuration will be introduced in the following sections.



5.2. Network Settings

This section explains how to configure the STM-60XC Series network settings using the configuration utility to allow it to a serial device over a network connection. Click on the “+” before

the model name (e.g. STM-604C-T) to expand the device's sub- menu listing. Click on the "+" before the device name, and the utility expands the interfaces on the device server. Select the Ethernet interface (Eth1 or Eth2) to view the settings and modify them.

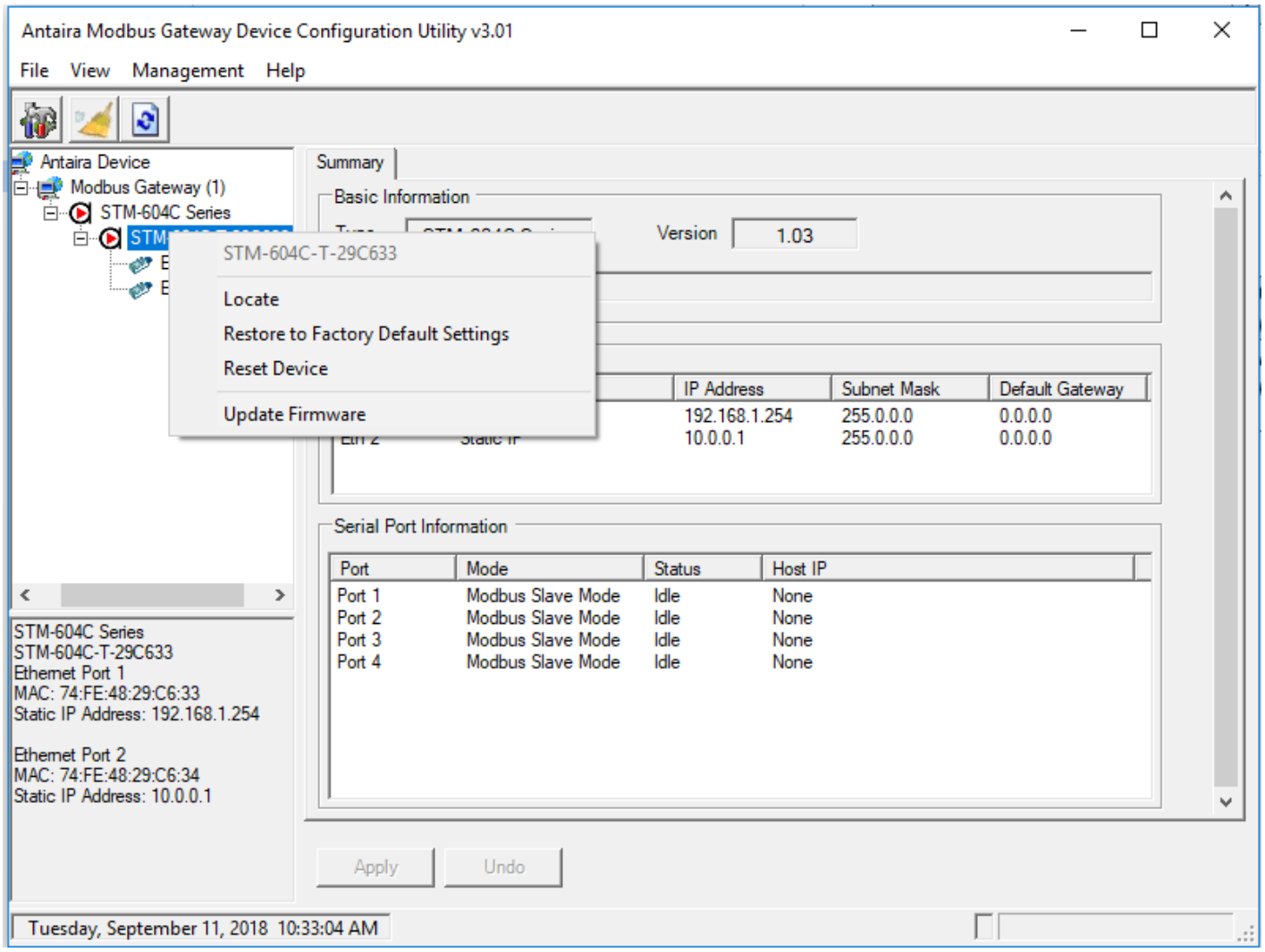


You can choose from four possible IP Configuration modes --- Static, DHCP, BOOTP, and DHCP/BOOTP.

Item	Description
Static IP	Static IPUser defined IP address, Subnet Mask, and Default Gateway.
DHCP + Auto-IP	DHCP Server assigned IP address, Subnet Mask, Default Gateway, and DNS.
BOOTP + Auto-IP	DHCP Server assigned IP address, Subnet Mask, Default Gateway, and DNS, or BOOTP Server assigned IP address. (If the DHCP Server does not respond)
DHCP + BOOTP + Auto-IP	DHCP Server assigned IP address, Subnet Mask, Default Gateway, and DNS, or BOOTP Server assigned IP address. (If the DHCP Server does not respond)
DNS Setting	In order to use DNS feature, you need to set the IP address of the DNS server to be able to access the host with the domain name. The STM serial device server provides Primary DNS Server and Secondary DNS Server configuration items to set the IP address of the DNS server. Secondary DNS Server is included for use when Primary DNS server is unavailable.
DHCP Advanced Setting	When you enabling DHCP protocol to get the IP address, it will wait for the DHCP server to give the IP within the DHCP time out. The default value is 180 seconds.

5.3. Administrator Settings

Right-click a desired device to display the settings menu.



Function	Description
Locate	Turns on an audiable tone on device and the Status LED will be solid amber until the locate function has been turned off.
Restore to Factory Default Settings	Sets the device back to defaut settings.
Reset Device	Restarts the device.
Update Firmware	When updates are available, they can be installed here.

Web Interface

6. Overview

ANTAIRA's STM Modbus Gateway can be configured through a web interface. In the browser's address field, enter the IP Address of your STM serial device server. The default IP setting is Eth1:192.168.1.254 or Eth2:10.0.0.1.

> ***Note!*** *Before using the web-based configuration, make sure your host PC Ethernet network IP domain is as same as the serial device server, or it can establish the TCP connection with the serial device server.*

7. Accessing the Web Page

To access the web page via a web browser, first power on the device. The following information guides you through the login process.

1. Launch your web browser on the PC.
2. In the browser's address bar, type the device's default IP address (Eth1: 192.168.1.254, Eth2: 10.0.0.1).
3. The main interface displays.

8. System

You can change the Device Name and Device Description on this page. You can also modify the Timezone settings.
To acces this page, click System.

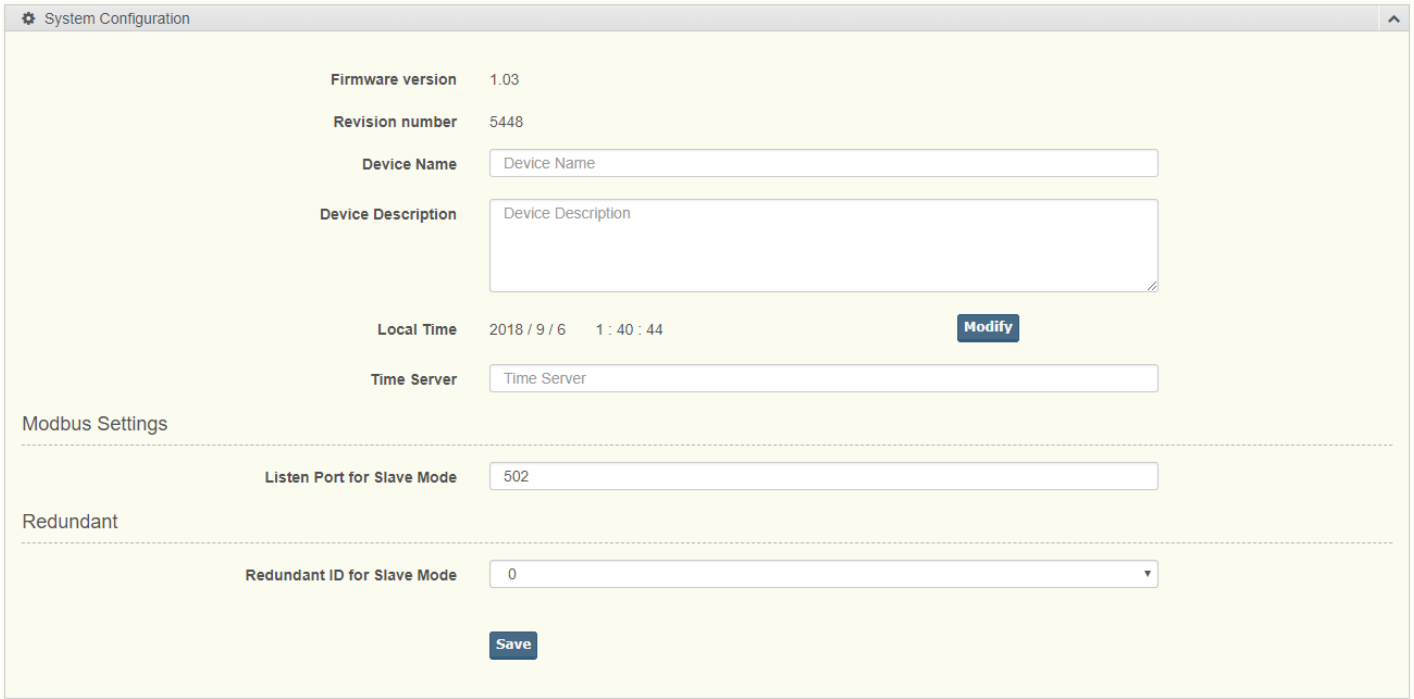


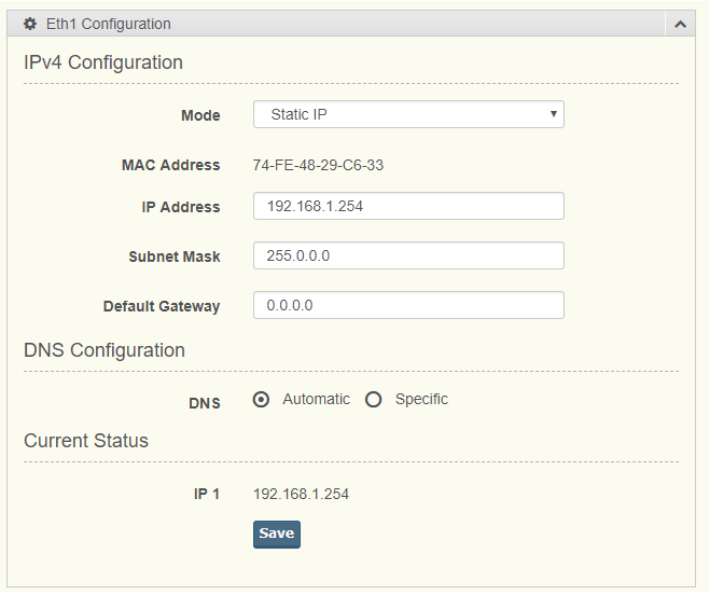
Figure Setting Time Zone

The following table describes the items in the previous figure.

Item	Description
Firmware version	Displays the current firmware version of the device.
Revision number	Displays the revision number of the device.
Device Name	Enter the device name: up to 31 alphanumeric characters.
Device Description	Enter the device description.
Telnet	Click Enabled or Disabled to set remote access through the Telnet service function.
SNMP	Click Enabled or Disabled to define the SNMP daemon.
Local Time	Click Modify to set local date and time of the system.
Time Server	Enter the address of the SNTP server. This is a text string of up to 64 characters containing the encoded unicast IP address or host- name of a SNTP server. Unicast SNTP requests will be sent to this address. If this address is a DNS hostname, then that hostname should be resolved into an IP address each time a SNTP request is sent to it.
Listen Port for Slave Mode	Enter a value to identify the channel for remote initiating connections. The default value is 502.
Save	Click Save to save the values and update the screen.

9. Ethernet Configuration

Choose either ETH 1 or ETH 2 in the Ethernet Configuration page. Enter the corresponding values for your network environment. Remember to press Save after entering all values.
To acces this page, click Ethernet Configuration.



The following table describes the items in the previous figure.

Item	Description
Mode	Click the drop-down menu to select the IP Address Setting mode: Static or DHCP.
MAC Address	Enter the MAC address to which packets are statically forwarded.
IP Address	Enter a value to specify the IP address of the interface. The default is 192.168.1.1.
Subnet Mask	Enter a value to specify the IP subnet mask for the interface. The default is 255.255.255.0
Default Gateway	Enter a value to specify the default gateway for the interface. The default is 192.168.1.254
DNS	Click the radio button to select the DNS mode: Automatic or Specific.
IP 1	Displays the current IP address 1 of the device.
IP 2	Displays the current IP address 2 of the device.
Save	Click Save to save the values and update the screen.

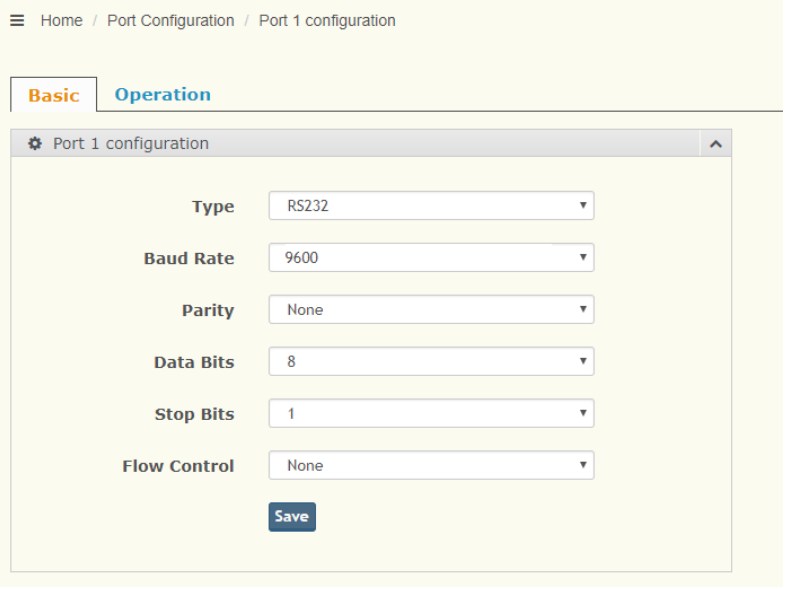
Note! *All new configurations will take effect after rebooting.*

10. Serial Port Configuration

The serial port configuration menu has Basic and Operation modes.

10.1. Basic

The Basic menu allows for the configuration of the serial interface type, baud rate, parity, data/stop bits, and flow control for port configuration.
To access this page, click Port Configuration > Basic.



The following table describes the items in the previous figure.

Item	Description
Type	Click the drop-down menu to select a serial interface: RS-422 or RS-485.
Baud Rate	Enter a value to specify the baud rate. The value should conform to the current transmission speeds of connected devices when setting the baud rate.
Parity	Click the drop-down menu to select the parity: None, Odd, Even, Mark, or Space.
Data Bits	Click the drop-down menu to select the data bits: 5, 6, 7, or 8.
Stop Bits	Click the drop-down menu to select the stop bits: 1, 1.5, or 2.
Flow Control	Click the drop-down menu to select the flow control mode: None, XOn/XOff, RTS/CTS, or DTR/DSR
Save	Click Save to save the values and update the screen.

10.2. Operation

The Operation menu allows for the configuration of the mode type and related attributes for port configuration.
To access this page, click Port Configuration > Operation. Use this menu to select the port configuration mode: Modbus Slave Mode or Modbus Master Mode.
To translate RTU/ASCII to TCP, use Master Mode.

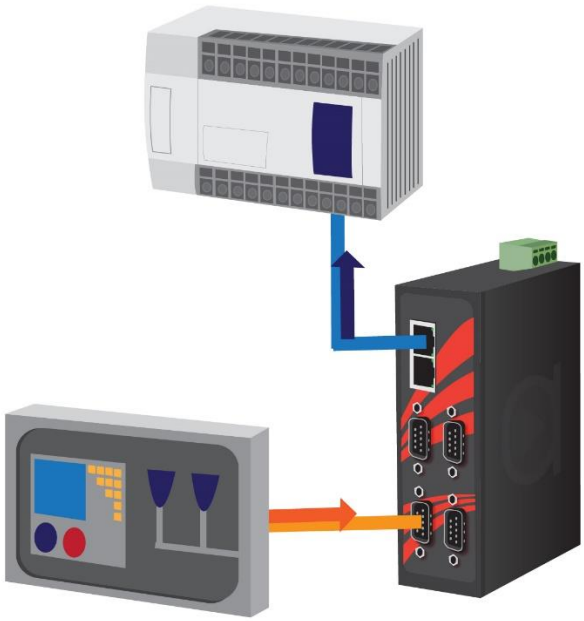


Figure Master Mode

To translate TCP to RTU/ASCII, use Slave Mode.

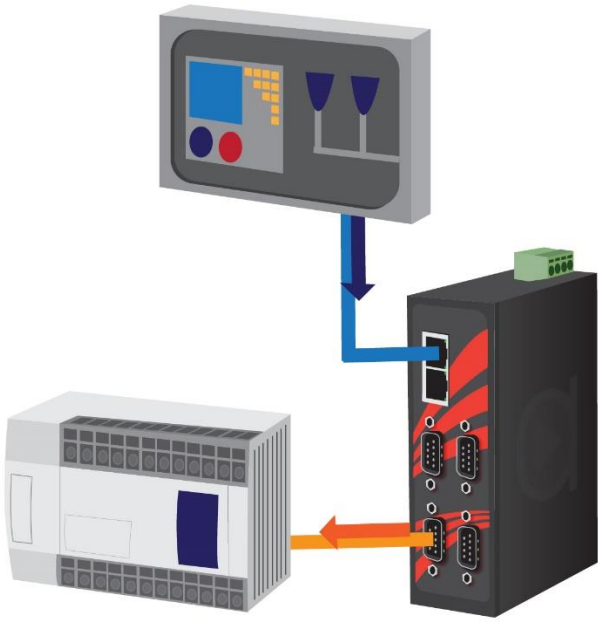


Figure Slave Mode

These are the options for Modbus Slave Mode.

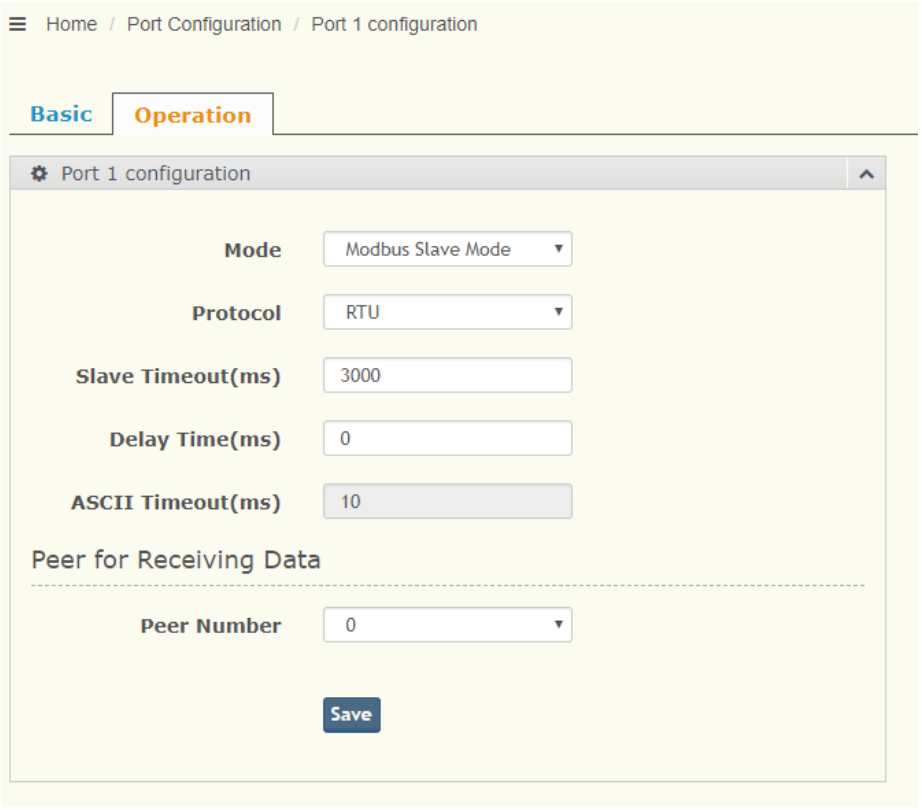


Figure Port Configuration > Operation

The following table decribes the items in the previous figure.

Item	Description
Mode	Click the drop-down menu to select the port configuration mode: Modbus Slave Mode or Modbus Master Mode.
Protocol	Select the protocol of the Slave Mode or Master Mode (RTU or ASCII).
Slave Timeout (ms)	Specify the time duration in milliseconds for the STM-60XC series to wait for a response after it has issued a command while using Modbus/RTU or Modbus ASCII. After the timeout is expired and no response is received, the STM-60XC series will regard the command as failed. Note that the timeout for the host PC must be greater than the timeout setting here specified, otherwise an error will occur.
Frame Break (ms)	Enter a value to specify the frame break time.
Peer Number	Click the drop-down menu to select the number of network devices that you want to connect.
Save	Click Save to save the values and update the screen.

These are the options for Modbus Master Mode.

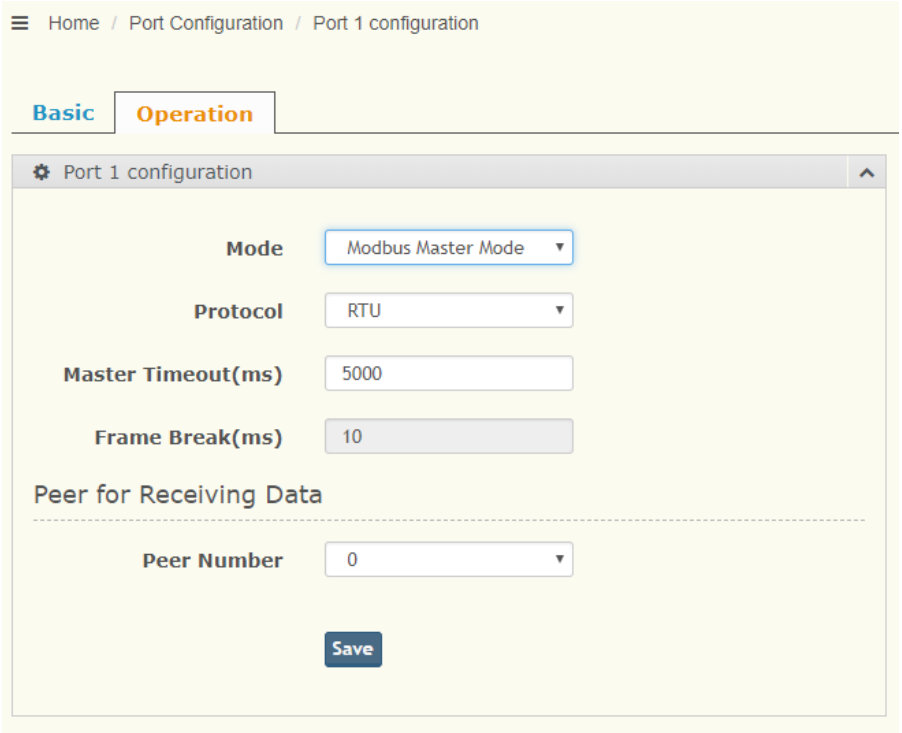


Figure Port Configuration > Operation

The following table decribes the items in the previous figure.

Item	Description
Mode	Click the drop-down menu to select the port configuration mode: Modbus Slave Mode or Modbus Master Mode.
Protocol	Select the protocol of the Slave Mode or Master Mode (RTU or ASCII).

Master Timeout (ms)	Specify the time duration in milliseconds for the STM-60XC series to wait for a response after it has issued a command while using Modbus/RTU or Modbus ASCII. After the timeout is expired and no response is received, the STM-60XC series will regard the command as failed. Note that the timeout for the host PC must be greater than the timeout setting here specified, otherwise an error will occur.
Frame Break (ms)	Enter a value to specify the frame break time.
Peer Number	Click the drop-down menu to select the number of network device which you want to connect.
Save	Click Save to save the values and update the screen.

11. Monitor

The STM-60XC serial device server allows monitoring of the serial ports' status. The serial port's operation mode and status are available for display. The IP address of the host PC, which is communicating with serial ports, is also displayed.
The Monitor function provides a method to monitor the serial device server's status (operation mode, baud rate, data bits, stop bits, parity, and RTS/XON/DTR).
Monitoring information is divided into three main message types: Setting/Statistic/Connected IP.

11.1. Setting

The Monitor Setting page allows for easy viewing of the ports' statistics.
To access this page, click Monitor > Setting.

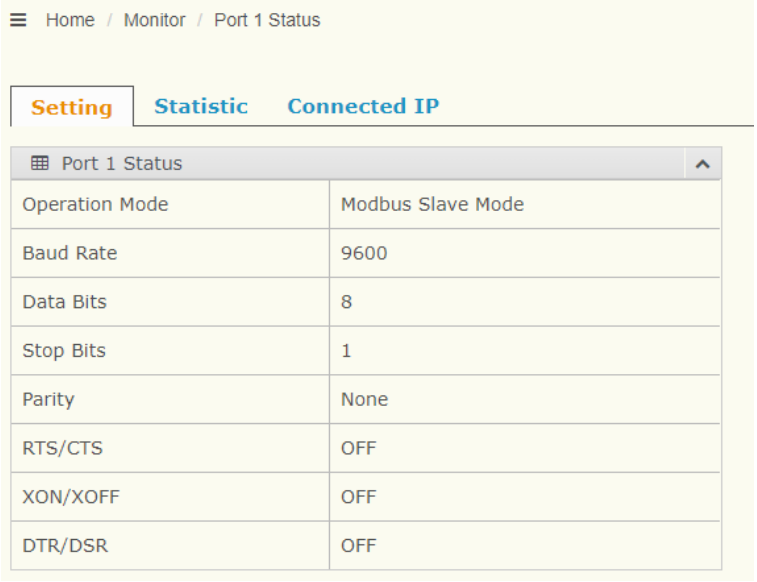


Figure Monitor > Setting

The following table describes the items in the previous figure.

Item	Description
Operating Mode	Display the current operation mode of the selected port.

Baud Rate	Display the current baud rate of the selected port.
Data Bits	Display the current data bits of the selected port.
Stop Bits	Display the current stop bits of the selected port.
Parity	Display the current parity of the selected port.
RTC/CTS	Display the current RTS/CTS status of the selected port.
XON/XOFF	Display the current XON/OFF status of the selected port.
DTR/DSR	Display the current DTR/DSR status of the selected port.

11.2. Statistic

The Monitor Statistic page allows for easy viewing of a port's Tx/Rx data count.
To access this page, click Monitor > Statistic.

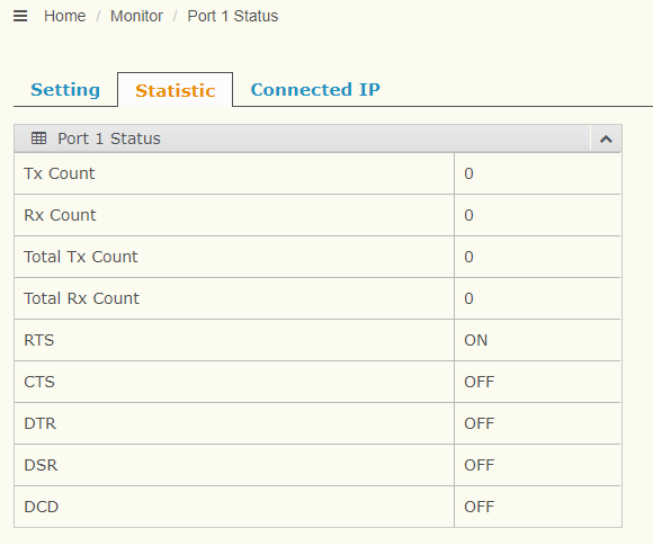


Figure Monitor > Statistic

The following table describes the items in the previous figure.

Item	Description
Tx Count	Display the current Tx count of the selected port.
Rx Count	Display the current Rx count of the selected port.
Total Tx Count	Display the current total Tx count of the selected port.
Total Rx Count	Display the current total Rx count of the selected port.
RTS	Display the current RTS status of the selected port.
CTS	Display the current CTS status of the selected port.
DTR	Display the current DTR status of the selected port.
DSR	Display the current DSR status of the selected port
DCD	Display the current DCD status of the selected port.

11.3. Connected IP

The Monitor Connected IP page allows for easy viewing of all connected device's IP address. To access this page, click Monitor > Connected IP.

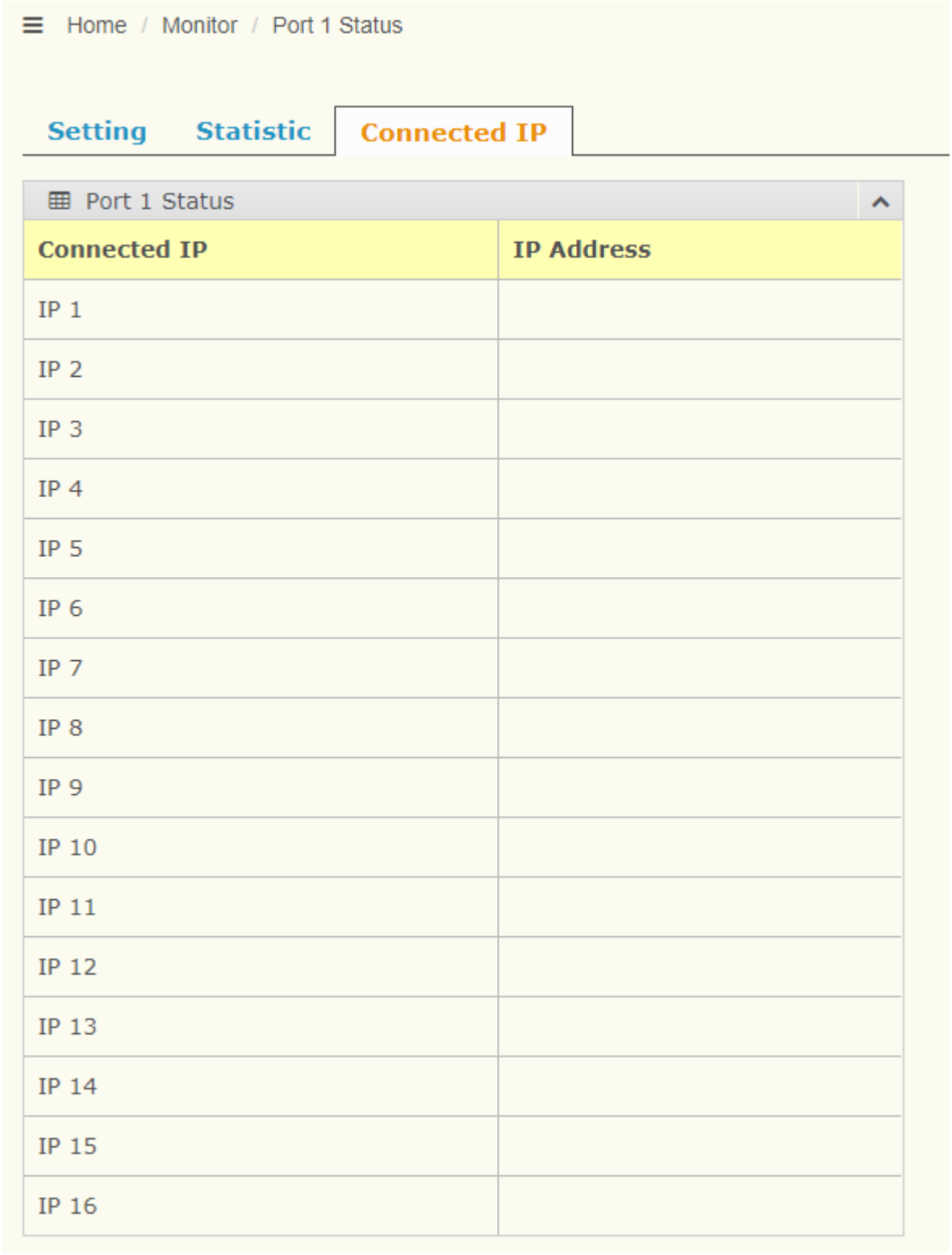


Figure Monitor > Connected IP

The following table decribes the items in the previous figure.

Item	Description
Connected IP	Displays the IP designation for the device.
IP Address	Displays the current connected IP address of the selected port.

12. Syslogd

The STM serial device server provides the functionality to allow network devices to send event messages to a logging server, also known as a Syslog server, by way of the Syslogd function. The Syslog protocol is supported by a wide range of devices and can be used to log different types of events.

12.1. Syslogd Setting

Users can enable the syslogd function to record historical events or messages locally or on a remote syslog server.
To access this page, click Syslogd > Syslogd Setting.

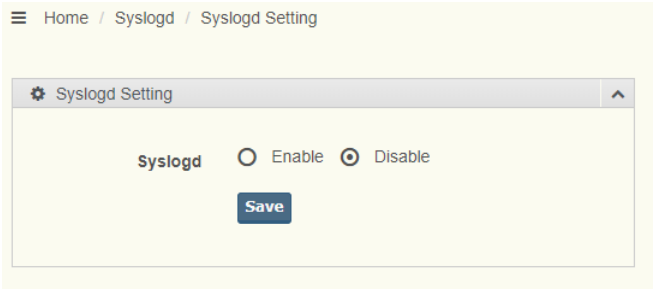


Figure Syslogd > Syslogd Setting

The following table describes the items in the previous figure.

Item	Description
Syslogd	Click Enabled or Disabled to set the logging service status.
Save	Click Save to save values and update the screen.

12.2. Syslogd Message

After enabling the syslogd function, users can check the history in the syslogd message page.
To access this page, click Syslogd > Syslogd Message.

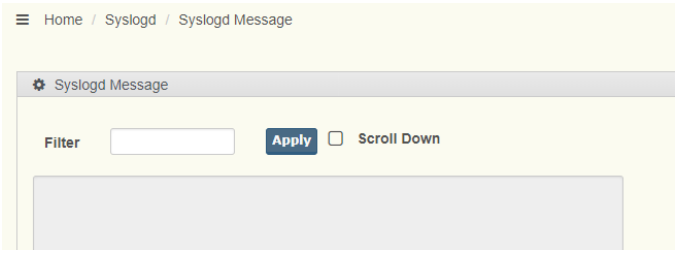


Figure Syslogd > Syslogd Message

12.3. Modbus IP Mapping

After enabling the syslogd function, users can check the modbus IP mapping.
To access this page, click Syslogd > Modbus IP Mapping.

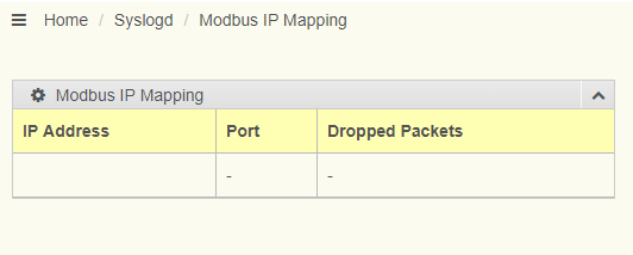


Figure Syslogd > Modbus IP Mapping

12.4. Modbus Port Mapping

After enabling the syslogd function, users can check the modbus port mapping.
To access this page, click Syslogd > Modbus Port Mapping.

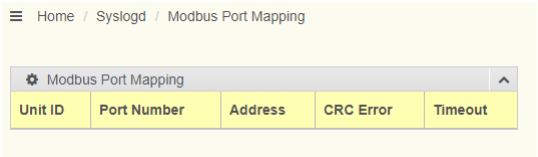


Figure Syslogd > Modbus Port Mapping

13. Tools

The STM modbus gateway provides tools for access to ping and rest functions.

13.1. Ping

The Ping page can help users diagnose Ethernet problems. Users can use the Ping page to ask the device to ping a specific target to check Ethernet connection status.
The Ping page allows you to configure the test log page.
To access this page, click Tools > Ping.

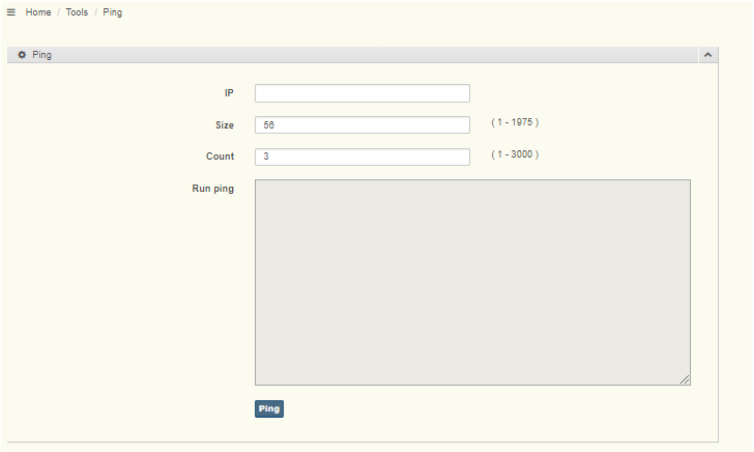


Figure Tools > Ping

The following table decribes the items in the previous figure.

Item	Description
IP	Enter the IP address or host name of the station to ping. The initial value is blank. The IP Address or host name you enter is not retained across a power cycle. Host names are composed of series of labels concatenated with periods. Each label must be between 1 and 63 characters long, maximum of 64 characters.
Size	Enter the size of the ping packet. The default value is 56. The value ranges from 8 to 5120. The size entered is not retained across a power cycle.
Count	Enter the number of echo requests to send. The default value is 4. The value ranges from 1 to 5. The count entered is not retained across a power cycle.
Run ping	Display the ping reply format.
Save	Click Save to save the values and update the screen

13.2. Reboot

The configuration will take effect after clicking Save button. But all configurations are saved to flash memory after a system reboot. Press the Reboot button and the system will give a reset response. It will take a few seconds to reconnect with the new values.
To access this page, click Tools > Reboot.

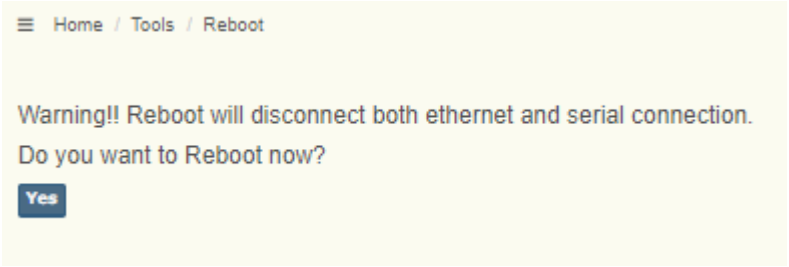


Figure Tools > Reboot

Click Reboot to reboot the serial device server. Any configuration changes you have made since the last time you issued a save will be lost.

14. Management

The STM serial device server allows for easy installation and reliable maintenance access from anywhere. With the reliable management tools available, you can streamline staffing and troubleshooting requirements to a centralized system.

14.1. Change Password

The Change Password function allows you to easily update your current password from a single menu.
To access this page, click Management > Change Password.

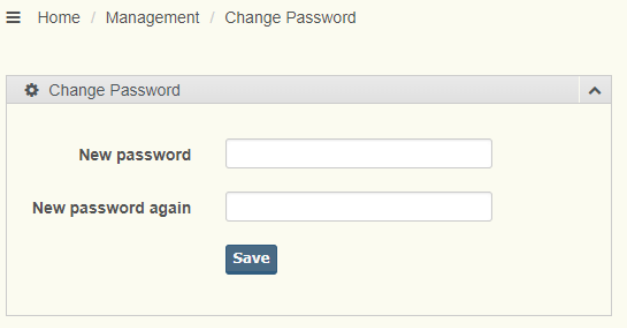


Figure Management > Change Password

The following table decribes the items in the previous figure.

Item	Description
Old Password	Enter the old password.
New Password	Enter the character set to define password.
New Password again	Re-type the password entry to confirm the profile password.
Save	Click Save to save the values and update the screen

If you have set a password through Telnet or serial console, when you access the web configuration, you need to key in the password. It is not necessary to enter the user name in the dialog.
If you want to disable the password protection, change the password to the default option None (leave the new password column blank). Be sure to press the Save button and reboot the serial device server to make the change effective.

15. Export Device Settings

Export the server configuration settings to a .conf file.
To access this page, click Management > Export.

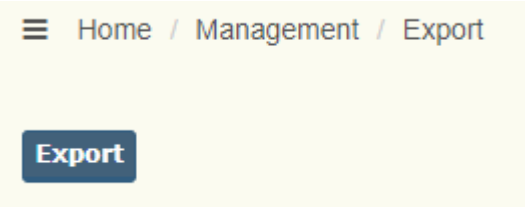


Figure Management > Export

Click Export to export the serial device server settings.

16. Import Device Settings

Import the server configuration settings from a .conf file.
To access this page, click Management > Import.

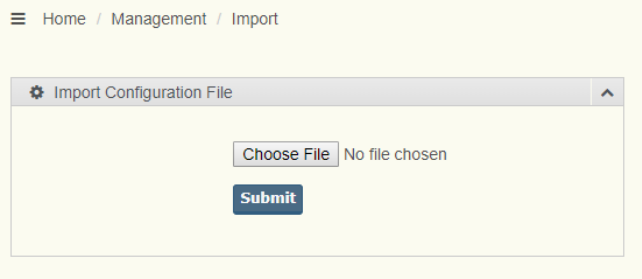


Figure Management > Import

The following table decribes the items in the previous figure.

Item	Description
Choose File	Click Choose Files to select the configuration file.
Submit	Click Submit to backup the settings.

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