Conquest Ethernet Controller Configuration Web Pages

Application Guide

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Introduction

Conquest Ethernet-enabled "E" models with the latest firmware can be configured with an HTML5 compatible web browser from pages served from within the controller. The controllers have the following default network address values:

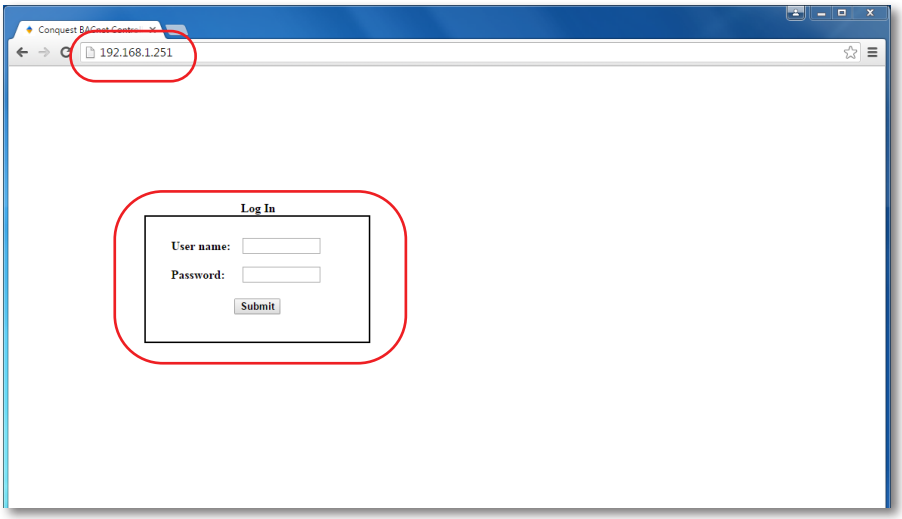
- IP address—192.168.1.251
- Subnet mask—255.255.255.0
- Gateway—192.168.1.1

NOTE: Features in this document reflect firmware version R1.2.0.9 or later. Early firmware did not yet have web pages with full functionality. Upgrade to the latest version for full features.

NOTE: All Conquest controllers can still be configured using a Conquest NetSensor, KMC Connect Lite (NFC) app, KMC Connect software, TotalControl software, and/or KMC Converge module for Niagara WorkBench.

NOTE: The default IP address of the BAC-5051E router is 192.168.1.25**2**.

Login Window



⚠ CAUTION

Do NOT plug a cable meant for Ethernet communications into the (yellow) Room Sensor port of a Conquest controller! The Room Sensor port powers a NetSensor, and the supplied voltage may damage Ethernet circuitry in a computer, switch, router, or other device.

To log in to a controller with a web browser:

1. Connect the controller to an **Ethernet** port by doing one of the following:
   - Connect directly to the computer, which typically requires changing the computer IP address. See **Changing Your Computer's Address on page 9**.
   - Connect to a subnet that recognizes address 192.168.1.251.
2. Connect power to the controller. (See the relevant installation guide.)
3. Open a new browser window.
4. Enter the address **192.168.1.251**.
5. In the login window, enter the following:
   - User name: **admin**
   - Password: **admin**

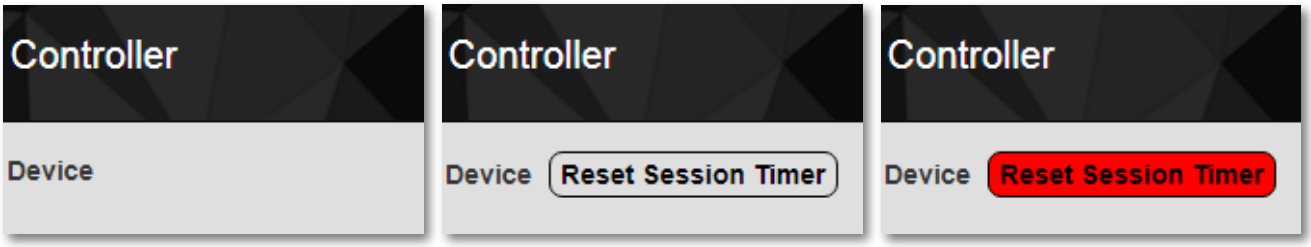
NOTE: The login screen will be accessible about 30 seconds after a controller has restarted or had power first applied. (See also **Recovering an Unknown IP Address on page 8**.)

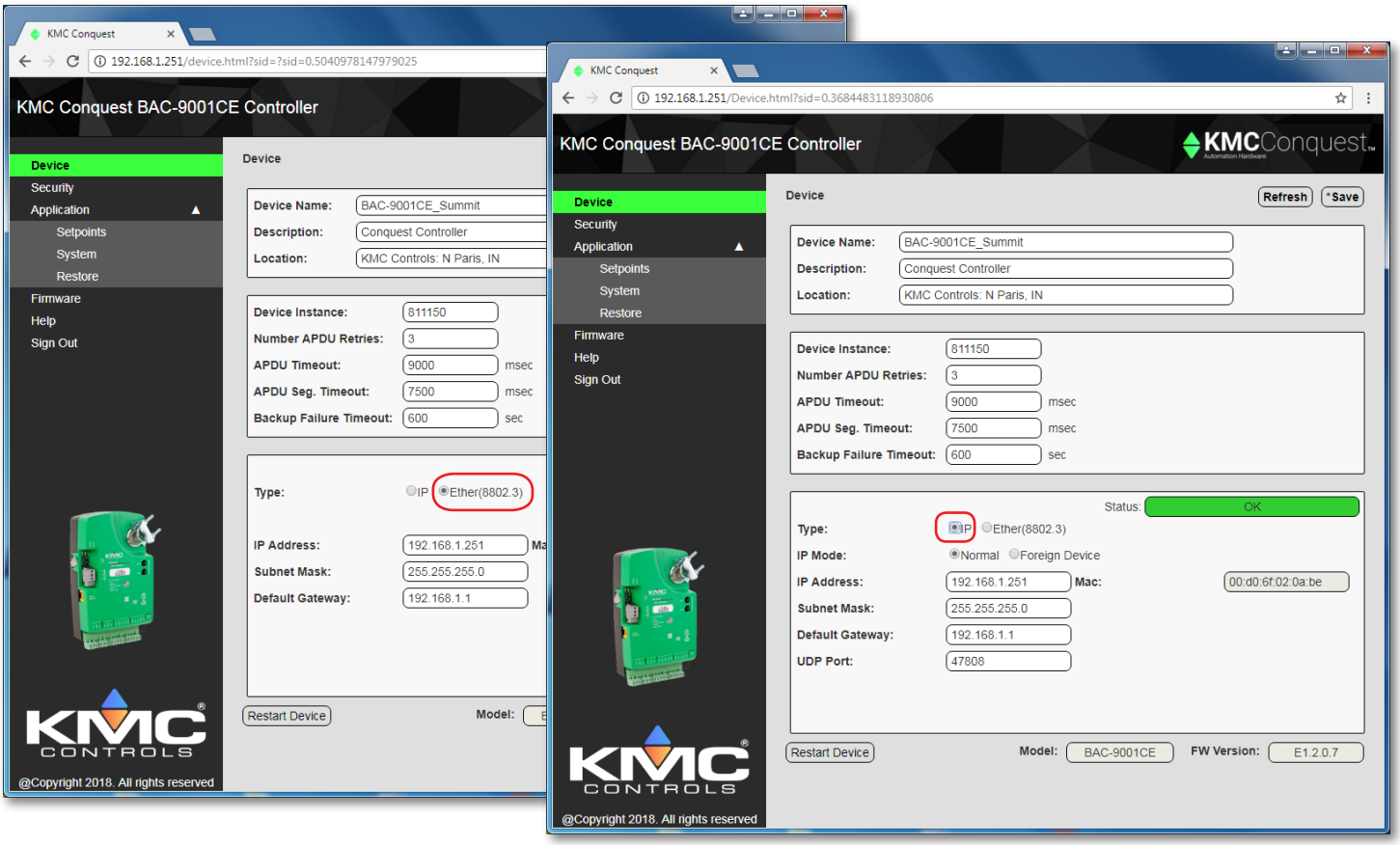
6. After logging in, change the controller parameters as needed:
   - To change the IP address, see **Device Window on page 3**.
   - To change passwords and add users, see **Security Window on page 4**.
   - To change application parameters, see **Application Windows on page 6**.

NOTE: If you change the IP address, place the controller on the new subnet and log in using the new address. After the address is changed and saved, the controller will not respond to the old address.

After login, a one-hour timeout starts. The timer resets to one hour for any of these conditions:

- A page is refreshed or saved.
- The menu (on left side of screen) is clicked to go to a different page.
- The flashing Reset Session Timer (which appears two minutes before the end of the timeout period) is pushed.





Device Window

The Device window identifies the controller as a BACnet device and sets BACnet communication properties. The Device window also configures the controller for the Local Area Network (LAN). The new IP Address, Subnet Mask, and Default Gateway values are supplied by the building's IT department system administrator.

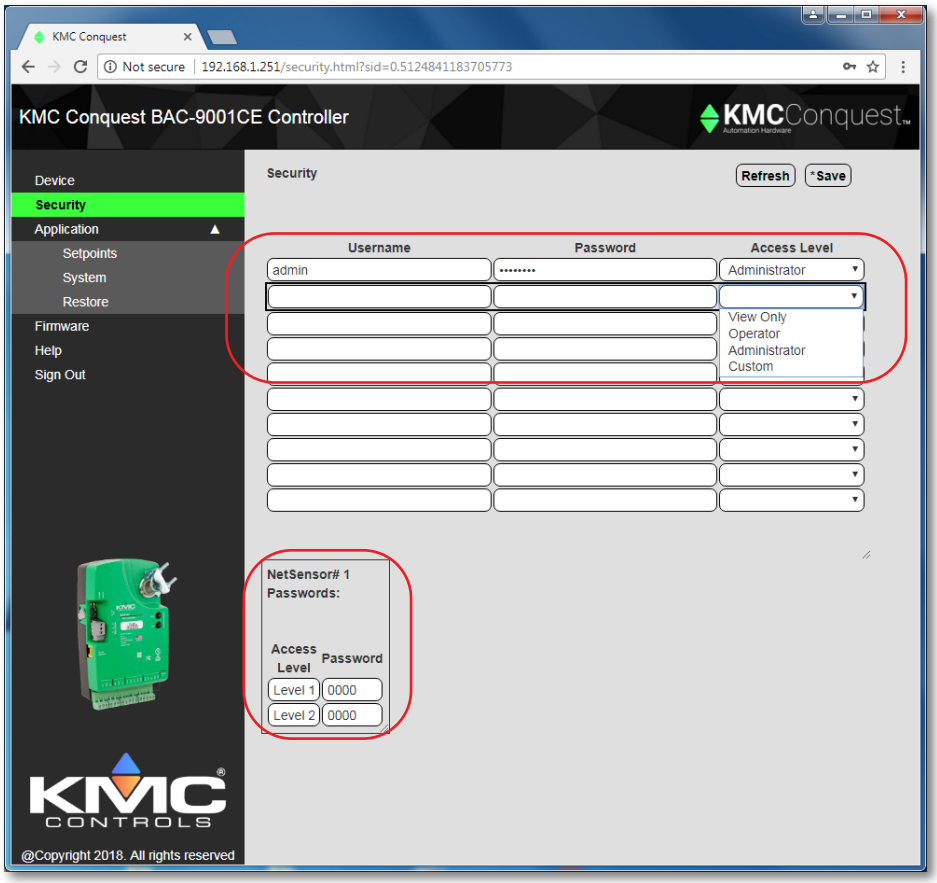
NOTE: After changes in the window are saved, the controller will use the new settings and will require you to log in at the new address. If the controller is not on the same subnet as the network gateway router, it will not function correctly.

The Device window shows multiple parameters (which vary depending on whether IP or Ethernet is selected):

- **Device Name**—The name must be unique among all devices on the BACnet internetwork.
- **Description**—Optional information not included in the device name.
- **Location**—An optional value that describes the controller's physical location.
- **Device Instance**—A number that identifies the controller on the internetwork. The device instance must be unique on the internetwork and in the range from 0–4,194,302. The device instance is assigned by the BACnet system designer. The **default device instance on Conquest controllers is 1 and must be changed to a unique number to avoid conflict with other device**s.
- **Number APDU Retries**—Indicates the maximum number of retries that an APDU (Application Layer Data Unit) is retransmitted.
- **APDU Timeout**—Indicates the time (in milliseconds) between retransmissions of an APDU requiring an acknowledgment for which no acknowledgment has been received.

- **APDU Seg. Timeout**—The Segment Timeout property indicates the time (in milliseconds) between retransmissions of an APDU segment.
- **Backup Failure Timeout**—The time (in seconds) that the controller must wait before ending a backup or restore procedure. Use KMC Connect, TotalControl, or Converge to back up the controller.
- **MAC**—The MAC address of the controller.
- **IP Address**—The internal or private network address of the controller. (To recover a lost address, see **Recovering an Unknown IP Address on page 8**).
- **Subnet Mask**—The Subnet Mask determines which part of the IP address is used for a network identifier and which part is used for a device identifier. The mask must match the mask for the network gateway router and other devices on the subnet.
- **Default Gateway**—The address of the network gateway router. The controller and gateway router must be part of the same LAN subnet.
- **UDP Port**—UDP (User Datagram Protocol) is an alternative communications protocol to TCP used primarily for establishing low-latency and loss-tolerating "connectionless" connections between applications on the Internet. The port is the "virtual channel" through which the data is transmitted and received.
- **Time-to-Live**—The time interval (in seconds) a Foreign Device is allowed to stay connected to a BBMD before it has to re-register.
- **BBMD Addr**—The address of the BACnet Broadcast Management Device.
- **BBMD Port**—The "virtual channel" through which the BBMD communicates.
- **Restart Device**—Restarts the controller. This is similar to restarting the controller with a BACnet cold start from KMC Connect or TotalControl. A restart does not change properties or save changes not yet saved.

Security Window



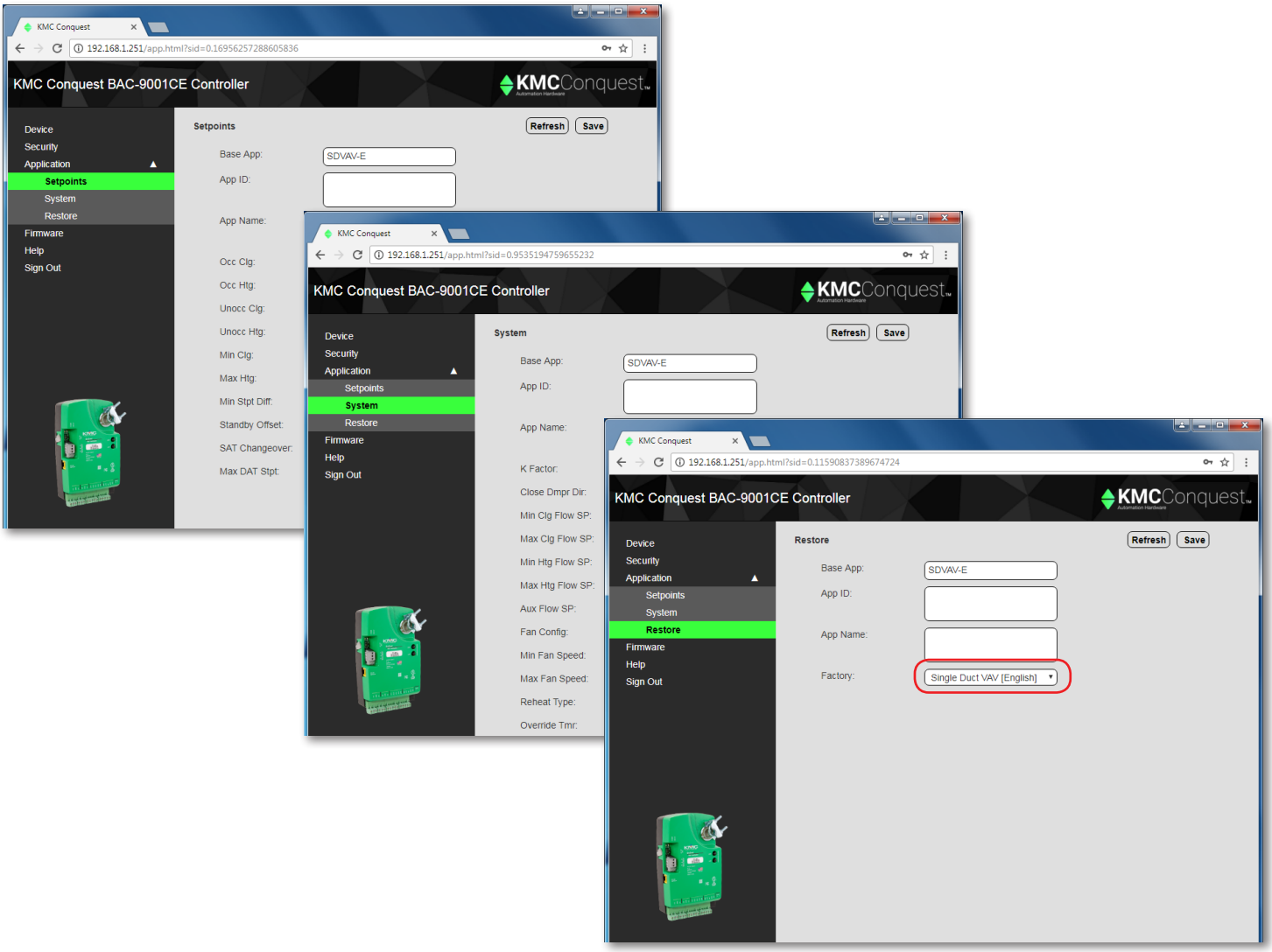
The Security window sets user access to the controller:

- During configuration, the default **admin**/**admin** defaults should be changed to enhance security.
- The user name list must include at least one name with Administrator privileges.
- User names and passwords are case sensitive.

The controller has multiple levels of user access:

- A **View Only** user may view configuration pages but not make any changes.
- An **Operator** may make configuration changes but cannot modify security settings.
- An **Administrator** may make configuration and security changes.
- A **Custom** access user has a combination of access options as selected by an Administrator.

The NetSensor Passwords section provides the viewing of and option to change the passwords required to access a controller using a Conquest STE-9000 series NetSensor or the KMC Connect Lite mobile app. These passwords are four digits, with each digit being a number 0 to 9. If all four numbers are 0, no password is required of the user for that level. For more information, see the **Conquest Controllers Default Password Technical Bulletin** after logging into the KMC Controls web site.

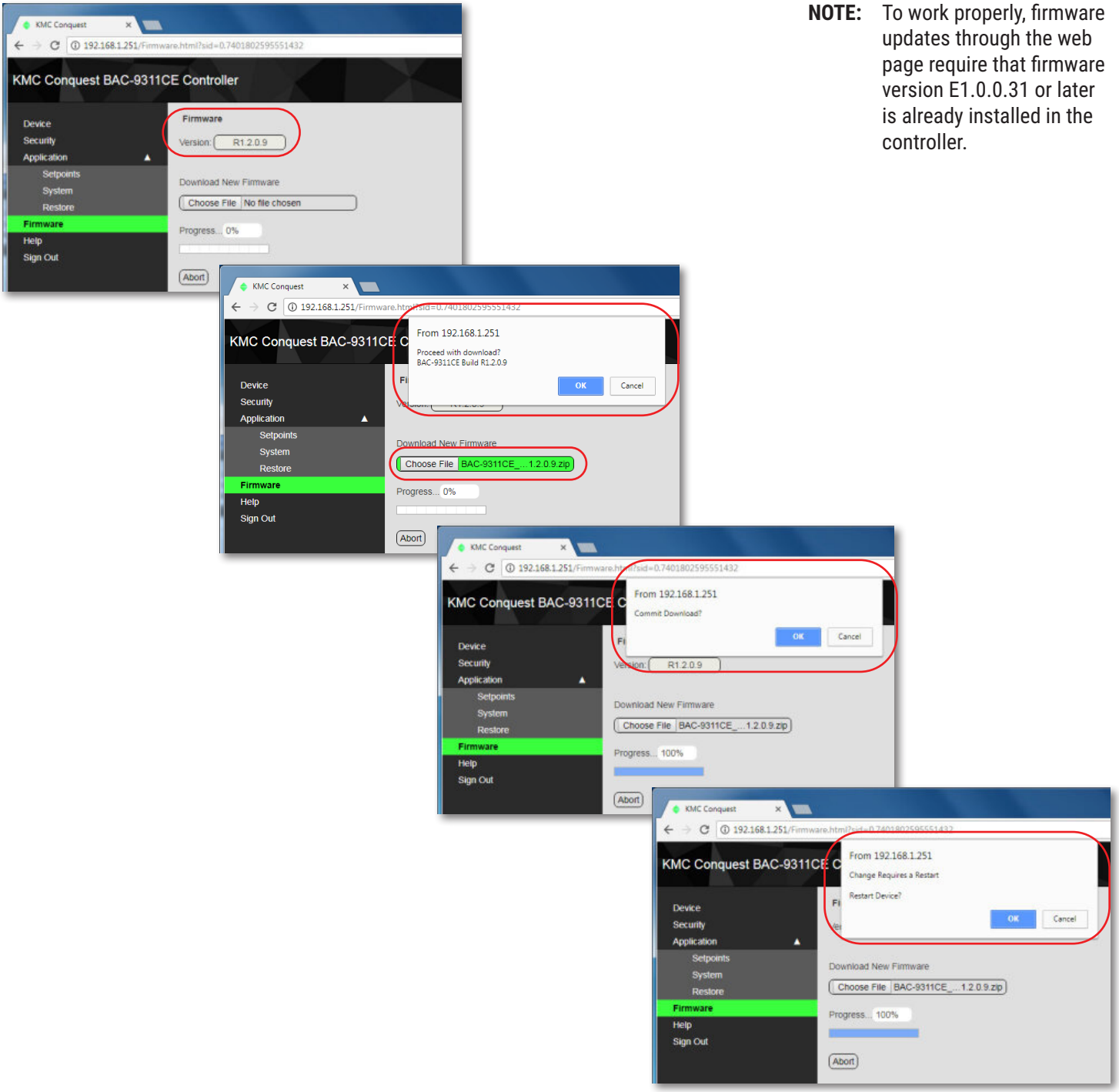


Application Windows

The Application windows provide the ability to configure setpoints and system options.

NOTE: Check and (if needed) change the base application under Restore > Factory **before** configuring setpoints or other system options. Changing the base application will reset setpoints and system options to their factory defaults.

NOTE: For more information about these options, see the **KMC Conquest Controller Application Guide**.



NOTE: To work properly, firmware updates through the web page require that firmware version E1.0.0.31 or later is already installed in the controller.

Firmware Update Window

The KMC Conquest controller's firmware can be updated through the web browser after downloading the latest firmware from KMC. To download from KMC and install the firmware file onto the **computer**:

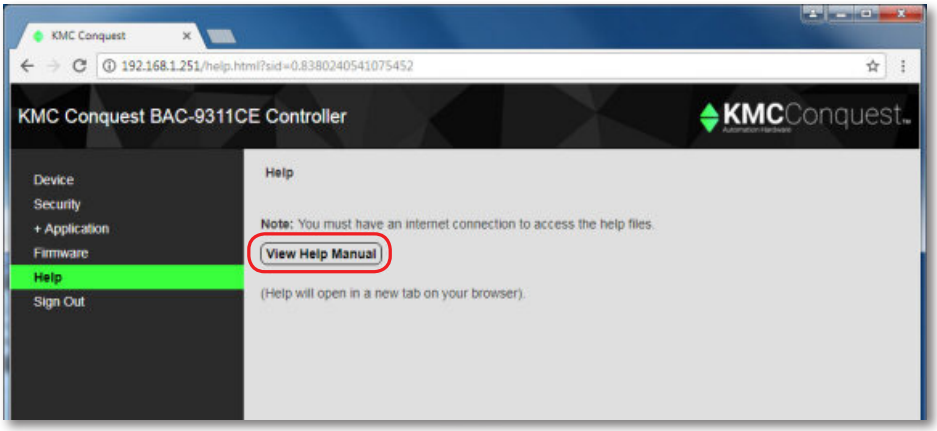
1. Log into the KMC Controls **web site** and download the latest zipped firmware file from any Conquest controller's product page.
2. Find and extract the "Over-The-Network" (not the "HTO-1104_Kit") EXE file for the relevant model controller (which must be a "BAC-xxxxC**E**" version of the firmware).
3. Run the BAC-xxxxCE_x.x.x.x_OverTheNetwork.exe file.
4. Click **Yes** to allow Windows to install the program.
5. Click **OK** on the Firmware License dialog box.
6. Click **Unzip** in the WinZip Self-Extractor dialog box.

To then load the firmware from the computer into the **controller**:

1. Log-in to the controller's web page. See **Login Window on page 2**.
2. In the controller's **Firmware** window, click **Choose File**, locate the new firmware zip file (it should be in a subfolder of C:\ProgramData\KMC Controls\ Firmware Upgrade Manager\BACnet Family), and click **Open**.
3. After being asked if you want to proceed with the download, click **OK** and the new firmware starts loading into the controller.

NOTE: To cancel the update and leave the devices with the original firmware intact, click the **Cancel** or **Abort** button.

4. After the new firmware is loaded, you will be asked if you want to commit to the download. To finish the update, click **OK**.
5. To put the firmware change into effect, the controller will need to be restarted. When asked if you want to restart the device, click **OK**.
6. After the controller restarts, you will need to log in again to continue any additional configuration. See **Troubleshooting on page 13**.



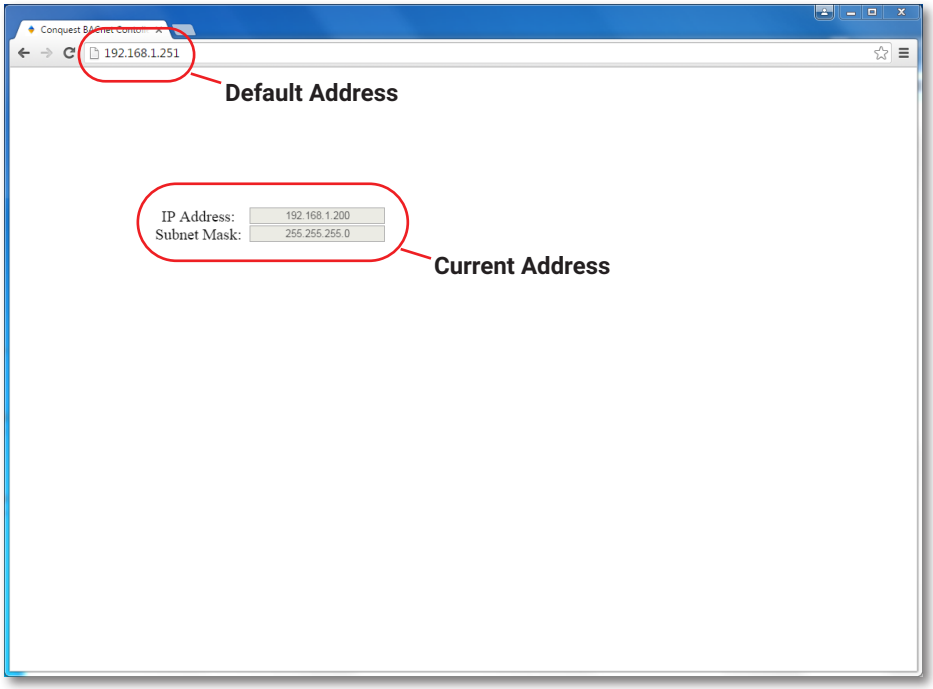
Help Window

The "Help Manual" is a connection to a Conquest product page on the KMC public web site. Look at the various files that can be downloaded, such as the **KMC Conquest Controller Application Guide**. You will need an active Internet connection for the link to work.

NOTE: Bulletins and firmware are available only after logging into the web site.

Recovering an Unknown IP Address

If the network address of the controller is lost or unknown, the controller will respond to the default IP address for approximately the first 20 seconds after power is applied.



To discover an unknown IP address:

1. Disconnect the controller from the LAN and connect the controller as described in **Login Window on page 2**.
2. On the computer, open a browser window and enter the default address of **192.168.1.251**.
3. Reconnect the controller to the power source and immediately attempt to connect with the browser. The browser will respond with the controller's IP address and subnet mask.
4. Once the address is known, connect the controller to the relevant IP subnet for normal operation or controller configuration.

NOTE: A controller's IP address can also be seen in KMC Connect, TotalControl, and KMC Converge when the controller is properly connected to the network.

Changing Your Computer's Address

Introduction

To directly connect a computer to a controller, you must temporarily set the IP address of the computer to be compatible with the IP address of the controller. The IP address of a computer can be changed by using a utility or manually.

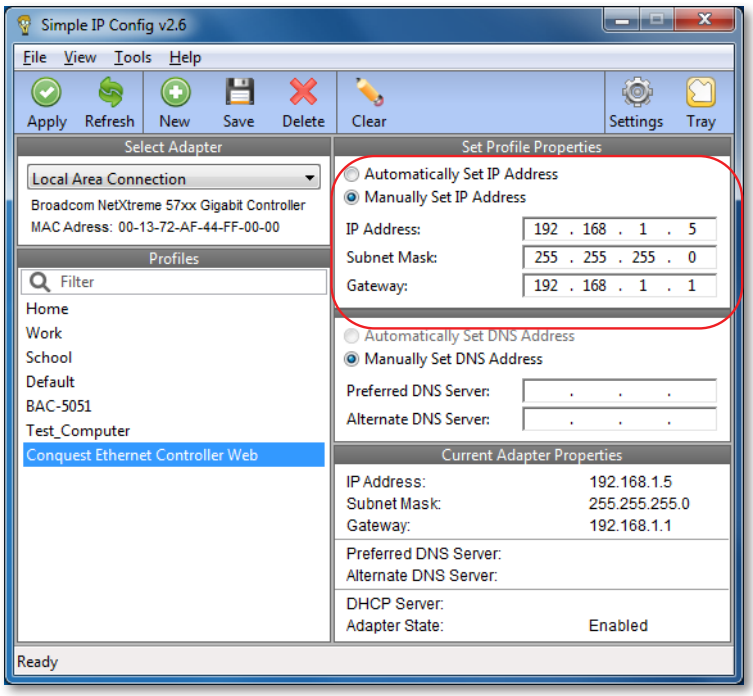
Change a Computer's IP Address with a Utility

The easiest method for users who will change their IP address on multiple occasions is to install an IP address changing utility (such as **Simple IP Config** available from **GitHub**). See the instructions with the software.

In the software:

1. **Save a record/setting of your existing computer's address information!**
2. **Enter** the following for the computer's temporary new IP address, Subnet mask, and Gateway:
   - IP address—**192.168.1.x** (where **x** is a number between 1 and 250)
   - Subnet mask—**255.255.255.0**
   - Gateway—Leave **empty or** unchanged (or if that does not work, use **192.168.1.*****, where the last digits are different than the IP address in the computer or controller)

NOTE: After configuration of the controller is complete, revert your computer to the original IP settings.



Change a Computer's IP Address Manually

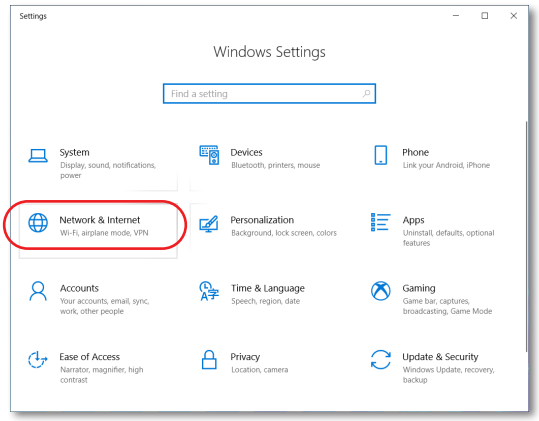
Introduction

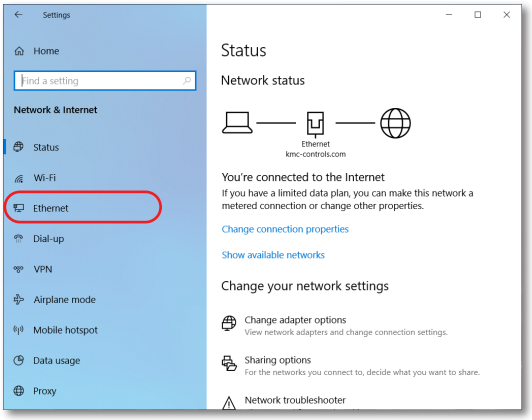
To change your computer's IP address manually, follow the instructions (or the equivalent for your hardware and operating system) for **Windows 10 (Settings) on page 10** or **Windows 7 (Control Panel) on page 11**.

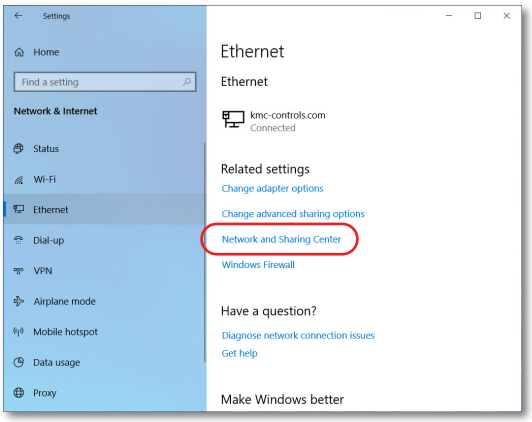
NOTE: Screens will look different in different versions of Microsoft Windows.

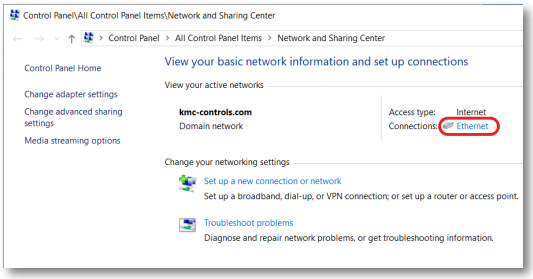
NOTE: Depending on the computer and version of Windows, the exact name for the connection to the controller may be Ethernet, Local Area Connection, or something similar.

Windows 10 (Settings)

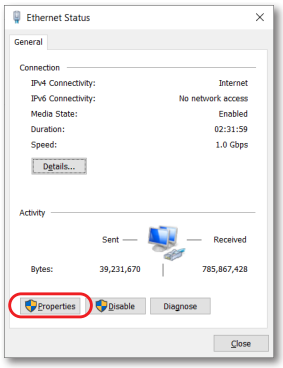


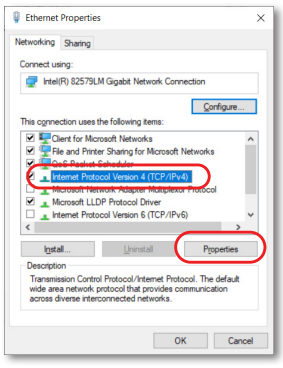


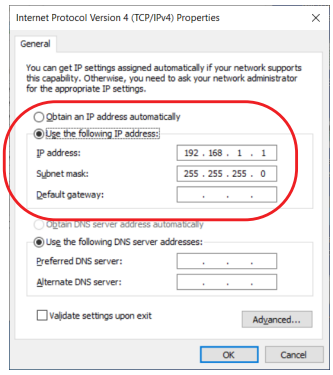




1. Click the **Start** button.
2. In the Start menu, click **Settings** (the gear icon).
3. In Windows Settings, click **Network and Internet**.
4. Click **Ethernet**.
5. Click **Network and Sharing Center**.
6. Click Connections: **Ethernet**.
7. Click **Properties**.
8. Click **Internet Protocol Version 4 (TCP/IPv4)** and then **Properties**.







NOTE: **Record the EXISTING settings of the Property dialog!**

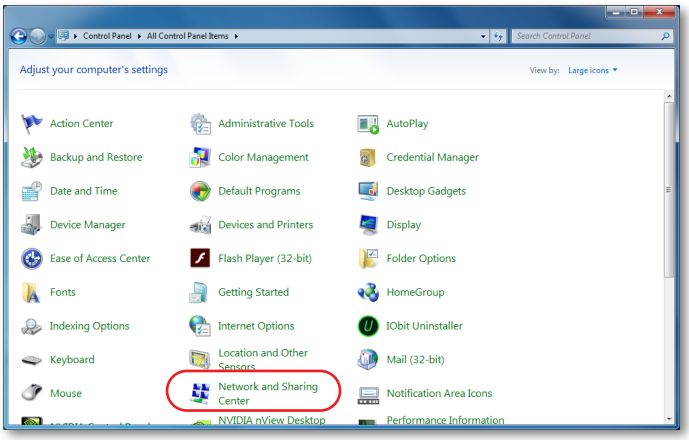
NOTE: If **Obtain an IP address automatically** is selected, the IP address and Subnet mask of the computer are not shown. They can be seen, however, by running ipconfig from a command prompt. To run ipconfig, type **cmd** in the Search box, at Command Prompt App press **Enter**, type in **ipconfig** at the prompt, and press **Enter**.

9. Select **Use the following IP address** and then enter the following for the IP address, Subnet mask, and Gateway.
   - IP address—**192.168.1.x** (where **x** is a number between 2 and 255)
   - Subnet mask—**255.255.255.0**
   - Gateway—Leave **empty or** unchanged (or if that does not work, use **192.168.1.*****, where the last digits are different than the IP address in the computer or KMC Commander)
10. When all information is correct, click **OK** and **OK**.

NOTE: The changes should take full effect after a few seconds.

Windows 7 (Control Panel)

1. Click the **Start** button and select **Control Panel**.
2. From the Control Panel:
   - (When viewed by icons) click **Network and Sharing Center**.
   - (When viewed by category) click **Network and Internet** and then **Network and Sharing Center**.



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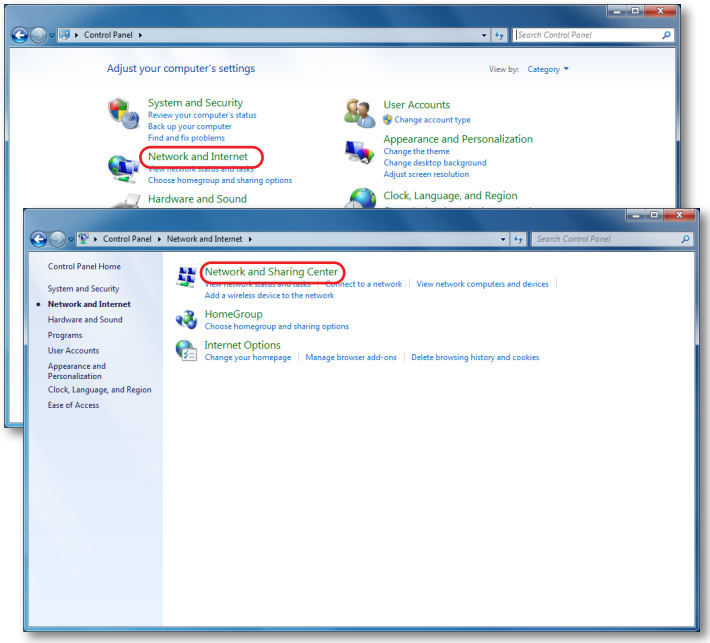

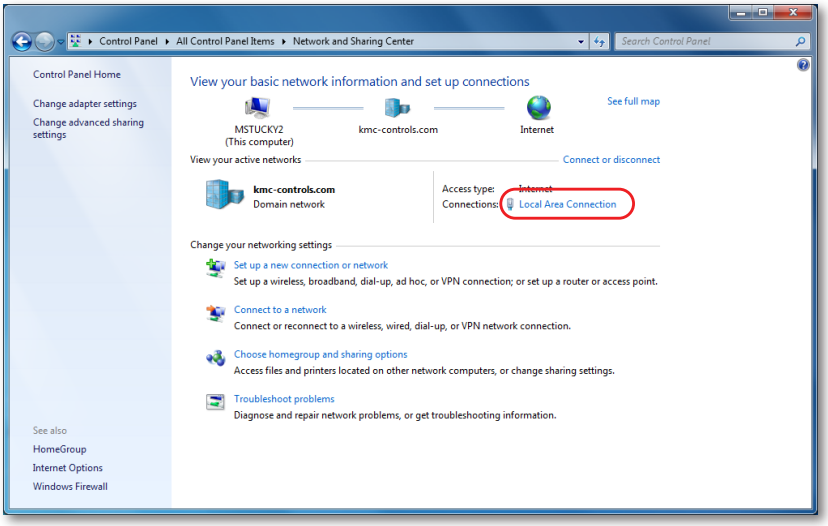

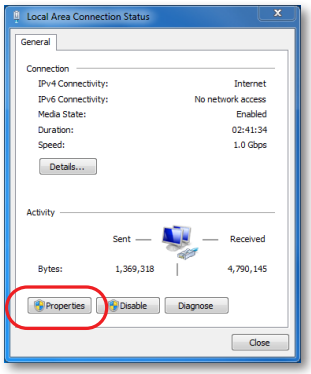

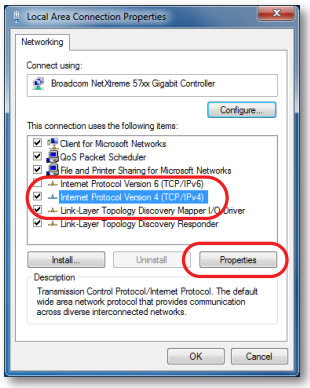

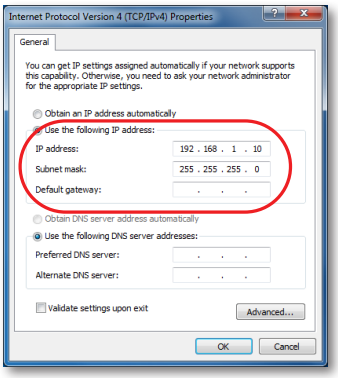

3. Click the local connection for the LAN. Depending on the computer and version of Windows, the exact name for the connection may be Ethernet, Local Area Connection, or something similar.
4. In the Local Area Connection (or similar) Status dialog, click **Properties**.
5. Then click on **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties**.

NOTE: **Record the EXISTING settings of the Property dialog!**

NOTE: If **Obtain an IP address automatically** is selected, the IP address and subnet mask of the computer are not shown. They can be seen, however, by running ipconfig from a command prompt. To run ipconfig, click the **Start** button, type **cmd** in the Search box, press **Enter**, type in **ipconfig** at the prompt, and press **Enter**.

6. In the Properties dialog, select **Use the following IP address** and then enter the following for the IP address, Subnet mask, and Gateway.
   - IP address—**192.168.1.x** (where **x** is a number between 1 and 250)
   - Subnet mask—**255.255.255.0**
   - Gateway—Leave **empty or** unchanged (or if that does not work, use **192.168.1.*****, where the last digits are different than the IP address in the computer or controller)
7. When all information is correct, click **OK** and **Close**.

NOTE: The changes should take full effect after a few seconds.

NOTE: After configuration of the controller is complete, repeat this process using the original IP settings.

Troubleshooting

- Check that the Ethernet connection cable is plugged into the Ethernet port and not the Room Sensor port.
- Check the network and connections.
- Restart the controller. See the Resetting Controllers section in the **KMC Conquest Controller Application Guide**.
- Review IP address and login information. See **Introduction on page 1**, **Login Window on page 2**, and **Changing Your Computer's Address on page 9**.
- See Communication Issues—Ethernet section in the **KMC Conquest Controller Application Guide**.

Handling Precautions

For **digital and electronic** sensors, thermostats, and controllers, take reasonable precautions to prevent electrostatic discharges to the devices when installing, servicing, or operating them. Discharge accumulated static electricity by touching one's hand to a securely grounded object before working with each device.

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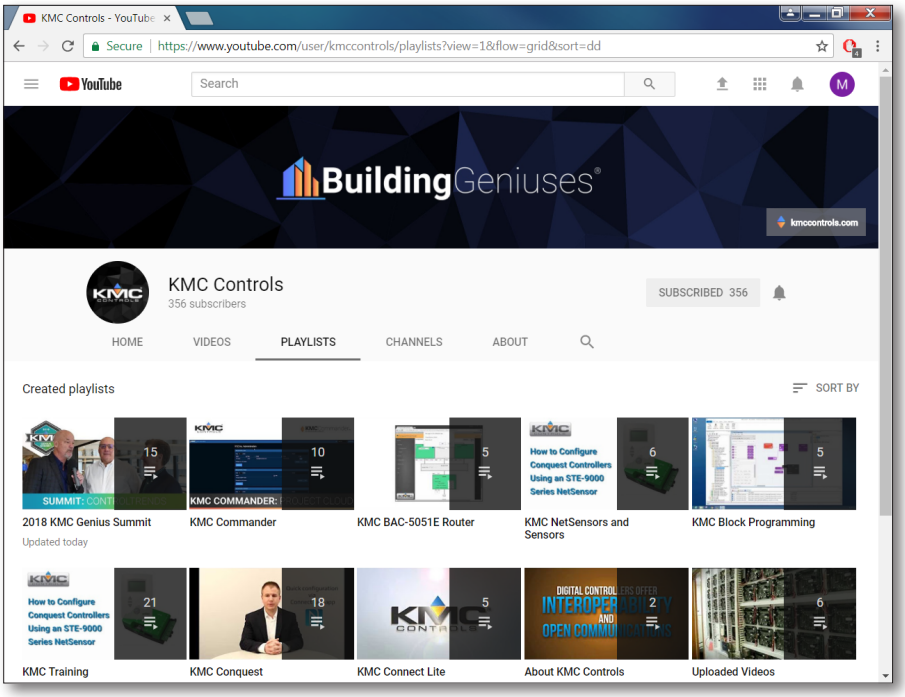
Support

Additional resources for installation, configuration, application, operation, programming, upgrading and much more are available on the KMC Controls web site (**www.kmccontrols.com**). Viewing all available files requires logging in to the site.

For video tutorials on Conquest and Connect, see also the videos on **KMC's YouTube channel**.