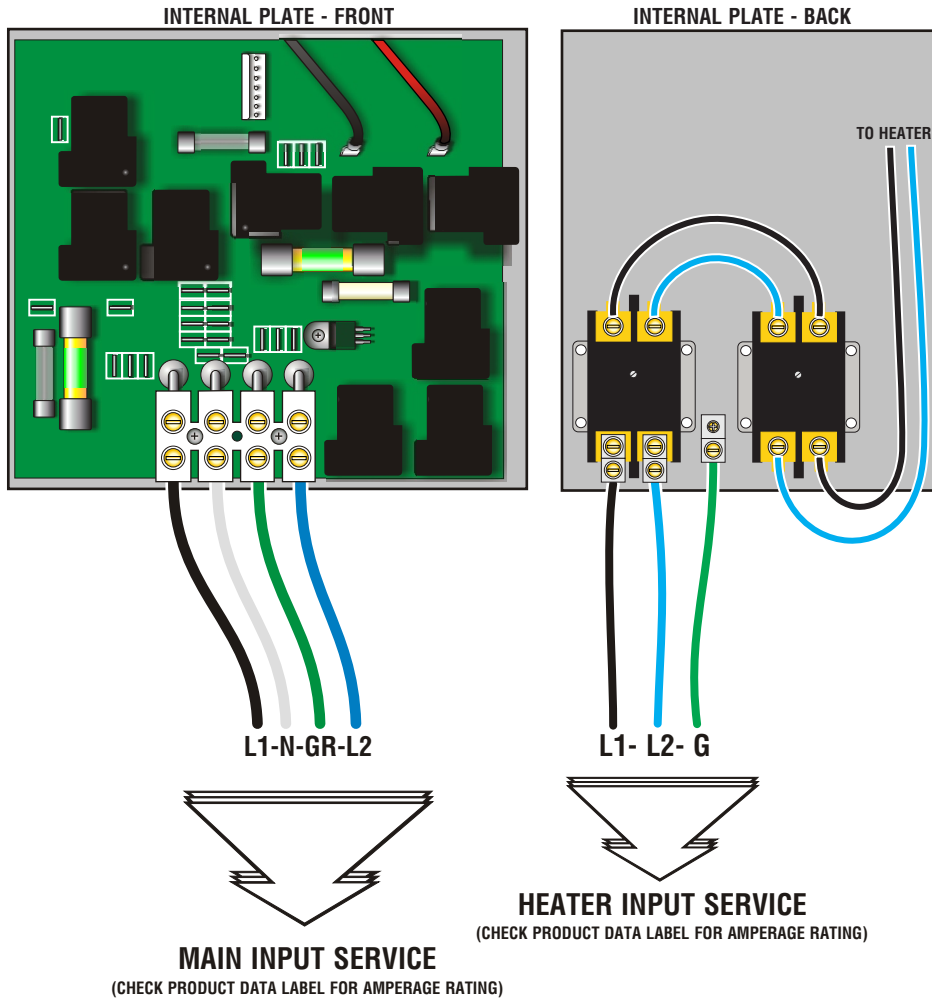


8600 SERIES HC - INCOMING POWER WIRING

For high current models an additional terminal block has been provided. 4-Wire 240V service must be provided to the circuit board terminal block as well as 3-Wire 240V service provided for the High-Current terminal block. Refer to illustrations below:

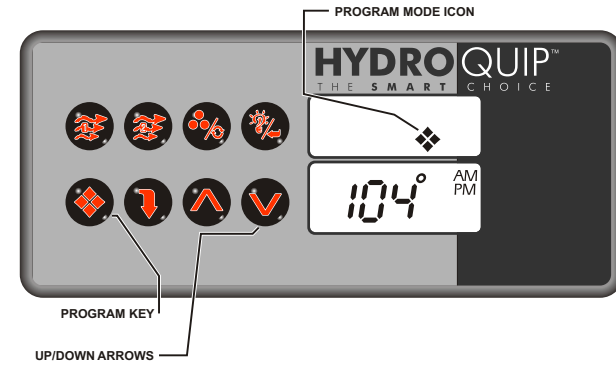
The heater connection is isolated to the “Heater Input Service” connection located on the **BACK OF THE PCB MOUNTING PLATE**. Remove the (2) upper screws on the sides of the upper box, the mounting plate will tilt forward allowing access to the connection points. This connection requires a L1, L2, and Ground connection. (See Illustration Below)



IMPORTANT: Always refer to the product data label (located on top of control box) for specific electrical information.

8600 SERIES HC - DELUXE LOW LEVEL PROGRAMMING

It is possible to change the parameters of the system from the spaside control. All circuit presets have been programmed at the factory. The only settings to be adjusted will be Current Limiting and/or Fiber Optic settings. Follow the procedures described below to adjust these settings.

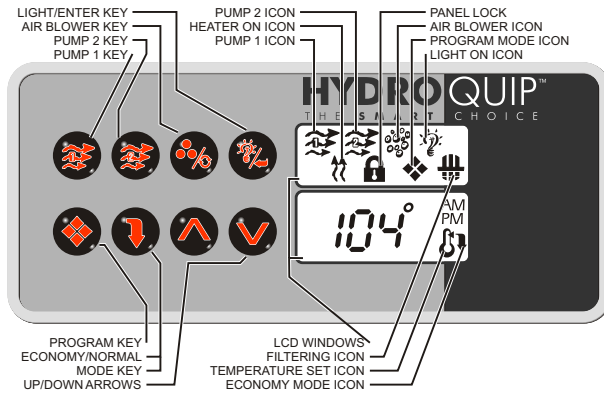


- Press & Hold the Program key for approx 20 seconds. A value of P1_X will appear in the lower window and the Program icon will appear in the upper window indicating that programming mode is active. (X = 1 or 2 in this case)
- To advance to the next setting press the Program key
- To change a setting Press the Up or Down key accordingly
- After desired changes are made press the Program key repeatedly to advance through the rest of the settings, exit the programming mode, and reset the system.

PROGRAMMABLE VALUES

PUMP 1	DISPLAY: P1_X VALUE OF X: 1 = Single Speed 2 = Two Speed	OZONE	DISPLAY: O3_X VALUE OF X: 0 = Not Installed 1 = ON with Filter Cycles 2 = Always ON 3 = Controlled by Filtration Timer
PUMP 2	DISPLAY: P2_X VALUE OF X: 0 = Not Installed 1 = Single Speed 2 = Two Speed	CIRC PUMP	DISPLAY: CP_X VALUE OF X: 0 = Not Installed 1 = 24hr operation (no 4 degree over) 2 = 24hr operation (with 4 degree over) 3 = 24hr operation (with 4 degree over and over temp filtration cycle)
PUMP 3	DISPLAY: P3_X VALUE OF X: 0 = Not Installed 1 = Single Speed (30 minute timeout) 2 = Single Speed (2 hour timeout) 3 = Single Speed (6 hour timeout) 4 = Single Speed (12 hour timeout)	AUX/FO	DISPLAY: AU_X VALUE OF X: 0 = Not installed 1 = EXM-5 Module Ready
BLOWER	DISPLAY: BL_X VALUE OF X: 0 = Not Installed 1 = Single Speed 2 = Two Speed 3 = Three Speed	HCLC	DISPLAY: Cu_X VALUE OF X: 0 = Low Current Mode 1 = High Current Mode
LIGHT	DISPLAY: LI_X VALUE OF X: 0 = Not Installed 1 = 12V Single Intensity (LED Ready) 2 = 12V Three Intensity 3 = (2) Lights - (1) 12V-3 Intensity, (1) 120V 4 = 120V - 2 hour timeout 5 = 120V - 4 hour timeout 6 = 120V - 6 hour timeout	CLOCK	DISPLAY: Ti_X VALUE OF X: 12 = 12/12hr Time Format 24 = 24 hr Time Format
		DRY/RUN	DISPLAY: Dr_X VALUE OF X: 0 = Not Enabled 1 = Dry run enabled
		SUMMER	DISPLAY: Su_X VALUE OF X: 0 = Not Enabled 1 = Summer Mode Enabled

8600 SERIES HC - BASIC OPERATION



Pump 1 Key: Press this key once to turn Pump 1 on. A second press will turn it off. For dual speed pump operation; Press this key once to turn Pump 1 onto Low speed, press this key a second time to turn Pump 1 onto High speed, a third press will turn the pump off. A built-in timer will shut the pump off after 20 minutes of operation unless done so manually. The Pump 1 Icon will appear on the LCD while the pump is running in High speed and flash while it is in Low speed. If the filter icon appears, a filtration cycle has begun and you will not be able to turn the pump off.



Pump 2 Key: Press this key once to turn Pump 2 on. A second press will turn it off. For dual speed pump operation; Press this key once to turn Pump 2 onto Low speed, press this key a second time to turn Pump 2 onto High speed, a third press will turn the pump off. **If equipped this key will also control Pump 3 as follows:** Press this key once to turn Pump 2 on, second press will turn Pump 3 on, third press will turn off Pump 2 while Pump 3 remains on and a fourth press will turn Pump 3 off. For dual speed pump operation; Press this key once to turn Pump 2 low speed on, second press will turn Pump 2 onto high speed and Pump 3 on, third press will turn off Pump 2 while Pump 3 remains on and a fourth press will turn Pump 3 off. A built-in timer will shut the pump(s) off after 20 minutes of operation unless done so manually. The Pump 2 Icon will appear while the pump is running in High speed and flash while it is in Low speed.



Air Blower Key: Press this key once to turn blower onto High speed, a second press will turn the blower onto Low speed and a third press will turn the blower off. A built-in timer will shut the pump off after 20 minutes of operation unless done so manually. The Accessory Icon will appear while the blower is running in High speed and flash while it is in Low speed.



Light/Enter Key: Press this key to turn the light onto its highest intensity, a second press will turn the light onto low and a third press will turn it off. If equipped with Fiber Optic: Press this key once to show "L1". Use the Up arrow key to turn the light onto High, Low and Off. Press the light key a second time, "F1" will appear. Use the Up arrow key to turn the Fiber Optic wheel and light on, Fiber Optic wheel off with light on and both Off. The light will automatically shut off after 2 hours. The Light Icon will appear while the light is on.



Temperature Set Keys: Press the Up arrow key to increase the desired temperature. Press the Down arrow key to decrease the temperature. The temperature can be adjusted in 1F increments from 59°F to 104°F (5C to 40C). The new setting will remain on the display for 5 seconds as a confirmation. During this time the Set Point icon will be appear to let you know this is the desired and not the actual temperature. After 5 seconds the display will return to the current temperature reading. When the temperature drops to 1F below the set temperature, the heater will be turned on until the temperature is 1F above the set temperature. The heater icon will appear while the heater is on and flash when there is a call for heat and the heater has not yet been activated.



Programming Parameters: Press this key, the first parameter "CL" will appear in the display. To adjust the time, press the Light/Enter key. Use the Up/Down Arrow keys to adjust the time. Press the Program key to save the change and move to the next parameter. Follow this same procedure to adjust these parameters: Filter Cycle 1 start time "Fon1" 00:00 to 11:59, Filter Cycle 1 duration "Fdu1" OFF to 12, Filter Cycle 2 start time "Fon2" 00:00 to 11:59, Filter Cycle 2 duration "Fdu2" OFF to 12, Economy start time #1 "Eon1" 00:00 to 23:00, Economy duration #1 "Edu1" OFF to 24, Economy start time #2 "Eon2" 00:00 to 23:00, Economy duration #2 "Edu2" OFF to 24, Economy start time #3 "Eon3" 00:00 to 23:00, Economy duration #3 "Edu3" OFF to 24. A final press will save all changes and the display will revert back to the standard time/temperature mode.

Power Loss: Any interruption of power will cause the unit to reset and revert to the default programming of 95°F set point temperature and 2, 2-hour filtration cycles.

8600 SERIES - ERROR MESSAGES

flc

PRESSURE or FLOW SWITCH ACTIVATED - This error will be displayed only when the pump is not activated. Cycle the pump through Low & High speeds then off. If the error does not clear this is an indication that the pressure or flow switch is activated with no water flow.

Contact your local spa dealer

flO

PRESSURE or FLOW SWITCH NOT ACTIVATED - This error will be displayed while the is pump running. Cycle the pump through Low & High speeds. If the error does not clear this is an indication that the pressure or flow switch has not activated although there is water flow.

Contact your local spa dealer

Prr

TEMPERATURE SENSOR MALFUNCTION - This error will occur when a problem with the temperature sensor exists. This error may also occur if the system is activated while the water temperature is below 35°F.

Contact your local spa dealer

OH

OVERHEAT or HIGH-LIMIT PROTECTION - There are three(3) stages of over-temperature:

- 1 - The spa water has exceeded 112°F. The heater, pump and accessory will be deactivated until the water cools to 109°F. Be sure to check the actual water temperature with an accurate thermometer.
- 2 - The spa water has exceeded 119°F. The heater will deactivate while the pump and accessory will still operate. The blower (if equipped) can be activated to help cool the water. **WATER MUST BE BELOW 119°F AND POWER MUST BE RESET TO CLEAR THE "HL" ERROR**

HI

A dirty spa filter can also cause a restricted flow of water, be sure the filter is cleaned regularly and ensure all water shutoff valves are open.

If the system has been operating normally until now, the pump may be overheating the spa. Refer to "Programming Filtration" on page X and reduce the duration and/or number of cycles per day.

- 3 - If you've eliminated items 1 & 2 as problems, the high-limit sensor may have malfunctioned.

Contact your local spa dealer

free

FREEZE PROTECTION - There are two(2) levels of freeze protection integrated into the system.

- 1 - SMART WINTER MODE, this mode will activate any time the temperature falls below 59°F. This mode will be active for a period of 24-hours. In this mode, if a pump has not been activated in the last 2 hours, the system will automatically turn it on for 1-minute to prevent freezing. The "Filter Cycle" indicator will illuminate while this mode is active.
- 2 - If the spa water temperature drops below 49°F, the heater & pump will be activated until the water temperature reaches 50°F. While freeze protection is active no other functions will be possible.



HYDROQUIP™
13345 Estelle Street • Corona, CA 92879-1881
Email: hq@hydroquip.com • Internet: <http://www.hydroquip.com/>
Telephone: 909.273.7575 • Fax: 800.332.7190