Bell & Gossett
a xylem brand

INSTRUCTION MANUAL
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Bell & Gossett® ZoneTrol II™

Models Z-2, Z-3

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

SAFETY INSTRUCTION

This safety alert symbol will be used in this manual and on the unit 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 Bell & Gossett ZoneTrol II is designed to control 120 VAC circulating pumps in hydronic systems.

Model	T-stat Current	Max. Number of Zones	Max. HP per Pump
Z-2	0.085	2	1/3
Z-3		3	

15 amps maximum combined load.

FEATURES

- Indicator lights visible without removing cover.

  Power LED will illuminate when input power is applied to the controller. Zone LEDs will illuminate when relay is energized.

- PRIORITY: This is typically used in domestic hot water applications where it may be desirable to give hot water production a priority over space heating requirements for a certain period of time. Zone 1 is the priority zone and the functionality is enabled via DIP switch 1. The priority timer is selectable for 30 or 60 minutes, via DIP switch 3.
- PURGE: In normal operation, the last circulator will stop and the boiler will shut down as soon as there is no longer a call for heat. If the purge functionality is enabled via DIP switch 2, the boiler will shut down, but the circulator will continue to run for 90 seconds to extract additional BTUs from the boiler.
- EXERCISE: When the exercise functionality is enabled via DIP switch 4, each circulator will run for 10 seconds after every 72 hours of inactivity. This prevents scale and other deposits from accumulating around the rotating parts and ensures a trouble free start up at the beginning of each heating season.

DIP SWITCH SETTINGS

Switch	ON	OFF
1	Priority OFF	Priority ON
2	Purge On	Purge Off
3	Priority 30 minutes	Priority 60 minutes
4	Exercise On	Exercise Off
5	Not Used	Not Used
6	Power Delay On	Power Delay Off

MECHANICAL INSTALLATION INSTRUCTIONS

The pump controller should be securely mounted on a wall near the pumps using four #8 screws (not included).

ELECTRICAL INSTALLATION INSTRUCTIONS

> **WARNING: Electrical Shock Hazard**
> Electrical connections are to be made by a qualified electrician in accordance with all applicable codes, ordinances and good practices. Disconnect and lock out the power before making electrical connections. Failure to follow these instructions could result in serious personal injury and/or death.

1. Disconnect the electrical supply to the pump before installing the controller.
2. Refer to the applicable wiring diagram
   - Figure 1: Cold Start Boiler
   - Figure 2: Tankless Coil
3. Verify that the circulator(s) do not exceed the electrical rating of the controller.
4. Make electrical connections according to the applicable wiring diagram. Run the pump power through the holes in the controller chassis to the applicable L/N terminals. Keep 120 VAC and 24 VAC wiring separate. All 120 VAC wiring should be 14 AWG (minimum) copper electrical wire. Perform all wiring in accordance with applicable codes.
5. If the priority function is to be enabled, the priority zone (e.g., Domestic Hot Water) pump should be wired to the Zone 1 L/N terminals.
6. Run the thermostat wires through the grommet(s) in the controller chassis and connect to the appropriate R/W terminals. If the priority function is to be enabled, the priority zone (e.g., Domestic Hot Water) T-Stat should be wired to the Zone 1 R/W terminals. Keep 24 VAC wiring separate from 120 VAC wiring.

   NOTE: During the initial power-up of the zone controller, some "power stealing" thermostats may require up to 3 minutes to function properly. If the installation requires the pump relays and X-X relay to be held open during this power-up sequence, the installer can position DIP switch 6 to the "ON" position. This will cause the controller to suspend relay operation during the thermostat power-up period. Normal operation and cycling of the heating system will resume after the 3 minute time period. This affects initial power-up only and does not impact normal system operation.

GENERAL WIRING DIAGRAM

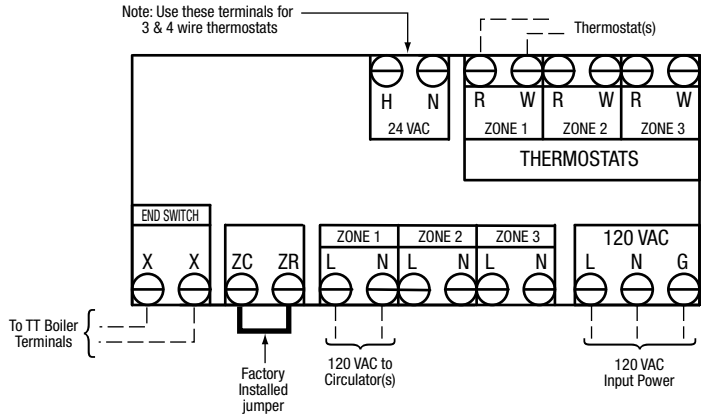

Figure 1: Cold Start Boiler
When a thermostat calls for heat, the corresponding circulator will start and the XX end switch will close to enable the boiler.

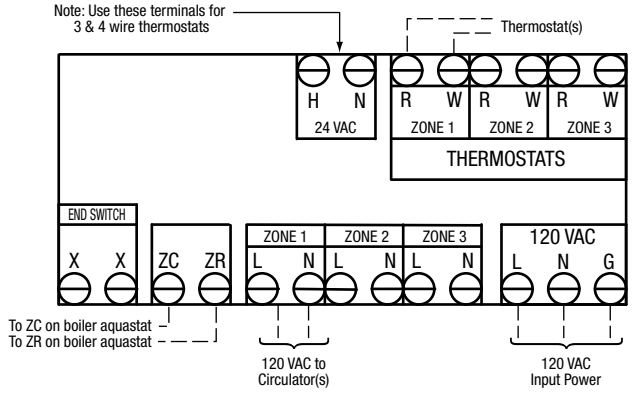

Figure 2: Tankless Coil (Remove ZC/ZR Jumper)
When a thermostat calls for heat, the corresponding circulator will start when the boiler temperature reaches the low limit setting.

> **WARNING: Electrical Shock Hazard**
> When wiring per the Tankless Coil Application, pump controller and boiler aquastat must be on the same circuit and have a common disconnect. Failure to follow these instructions may introduce a secondary source of power resulting in personal injury or death.

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Let's Solve Water

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