

Understanding System Integration Options

It is important to have the correct system integration components to have an efficient and seamless operating wood boiler system. We offer two options that will work with any existing heating system.

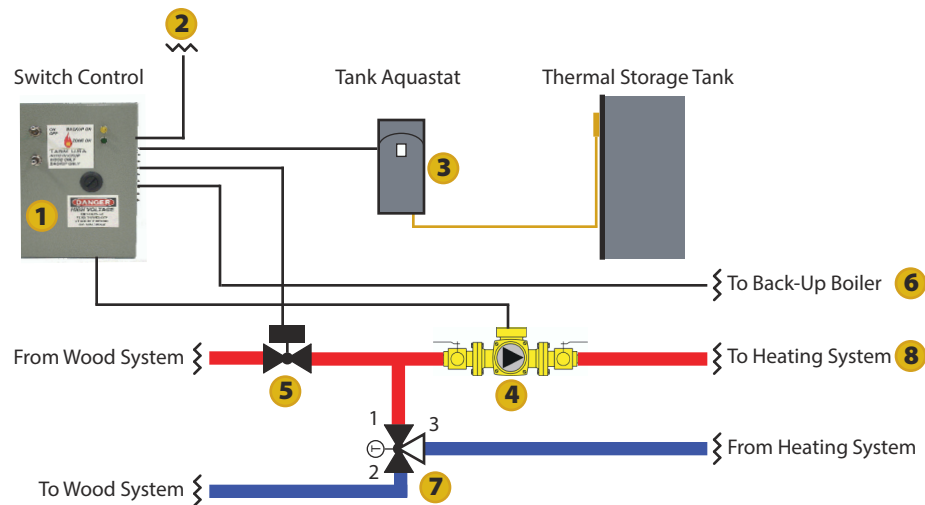
Boiler Tank Control System

This is the perfect option for integrating into an existing heating system or for heating systems that require high temperature water like heat exchangers used in force hot air systems. The heart of the system is the BLT Switch control with three mode operation: Automatic Back-up, Back-up only, or wood only modes.

How it works:

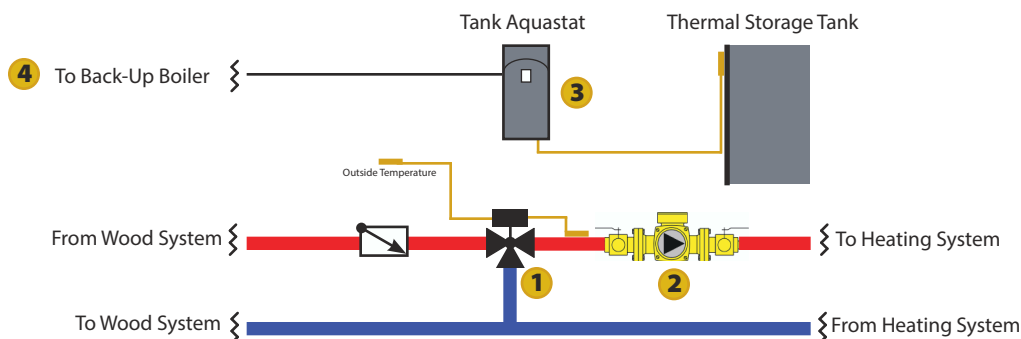
The BLT Switch control (1) takes input from a zone relay control (thermostat call) (2) and determines based on thermal storage tank temperature (tank aquastat) (3) whether to pull heat from the storage tank system/woodboiler or the back-up boiler (6). Return water passes into the bottom of the thermal storage tank and exits the top of the tank, re-heated by the thermal storage tank system, and moves to the supply manifold. If the wood boiler is heating, the return water is re-heated by the boiler. If however, upon a call for heat, the temperature in the thermal storage tank is below the tank aquastat set point, the circulator (4) will cease operation. The zone valve (5) will close. The back-up boiler will be energized through the BLT Switch control to meet the heat demand (8).

The diverter valve (7). Port 3 of the valve receives water from return manifold. Port 1 is connected to the supply manifold and Port 2 is connected to the return of the boiler and the thermal storage tank system. When the thermostatic valve senses water above 165° F and above, it shunts water from ports 2 to Port 1. The result is both the heating zones and the thermal storage tank receive hot water from the boiler. This prevents short-cycling of the boiler and an overall more efficient system and responsive heating system.



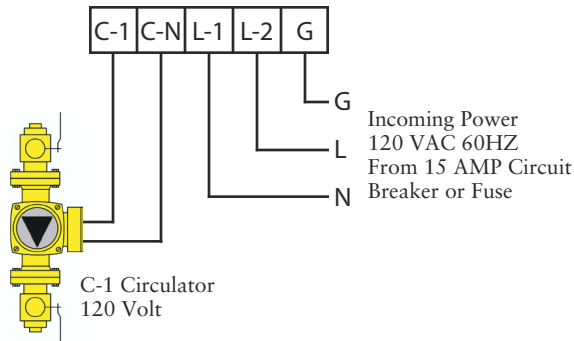
Smart Comfort Control System

Smart Comfort is a simple, energy efficient option that replaces the diverter valve with a mixing valve and an active temperature controller (1) with outdoor reset capabilities. The Smart Comfort valve responds to outdoor or indoor temperature to send the proper water temperature to the heating zones. Minimum, maximum, and temperature along a curve can be set. An energy efficient circulator (2) can also be utilized providing the correct flow. The Smart Comfort extends the energy capacity of the thermal storage tank system while making the house more comfortable. An aquastat (3) responding to tank temperature can be used to control a back-up boiler (4).

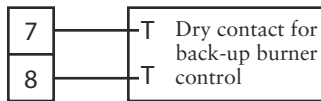
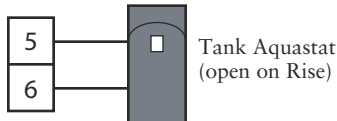
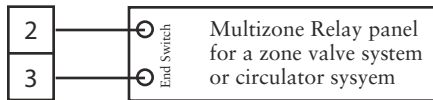
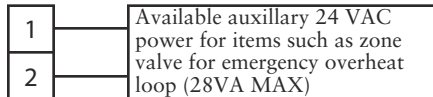


Appendix A-Tarm BLTCONTROL Wiring

120 Volt Terminal Strip (In Panel)



Low Voltage Connections (Outside of Box)



Note:

All wiring must comply with current National Electrical Code and any other applicable codes. Refer to schematic included with panel. 120 volt line voltage wiring shall be a code-approved type 14 gauge minimum. Low voltage wiring shall be 18 or 20 gauge thermostat wire.