

ZoneTrol II™ Model AZ-1A

INSTALLER: PLEASE LEAVE THIS MANUAL FOR THE OWNER'S USE.



SAFETY INSTRUCTIONS

This safety alert symbol will be used in this manual and on the pump safety instructions decal to draw attention to safety related instructions. When used, the safety alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.**

DESCRIPTION

The AZ-1A pump controller is field mounted to any NRF, NBF, SSF or 1/12-1/6 HP Series PL™ booster pump. The AZ-1A controller operates the pump when the thermostat calls for heat. The controller can be wired to fire the boiler through a 24-volt rated isolated endswitch. The AZ-1A pump controllers are UL and cUL listed. When the AZ-1A is mounted on a B&G pump, the pump/controller assembly maintains the UL listings.

OPERATIONAL LIMITS

For use on B&G models NRF, NBF, SSF, and 1/12-1/6 HP Series PL™ only. **Do not use with pump that has larger than 1/6 HP motor.**

Power Supply: 115-120 VAC, 60HZ, 1Ø

Maximum switch current: 5 Amps

OPERATION

The circulators wired to the AZ-1A are controlled by a low voltage controller having an SPST switch (typically a thermostat). When there is a call for heat, the relay is engaged to start the circulator, the amber LED illuminates and the XX isolated end switch closes. This end switch can be used to energize the boiler or other related controls. When the thermostat is satisfied, the circulator and LED are turned off and the end switch is opened.

AZ-1A INSTALLATION

1. Disconnect the electrical supply to the pump before installing the AZ-1A controller.



WARNING: Electrical Shock Hazard

Disconnect and lock out the power before making electrical connections. Failure to follow these instructions could result in serious personal injury or death.

2. Refer to applicable wiring diagram
 - Figure 1: 2 wire thermostat
 - Figure 2: 3 wire thermostat
 - Figure 3: 4 wire thermostat
 - Figure 4: Multiple zones
 - Figure 5: Multiple zones with boiler pump
 - Figure 6: Multiple pumps with one thermostat
 Consult local representative for other configurations.
3. Remove the screw that holds the steel conduit box cover to the pump.
4. Remove the conduit box cover. The AZ-1A assembly replaces the conduit box cover.
5. If AZ-1A is being installed onto an already installed pump, disconnect the black and white motor leads from the power supply.
6. Position the plastic base for the AZ-1A onto the steel conduit box with the warning/caution label to the rear of the pump.
7. Verify that the electrical rating of the AZ-1A matches the values shown on the nameplate of the circulator.

8. Make the electrical connections according to the wiring diagram provided. Run the pump power wiring through one of the holes in the metal conduit box. Do not attach conduit to the hole in the plastic base. This hole is only for 24 volt control wiring. Use 14 AWG copper electrical wire with a minimum temperature rating of 90°C. Refer to your electrical code for wiring restrictions.



WARNING: Electrical Shock Hazard

Electrical connections are to be made by a qualified electrician in accordance with all applicable codes, ordinances and good practices. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

9. Run the thermostat wires through the grommet in the plastic base and connect to the appropriate TR/TW terminals. Run the 24-volt boiler control wires through the grommet in the plastic base and connect to the XX terminals (See Fig. 3). Do not use the holes in the metal conduit box for 24 volt control wiring. The holes in the metal conduit box are for power wiring only.
10. Position the AZ-1A relay PC board in the plastic base with the electronic components on the top. **Make sure that all pump wiring connections are inside the box below the PC board.** Note that the hole in the PC board must line up with the mounting hole in the plastic base.



WARNING: Electrical Shock Hazard

Improper assembly could cause electrical shock and fire. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

11. Secure the AZ-1A PC board and plastic base to the conduit box with one of the provided 8-32 screws.
12. Fasten the cover to the base using two of the provided 8-32 screws.

Multiple Zones (Figure 4)

When using multiple AZ-1A controls on a system with a boiler pump, each controller should be connected to input power and its respective pump as shown in Figures 1, 2, or 3, depending on style of thermostat(s).

Connect each thermostat to its respective AZ-1A. Wire the XX terminals on each AZ-1A to the TT Controls on the Boiler.

Multiple Zones with Boiler Pump (Figure 5)

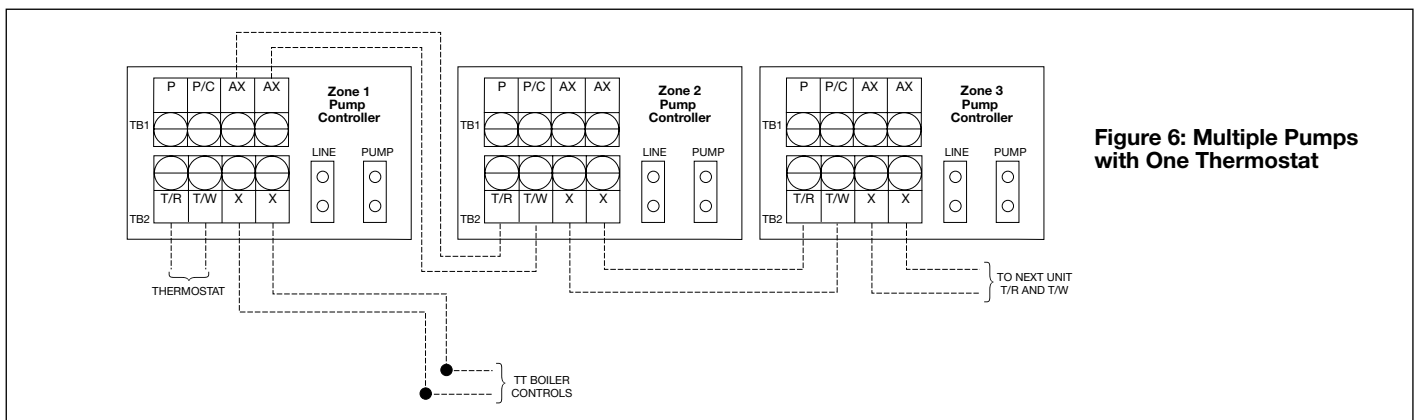
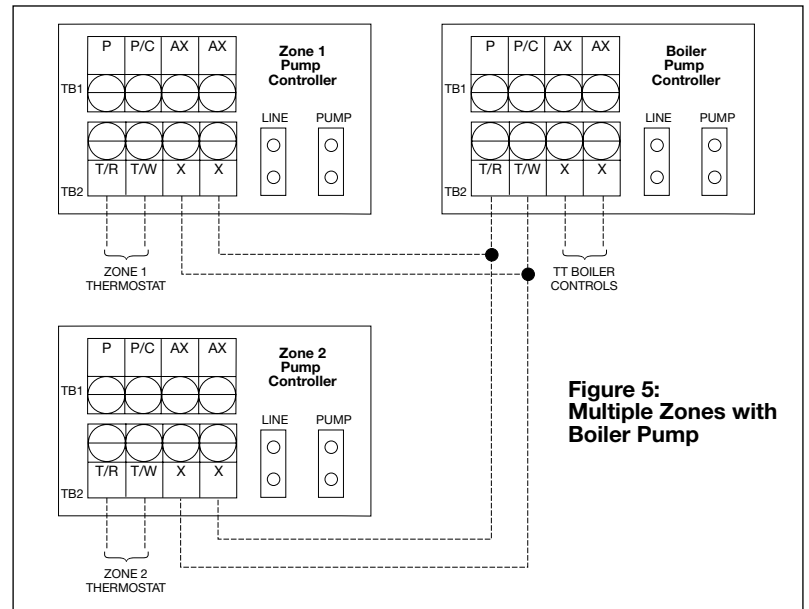
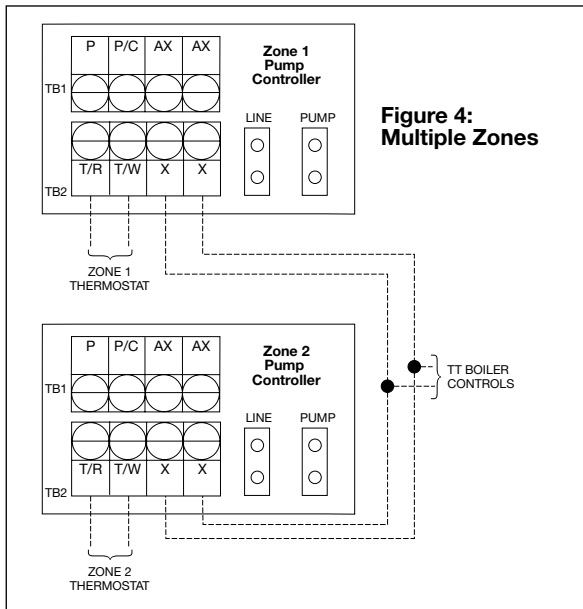
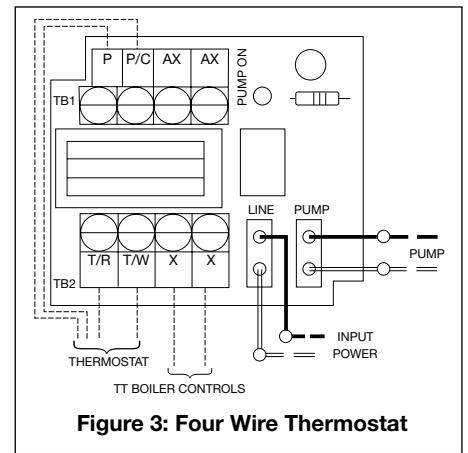
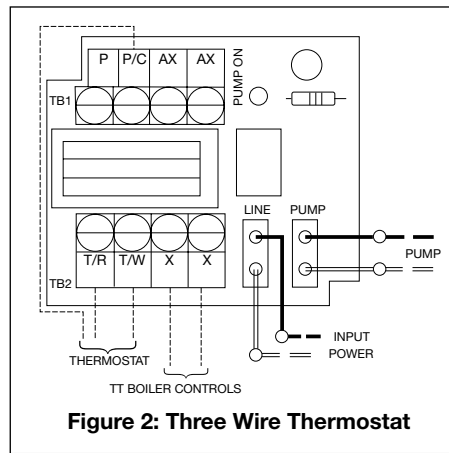
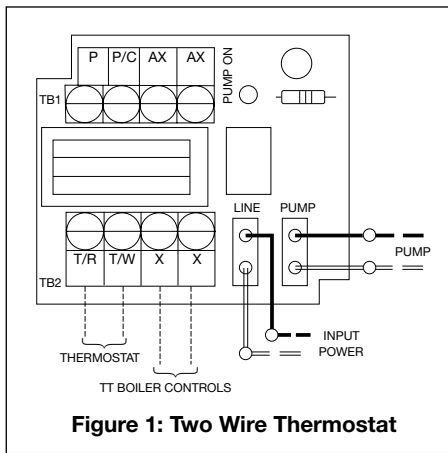
When using multiple AZ-1A controls on a system with a boiler pump, each controller should be connected to input power and its respective pump as shown in Figures 1, 2, or 3, depending on style of thermostat(s).

Connect each thermostat to its respective AZ-1A. Wire the XX terminals to each zone AZ-1A to the T/R and T/W terminals on the Boiler Pump AZ-1A. The XX terminals on the Boiler Pump AZ-1A are wired to the TT Controls on the Boiler.

Multiple Pumps with One Thermostat (Figure 6)

When using AZ-1A controls on a system with multiple pumps and one thermostat, each controller should be connected to input power and its respective pump as shown in Figures 1, 2, or 3, depending on style of thermostat.

Connect the thermostat to the first AZ-1A. Wire the AX AX terminals of the first zone to the T/R and T/W terminals of the second AZ-1A. Wire the XX terminals to the boiler TT control. Any number of additional pumps can be switched on by the same thermostat by connecting the XX terminals to the T/R and T/W terminals of the next AZ-1A.



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