*U*SER MANUAL

C-Weigh Forks

WiFi Connectivity

Manual Number 6934275

cascade ®
corporation

Configuring the WLAN connection with the XpicoWIFI

Cascade Weigh Forks equipped with WiFi data transfer use a dual layer WiFi system. The Xpico WiFi chip has an Access Point port (ap0) that runs an embedded web style "SoftAP" that is always available to configure the WLAN (wlan0) to connect to the facility wireless network. The following steps will walk though initial connection to a facility network. Connection to networks requiring a single passkey are supported. The system does not support networks requiring a user acceptance of terms of service.

**Step 1**: On your computer, open the WLAN connection manager.
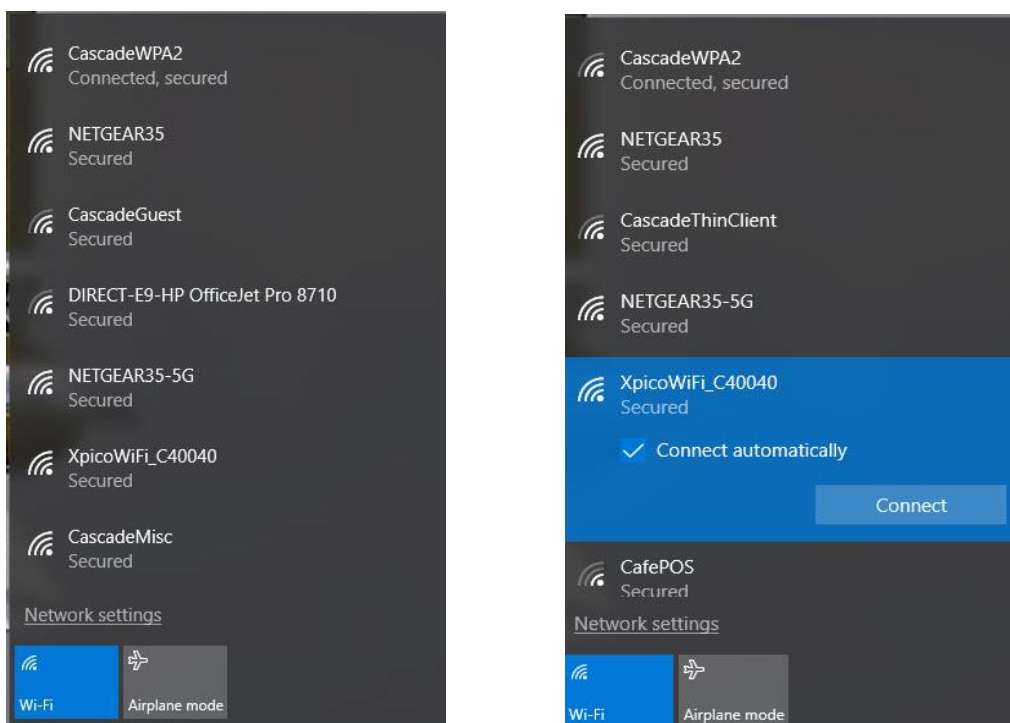
Step 2: Connect to the XpicoWiFi_XXXXXX (last six digits depend on the address of the Xpico installed). By default the SoftAP mode is enabled with a default SSID of XpicoWiFi_XXXXXX. Where XXXXXX are the last six characters of the unique Xpico Wi-Fi serial number. This number is available on the module label inside the indicator. For example if the serial number on label were 0080A398010E then the SSID would be XpicoWiFi_98010E. Each indicator has a unique WiFi address.
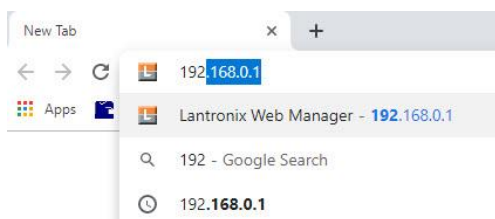

SERIAL NUMBER

Step 3: The default security for Xpico Wi-Fi SoftAP is WPA2 and the network security key is "XPICOWIFI".
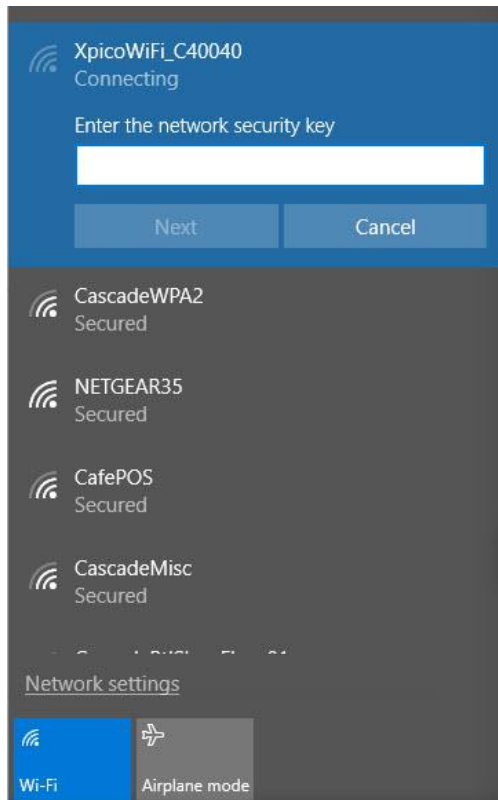
Step 4: Open a standard browser (E.g. Internet Explorer®, Firefox®, Chrome™, Safari® etc.) and in the address field of the browser enter the following IP Address: 192.168.0.1. Alternatively you can use the web site address: xpicowifi.lantronix.com.

When prompted enter the username, "admin", and password, "PASSWORD", to access the embedded SoftAP Configuration and Management Web pages.

Step 5: The initial page encountered is the "Status" page. The two areas of interest are the interface ap0 info and the interface wlan0 info. The wlan0 is configured to connect to your network. The ap0 is the current access point used to configure the wlan0.

The side bar allows modification and access to features of the xPico chipset. Of particular interest are the "QuickConnect", "Network" and "WLAN Profiles" pages.

The "QuickConnect" page offers the ability to identify available access points and configure the wlan0 client interface on Xpico WiFi to establish connection. QuickConnect learns most of the connection properties from the selected access point and prompts the user only for the security parameters. The settings are then saved under a corresponding new or existing profile on the "WLAN Profiles" page for future operation of the WLAN Client interface. Modification of the active WLAN Profile is accomplished using the "Network" page.

Step 6 QuickConnect:
Click "QuickConnect" to access the page. Click "Scan" to bring up the available networks.

The xPico Wi-Fi scans and displays up to 20 wireless devices in order of strongest signal strength. Click on the network of your desired Access Point.

When the selected Access Point profile displays, enter the password and click Submit to directly connect to the Access Point and to add the profile and configuration details to the "WLAN profiles" page.

Once added, the Quick Connect profile is accessible and configurable through WLAN Profiles. Clicking on WLAN profiles displays a list of stored profiles. The yellow WiFi icon indicates the active network. If the icon is not present, none of the WLAN Profiles are connected.

Clicking on the profile we will bring up its status. Here you can enable or disable the connection, and change either the password and or encryption type.

Step 6: Clicking Network in the side bar allows access to the network configuration page. Here you can modify the SSID, Security Suite Type and Security passphrase for the ap0 and wlan0. Modification to any of these parameters requires a reset/power cycle of the module in order to take effect.

Caution: It is **strongly suggested** not to make any changes to the ap0 settings as if the new passphrase is lost the chipset will need to be manually reset.

Clicking on wlan0 will show the status of the current network connection.

The IP Address listed is the address of the indicator. In this case 192.168.1.3. Requests for the weight are sent to port 10001.

Clicking Configuration will allow you to change to static IP and make changes to the addressing as needed.

Step 7: Test your connection.
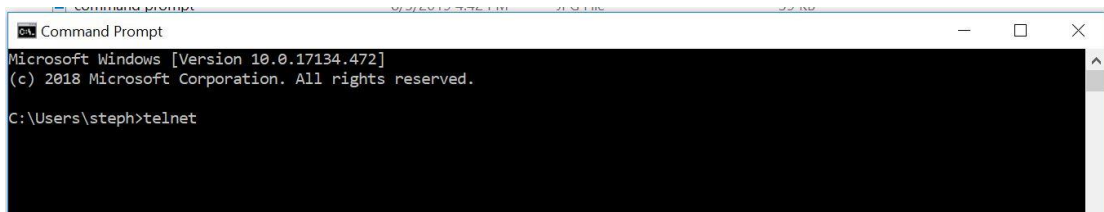
From a computer connected to the same network launch a command line interface. Type "command prompt" in the search bar to launch command line session.

Type ping and the IP address. In this case "ping 192.168.1.3" to verify connection to the indicator through your network. A successful connection will result in a listing of connection reply's and Ping statistics.

Launch a telnet session by typing telnet.

If the telnet command is not recognized, use the following steps to enable telnet.
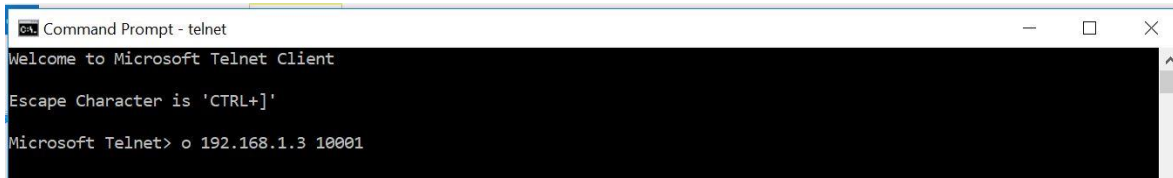
How to Install Telnet in Windows 10

1. Open "Control Panel".
2. Open "Programs".
3. Select the "Turn **Windows** features on or off " option.
4. Check the "**Telnet** Client" box.
5. Click "OK". A box will appear that says "**Windows** features" and "Searching for required files".When complete, the **Telnet** client should be installed in **Windows**.
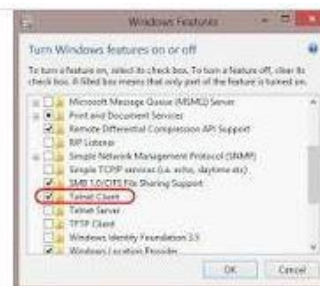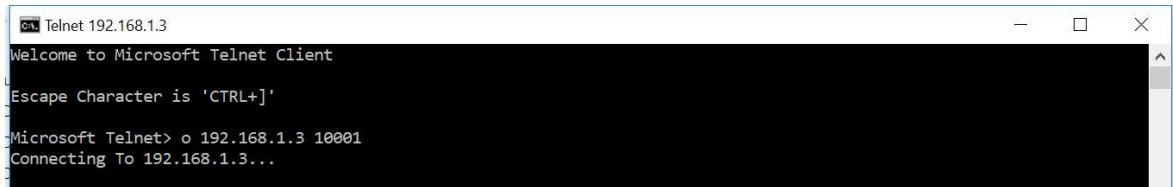
Windows 10: Install Telnet Client - Technipages
https://www.technipages.com/windows-10-enable-telnet

To open a telnet connection to the indicator type "o" for open, followed by the ip address of the indicator, and then the port 10001.
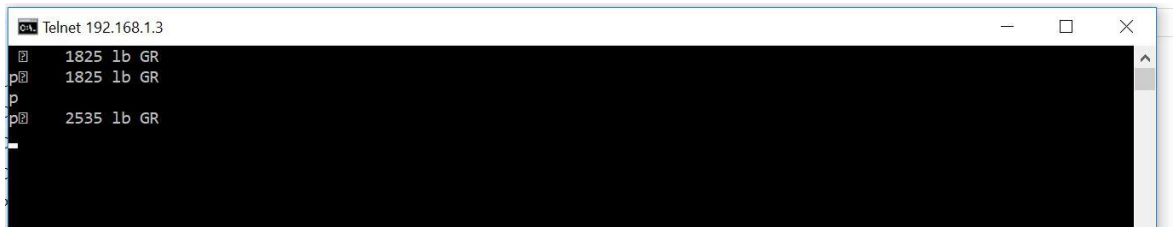
Press enter and the telnet session will have started.

Type a "p" to request the weight. The response will be in the form of weight, units and GR or NT.

Alternatively Use the "WiFi Communication Demo Utility" available from Cascade.

Install the Utility by copying it to your desktop.

Launch the Demo Utility and enter the indicator IP Address. Click "Get Weight".
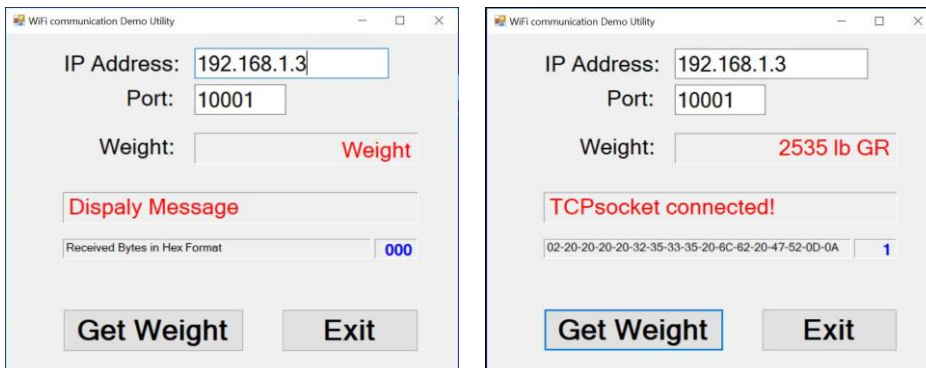
The base code for the utility is available to assist in creating custom code.

> **Wireless LAN Interface**
> - IEEE 802.11 b/g and IEEE 802.11n (single stream) WLAN interface (2.4 GHz only)
> - IEEE 802.11 d/h/i/j/k/w/r
> - u.FL connector for external antenna

> **Host Interface**
> - Dual Serial Port, SPI, USB 2.0* (device)
> - 8 GPIO

> **Networking Capabilities**
> - Soft Access Point with DHCP Server
> - Lantronix SmartRoam™ Technology* continually tracks Wi-Fi signal strength within range, along with pre-authentication and caching resulting in smooth and automatic transition to access points without delay.
> - QuickConnect: Dynamic Profiles facilitate easy and rapid connections to access points

> **Architecture**
> - ARM Cortex M3 class processor with on-chip Flash and SRAM
> - 1MB Flash and 128 KB SRAM
> - 1MB SPI Flash storage

> **Power**
> - Input Voltage: 3.3VDC
> - Low power consumption of approximately 6µA standby

> **Serial Interface**
> - Two Serial CMOS Ports (3.3V, 5V tolerant)
> - 300 to 921.6 Kbps
> - Flow control XON/XOFF, RTS/CTS (SPort 1 only)
> - Lantronix tunneling application

> **Network Protocols**
> - TCP/IP, UDP/IP, DHCP, ARP, ICMP, DHCP, Auto-IP, DNS, SNMPv1

> **Management and Control**
> - Web Server - Landing Page
> - CLI (Serial Monitor Port)
> - XML import and Export (XCR)
> - Field upgradable firmware (OTA)

> **Security**
> - IEEE 802.11i Support – WPA-Personal, WPA2-Personal
> - 256-bit AES Encryption*

> **Physical Interface**
> - 40-pin Board-to-Board SMT Connector

> **Environmental**
> - Operating Temperature: −40° to +85° C
>   - For operation over +70° C a thermal pad is required
> - Storage Temperature : −40° to +85° C
> - Relative Humidity: 0% to 90% non-condensing

- **Certifications:** FCC, IC, EU, Japan, UL, CE, AU/NZ

Addresses and Port Numbers

Hardware Address

The hardware address is also referred to as the physical address or MAC address, and can be found on the product label of the device. Sample hardware address:

- `00-80-A3-FF-FF-FF`
- `00:80:A3:FF:FF:FF`

IP Address

Every device connected to an IP network must have a unique IPv4 address. This address references the specific unit.

Port Numbers

Available IP address port numbers enabled and accessible on the xPico Wi-Fi unit include the following:

- TCP Port 80: HTTP Server (Web Manager configuration)
- TCP Port 10001: Tunnel (Line 1)
- TCP Port 10002: Tunnel (Line 2)

Product Information Label

The product information label on the unit contains the following information about the specific unit:

♦ Lantronix Datamatrix Code

♦ Product Revision

♦ Part Number

♦ Serial Number Hardware Address (MAC Address)

♦ Manufacturing Date Code

Figure 2-1 xPico Wi-Fi Product Label
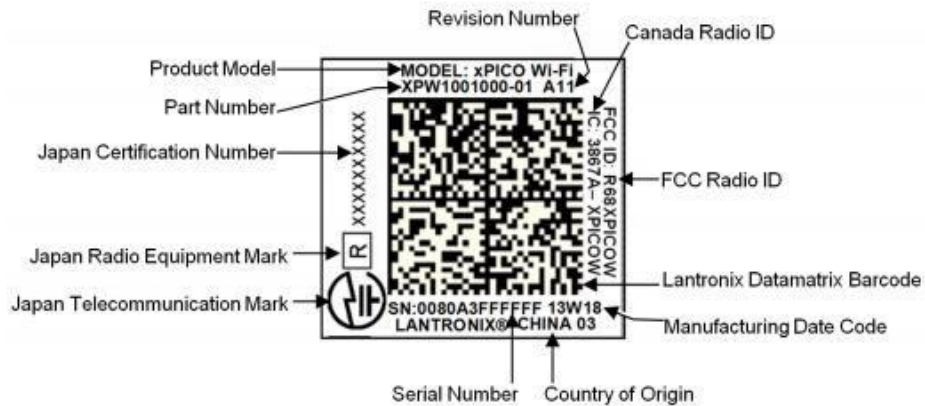
Configuration methods

For the unit to operate correctly on a network, it must have a unique IP address on the network. There are three basic methods for logging into the device server to assign an IP address and configure the unit:

* DeviceInstaller: Assign an IP address and view the current Xpico configuration using a Graphical User Interface (GUI) on a PC attached to a network. (See 3 Using DeviceInstaller.)

* Web-Manager: Through a web interface, configure the Xpico and its settings using the Xpico's Web-Manager. (See 4 Configuration Using Web Manager

* Serial & Telnet Ports: There are two approaches to accessing Serial Mode. Make a Telnetconnection to the network port (9999) or connect a terminal (or a PC running a terminal emulation program) to the unit's serial port. (See 5 Configuration via Telnet or Serial Port (Setup Mode))

Reference Documentation

For more information on the use and operation of the Xpico Wi-Fi Device Server please refer to the latest product documents which are available on the Product Website.

www.lantronix.com/support/documentation.

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Do you have questions you need answered right now?
Call your nearest Cascade Service Department.
Visit us online at www.cascorp.com

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