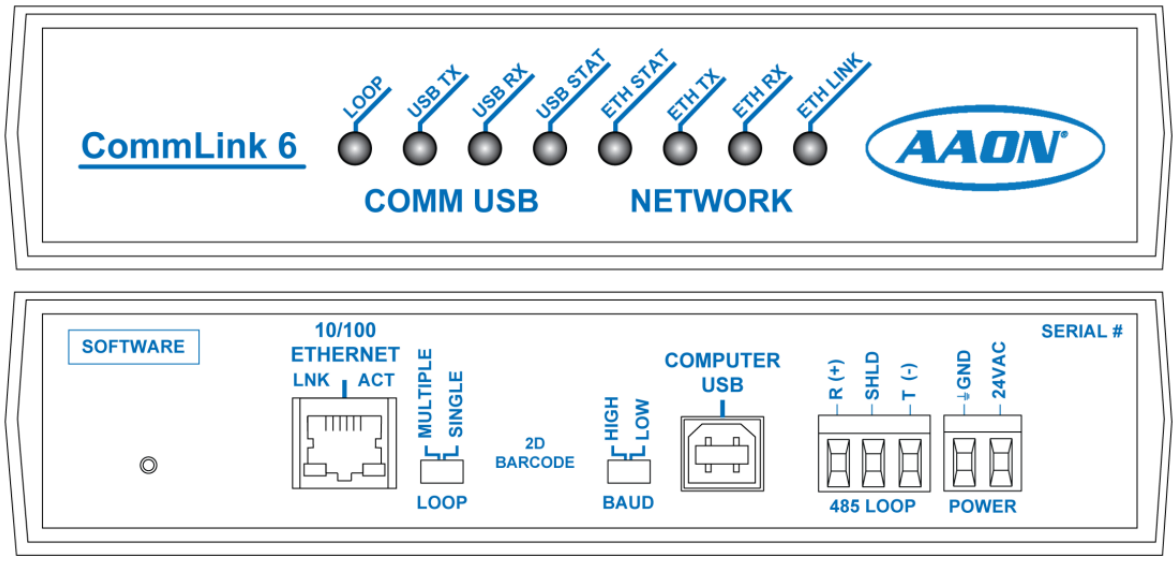
Contents [hide]

AAON CommLink 6 Transfer Communication Controller



Specifications

- Compatible with VCCX-454 Series
- Compatible with VCCX/VCCX-IP Series
- CommLink 6 Technical Guide
- Product Name: CommLink 6
- Part Description: AAON Unit Controllers, MiniLink PD 5, E-BUS Cable Assembly

COMMLINK 6 TECHNICAL GUIDE	
REVISION AND DATE	**CHANGE**
Rev. A, August 15, 2024	Initial release
Rev. B, August 30, 2024	Added IP configuration information, cosmetic updates
Rev. C, October 22, 2024	Added CommLink configuration information for Windows® 10 and later
Rev. D, May 16, 2025	Updated Single and Multiple Loop Diagrams, clarified connection setup instructions

PRODUCT NAME PARTS REFERENCE	
PART DESCRIPTION	**PART NUMBER**
AAON Unit Controllers	Varies
MiniLink PD 5	ASM01626

E-BUS Cable Assembly E-BUS Power & Comm 1.5 ft., 3 ft., 10 ft., 25 ft., 50 ft., 75 ft., 100 ft., 150 ft., 250 ft., and 1000 Foot Spool	G029440 (1.5 ft.), G012870 (3 ft.), G029460 (10 ft.), G045270 (25 ft.), G029510 (50 ft.), G029530 (75 ft.), G029450 (100 ft.), G029470 (150 ft.), V36590 (250 Ft.), G018870 (SPOOL)

GENERAL INFORMATION

Overview and System Requirements

The ASM07420 CommLink 6 is used to transfer communications between controllers or local loops on your control system. It can also be used as an interface for connection of a computer to your system.

The CommLink 6 provides communication with the control system through any computer that is running Prism 2 software.

The CommLink 6 communication interface provides TCP IP Internet and/or intranet connection for Ethernet networked computer systems or USB directly connected to a PC, providing communication with the connected system.

Using standard TCP/IP Protocol, with AAON's Prism 2 software, you are able to monitor and configure your controllers without a modem or a direct connection from a PC. Utilizing existing routers, proxies, or firewalls allows a PC running Prism 2 to connect to a controller in a remote accessible location or building. Several IP connection profiles can be created to facilitate monitoring several CommLink 6 devices.

WARNING: Verify the wiring matches the backplate description to confirm that the polarity is correct when wiring 24 VAC power to the CommLink power terminal block or serious damage to the product will result.

System Requirements

Standard Items (Required)

- CommLink 6 with USB cable and power adapter (supplied)
- A PC with an Ethernet communications port or USB port (supplied by others)
    - See the SETUP section for additional information.
- Microsoft Windows® 10 or later (must be installed on the computer you are going to use)
- Prism 2 software (can be downloaded for free from www.aaon.com)

Optional Items

MinkLink PD 5

NOTE: AAON Controls Support cannot troubleshoot internal PC and/or Windows®-based operating system problems or building networks..

INSTALLATION

Quick Start Guide

NOTE: If you are using the CommLink 6 without utilizing Prism 2, you need only perform Steps 1-3.

Step 1: Set your CommLink's Loop switch to Multiple or Single. .

- Multiple when there is a single CommLink 6 with at least one MiniLink PD 5 installed in the system.
- Single when there is a single CommLink 6 with no connected MiniLink PD5 modules.

Step 2: Set your CommLink's Baud rate switch to High or Low

- All devices connected on the buss need to be the same baud rate.
- VCCX2, VCCX-IP, VCCX-454, and GPC-XP are capable of communicating high or low speed.
- Older generation, VCM, VCMX, and GPC are only capable of communicating low speed.
- Refer to the individual controllers technical guide for baud rate settings.

Step 3: Wire your CommLink to the appropriate controller on your system, and plug the CommLink into a power supply.

- Multi-Loop: A single daisy chain of MiniLinks
- Single Loop: A single daisy chain of controllers

Step 4: Install Prism 2 software on your computer.

WARNING: If you are replacing an earlier version of the CommLink with a CommLink 6, ensure the R(+) and T(-) terminals on the communications terminal block are wired the same as the back plate instructions. Incorrect wiring could lead to damage of the equipment.

NOTE: AAON Controls Support cannot troubleshoot internal PC and/or Windows®-based operating system problems, firewalls, routers, and/or problems on a customer's internal or external network. An IT professional may need to be consulted.

CONNECTIONS AND WIRING

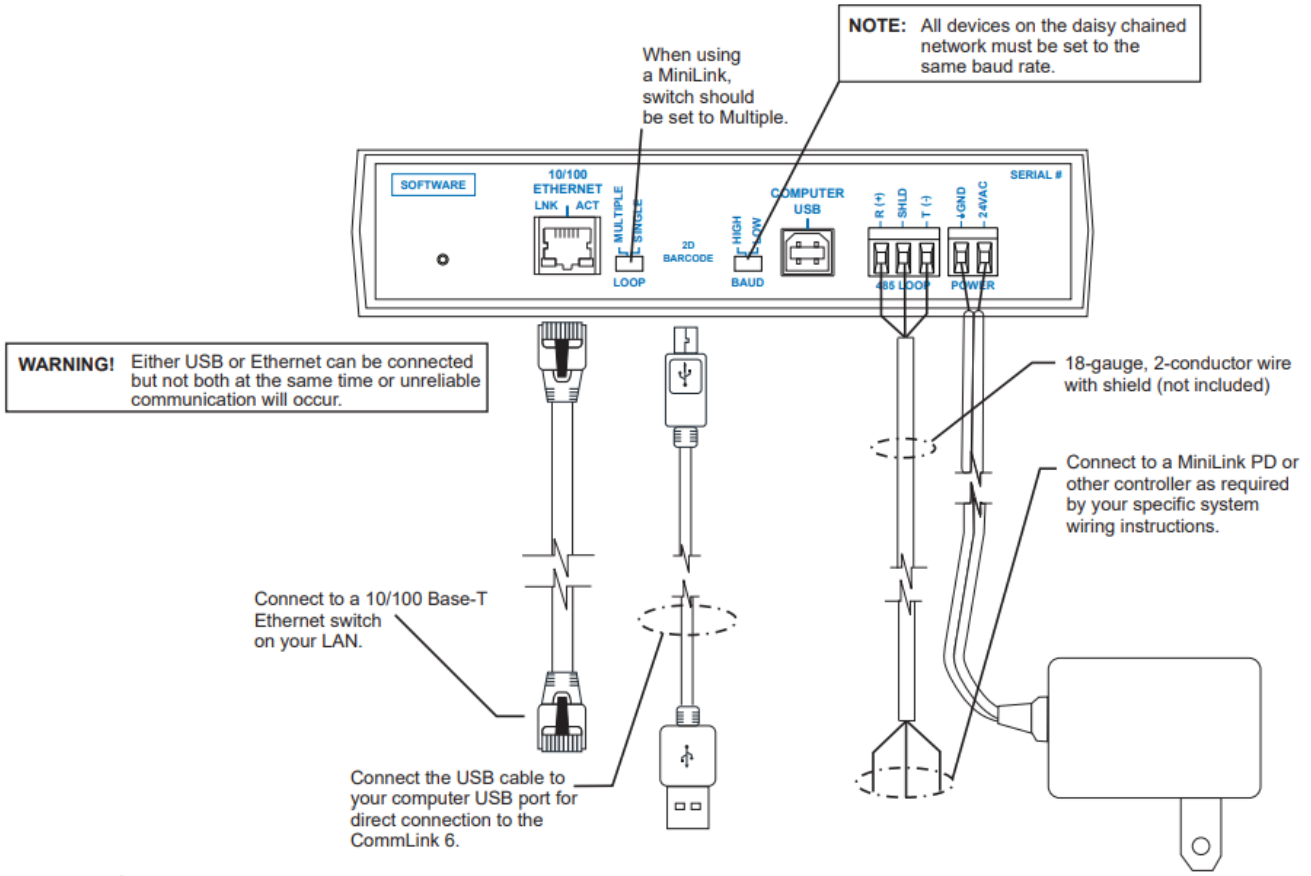


Figure 1: CommLink 6 Wiring

Networked Single RS-485 Loop Wiring

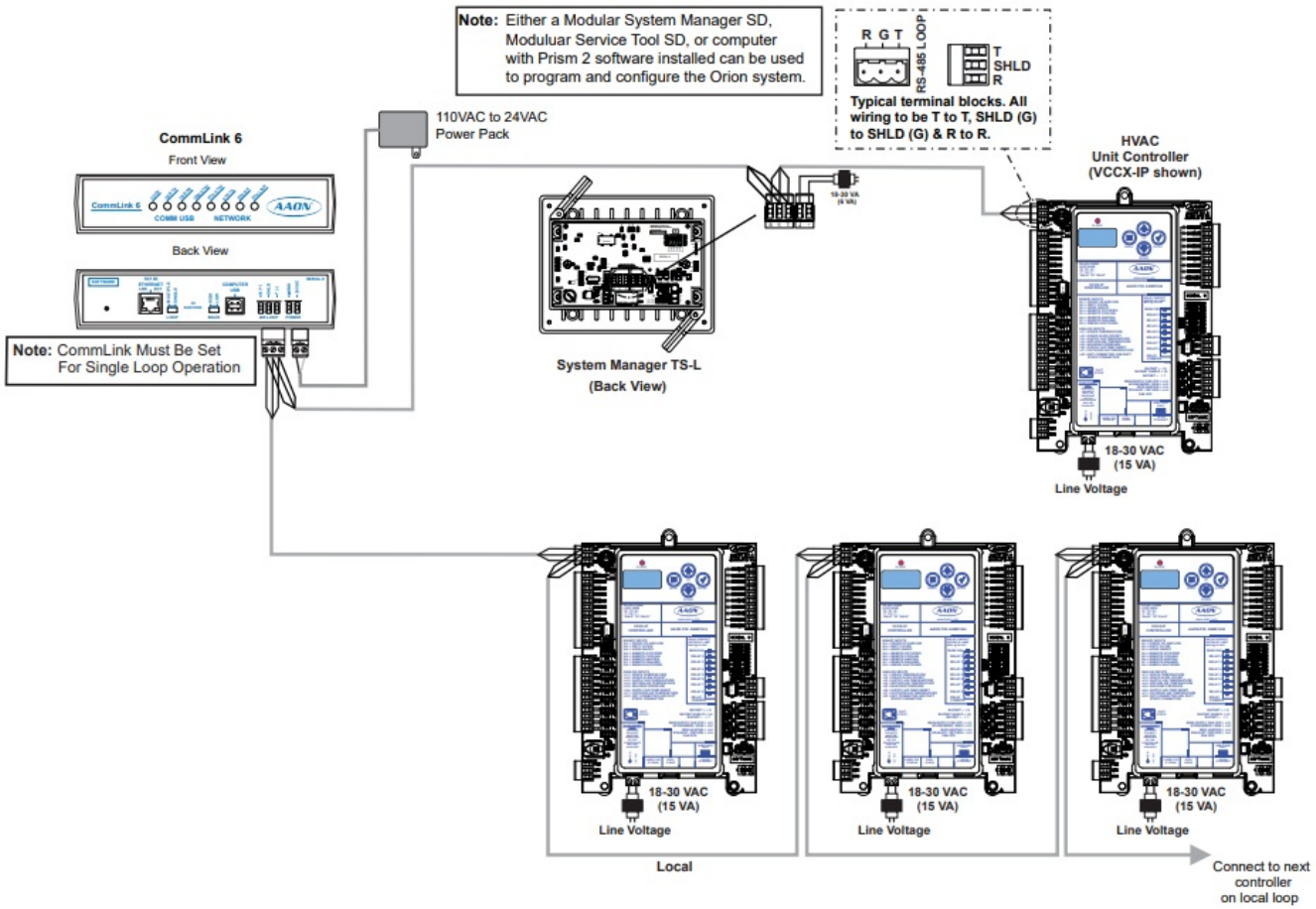


Figure 2: Network Single RS-485 Loop Wiring

Networked Multiple RS-485 Loop Wiring

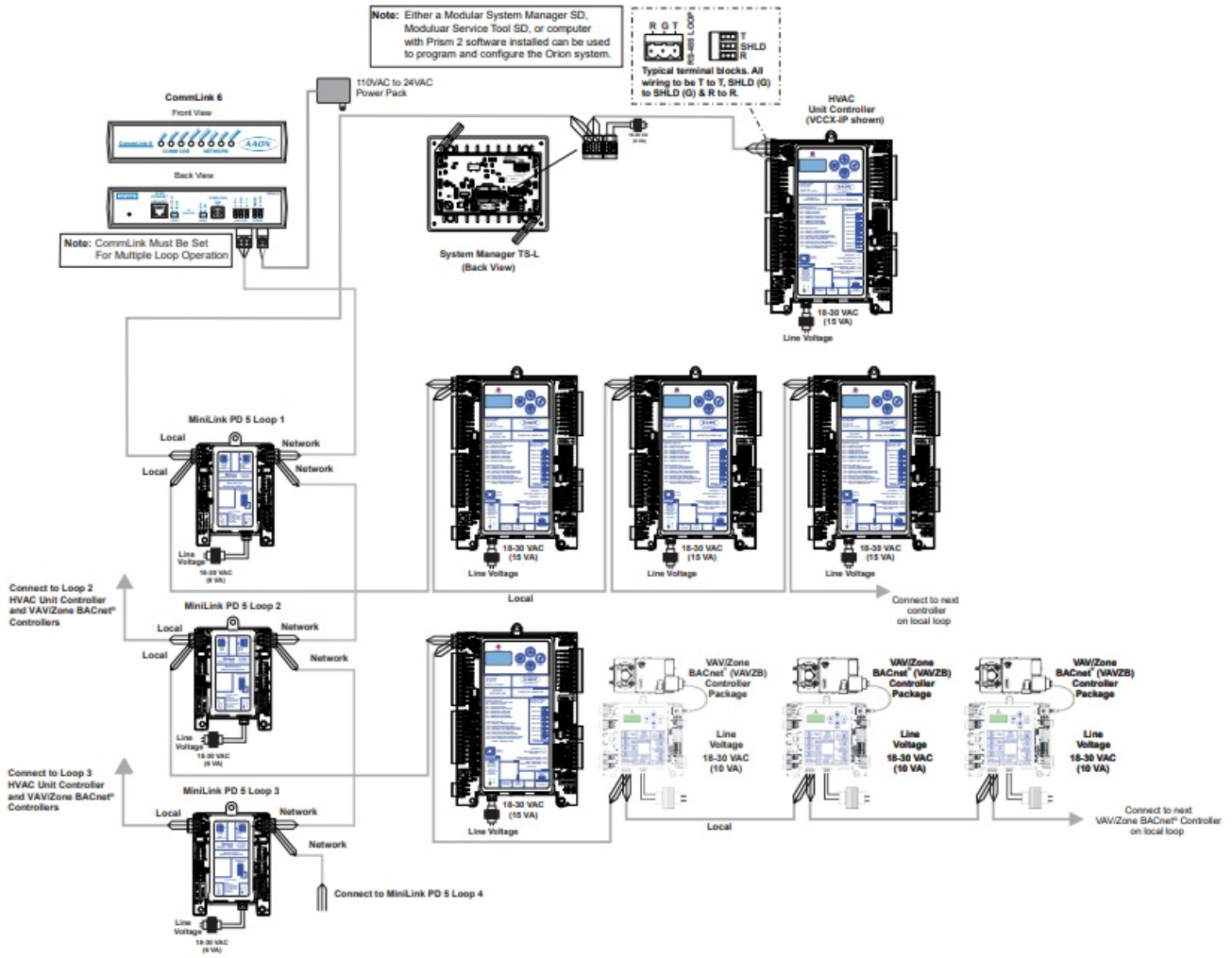


Figure 3: Networked Multiple Loop Wiring Example

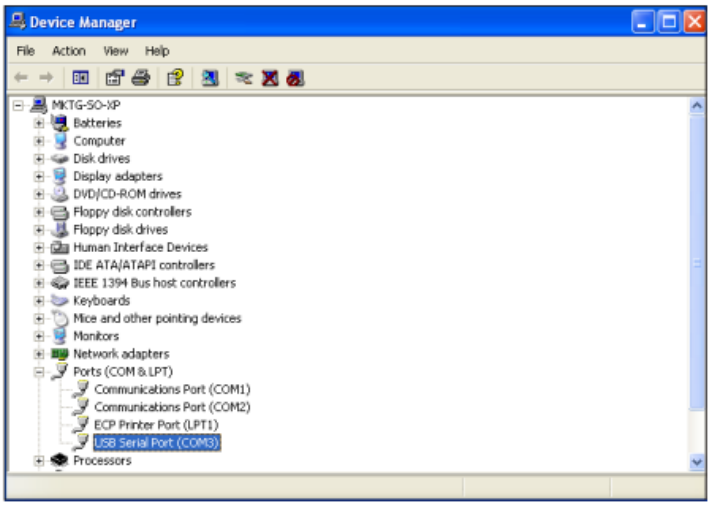
SETUP

COM Port

Finding What COM Port Number the CommLink 6 is Using (Windows® 10)

Step 1: Ensure CommLink 6 is connected to PC using a USB cable.

Step 2: Right-click on the Windows® icon, located on the bottom left or top left of the Windows Tool Bar or by using the search bar and typing Device Manager.



Step 3: Select <Device Manager>.

Step 4: Click on the plus sign next to Ports to see all of the common ports.

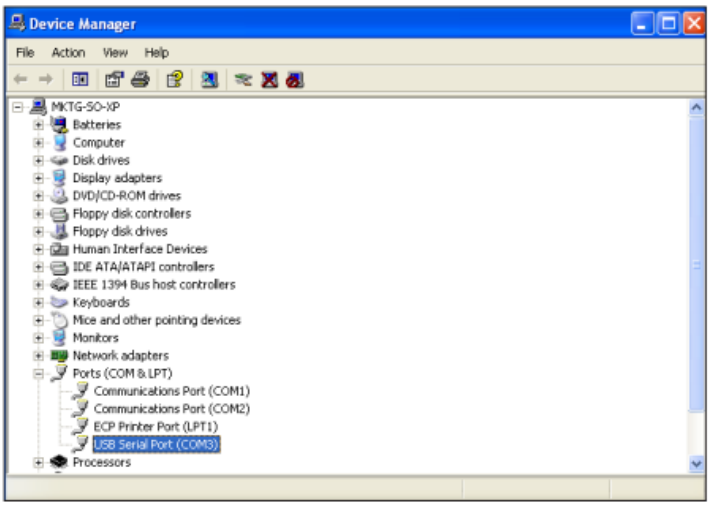
Step 5: Locate the USB Serial Port (COM#). The COM# in parentheses is the port it is located on. Write this COM port number down. You will need to know this when setting up the Prism 2 software.

Step 6: If the COM port number is 10 or greater, go to “Changing the USB COM Port Number” in the Troubleshooting section.

Changing the USB COM Port Number

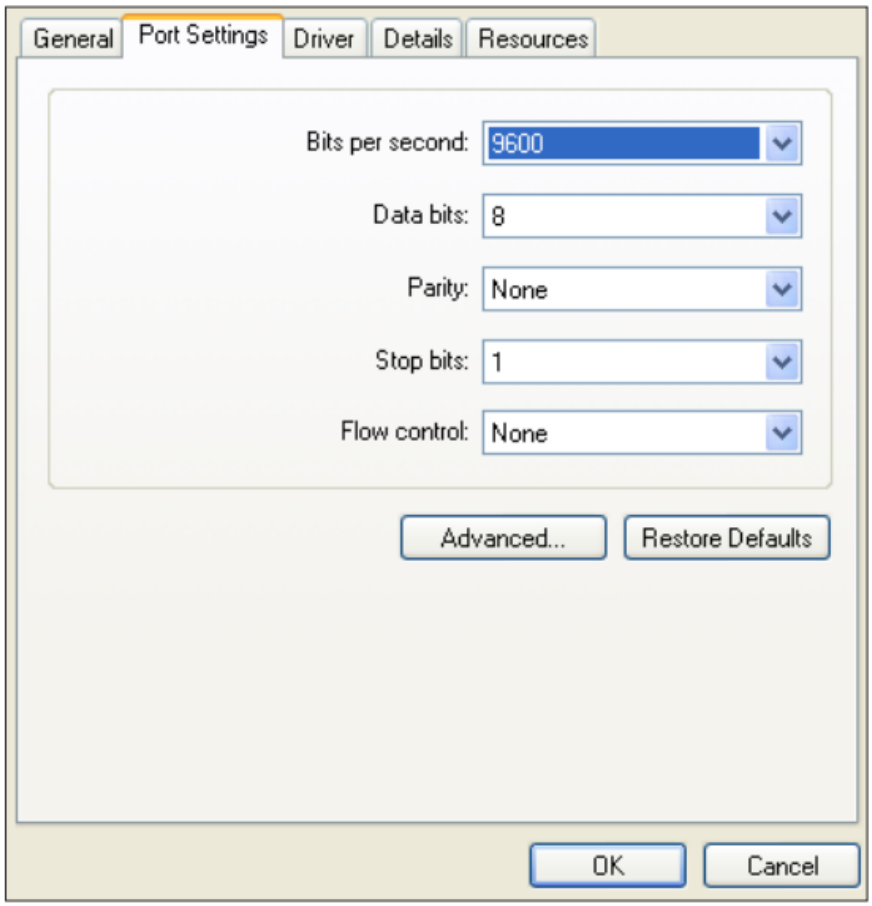
When the CommLink 6 is first connected to a PC, Windows will assign a COM port number to be used for communicating with the Prism 2 software. If the port number is 10 or greater, it needs to be changed to a value less than 10 to be recognized by Prism 2.

Step 1: Right-click on the Windows® icon and select <Device Manager> to get to the Device Manager Window.

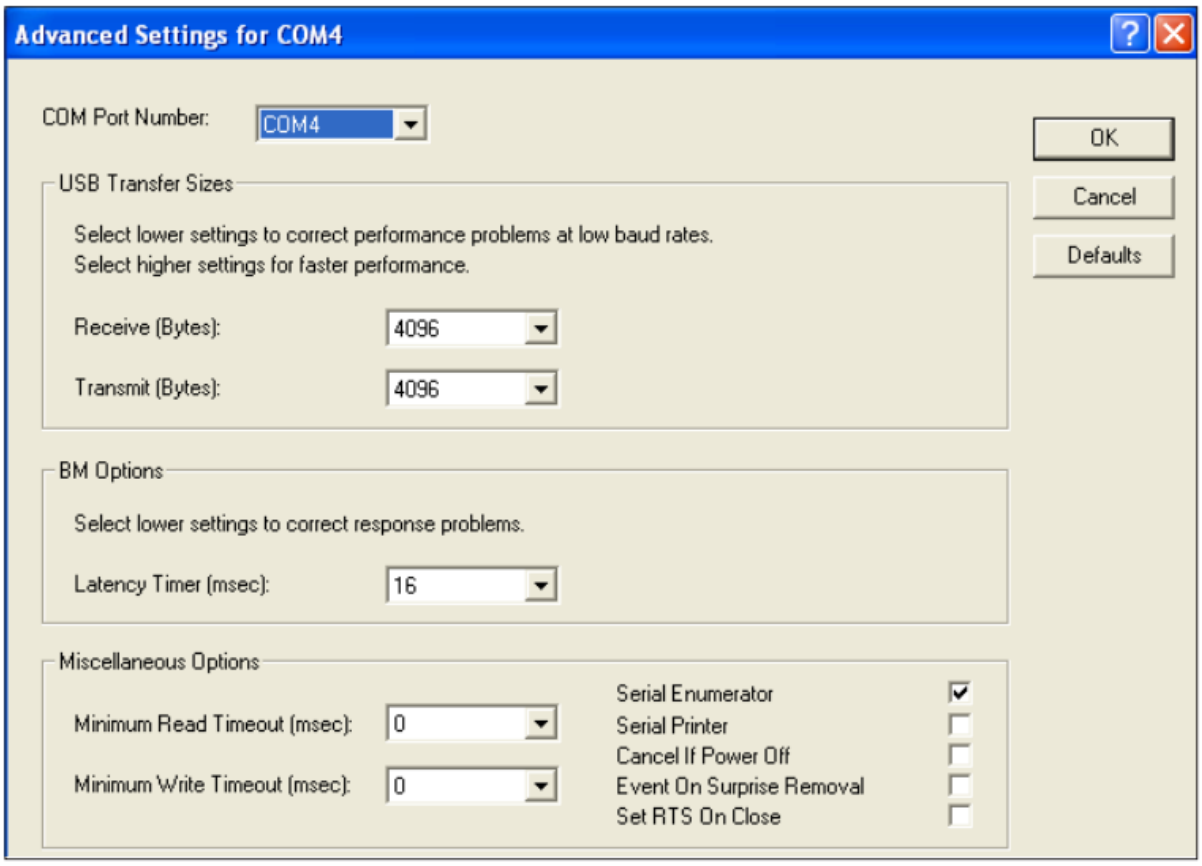


Step 2: Click on the plus sign next to Ports to see all of the COM ports.

Step3: Right-click on “USB Serial Port (COM#)” and select <Properties>. In the Properties Window, select the <Port Settings> tab.



Step 4: To assign a port number less than 10, click on <Advanced>. The Advanced Settings Window will appear.



Step 5:
In the COM Port Number drop box, select which COM port you wish to use. Make sure to select a COM port number that is not currently in use (the ports are listed in the Device Manager Window). Select a port number that is less than 10.

NOTE: Windows® will assign a port number to every device that has ever been installed on your computer. So if there are no available ports below 10, choose a port number less than 10 for a device listed that you know you are not currently using.

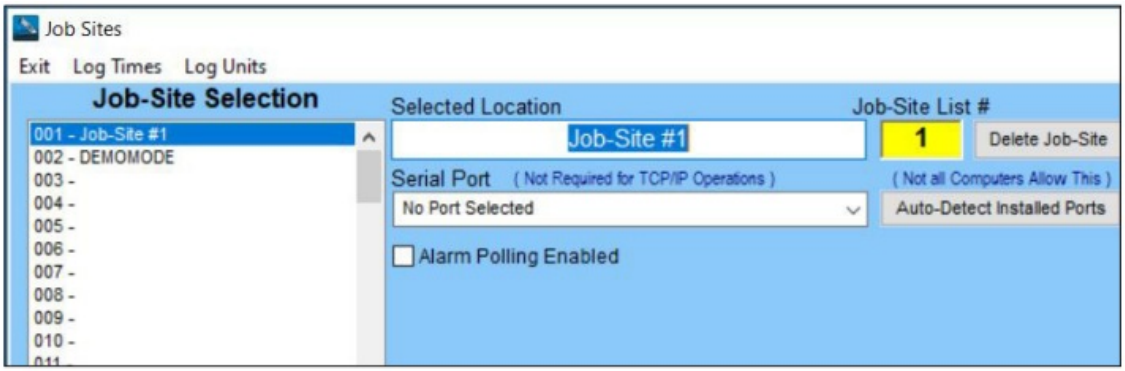
Step 6: Once you select the correct COM port number, click <OK> and close any windows opened in the process of changing the port number. Make note of this number because you will need it for your Prism 2 setup.

Prism 2

Step 1: Open your Prism 2 software.
Step 2: Click the <Login> button and type in the Level 9 User Name and password (default is “admin, admin”). Click <Login>.

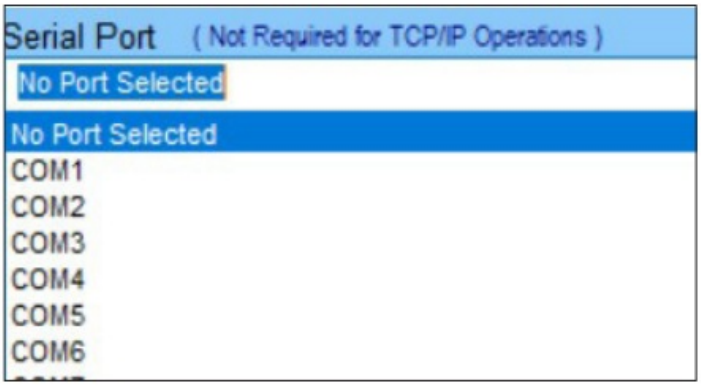
Step 3: If Prism 2 is online, click the<ON LINE> button to make it go <OFFLINE>. On initial startup, Prism 2 will not go online until a jobsite has been set up.

Step 4: Click on any empty location in the Job-Site Selection Window and then type in a job name in the Selected Location box and press <Enter>. Ensure you hit the enter key on keyboard to “Submit” or “Save” your change after typing.

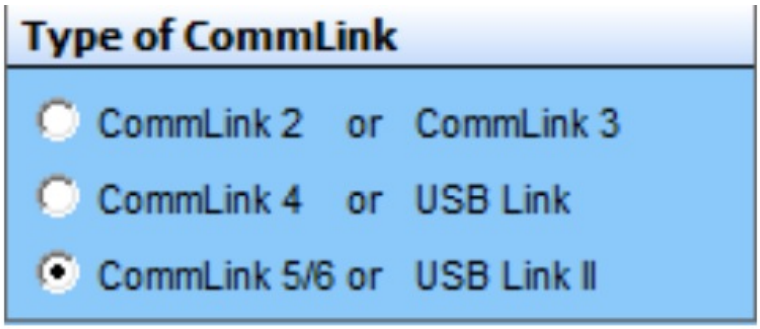


Step 5: Click the <Job-Site> button to open the Job-Sites Window.

Step 6: In the Serial Port field, click on the pull down box and select the COM Port number that the CommLink 6 is using.

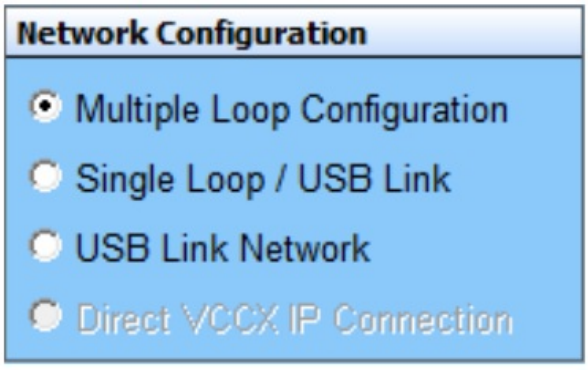


Step 7: In the Type of CommLink selection box, select the radio button next to CommLink 6.



Step 8:

In the Network Configuration selection box, select the type of system configuration you are using. The only options applicable to CommLink 6 are Multiple Loop Configuration (Network) or Single Loop Configuration.



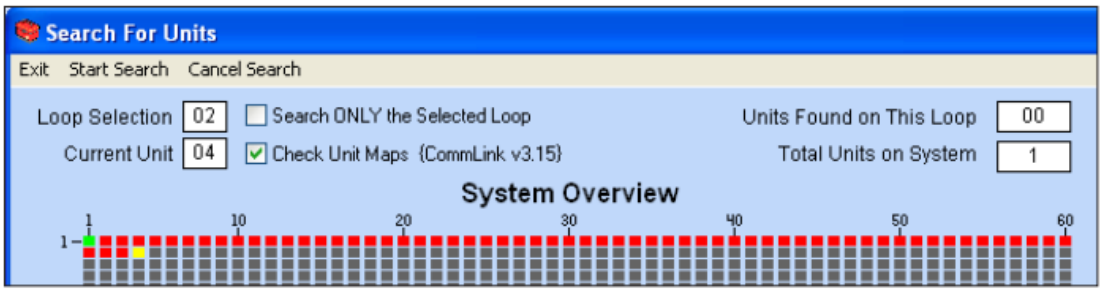
Step 9:

Click <Exit> to close out of the Job Sites Window. After closing Job-site Editor, If the new job site name doesn't appear in the Job-site list click on another job site or empty space to refresh the view.

Step 10: Select the job-site in the job-site list then click on the <ON LINE> Button .

Step 11: From the <Communications> menu, select <Search for Units>.

Step 12: The Search for Installed Units Window will pop up. Click <Start Search> located in the upper left-hand corner of the window to initiate an automatic detection of all installed controllers and MiniLinks on your system.



Step 13: If everything is working correctly, Units Found on this Loop should increase. You will also see green boxes indicating units that have been found..

Step 14: If Units Found on this Loop stays at zero, try the following options:

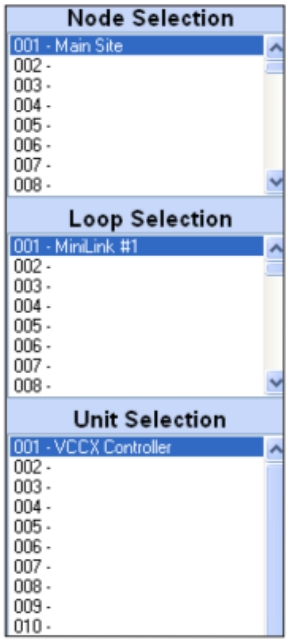
- Check the wiring to the CommLink 6 and the AHU/RTU Controllers
- Check to see if the Loop Light on the Commlink is flashing. If it is solid the Commlink is not talking to any device. If it is flashing it is at least talking to one device on the network.
- Read through these directions again to make sure all steps were followed.

Step 15: To stop a search, click <Cancel Search>.

Step 16: Once you are done searching for units, close out of the window or click <Exit>.

Step 17: A window will pop up that asks, “Do you want to save the search results?” Click <Yes> if you wish to save the results. Click <No> if not.

Step 18: You can now access any installed unit from the Main Prism 2 Screen by selecting a loop from the Loop Selection Window with a single-click and by selecting the unit from the Unit Selection Window with a double-click



Computer Static IP Configuration

Computer IP Address Set-up for Windows® 10 and later.

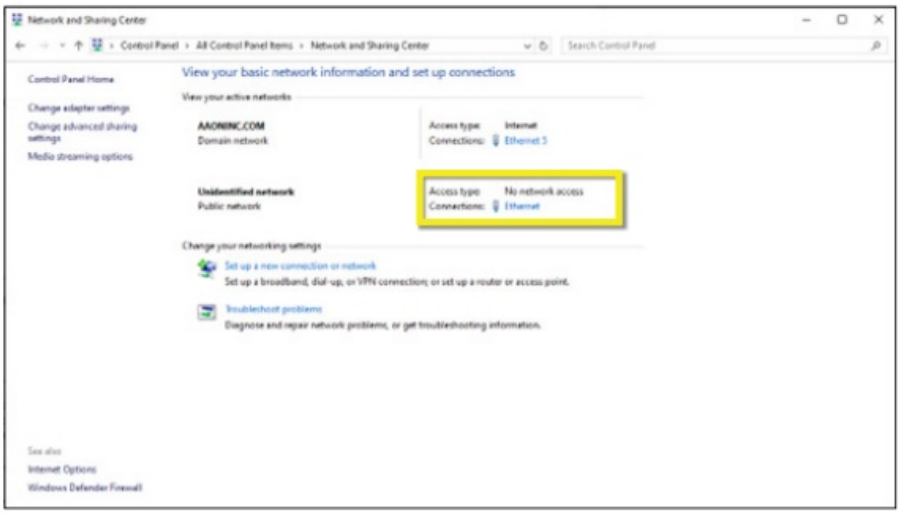
Before you can communicate with the CommLink through the IP network port your computer and the CommLink IP addresses have to be within the same IP Network Scheme.

Step 1: Right click the Windows icon or <Start>; then click <Network Connections>.

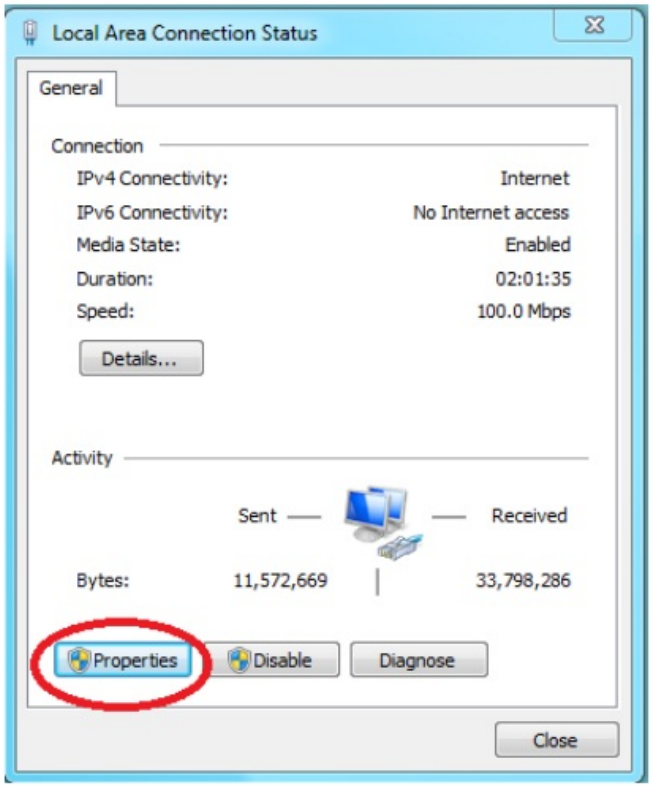
Step 2: Then click <Network and Sharing Center>. The Network and Sharing Center

Window will appear.

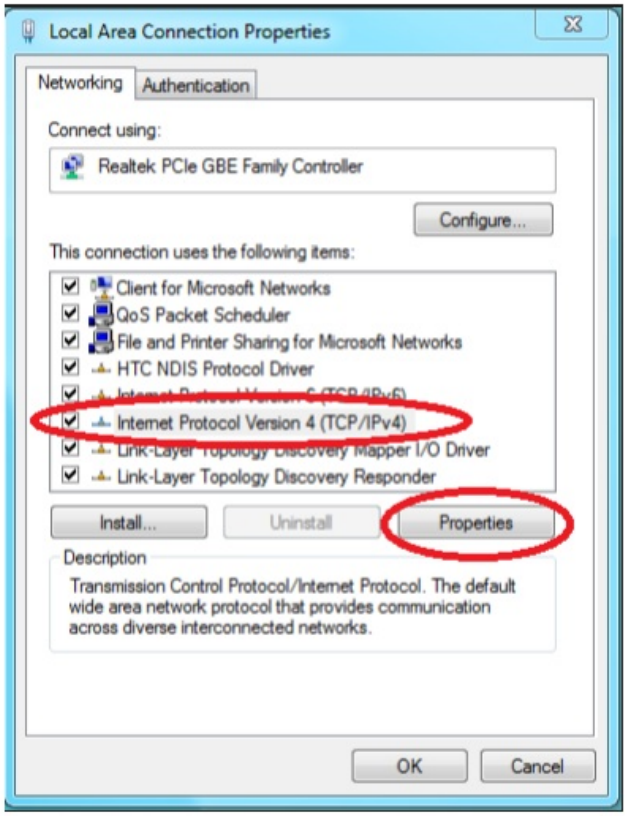
Step 3: In the Network and Sharing Center Window, select the Local Area Connection entry. The Local Area Connection Status Window will appear.



Step 4: Click the <Properties> button. The Local Area Connection Properties Window will appear.

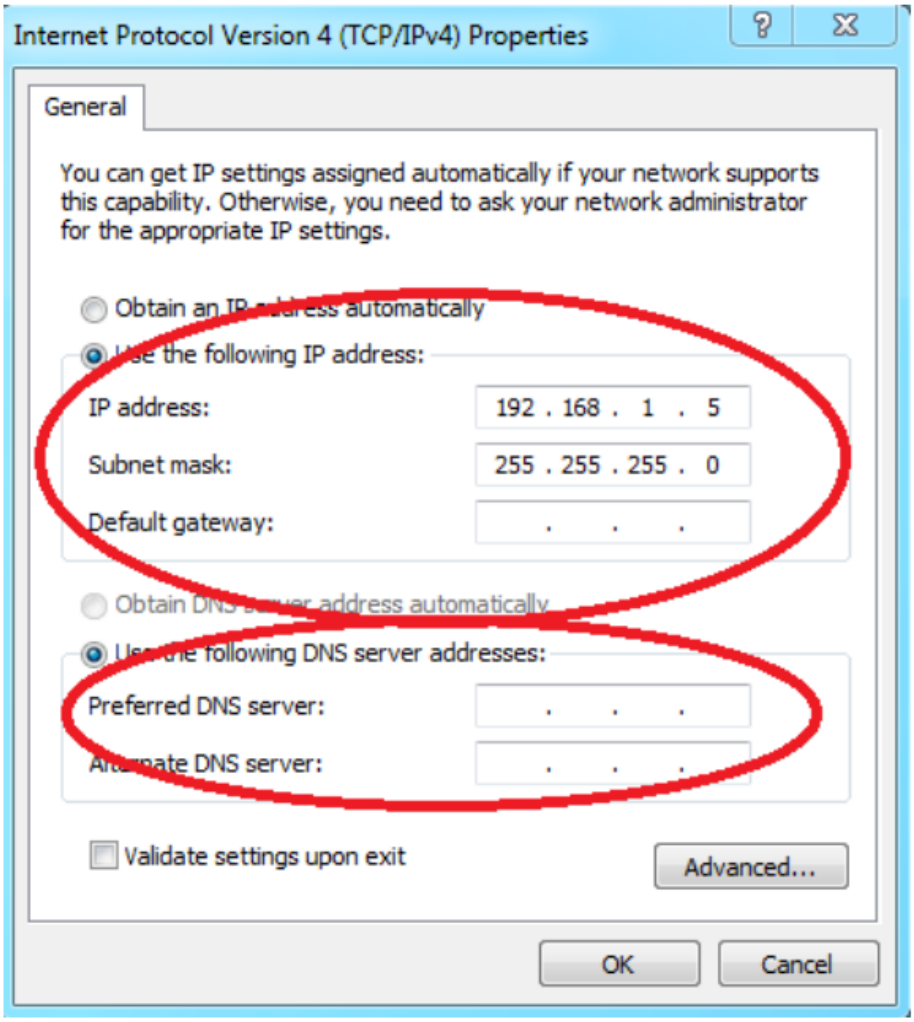


Step 5: In the Connection Items List Box (Figure 9), be sure the Internet Protocol Version (TCP/IPv4) is checked. Click on Internet Protocol (TCP/IP v4) to highlight it and then click <Properties>. The Internet Protocol Properties Window will appear.



Step 6: Type in the following information:

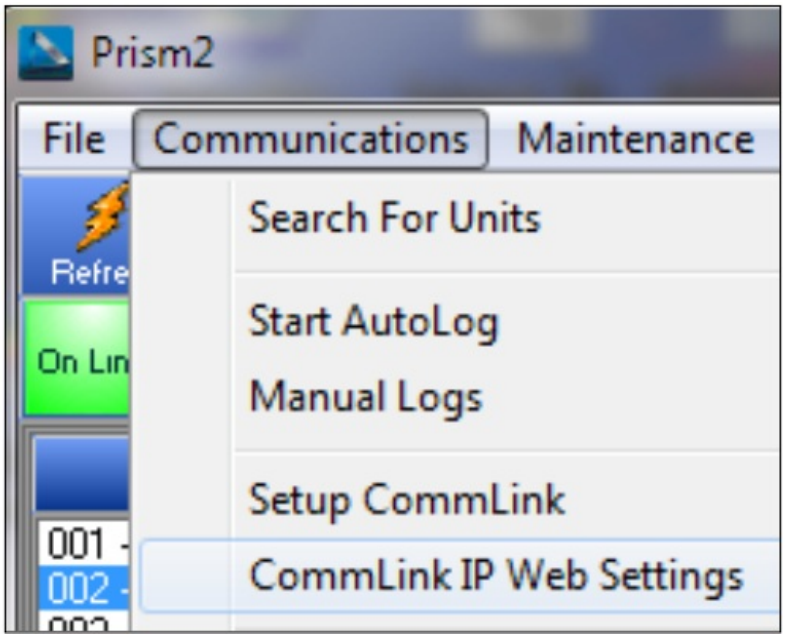
- Make the IP address 192.168.1.5
- Make the Subnet mask 255.255.255.0
- Blank out the Default gateway setting (leave the setting blank as shown in Figure 10).
- Blank out the Preferred DNS server setting and the Alternate DNS server setting.



Step 7: Select <OK> until all of the above windows are closed.

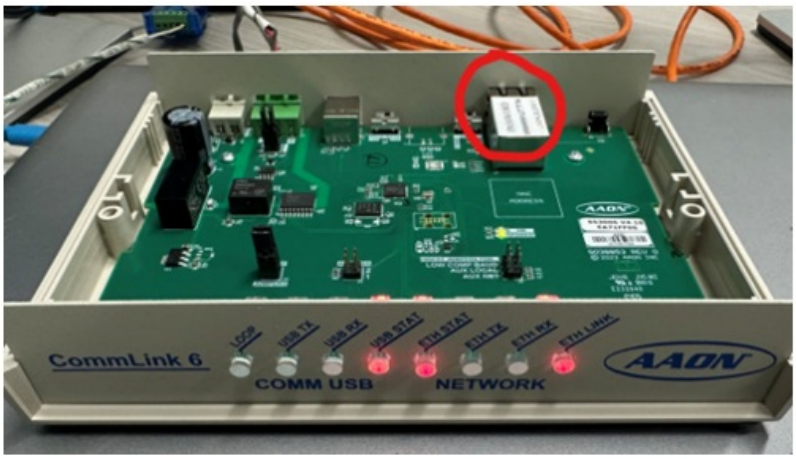
IP Network Configuration

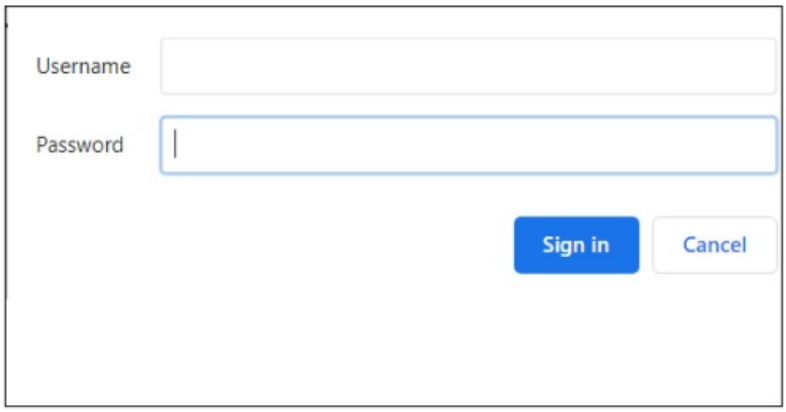
Step 1: Run the Prism 2 program, open the Job Sites Window, and type the default IP address 192.168.1.25 in the Node IP Address field. See the Prism 2 Technical Guide if needed for further instructions. To access the IP Module web page, click on the <Communications> tab and then click <CommLink IP Web Settings> (see below).



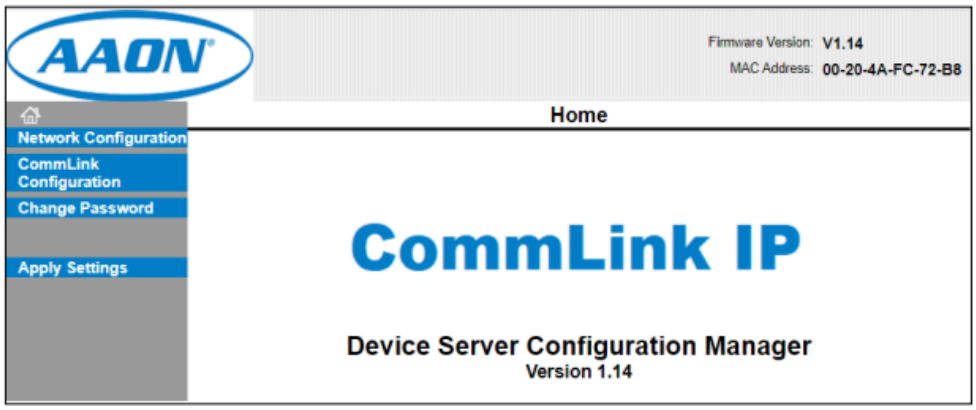
Step 2: The Sign In Window, shown below, will pop up before you can have access to the CommLink IP Module Webpage. Leave the username blank, and in the Password field, enter the password located on the bottom of the CommLink. Then click <OK>.

NOTE: If there is no password label on the bottom of your CommLink, open the CommLink and look at the IP Module label for the MAC Address. The MAC address is the 12 digit dashed alphanumeric number The password is 8500 plus the MAC address with no spaces or dashes.

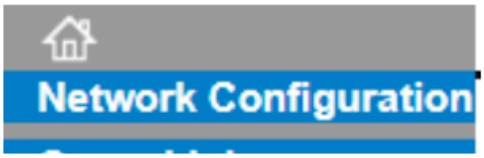


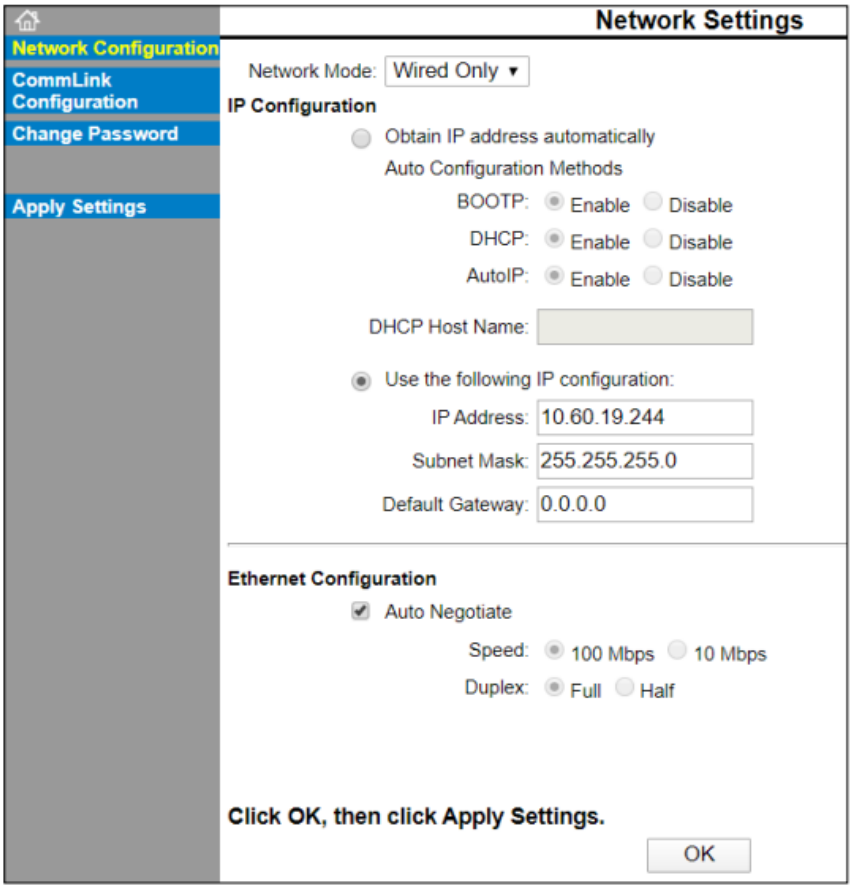


Step 3: The CommLink IP Module Window, shown below, will appear if a connection is established.



Step 4: Click <Network Configuration> found in the menu bar on the left side of the web page.





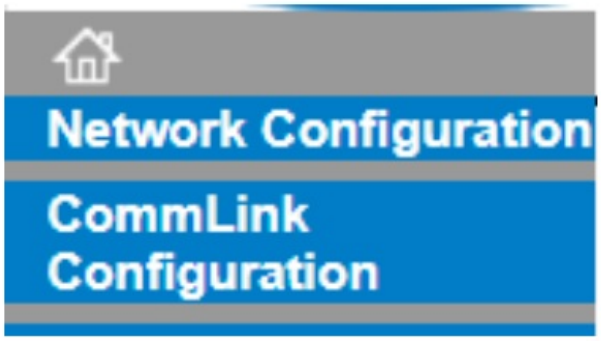
Step 5:

Under IP configuration, select the radio button in front of the option <Use the following IP configuration> and type in the IP address, Subnet Mask, and Default Gateway as provided by the jobsite IT staff.

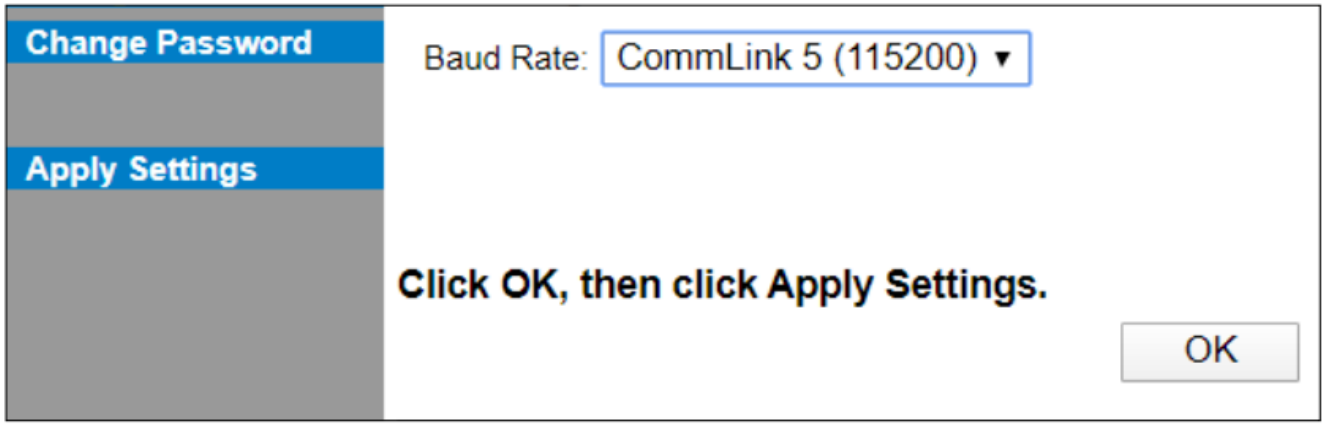
NOTE: Be sure all other settings are set to default.

Step 6: Click <OK> at the bottom of the Network Settings Screen once the changes have been made.

Step 7: Click <CommLink Configuration> found in the menu bar on the left side of the web page.

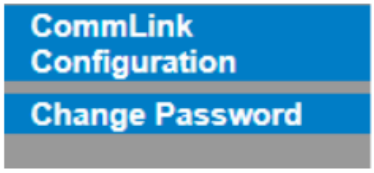


Step 8: Under Port Settings, in the Baud Rate drop down menu, select the appropriate baud rate and click OK.

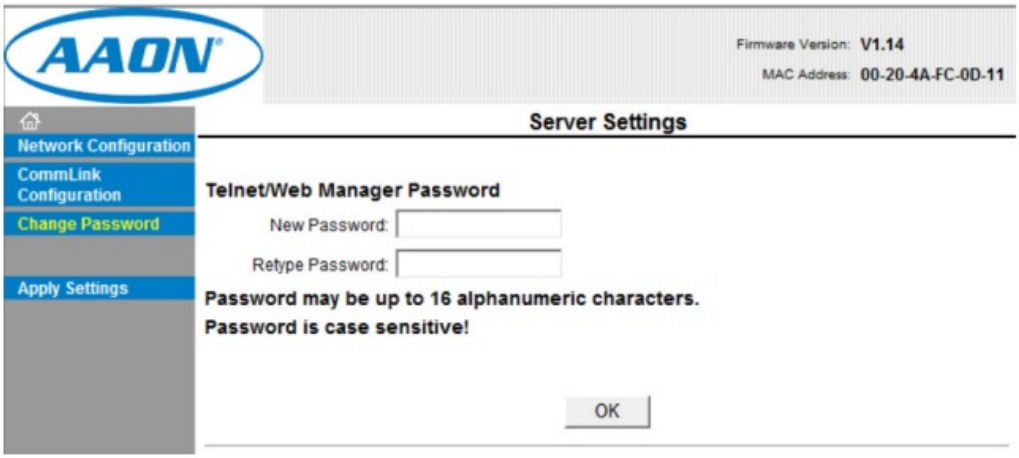


Step 9: Click <Change Password> found in the menu bar on the left side of the web page.

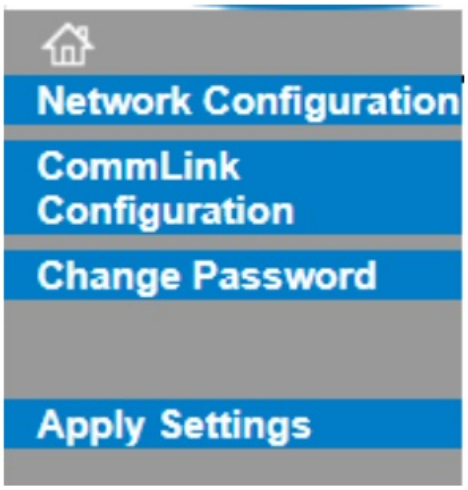
Step 10: The Change Password Window will appear. Type in a new password in both fields—the New Password field and Retype Password field and press <OK>. A message will appear if the password change is successful. Make sure to write the new password down.

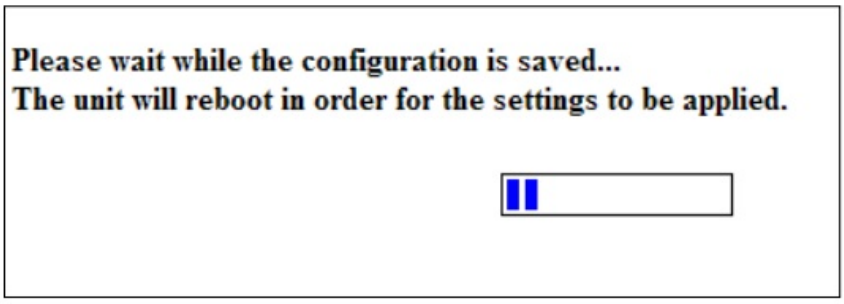


NOTE: If for some reason you forget or lose the password, you can press the reset button on the back of the CommLink (located next to the DIAG button). This will reset the password to the factory-set password and will also reset ALL factory settings. As a result, all factory settings will need to be reconfigured.



Step 11: After you are done modifying all of the IP settings, click <Apply Settings> in the menu bar to the left.



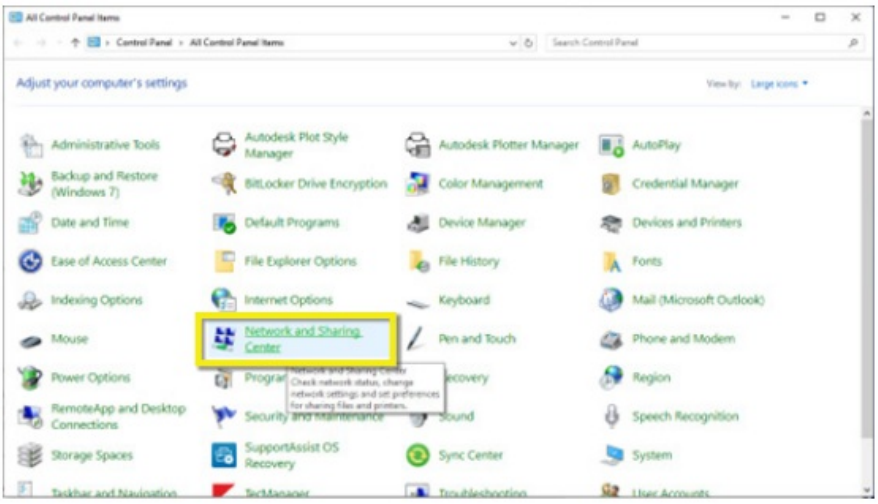


Step 12: To verify that the changes were successful, connect to the building's network using a standard Ethernet cable. Then make sure your PC has a connection to the Local Area Network and reopen the IP Setup Webpage by typing in the newly assigned IP Address.

Step 13: Be sure to set the IP address in Prism 2 to the new IP address set up for the CommLink.

Remote Setup

Step 1: Connect a crossover cable from the CommLink6 Ethernet port to the Ethernet port on your Windows laptop.
Step 2: Navigate to the "Control Panel" and click "Network and Sharing Center".



Step 3: Here you will see the Ethernet port for the CommLink6 under "Active Networks". Click the blue Ethernet link next to the "Connections:" label.

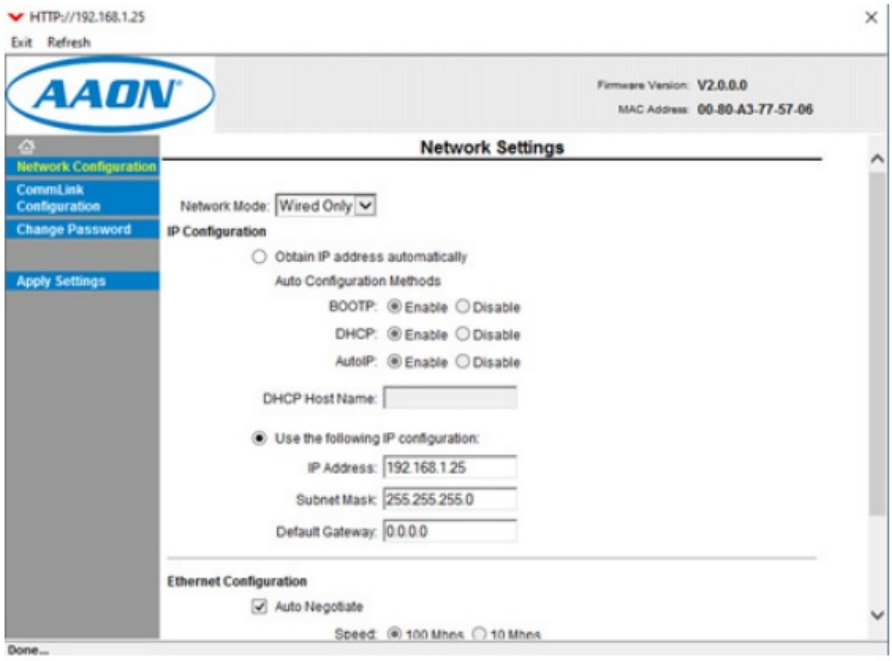
- If you are unsure which network is the crossover cable to the CommLink6, unplug the cable and plug it back in to watch it reappear.

Step 4: Click "Properties" and set the IP address to 192.168.1.24 and the Subnet Mask to 255.255.255.0

- This changed your laptop's IP address only. It cannot yet talk with the CommLink6.

Step 5: Open Prism and click "Job Site" in the upper left corner of the screen.

Step 6: Set the Node IP Address to 192.168.1.25. Set the Serial Port to "No Port Selected". This is the CommLink6's default IP address.



Step 7: Perform a "Search for Units" to confirm they are communicating.

Step 8

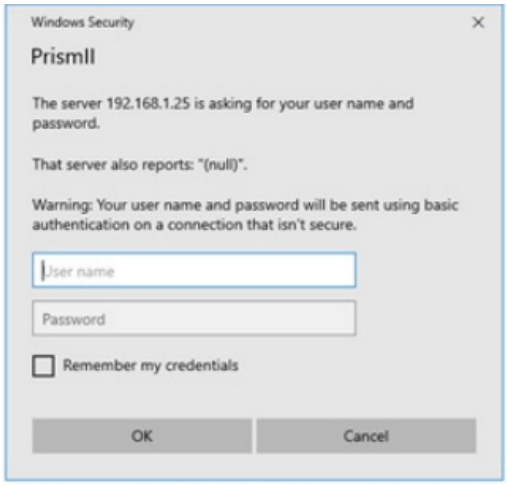
Obtain the IP address, Subnet Mask, and Default Gateway of the building's network.

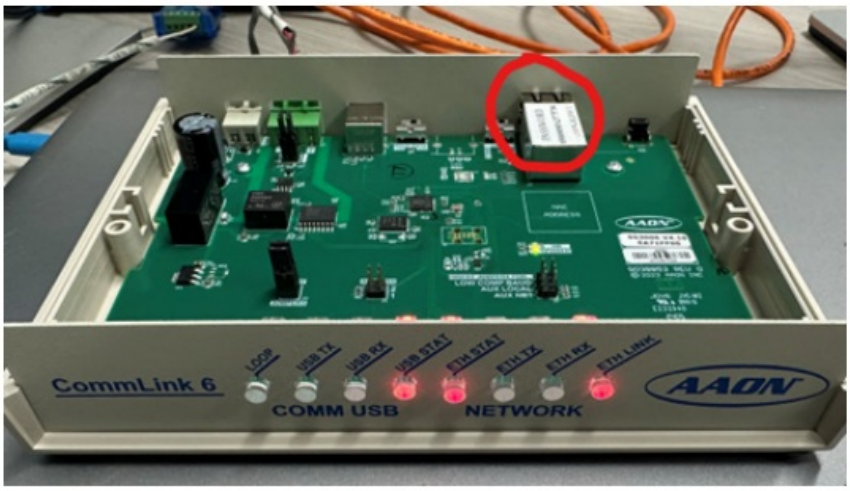
Step 9:

Click "Communications" on the top left hand corner and select "CommLink IP Web Settings".

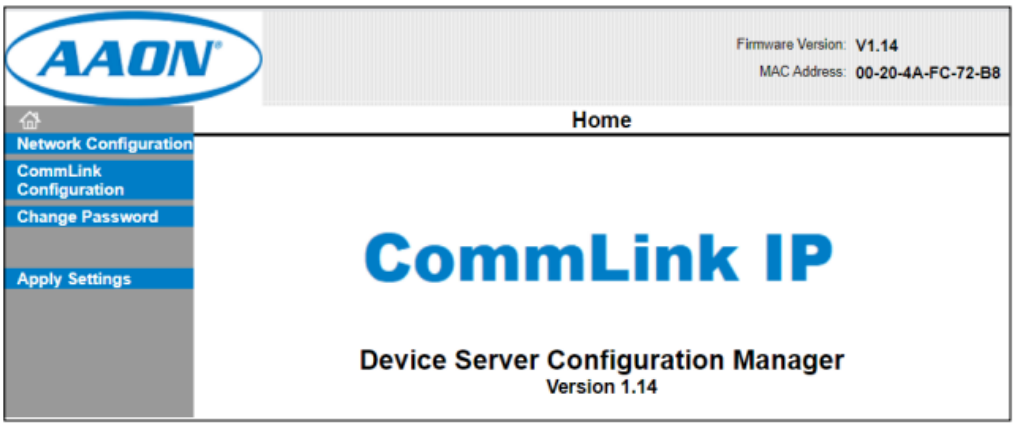
Step 10 : The sign in window will pop up before you can have access to the CommLink

IP Webpage. Leave the Username blank, and in the Password field, enter the password located on the IP module. You will need to open up the CommLink to find this.

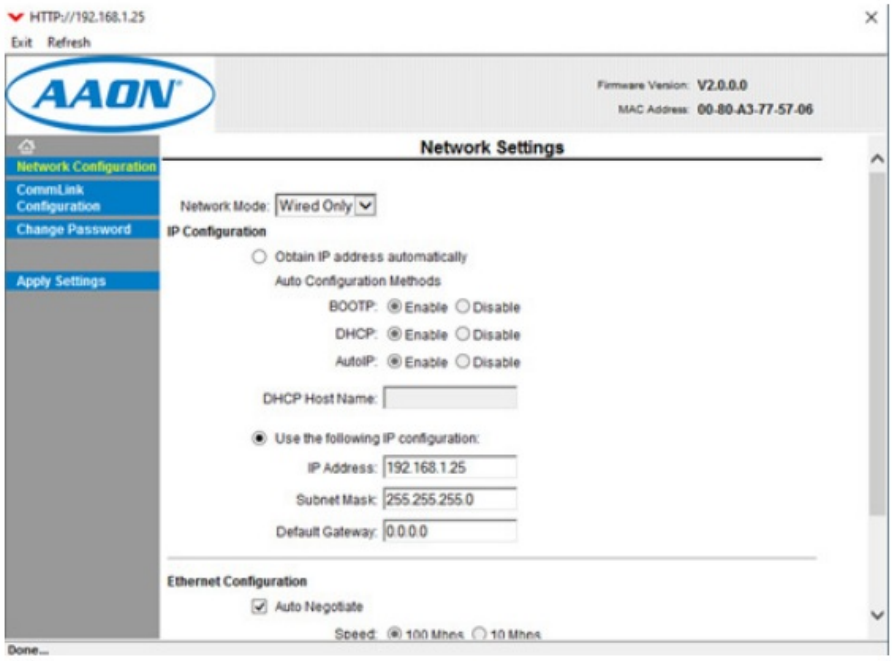




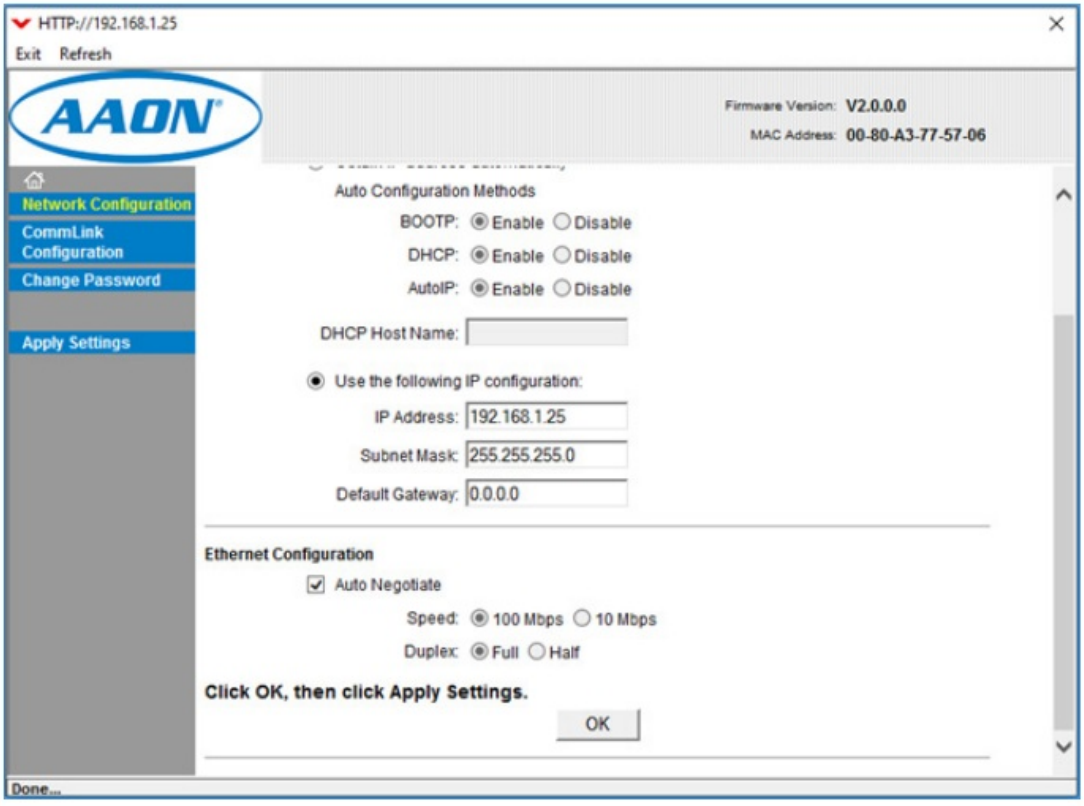
Step 11: The CommLink IP Window, shown below, will appear if a connection is established.



Step 12: Click “Network Configuration” found in the menu bar on the left side of the web page.



Step 13: Select the radio button “Use the following IP configuration:” and enter the building’s IP Address, Subnet Mask, and Default Gateway.



Step 14: Scroll down to the bottom of that same page. Click “OK” and then click “Apply Settings” on the menu bar. After clicking “Apply Settings”, WAIT. It will appear as if nothing has changed, but after 5-10 seconds it will load.

NOTE: Issues may occur if attempting to access any other function before it has finished loading.

TROUBLESHOOTING

CommLink 6 **LEDs**

USB LEDs

LOOP:
Indicates communication activity on local controller network. This LED flickers when data is exchanged with the controller network.

USB TX: Indicates transmitted data status of USB connection. This LED only flashes when your CommLink 6 is connected to a computer and data is sent to Prism from the CommLink 6 via USB.

USB RX: Indicates received data status of USB connection. This LED only flashes when your CommLink 6 is connected to a computer and data is sent from Prism to the CommLink 6 via USB.

USB STAT: Indicates connection to your computer. This LED will turn on solid once you plug the USB cable into your computer as long as the connection is not lost.

Network LEDs

- **ETH** STAT: Indicates connection to your ethernet. This LED will turn on solid once you plug the ethernet cable into the CommLink 6 and remain lit as long as the connection is not lost.
- **ETH** TX: Indicates activity on the local area network. This LED flashes on when LAN is transmitting and receiving data and is only operational with an Ethernet connection.
- **ETH** RX: Indicates local area network is connected. This LED is on when connected to LAN and is only operational with an Ethernet connection.
- **ETH** LINK: Indicates wireless connection to the local area network. This LED flashes on when LAN is transmitting and receiving data and is only operational with an Ethernet connection.

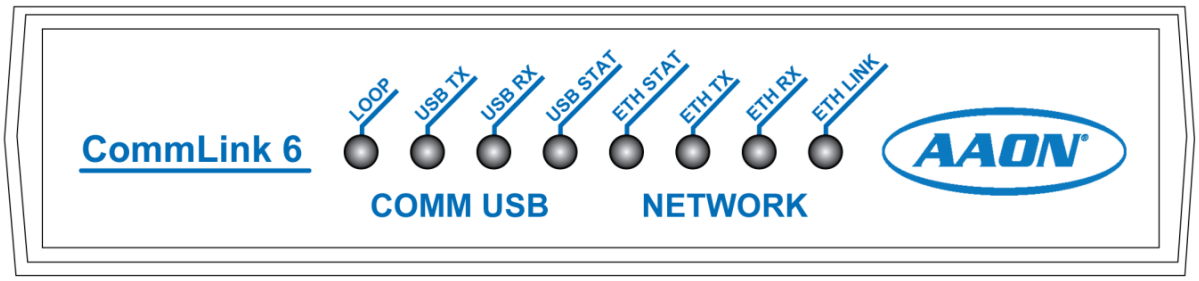


Figure 4: CommLink 6 LEDs

Connection

Proxy and Firewall Compatibility

Proxy and Firewall configurations may become necessary when the CommLink 6 is connected to a LAN/WAN that is protected by a commercially available Firewall, Proxy, or NAT enabled router. Examples of these would include Cisco, NetGear, LinkSys, or WatchGuard Technologies. Also, some ISPs provide IP Address ranges that are already fire-walled at the NOC or ISP Head-End. Make sure that your IT Department or ISP can create a mapped TCP port 39288 on your firewall/proxy to TCP port 39288 on the assigned IP Address of the CommLink 6.

Only with proper configuration of the Firewall/Proxy are connections to the CommLink 6 from outside of the local area network going to be possible. Check that the Firewall/Proxy TCP port 39288 is not set to time out or reset after a specified amount of time when there is no traffic from the remote PC.

Problems with Prism 2 Software

Verify that the correct COM port, created by the USB connection, is selected in the Job-Sites Window. Verify the COM port number by right-clicking on the Windows® icon, selecting <Device Manager>, and viewing <Ports>.

Verify that the radio button <CommLink 6> is selected for the Type of CommLink in the Job-Sites Window.

Verify that the correct CommLink mode is selected under Network Configuration in the Job-Sites Window. Select <Multiple Loop> or <Single Loop>.

Problems with USB Connection

- Verify that the USB TX and USB RX are blinking when you perform a Search for Units or try to open a status screen in Prism 2.
- If the USB LEDs fail to blink, disconnect and reconnect the USB connection.

Wrong Monitor Size

When Prism2 gets the wrong monitor size from the windows registry, it will not show the controller view. There is a thumbnail view when you hover over the Prism icon in the task bar that is all white.

Support Information

AAON Controls provides Prism 2 installation and configuration support. Call 866-918-1100 for free, direct telephone support or 816-505-1100 to talk to a Controls Support Representative. Support for all telephone services is available Monday through Friday, 7:00 AM to 5:00 PM central standard time.

NOTE: AAON Controls Support cannot troubleshoot internal PC and/or Windows®-based operating system problems.

NOTE: AAON Controls Support cannot troubleshoot firewalls, routers, and/or problems on a customer's internal or external network. An IT professional may need to be consulted.

AAON Controls Support:

866-918-1100

Monday through Friday, 7:00 AM to 5:00 PM Central Time

Controls Support website: www.aaon.com/aaon-controls-technical-support

AAON Factory Technical Support:

918-382-6450 | techsupport@aaon.com

NOTE: Before calling Technical Support, please have the model and serial number of the unit available.

PARTS: For replacement parts, please contact your local AAON Representative.

- **2425 So. Yukon Ave**
- Tulsa, OK
- 74107-2728
- **Ph:** 918-583-2266
- **Fax:** 918-583-6094 Rev. D
- Created in the USA

FAQ

- **Q: Can multiple CommLink 6 devices be monitored simultaneously?**
  A: Yes, several IP connection profiles can be created to facilitate monitoring several CommLink 6 devices using AAON's Prism 2 software.
- **Q: Where can I download the manual for the CommLink 6?**
  A: The manual is available for download at www.aaon.com.

Documents / Resources

	AAON CommLink 6 Transfer Communication Controller [pdf] User Guide VCCX-454 Series, VCCX-VCCX-IP Series, CommLink 6 Transfer Communication Controller, CommLink 6, Transfer Communication Controller, Communication Controller, Controller

References

- User Manual

AAON

AAON, CommLink 6, CommLink 6 Transfer Communication Controller, Communication Controller, controller, Transfer Communication Controller, VCCX-454 Series, VCCX-VCCX-IP Series

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