U-CLASS SPA SYSTEMS
Dealer TechBook

• by Gecko Alliance •

Technical Specifications, Programming,

Installation & User's Instructions!

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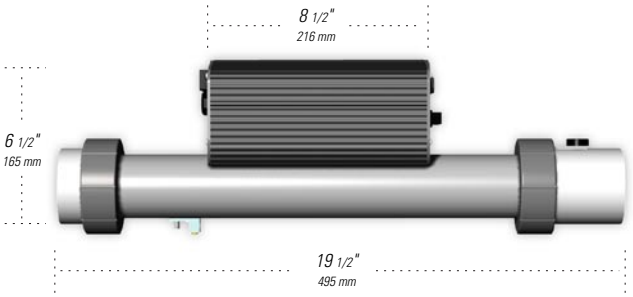

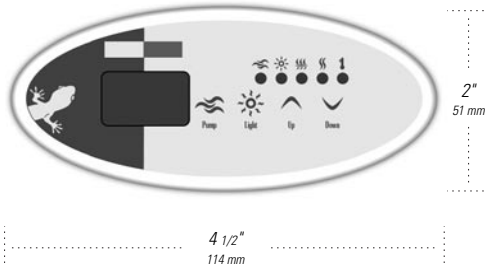

Description

The UC-CF control is designed for spas equipped with either a single- or dual-speed water pump, mood light and ozonator.

Electrical specifications

Input
120 V, 60 Hz, 15 A

Output
Pump
Max. 15 FLA, 60 LRA, 120 VAC
Water heater
Max. 15 A, 120 VAC
Light
12 VAC, 1A max.

The total of output current cannot exceed the input rating!

System features

- The control keypad features indicator lights and digital display.
- Water temperature can be displayed in °F or °C.
- The mood light can be 12 VAC and is also compatible with the color kinetic module.
- The control allows the user to choose between two light intensities.
- A built-in timer automatically turns pump off after 20 minutes, unless manually deactivated first.
- A 1 kW heater maintains the desired water temperature.
- A dry-fire probe protects the heater if not enough water is circulating.
- A temperature probe measures water temperature for digital display.

Environmental conditions

Operating temperature
32 to 122°F (0 to 50°C)
Storage temperature
-4 to 158°F (-20 to 70°C)

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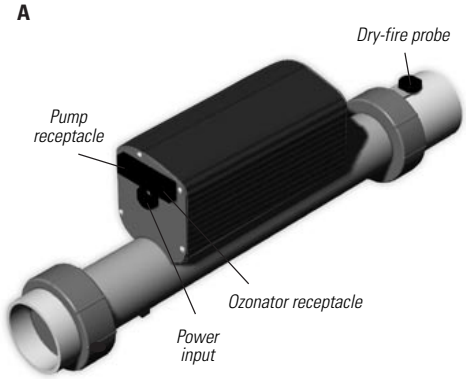

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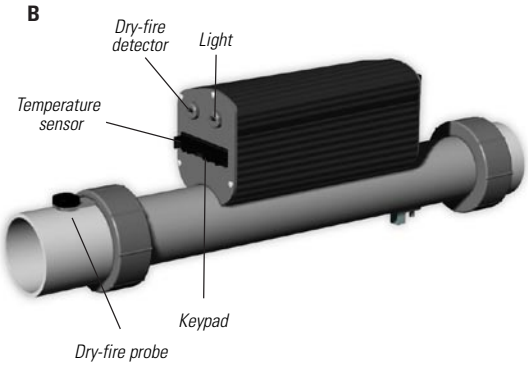


Figures A and B above: View of power unit connections from both sides.

Power unit

The power unit is self-supported, being directly fixed to the heater. The heater must be attached securely to the spa's plumbing circuit. It must be located under the spa in an easily accessible location, at least 6" (150 mm) above ground level. An access panel must be provided.

Important: Power must remain **OFF** until all connections have been completed. It is mandatory to connect the control to a circuit protected with a Class A Ground Fault Interrupter.

No other electrical equipment may be connected to this circuit.

Power input

Locate the power input cable.

If the power input cable is equipped with a 15 A Nema plug, simply insert the plug into an electrical outlet.

If the power input cable is not equipped with a plug, connect the individual wires to the electrical circuit through a junction box, ensuring to correctly follow the color codes.

Keypad

A cable is provided to connect the keypad to the power unit.

Pump

Locate the pump receptacle on the power unit. Then, connect the pump cable to pump receptacle.

Light

Attach light socket to the spa and connect light cable to the power unit.

Dry-fire probe

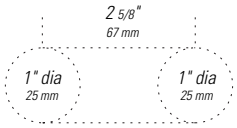
Make sure the dry-fire probe is located on the up-side of the end-piece on the intake side of the heater.

Ozonator

Locate the ozonator receptacle on the power unit. Connect the ozonator cable to the receptacle.

All accessories must be grounded to a second safe earth ground.

A



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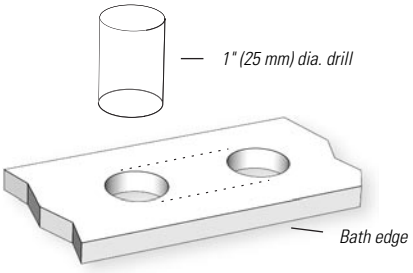

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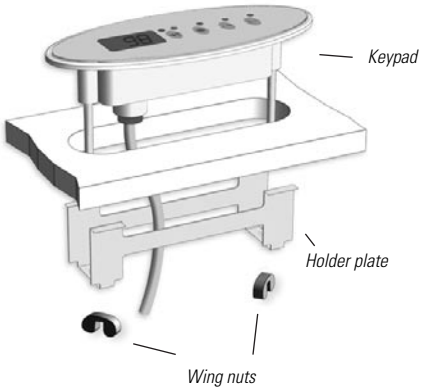

Keypad

The keypad must be installed directly on the spa (or very close to it) within easy reach of the spa user.

Procedure

1- Select the most appropriate location to install the control keypad.

2- Drill two 1" (25 mm) diameter holes as shown in Figure B. Cut out the material between the two holes.

3- Connect the keypad as shown in Figure A before securing it to the spa.

4- Insert the keypad into opening you have cut out. Optional holder plate available to fix more securely in place (see Figure C).

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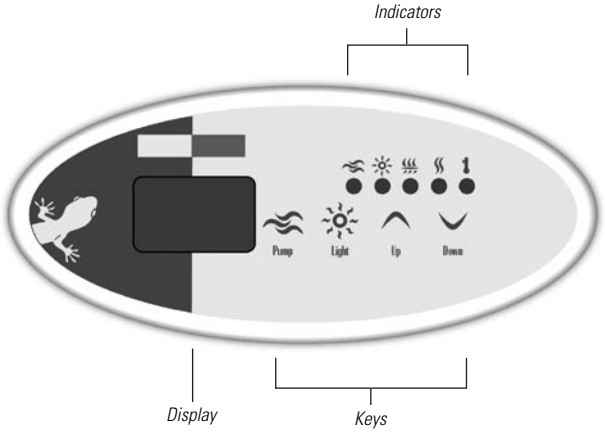


Pump key

Press **Pump** key to turn the pump on at low speed. Press a second time to turn pump to high speed (with a dual-speed pump). Press a third time to turn pump off. When pump is started, it will automatically run for 20 minutes, unless manually deactivated first.

The "Pump" indicator lights up on the keypad when pump is on at high speed. It flashes when pump is on at low speed.

Light key

Press **Light** key to turn the light on at high intensity. Press a second time to change light to low intensity. Press a third time to turn light off. A built-in timer turns the light off 2 hours after the pump has shut down, if the light has not been turned off manually.

The "Light" indicator lights up on the keypad when light is on at high intensity. It flashes when light is on at low intensity.

Up & Down arrow keys

Press and hold **Up** or **Down** arrow key to set the current water temperature setting. The selected temperature ("Set Point" value) will be displayed for 5 sec.

The "Set Point" indicator light tells the spa user that the temperature shown is the desired, and NOT the current water temperature.

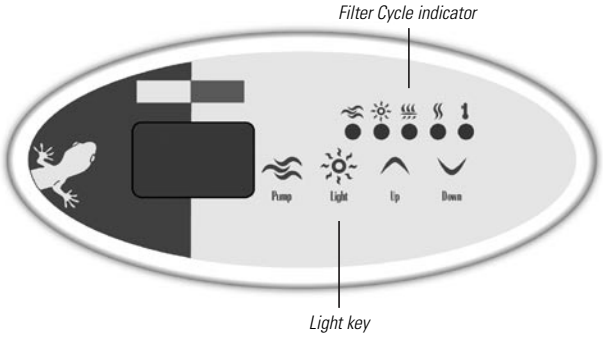
Water temperature can be adjusted in one-degree increments from 59 to 104°F (15 to 40°C).

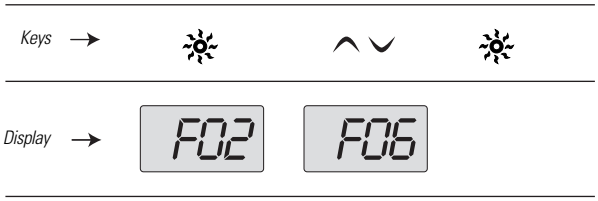
Automatic water heater start

When the water temperature falls 1°F (0.5°C) lower than Set Point, the heater automatically comes on until the temperature reaches Set Point plus 1°F (0.5°C).

The "Heater" indicator lights up on the keypad when heater is on.

Note: If your system is configured in Low Current mode, the heater will not start if pump is running at high speed. The "Heater" indicator will flash.





Filter cycle

The system automatically performs two filter cycles per day, at 12-hour intervals. During filter cycle, the pump will be activated for a predetermined number of hours.

To set filter cycle duration:

- Press and hold **Light** key for 5 seconds.
- The display will show "Fxx", with "xx" representing the current set duration of filter cycle in hours.
- Press **Up** or **Down** arrow key to change setting from 2 to 6 hours.
- When the setting you want is displayed, press **Light** key again. The filter cycle will start immediately.

This process also sets the start time of the filter cycles, which will start up every 12 hours from the time the initial cycle has been programmed.

40-minute filter cycle time out:
If you turn pump or light on during a filter cycle, the cycle will be interrupted and will only resume 40 minutes after you (or the system) have turned the last active output off. The "Filter Cycle" indicator will flash.

Water temperature display

The 3-digit LED display shows the water temperature reading. The reading is updated every second.

Additional features

Temperature probe

During normal operation, the display will show the current water temperature.

Dry-fire probe

The system is equipped with a dry-fire probe, which will shut the heater down in the event that there is not enough water in the heater.

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Smart Winter Mode

UC-CF packs are equipped with a special sensor that measures the air temperature in the spa's plumbing area. If air cold enough to freeze water in the pipes is detected, the system automatically activates **Smart Winter Mode** for 24 hours. In this mode, if a pump is not turned on within 2 hours, the system automatically turns it on for one minute to prevent freezing.

When pump is running, "Filter Cycle" indicator will flash.

High limit temperature

The High Limit temperature sensor will cause the system to shut down the heater because the water temperature AT THE HEATER has reached 119°F (48°C).

3 flashing dots will appear on the display. Turn breaker off then back on to reset the system.

Overtemp mode protection

If water temperature IN THE SPA reaches 112°F (44°C), the display will start flashing and all pumps and accessories will be shut down until the water cools down to109°F (43°C).

During Overtemp Mode only **Smart Winter Mode** and keys that don't start accessories will be functional.

Note: In the case of either Overtemp or High limit protection , DO NOT ENTER the water. Allow water to cool down to109°F (43°C), then power down to reset the error.

Water level sensor

To prevent a "dry fire" in the heater, a water level sensor is installed near the heater pipe. The unit constantly verifies the status of the water level sensor.

If no water is detected, heater is shut down. Three flashing dots are then displayed until problem is corrected or if request for heat is cancelled by decreasing temperature set point.

Temperature probe

If the system detects a problem with the water temperature probe, the wrong temperature will be displayed. Check the connection to the board.

Clearly Advanced Spa Systems!™

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