

# AcuTemp™

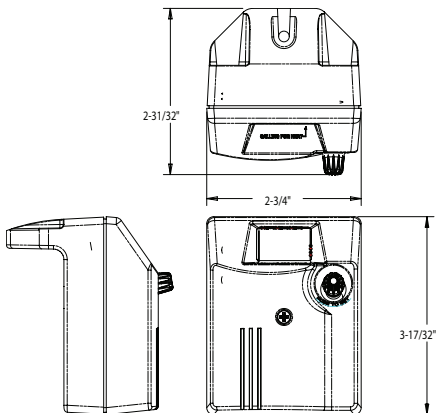
## Temperature Control for Weil-McLain Aqua Plus and Aqua Pro Indirect Water Heater

## Installation Instructions and Operating Manual

The AcuTemp utilizes an microcontroller-based design to control water temperature in the Weil-McLain Aqua Plus and Aqua Pro Indirect Water Heater. An advanced software algorithm closely monitors the rate of tank temperature changes and controls the heating source to minimize fluctuations in tank temperature while optimizing fuel efficiency. The control features adjustable temperature settings for both residential and commercial temperature operating ranges.

**NOTICE - Read these instructions completely before proceeding with the installation. Retain these instructions for future reference.**

### DIMENSIONS



### RATINGS

Input	24 VAC, 60 Hz
Power	2.4 VA
Output	Dry contacts, 50 va @ 24 VAC, 60 Hz
Ambient temp	30°F - 140°F
Operating temp	60°F - 180°F



### WARNING

All work must be performed by a qualified and licensed professional in accordance with all applicable codes and ordinances.



### WARNING

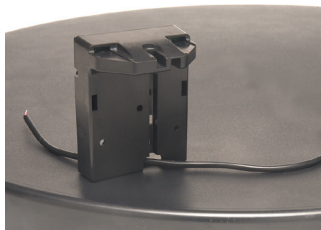
Electrical shock hazard. To prevent electrical shock, death, or equipment damage, disconnect power supply before installing or servicing control.

## MOUNTING THE CONTROL – NEW INSTALLATION

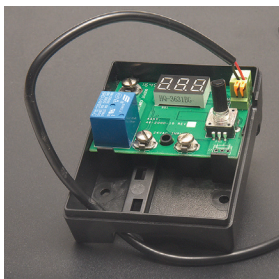
**1** Locate the sensor leads on the top of the tank.



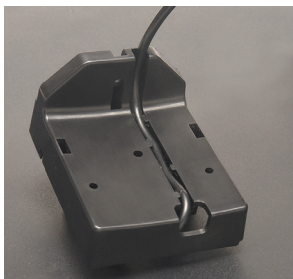
**2** Route the sensor wire through the opening in the rear of the control.



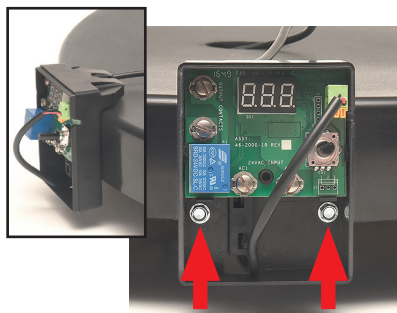
**3** Plug the sensor wire into the sensor input. The terminals are not polarity sensitive.



**4** Insert the sensor wire into the channel in the back of the control.



**5** Attach the control to the top plastic cap of the tank and secure with two screws.



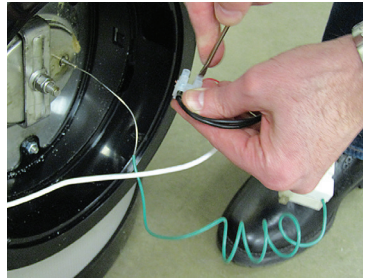
**6** Add a third screw through the top of the control. Reinstall control cover once wiring connections are made and the control is mounted.



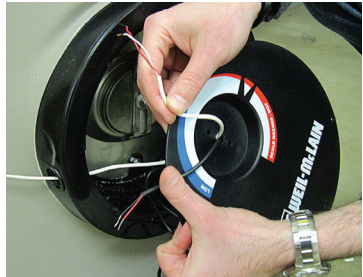
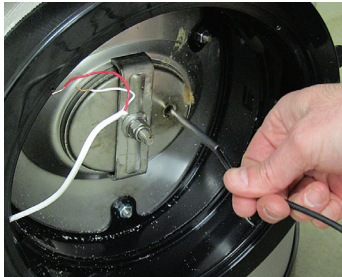
REFER TO "WIRING THE CONTROL" ON PAGE 4 OR YOUR TANK MANUAL FOR WIRING INSTRUCTIONS.

## MOUNTING THE CONTROL – AQUA PLUS REPLACEMENT INSTALLATION

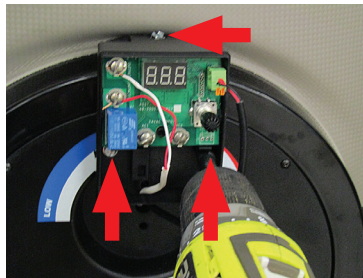
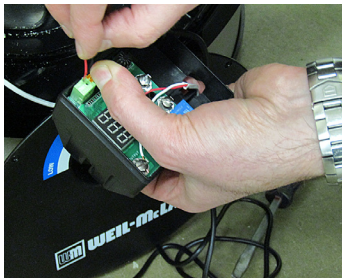
- 1** Remove faceplate and existing thermostat and sensor; disconnect existing wires to domestic water input.



- 2** Insert new sensor into tank; thread new sensor wire and existing domestic water input wires through hole in faceplate.



- 3** Attach new sensor wire and domestic water input wire to new control.

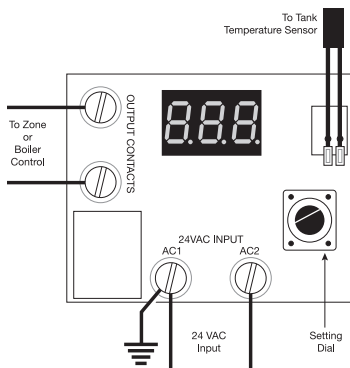


- 4** Reattach faceplate and mount new control with 3 provided screws. *Reinstall control cover once wiring connections are made and the control is mounted.*

REFER TO "WIRING THE CONTROL" ON PAGE 4 OR YOUR TANK MANUAL FOR WIRING INSTRUCTIONS.

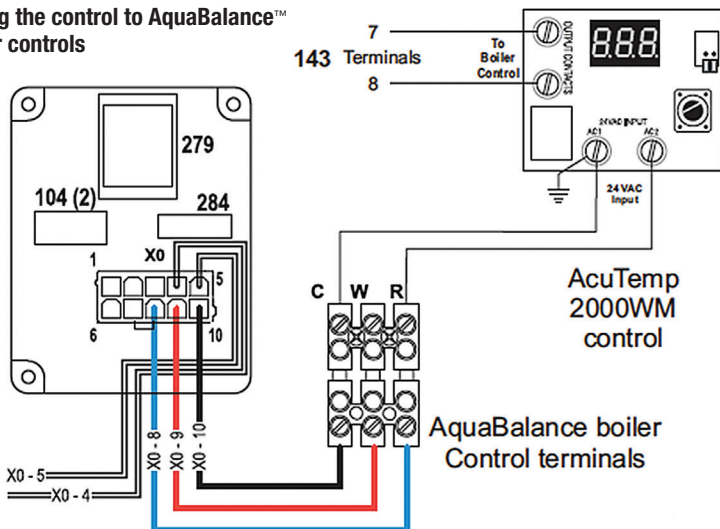
# WIRING THE CONTROL

REFER TO "WIRING THE CONTROL" BELOW OR YOUR TANK MANUAL FOR WIRING INSTRUCTIONS.



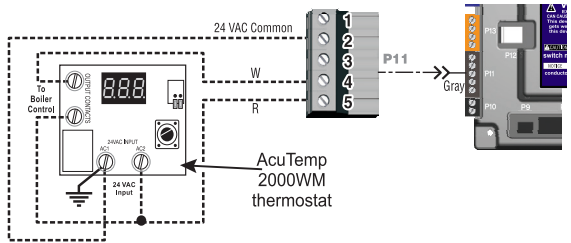
- 1 Connect a 24 VAC power source to the "24 VAC Input" terminals (24 VAC transformer field supplied).
- 2 Connect the "Output Contacts" to the zone or boiler control's domestic water input.   
NOTE: The "Output Contacts" are isolated dry contacts that close when the control calls for heat.
- 3 Eliminate stray voltage in the power circuit by connecting the 24VAC power to AC2 and grounding AC1. Confirm correct connections by verifying 24VAC between AC1 and AC2.

## Wiring the control to AquaBalance™ boiler controls

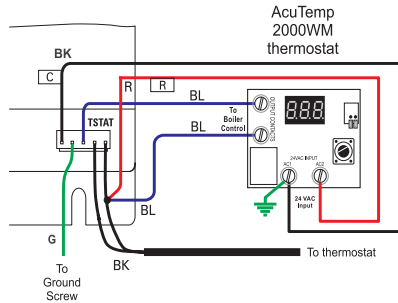


## WIRING THE CONTROL – continued

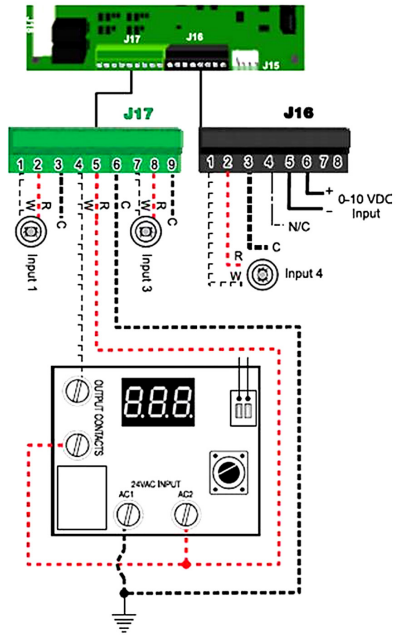
Wiring the control to  
 ECO (1176-120/121),  
 Evergreen (1176-160),  
 Slimfit 550-750  
 (1176-170) and  
 Ultra (1176-100)  
 boiler controls



Wiring the control to  
 GV90+ (1135-700),  
 CGa (1135-05/606),  
 CGi (1135-615), and the  
 EG Water (1135-605) boiler  
 controls

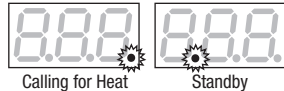


Wiring the control to ECO Tec  
 boiler controls



## DISPLAY

During normal operation, one of two indicating lights will appear on the display. If the control is calling for heat, the indicating light on the bottom right of the screen will illuminate. When the water temperature reaches the control set point, the indicating light on the left of the display will illuminate indicating that the tank is up to temperature and the control is in Standby.



## SETTING THE CONTROL

Push the setting dial to enter the Temperature Setting mode. When pressed, the display will show 'OFF' or the current temperature setting. Turn the dial to select the desired water temperature to be maintained in the water heater. See Commercial/Residential (below) for available temperature ranges. The display will return to the operating mode (see Display above) after five seconds of inactivity.

**IMPORTANT:** Temperature variations can exist within the water heater. The value displayed on the control is the approximate temperature. A typical starting adjustment point is 120°F. Test the water at the closest point of use for final control adjustment.

**DANGER: Scald Hazard – Exposure to 125°F or hotter water can cause scalding injuries. A mixing valve should be installed on installations where point of use water temperatures are 125°F or higher.**

**Temperature Differential** The differential does not need to be set. The AcuTemp's advanced software algorithm determines the optimum temperature to initiate heat calls.

**Celsius / Fahrenheit** To change from Fahrenheit to Celsius, push and hold the setting dial for 5 seconds. The current selection, "F" or "c" will blink on the LED display. Release and turn the setting dial to the desired setting "F" or "c" then push the setting dial again to select it. NOTE: When the control is set for Celsius, the display will include a "c" following the temperature. Once selected, the display will return to the current water temperature.

**Residential / Commercial** The control is equipped with two temperature ranges: One for residential installations (60°F-160°F) and a second for commercial installations (60°F-180°F). To change from the Residential range to the Commercial range, remove power from the control. Then push and hold the setting dial while restoring power. The current range, "r" or "c" will blink in the LED display. Release and turn the setting dial to the desired range "r" or "c", then push the setting dial again to enter the setting. Once entered, the display will briefly show the selected setting; then the control will display "off". Follow the instructions above (Setting the Control) to set the desired temperature within the selected (residential or commercial) range.

## Error Codes



Sensor Error

The resistance value of the sensor is out of range. Check the sensor connection to the pc board. If the connection is good, the sensor may need to be replaced.



Self Test Error

The control has failed an internal test of the hardware or software. Try cycling 24 VAC power off and on. If the problem is resolved, the control will return to normal operation. If the error does not clear, the control should be replaced.



Water temperature over 125°F (52°C) can cause severe burns instantly resulting in severe injury or death.

Children, the elderly, and the physically or mentally disabled are at highest risk for scald injury.

Feel water before bathing or showering. Temperature limiting valves are available. Read instruction manual for safe temperature setting.