



70 - 399



750 - 1100 / 1500 - 3000



550 - 2000

# ProtoNode Quick Guide Set-up

For Interfacing Evergreen/SlimFit/SVF boilers to Building Automation Systems:

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

ProtoNode FPC-N34



ProtoNode FPC-N35



This quick set-up guide must only be used by a qualified heating installer/service technician. Read all instructions, including this instruction and all other information shipped with the boiler, before installing. Perform steps in the order given. Failure to comply could result in severe personal injury, death or substantial property damage.



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**⚠ WARNING** Follow all instructions for installation, start-up and servicing in the **Boiler Manuals and/or the Advanced Manuals.**

### HAZARD DEFINITIONS

The following defined terms are used throughout this manual to bring attention to the presence of hazards of various risk levels or to important information concerning the life of the product.

**⚠ DANGER** Indicates presence of hazards that will cause severe personal injury, death or substantial property damage.

**⚠ WARNING** Indicates presence of hazards that can cause severe personal injury, death or substantial property damage.

**⚠ CAUTION** Indicates presence of hazards that will or can cause minor personal injury or property damage.

**NOTICE** Indicates special instructions on installation, operation or maintenance that are important but not related to personal injury or property damage.

**⚠ WARNING** **To the installer:**

These instructions must only be used by a qualified installer/service technician. Read all Instructions completely before beginning the installation. This instruction is to be used in conjunction with the appropriate Boiler Installation Manuals and the User's Information Manuals. Follow the boiler manual, startup and maintenance procedures, before finalizing installation. Failure to follow all instructions can cause severe personal injury, death or substantial property damage.

## Installation Notes

The Weil-McLain Evergreen, Slimfit Series 2 & 3, and SVF boilers all use the Unity 1.0 control.

There are two paths that need to be satisfied for the successful integration of the Weil-McLain Evergreen, Slimfit or SVF boiler with your building management system (BMS), using the ProtoNode controller.

**Path #1 (BACK END):** Boiler Connection to the ProtoNode

**Path #2 (FRONT END):** ProtoNode Connection to the Building Management System

This Quick Guide will provide instructions for completion of Path 1 (Back-End) communication to the ProtoNode. At conclusion of the Quick Guide steps, the ProtoNode will be ready for a third-party BMS integrator to set up Path 2 (Front-End) communication.

## Before you get started, you will need:

### For Path #1 (BACK END)

- Boiler Model(s)
- ProtoNode Quick Start-Up Guide
- Installation Tools/Materials:
  - 3 Wires, Shielded
  - 24 VAC Power Supply
  - Small screwdriver to move dipswitches

## When these Quick Guide steps are complete, the BMS integrator will need:

### For Path #2 (FRONT END)

- Boiler Model(s)
- ProtoNode FPC-N34 and FPC-N35 Start-up Guide
- Building Management Data:
  - > BMS Protocol that is being used (Modbus, BACnet, etc)
  - > Baud Rate that is being used by BMS



## ProtoNode Set-up for Evergreen 70-155 boilers

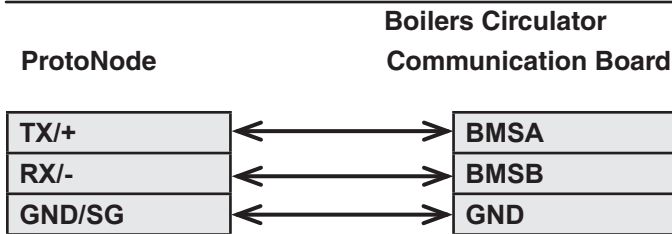
1. Turn off power to the boiler.

**⚠ WARNING** **ELECTRICAL SHOCK HAZARD - TURN OFF ALL POWER TO BOILER WHEN SERVICING.**

Failure to do so can cause severe injury, death, or substantial property damage.

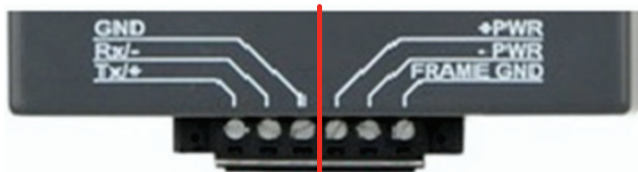
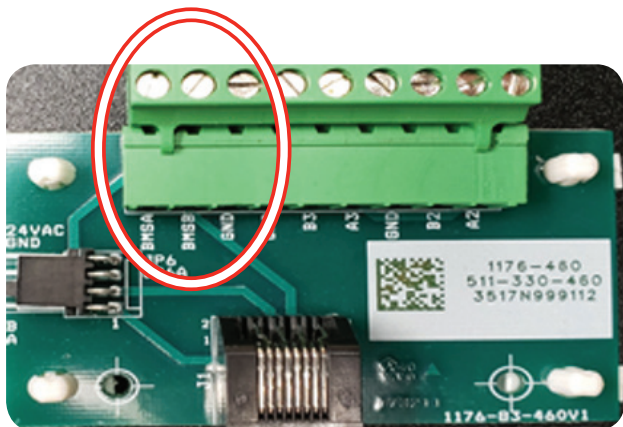
2. Connect wiring from the boiler's communication board to the ProtoNode's communication terminals.

### ProtoNode to Boiler Wiring



3. Using the ProtoNode 24V power terminals, attach power from a dedicated 24VAC power supply. A dedicated external 24 VAC power supply must be used to power the ProtoNode. Match +PWR to positive and - PWR to negative. Keep Power Off to ProtoNode.

**Figure 1 Evergreen 70-155 communication terminals**

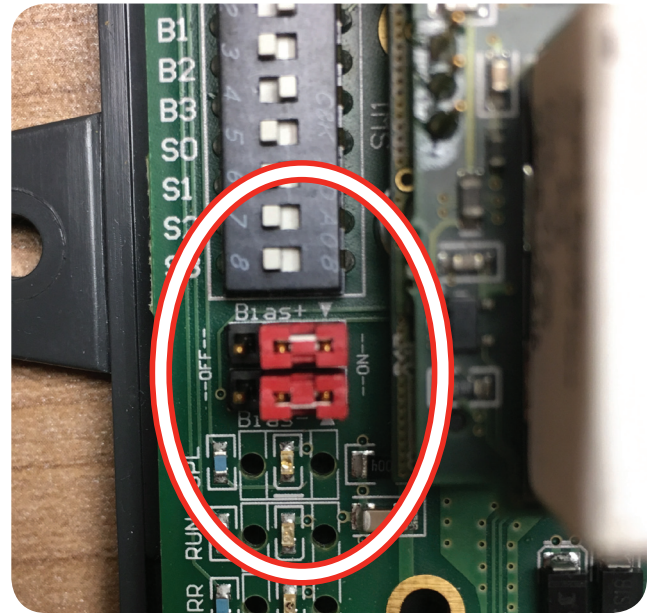


Communication Terminals | 24V Power Terminals

**NOTICE** Do not jump ground between GND/SG to FG/Frame Ground ProtoNode.

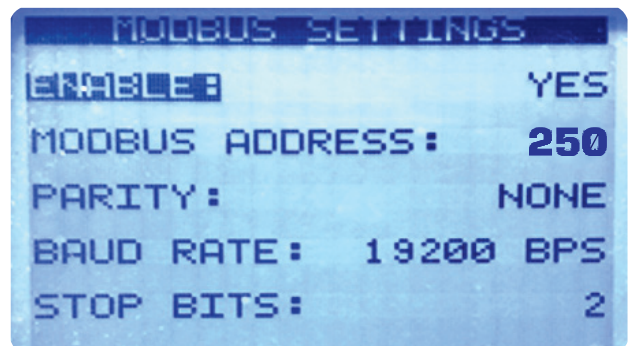
4. The ProtoNode has two 510 Ohm resistors plugged into pins nearest to the outside of the board. Move these two resistors to the pins nearest to the center of the board ("ON" Position). Once resistors in the ProtoNode are turned ON, no additional resistors are needed in the Modbus system.

**Figure 2 Protonode resistor location**

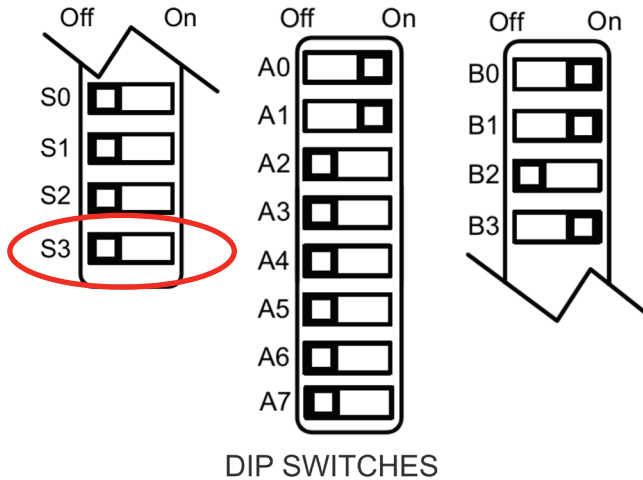


5. Power up Boiler:
  - a. Access Contractors menu by pressing and holding the up and down arrow until the Contractor menu appears.
  - b. Change user to Advance.
  - c. Select Modbus settings.
  - d. Change settings to match the values below.
  - e. Exit to stand by menu.

**Note:** The Modbus settings shown below apply to the Unity 1.0 control, which is included with all boilers listed in this manual. The Modbus address of the boiler should now match the Node ID of the ProtoNode.



6. Setting up the ProtoNode:
  - a. Set dip switch S3 to the Off position (to the left side).
  - b. DIP switches A0 to A7 are used to set the BACnet MS/TP MAC address and DIP switches B0 to B3 are used to set the Baud Rate. To adjust these Front End settings, refer to the full ProtoNode Start-Up Guide at [www.weil-mclain.com](http://www.weil-mclain.com).



7. Turn Power ON to ProtoNode. Verify that TX and RX lights are flashing on the ProtoNode. If so, Path 1 (Back End) is complete.
8. Share the following information with the BMS integrator.

**NOTE TO BMS INTEGRATOR:**

For a complete list of Modbus RTU mappings to BACnet, Metasys N2, and Lonworks, see the ProtoNode FPC-N35 Complete Points List in the Technical Documents section for the boiler at [www.weil-mclain.com](http://www.weil-mclain.com), or contact Sierra Monitor Corporation Tech Support at 1-408-964-4443

For additional front-end setup information, see the full ProtoNode Start-Up guide in the Technical Documents section for the boiler at [www.weil-mclain.com](http://www.weil-mclain.com).

**⚠ WARNING** Removing and reinstalling components can change boiler behavior. After any maintenance or set up procedure, you must prove the boiler is operating correctly. To do so, follow all instructions in the appropriate Boiler Manual and Operating Instructions to start-up the boiler. Because the boiler has been changed, you must verify correct operation as described in the Boiler Manual. Failure to comply could result in severe personal injury, death, or substantial property damage.

**⚠ WARNING** Reinstall boiler jacket front door after servicing. The boiler front door must be securely fastened to the boiler frame to prevent boiler from drawing air from inside the boiler room. This is particularly important if the boiler is located in the same room as other appliances. Failure to keep the door securely fastened could result in severe personal injury or death.

## ProtoNode Set-up for Evergreen 220-399 boilers

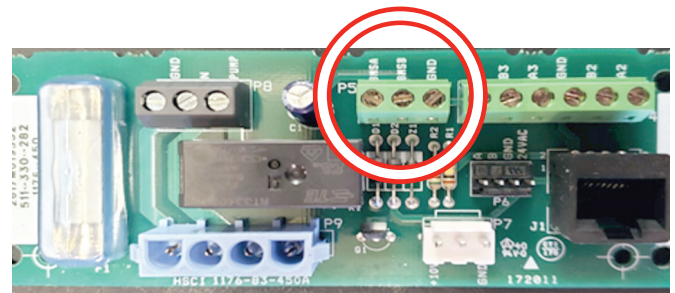
1. Turn off power to the boiler.

**⚠ WARNING** **ELECTRICAL SHOCK HAZARD - TURN OFF ALL POWER TO BOILER WHEN SERVICING.**

Failure to do so can cause severe injury, death, or substantial property damage.

2. Connect wiring from the boiler's communication / pump control board to the ProtoNode's communication terminals, see Figure 3.
3. Follow steps 3 - 8, starting on page 4 to complete set up.

**Figure 3 Evergreen 220-399 communication / Pump Control Board**



## ProtoNode Set-up for SlimFit 550-2000 boilers

1. Turn off power to the boiler.

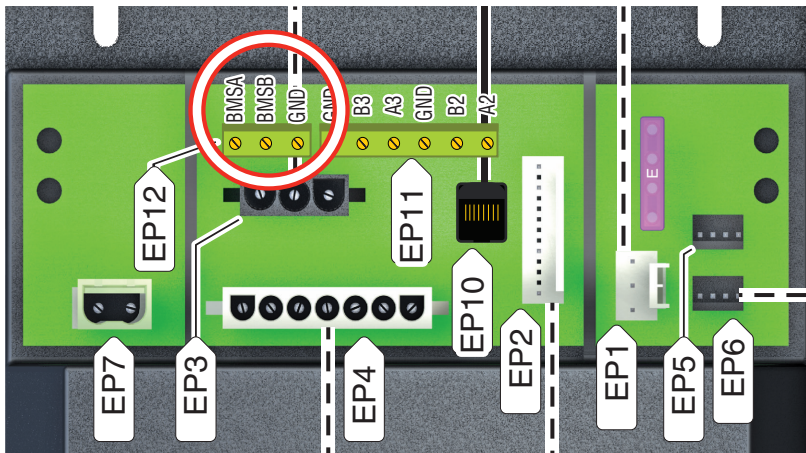


**ELECTRICAL SHOCK HAZARD - TURN OFF ALL POWER TO BOILER WHEN SERVICING.**

Failure to do so can cause severe injury, death, or substantial property damage.

2. Connect wiring from the boiler's communication board to the ProtoNode's communication terminals, See Figure 4.
3. Follow steps 3 - 8, starting on page 4 to complete set up.

**Figure 4 SlimFit 550-2000 Communication Terminals EP12, Terminals 1, 2, & 3**



## ProtoNode Set-up for SVF 750-3000 boilers

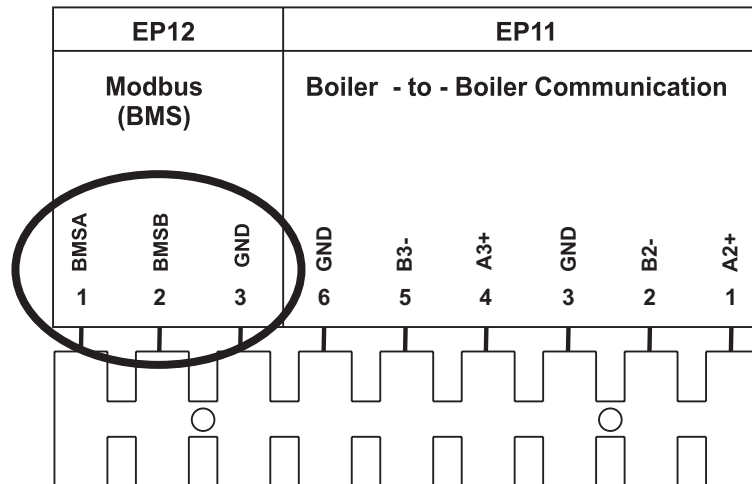
1. Turn off power to the boiler.

**⚠WARNING** **ELECTRICAL SHOCK HAZARD - TURN OFF ALL POWER TO BOILER WHEN SERVICING.**

Failure to do so can cause severe injury, death, or substantial property damage.

2. Connect wiring from the boiler's communication board to the ProtoNode's communication terminals, See Figure 5 or Figure 6.
3. Follow steps 3 - 8, starting on page 4 to complete set up.

**Figure 5 SVF 750-1100 Communication Terminals EP12, Terminals 1, 2, & 3**



**Figure 6 SVF 1500-3000 Communication Terminals EP12, Terminals 34, 33, & 32**

