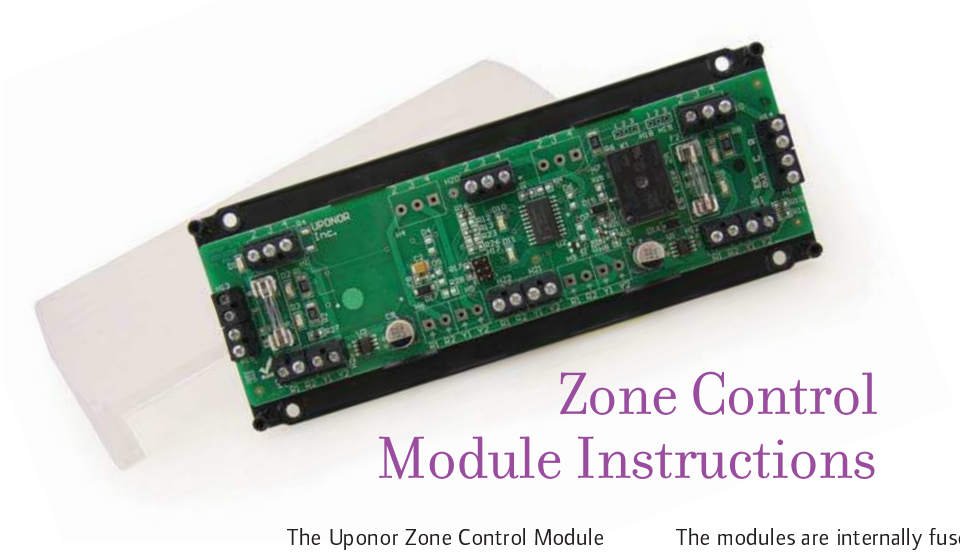

Zone Control Module Instructions

RADIANT HEATING SYSTEMS

ZONE CONTROL MODULE

INSTRUCTION SHEET

The Uponor Zone Control Module is a printed circuit control and diagnostic device designed for use with Uponor Thermostats, Motorized Valve Actuators (MVAs), Thermal Actuators and Zone Valves.

Two-wire Compatibility

An interinal timer circuit was added for use with the two-wire thermal actuators. This timer will automatically activate the red LED after three minutes to ensure the actuator(s) are open and will close the ES terminals for external relays or devices.

The module provides the following:

- A connection to the power supply transformer
- Interconnections between the individual thermostats and their respective MVAs, thermal actuators or zone valves
- The connection between the end switches and the pump or boiler relay

The modules are internally fused for protection from over current or direct shorts from the power supply transformer. The end-switch circuit is also protected from over current and a 2-amp fuse is factory installed.

Note: Because the ES terminals are completely isolated, the modules no longer require separate transformers on R, C and ES terminals. Pay careful attention to transformer sizing if using only one transformer.

Zone Configurations

The Uponor Zone Control Modules are available in both three- and four-zone configurations. Boards can be ganged together to expand the number of zones. Allow ¼" between boards when mounting end-to-end.

Connecting Instructions

Refer to the following instructions to properly connect the module.

1. Connect modules in series via a module jumper (provided).
2. Fasten the jumper within the input and output blocks of the corresponding modules (see **Figure 1** on page 2).

Wiring Instructions

Refer to the following instructions to properly wire the module.

1. Strip ⅜" insulation from the wire.
2. Ensure the wire is fully seated in the terminal and that it does not short to adjacent wires.
3. Twist loose stranded wire tightly. Ensure no loose strands are present.
4. Tighten the terminal nut.

Note: Each terminal is equipped with a jamb plate for accommodating stranded wire. When reconnecting the terminal, it may be necessary to push the jamb plate back into place with a suitable round punch prior to reinserting the stranded wires. The maximum number of connections per terminal is four. If more than four wires are required at the terminal, bundle or wire nut the wires together and run one wire to the terminal.

Note: If using Uponor 500 Series controls, use a minimum of three-wire thermostat wire for proper functioning of the thermostat. (Four wire is recommended.)

Fuse Replacement

Replace fuses on the board following the guidelines below.

- 2A fuse for 50VA transformer
- 3A fuse for 75VA transformer
- 4A fuse for 100VA transformer

Part No.	Part Description	Width	Height	Depth
A3031003	Three-zone Control Module	7.25"	2.75"	1"
A3031004	Four-zone Control Module	7.25"	2.75"	1"

Table 1: Product Descriptions

Specifications	
Power Input:	24VAC
End-switch Circuit:	Dry contact equivalent nominal 24VAC, 2A maximum
Recommended Thermostat Wire Size:	18GA

Table 2: Specifications

Part No.	Part Description	50VA	75VA	100VA
A3020522	Motorized Valve Actuator, four-wire	7	10	14
A3010522	Thermal Actuator, four-wire	12	18	25
A3020416	Thermal Actuator, two-wire	12	18	25
A3030522	Thermal Actuator, two-wire	12	18	25
A3030523	Thermal Actuator, two-wire	12	18	25

Table 3: Maximum Number of Actuators on a Transformer (Rating at 24VAC)

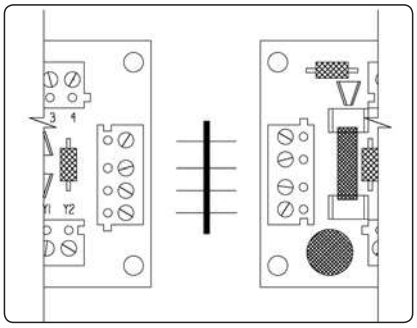

Figure 1: Module Jumper

Figure 2: Wiring Diagram

Operation

Power Up

The Power LED must be illuminated Green for the Zone Control Module to operate properly. If the Power LED is not illuminated Green, check the supply power (transformer) and wiring.

Call for Heating

If a compatible thermostat calls for heat, the LED below the terminal block for that thermostat turns Yellow (signaling the thermostat is on).

- If two-wire actuators are connected, the associated LED will begin to flash Red then turn solid Red after 3 minutes.
- If four-wire actuators are connected, the associated LED will begin to flash Red then turn solid Red when the end switch closes.

Once the LED is on and lit solid Red, the relay for ES terminals will close, enabling a pump, boiler or other heating component.

Ending a Call for Heating

If a compatible thermostat no longer requires heat, the LED below the terminal block for that thermostat will turn off.

- Power will be removed from the Y1 and Y2 terminals, allowing the actuator(s) to close.
- The Red LED will flash, indicating the call for heat on that zone has been removed and the actuator(s) are closing.
- If using a fast-opening motor (e.g., a Motorized Valve Actuator), the Red LED will turn off as soon as the end switch opens.

The relay for ES terminals will open when there are no Yellow LEDs lit on the board (or boards if they are ganged together).

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