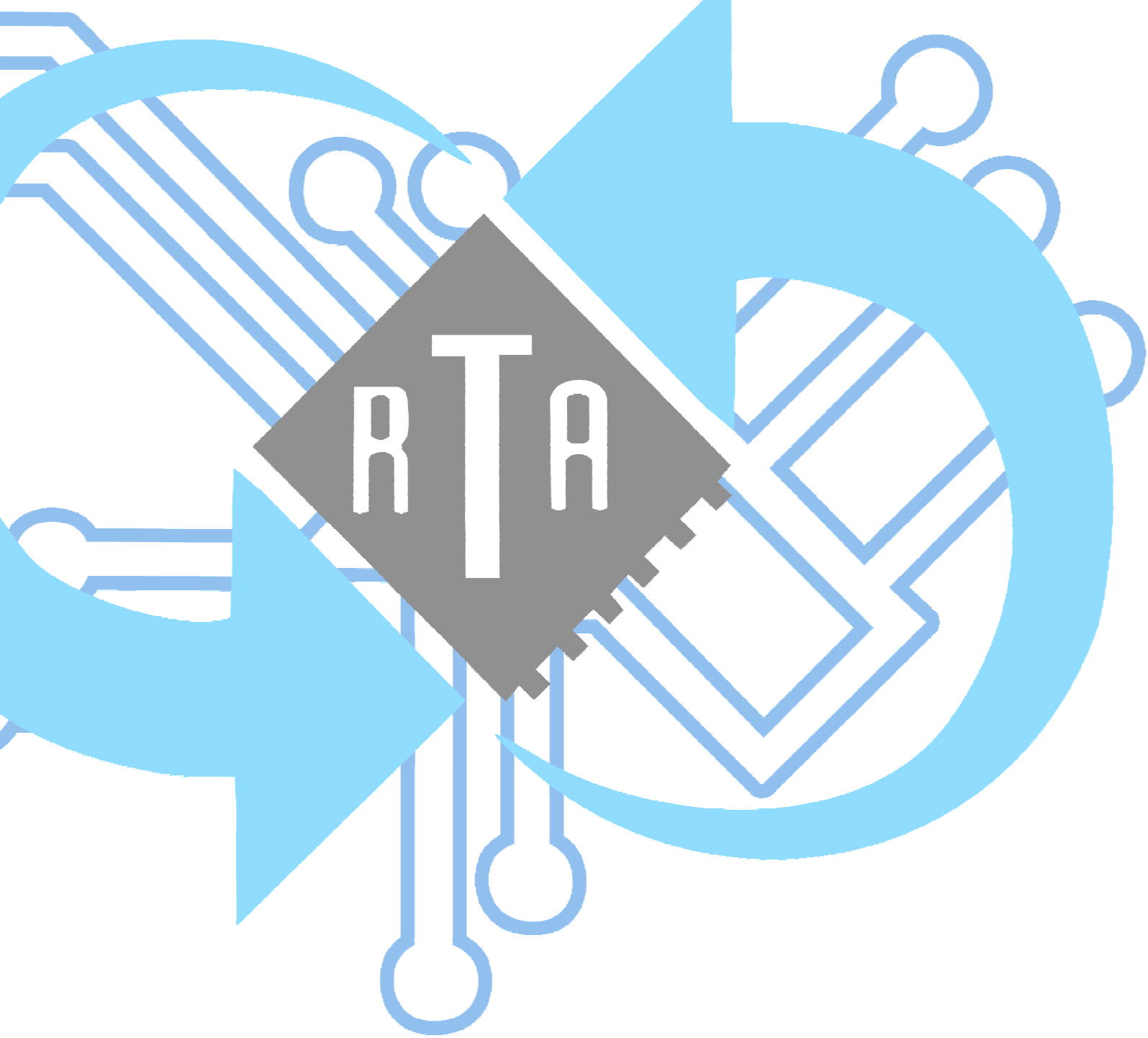

460ESBS Gateway

User Guide

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Overview

The 460ESBS Gateway connects a BACnet/IP Client and an EtherNet/IP Client. By following this guide, you will be able to configure the 460ESBS Gateway for basic operation. You will set the device's network settings and parameters to the proper configuration for initial operation and physically place the device in the network.

For further customization and advanced use, feel free to consult the provided User's Manual. In addition, Real Time Automation would be happy to provide support to help you utilize the device.

Required Tools and Data

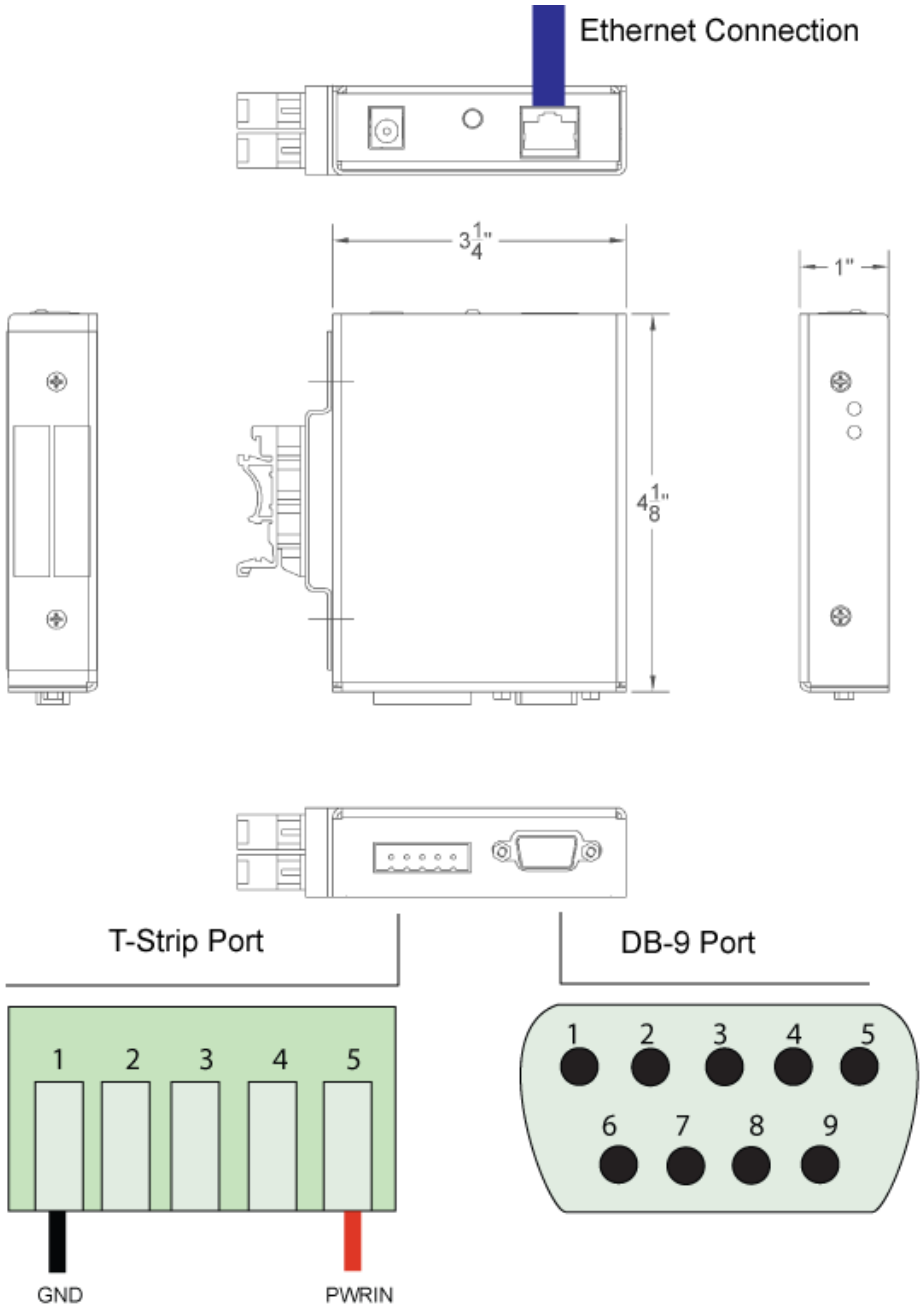
You will need the following tools:

- The 460ESBS Gateway
- The provided CD-ROM
- A working PC (Windows based)
- The Supplied Ethernet crossover cable
- A 7-30 VDC power source (T-strip)

Port Connections

The factory default port settings on the 460ESBS gateway are for Port 0 (T-strip) to be set for pin 1 to be ground and pin 5 to be power. Port 1 (DB9) is set to RS232 by default.

If these default port are not compatible with your equipment they can be configured differently. For specific jumper settings refer to the end of this manual, appendix A. For assistance changing port configurations contact our customer support department.



Accessing the Main Page

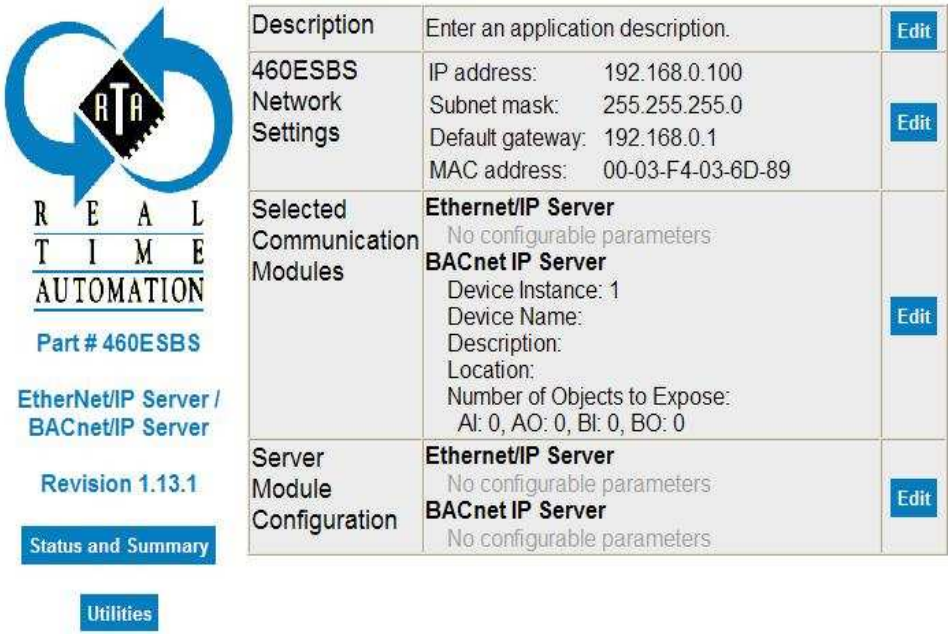
Before you can configure the 460ESBS gateway itself, you must configure the network settings to connect the gateway. The following steps will connect the gateway properly.

1) Connect the 7-30 VDC power source to the device.
2) Using the crossover cable (supplied) connect the device to the PC . (If you are connecting through a router or switch use a standard Ethernet cable.)
3) Insert the provided CD-ROM.
4) Run the **IPSetup** program from the CD-ROM.
5) Configure the **IP Address** of the unit for your subnet. (Ex: If your workstation IP address is 192.168.0.1 an acceptable IP Address for the gateway would be 192.168.0.100.)
6) Click **Set.**
7) Click **Launch Webpage.** The Main page should appear.

NOTE

Browser configuration is only Internet Explorer compatible. The use of FireFox is not supported.

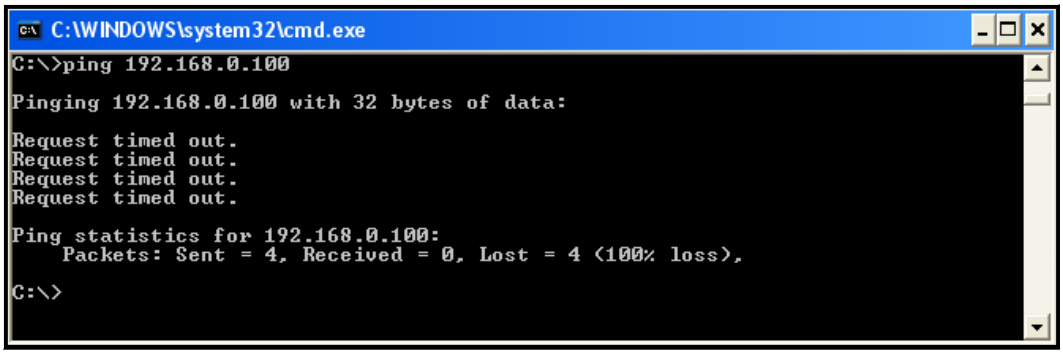
Default IP address is 192.168.0.100

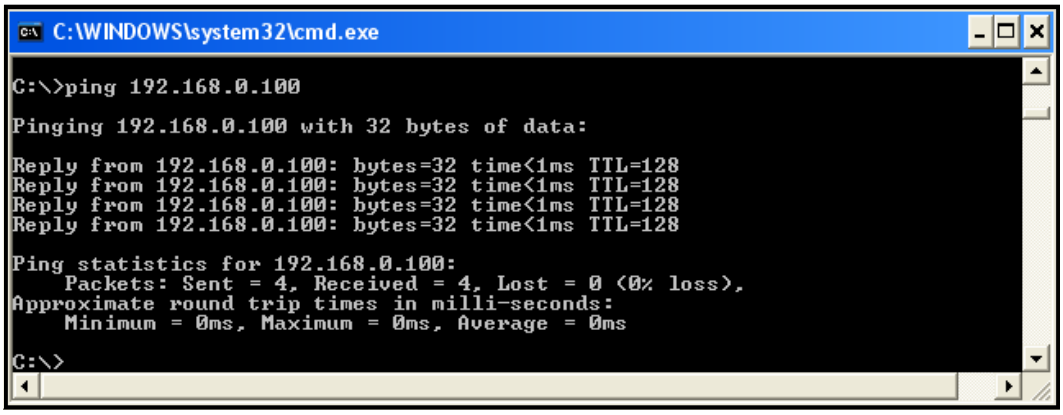


Error: Main Page Does Not Launch

If the Main Page does not launch, the IP Address is most likely set incorrectly. Correct the IP Address and try again. If you do not know the IP address use the following procedure:

1) Open an MS-DOS Command Prompt.
2) Type *ipconfig* and press **Enter**.
3) Note the IP Address.
4) To test the communication between the PC and the unit, type *ping **(###.###.#.###)*** in the prompt and press **Enter**. The ***(###.###.#.###)*** is a placeholder for the IP Address you used in step 5 of Accessing the Main Page, which is *192.168.0.100* by default. If the device is connected to the network the ping will show a response. If you get no response check the crossover cable.





BACnet/IP Server Settings

Now that the device is on the network you will configure the device settings.

1) If you would like to change the device description, on the main page, in the Description row, click **Edit.** Otherwise, skip to step 4.

2) Type the desired description into the text box.

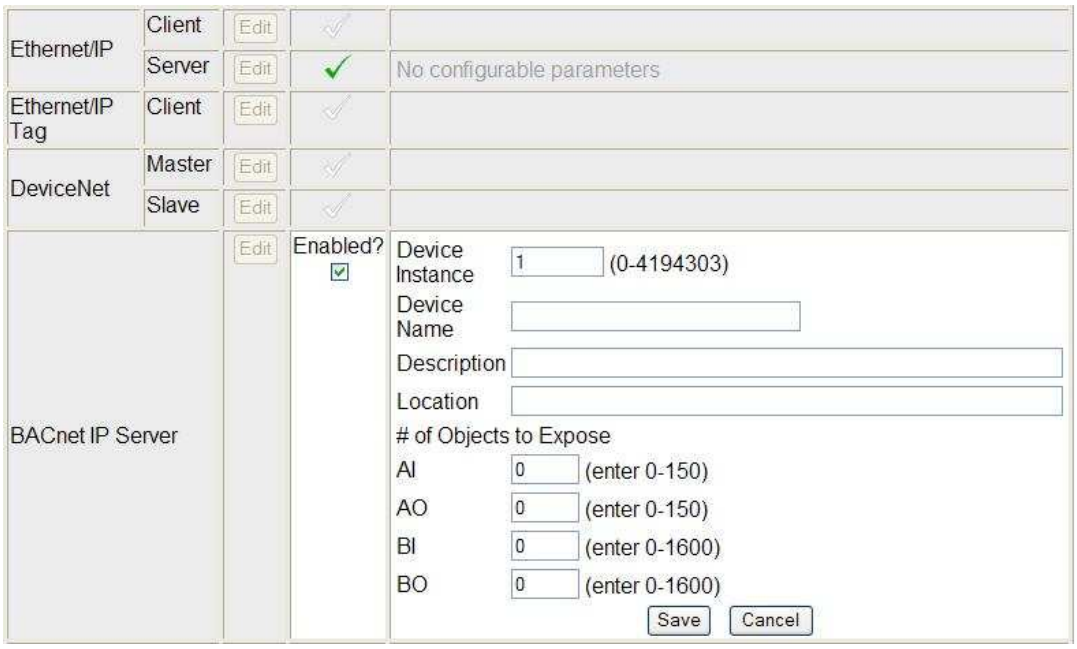
3) Click **Save.**

4) In the Selected Communication Modules row, click **Edit.**

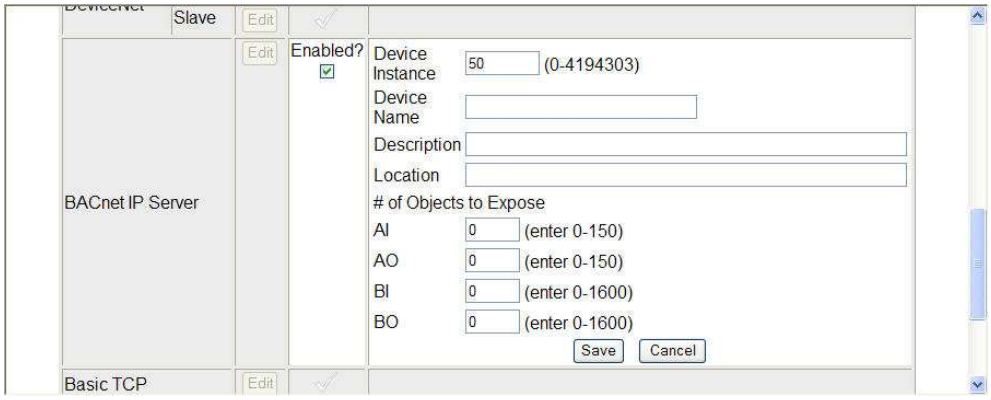
5) Ensure that the following devices are enabled:: Ethernet/IP Client, BACnet/IP Server

6) Scroll down to the BACnet/IP Server row and click **Edit.** Verify that the Enabled box is checked.

7) Enter in a Device Instance that is unique within the BACnet network..



8) In the **Device Name** field enter a unique name for the device used to identify it on the network.



9) The **Description** and **Location** fields are optional. Filling in this information is recommended to identify the device on a network..

10) Beneath **# of Objects to Expose,** enter in the number of Analog Input (AI), Analog Output (AO), Binary Input (BI), and/or Binary Output (BO) objects that you will be accessing from the BACnet/IP Client.

Note: Range for AI: 1 to 98

AO: 1 to 91

BI: 1 to 64

BO: 1 to 64

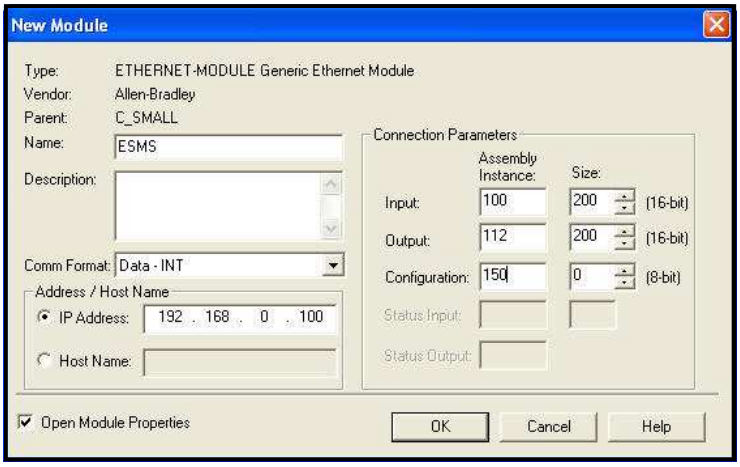
11) Click **Save.**

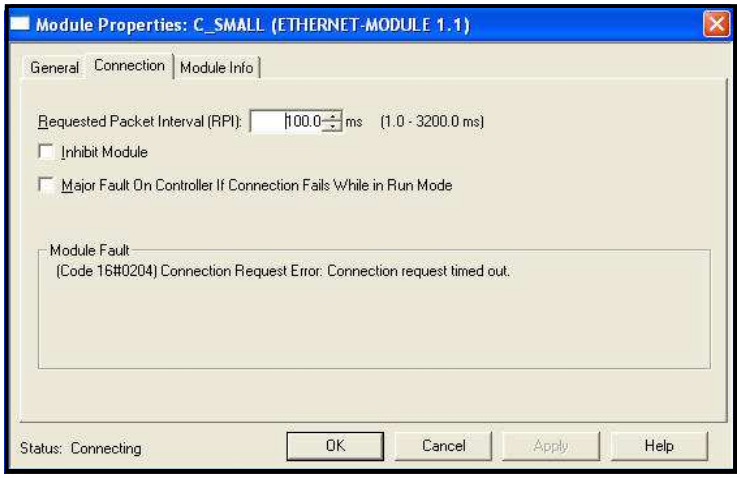
12) Click **Return to Main Page.**

Configuring External Devices

1) For the Data Out column do the same as Step 8 except use the correct Output Instance Number, Length in bytes, and Required Pack Interval in milliseconds.

2) Click **Save** when configuration is complete. You must restart the 460 device in order for the data to be updated.

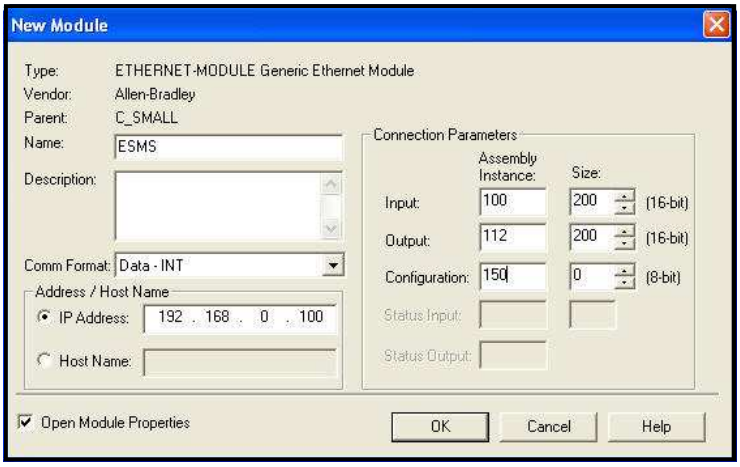


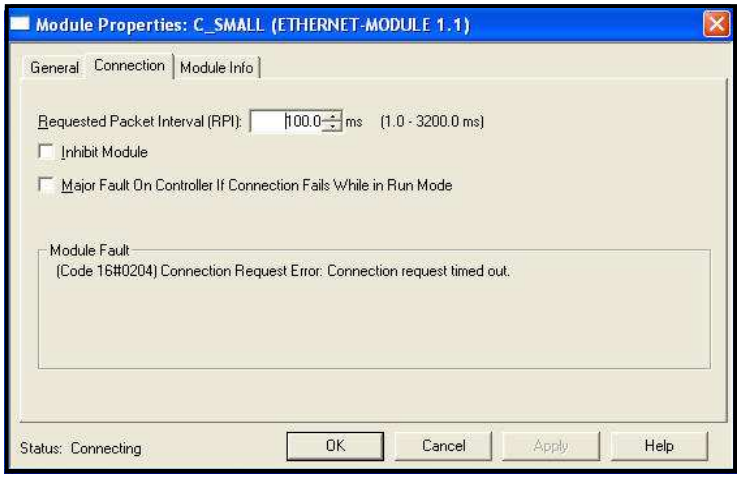


Configuring External Devices

1) For the Data Out column do the same as Step 8 except use the correct Output Instance Number, Length in bytes, and Required Pack Interval in milliseconds.

2) Click **Save** when configuration is complete. You must restart the 460 device in order for the data to be updated.





Verifying Application Parameters

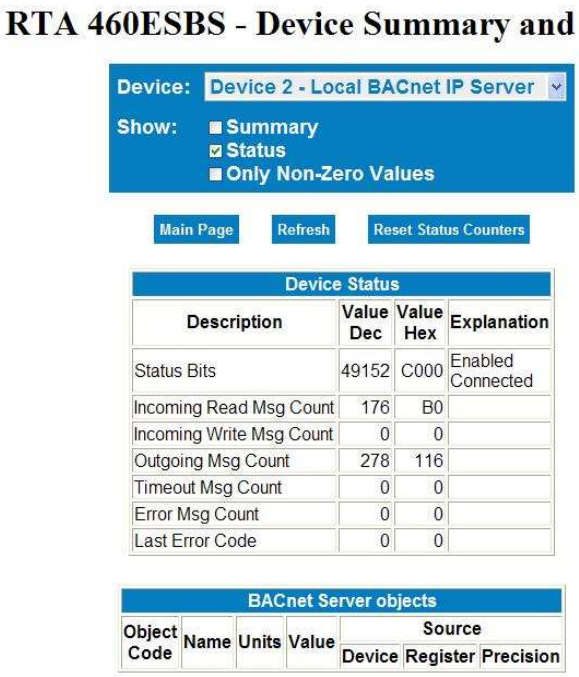
1) On the Main Page click on the **Status and Summary** button located on the left hand side of the screen.

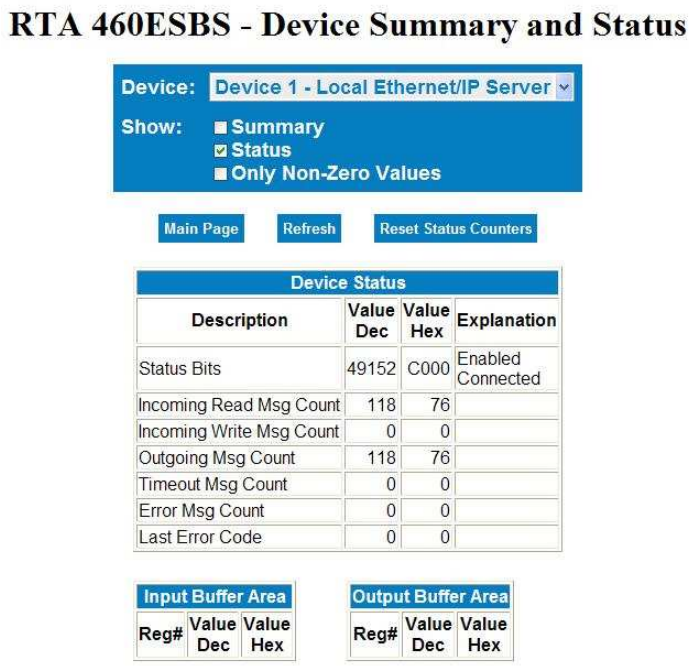
2) The **460ESBS Device Summary and Status** page will be shown.

3) The device drop down menu allows you to switch between the different Ethernet/IP or BACnet devices and display their status.

4) Under **Show** you can choose to view only values that are greater than zero by checking the **Only Non-Zero Values** checkbox.

5) The **Device Status** section displays whether or not the device is connected and enabled.

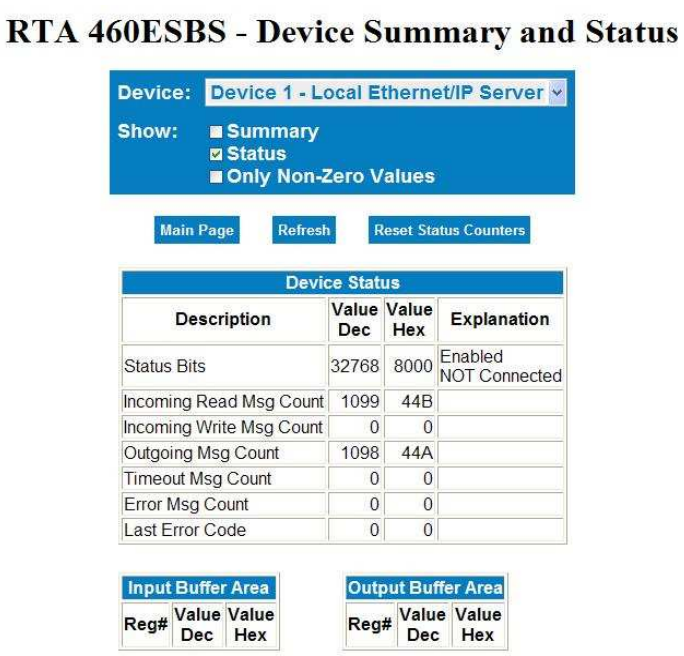




Validating Gateway Communication

1) If the device is not physically connected correctly or if the device parameters are incorrect the Device Status will display **Enabled NOT Connected.** If you receive this error verify that the devices are connected properly.

2) If your EtherNet/IP Client settings do not match the Server settings the **TimeoutMsgCount** or **ErrorMsgCount** values will increase each time the status page is refreshed.



RTA 460ESBS - Device Summary and Status

Device: Device 1 - Local Ethernet/IP Server

Show: ☐ Summary ☑ Status ☐ Only Non-Zero Values

Main Page | Refresh | Reset Status Counters

Device Status

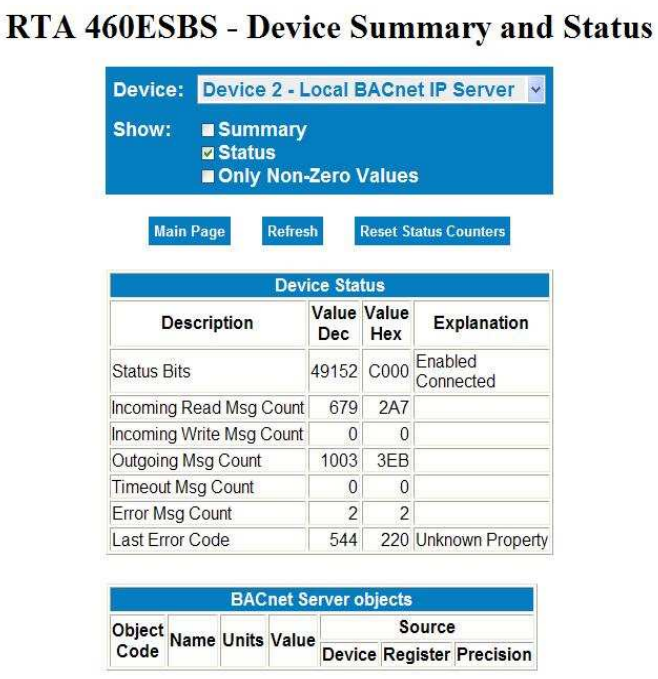
Description	Value Dec	Value Hex	Explanation
Status Bits	32768	8000	Enabled NOT Connected
Incoming Read Msg Count	1099	44B	
Incoming Write Msg Count	0	0	
Outgoing Msg Count	1098	44A	
Timeout Msg Count	0	0	
Error Msg Count	0	0	
Last Error Code	0	0	

Input Buffer Area

Reg#	Value Dec	Value Hex

Output Buffer Area

Reg#	Value Dec	Value Hex



RTA 460ESBS - Device Summary and Status

Device: Device 2 - Local BACnet IP Server

Show: ☐ Summary ☑ Status ☐ Only Non-Zero Values

Main Page | Refresh | Reset Status Counters

Device Status

Description	Value Dec	Value Hex	Explanation
Status Bits	49152	C000	Enabled Connected
Incoming Read Msg Count	679	2A7	
Incoming Write Msg Count	0	0	
Outgoing Msg Count	1003	3EB	
Timeout Msg Count	0	0	
Error Msg Count	2	2	
Last Error Code	544	220	Unknown Property

BACnet Server objects

Object Code	Name	Units	Value	Source		
				Device	Register	Precision

Configuring Multiple Devices

If you are configuring multiple devices the same way, you can repeat the configuration by saving your work into a file. To do so, follow these steps.

1) From the Main Page, click the **Utilities** button.
2) Click **Save Configuration to File**.
3) Click **Save**.
4) Browse to the location you want to save the file.
5) Click **OK**.
6) Remove the first device.
7) Repeat the network configuration section to connect the next device.
8) Once you launch the webpage, click the **Utilities** button.
9) Click **Browse…** and browse to the file you previously saved.
10) Click **Open**.
11) Click **Restore from File**.
12) The unit will reboot automatically and load with the new configuration.

Completing the Installation

Now that the 460ESBS gateway is configured properly you must place the device in the network. The following instructions will tell you how to take the device from the configuration area to the shop floor or other operating environment.

1) Now that the gateway is configured properly, you must place the device in the network. The following instructions will tell you how to take the device from the configuration area to the shop floor or other operating environment.

2) Disconnect the crossover cable and power supply from the device.

3) Move the device to its intended location.

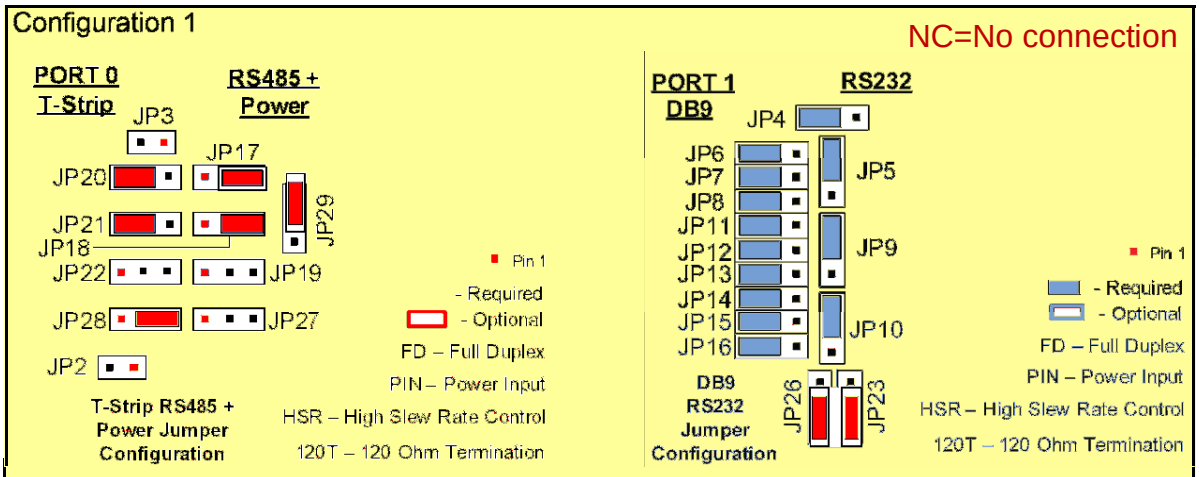
4) Connect an Ethernet cable from the network port on the 460 ESBS Gateway to your network which contains your BACnet/IP Client and your EtherNet/IP Client

5) Connect the 7-30 VDC power source to the device via the T-strip.

Appendix A: Jumper Configurations

1) To change port settings on the 460EDX Gateway use the following steps:
2) No cables should be connected to the Gateway unit. If this unit has been in use and you are making a change, disconnect the power cable and any communications cables from the Gateway unit.
3) Remove the two small Phillips-head screws from each long side of the Gateway unit.
4) Remove the green T-Strip connector. Slide the cover off towards the ports. The jumpers are just behind the ports.
5) Move the jumper shunts to reflect the desired settings.
6) Replace the Gateway unit's cover. Replace the four screws. Replace the green T-Strip connector.

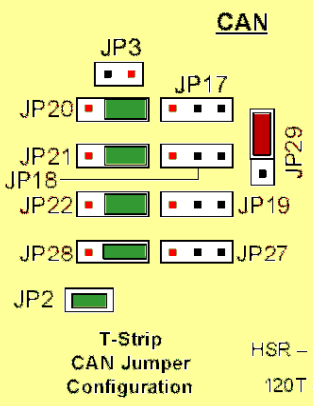
Only one RS232, RS422, RS485, or CAN port setting can be active at a time for each unit. For example, a unit cannot have two ports set for RS232 or two ports set for CAN.

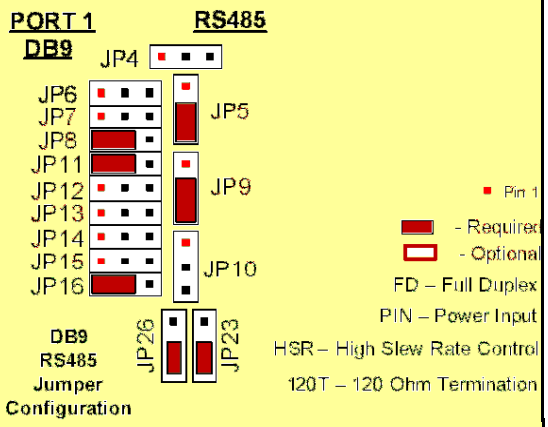


Port 0 (T-Strip) RS485 & PWR	1	2	3	4	5				
Pin Setting	GND	TX-	TX+	NC	PWR				
Port 1 (DB-9) RS232	1	2	3	4	5	6	7	8	9
Pin Setting	NC	RX	TX	NC	GND	NC	NC	NC	NC

Configuration 2

NC= No connection

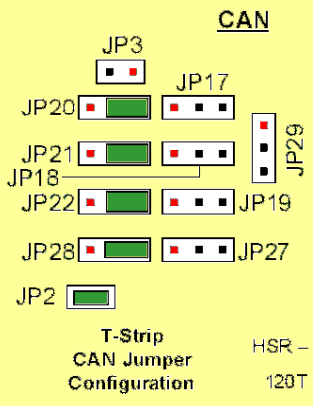


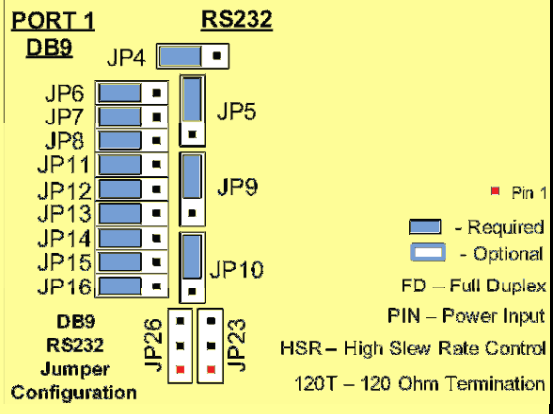


Port 0 (T-Strip) CAN	1	2	3	4	5				
Pin Setting	GND	CANL	SHIELD	CANH	PWR				
Port 1 (DB-9) RS485	1	2	3	4	5	6	7	8	9
Pin Setting	NC	TX-	NC	NC	GND	NC	TX+	NC	NC

Configuration 3

NC= No connection





Port 0 (T-Strip) CAN	1	2	3	4	5				
Pin Setting	GND	CANL	SHIELD	CANH	PWR				
Port 1 (DB-9) RS232	1	2	3	4	5	6	7	8	9
Pin Setting	NC	RX	TX	NC	GND	NC	NC	NC	NC

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