

ELITEPRO XC WI-FI COMMUNICATION OPTION

Note: This document covers the communication options for both the ELITEpro XC and the ELITEpro SP. The information applies to both meters unless otherwise noted. For questions outside the scope of this document, please contact DENT Technical Support at support@dentinstruments.com or 541-388-4774.

OVERVIEW OF OPTIONAL WI-FI AND WIRELESS ACCESS POINT CONNECTION

The optional Wi-Fi module may be used in one of two ways: as a Wi-Fi connection to an existing Wi-Fi network or in Access Point Mode where the logger connects directly to devices such as laptops or smart phones.

Connection ranges depend on whether an internal or high-gain external antenna is used.

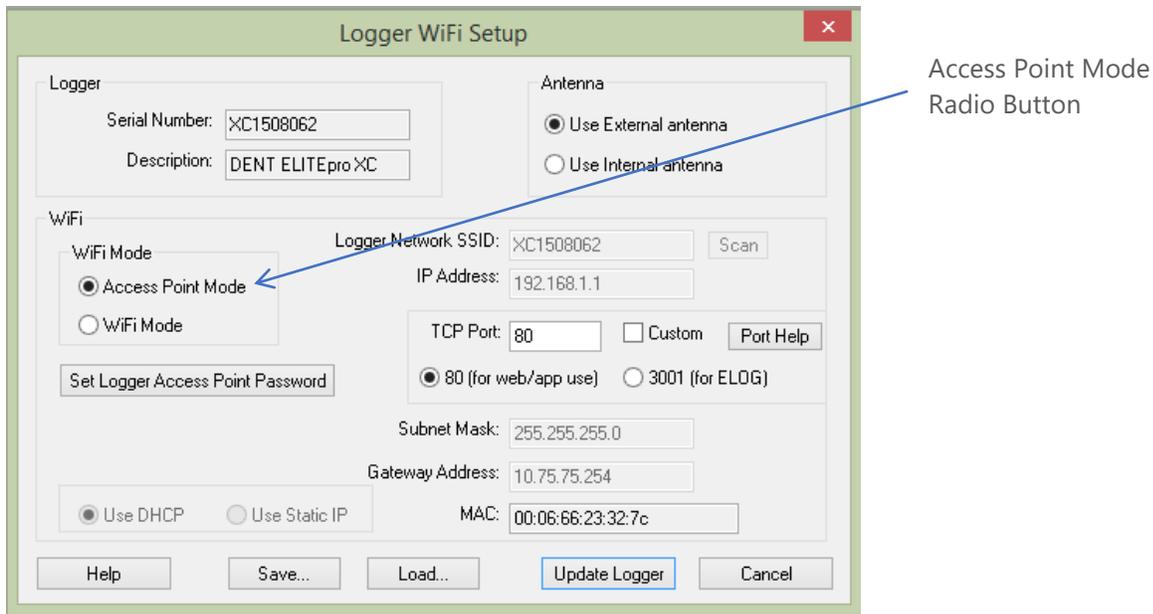
DID YOU KNOW? The Wi-Fi connection will work over a range of 40 to 100ft, depending on the installation environment and antenna choice. Range is limited when mounted within a metal cabinet.



ELITEpro XC as its own Access Point

Using the **ELITEpro XC** as an access point or “hotspot” enables Wi-Fi connections where no existing wireless network is available, or where access to existing networks is not allowed.

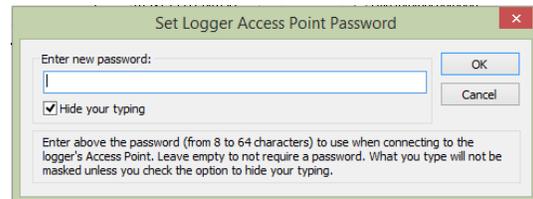
1. Set up the logger for Access Point connection. Connect the USB cable to a USB port on your computer, inserting the other end in the USB port on the **ELITEpro XC** (Hint: look for this USB symbol: ). If a USB cable is used inside an electrical panel, it must be rated to the appropriate voltage or wrapped in an appropriately rated insulating sleeve. The DENT-supplied cable does not meet this requirement without an insulating sleeve.
2. If it does not launch automatically, start ELOG 15 and connect to the logger.
3. From the ELOG menu, select **Logger > Communication > Logger Wi-Fi Setup....** The Logger Wi-Fi Setup dialog box appears.



NOTE: All **ELITEpro XC** loggers equipped with a Wi-Fi module contain an *internal* antenna. An *external* antenna is optional. You may toggle between the internal and external antenna (if it is available on your logger) by selecting the appropriate radio button.

4. Select the **Access Point Mode** radio button in the Wi-Fi Mode section of the dialog box.

5. Click **Set Logger Access Point Password**. The Set Logger Access Point Password dialog box displays. Enter a password (if desired) for use when connecting to the **ELITEpro** access point. If you want the access point open (no password required), leave the field blank. Click **OK**.



6. Select the TCP Port to use when connecting to the meter.

NOTE: You must select port 80 if you are planning to use the mobile app or web browser. Port 3001 is not supported by the mobile app but is compatible if you are planning to use only ELOG with the web browser.

7. Click **Save Changes** in the Logger Wi-Fi Setup dialog box.

ELOG updates the Wi-Fi settings and prompts you to click **OK** in order to reset the **ELITEpro XC**.

NOTE: After the blue COMM LED on the **ELITEpro XC** device stops blinking, use the ELOG command **Logger > Communication > About the Connected Logger** to verify that all entries in the Logger Properties dialog box match the values you entered.

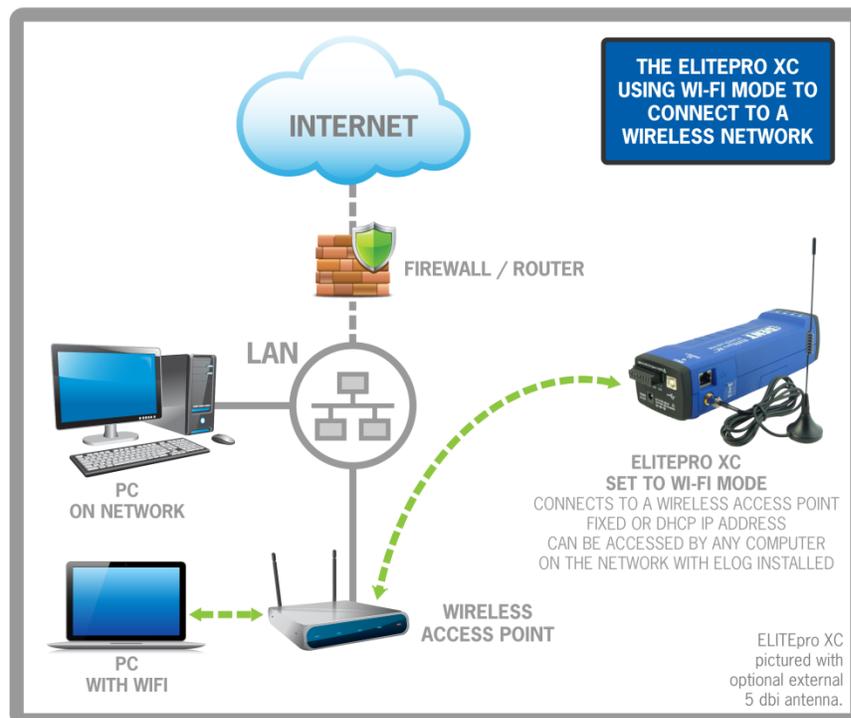
When using Access Point Mode the SSID is based on the logger serial number and the IP address is 192.168.1.1.

8. Open a Network Connection dialog on your PC. (You may need to click **Refresh**.) Select the access point with the **SSID** (described above) and click **Connect**. Ensure that Windows connects to the access point.

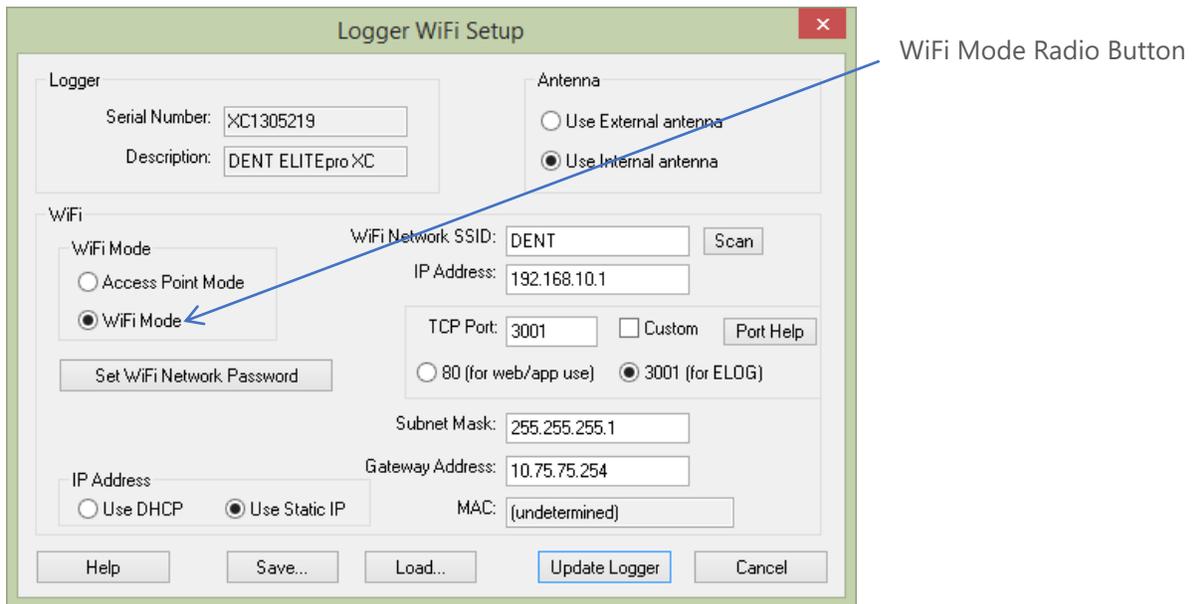
NOTE: The **ELITEpro**, while acting as an Access Point, allows multiple devices to connect (associate). However, only one device at a time may be communicating with the meter (using ELOG, the mobile app, or the web browser). As well, these devices will NOT be networked together as they would if connected to a standard Wi-Fi access point—the **ELITEpro** provides no routing functions.

ELITEpro XC Connected to a Wireless Network

An **ELITEpro XC** with a Wi-Fi module may also be connected to a local area network (LAN) through a wireless access point or wireless router. To set up the logger it must first be configured via a USB connection to a PC running ELOG and may require assistance from someone familiar with the network you want to connect to. Below is a diagram of this communication method:

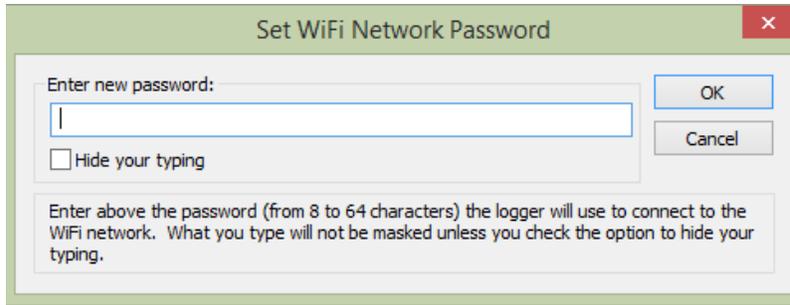


1. Set up a Wi-Fi logger for connection to a wireless network first. Connect the USB cable to a USB port on your computer, inserting the other end in the USB port on the **ELITEpro XC** (Hint: look for this USB symbol: ). If a USB cable is used inside an electrical panel, it must be rated to the appropriate voltage or wrapped in an appropriately rated insulating sleeve. The DENT-supplied cable does not meet this requirement without an insulating sleeve.
2. If it does not launch automatically, start ELOG 15 and connect to the logger.
3. From the ELOG menu, select **Logger > Communication > Logger Wi-Fi Setup....** The Logger Wi-Fi Setup dialog box appears.



Note: All **ELITEpro XC** loggers that are equipped with a Wi-Fi package contain an *internal* antenna. An *external* antenna is optional. You may toggle between using the internal and external antenna (if it is available on your logger) by selecting the appropriate radio button.

4. Select the **Wi-Fi Mode** radio button in the Wi-Fi Mode section of the dialog box.
- A network administrator may be needed for the next three steps.
5. Enter the name of the wireless network in the **Wi-Fi Network SSID** field.
 6. Click **Set Wi-Fi Network Password** and enter the network’s password in the dialog box.



7. Click the **Use DHCP** radio button if your network uses DHCP to assign IP address information.

-or-

Click the **Use Static IP** radio button and enter the **IP Address**, **Subnet Mask**, and **Gateway Address** provided by the network administrator when your network uses static IP address assignments.

NOTE: To connect to the logger wirelessly you will need to know what IP address the router assigned to the logger. This can be found by making a direct, USB connection to the logger and then use **Logger > Communication > About the Connected Logger...** to see the IP address.

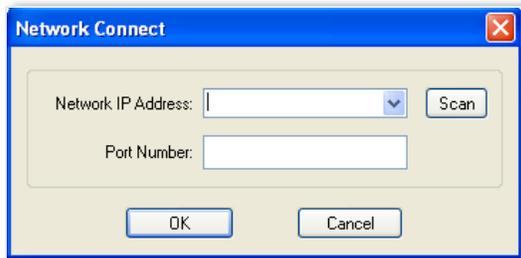
8. Select the **TCP port** to use when connecting to the meter. If you plan to use the mobile app or web browser, you must select port 80. If you are planning to use only ELOG and the web browser, you can select port 3001 (not supported by the mobile app).
9. Click **Save**.

ELOG updates the Wi-Fi settings and prompts you to click **OK** in order to reset the **ELITEpro XC**.

NOTE: After the blue COMM LED on the **ELITEpro XC** device stops blinking, use the ELOG command **Logger > Communication > About the Connected Logger** to verify that all entries in the Logger Properties dialog box match the values you entered.

The logger should now be connected to the LAN via a Wi-Fi link to the wireless router on the network.

10. Click the  **Ethernet or Wi-Fi Connection** speed button on the toolbar to connect to the logger from a PC on the network. The Network Connect dialog box displays:



11. Enter the **Network IP** address and **Port Number** if it is not automatically populated.
12. Select **OK** to proceed and establish your Wi-Fi connection.

Accessing the ELITEpro

There are three ways to access the **ELITEpro XC** once you are connected:

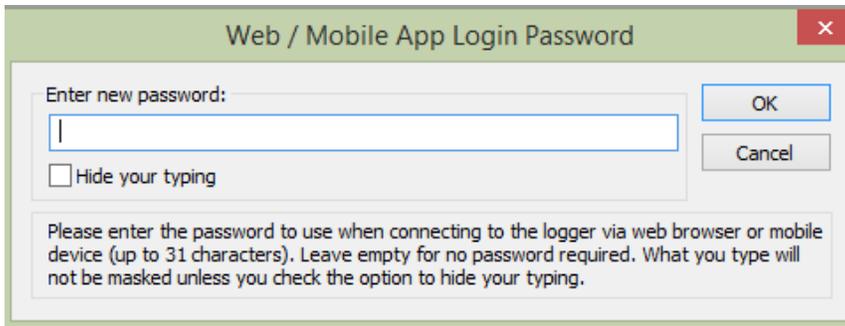
- **Using ELOG to connect to the ELITEpro XC access point**
 - a) Disconnect from the USB connection using **Logger > Connection > Terminate Connection** or by using the  **Disconnect** speed button.
 - b) Click the  **Ethernet or Wi-Fi Connection** speed button on the toolbar.
 - c) In the **Network Connect** dialog box, enter the **IP Address**, the **Port Number** entered during setup, and click **OK**.

You may now use all of the capabilities of ELOG with the logger.

- **Using a Web Browser to connect to the ELITEpro XC Built-in Web Server**

The **ELITEpro XC** includes a primitive internal web server that allows external devices such as smart phones, tablets, PCs, etc., to connect to the logger and replicate a limited set of ELOG functions, i.e., viewing Real-Time Values or reading data. An additional password is required to access the server.

- a) Select **Logger > Communication > Logger Web/Mobile App Login Password**. The Web/Mobile App Login Password dialog box displays.



- b) Open a web browser on the device that will communicate with the **ELITEpro**.
- c) In the Address box of the browser, enter the IP Address of the **ELITEpro XC** as previously configured. For example: <http://192.168.1.1>.

NOTE: If you selected a port other than port 80, add a colon followed by the port number to the end of the IP Address, for example: <http://192.168.1.1:3001>.

- d) When the login page appears, enter the **Web/Mobile App Login Password** you set in the dialog box in Step A above. (The default password is 1234.) Please note that this is the distinct password used to connect to the wireless access point.

You can view real-time values, view or download logged data as an Excel CSV file, start/stop logging, clear the logger memory, and view the logger properties. Other ELOG functions such as creating or changing a Setup Table are not yet available. The Web Server interface is convenient for verifying a meter is correctly connected by viewing real-time values without needing a PC or laptop.

- **Using the ELITEpro Mobile App to connect to the ELITEpro XC Access Point**

The ELITEpro Mobile App provides access to any ELITEpro XC or SP meter. Use this app in a remote setting, such as your car or office, to access data from an ELITEpro meter. Once connected with the meter, you can see real-time data to verify connections and read voltage, current, kW, kVA, PF, kVAR, and other parameters. You can also see a Phasor plot graph that displays the phase relationship between voltage and current. See the Mobile App Instruction Guide for information on how to set up the Mobile app and connect to the logger.

Troubleshooting Wi-Fi Connections

If you are unable to connect to the logger, check the following items:

1. Connect to the logger using a USB connection. From within ELOG, view the logger properties under **Logger > Communication > Logger Properties**.
2. Check the signal strength indicator (in percent or dBm) to ensure you have a good signal.

3. Ensure the Wi-Fi section has the proper settings (i.e. correct addresses). Ensure the Wi-Fi module is active, which can be determined by the “No TCP connection” message. Ensure the blue COMM LED is not blinking.
4. If you are unable to make a connection, contact DENT Instruments for questions and assistance.

Feature	USB	Ethernet	Bluetooth	Wi-Fi
16 MB Approximate Download Time	4 Min	12 Min	22 Min	40 Min
Range	Length of USB cable	Length of network cable	10-100ft	40-100ft
Access With...	PC + ELOG	PC + ELOG or Mobile App or Web browser	Bluetooth-enabled PC + ELOG	PC + ELOG or Mobile App or Web browser