LaserLight3™
Wi-Fi Module Setup

Wi-Fi communication is available to the LaserLight3 with Wi-Fi communication option kit (PN 209118). This document details the procedures required to setup the Wi-Fi module.

📝 *NOTE: For more information about LaserLight3, see LaserLight3 Large-Display Weight Indicator Technical Manual (PN 213589) or LaserLight3 Remote Display Technical Manual (PN 214748).*

For detailed xPico 200 instructions, visit www.lantronix.com to view the Series User Guide.

Manuals are available from Rice Lake Weighing Systems at **www.ricelake.com/manuals**

Warranty information is available at **www.ricelake.com/warranties**

⚠️ *CAUTION: The LaserLight3 does not have a power switch. Before working with the unit, ensure the power cord is disconnected from the power outlet.*

Wi-Fi Module Location

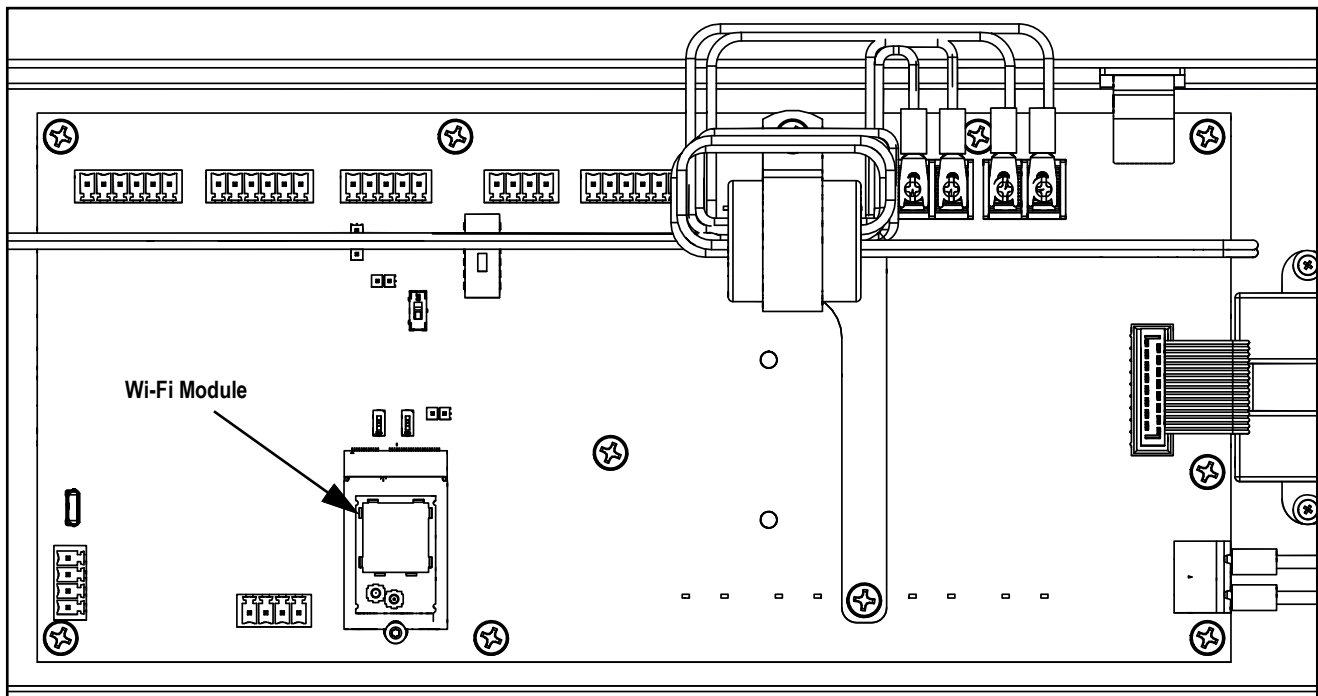Figure 1 displays the Wi-Fi module installed on a CPU Board.

Figure 1. Wi-Fi Module Installation Location on CPU Board

Part No.	Description	Qty
226479	Wi-Fi Module	1
203883	Hex Screw M2.5-0.45 x 8	1
2149009	FL To RP-SMA CABLE	1
214910	Wi-Fi Antenna	1

Table 1. Wi-Fi Kit Parts

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FCC ID Label

The Wi-Fi kit includes a label that lists FCC product compliance. If the Wi-Fi module is installed, apply the included FCC ID label to the outside of the LaserLight3 enclosure.

1. Determine the best location for the label that will not inhibit operation (typically the back of the device).

(!) **IMPORTANT: The label must be installed on the exterior of the device.**

2. Clean the mounting surface with mild detergent and a soft cloth.
3. Dry the surface.
4. Peel off the label's protective backing and apply the label to the desired area.
5. Apply even pressure to label for 15 seconds to ensure it properly adheres to the surface.

Wi-Fi Communications

Enabling Wi-Fi Communication

This section discusses how to enable Wi-Fi communication on LaserLight3 from the WiFi menu.

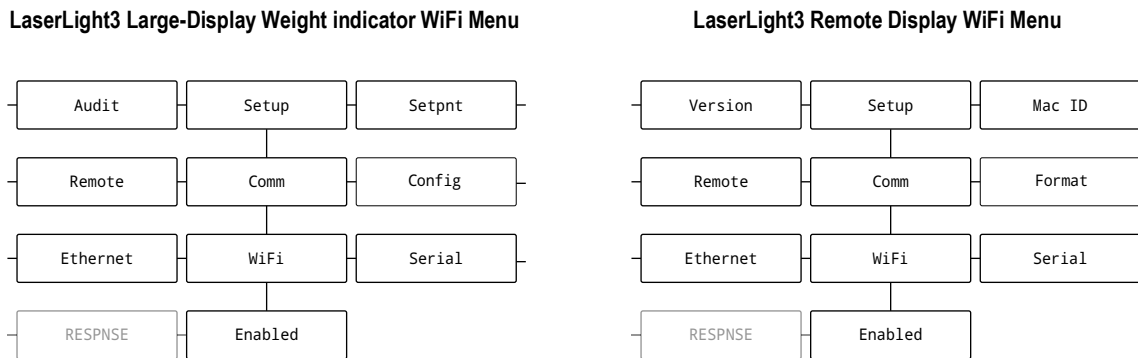The following flow chart, displays the menu path to the WiFi menu.

LaserLight3 Large-Display Weight indicator WiFi Menu　　　**LaserLight3 Remote Display WiFi Menu**

Audit	Setup	Setpnt
Remote	Comm	Config
Ethernet	WiFi	Serial
RESPNSE	Enabled	

Version	Setup	Mac ID
Remote	Comm	Format
Ethernet	WiFi	Serial
RESPNSE	Enabled	

Figure 2. WiFi Menu Path

1. Power on the LaserLight3.
2. Enable Setup mode by either pressing the **Menu** button (if a shunt is installed on J24 pins two and three) or opening the LaserLight3 and shorting J25 pins momentarily.

📝 *NOTE: Enabling Setup mode grants access to various LaserLight3 menus that are restricted in normal operation, including the Setup menu.*
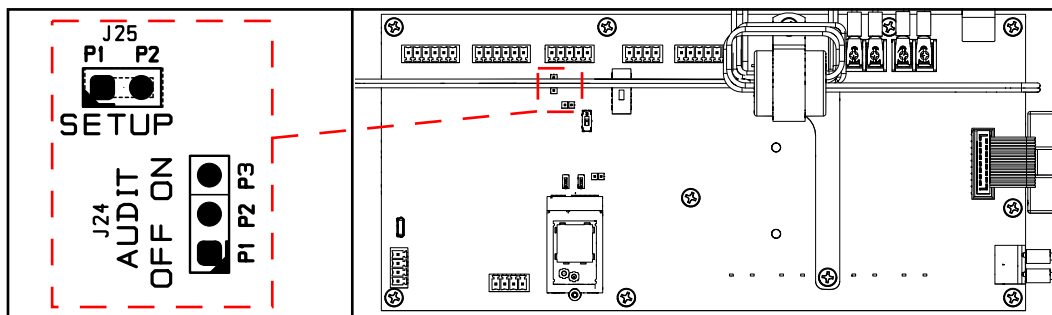

Figure 3. J24 Audit Jumper and J25 Setup Jumper

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3.   Perform one of the following:

  • For LaserLight3 Remote Display, navigate to **Setup ▼ Comm ▼ WiFi ▼ Enabled**.
  • For LaserLight3 Large-Display Weight Indicator, navigate to **Audit ► Setup ▼ Config ► … ► Comm ▼ WiFi ▼ Enabled**.

4.   User arrow keys to set the Enabled parameter to **On**.

5.   Press [TARE]. The Trigger parameter displays.

6.   Press [MENU] to exit the menu.

Wi-Fi Configuration

The LaserLight3 creates a Wi-Fi network (with a soft AP) that can be connected to a computer or the location's network to configure wireless settings. The following procedure is for setting up the Wi-Fi network using the wireless module's built-in Web Manager.

NOTE: The use of a web browser on a computer or handheld device is needed to access the wireless module's built-in Web Manager.

1.   Scan for available Wi-Fi networks using a computer or wireless device and connect to the Soft AP. It might take several attempts before the Soft AP appears on the computer or device.

NOTE: The Soft AP is only compatible with 5 GHz networks. The connecting device must be capable of using the 5 GHz band to connect to the Soft AP. Setup ▼ Comm ▼ WiFi ▼ Enabled parameter defaults to Off and must be set to On to enable the Soft AP.

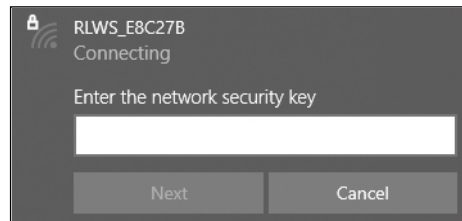 • Soft AP Name: **RLWS_XXXXXX**
  • Soft AP Password: **PASSWORD**

Figure 4. Windows Security Key Prompt

NOTE: The X's in the name represent the last 6 digits of the Wi-Fi MAC address. The serial number on the wireless module's label is almost the same, other than the last digit being one number/character less than the Wi-Fi MAC address.

FOR EXAMPLE: If the module's serial number is "0080A3E8C27A", then the SSID would be "RLWS_E8C27B". The MAC address is a Hexadecimal value, so the letter A follows the number 9, and this continues to F before incrementing the next most significant digit and returning to 0.

2.   Once connected to the Soft AP, use a web browser and enter *192.168.0.1* as the URL address and press **Enter**.

NOTE: Once connected to a network, a web browser on that network can connect to the Web Manager by simply navigating to the wireless module's IP Address (available on the Status page of the Web Manager).

3.   Enter the default login credentials for the Web Manager.

  • Username: **admin**
  • Password: **PASSWORD**

IMPORTANT: Change default passwords to limit access and enhance security.

Figure 5. Web Manager Sign in Prompt

4. Select **Sign in**. The Web Manager loads in the browser and the **Status** page appears.

5. Click **QuickConnect** at the top of the left navigation panel.
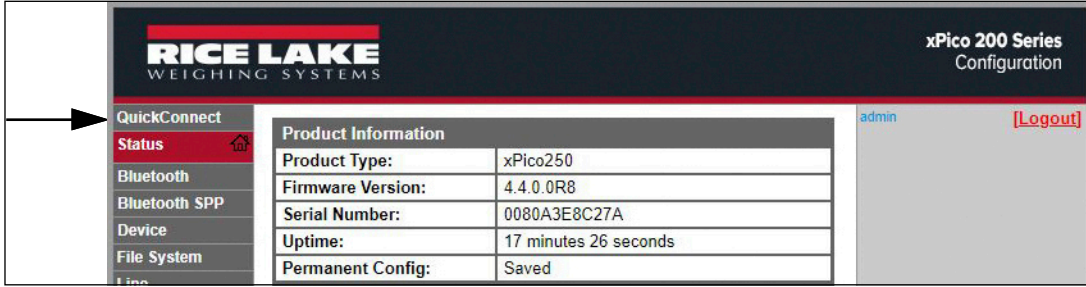

Figure 6. Quick Connect Option

6. A list of wireless networks appear. Click the network name intended to connect the wireless module's Wi-Fi network to.

NOTE: *If the necessary network does not display, click the Scan button again. It may take several attempts until the network displays. If the network is hidden, enter the network name in the box provided.*
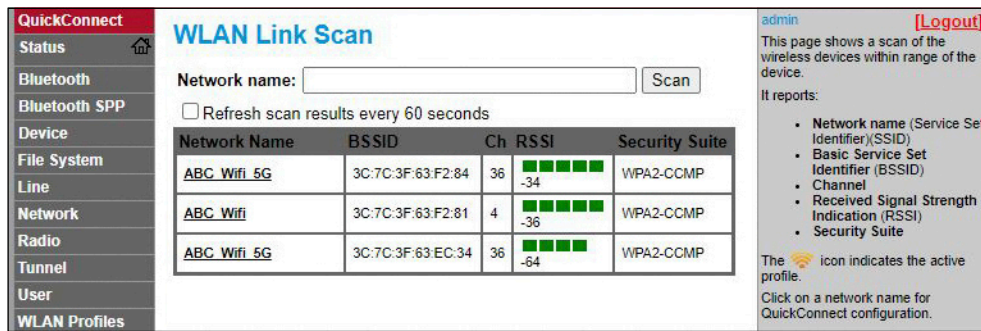

Figure 7. Available Networks in Web Manager

NOTE: *The Web Manager provides notes and information related to the current page in the far right column. Descriptions for options and settings are also provided when hovering over the item in question.*

7. The wireless network information page appears. Enter the network password (if applicable).

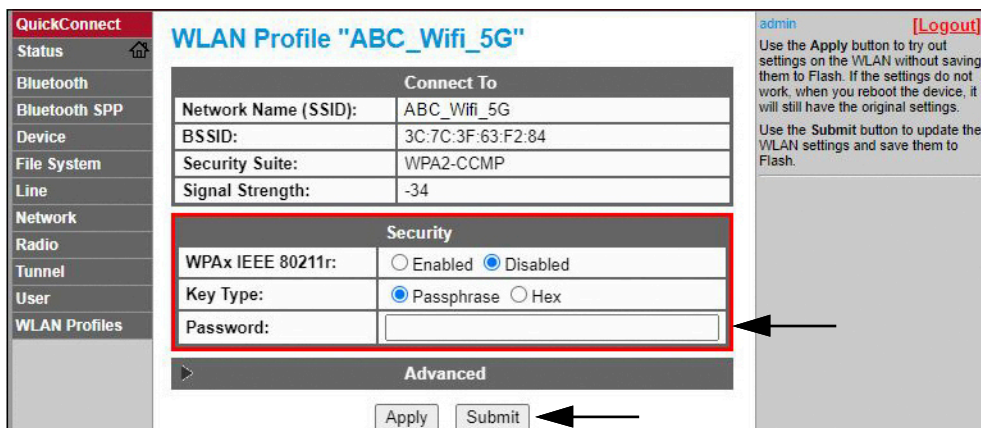**NOTE:** *Contact IT administrator to obtain network credentials as needed.*

Figure 8. Enter Network Password Credentials in Web Manager

8. Click **Submit** to apply and save the settings. A message displays at the top of the page to indicate if the new network's Profile saved successfully. It does not necessarily mean it is connected to the network.

NOTE: The Apply button only applies the settings for the current session, but does NOT save them.

9. To verify wireless module is connected to the network, click **Status** near the top of the left navigation panel.

10. The *Status* page displays the network connections on the device under **Network Settings**.

    • If Connected: **Interface wlan0** is listed with *Connection State* showing **Connected** and the *IP Address* populated

NOTE: The "/24" at the end of the IP Address indicates the number of bits set for the network subnet mask and is not part of the IP Address itself. There are 32 bits in a subnet mask and "/24" indicates the subnet mask is 255.255.255.0.

    • If Not Connected: Refresh the browser to see if the information populates, then click **WLAN Profiles** at the bottom of the left navigation panel to change the network settings and try again

QuickConnect			admin	[Logout]
Status ⌂	**Product Information**			
Bluetooth	Product Type:	xPico240		
Bluetooth SPP	Firmware Version:	4.4.0.0R8		
Device	Serial Number:	0080A3E8C27A		
File System	Uptime:	1 hour 12 minutes 22 seconds		
Line	Permanent Config:	Unsaved		
Network	**Network Settings**			
Radio	Interface ap0			
Tunnel	MAC Address:	02:80:A3:E8:C2:7B		
User	State:	Up		
WLAN Profiles	SSID:	xPico250_E8C27A		
	Security Suite:	WPA2		
	IP Address:	192.168.0.1/24		
	Interface eth0			
	MAC Address:	00:80:A3:E8:C2:7A		
	State:	Down		
	Interface wlan0			
	MAC Address:	00:80:A3:E8:C2:7B		
	Connection State:	Connected		
	Active WLAN Profile:	ABC_Wifi		
	Hostname:			
	IP Address:	192.168.50.24/24		
	Default Gateway:	192.168.50.1		

Figure 9. Web Manager Displays Network Connection Details

11. Connecting to the wireless module's server with a remote client is now possible.

12. Using a Terminal Emulation program (such as PuTTY) as a remote client connection to the wireless module's server over Telnet is possible using the IP Address (noted in) and the Local Port number (default is 10001).

Basic options for your PuTTY session
Specify the destination you want to connect to
Host Name (or IP address)   Port
192.168.1.24   10001
Connection type:
○ Raw ● Telnet ○ Rlogin ○ SSH ○ Serial

Figure 10. PuTTY Example

NOTE: If the module's IP address changed and there is no longer access to the module through the location's wireless network, connect to the Soft AP and use the Web Manager to learn the new IP Address.

For more information, visit www.lantronix.com to view the xPico 200 Series User Guide.

Server Configuration

The wireless module is configured to be a server by default, with the ability to accept the connection of a client to it.

- A **Server** waits to **Accept** a connection from a Client
- A **Client** looks to **Connect** to a remote Server (host)

NOTE: Even though the Wi-Fi module can be configured as a server and client, typically the device is set as one or the other.

The following procedure details where the wireless module's server settings are found using the Web Manager.

NOTE: Making changes to Tunnel 1 Accept Configuration settings may impact the wireless module's connection to the network ("Wi-Fi Configuration" on page 3).

1. Refer to Steps 1-4 in Wi-Fi Configuration on page 3 to sign in to the Web Manager.
2. Click **Tunnel** in the left navigation panel.
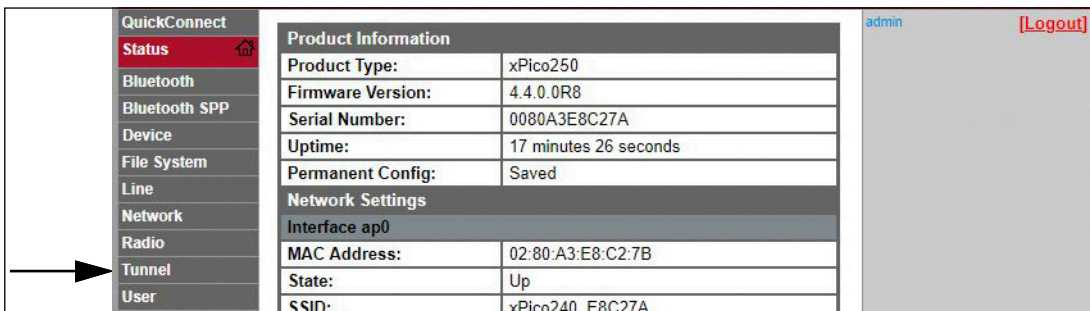
Figure 11. Tunnel In Navigation Panel

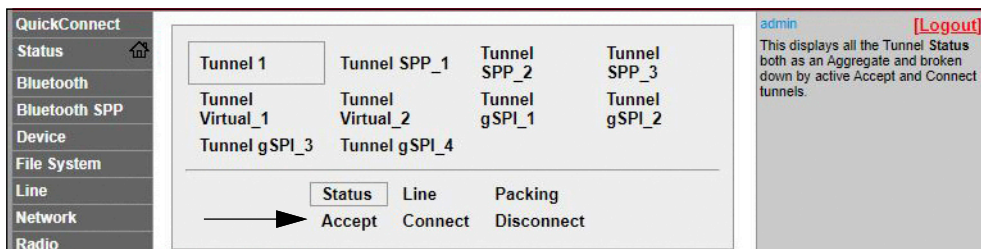3. Click **Accept** toward the top of the *Tunnel 1 Status* page.

Figure 12. Tunnel Accept Option

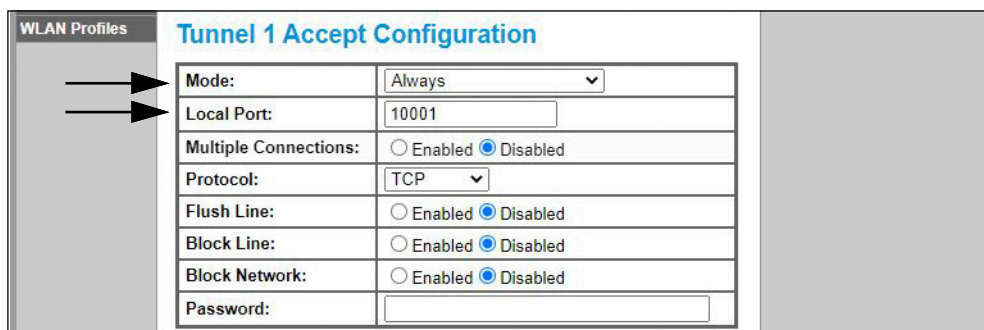4. Change **Mode** and **Local Port** settings if needed.

Figure 13. Mode and Local Port Settings

5. Click **Submit** at the bottom of the page to apply and save the settings. A message displays at the top of the page to confirm the changes have been saved permanently.

Client Configuration

The wireless module is configured to be a server by default, with the capability to accept the connection of a client to it.

- A **Server** waits to **Accept** a connection from a Client
- A **Client** looks to **Connect** to a remote Server (host)

The following procedure details configuring the wireless module as a client and using the Web Manager to connect to an available server connection.

1. Refer to Steps 1-4 in Wi-Fi Configuration on page 3 to sign in to the Web Manager.
2. Click **Tunnel** in the left navigation panel.
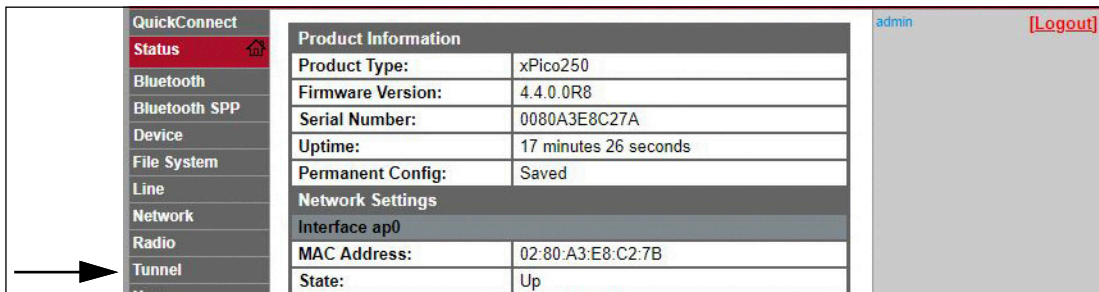
Figure 14. Web Manager with Tunnel Option Identified

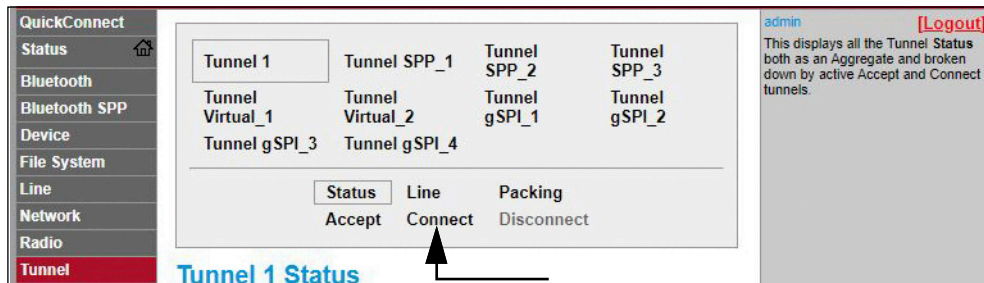3. Click **Connect** towards the top of the *Tunnel 1 Status* page.

Figure 15. Web Manage with Connect Option Identified

4. Use the drop-down to change the **Mode** setting, and then click **[Edit]** to display available **Host 1** settings.

> NOTE: The Web Manager provides notes and information related to the current page in the far right column. Descriptions for options and settings are also provided when hovering over the item in question.
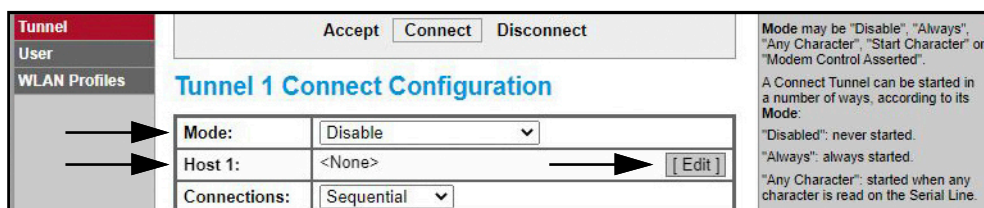

Figure 16. Web Manager with Mode and Host 1 Identified

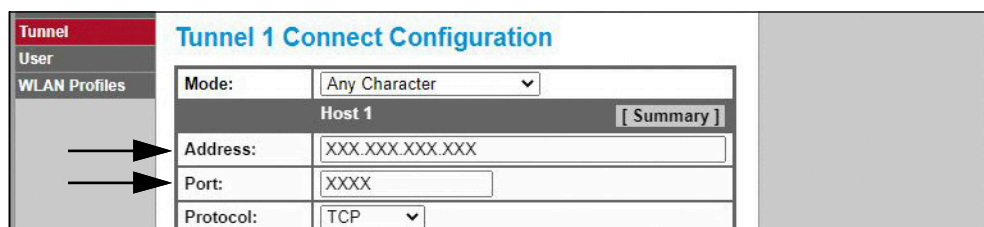5. Set the **Address** and **Port** as needed to connect to the available server.

Figure 17. Web Manager with Address and Port Identified

6. Click **Submit** at the bottom of the page to apply and save the settings. A message displays at the top of the page to confirm the changes have been saved.

NOTE: While the wireless module's server is available, it is necessary to adjust the server and client mode settings to allow both to function in unison. Even though the Wi-Fi module can be configured as a server and client, typically the device is set as one or the other. Refer to the xPico 200 Series User Guide at www.lantronix.com for more information.

Timeout Configuration

The wireless module has an optional Disconnect feature that can be configured to break a connection after a set amount of time. This feature applies to both server and client connections.

The following procedure details where the wireless module's timeout setting is found using the Web Manager.

1. Refer to Steps 1-4 in Wi-Fi Configuration on page 3 to sign in to the Web Manager.
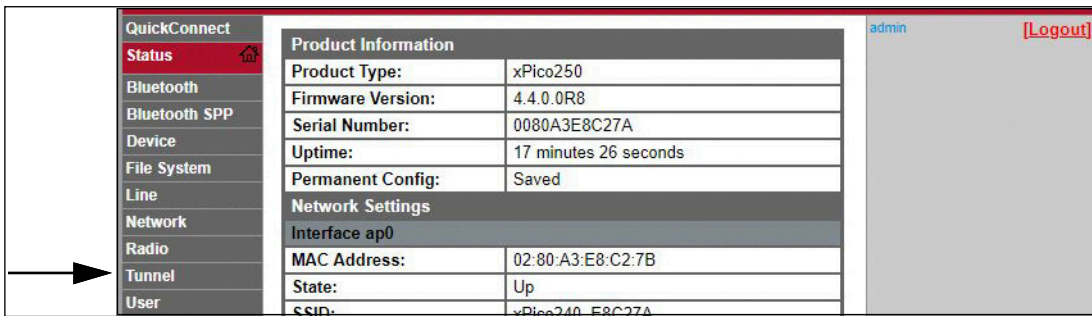2. Click **Tunnel** in the left navigation panel.

Figure 18. Web Manager with Tunnel Identified

3. Click **Disconnect** toward the top of the *Tunnel 1 Status* page.
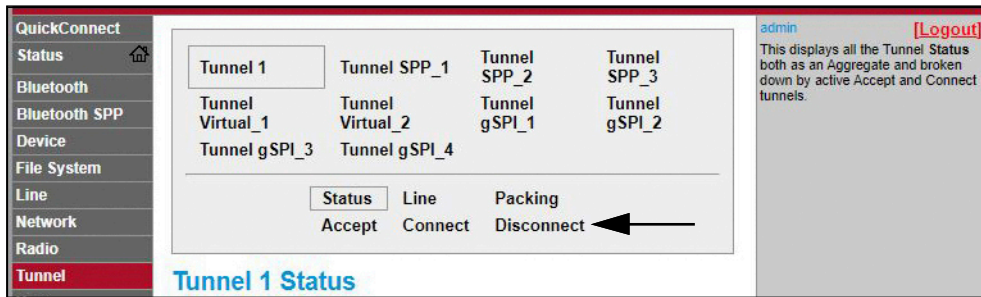

Figure 19. Web Manager with Disconnect Identified

4. Enter the desired value in milliseconds for the **Timeout** setting. A value entry of 0 disables the Disconnect feature.
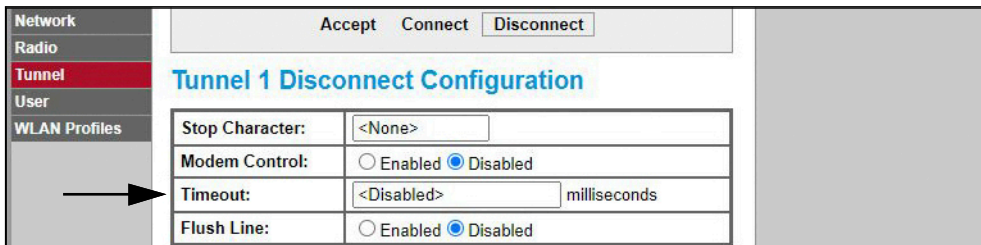

Figure 20. Web Manager with Timeout Identified

5. Click **Submit** at the bottom of the page to apply and save the settings. A message displays at the top of the page to confirm the changes have been saved.

Wireless Module Specifications

The LaserLight3 features a Lantronix® xPico 200 Series wireless module. Visit **www.lantronix.com** to view the latest list of technical specifications on the wireless module.

Wireless Specifications

- IEEE 802.11 a/b/g up to 54 Mbps; 802.11 n (1×1) up to 150 Mbps
- 20 and 40 MHz channel width with optional SGI
- Dual Band 2.4 GHz and 5 GHz, Channels 1-13, UNII-1, 2a, 2e and 3
- Supports IEEE 802.11 d/h/i
- 802.11r fast roaming

Data Communication

- TruPort® Serial Technology – TCP and UDP Server Mode, TCP and UDP Client Mode, Multi-host Connect; TLS Client and Server
- TruPort® Socket – Multi-host Client and Server Modes, HTTP(S), Sockets, TLS
- Authenticated SMTP Support – Send email directly from device

Security and Authentication

- TruPort® Security Software
    - Secure Boot, Secure Firmware-Over-the-Air (FOTA) Updates
    - Secure Key Storage, Encrypted Configuration
    - Secure Connections with SSL/TLS, HTTPS
    - Software Controlled Network Service Ports Enable/Disable
    - Role Based Access Control
- AES/CCMP and TKIP encryption, WPA/WPA2 Personal
- WPA2 Enterprise (EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-FAST)
- SSLv3/TLS 1.2 with PKI and X.509 Certificates (up to 4096-bit Keys)
- AES Algorithm, 256-bit, 192-bit, 128-bit

Management Interfaces

- Lantronix ConsoleFlow™ Cloud Software Platform, REST, MQTT
- Lantronix Discovery Protocol (77FE)
- Serial Port, Internal Web Server (HTTP/HTTPS)
- XML Configuration and XML Status (CLI, API)
- Secure Firmware Upgrade via HTTPS, ConsoleFlow™

Protocol Support

- DHCP Client, Server (Soft AP), HTTP Server/Client
- IPv4, TCP/IP, UDP/IP, ARP, ICMP, Auto-IP, DNS
- SNMP v1/v2
- IPv6

Wireless Features

- Concurrent Soft AP + STA (Client), Client, Soft AP
- Up to 5 simultaneous client connections to Soft AP interface
- Up to 4 in Concurrent Mode
- Connect to multiple WLAN networks, WLAN QuickConnect

Certifications & Compliance

- Type Approvals: USA (FCC Part 15), Canada (IC RSS), EU (RED), Japan (MIC), China (SRRC), AU/NZS
- Safety: IEC 62368 EN 62368, EN 62311, UL 60950
- RoHS, REACH
- FCC ID: R68XPICO200
- Canada IC: 3867A-XPICO200
- CMIIT ID: 2017AJ6663(M)

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