

ProtoNode FPC-N34 and ProtoNode FPC-N35 Start-up Guide

For Interfacing Weil-McLain Products:

Unity 1.0 Control, SlimFit 1000-2000 Series 1 (SF_SOLA)

To Building Automation Systems:

BACnet MS/TP, BACnet/IP, Modbus TCP/IP, Metasys N2 and LonWorks

APPLICABILITY & EFFECTIVITY

Explains ProtoNode hardware and how to install it.

The instructions are effective for the above as of October 2020.

Technical Support

Thank you for purchasing the ProtoNode for Weil-McLain.

Please call Weil-McLain for technical support of the ProtoNode product.

MSA Safety does not provide direct support. If Weil-McLain needs to escalate the concern, they will contact MSA Safety for assistance.

Support Contact Information:

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500 Blaine Street
Michigan City IN
46360

Customer Service:
(800) 654-2109

Email: wmtechnicalservices@weil-mclain.com

Website: www.Weil-McLain.com

Quick Start Guide

1. Record the information about the unit. (**Section 3.1**)
2. Check that the ProtoNode and customer device COM settings match. (**Section 3.3**)
3. FPC-N34: Select the protocol configuration on the S Bank DIP switches. (**Section 3.4**)
4. BACnet MS/TP (FPC-N34): Set the MAC Address on the A Bank DIP switches. (**Section 3.5.1**)
5. BACnet MS/TP (FPC-N34): Set the baud rate of the BACnet MS/TP field protocol on the B Bank DIP switches. (**Section 3.5.2**)
6. Connect the ProtoNode 6 pin RS-485 connector to the RS-485 network that is connected to each of the devices. (**Section 4.2**)
7. **If using a serial field protocol:**
Connect the ProtoNode FPC-N34 3 pin RS-485 port to the field protocol cabling, (Section 4.3**)**
or connect the ProtoNode FPC-N35 2 pin LonWorks port to the field protocol cabling. (Section 4.4**)**
8. Connect power to the ProtoNode 6 pin port. (**Section 4.5**)

NOTE: If using Unity 1.0 with default BACnet MS/TP the unit is already preconfigured and steps 9-12 are unnecessary.

9. Connect a PC to the ProtoNode via Ethernet cable. (**Section 5**)
10. Setup Web Server Security and login via web browser. (**Section 6**)
11. Use a web browser to access the ProtoNode Web Configurator page to select the profiles of the devices attached to the ProtoNode and enter any necessary device information. Once the devices are selected, the ProtoNode automatically builds and loads the appropriate configuration. (**Section 7**)
12. Ethernet Network (FPC-N34): If using an Ethernet field protocol, use a web browser to access the ProtoNode Web Configurator page to change the IP Address. (**Section 7.6**)
13. LonWorks (FPC-N35): The ProtoNode must be commissioned on the LonWorks Network. This needs to be done by the LonWorks administrator using a LonWorks commissioning tool. (**Section 8**)

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1 CERTIFICATIONS

1.1 BTL Mark – BACnet¹ Testing Laboratory



BTLMark is a registered trademark of ASHRAE. ASHRAE does not endorse, approve or test products for compliance with ASHRAE standards. Compliance of listed products to requirements of ASHRAE Standard 133 is the responsibility of the BTLMark International. BTL is a registered trademark of the BTLMark International.

The BTL Mark on ProtoNode is a symbol that indicates that a product has passed a series of rigorous tests conducted by an independent laboratory which verifies that the product correctly implements the BACnet features claimed in the listing. The mark is a symbol of a high-quality BACnet product.

Go to www.BACnetInternational.net for more information about the BACnet Testing Laboratory. Click [here](#) for the BACnet PIC Statement.

1.2 LonMark Certification



LonMark International is the recognized authority for certification, education, and promotion of interoperability standards for the benefit of manufacturers, integrators and end users. LonMark International has developed extensive product certification standards and tests to provide the integrator and user with confidence that products from multiple manufacturers utilizing LonMark devices work together. MSA Safety has more LonMark Certified gateways than any other gateway manufacturer, including the ProtoCessor, ProtoCarrier and ProtoNode for OEM applications and the full featured, configurable gateways.

¹ BACnet is a registered trademark of ASHRAE

2 INTRODUCTION

2.1 ProtoNode Gateway

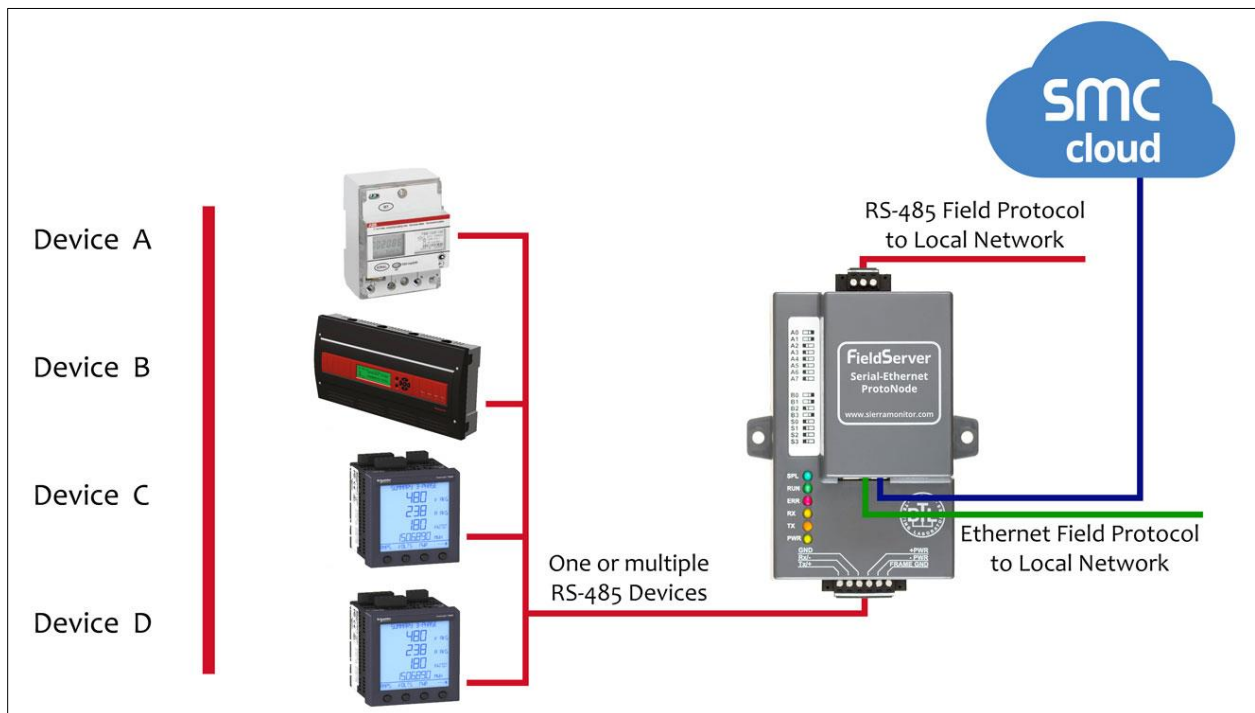
The ProtoNode is an external, high performance **building automation multi-protocol gateway** that is preconfigured to communicate between Weil-McLain’s products (hereafter called “device”) connected to the ProtoNode and configure them for BACnet MS/TP, BACnet/IP, Metasys^{®2} N2 by JCI, Modbus TCP/IP or LonWorks^{®3}.

It is not necessary to download any configuration files to support the required applications. The ProtoNode is pre-loaded with tested profiles/configurations for the supported devices.

NOTICE: The FPC-N34 for Weil-McLain products comes shipped with the Unity 1.0 profile already set as an active profile with the default settings to match the Unity 1.0 control and set for BACnet MS/TP. If different or additional profile settings are required or to learn how to adjust the BACnet settings, please refer Section 7 of this manual.

WARNING: Only use screws supplied by MSA Safety in the holes found on the back of the unit when attaching the optional DIN rail bracket. Use of any other screws may damage the unit.

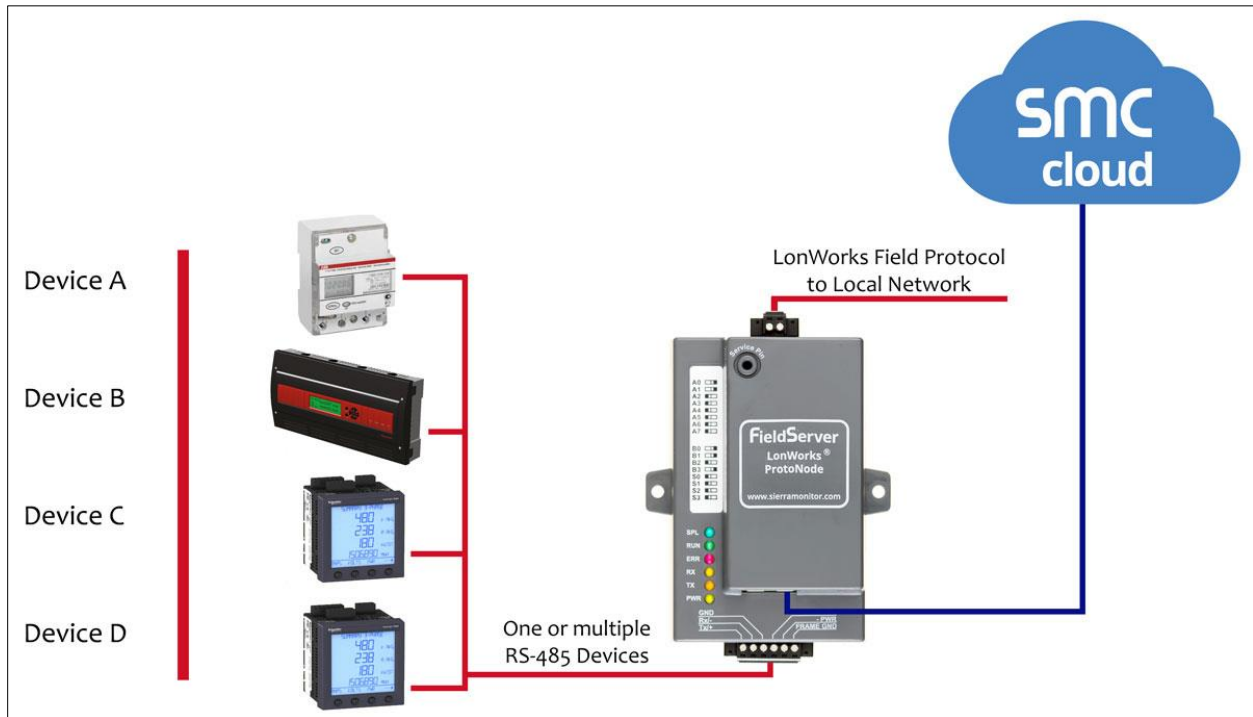
FPC-N34 Connectivity Diagram:



² Metasys is a registered trademark of Johnson Controls Inc.

³ LonWorks is a registered trademark of Echelon Corporation

FPC-N35 Connectivity Diagram:



The ProtoNode can connect with the SMC Cloud. The SMC Cloud allows technicians, the OEM's support team and MSA Safety's support team to remotely connect to the ProtoNode. The SMC Cloud provides the following capabilities for any registered devices in the field:

- Remotely monitor and control devices.
- Collect device data and view it on the SMC Cloud Dashboard and the SMC Smart Phone App.
- Create user defined device notifications (alarm, trouble and warning) via SMS and/or Email.
- Generate diagnostic captures (as needed for troubleshooting) without going to the site.

For more information about the SMC Cloud, refer to the [SMC Cloud Start-up Guide](#).

3 SETUP FOR PROTONODE

3.1 Record Identification Data

Each ProtoNode has a unique part number located on the side or the back of the unit. This number should be recorded, as it may be required for technical support. The numbers are as follows:

Model	Part Number
ProtoNode FPC-N34	FPC-N34
ProtoNode FPC-N35	FPC-N35

Figure 1: ProtoNode Part Numbers

- FPC-N34 units have the following 3 ports: RS-485 + Ethernet + RS-485
- FPC-N35 units have the following 3 ports: LonWorks + Ethernet + RS-485

3.2 Point Count Capacity

The total number of points presented by the device(s) attached to the ProtoNode cannot exceed:

Part number	Total Points
FPC-N34-0970	5,000
FPC-N35-0991	5,000

Figure 2: Supported Point Count Capacity

Devices	Points Per Device
Unity 1.0 Control (includes: Evergreen, SlimFit 550-750 Series 2 & 3, and SlimFit 1000-2000 Series 2 SVF Models Series 1)	831
SlimFit 1000-2000 Series 1 (SF_SOLA)	144

Figure 3: Points per Device

3.3 Configuring Device Communications

3.3.1 Confirm the Device and ProtoNode COM Settings Match

- **Any connected serial device MUST have the same baud rate, data bits, stop bits, and parity settings as the ProtoNode.**
- **Figure 4** specifies the device serial port settings required to communicate with the ProtoNode.

Port Setting	SlimFit 1000-2000 Series 1 (SOLA)	Unity 1.0 Control (Evergreen/ SlimFit 550-750 Series 2 & 3/ SlimFit 1000-2000 Series 2/ SVF Models Series 1)
Protocol	Modbus RTU	Modbus RTU
Baud Rate	38400	19200
Parity	None	None
Data Bits	8	8
Stop Bits	1	2
Figure 4: COM Settings		

NOTE: The ProtoNode default setting for the Modbus RTU serial baud rate is 19200. When connecting devices with a different baud rate (SlimFit 1000-2000 Series 1), the baud rate must be changed via the ProtoNode Web Configurator (Section 7.4).

3.3.2 Set Node-ID for Any Device Attached to the ProtoNode

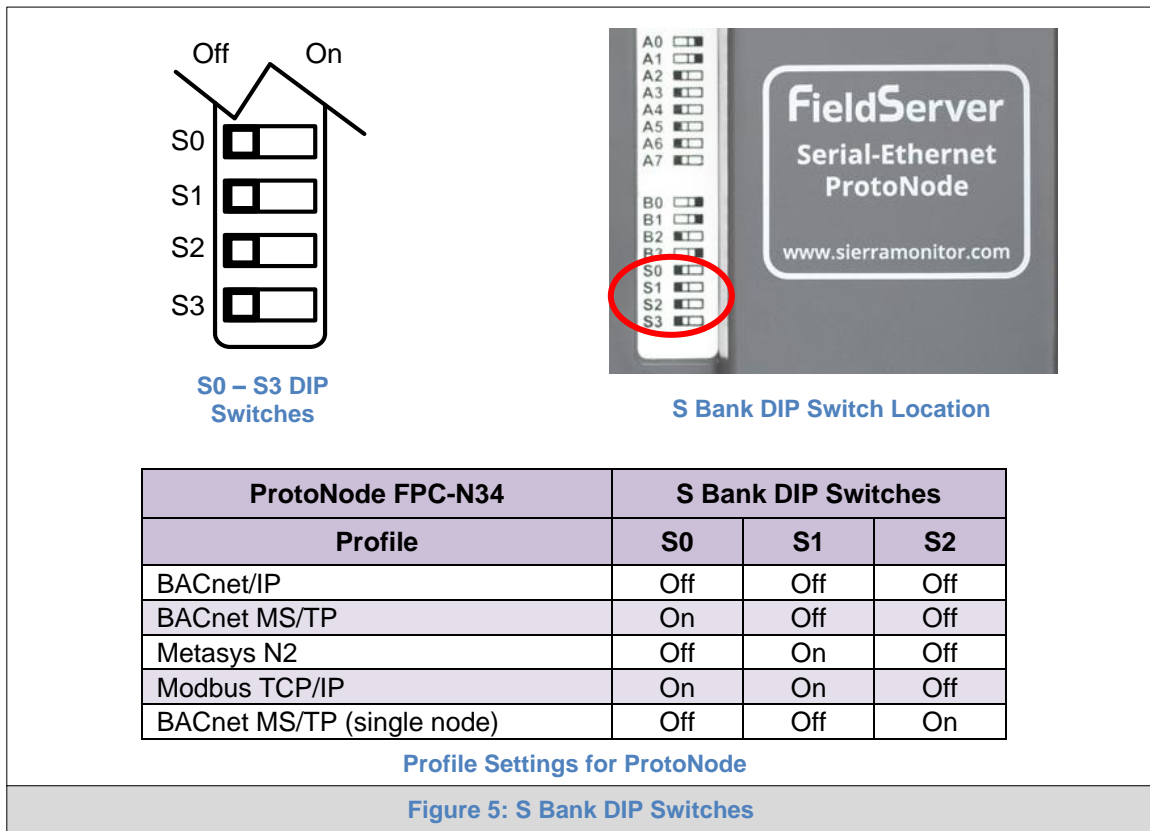
- Set Node-ID for any device attached to ProtoNode. The Node-ID needs to be uniquely assigned between 1 and 255. **For the first device use Node-ID 250.**
- Document the Node-ID that is assigned to any device. The Node-ID assigned is used for deriving the Device Instance for BACnet/IP and BACnet MS/TP. (Section 3.5.2)

NOTE: The Metasys N2 and Modbus TCP/IP field protocol Node-ID is automatically set to be the same value as the Node-ID of the device.

3.4 Selecting the Desired Protocol Configuration

NOTE: The instructions in this section are for the BMS side protocol.

- ProtoNode FPC-N34 units use the “S” bank of DIP switches (S0 – S3) to select the protocol configuration.
 - See the table in **Figure 5** for the switch settings to select
 - The OFF position is when the DIP switches are set closest to the outside of the box
- ProtoNode FPC-N35 units do not use the “S” bank DIP switches (S0 – S3) to select a field protocol.
 - On ProtoNode FPC-N35 units, these switches are disabled; the field protocol is always LonWorks



NOTE: When setting DIP switches, ensure that power to the board is OFF.

3.5 BMS Network Settings: MAC Address, Device Instance and Baud Rate

3.5.1 BACnet MS/TP (FPC-N34): Setting the MAC Address for BMS Network

- Only 1 MAC Address is set for ProtoNode regardless of how many devices are connected to ProtoNode.
- Set the BACnet MS/TP MAC Address of the ProtoNode to a value between 1 to 127 (Master MAC Address); this is so that the BMS front end can find ProtoNode via BACnet Auto-Discovery.

NOTE: Never set a BACnet MS/TP MAC Address of the ProtoNode to a value from 128 to 255. Addresses from 128 to 255 are Slave Addresses and cannot be discovered by BMS front ends that support Auto-Discovery of BACnet MS/TP devices.

- Set “A” bank DIP switches A0 – A7 to assign a MAC Address to the ProtoNode for BACnet MS/TP.
- Refer to [Appendix D.1](#) for the complete range of MAC Addresses and DIP switch settings.

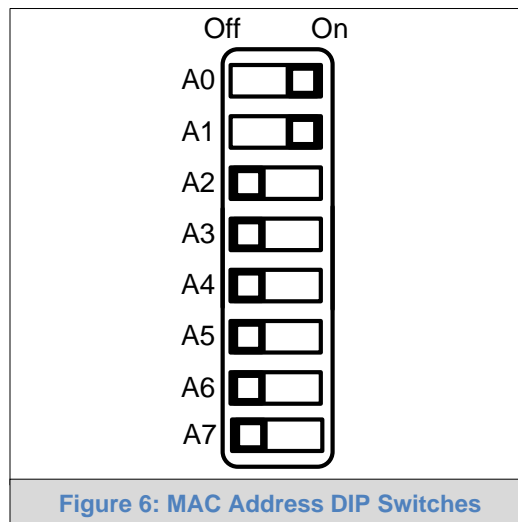


Figure 6: MAC Address DIP Switches

NOTE: When setting DIP switches, ensure that power to the board is OFF.

3.5.2 BACnet (FPC-N34): Calculating the Default Device Instance

- The Device Instance value is automatically generated using the following formula:
 $BACnet\ Device\ Instance = (Device\ Node\ ID) + (Default\ Node\ Offset)$

NOTE: The default Node Offset is 50,000.

For example, if Device A has a Node ID of 1 and Device B has a Node ID of 2, then:

BACnet Device Instance A = (1) + (50000) = 50001

BACnet Device Instance B = (2) + (50000) = 50002

NOTE: The Node ID is set in Section 3.3.2.

- To reach a specific BACnet Device Instance result, refer to **Section 7.5**.

3.5.3 FPC-N34: Setting the Baud Rate for BMS Network

- DIP switches B0 – B3 can be used to set the field baud rate of the ProtoNode to match the baud rate required by the BMS for BACnet MS/TP.
- The ProtoNode baud rate for Metasys N2 is set for 9600. DIP switches B0 – B3 are disabled for Metasys N2 on the ProtoNode FPC-N34.
- DIP switches B0 – B3 are disabled on the ProtoNode FPC-N35 (LonWorks).

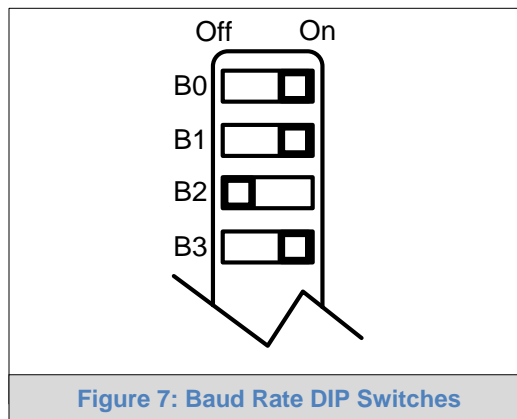


Figure 7: Baud Rate DIP Switches

NOTE: When setting DIP switches, ensure that power to the board is OFF.

3.5.3.1 Baud Rate DIP Switch Selection

Baud	B0	B1	B2	B3
9600	On	On	On	Off
19200	Off	Off	Off	On
38400*	On	On	Off	On
57600	Off	Off	On	On
76800	On	Off	On	On

Figure 8: BMS Baud Rate

* Factory default setting = 38400

4 INTERFACING PROTONODE TO DEVICES

4.1 ProtoNode FPC-N34 and FPC-N35 Showing Connection Ports

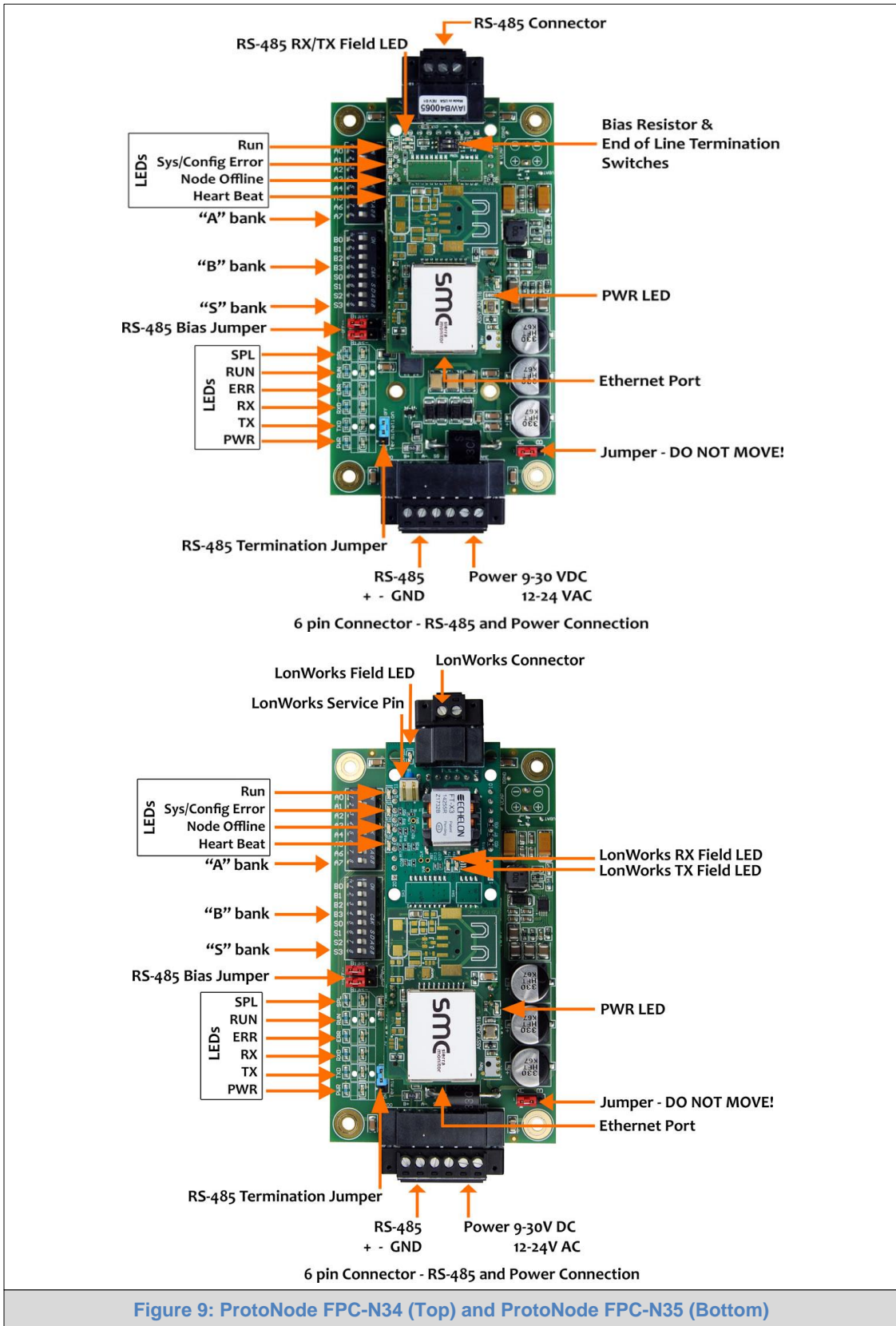
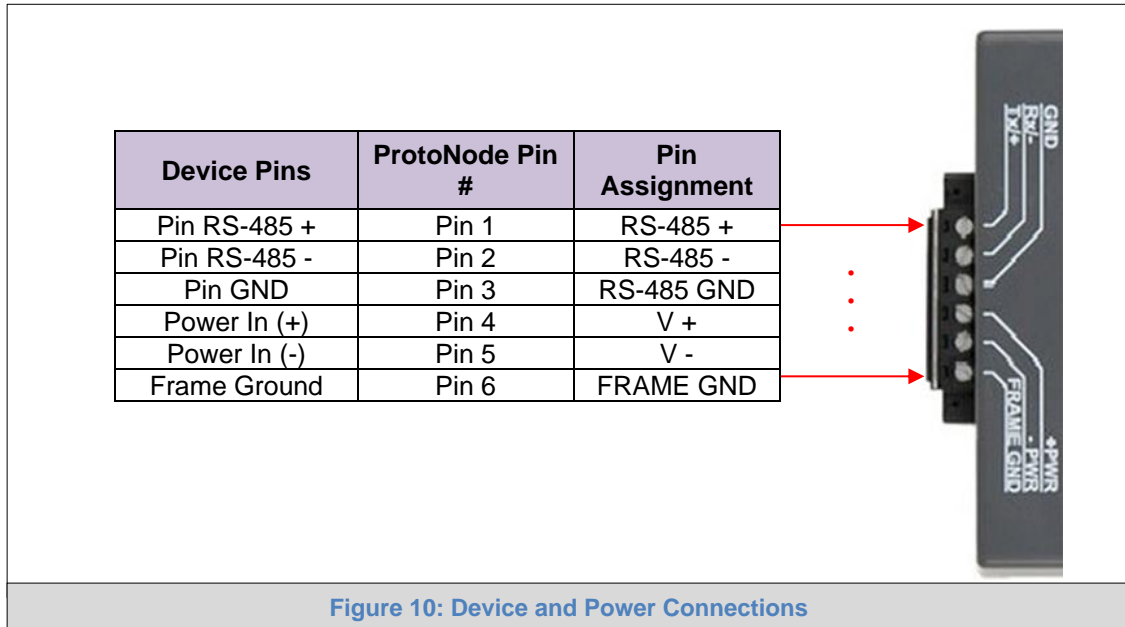


Figure 9: ProtoNode FPC-N34 (Top) and ProtoNode FPC-N35 (Bottom)

4.2 Serial Device Connections to the ProtoNode

ProtoNode 6 Pin Phoenix connector:

- The 6 pin Phoenix connector is the same for ProtoNode FPC-N34 and FPC-N35 (LonWorks).
- Pins 1 through 3 are for RS-485 devices.
 - Use standard grounding principles for RS-485 GND
- Pins 4 through 6 are for power. **Do not connect power until Section 4.5.**



4.2.1 Biasing the RS-485 Device Network

NOTE: Bias Resistors are defaulted to the ON position. If biasing is already set in the network, follow instructions below to turn biasing to the OFF position.

- An RS-485 network with more than one device needs to have biasing to ensure proper communication. The biasing only needs to be done on one device.
- The ProtoNode has 510 ohm resistors that can be used to set the biasing.
- The ON position is when the 2 red biasing jumpers straddle the 4 pins in the right-most position on the board. See [Figure 11](#) for the intended orientation of the board.

NOTICE: Turn biasing OFF if there are bias resistors anywhere else on the same Modbus network that is to be connected to the ProtoNode .

- To turn biasing OFF, move the 2 red biasing jumpers to straddle the 4 pins to the left-most position as shown in [Figure 11](#).

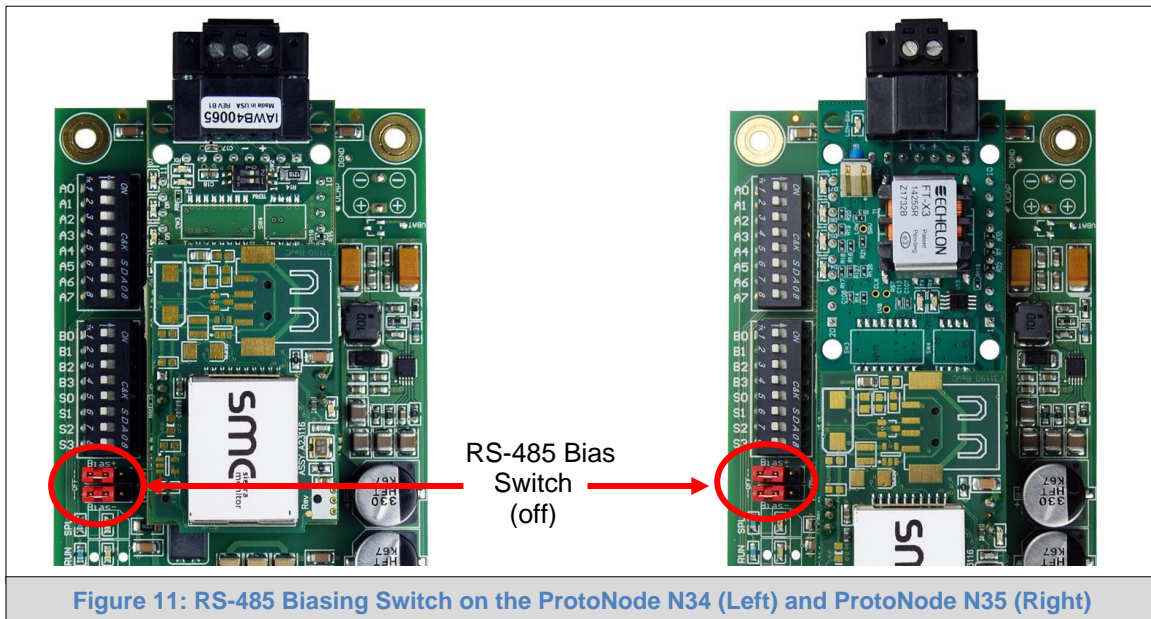
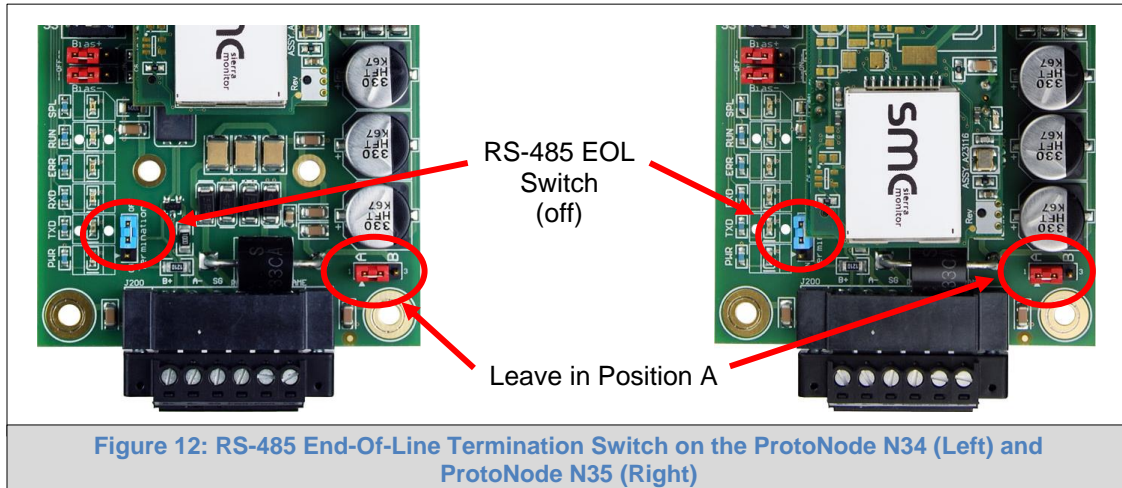


Figure 11: RS-485 Biasing Switch on the ProtoNode N34 (Left) and ProtoNode N35 (Right)

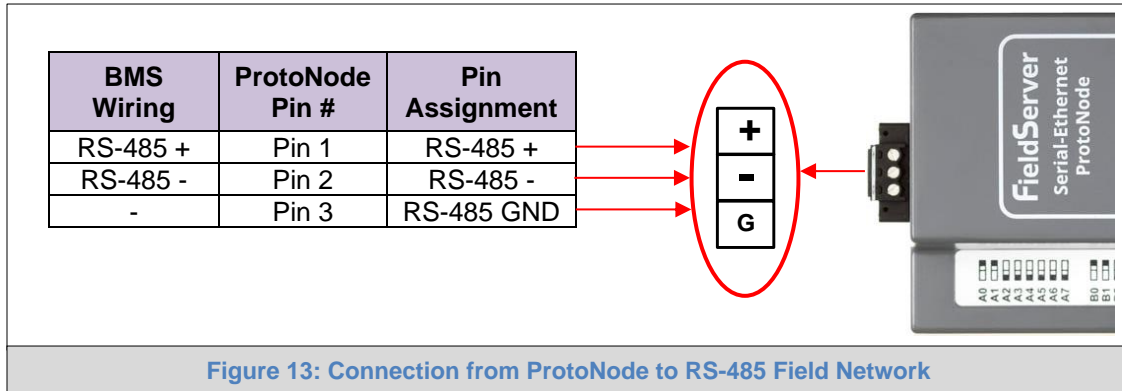
4.2.2 End of Line Termination Switch for the RS-485 Device Network

- On long RS-485 cabling runs, the RS-485 trunk must be properly terminated at each end.
- The ProtoNode has an end of line (EOL) blue jumper. The default setting for this blue EOL switch is OFF with the jumper straddling the pins closest to the inside of the board of the ProtoNode.
 - On short cabling runs the EOL switch does not need to be turned ON
- **If the ProtoNode is placed at one of the ends of the trunk, set the blue EOL jumper to the ON position straddling the pins closest to the outside of the board of the ProtoNode.**
- **Always leave the single red jumper in the A position (default factory setting).**



4.3 Serial Network (FPC-N34): Wiring Field Port to RS-485 Network

- Connect the RS-485 network wires to the 3-pin RS-485 connector on ProtoNode as shown below in **Figure 13**.
 - Use standard grounding principles for RS-485 GND
- See **Section 7.6** for information on connecting to an Ethernet network.



- If the ProtoNode is the last device on the trunk, then the end of line (EOL) termination switch needs to be enabled. **See Figure 14 for the orientation of switch positions referenced below.**
 - The default setting from the factory is OFF (switch position = right side)
 - To enable the EOL termination, turn the EOL switch ON (switch position = left side)



- If more than one RS-485 device is connected to the network, then the field bias resistor switch needs to be enabled to ensure proper communication. **See Figure 14 for the orientation of switch positions referenced below.**
 - The default factory setting is OFF (switch position = right side)
 - To enable biasing, turn the bias switch ON (switch position = left side)

NOTE: Biasing only needs to be enabled on one device. The ProtoNode has 510 ohm resistors that are used to set the biasing.

4.4 LonWorks (FPC-N35): Wiring LonWorks Devices to the LonWorks Terminal

- Wire the LonWorks device network to the ProtoNode LonWorks Terminal.
 - Use approved cable per the FT-10 installation guidelines
 - LonWorks has no polarity.



Figure 15: LonWorks Terminal

4.5 Power-Up ProtoNode

Check power requirements in the table below:

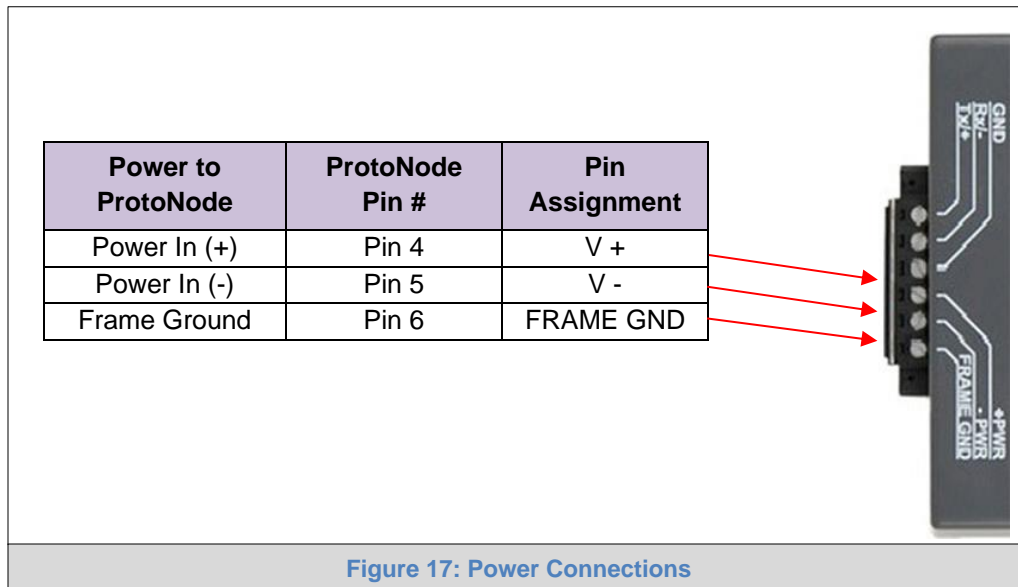
Power Requirement for ProtoNode External Gateway			
ProtoNode Family	Current Draw Type		
	12VDC/AC	24VDC/AC	30VDC
FPC – N34 (Typical)	170mA	100mA	80mA
FPC – N34 (Maximum)	240mA	140mA	100mA
FPC – N35 (Typical)	210mA	130mA	90mA
FPC – N35 (Maximum)	250mA	170mA	110mA

NOTE: These values are 'nominal' and a safety margin should be added to the power supply of the host system. A safety margin of 25% is recommended.

Figure 16: Required Current Draw for the ProtoNode

Apply power to the ProtoNode as shown below in **Figure 17**. Ensure that the power supply used complies with the specifications provided in **Appendix E.1**.

- ProtoNode accepts either 9-30VDC or 12-24VAC on pins 4 and 5.
- Frame GND should be connected.



5 CONNECT THE PC TO THE PROTONODE

5.1 Connecting to the ProtoNode via Ethernet

Connect a Cat-5 Ethernet cable (straight through or cross-over) between the local PC and ProtoNode.

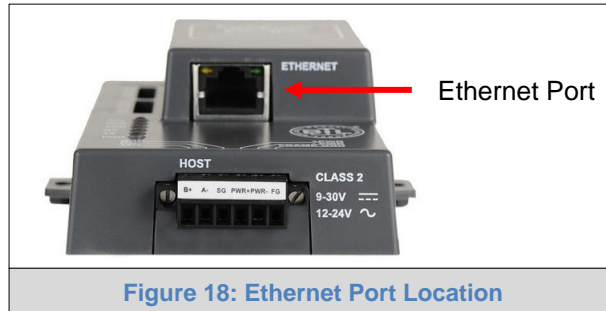



Figure 18: Ethernet Port Location

5.1.1 Changing the Subnet of the Connected PC

The default IP Address for the ProtoNode is **192.168.1.24**, Subnet Mask is **255.255.255.0**. If the PC and ProtoNode are on different IP networks, assign a static IP Address to the PC on the 192.168.1.xxx network.

For Windows 10:

- Find the search field in the local computer’s taskbar (usually to the right of the windows icon ) and type in “Control Panel”.
- Click “Control Panel”, click “Network and Internet” and then click “Network and Sharing Center”.
- Click “Change adapter settings” on the left side of the window.
- Right-click on “Local Area Connection” and select “Properties” from the dropdown menu.
- Highlight **Internet Protocol Version 4 (TCP/IPv4)** and then click the Properties button.
- Select and enter a static IP Address on the same subnet. For example:

Use the following IP address:

IP address:	192 . 168 . 1 . 11
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	. . .

- Click the Okay button to close the Internet Protocol window and the Close button to close the Ethernet Properties window.

6 SETUP WEB SERVER SECURITY

Navigate to the IP Address of the ProtoNode on the local PC by opening a web browser and entering the IP Address of the ProtoNode; the default Ethernet address is 192.168.1.24.

NOTE: If the IP Address of the ProtoNode was changed, the assigned IP Address can be discovered using the FS Toolbox utility. See Appendix A.1 for instructions.

6.1 Login to the FieldServer

The first time the FieldServer GUI is opened in a browser, the IP Address for the gateway will appear as untrusted. This will cause the following pop-up windows to appear.

- When the Web Server Security Unconfigured window appears, read the text and choose whether to move forward with HTTPS or HTTP.

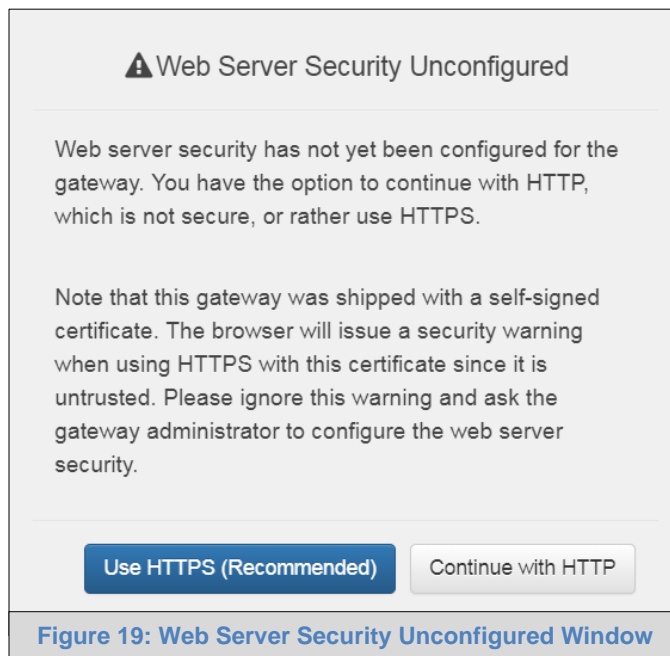


Figure 19: Web Server Security Unconfigured Window

- When the warning that “Your connection is not private” appears, click the advanced button on the bottom left corner of the screen.

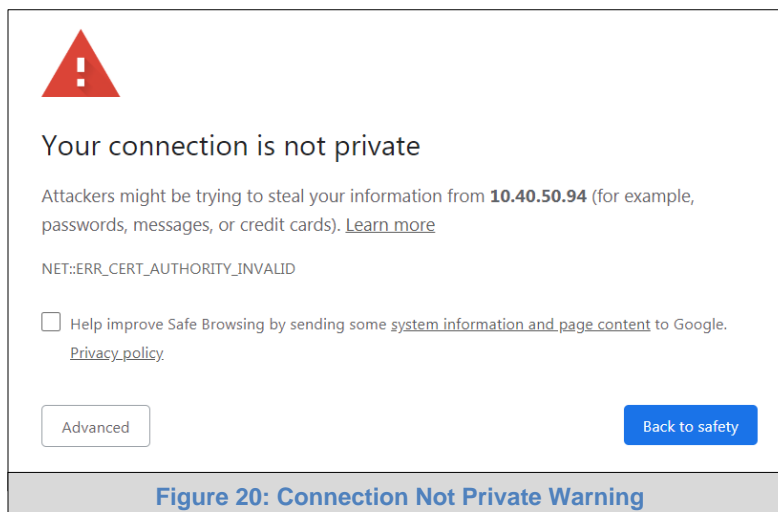
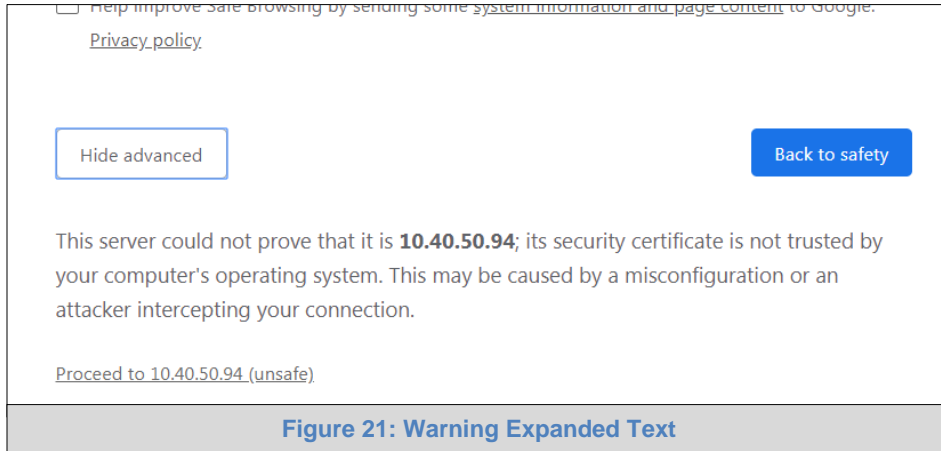


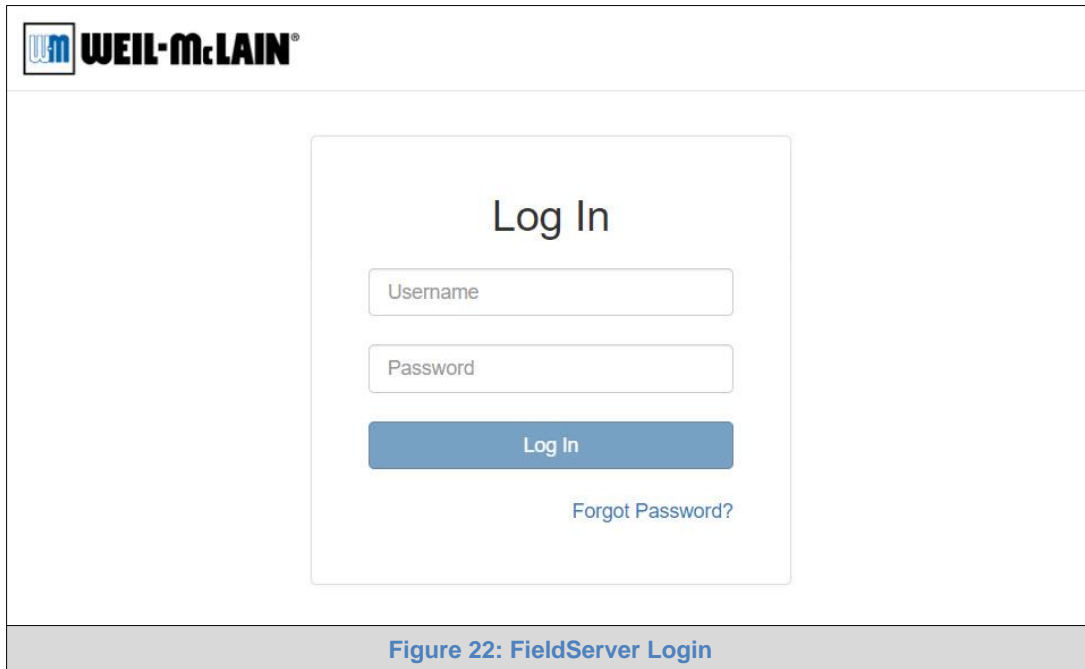
Figure 20: Connection Not Private Warning

- Additional text will expand below the warning, click the underlined text to go to the IP Address. In the **Figure 21** example this text is “[Proceed to 10.40.50.94 \(unsafe\)](#)”.



- When the login screen appears, put in the Username (default is “admin”) and the Password (found on the label of the FieldServer).

NOTE: There is also a QR code in the top right corner of the FieldServer label that shows the default unique password when scanned.

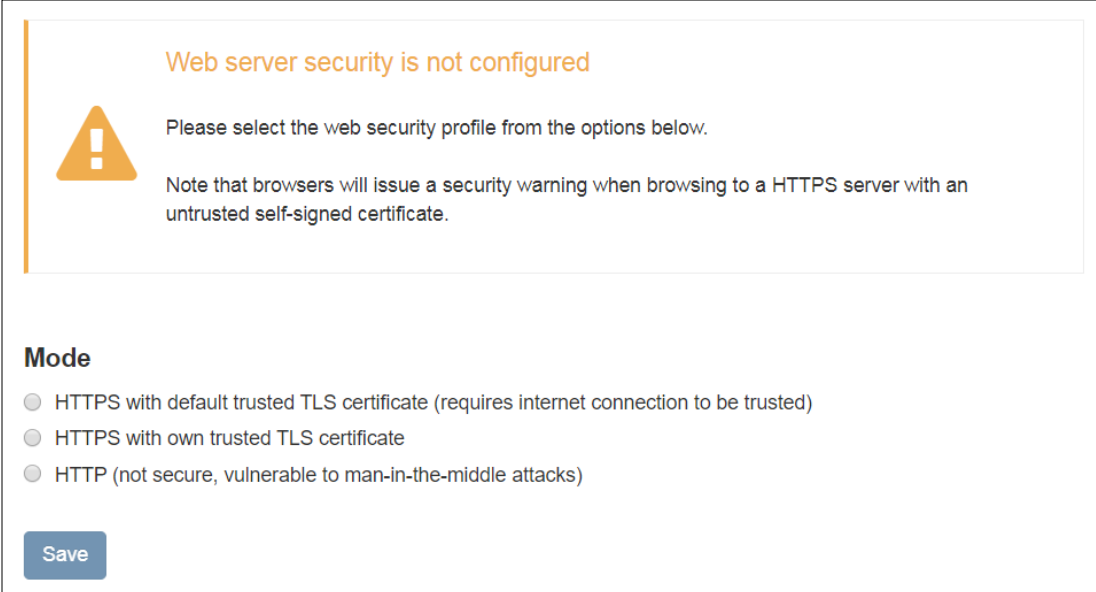


NOTE: A user has 5 attempts to login then there will be a 10-minute lockout. There is no timeout on the FieldServer to enter a password.

NOTE: To create individual user logins, go to [Appendix B.5](#).

6.2 Select the Security Mode

On the first login to the FieldServer, the following screen will appear that allows the user to select which mode the FieldServer should use.



Web server security is not configured

Please select the web security profile from the options below.

Note that browsers will issue a security warning when browsing to a HTTPS server with an untrusted self-signed certificate.

Mode

- HTTPS with default trusted TLS certificate (requires internet connection to be trusted)
- HTTPS with own trusted TLS certificate
- HTTP (not secure, vulnerable to man-in-the-middle attacks)

Save

Figure 23: Security Mode Selection Screen

NOTE: Cookies are used for authentication.

NOTE: To change the web server security mode after initial setup, go to [Appendix B.4](#).

The sections that follow include instructions for assigning the different security modes.

6.2.1 HTTPS with Own Trusted TLS Certificate

This is the recommended selection and the most secure.

- Once this option is selected, the Certificate, Private Key and Private Key Passphrase fields will appear under the mode selection.

Certificate

```
XzyMbQZFiRuJZJPe7CTHLcHOrHLowoUFoVtaBMYd4d6VGdNklKazByWKcNOL7mrX
A4IBAQBfM+IPvOx3T/47VEmaiXqE3bx3zEuBFJ6pWPlw7LHf2r2ZoHw+9xb+aNMU
dVyAelhBMTMsniz2ERvQVp0xj3psSv2EJyKXS1bOYNRLsq7UzpwuAdT/Wy3o6vUM5
K+Cwf9qEoQ0LuxDZTIEct67MkcHMiuFi5pk7TRicHnQf/sfOAYOulduHOy9exlk9
FmHFVDIZf/cJUaF+e74EuSph+gEr0lQo2wmmhyc7L22UXse1NoOfU2Zq0Eu1VVtu
JRryaMWIRFEWuuzMGZtKFWVC+8q2JQsVcqiRWM7naoblEhOCMH+sKHJMCxDoXGt
vtZjpZUoAL51YXxWSVcyZdGiAP5e
-----END CERTIFICATE-----
```

Private Key

```
-----BEGIN RSA PRIVATE KEY-----
sHB0zZoHr4YQSDk2BbYVzbl0LDuKtc8+JiO3ooGjoTuHngkeAj/fKfbTAsKeAzw
gKQe+H5UQNK0bdvZfOJrm6daDK2vDmR5k+iUUhEj5N49uplroB97MQqYotzqfT+
THlbpq5t1SIK617k04ObKmHF5l8fck+ru545sVmpeezh0m5j5SURYAZMvbq5daCu
J4l5NlhbEvxRF4UK41ZDMCvujioPcBKUWrb1a/3XXnDnM2K9xyz2wze998D6Wk46
+7aQFY9F+7j5ljmkoS3GYtwCyH5jP+mPP1K6RnuiD019wvGPb4dtN/RTnfd0eF
GYeVSkI9fxxkxDOFtdWRZbM/rPjn4tmO1Xf8HqONVN1x/iaMynOXG4cukoi4+VO
u0rZaUEsIl2zNkfrn7fAASm5NBWq202Cy9IAYnuuis3aALi5uGBeekA62oTMxlzx
-----END RSA PRIVATE KEY-----
```

Private Key Passphrase

Figure 24: Security Mode Selection Screen – Certificate & Private Key

- Copy and paste the Certificate and Private Key text into their respective fields. If the Private Key is encrypted type in the associated Passphrase.
- Click Save.
- A “Redirecting” message will appear. After a short time the Web Configurator page will open.

6.2.2 HTTPS with Default Untrusted Self-Signed TLS Certificate or HTTP with Built-in Payload Encryption

- Select the desired option and click the Save button.
- A “Redirecting” message will appear. After a short time the Web Configurator page will open.

7 CONFIGURE THE PROTONODE

7.1 Set Configuration Parameters

- On the Web Configurator page, the configuration parameters are listed.

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Configuration Parameters

Parameter Name	Parameter Description	Value
mod_baud_rate	Modbus RTU Baud Rate This sets the Modbus RTU baud rate. <i>(9600/19200/38400)</i>	19200 <input type="button" value="Submit"/>
mod_parity	Modbus RTU Parity This sets the Modbus RTU parity. <i>(None/Even/Odd)</i>	None <input type="button" value="Submit"/>
mod_data_bits	Modbus RTU Data Bits This sets the Modbus RTU data bits. <i>(7 or 8)</i>	8 <input type="button" value="Submit"/>
mod_stop_bits	Modbus RTU Stop Bits This sets the Modbus RTU stop bits. <i>(1 or 2)</i>	2 <input type="button" value="Submit"/>
network_nr	BACnet Network Number This sets the BACnet network number of the Gateway. <i>(1 - 65535)</i>	50 <input type="button" value="Submit"/>
node_offset	BACnet Node Offset This is used to set the BACnet device instance. The device instance will be sum of the Modbus device address and the node offset. <i>(0 - 4194303)</i>	50000 <input type="button" value="Submit"/>
bac_ip_port	BACnet IP Port This sets the BACnet IP port of the Gateway. The default is 47808. <i>(1 - 65535)</i>	47808 <input type="button" value="Submit"/>
bac_cov_option	BACnet COV This enables or disables COVs for the BACnet connection. Use COV_Enable to enable. Use COV_Disable to disable. <i>(COV_Enable/COV_Disable)</i>	COV_Disable <input type="button" value="Submit"/>
bac_bbmd_option	BACnet BBMD This enables BBMD on the BACnet IP connection. Use BBMD to enable. Use - to disable. The bdt.ini files also needs to be downloaded. <i>(BBMD/-)</i>	- <input type="button" value="Submit"/>
bac_virt_nodes	BACnet Virtual Server Nodes Set to NO if the unit is only converting 1 device to BACnet. Set to YES if the unit is converting multiple devices. <i>(No/Yes)</i>	No <input type="button" value="Submit"/>

Figure 25: Web Configurator Showing Configuration Parameters

NOTE: Protocol specific parameters are only visible when the associated protocol is selected via S-bank DIP switch (Section 3.4).

NOTE: If Modbus TCP/IP was selected and is used for the field protocol, skip Section 7.2. Device profiles are NOT used for Modbus TCP/IP.

- Ensure that all parameters are entered for successful operation of the gateway. Find the legal value options for each parameter under the Parameter Description in parentheses.

NOTE: If multiple devices are connected to the ProtoNode, set the BACnet Virtual Server Nodes field to “Yes”; otherwise leave the field on the default “No” setting.

7.2 Selecting Profiles for Devices Connected to ProtoNode

- In the Web Configurator, the Active Profiles are shown below the Configuration Parameters. The Active Profiles section lists the currently active device profiles, including previous Web Configurator additions. The Unity 1.0 profile for BACnet MS/TP is loaded as active by default. (Figure 26)

WEIL-McLAIN

Configuration Parameters

Parameter Name	Parameter Description	Value
mod_baud_rate	Modbus RTU Baud Rate This sets the Modbus RTU baud rate. (9600/19200/38400)	19200 <input type="button" value="Submit"/>
mod_parity	Modbus RTU Parity This sets the Modbus RTU parity. (None/Even/Odd)	None <input type="button" value="Submit"/>
mod_data_bits	Modbus RTU Data Bits This sets the Modbus RTU data bits. (7 or 8)	8 <input type="button" value="Submit"/>
mod_stop_bits	Modbus RTU Stop Bits This sets the Modbus RTU stop bits. (1 or 2)	2 <input type="button" value="Submit"/>
network_nr	BACnet Network Number This sets the BACnet network number of the Gateway. (1 - 65535)	50 <input type="button" value="Submit"/>
node_offset	BACnet Node Offset This is used to set the BACnet device instance. The device instance will be sum of the Modbus device address and the node offset. (0 - 4194303)	50000 <input type="button" value="Submit"/>
bac_ip_port	BACnet IP Port This sets the BACnet IP port of the Gateway. The default is 47808. (1 - 65535)	47808 <input type="button" value="Submit"/>
bac_cov_option	BACnet COV This enables or disables COVs for the BACnet connection. Use COV_Enable to enable. Use COV_Disable to disable. (COV_Enable/COV_Disable)	COV_Disable <input type="button" value="Submit"/>
bac_bbmd_option	BACnet BBMD This enables BBMD on the BACnet IP connection. Use BBMD to enable. Use - to disable. The bdt.ini files also needs to be downloaded. (BBMD/-)	- <input type="button" value="Submit"/>
bac_virt_nodes	BACnet Virtual Server Nodes Set to NO if the unit is only converting 1 device to BACnet. Set to YES if the unit is converting multiple devices. (No/Yes)	No <input type="button" value="Submit"/>

Active profiles

Nr	Node ID	Current profile	Parameters
<input type="button" value="Add"/>			
<input type="button" value="HELP (?)"/> <input type="button" value="Network Settings"/> <input type="button" value="Clear Profiles and Restart"/> <input type="button" value="System Restart"/> <input type="button" value="Diagnostics & Debugging"/>			

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Figure 26: Web Configurator Showing no Active Profiles

- To add an active profile to support a device, click the Add button under the Active Profiles heading. Select a profile from the drop-down menu field that appears underneath the Current profile column.
- Once the Profile for the device has been selected from the drop-down list, enter the value of the device’s Node-ID which was assigned in **Section 3.3.2**.

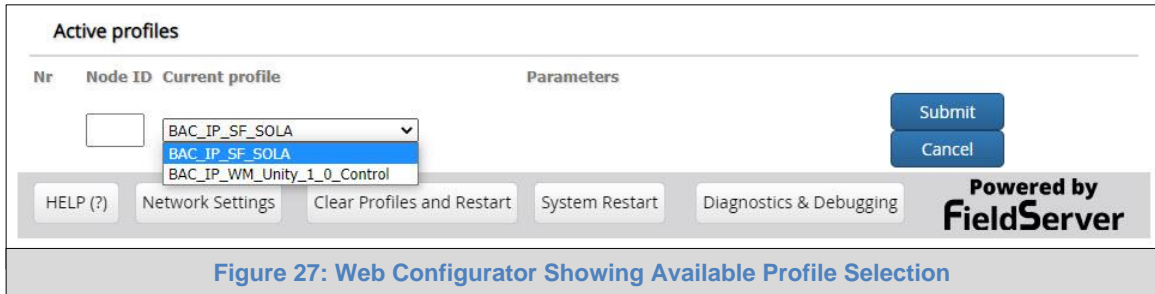


Figure 27: Web Configurator Showing Available Profile Selection

- Then press the “Submit” button to add the Profile to the list of devices to be configured.
- Repeat this process until all the devices have been added.
- Completed additions are listed under “Active profiles” as shown in **Figure 28**.

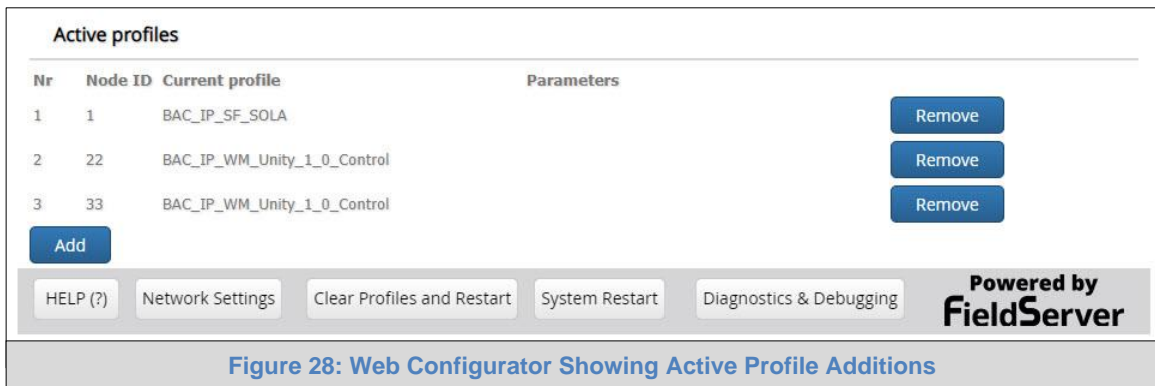


Figure 28: Web Configurator Showing Active Profile Additions

7.3 Verify Device Communications

- **Check that TX and RX LEDs** are rapidly flashing. See **Appendix A.4** for information and images.
- Confirm the software shows communication without errors (**Appendix A.2**).

7.4 Change ProtoNode COM Settings

- In the Web Configurator, the ProtoNode COM Settings are the first parameters displayed.

Parameter Name	Parameter Description	Value
mod_baud_rate	Modbus RTU Baud Rate This sets the Modbus RTU baud rate. (9600/19200/38400)	19200 <input type="button" value="Submit"/>
mod_parity	Modbus RTU Parity This sets the Modbus RTU parity. (None/Even/Odd)	None <input type="button" value="Submit"/>
mod_data_bits	Modbus RTU Data Bits This sets the Modbus RTU data bits. (7 or 8)	8 <input type="button" value="Submit"/>
mod_stop_bits	Modbus RTU Stop Bits This sets the Modbus RTU stop bits. (1 or 2)	2 <input type="button" value="Submit"/>

Figure 29: Web Configurator ProtoNode COM Settings

NOTE: The ProtoNode default setting for the Modbus RTU serial baud rate is 19200 and the default stop bits setting is 1. When connecting devices with different baud rate and stop bits settings (SlimFit 1000-2000 Series 1), these values must be changed via the ProtoNode Web Configurator to match the device.

- Change the ProtoNode COM Settings if needed. See [Figure 30](#) for the correct device settings.

Port Setting	SlimFit 1000-2000 Series 1 (SOLA)	Unity 1.0 Controls (Evergreen/ SlimFit 550-750 Series 2 & 3/ SlimFit 1000-2000 Series 2/ SVF Models Series 1)
Protocol	Modbus RTU	Modbus RTU
Baud Rate	38400	19200
Parity	None	None
Data Bits	8	8
Stop Bits	1	2

Figure 30: Device COM Settings

- If new values are entered in the text field, click Submit then reset the ProtoNode.

7.5 BACnet: Setting Node_Offset to Assign Specific Device Instances

- Follow the steps outlined in **Section 6.1** to access the ProtoNode Web Configurator.
- Node_Offset field shows the current value (default = 50,000).
 - The values allowed for a BACnet Device Instance can range from 1 to 4,194,303
- To assign a specific Device Instance (or range); change the Node_Offset value as needed using the calculation below:

$$\text{Device Instance (desired)} = \text{Node_Offset} + \text{Node_ID}$$

For example, if the desired Device Instance for the device 1 is 50,001 and the following is true:

- Device 1 has a Node-ID of 1
- Device 2 has a Node-ID of 22
- Device 3 has a Node-ID of 33

Then plug the device 1's information into the formula to find the desired Node_Offset:

$$50,001 = \text{Node_Offset} + 1$$

- **50,000 = Node_Offset**

Once the Node_Offset value is input, it will be applied as shown below:

- Device 1 Instance = 50,000 + Node_ID = 50,000 + 1 = 50,001
- Device 2 Instance = 50,000 + Node_ID = 50,000 + 22 = 50,022
- Device 3 Instance = 50,000 + Node_ID = 50,000 + 33 = 50,033

- Click "Submit" once the desired value is entered.

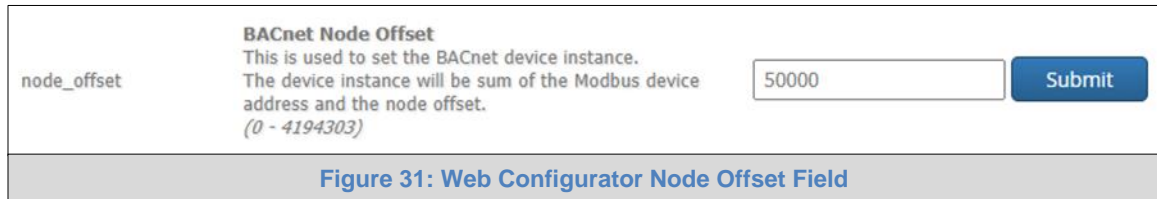


Figure 31: Web Configurator Node Offset Field

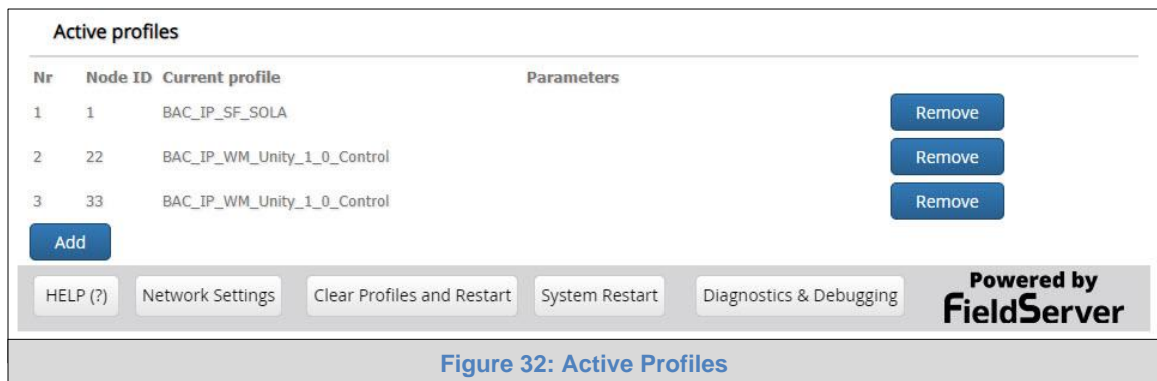


Figure 32: Active Profiles

7.6 Ethernet Network: Setting IP Address for the Field Network

- Follow the steps outlined in **Section 6.1** to access the ProtoNode Web Configurator.
- To access the FS-GUI, click on the “Diagnostics & Debugging” button in the bottom right corner of the page.

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Configuration Parameters

Parameter Name	Parameter Description	Value
mod_baud_rate	Modbus RTU Baud Rate This sets the Modbus RTU baud rate. (9600/19200/38400)	19200 <input type="button" value="Submit"/>
mod_parity	Modbus RTU Parity This sets the Modbus RTU parity. (None/Even/Odd)	None <input type="button" value="Submit"/>
mod_data_bits	Modbus RTU Data Bits This sets the Modbus RTU data bits. (7 or 8)	8 <input type="button" value="Submit"/>
mod_stop_bits	Modbus RTU Stop Bits This sets the Modbus RTU stop bits. (1 or 2)	2 <input type="button" value="Submit"/>
network_nr	BACnet Network Number This sets the BACnet network number of the Gateway. (1 - 65535)	50 <input type="button" value="Submit"/>
node_offset	BACnet Node Offset This is used to set the BACnet device instance. The device instance will be sum of the Modbus device address and the node offset. (0 - 4194303)	50000 <input type="button" value="Submit"/>
bac_ip_port	BACnet IP Port This sets the BACnet IP port of the Gateway. The default is 47808. (1 - 65535)	47808 <input type="button" value="Submit"/>
bac_cov_option	BACnet COV This enables or disables COVs for the BACnet connection. Use COV_Enable to enable. Use COV_Disable to disable. (COV_Enable/COV_Disable)	COV_Disable <input type="button" value="Submit"/>
bac_bbmd_option	BACnet BBMD This enables BBMD on the BACnet IP connection. Use BBMD to enable. Use - to disable. The bdt.ini files also needs to be downloaded. (BBMD/-)	- <input type="button" value="Submit"/>
bac_virt_nodes	BACnet Virtual Server Nodes Set to NO if the unit is only converting 1 device to BACnet. Set to YES if the unit is converting multiple devices. (No/Yes)	No <input type="button" value="Submit"/>

Active profiles

Nr	Node ID	Current profile	Parameters
1	1	BAC_IP_SF_SOLA	<input type="button" value="Remove"/>
2	22	BAC_IP_WM_Unity_1_0_Control	<input type="button" value="Remove"/>
3	33	BAC_IP_WM_Unity_1_0_Control	<input type="button" value="Remove"/>

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Figure 33: Web Configurator Screen with Active Profiles

- From the FS-GUI landing page, click on “Setup” to expand the navigation tree and then select “Network Settings” to access the IP Settings menu. (Figure 34)

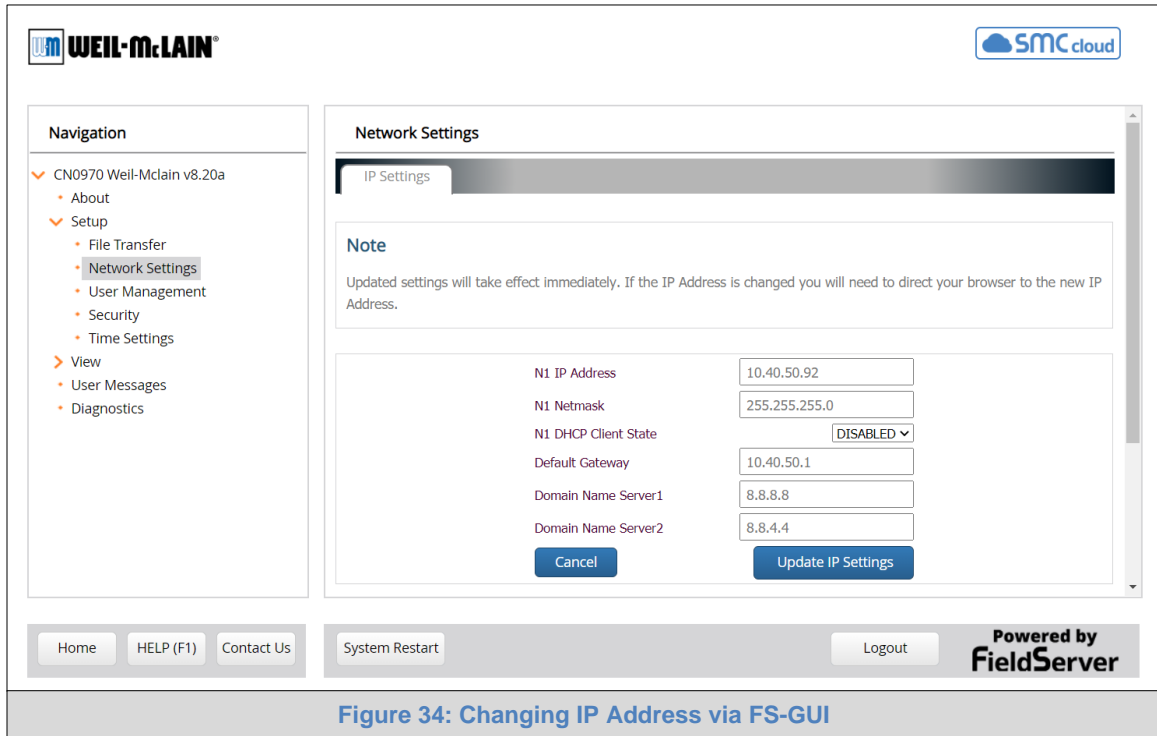


Figure 34: Changing IP Address via FS-GUI

- Modify the IP Address (N1 IP Address field) of the ProtoNode Ethernet port.
- If necessary, change the Netmask (N1 Netmask field).
- If necessary, change the IP Gateway (Default Gateway field).

NOTE: If the ProtoNode is connected to a managed switch/router, the IP Gateway of the ProtoNode should be set to the IP Address of that managed switch/router.

- Click the “System Restart” button at the bottom of the page to apply changes and restart the ProtoNode.
- Unplug Ethernet cable from PC and connect it to the network switch or router.
- Record the IP Address assigned to the ProtoNode for future reference.

7.7 How to Start the Installation Over: Clearing Profiles

- Follow the steps outlined in **Section 6.1** to access the ProtoNode Web Configurator.
- At the bottom-left of the page, click the “Clear Profiles and Restart” button.
- Once restart is complete, all past profiles discovered and/or added via Web configurator are deleted. The unit can now be reinstalled.

8 LONWORKS (FPC-N35): COMMISSIONING PROTONODE ON A LONWORKS NETWORK

Commissioning may only be performed by the LonWorks administrator.

8.1 Commissioning ProtoNode FPC-N35 on a LonWorks Network

During the commissioning process, the LonWorks administrator may prompt the user to hit the service pin on the ProtoNode FPC-N35 at a specific point (this step occurs at different points of the commissioning process for each LonWorks network management tool).

- If an XIF file is required, see steps in **Section 8.1.1** to generate XIF.





Figure 35: LonWorks Service Pin Location

8.1.1 Instructions to Upload XIF File from ProtoNode FPC-N35 Using Browser

- Connect a Cat-5 Ethernet cable (straight through or cross-over) between the PC and ProtoNode.
- The default IP Address for the ProtoNode is **192.168.1.24**, Subnet Mask is **255.255.255.0**. If the PC and ProtoNode are on different IP networks, assign a static IP Address to the PC on the 192.168.1.xxx network.

For Windows 10:

- Find the search field in the local computer’s taskbar (usually to the right of the windows icon ) and type in “Control Panel”.
- Click “Control Panel”, click “Network and Internet” and then click “Network and Sharing Center”.
- Click “Change adapter settings” on the left side of the window.
- Right-click on “Local Area Connection” and select “Properties” from the dropdown menu.
- Highlight  **Internet Protocol Version 4 (TCP/IPv4)** and then click the Properties button.
- Select and enter a static IP Address on the same subnet. For example:

Use the following IP address:

IP address:	192 . 168 . 1 . 11
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	. . .

- Click the Okay button to close the Internet Protocol window and the Close button to close the Ethernet Properties window.

- Open a web browser and go to the following address: [IP Address of ProtoNode]/fserver.xif
 - Example: 192.168.1.24/fserver.xif
- If the web browser prompts to save the file, save the file onto the PC. If the web browser displays the xif file as a web page, save the file onto the local PC as "fserver.xif".

```

File: fserver.xif generated by LonDriver Revision 1.30(d), XIF Version 4.0
Copyright (c) 2000-2012 by FieldServer Technologies
All Rights Reserved. Run on Thu Jan 1 00:00:00 1970

90:00:95:47:1E:02:04:7C
2 15 1 4 0 14 11 3 3 12 14 11 11 11 11 3 0 16 63 0 1 11 4
32 5 19 13 28 0 0 15 5 3 109 63
1 7 1 0 4 4 4 15 200 0
78125 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 5 8 5 12 14 15
*
"FFP-Lon Demo

VAR nviAnalog_01 0 0 0 0
0 1 63 0 0 0 0 0 0 0 0 0
*
51 * 1
4 0 4 0 0
VAR nvoAnalog_01 1 0 0 0
0 1 63 1 0 0 0 0 0 0 0 0
*
51 * 1
4 0 4 0 0
VAR nviBinary_01 2 0 0 0
0 1 63 0 0 0 0 0 0 0 0 0
*
95 * 2
1 0 0 0 0
1 0 0 1 0
VAR nvoBinary_01 3 0 0 0
0 1 63 1 0 0 0 0 0 0 0 0
*
95 * 2
1 0 0 0 0
1 0 0 1 0

```

Figure 36: Sample of Fserver.XIF File Generated

Appendix A. Troubleshooting

Appendix A.1. Lost or Incorrect IP Address

- Ensure that FieldServer Toolbox is loaded onto the local PC. Otherwise, download the FieldServer-Toolbox.zip via the Sierra Monitor website's [Software Downloads](#).
- Extract the executable file and complete the installation.

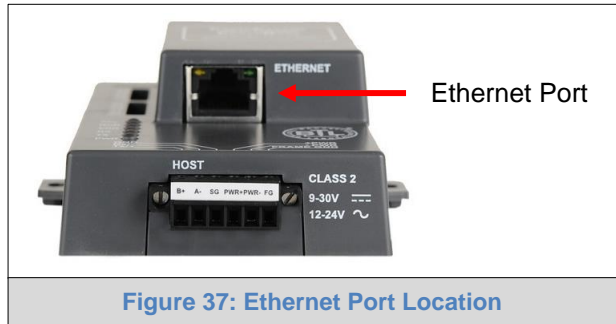
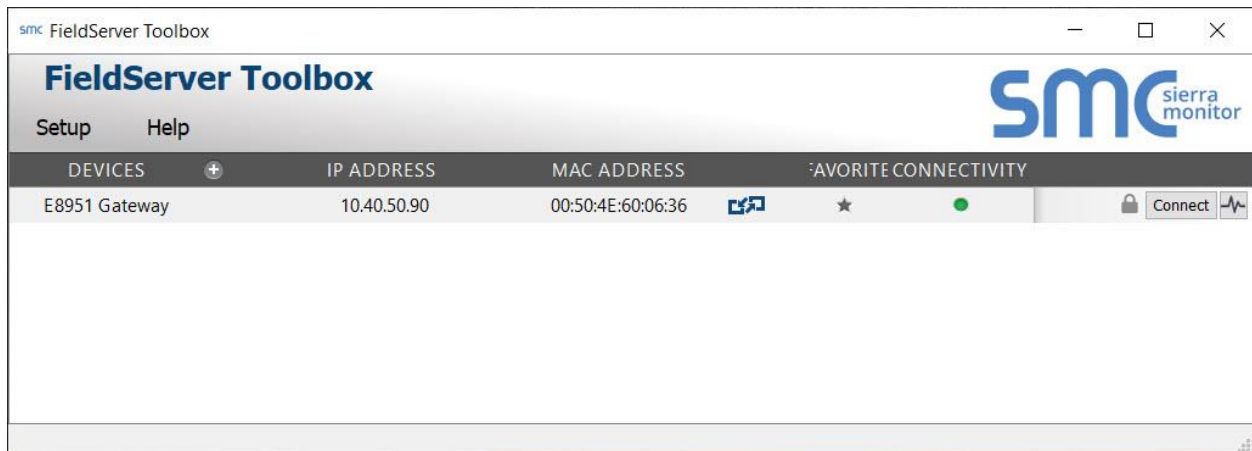



Figure 37: Ethernet Port Location

- Connect a standard Cat-5 Ethernet cable between the user's PC and ProtoNode.
- Double click on the FS Toolbox Utility and click Discover Now on the splash page.
- Check for the IP Address of the desired gateway.



- If correcting the IP Address of the gateway: click the settings icon  on the same row as the gateway, then click Network Settings, change the IP Address and click Update IP Settings to save.

Appendix A.2. Viewing Diagnostic Information

- Type the IP Address of the ProtoNode into the web browser or use the FieldServer Toolbox to connect to the ProtoNode.
- Click on Diagnostics and Debugging Button, then click on view, and then on connections.
- If there are any errors showing on the Connection page, refer to [Appendix A.3](#) for the relevant wiring and settings.

The screenshot shows the Weil-McLain web interface. On the left is a navigation menu with the following items:

- Navigation
 - ▼ CN0970 Weil-Mclain v8.20a
 - About
 - Setup
 - ▼ View
 - ▼ Connections
 - S1 - MODBUS_RTU
 - N1 - BACnet_IP
 - Data Arrays
 - Nodes
 - Map Descriptors
 - User Messages
 - Diagnostics

The main content area is titled 'Connections' and has an 'Overview' tab selected. Below the tab is a table with the following data:

Index	Name	Tx Msg	Rx Msg	Tx Char	Rx Char	Errors
0	S1 - MODBUS_RTU	188	0	1,504	0	187
1	N1 - BACnet_IP	6	5	84	70	0

The footer contains several buttons: Home, HELP (F1), Contact Us, Reset Statistics, and Logout. On the right side of the footer, it says 'Powered by FieldServer'.

Figure 38: Error Messages Screen

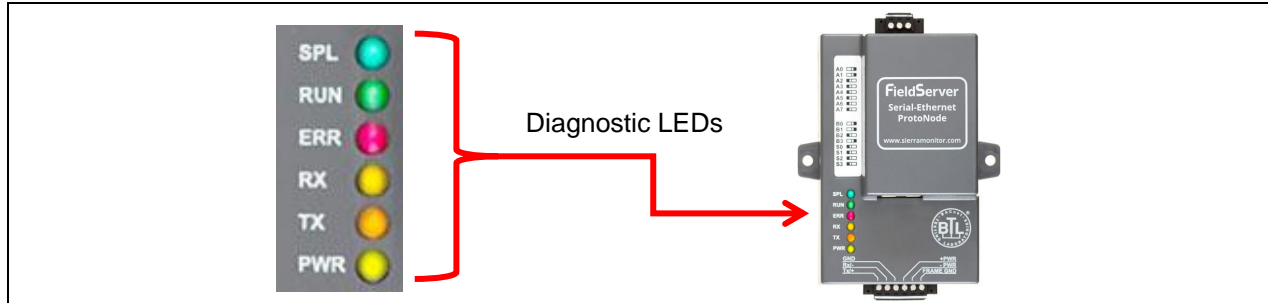
Appendix A.3. Check Wiring and Settings

- No COMS on Modbus RTU side. If the Tx/Rx LEDs are not flashing rapidly then there is a COM issue. To fix this, check the following:
 - Visual observations of LEDs on the ProtoNode ([Appendix A.4](#))
 - Check baud rate, parity, data bits, stop bits
 - Check device address
 - Verify wiring
 - Verify the Modbus device(s) were listed in the Web Configurator ([Section 7.2](#))
- Field COM problems:
 - If Ethernet protocols are used, observe Ethernet LEDs on the ProtoNode ([Appendix A.4](#))
 - Check dipswitch settings (using correct baud rate and device instance)
 - Verify IP Address setting
 - Verify wiring
- If communications are working but the error rate is high change both ProtoNode and Boiler to 9600 baud rate.

NOTE: If the problem persists, a Diagnostic Capture needs to be taken and sent to support. ([Appendix A.5](#))

Appendix A.4. LED Diagnostics for Communications Between ProtoNode and Devices

See the diagram below for ProtoNode FPC-N34 and FPC-N35 LED Locations.




Tag	Description
SPL	The SPL LED will light if the unit is not getting a response from one or more of the configured devices. For LonWorks units , LED will light until the unit is commissioned on the LonWorks network.
RUN	The RUN LED will start flashing 20 seconds after power indicating normal operation.
ERR	A steady red light will indicate there is a system error on the unit. If this occurs, immediately report the related "system error" shown in the error screen of the FS-GUI interface to support for evaluation.
RX	The RX LED will flash when a message is received on the serial port on the 6-pin connector. If the serial port is not used , this LED is non-operational.
TX	The TX LED will flash when a message is sent on the serial port on the 6-pin connector. If the serial port is not used , this LED is non-operational.
PWR	The power light should always show steady green when connected to a functioning power source.

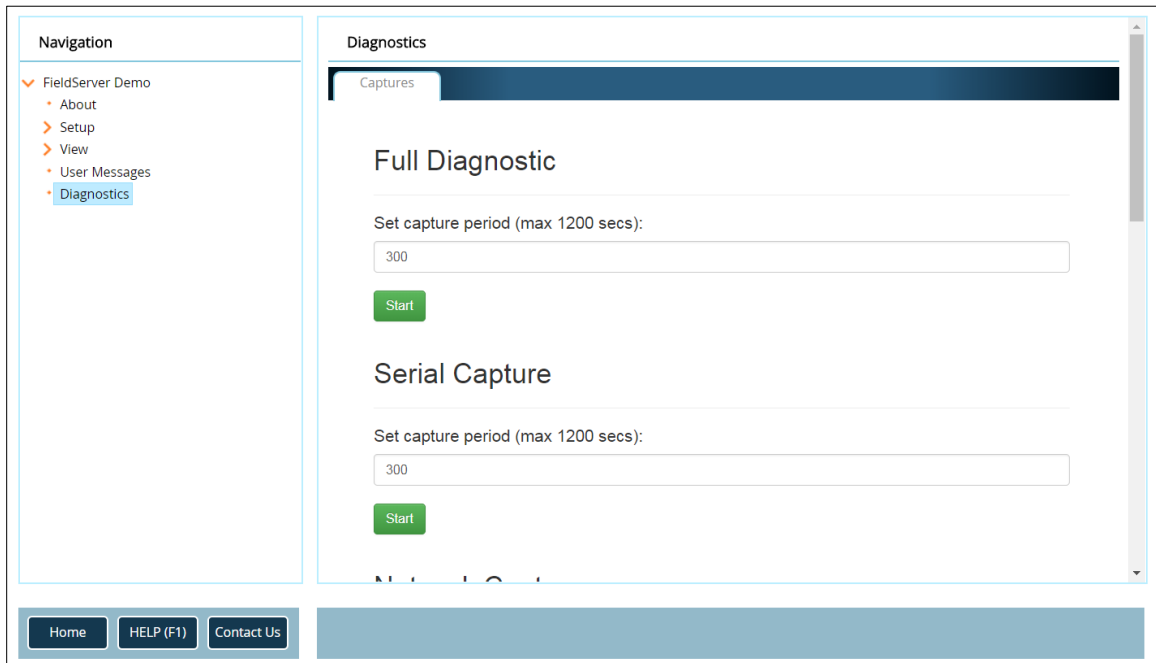
Figure 39: Diagnostic LEDs

Appendix A.5. Take a FieldServer Diagnostic Capture

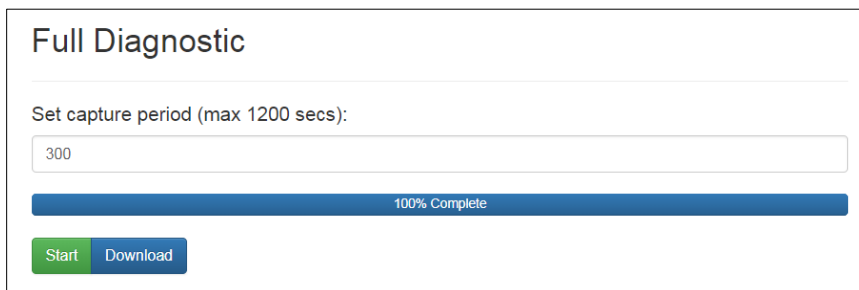
When there is a problem on-site that cannot easily be resolved, perform a Diagnostic Capture before contacting support. Once the Diagnostic Capture is complete, email it to technical support. The Diagnostic Capture will accelerate diagnosis of the problem.

If the FieldServer bios is updated/released on November 2017 or later then the Diagnostic Capture is performed via the gateway's on-board system.

- Access the FieldServer Diagnostics page via one of the following methods:
 - Open the FieldServer FS-GUI page and click on Diagnostics in the Navigation panel
 - Open the FieldServer Toolbox software and click the diagnose icon  of the desired device



- Go to Full Diagnostic and select the capture period.
- Click the Start button under the Full Diagnostic heading to start the capture.
 - When the capture period is finished, a Download button will appear next to the Start button



- Click Download for the capture to be downloaded to the local PC.
- Send the diagnostic zip file to technical support.

NOTE: Diagnostic captures of BACnet MS/TP communication are output in a “.PCAP” file extension which is compatible with Wireshark.

Appendix A.5.1. Taking a Capture with Older Firmware

If the FieldServer firmware is from before November 2017, the Diagnostic Capture can be done by downloading the FieldServer Toolbox software but network connections (such as Ethernet and Wi-Fi) cannot be captured (if a network diagnostic is needed take a Wire Shark capture).

Once the Diagnostic Capture is complete, email it to technical support. The Diagnostic Capture will accelerate diagnosis of the problem.

- Ensure that FieldServer Toolbox is loaded onto the local PC. Otherwise, download the FieldServer-Toolbox.zip via the Sierra Monitor website's [Software Downloads](#).
- Extract the executable file and complete the installation.

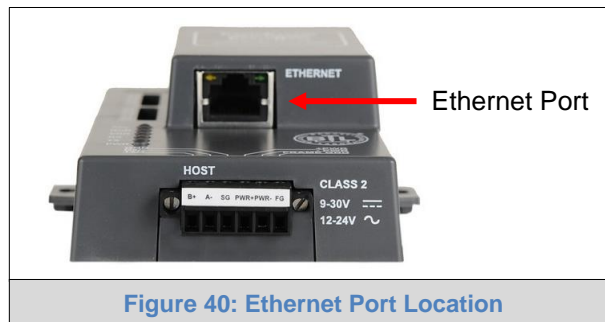

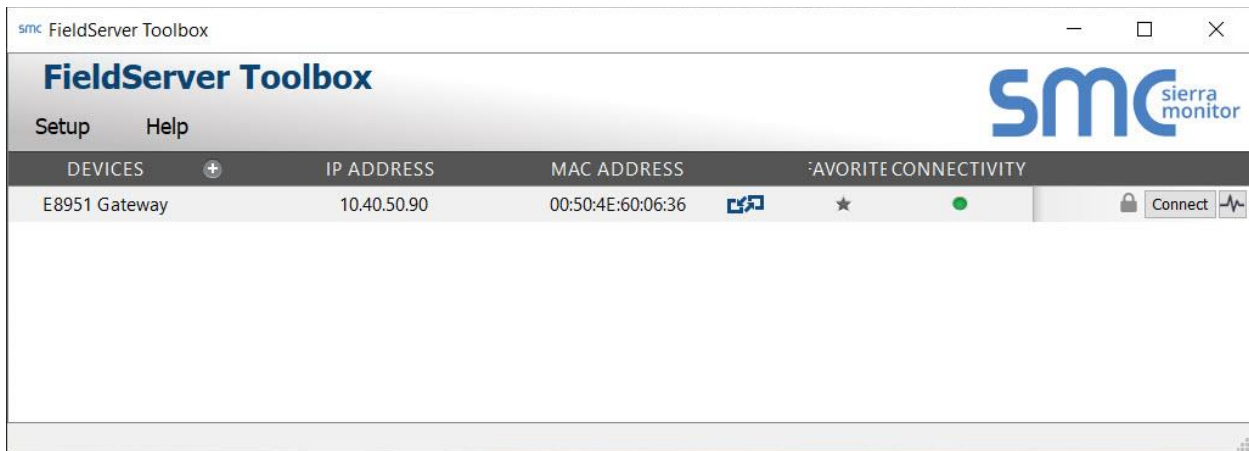


Figure 40: Ethernet Port Location

- Connect a standard Cat-5 Ethernet cable between the PC and ProtoNode.
- Double click on the FS Toolbox Utility.
- **Step 1:** Take a Log
 - Click on the diagnose icon  for the desired device



- o Select "Full Diagnostic" from the drop down menu



NOTE: If desired, the default capture period can be changed.

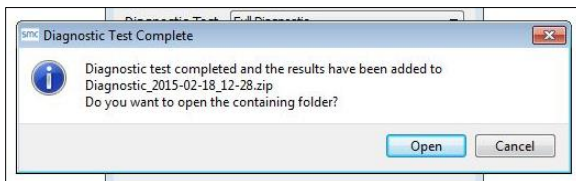
- o Click on the Start Diagnostic button



- o Wait for the capture period to finish and the Diagnostic Test Complete window will appear

• **Step 2: Send Log**

- o Once the diagnostic test is complete, a .zip file is saved on the PC



- o Choose "Open" to launch explorer and have it point directly at the correct folder
- o Send the Diagnostic zip file to technical support



Appendix B. Additional Information

Appendix B.1. Update Firmware

To load a new version of the firmware, follow these instructions:

1. Extract and save the new file onto the local PC.
2. Open a web browser and type the IP Address of the FieldServer in the address bar.
 - o Default IP Address is 192.168.1.24
 - o Use the FS Toolbox utility if the IP Address is unknown ([Appendix A.1](#))
3. Click on the “Diagnostics & Debugging” button.
4. In the Navigation Tree on the left hand side, do the following:
 - a. Click on “Setup”
 - b. Click on “File Transfer”
 - c. Click on the “General” tab
5. In the General tab, click on “Choose Files” and select the web.img file extracted in step 1.
6. Click on the orange “Submit” button.
7. When the download is complete, click on the “System Restart” button.

Appendix B.2. BACnet: Setting Network_Number for More Than One ProtoNode on the Subnet

For both BACnet MS/TP and BACnet/IP, if more than one ProtoNode is connected to the same subnet, they must be assigned unique Network_Number values.

On the main Web Configuration screen, update the BACnet Network Number field and click submit. The default value is 50.

network_nr	<p>BACnet Network Number This sets the BACnet network number of the Gateway. <i>(1 - 65535)</i></p>	<input type="text" value="50"/>	<input type="button" value="Submit"/>
------------	--	---------------------------------	---------------------------------------

Figure 41: Web Configurator – Network Number Field

Appendix B.3. Internet Browser Software Support

The following web browsers are supported:

- Chrome Rev. 57 and higher
- Firefox Rev. 35 and higher
- Microsoft Edge Rev. 41 and higher
- Safari Rev. 3 and higher

NOTE: Internet Explorer is no longer supported as recommended by Microsoft.

NOTE: Computer and network firewalls must be opened for Port 80 to allow FieldServer GUI to function.

Appendix B.4. Change Web Server Security Settings After Initial Setup

NOTE: Any changes will require a FieldServer reboot to take effect.

- From the FS-GUI page, click Setup in the Navigation panel.

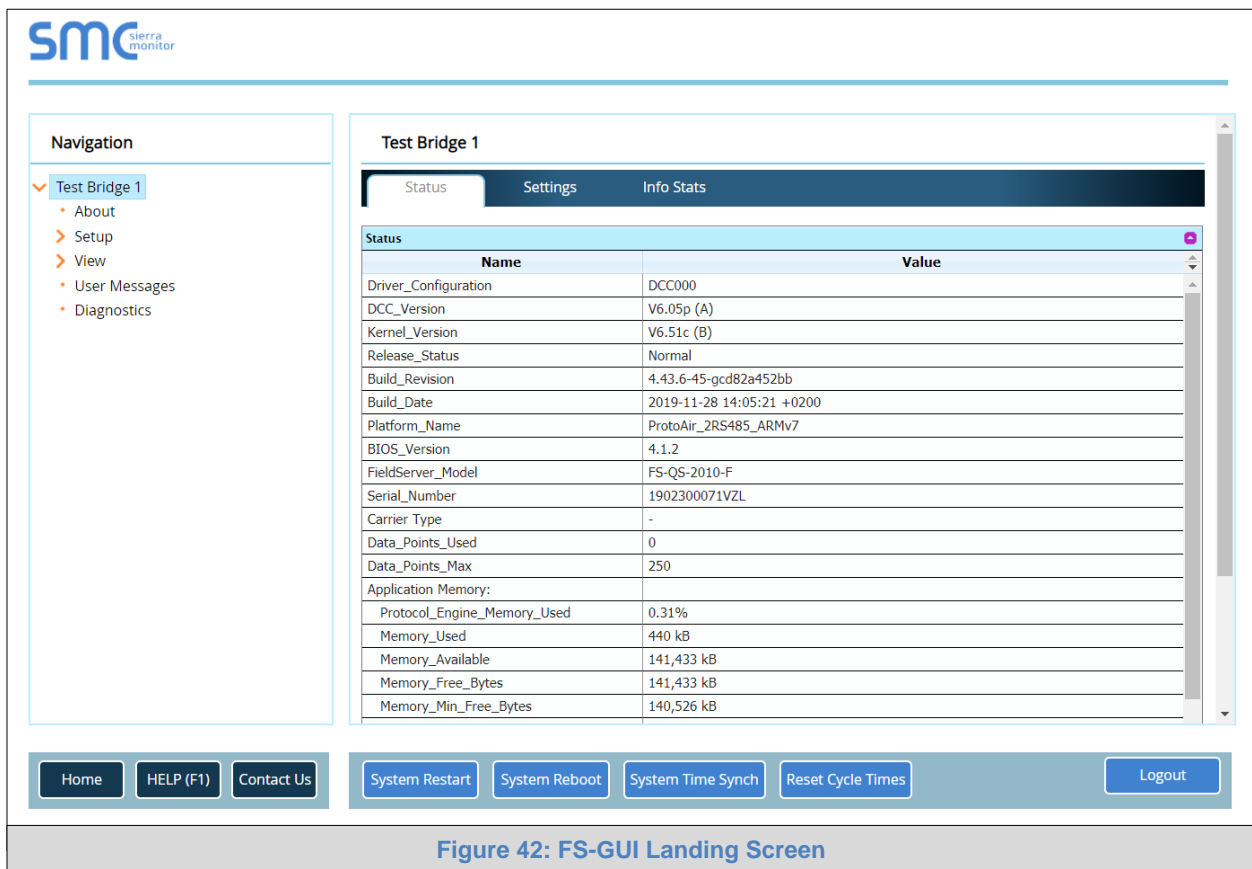


Figure 42: FS-GUI Landing Screen

Appendix B.4.1. Change Security Mode

- Click Security in the Navigation panel.

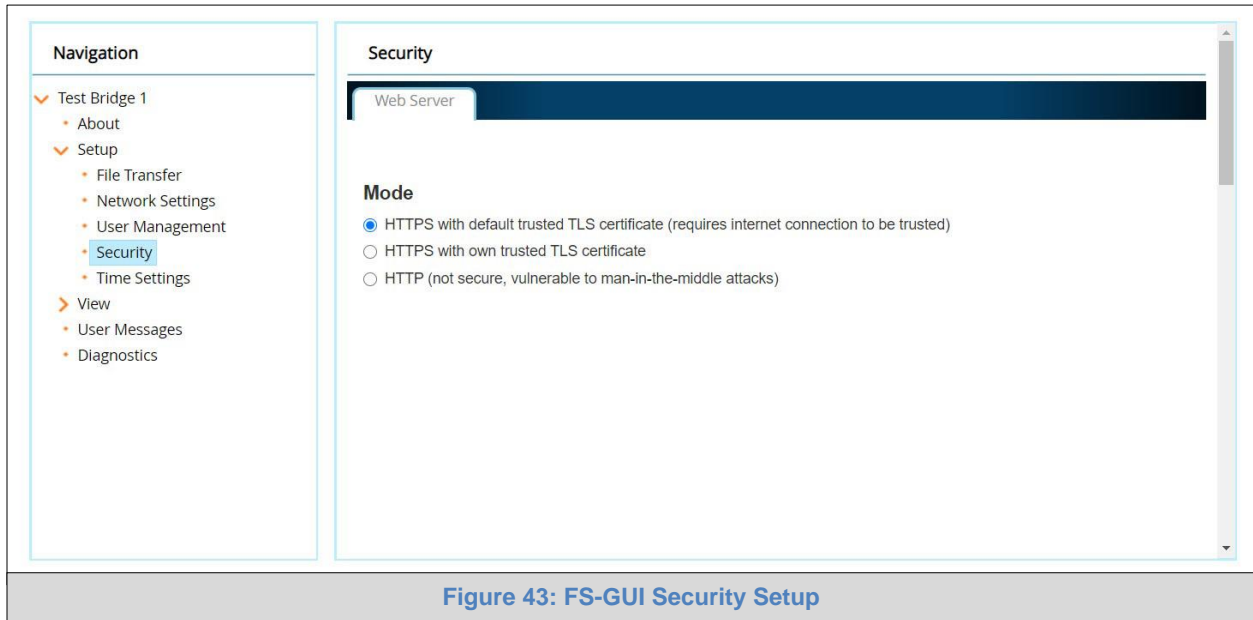


Figure 43: FS-GUI Security Setup

- Click the Mode desired.
 - If HTTPS with own trusted TLS certificate is selected, follow instructions in **Section 6.2.1**
- Click the Save button.

Appendix B.4.2. Edit the Certificate Loaded onto the FieldServer

NOTE: A loaded certificate will only be available if the security mode was previously setup as HTTPS with own trusted TLS certificate.

- Click Security in the Navigation panel.

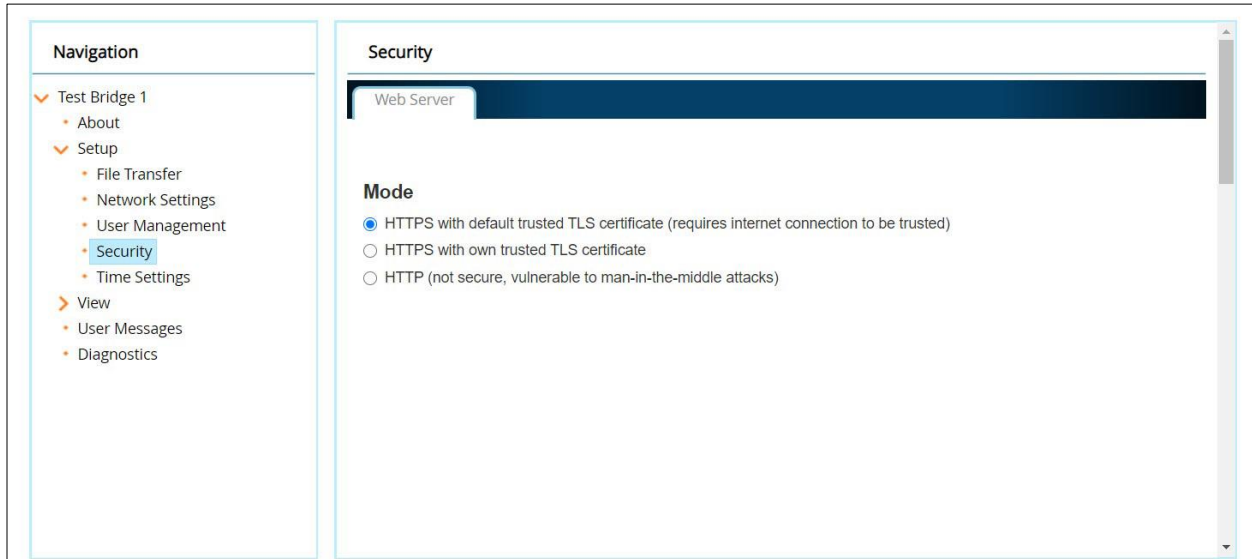


Figure 44: FS-GUI Security Setup – Certificate Loaded

- Click the Edit Certificate button to open the certificate and key fields.
- Edit the loaded certificate or key text as needed.
- Click Save.

Appendix B.5. Change User Management Settings

- From the FS-GUI page, click Setup in the Navigation panel.
- Click User Management in the navigation panel.

NOTE: If the passwords are lost, the unit can be reset to factory settings to reinstate the default unique password on the label. For ProtoNode, ProtoCessor or ProtoCarrier recovery instructions, see the [FieldServer Recovery Instructions document](#). For ProtoNode FPC-N54 or ProtoAir recovery instructions, see the [FieldServer Next Gen Recovery document](#). If the default unique password is lost, then the unit must be mailed back to the factory.

NOTE: Any changes will require a FieldServer reboot to take effect.

Appendix B.5.1. User Management

- Check that the Users tab is selected.

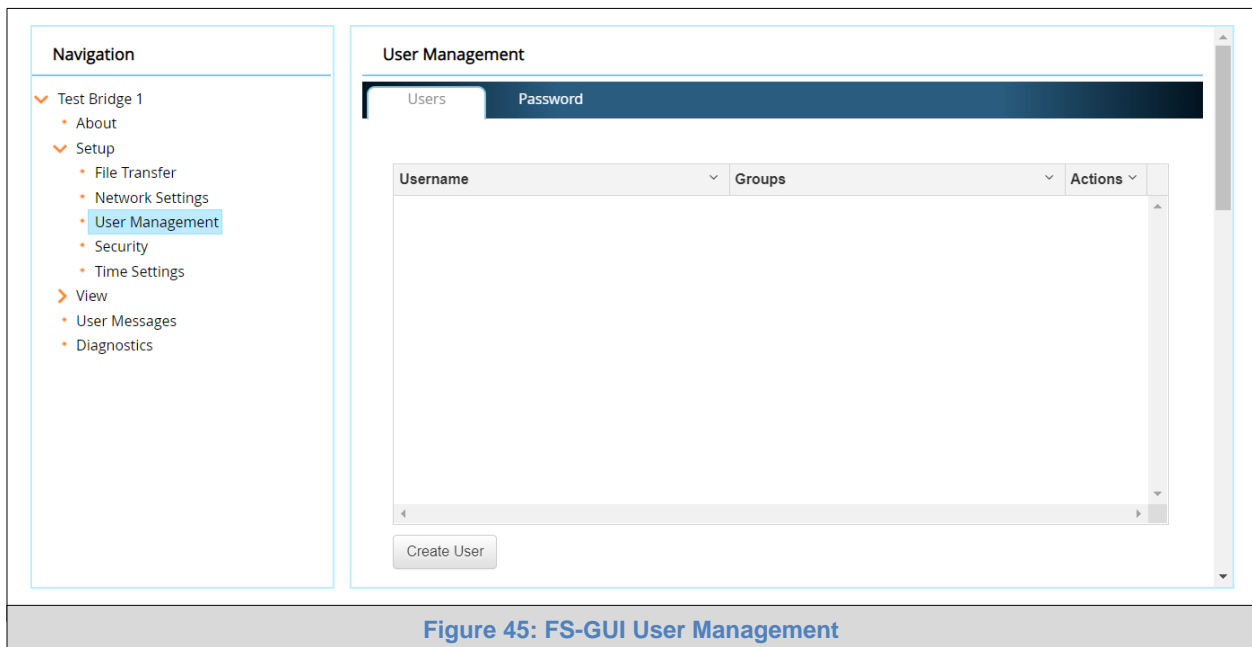


Figure 45: FS-GUI User Management

User Types:

Admin – Can modify and view any settings on the FieldServer.

Operator – Can modify and view any data in the FieldServer array(s).

Viewer – Can only view settings/readings on the FieldServer.

Appendix B.5.1.1. Create Users

- Click the Create User button.

Figure 46: Create User Window

- Enter the new User fields: Name, Security Group and Password.
 - **User details are hashed and salted**

NOTE: The password must meet the minimum complexity requirements. An algorithm automatically checks the password entered and notes the level of strength on the top right of the Password text field.

- Click the Create button.
- Once the Success message appears, click OK.

Appendix B.5.1.2. Edit Users

- Click the pencil icon next to the desired user to open the User Edit window.

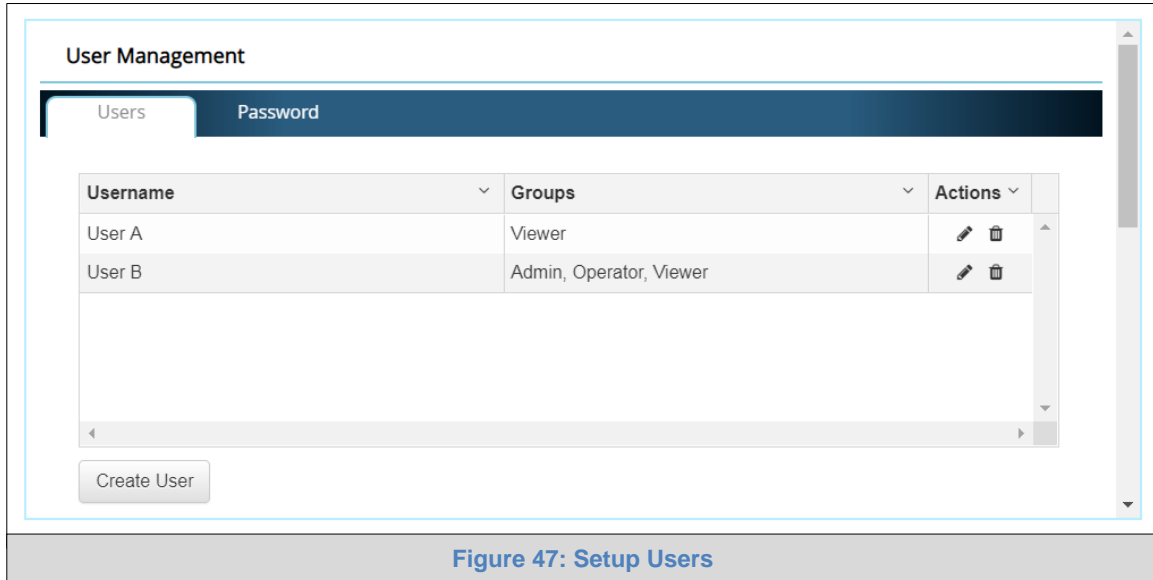


Figure 47: Setup Users

- Once the User Edit window opens, change the User Security Group and Password as needed.

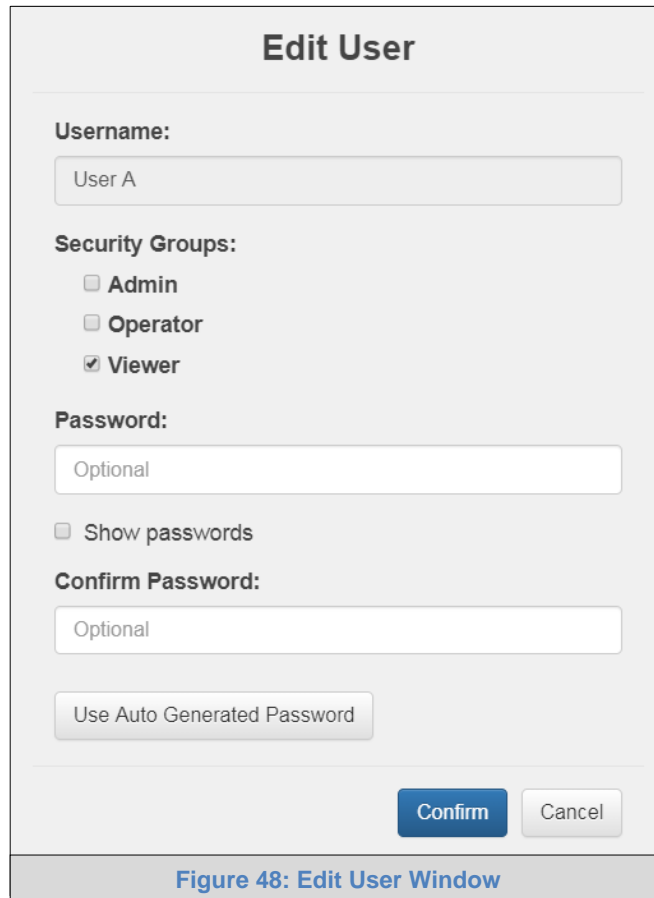


Figure 48: Edit User Window

- Click Confirm.
- Once the Success message appears, click OK.

Appendix B.5.1.3. Delete Users

- Click the trash can icon next to the desired user to delete the entry.

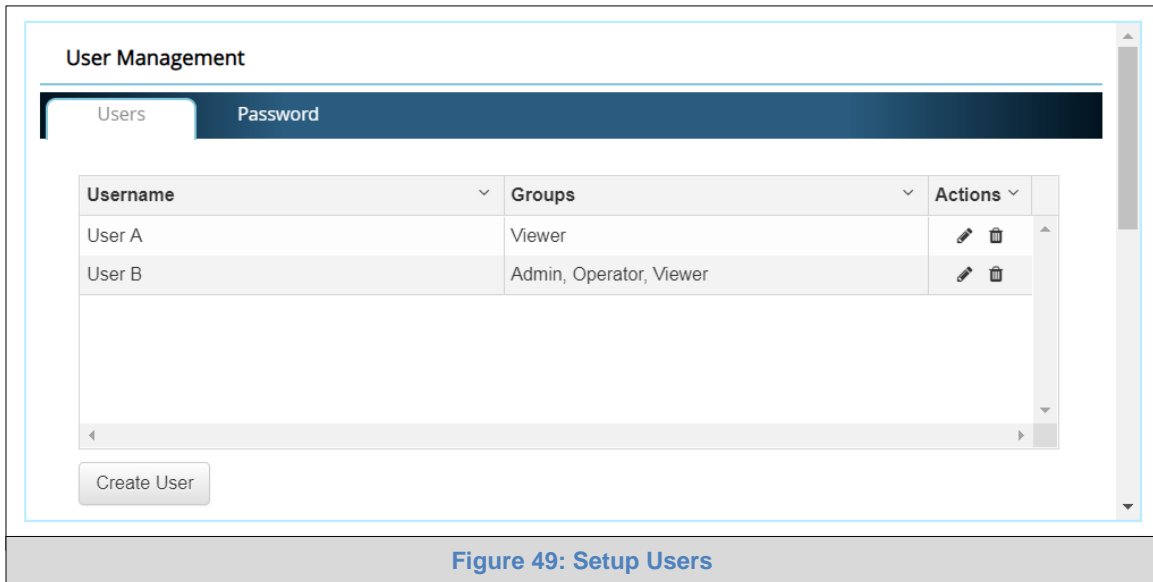


Figure 49: Setup Users

- When the warning message appears, click Confirm.

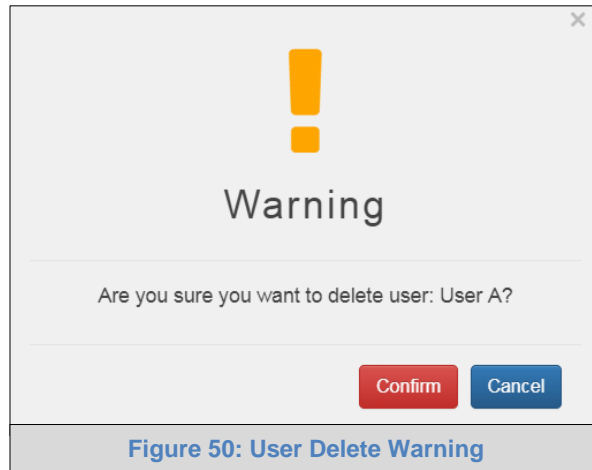


Figure 50: User Delete Warning

Appendix B.5.2. Change FieldServer Password

- Click the Password tab.

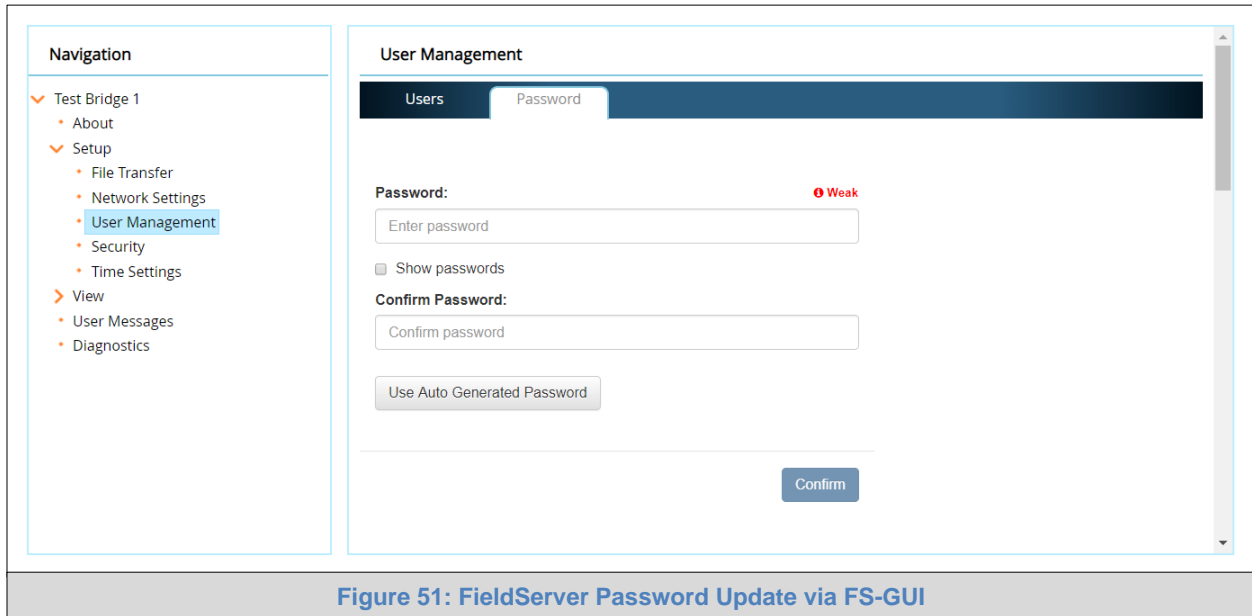


Figure 51: FieldServer Password Update via FS-GUI

- Change the general login password for the FieldServer as needed.

NOTE: The password must meet the minimum complexity requirements. An algorithm automatically checks the password entered and notes the level of strength on the top right of the Password text field.

NOTE: If a gateway in the field is updated to a secure gateway, the password will change to “admin”. This change will still occur if the gateway was already setup with a unique password that was loaded in the factory and printed on the label.7

Appendix C. Vendor Information – Weil-McLain

Find the “Weil-McLain Vendor Mappings” document at www.weil-mclain.com for the complete point list for all the devices referenced in this manual. Only the protocols listed as supported for this FieldServer are supported (see **Section 2.1**). Ignore all points referring to unsupported protocols when using this FieldServer.

Appendix D. "A" Bank DIP Switch Settings

Appendix D.1. "A" Bank DIP Switch Settings

Address	A0	A1	A2	A3	A4	A5	A6	A7
1	On	Off	Off	Off	Off	Off	Off	Off
2	Off	On	Off	Off	Off	Off	Off	Off
3	On	On	Off	Off	Off	Off	Off	Off
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253	On	Off	On	On	On	On	On	On
254	Off	On	On	On	On	On	On	On
255	On	On	On	On	On	On	On	On

Appendix E. Reference

Appendix E.1. Specifications



	ProtoNode FPC-N34	ProtoNode FPC-N35
Electrical Connections	One 6-pin Phoenix connector with: RS-485 port (+ / - / gnd) Power port (+ / - / Frame-gnd) One 3-pin Phoenix connector with RS-485 port (+ / - / gnd) One Ethernet 10/100 BaseT port	One 6-pin Phoenix connector with: RS-485 port (+ / - / gnd) Power port (+ / - / Frame-gnd) One 2-pin Phoenix connector with: One FTT-10 LonWorks port One Ethernet 10/100 BaseT port
Approvals	CE certified; UL 916 approved; WEEE compliant; REACH compliant; EN 50491-3 and CSA C22-2 standards; FCC Class A Part 15; DNP 3.0 conformance tested; RoHS 3 compliant; CSA 205 approved	
	BTL Marked	LonMark Certified
Power Requirements	9-30VDC or 12-24VAC	
Physical Dimensions	11.5 cm L x 8.3 cm W x 4.1 cm H (4.5 x 3.2 x 1.6 in.)	
Weight	0.2 kg (0.4 lbs)	
Operating Temperature	-40°C to 75°C (-40°F to 167°F)	
Surge Suppression	EN61000-4-2 ESD EN61000-4-3 EMC EN61000-4-4 EFT	
Humidity	5-90% RH (non-condensing)	
(Specifications subject to change without notice)		
Figure 52: Specifications		

Appendix E.1.1. Compliance with UL Regulations

For UL compliance, the following instructions must be met when operating ProtoNode.

- The units shall be powered by listed LPS or Class 2 power supply suited to the expected operating temperature range.
- The interconnecting power connector and power cable shall:
 - Comply with local electrical code
 - Be suited to the expected operating temperature range
 - Meet the current and voltage rating for ProtoNode
- Furthermore, the interconnecting power cable shall:
 - Be of length not exceeding 3.05m (118.3")
 - Be constructed of materials rated VW-1, FT-1 or better
- If the unit is to be installed in an operating environment with a temperature above 65 °C, it should be installed in a Restricted Access Area requiring a key or a special tool to gain access.
- This device must not be connected to a LAN segment with outdoor wiring.

Appendix F. Limited 2 Year Warranty

MSA Safety warrants its products to be free from defects in workmanship or material under normal use and service for two years after date of shipment. MSA Safety will repair or replace any equipment found to be defective during the warranty period. Final determination of the nature and responsibility for defective or damaged equipment will be made by MSA Safety personnel.

All warranties hereunder are contingent upon proper use in the application for which the product was intended and do not cover products which have been modified or repaired without MSA Safety's approval or which have been subjected to accident, improper maintenance, installation or application, or on which original identification marks have been removed or altered. This Limited Warranty also will not apply to interconnecting cables or wires, consumables or to any damage resulting from battery leakage.

In all cases MSA Safety's responsibility and liability under this warranty shall be limited to the cost of the equipment. The purchaser must obtain shipping instructions for the prepaid return of any item under this warranty provision and compliance with such instruction shall be a condition of this warranty.

Except for the express warranty stated above, MSA Safety disclaims all warranties with regard to the products sold hereunder including all implied warranties of merchantability and fitness and the express warranties stated herein are in lieu of all obligations or liabilities on the part of MSA Safety for damages including, but not limited to, consequential damages arising out of/or in connection with the use or performance of the product.