

ELITEPRO XC/SP WIFI COMMUNICATION OPTION

rev061213

Note: This document covers the communications options for both the ELITEpro XC and ELITEpro SP. The information applies to both meters unless otherwise noted.

Overview


When the ELITEpro XC is equipped with the optional Wi-Fi module, it 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 one-to-one to a single device such a laptop or smart phone.

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



ELITEpro XC as its own Access Point

Using the ELITEpro XC as an Access Point “Hot Spot” is probably the most useful mode. As a Hot Spot, the logger allows one-to-one connection between the meter and a Wi-Fi enabled device, such as a laptop computer, tablet, or smartphone.

1. Set up the logger for Access Point connection. Connect the USB cable to a USB port on your computer, inserting the other end into the USB port on the ELITEpro SP. (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 insulated sleeve. The DENT-supplied cable does not meet this requirement without an insulating sleeve.
2. If it does not launch automatically, start ELOG and connect to the logger.

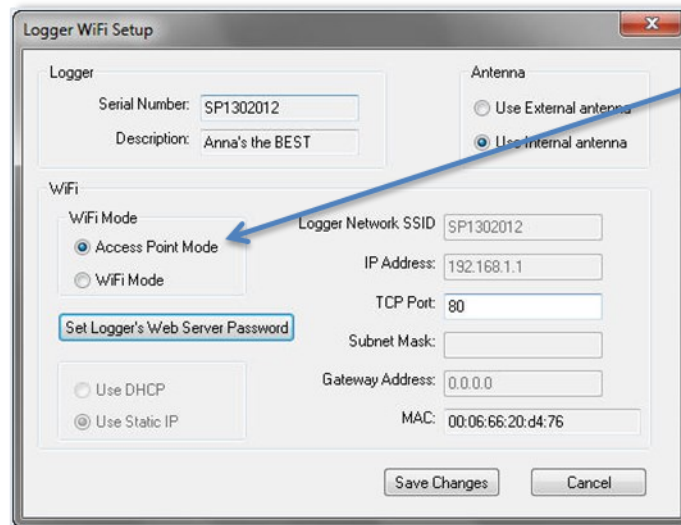
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*Example Wi-Fi internal antenna ranges:

1. Open Air, as specified in manual: <300 ft.
2. One brick/concrete wall: <75 ft.
3. Two sheetrock walls: <100 ft.

*Example Wi-Fi external antenna ranges:

1. Open Air, as specified in manual: <300 ft.
2. One brick/concrete wall: <150 ft.
3. Two sheetrock walls: <150 ft.



Access Point
Mode Radio
Button

- From the ELOG menu, select **Logger > Communication > Logger Wi-Fi Setup...**. The Logger Wi-Fi Setup dialog box appears. See screenshot on next page.

Note: ELITEpro XC loggers equipped with a Wi-Fi module all 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.

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

- Click **Set Logger's Web Server Password**. The Set Logger's Web Server Password dialog box displays. Enter a password (if desired) for use when connecting to the loggers internal web server and click **OK**. The factory default password is 1234. (**Note:** This password is only used when connecting through a web browser.)



- 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 devices spots 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 will be P+ the logger serial number and the IP address will be 192.168.1.1 and the Port number will be 80.

- Open the Wireless Network Connection dialog on your PC. (You may need to click **Refresh**.) Look for an access point with the **SSID** (P+logger serial number) and then click **Connect**. Ensure that Windows connects to the access point.

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

1. 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 **192.168.1.1** for the IP Address, **80** for the Port Number, and click **OK**. Sometimes it may be necessary to disconnect and reconnect the Wi-Fi connection from the PC.
- d. You may now use all of the capabilities of ELOG with the logger.

2. Using a Web Browser (Smart Phone, Tablet, etc.) to connect to the ELITEpro XC Built-in Web Server.

The ELITEpro XC includes a primitive internal web server that allows external Smart 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.

After connecting the smart device to the logger's Wi-Fi module in Access Point Mode as described for a PC in Set 7 above:

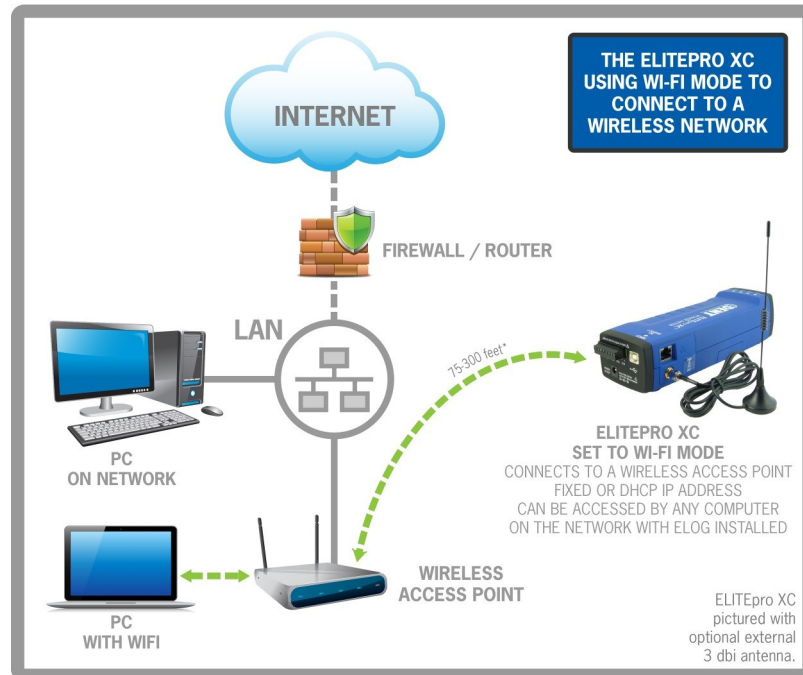
- a. Open a web browser in the smart device.
- b. In the Address box of the browser, enter the IP address of the ELITEpro XC, which is: **192.168.1.1**.
- c. When the login page appears, enter the **Web Page Password** you set in the Logger Wi-Fi Setup dialog box in Step 5 above. (The default password is 1234.)


Once connected, 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.

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ELITEpro XC Connected to a Wireless Network

In addition to acting as an Access Point for one-to-one connections, an ELITEpro XC with the 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 WiFi 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 SP (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 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: ELITEpro XC loggers that are equipped with a WiFi package all 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 selection 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.

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6. Click **Set Wi-Fi Network Password** and enter the network's password.
7. Click the **Use Static IP** radio button and enter the IP Address and TCP Port assigned by the network administrator. Or, click the **Use DHCP** button.


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.

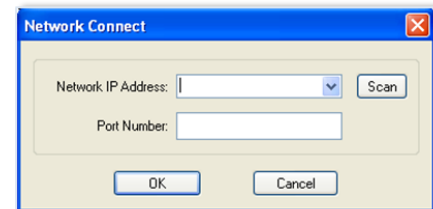
8. Click **Save Changes**.

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.

9. The logger should now be connected to the LAN via a Wi-Fi link to the wireless router on the network. To connect to the logger from a PC on the network, click the **Ethernet or Wi-Fi**

Connection speed button on the toolbar.  The Network Connect dialog box displays:



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

Note: You cannot use the **Scan** button to search for a logger that is connected wirelessly to the network. **Scan** only works with a wired, Ethernet connected 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.

Note: The Wi-Fi access point has a 5 minute inactivity timeout. After 5 minutes of no usage, the connection is dropped. Depending on the version of the Windows operating system in use, this could mean you must close/reopen or disconnect/reconnect your Wi-Fi connection to the logger.

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ELITEPRO XC/SP COMMUNICATIONS MATRIX

Feature	USB	Ethernet	Bluetooth®	Wi-Fi	Wi-Fi Access Point Mode
ELITEpro SP 8MB Download Time (approx.)	4 min	6 min	22 min	20 min	Using ELOG: 30 minutes Using Web Browser: N/A
ELITEpro XC 16MB Download Time (approx.)	8 min	12 min	44 min	40 min	40 min
Range	Length of USB cable	Length of network cable	10-100 ft*	75-300 ft**	75-300 ft**
Access with...	PC + ELOG	PC + ELOG	Bluetooth®-enabled PC + ELOG	Wi-Fi-enabled PC + ELOG	Wi-Fi-enabled PC + ELOG or Wi-Fi-enabled laptop, tablet, or smartphone with web browser.
Internet?	No	Depends on network firewall	No	Depends on network firewall	No
Functionality	Full	Full	Full	Full	Partial via web browser.