uponor

RADIANT HEATING SYSTEMS

THERMAL ACTUATOR

TECHNICAL BULLETIN

Application
The Uponor Thermal Actuator (four-wire) is a thermally activated, slow-opening operator that provides individual flow control (per loop) on a multi-zoned manifold (manifold serving more than one zone).

Part Number
A3010522

Voltage
24VAC +/-10%

Current Drain
70mA/2w (brown and blue leads)
3.5VA

End Switch
Maximum 2A/24V dry contact (green leads)

Installation
The Thermal Actuator mounts directly onto Uponor brass valved manifolds (manifold must be mounted in the return position). The quick-release feature of the actuator enables balancing of the manifold valves at any time. Refer to the Uponor Radiant Floor Heating Installation Handbook for valve balancing instructions.

Refer to the following instructions to install the Thermal Actuator.

1. Secure the green ring onto the manifold valve (hand tighten only).
2. Attach the actuator to the ring by pressing the buttons on the sides of the actuator.
3. Push the actuator onto the ring and release the buttons.
4. Connect the 24-volt electrical wiring.
5. Initialize the actuator (see Initialization section).

Initialization
Since the actuator ships in a partially open position to protect it during shipment, the actuator needs to be fully cycled (opened and closed) to operate. This also closes the end switch in a powered-down state.

Refer to the following instructions to initialize the Thermal Actuator.

1. Power up the system.
2. Turn up the thermostat to create a call for heat. This will fully open the valve. You will hear a click on the first open cycle. This first cycle may take six to 10 minutes.
3. Turn down the thermostat.
4. The actuator is now ready for normal operation.

Note: Failure to initialize the actuator may result in a continuous call for heat because the end switch is closed in the powered-down state.

Maximum Number of Thermal Actuators
12 Thermal Actuators — 50VA
19 Thermal Actuators — 75VA
25 Thermal Actuators — 100VA
(Computed with a 10% line loss)

Warm Cozy Floors

Application Drawing
ZCM-3

uponor

Electrical
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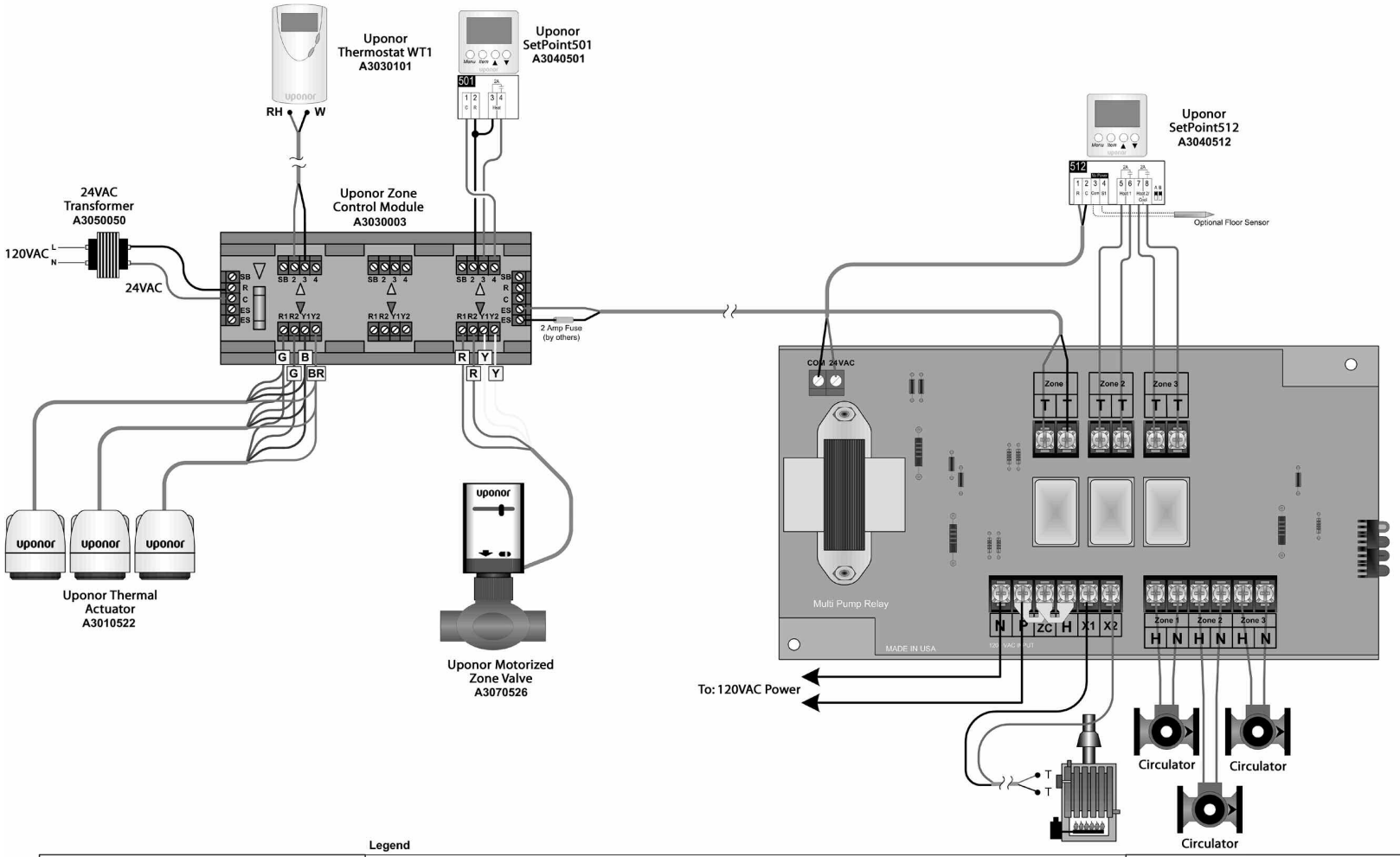

Legend

NOTE: This drawing is conceptual only, not an engineered drawing. It is up to the system designer to determine the necessary components for and configuration of the particular system designed, including additional equipment, isolation relays (for loads greater than the control's specified output ratings), and any safety devices which in the judgement of the designer are appropriate. Certain components may have been left out on this drawing for the purpose of clarity. Mechanical considerations such as tee spacing, flow control, pipe sizing and pump selection, is the responsibility of the installing contractor. Local codes and trade practices must be followed.

S1 = Mixed 1 Supply Sensor	S8 = Snow & Ice Detector	P5 = Variable Speed Injection Pump 2
S2 = Mixed 2 Supply Sensor	A1 = Aquastat	P6 = DHW Pump
S3 = Boiler Supply or Return	B1 = Boiler	P7 = Hi-Temp Pump
S4 = Outdoor Sensor	P1 = MIxed 1 System Pump	V1 = Floating Action Mixing Valve
S5 = Mixed Return Sensor	P2 = Mixed 2 System Pump	T = Thermostat or Heat Demand
S6 = DHW Sensor	P3 = Boiler Pump	
S7 = Slab Sensor	P4 = Variable Speed Injection Pump 1	

——— = 120 V (AC)
---------- = Sensor Wire
---------- = 24 V (AC)
---------- = T-stat Wire
——— = Misc.

Project:	
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Drawn by:	**Checked by:**
Rep:	**DATE:**

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