



Building Automation, Inc.



Hubbell Building Automation #LXBASM

ProtoNode LER Startup Guide

For Interfacing Customer Product: Hubbell Automation LX Lighting Control Panels

To Building Automation Systems: BACnet MS/TP, BACnet/IP, Modbus RTU, Modbus TCP, and Metasys N2 Open

APPLICABILITY & EFFECTIVITY

Explains the ProtoNode LER hardware and how to install it.
The instructions are effective for the above as of September 2012

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1 INTRODUCTION

The ProtoNode is an external, high performance **Building Automation multi-protocol gateway** that is configured to automatically communicate between Hubbell Automation's LX Lighting Control Panel devices to BACnet MS/TP, BACnet/IP, Modbus RTU, Modbus TCP, and Metasys N2 Open.

Through the ProtoNode Web GUI Configurator, the user can select automatically which HBA-LX device re connected to the ProtoNode and set the BACnet MS/TP, BACnet IP or LonWorks Node-ID for each these products. Once the Hubbell products are selected, the ProtoNode Automatically builds and downloads the Configuration for the specific application.

This document provides the necessary information to facilitate installation of the ProtoNode.

1.1 BTL Mark – BACnet Testing Laboratory



The BTL Mark on the ProtoNode RER 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 <http://www.bacnetinternational.net/btl/> for more information about the BACnet Testing Laboratory.

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. FieldServer Technologies 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.

2 PROTONODE SETUP

2.1 Summary of Installation steps for the customer

1. Record the information about the unit. (See Section 2.2)
2. Connect the ProtoNode LonWorks FTT-10 2 pin connector to Hubbell Automation's LX Lighting Control Panel's FTT-10 2 wire connector, See Section 2.3
3. To support BACnet MS/TP, Modbus RTU or Metasys N2 connect the ProtoNode's RS-485 port to the RS-485 Field Protocol cabling. See Section 2.4
4. Power the ProtoNode. See Section 2.5
5. Use Hubbell LX Web configurator in the ProtoNode to discover and configure the LX panel to support the required protocols. See Section 3
6. To support BACnet/IP or Modbus TCP set IP address via Web GUI. See Section 4

2.2 Record Identification Data

Each ProtoNode has a unique part number located on the underside of the unit. The numbers are as follows:

- ProtoNode Master: FPC-N35-406-122-0745 – Supports LX Lighting Control Panels to BACnet MS/TP, BACnet/IP, Modbus RTU, Modbus TCP, and Metasys N2 Open
- ProtoNode Slave: FPC-N35-406-401-0750 – Supports Lighting Control Panels to LonWorks.
 - Note to Support LonWorks require 1 ProtoNode Master: FPC-N35-406-122-0745 and 1 ProtoNode Slave: FPC-N35-406-401-0750.

These numbers should be recorded, as it may be required for technical support.

2.3 Wiring the ProtoNode LER LonWorks FTT-10 cable to HBA-LX FTT-10 network

- Connect the ProtoNode's 2 wire FTT-10 connector to the HBA-LX 2 wire FTT-10 LonWorks terminal using a twisted pair non-shielded cable. LonWorks has no polarity.



2.4 Wiring RS-485 BACnet MS/TP, Modbus RTU or Metasys N2 to the ProtoNode LER

- Connect the BMS RS-485 field protocol to the ProtoNode 6 Pin connector. See Figure 1

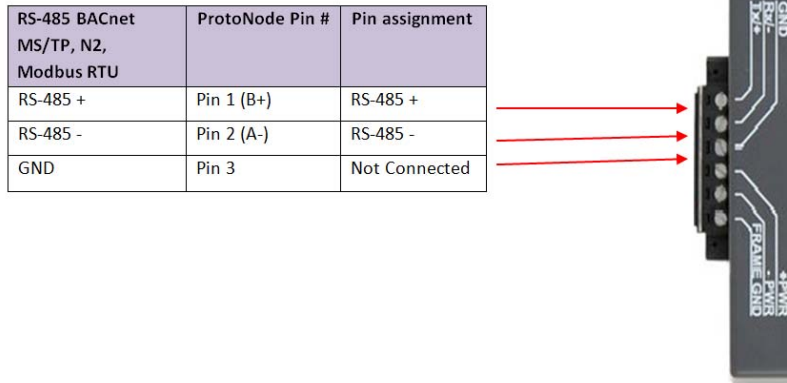


Figure 1: RS-485 BMS connections to the ProtoNode

2.5 Power-Up the ProtoNode LER

Apply power to the ProtoNode. Ensure that the power supply used complies with the specifications provided in Appendix B.1. Ensure that the cable is grounded using the “Frame-GND” terminal. The ProtoNode is factory set to accept both 9-30VDC and 12-24 VAC.

Voltage Pin outs

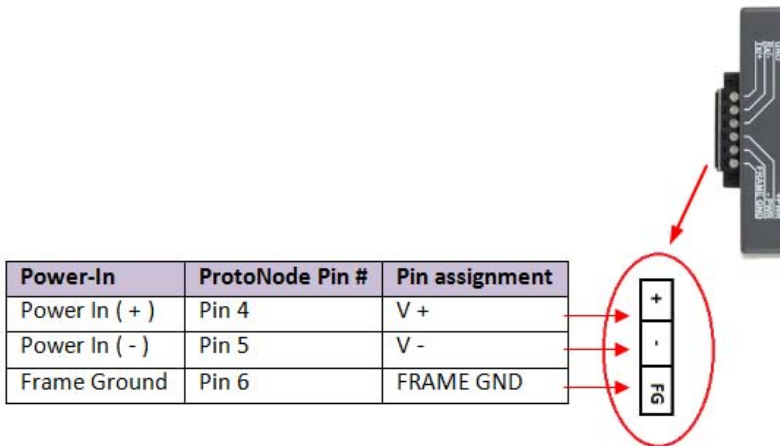


Figure 2: Power connections to the ProtoNode

3 THE HBA-LX NETWORK GUI CONFIGURATOR

This section describes how to connect the ProtoNode to HBA-LX Network and configure the LX Panel to support the various protocols.

Steps to Configure LX Web Configurator:

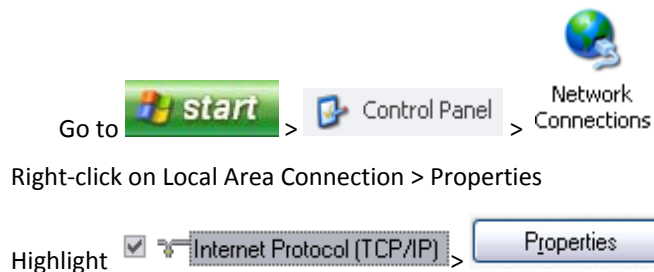
- Connect to LX Web Configurator via a PC and a browser. See Section 3.1
- Discover HBA-LX Network Devices and Points. See Section 3.2
- Select the Devices and Points which will appear on the left hand side of the LX Configurator. See Section 3.3
- Save HBA-LX Network devices and points selected.
- Select the desired BMS protocol supported and settings.
- Create the BMS Server
- Generate and save recently create points list for the BMS integrator. See Section 3.5

3.1 Connect the PC to the ProtoNode via the Ethernet port

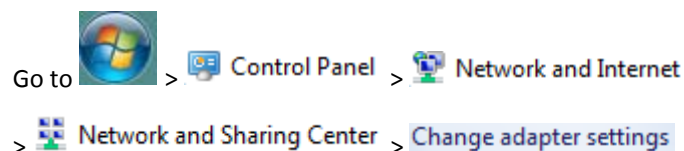


Figure 3: Ethernet port location of ProtoNode

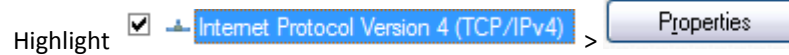
- Connect a standard cat5 Ethernet cable between the PC and ProtoNode
- The Default IP Address of the ProtoNode is **192.168.1.24**, Subnet Mask is **255.255.255.0**. If the PC and the ProtoNode are on different IP Networks, assign a static IP Address to the PC on the 192.168.1.xxx network
- For Windows XP:



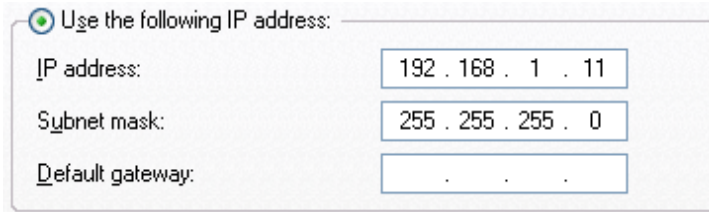
- For Windows 7:

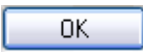


Right-click on Local Area Connection > Properties



- For Windows XP and Windows 7, select: Use the following IP address

A screenshot of the 'Use the following IP address' dialog box. The 'Use the following IP address' radio button is selected. The IP address field contains '192 . 168 . 1 . 11'. The Subnet mask field contains '255 . 255 . 255 . 0'. The Default gateway field contains '. . .'. There are 'OK' and 'Cancel' buttons at the bottom.

- Click  twice
- Open a web browser and go to the following address: IP address of ProtoCessor 192.168.1.24 to connect to the ProtoNode LX Configurator.

3.2 Discover HBA-LX Network

Once the PC is connected to the ProtoNode, you will see the un-configured BMS Interface page. At first start up, no points are defined, and the interface block will be empty. Once the ProtoNode is configured, the points available to the BMS will be shown.

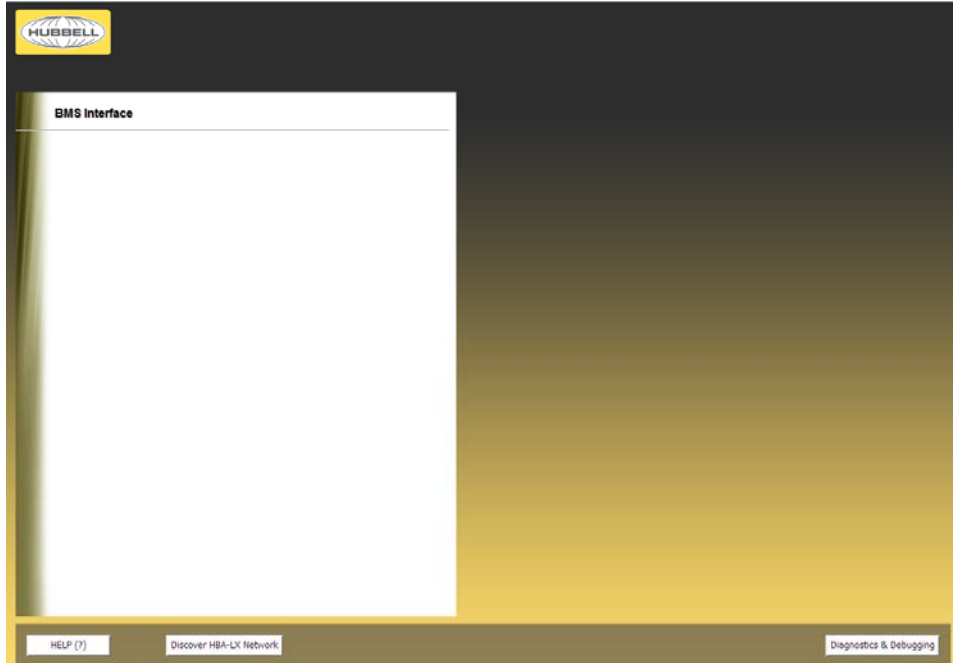


Figure 4: Un-configured BMS Interface page

- Press the Discover HBA-LX Network button to discover the available Network Devices and Points to select from. It may take 2-3 minutes discover all the devices on the HBA-LX Network depending on the size of the network.

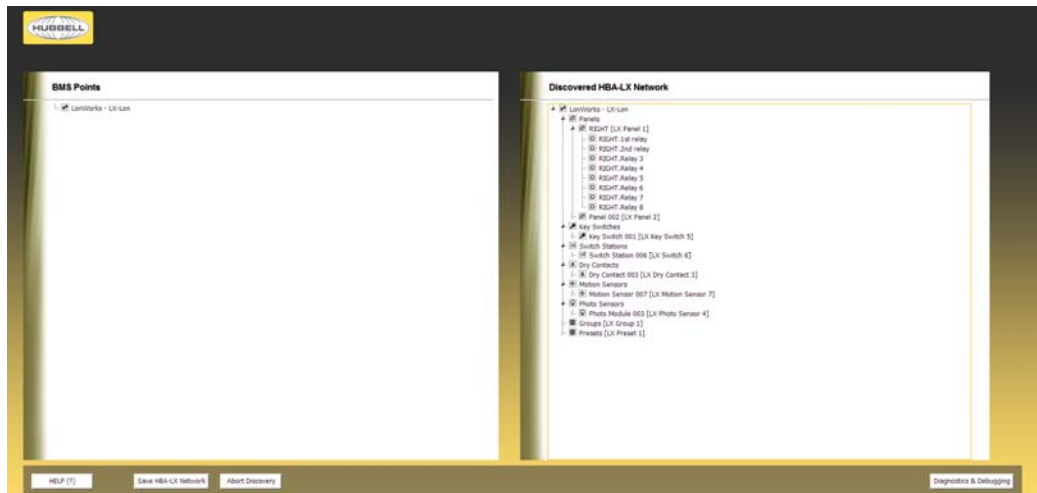


Figure 5: Discovered HBA-LX Network Devices

- Select by double clicking the devices and presets from the Discovered HBA-LX Network on the right hand of the screen that you would like add to the BMS interface.

3.3 Select the Discovered HBA-LX Devices and points for the BMS to server up

The configuration page contains two parts: all devices discovered on the network and points selected for the BMS interface.

The left-hand panel contains the devices selected by the user to be represented on the BMS Interface. It follows the same tree as the discovered devices.

To select a point to be represented, double click on it in the Discovered pane. To deselect it double click on it in the BMS Points pane.

Selection can be done on any tier. If only a single relay is double clicked, only that relay will appear in the BMS Points panel. If the Panel is double clicked, all of its relays will be selected. If the Panels heading is double clicked, all of the panels with all of their relays will be selected.

The points are represented by the point name (if the BMS protocol supports names) and the point's address in square brackets

Add device and groups to the BMS Interface:

- Start to select the devices and groups you want to add to the BMS interface by clicking on the devices in the Discovered HBA-LX Network panel. Once clicked on, they will be added to the BMS Interface section.
- Once all the devices and Presets have been added to BMS Interphase, press the Save HBA-LX Network button.
 - The top tier contains device groups, ie all relay panels are grouped together, all switch stations are grouped together etc.
 - The second tier contains individual devices. The name of each device along with its type and address on the LX network is displayed.
 - The third tier contains each separate point on each device. Each relay will be listed separately under its panel etc. Each of these points on the third tier can become a BMS interface point.

- The exceptions to the above 3 tier system are the Groups and Presets. These are only 2 tiers. The points are listed in the second tier.

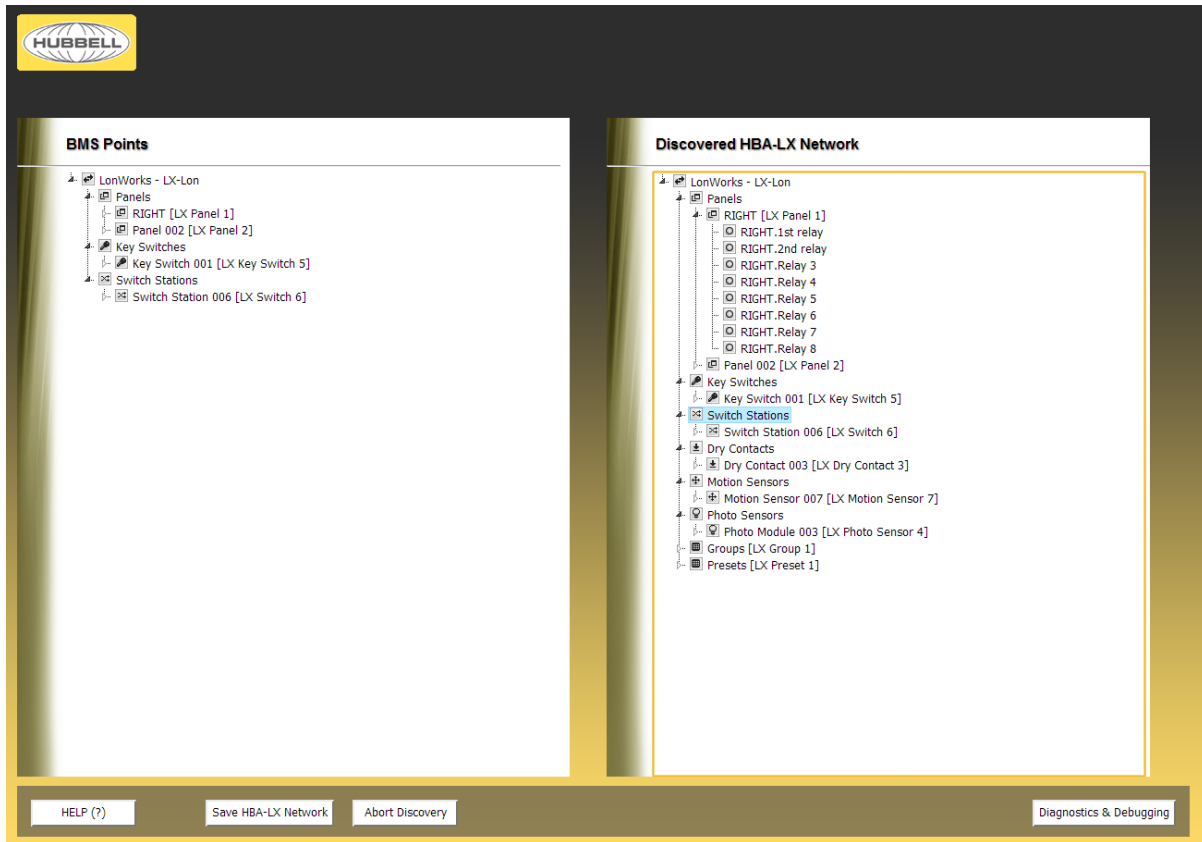


Figure 6: Selected Devices and Presets for BMS Interface

3.4 BMS Interface Settings Dialog Box

The BMS Interface Settings dialog allows the user to choose the protocol of the BMS and do protocol specific setup of the connection.

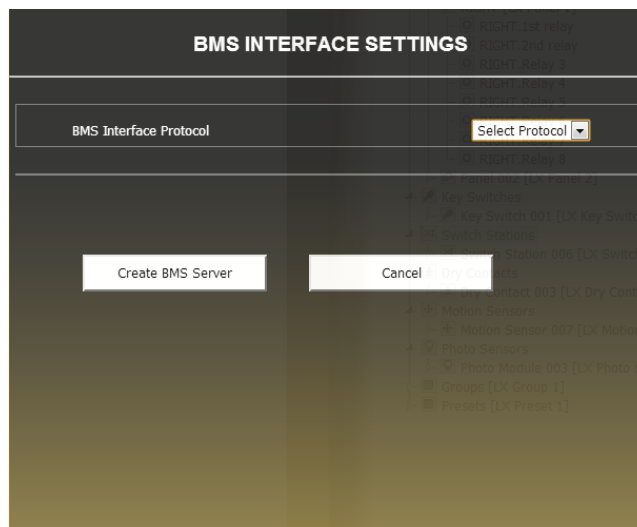


Figure 7: BMS Interface Settings

- Supported protocols to select from:
 - BACnet/IP: The BACnet IP form allows the user to change the Device Instance, the Device Name and the IP Port of the connection.
 - BACnet MS/TP: The BACnet MS/TP form allows the user to change the change the Device Instance, the Device Name, the MS/TP MAC address and the BAUD rate of the connection. All relays, groups and presets will be mapped to Binary Values and all inputs to Binary Inputs.
 - Modbus RTU: The MODBUS RTU form allows the user to select the Node address of the MODBUS device as well as the BAUD Rate of the connection. All relays, groups and presets will be mapped to Coil values and all inputs to Digital Inputs.
 - Modbus TCP: The MODBUS TCP form allows the user to change the Node address of the MODBUS device. All relays, groups and presets will be mapped to Coil values and all inputs to Digital Inputs.
 - Metasys N2: The Metasys N2 form allows the user to change the Node address of the N2 device. All relays, groups and presets will be mapped to Digital_Outputs values and all inputs to Digital_Inputs. Note: The Metasys protocol only allows for 256 inputs and 256 outputs.

The screenshot shows a dark-themed GUI window titled "BMS INTERFACE SETTINGS". At the top right, there is a faint watermark "© 2014 ProtoCessor, Inc.". The main content area includes a dropdown menu labeled "BMS Interface Protocol" with "BACnet MSTP" selected. Below this are three input fields: "Device Instance", "Device Name", and "MAC Address". At the bottom of the window, there are two buttons: "Create BMS Server" and "Cancel".

Figure 8: Sample BMS Interface Settings GUI window

- Once the Settings have been entered Press the “Create MS Server” button to create the BMS Server: This will use the entered settings to set up a connection and configure all the selected points to be served as points on the BMS interface.

3.5 Generate Points List For BMS Integrator

The BMS Integrator will need to be given the Points List for the LX Network that was just configured on the ProtoNode.

- The generated points list is an HTM file that can be saved or copied as a text file and distributed to the BMS design team.
- It contains descriptions on the BMS interface and the BMS Points that are available.

- The points section also includes the LX Device description so that the BMS team can reference lighting design drawings.

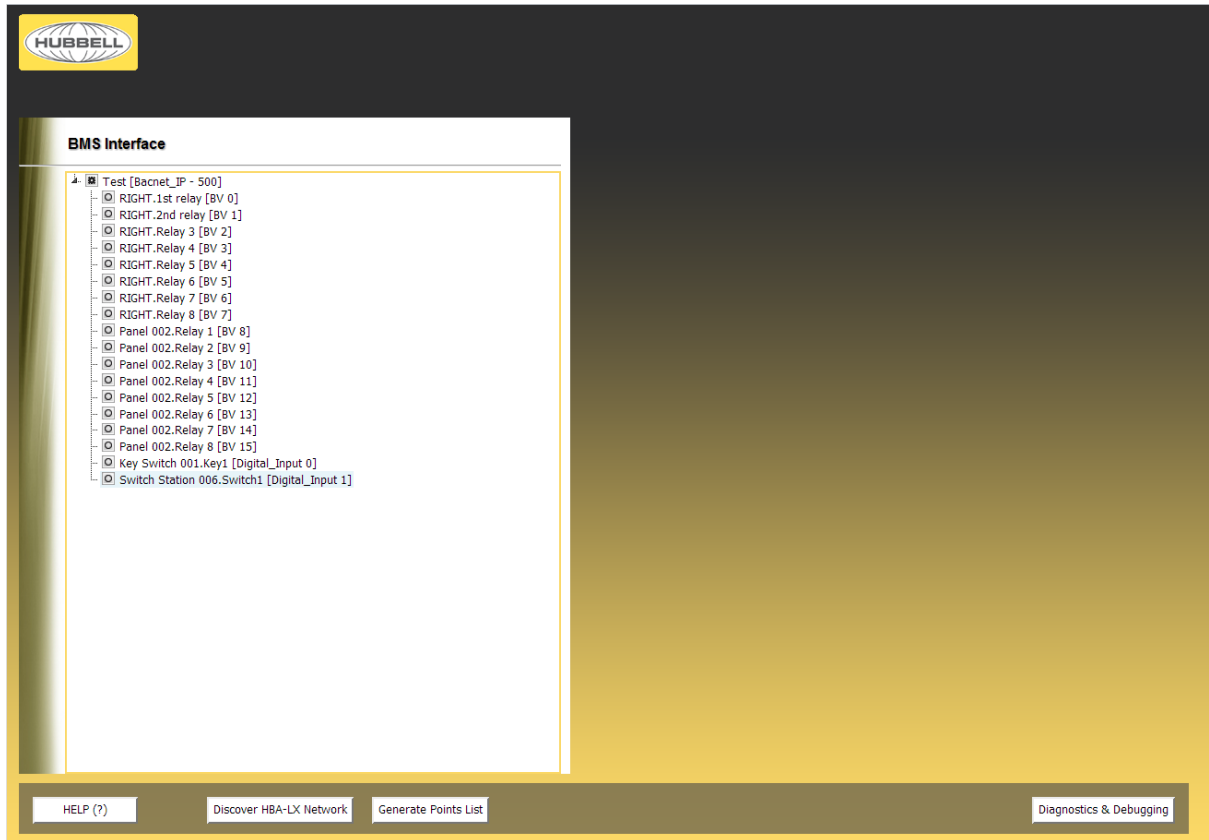


Figure 9: Sample BMS Interface Settings GUI window

How to generate the points list:

- To generate points list, Press the Generate points list Button shown in Figure 9.
- Once the points are shown on the screen, go to File and Save to save the Points list. Refer to Figure 10

Hubbell LX Lighting Controls

Points List

Hints:

- Select all content, copy and past into spreadsheet.
- Right click and click "Save As" once points list is complete.

BMS Device Interface

Device Name	Protocol	Address
Test	Bacnet_IP	500

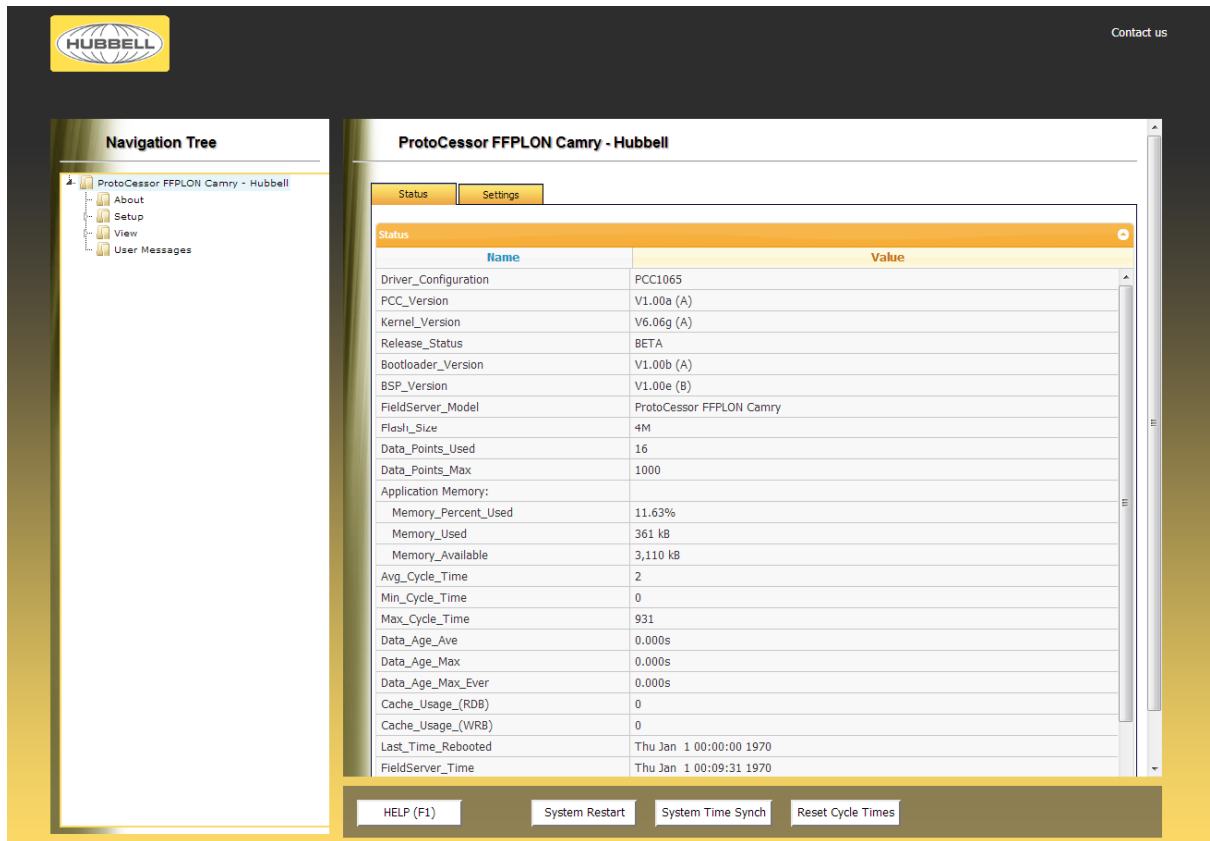
BMS Points

Point name	BMS Address	LX Device
RIGHT.1st relay	BV 0	LX Panel 1
RIGHT.2nd relay	BV 1	LX Panel 1
RIGHT.Relay 3	BV 2	LX Panel 1
RIGHT.Relay 4	BV 3	LX Panel 1
RIGHT.Relay 5	BV 4	LX Panel 1
RIGHT.Relay 6	BV 5	LX Panel 1
RIGHT.Relay 7	BV 6	LX Panel 1
RIGHT.Relay 8	BV 7	LX Panel 1
Panel 002.Relay 1	BV 8	LX Panel 2
Panel 002.Relay 2	BV 9	LX Panel 2
Panel 002.Relay 3	BV 10	LX Panel 2
Panel 002.Relay 4	BV 11	LX Panel 2
Panel 002.Relay 5	BV 12	LX Panel 2
Panel 002.Relay 6	BV 13	LX Panel 2
Panel 002.Relay 7	BV 14	LX Panel 2
Panel 002.Relay 8	BV 15	LX Panel 2
Key Switch 001.Key1	Digital_Input 0	LX Key Switch 5
Switch Station 006.Switch1	Digital_Input 1	LX Switch 6

Figure 10: Sample points list generated

4 SET THE IP ADDRESS FOR BACNET/IP OR MODBUS TCP

- From the BMS Interface page, click on Diagnostic and Debugging button (see Figure 9) to access the Diagnostic and Debugging Screen.



The screenshot displays the diagnostic interface for a ProtoCessor FFPLON Camry. On the left is a navigation tree with options: About, Setup, View, and User Messages. The main area shows a 'Status' tab with a table of system parameters. At the bottom, there are buttons for 'HELP (F1)', 'System Restart', 'System Time Synch', and 'Reset Cycle Times'.

Name	Value
Driver_Configuration	PCC1065
PCC_Version	V1.00a (A)
Kernel_Version	V6.06g (A)
Release_Status	BETA
Bootloader_Version	V1.00b (A)
BSP_Version	V1.00e (B)
FieldServer_Model	ProtoCessor FFPLON Camry
Flash_Size	4M
Data_Points_Used	16
Data_Points_Max	1000
Application Memory:	
Memory_Percent_Used	11.63%
Memory_Used	361 kB
Memory_Available	3,110 kB
Avg_Cycle_Time	2
Min_Cycle_Time	0
Max_Cycle_Time	931
Data_Age_Ave	0.000s
Data_Age_Max	0.000s
Data_Age_Max_Ever	0.000s
Cache_Usage_(RDB)	0
Cache_Usage_(WRB)	0
Last_Time_Rebooted	Thu Jan 1 00:00:00 1970
FieldServer_Time	Thu Jan 1 00:09:31 1970

Figure 11: Diagnostic and Debugging GUI page

- From the Diagnostic and Debugging GUI page, click on setup and then Network Settings to enter the Edit IP Address Settings menu. See Figure 12

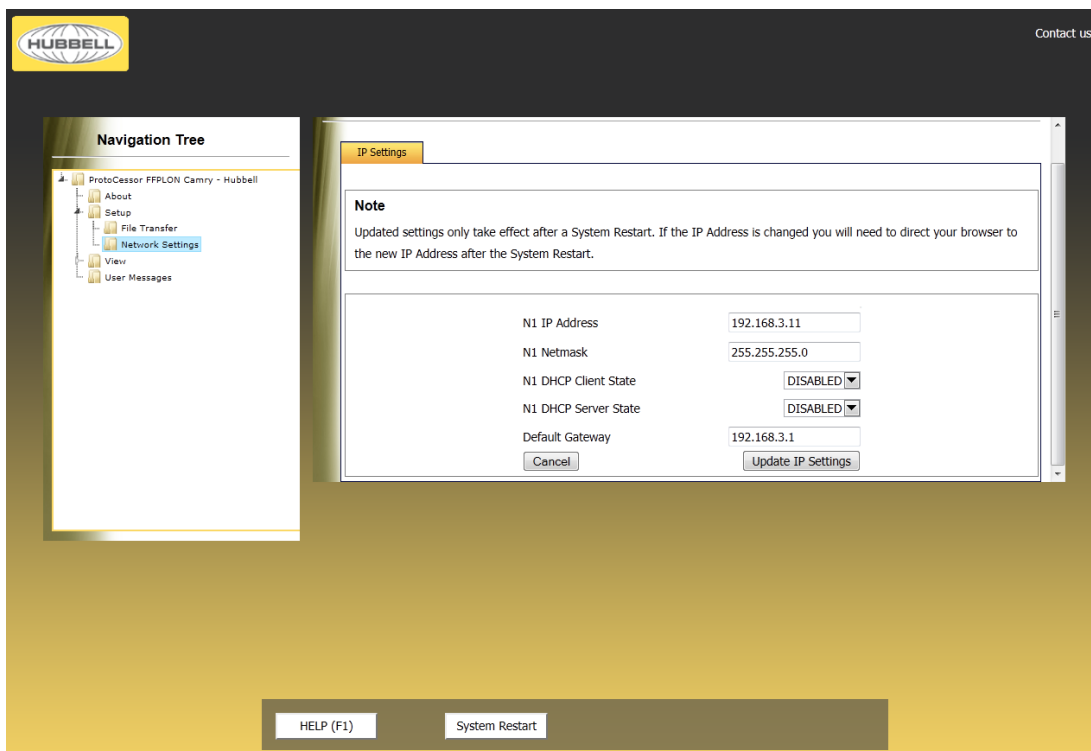


Figure 12: IP Setting GUI page

- Modify the IP address (N1 IP address field) of the ProtoNode Ethernet port.
- If necessary, change the Netmask
- If necessary, Type in a new IP Gateway
- Note: If the ProtoNode is connected to a router, the IP Gateway of the ProtoNode should be set to the IP address of the router that it is connected to
- Reset ProtoNode
- **Unplug Ethernet cable from PC and connect it to the network hub or router**

5 CHIPKIN AUTOMATION’S CAS BACNET EXPLORER FOR VALIDATING THE PROTONODE IN THE FIELD ON A BACNET MS/TP OR BACNET IP NETWORK

Chipkin Automation has extended to Hubbell and their customers a free complementary 2 week fully functional copy of CAS BACnet Explorer that can be used to validate BACnet MS/TP and/or BACnet/IP communications of the ProtoNode in the field without having to have the BMS Integrator on site. A Serial or USB to RS-485 converter is needed to test BACnet MS/TP.

5.1 Downloading Chipkin Automation’s CAS Explorer and Requesting an Activation Key

- To request a 2 week complementary BACnet CAS key, go to <http://app.chipkin.com/activation/twoweek/> and fill in all the information. Enter Vendor Code “Hubbell12”. Once completed, the key will be sent to the email address that was submitted. From this email from Chipkin Automation, the long key will need to be copied and pasted into the CAS key activation page.

Request a two week account activation

You have two choices

1. Activate your account for two weeks

To request a two week account activation, simply complete this form and request a new product key from within the CAS BACnet Explorer.
 Note: Your contact info will be used by chipkin to contact you. If your contact info is invalid or you are unreachable your account will be revoked.

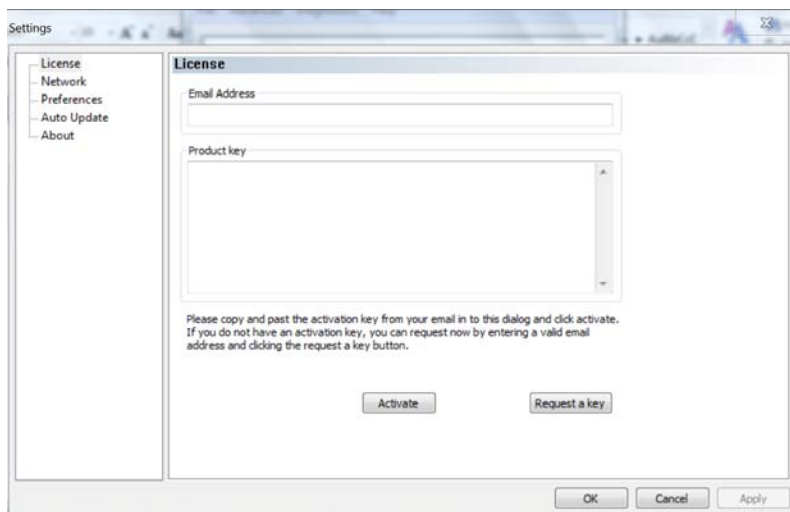
Name:	<input type="text"/>
Company:	<input type="text"/>
Address:	<input type="text"/>
Phone number:	<input type="text"/>
Email Address:	<input type="text"/>
Vendor code:	<input type="text"/>
Product:	CAS BACnet Explorer
	<input type="button" value="Request a two week account"/>

1. Purchase

You can buy the CAS BACnet Explorer to get a full account from If you have one, you can use your discount coupon on the web page. [Visit this page](#)

Feel free to [contact us](#) with any questions you may have.

- Go to Chipkin Automation’s web site, download, and install the CAS BACnet Explorer to your PC <http://www.chipkin.com/technical-resources/cas-bacnet-explorer/>.
- In the CAS Activation form, enter the email address and paste the CAS key that was sent from Chipkin Automation. Once completed, select Activation.



5.2 CAS BACnet Setup

These are the instructions to set CAS Explorer up for the first time on BACnet MS/ST and BACnet/IP.

5.2.1 CAS BACnet MS/TP Setup

- Using the Serial or USB to RS-485 converter, connect it to your PC and the 3 Pin BACnet MS/TP connector on the ProtoNode LER.
- In CAS Explorer, do the following:
 - Click on settings
 - Check the BACnet MSTP box and uncheck the BACnet IP and BACnet Ethernet boxes.
 - Set the BACnet MSTP MAC address to 0.
 - Set the BACnet MSTP Baud Rate to 38400.
 - Click Ok.
 - On the bottom right-hand corner, make sure that the BACnet MSTP box is green.
 - Click on discover.
 - Check all 4 boxes.
 - Click Send.

5.2.2 CAS BACnet BACnet/IP Setup

- See Section 3.1 to set the IP address and subnet of the PC that will be running the CAS Explorer.
- Connect a straight through or cross Ethernet cable from the PC to the ProtoNode.
- In CAS Explorer, do the following:
 - Click on settings
 - Check the BACnet IP box and uncheck the BACnet MSTP and BACnet Ethernet boxes.
 - In the “Select a Network Device” box, select the network card of the PC by clicking on it.
 - Click Ok.
 - On the bottom right-hand corner, make sure that the BACnet IP box is green.
 - Click on discover.
 - Check all 4 boxes.
 - Click Send.

Appendix A. Troubleshooting

Appendix A.1. DIAGNOSTICS

- o If the ProtoNode does not discover any HBA-LX LonWorks devices, verify the wiring from the ProtoNode’s LonWorks FTT-10 connector to the LX FFT-10 LonWorks Connector.
- o Serial Diagnostics
 - o Verify the TX and RX LEDs of LER LEDs are flashing. See Appendix 3.1
 - o Verify wiring from serial port of the LER to the BMS Network
 - o Verify the communication settings (baud rate, parity, etc.)
 - o Verify the device address settings
- o Ethernet Diagnostics
 - o Verify the Ethernet cable is plugged into the LER and the other end is plugged into the router or switch
 - o Verify the IP address, subnet mask, and IP Gateway settings
- o Verify the ERR LED is off
- o If problems persist, follow section A.2 to take a diagnostic capture.

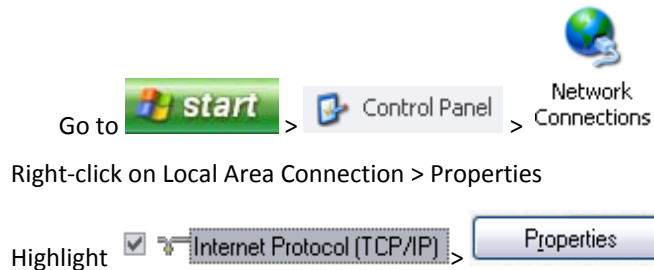
Appendix A.2. Take Diagnostic Capture With the FieldServer Utilities

- Make sure the FieldServer utilities are loaded on the PC.



<http://fieldserver.com/techsupport/utility/utility.php>





- Disable any wireless Ethernet adapters on the PC/Laptop
- Disable firewall and virus protection software if possible
- Connect a standard cat5 Ethernet cable between the PC and the ProtoNode
- The Default IP Address of the ProtoNode is **192.168.1.24**, Subnet Mask is **255.255.255.0**. If the PC and the ProtoNode are on different IP Networks, assign a static IP Address to the PC on the 192.168.1.xxx network
- For Windows XP:



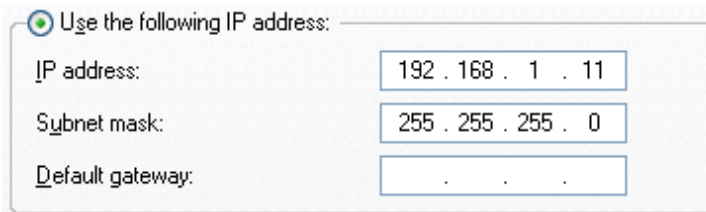
- For Windows 7:


Go to  >  Control Panel >  Network and Internet
 >  Network and Sharing Center > [Change adapter settings](#)

Right-click on Local Area Connection > Properties

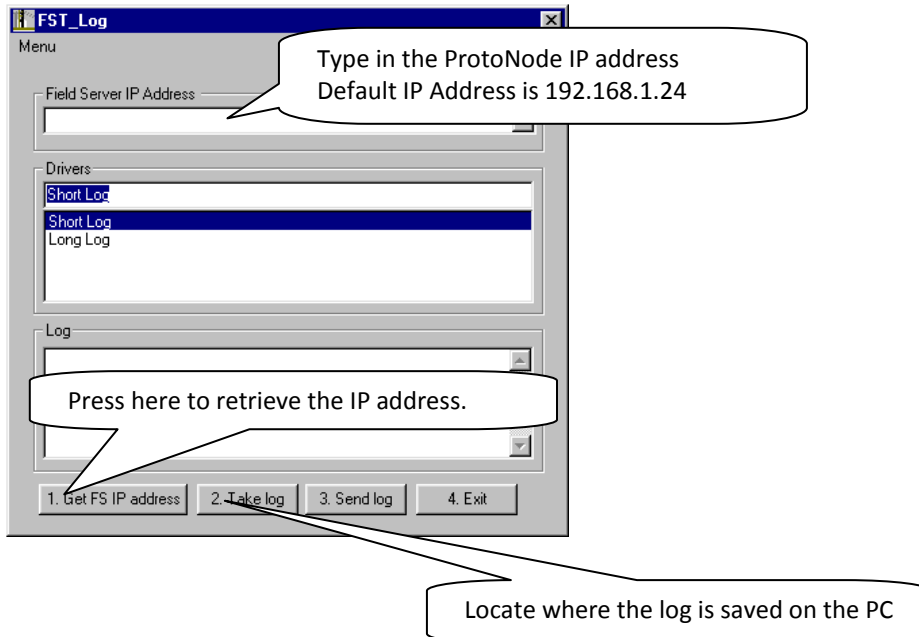
Highlight  Internet Protocol Version 4 (TCP/IPv4) > 

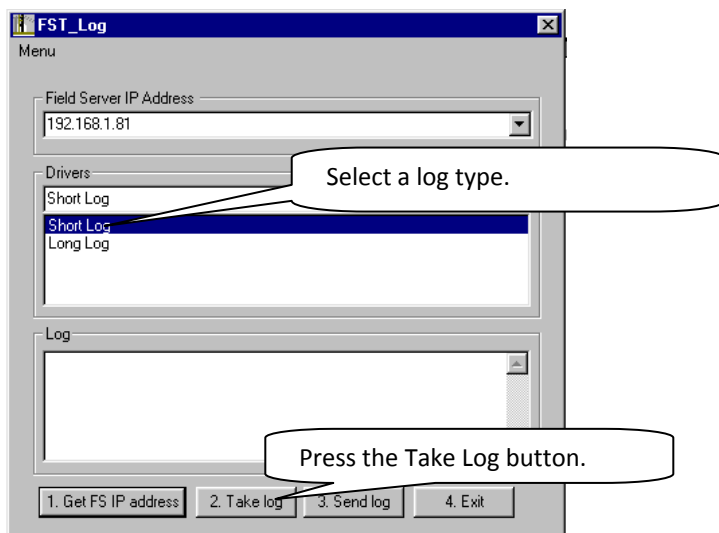
- For Windows XP and Windows 7, select: Use the following IP address



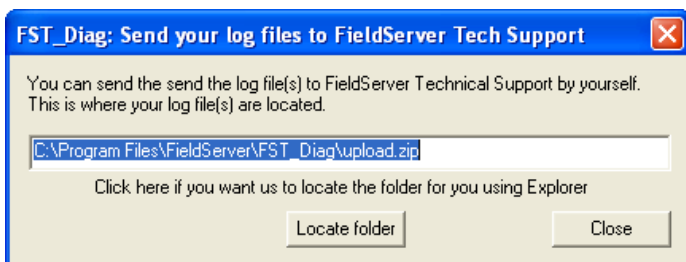
- Click  twice

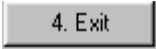
- Double click on the FST Diag Utility.
- **Step 1:** Select a Field Server IP Address.
- The IP address can be entered manually or selected by clicking on button 1 using the Utility.





- **Step 2:** Take a Log
- Press the Take Log button. While the Utility runs a few DOS prompts will flash across the monitor. Don't click or type anything in to these DOS prompts. This step may take a few minutes depending on the chosen Log Type and computer speed. When the Utility is finished you will be presented with a log of events that have occurred.
- **Step 3:** Send Log
- Click the "Send Log" button located near the bottom of the dialog. The following dialog should appear.

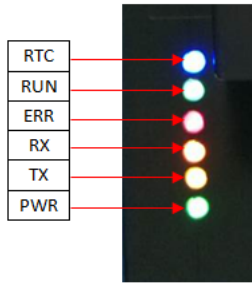


- Push the 'Locate Folder' button to launch explorer and have it point directly at the correct folder. The file upload.zip must be sent to support@fieldserver.com.
- **Step 4:** Close the Program
- Press the exit button when the log is completed 
- Once the log is Diagnostic Capture is complete, email it to support@protocessor.com. The Diagnostic Capture will allow us to rapidly diagnose the problem.

Appendix A.3. LED Diagnostics for Modbus RTU Communications between the ProtoNode and the Siemens products

Please see the diagram below for LED Locations

A.3.1 ProtoNode LER LEDs



Light	Description For ProtoNode LER
RTC	Unused
RUN	The RUN LED will start flashing 20 seconds after power indicating normal operation.
ERR	The SYS ERR LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. A steady red light will indicate there is a system error on the ProtoNode LER. If this occurs, immediately report the related "system error" shown in the error screen of the RUI interface to FieldServer Technologies for evaluation.
RX	The RX LED will flash when a message is received on the BMS Serial port.
TX	The TX LED will flash when a message is sent on the BMS Serial port.
PWR	This is the power light and should show steady green at all times when the ProtoNode LER is powered.

Appendix B. Reference

Appendix B.1. Specifications



	ProtoNode RER	ProtoNode LER
Electrical Connections	One 6-pin Phoenix connector, one RS-485 +/- ground port, power +/- frame ground port One 3-pin RS-485 Phoenix connector, one RS-485 +/- ground port One Ethernet-10/100 Ethernet port	One 6-pin Phoenix connector, one RS-485 +/- ground port, power +/- frame ground port One Ethernet 10/100 BaseT port One FTT-10 LonWorks port
Approvals:	Pending CE (EN55022;EN55024; EN60950), UL916, Pending FCC Class A Part 15, DNP3 Conformance Tested, OPC Self-tested for Compliance, RoHS Compliant, CSA 205 Approved BTL Marked	LonMark Certified
Power Requirements	Multi-mode power adapter: 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)		

Appendix B.1.1. Compliance with UL Regulations

For UL compliance, the following instructions must be met when operating the 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 the ProtoNode/Net
- Furthermore, the interconnecting power cable shall:
 - Be of length not exceeding 3.05m (118.3")
 - Be constructed of materials rated VW-1 or 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 C. Limited 2 year Warranty

FieldServer Technologies warrants its products to be free from defects in workmanship or material under normal use and service for two years after date of shipment. FieldServer Technologies 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 FieldServer Technologies 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 FieldServer Technologies 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 FieldServer Technology'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, FieldServer Technologies 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 FieldServer Technologies for damages including, but not limited to, consequential damages arising out of/or in connection with the use or performance of the product.