



ProLogic®/AquaLogic

Troubleshooting Guide Residential



Safety Precautions



High Voltage Electrocution Hazard

Hazardous voltage can shock, burn, cause serious injury and or death. To reduce the risk of electrocution and or electric shock hazards:

- Only qualified technicians should remove the dead front
- Replace damaged wiring immediately
- Insure panel is properly grounded and bonded

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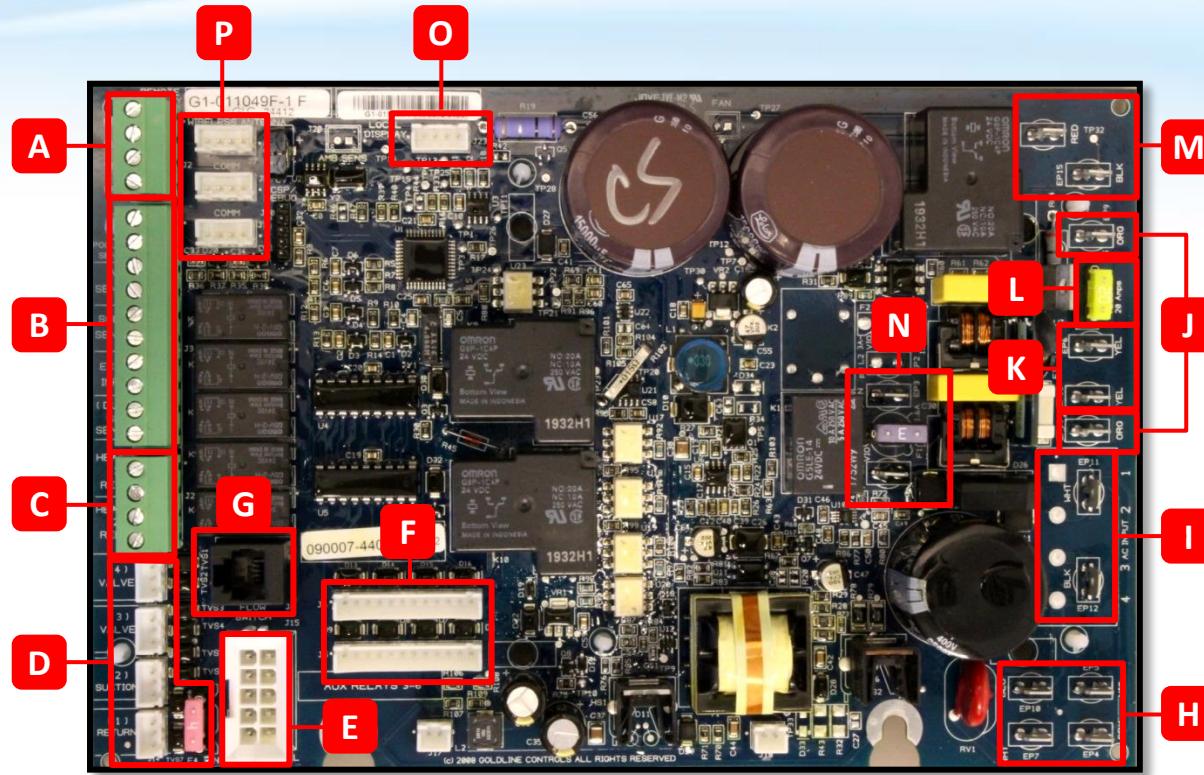
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ProLogic: How It Works

- All ProLogic systems are salt chlorination ready and can control 4-16 high voltage relays, 3-4 valve actuators and 1-2 heaters.
- These systems can manage: Hayward Variable Speed Pumps, ColorLogic Lighting, Sense & Dispense, AquaConnect Homenet, as well as a wide variety of remotes.
- The panel features an 8 slot, 100amp subpanel.
- Equipment can be programmed to run off daily schedules and/or based on manual commands. Equipment such as heaters can be programmed to operate only on demand. Safety features such as interlocks and freeze protection can help protect pool pad equipment.



ProLogic: Main PCB Layout



A	Remote DSP comm (RS485 – 10VDC)
B	Temp sensor terminal block (5VDC)
C	Heater 1&2 terminal block (dry contacts)
D	Valves 1-4 & 4Amp fuse (24VAC)
E	Cell Plug for chlorination
F	High Voltage Relays (top – Filter, Lights, AUX1, AUX2; bottom (AUX 3-6).
G	Flow Monitor (flow switch connector)
H	Transformer Input (120VAC X 2)

I	System Input Power (120VAC from breaker)
J	Rectifier input (24VAC for Chlor. circuit)
K	Transformer Output (24VAC)
L	20Amp Fuse (protects Chlor. circuit)
M	Rectifier Output (18-33VDC – Chlor. circuit)
N	Sense & Dispense output (120VAC)
O	Local Display power (11VDC)
P	Plugs for accessory equipment (11VDC)

Transformer



Rectifiers



Air/Water Sensor





ProLogic®

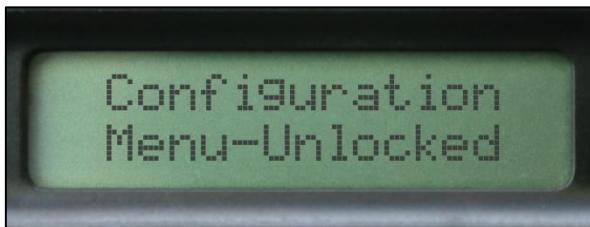
How To:



How To: Reset Config. to Default

Follow these steps ONLY if you wish to restore the system to factory default.

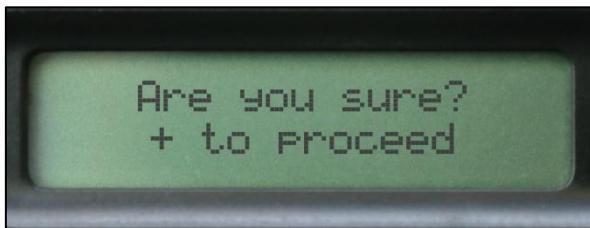
WARNING: Resetting the system to factory default will wipe out all configuration changes, schedules, and settings preferences.



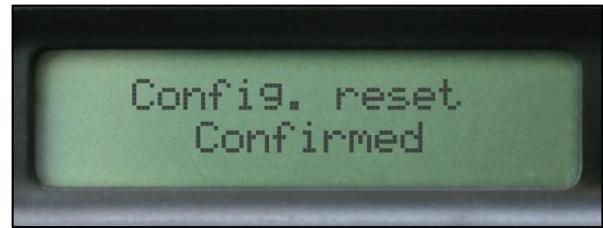
Press the 'Menu' until, 'Configuration Menu-Locked' appears. To unlock, press and hold the (<) & (>) keys until the text on the display changes from 'Locked' to 'Unlocked'.



Press the (<) one time, 'Reset Config. to Default' should appear on the display. Note: pressing the (>) repeatedly in configuration also eventually lead to this screen.



Press the (+) key to reset. The system will ask 'Are you sure?', press 'Menu' to cancel, OR the (+) button again to confirm. Warning: Once confirmed, all stored information will be erased.



Once the reset has been completed, the display will report 'Config. Reset Confirmed'. To exit Config., press the 'Menu' button, to continue programming press the (>) button.

Note: It is important to write down the system's configuration, settings, and timers prior to resetting the Configuration to Default.

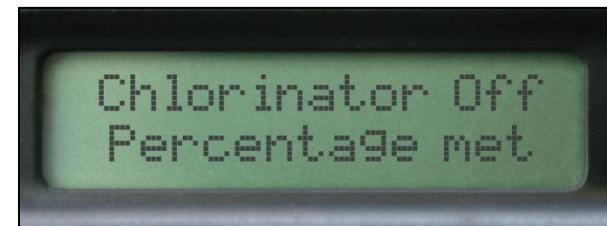
How To: Reset Average Salt

Follow these steps ONLY if Salt Chlorination is Enabled. The Average Salt level needs to be reset after initial start up, after a board replacement, following major pool chemistry adjustments, and when a cell is replaced.



Step 1

The active salt readings (instant salt) appears in the 'Diagnostic Menu'. Press the 'Menu' button repeatedly, until the 'Diagnostic Menu' appears. Then press (>) one time.



Step 2

If all zeros or if 'Chlorinator Off Percentage Met', press (+) key. IF, after a short countdown delay, the display does not revert to zeros, refer to step 3.



Step 3

Above is an example of the updated instant salt reading in PPM. If this instant salt reading varies from the average press the (>) one time, then go to step 4.



Step 4

Press the (+) key to replace the existing average with this new instant salt reading; this will start the average process over again. Press the 'Menu' button to exit.

NOTE: The main circulation pump MUST be ON and the chlorinator AND flow switch MUST have flow to successfully complete this process.

How To: Adjust Chlorinator Output

Follow these steps to adjust the Chlorinator Output Percentage ONLY if Salt Chlorination is Enabled. NOTE: IF Sense & Dispense 'ORP Auto Sensing' is being used, output must be adjusted under the 'Chemistry Config. Wizard'; refer to next page.



Step 1

To display the settings, press the 'MENU' key until 'Settings Menu' appears. Then press the (>) until 'Super Chlorinate' appears.



Step 2

Use the (+) or (-) button to toggle between super chlorinate 'On' or 'Off' (depending on preference). Then press the (>) one time to display chlorinator % options.



Step 3

Use the (+) or (-) button to adjust desired chlorinator output. If multiple bodies of water are programmed, press the (>) button again. IF only one body of water, press the 'Menu' button to exit.



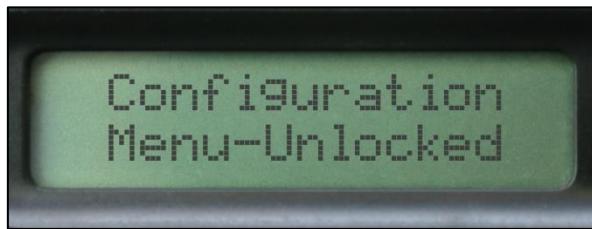
Step 4

For the second body of water, use the (+) or (-) key to adjust the desired chlorinator output. Once complete, press the 'Menu' button to exit.

Note: If the chlorine levels do not increase within 24 hours, test the water chemistry to determine the current salt, stabilizer, phosphate, and nitrate levels.

How To: Adjust ORP Set Point (S&D)

Follow these steps to adjust the Chlorinator's ORP Set Point, ONLY if Salt Chlorination is Enabled AND the system is configured for 'ORP Auto Sensing'.



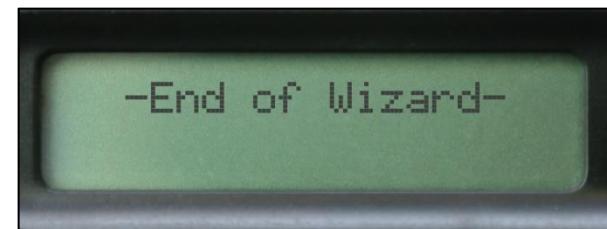
Press the 'Menu' until, 'Configuration Menu-Locked' appears. To unlock, press and hold the (<) & (>) until the text, on the display, changes from 'Locked' to 'Unlocked' (unit will beep).



Press the (>) repeatedly, until 'Chemistry Config. Wizard' appears on the display. Press the (+) key to enter, then (>) until 'Maintain ORP level' appears on the display.



Use the plus (+) key to increase, or the minus (-) key to decrease the ORP set point.

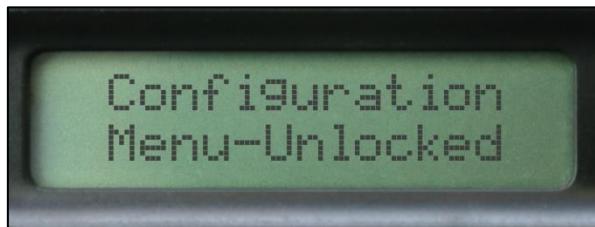


Once the value is set, press the (>) key until '-End of Wizard-' appears on the display, then press 'Menu' to exit config.

Note: ONLY increase or decrease the ORP Set Point in increments of 25 mV. Once free chlorine reaches 3.0, verify and/or balance the water chemistry. Once balanced, note the reported ORP reading, this represents the value for maintaining adequate free chlorine levels.

How To: Change Cell Type

Follow these steps ONLY if Salt Chlorination is Enabled. It is important to verify which cell type is being used AND to verify the system is configured for the correct model. If incorrectly set, salt readings and chlorinator operations will be unreliable.



Step 1

Press the 'Menu' until, 'Configuration Menu-Locked' appears. To unlock, press and hold the (<) & (>) until the text, on the display, changes from 'Locked' to 'Unlocked'.



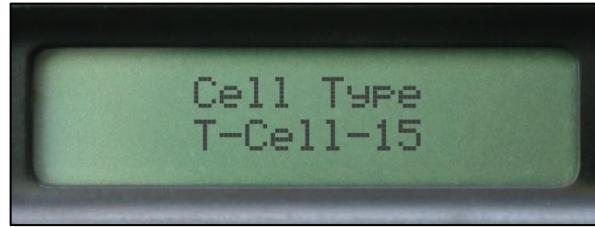
Step 2

Press the (>) until 'Chlor. Config.' appears on the display. Press the (+) button, one time, to enter into the Chlorinator Configuration screen.



Step 3

The display should show 'Chlorinator Enabled' if not, press the (+) button to Enable it. Then press the (>) two times.



Step 4

If the cell type shown does not match the model plumbed-in, press the (+) or (-) until it matches. Then press the 'Menu' to exit.

Note: If the 'Cell Type' option does not appear in the 'Chlor. Config.' menu, then review the system's model number to identify the type of cell that should be used with the system. Some earlier board revisions could not be configured for different cell types.

How To: Reset Inspect Cell Message

Follow these steps ONLY if Salt Chlorination is Enabled AND the system shows a Check System LED, with an 'Inspect Cell' message. Every 500 operational hours this message will appear. Before resetting, inspect and/or clean the cell if necessary.



Press the 'Menu' until, 'Default Menu' appears on the display.
This menu is where the 'Inspect Cell' message is stored.



Press the (>) key, repeatedly, until 'Inspect Cell, Hold + to reset' appears on the display.



To clear, press & hold the (+) key while message is displayed.

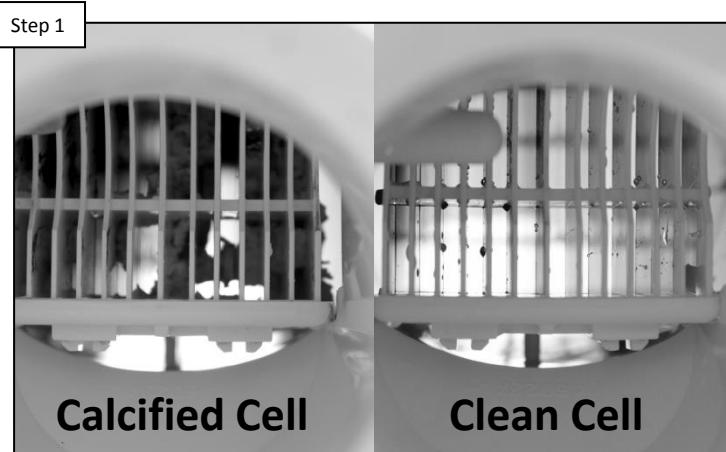


Once complete, press the 'Menu' button to exit.

How To: Clean the TurboCell

Cell cleaning frequency is dependent on several factors; pH & calcium levels have the greatest effect on how often cells requires cleaning. In pH environments between (7.2 - 7.8) cells typically require cleaning 3-4 times a year (with moderate calcium levels).

Turn Pump Off & Remove Cell



Holding the cell up to a light source, inspect for calcium deposits. Even if a TurboCell appears clean, it may still require cleaning if salt accuracy is off AND/OR chlorine production has diminished.

Wear Protective Equipment



If the cell requires cleaning, please wear protective equipment. It is highly recommended to use a Hayward Cell Cleaning Stand as shown on the right ([GLX-CELLSTAND](#))

NOTE: ALWAYS WEAR PROPER EYE PROTECTION AND PROTECTIVE GLOVES.

MIX SOLUTION AND CLEAN CELL ONLY IN A WELL VENTILATED AREA.

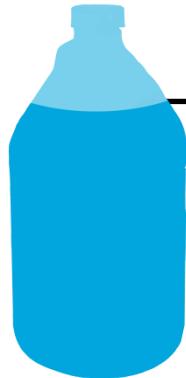
MURIATIC AND OTHER ACIDS CAN CAUSE SEVERE INJURY, BURNS AND RESPIRATORY PROBLEMS IF NOT HANDLED PROPERLY. REFER TO THE MANUFACTURER'S DIRECTIONS FOR SAFE HANDLING.

How To: Clean the TurboCell (cont.)

The TurboCell draws amperage when power is applied, during chlorination. The amperage draw will be impaired when calcium and other debris exist within the cell's electrolytic grid; this in turn effects the salt reading and chlorination efficiency.

Mix: 4 Parts H₂O / 1 Part Muriatic Acid

Step 3



**1 Part:
Muriatic Acid**

**4 Parts:
Water**



Mix a solution comprised of 4 parts water to 1 part Muriatic Acid. Always Add Acid to Water. Once mixed turn the turbo up vertically either in a bucket or using the recommended cell cleaning stand.

Carefully Pour Solution into Cell

Step 4

Cleaning Tip:
**For best results,
stand the cell
vertically with
cord-side down**



Carefully pour the solution into the cell until it reaches the top. The solution should remain in the cell for 15 minute intervals until the reaction is complete. Carefully, pour solution back into approved container.

NOTE: ALWAYS ADD ACID TO WATER! NEVER ADD WATER TO ACID.

The cell cleaning solution may be reused a few times.

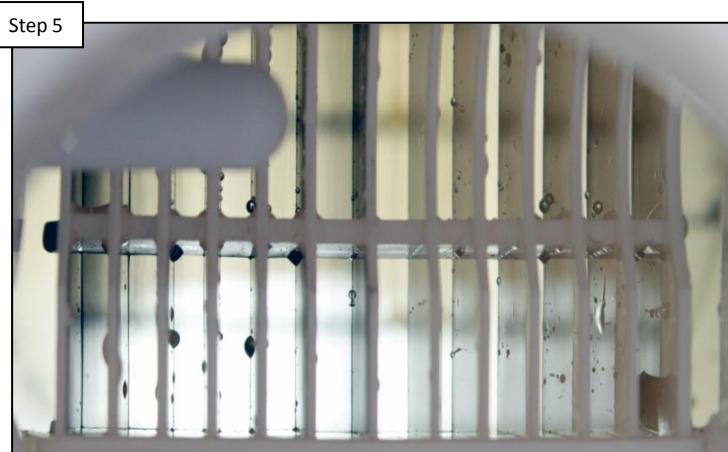
ALWAYS: STORE MIXED SOLUTIONS IN A SAFE AREA, OUT OF HARMS WAY.

When the solution is depleted, follow the manufacturer's instructions for proper disposal.

How To: Clean the TurboCell (cont.)

The check system > 'Inspect Cell' message indicates that the system is recommending the TurboCell should be inspected and cleaned (if necessary). This message will appear every 500 operational hours as a reminder to inspect and/or clean the TurboCell.

Thoroughly Rinse Cell & Return



After the solution has been safely removed, thoroughly rinse the TurboCell before returning it to its place in the plumbing. Once returned turn the pump back ON and proceed to the step 6.

Reset: 'Inspect Cell' message



IF the 'Inspect Cell' alarm appears, then press the 'Menu' button until 'Default Menu' screen appears, navigate using the (>) until 'Inspect Cell press + to reset' appears, then promptly press the (+) key.

NOTE: If the cell was reading a low salt level prior to cleaning, the average salt may need to be reset. To reset the average salt level, follow the steps outlined on pg.8 or wait 24 hours for the system to acclimate to the recent changes. For detailed instructions on resetting the 'Inspect Cell' message, refer to pg. 12.



ProLogic®

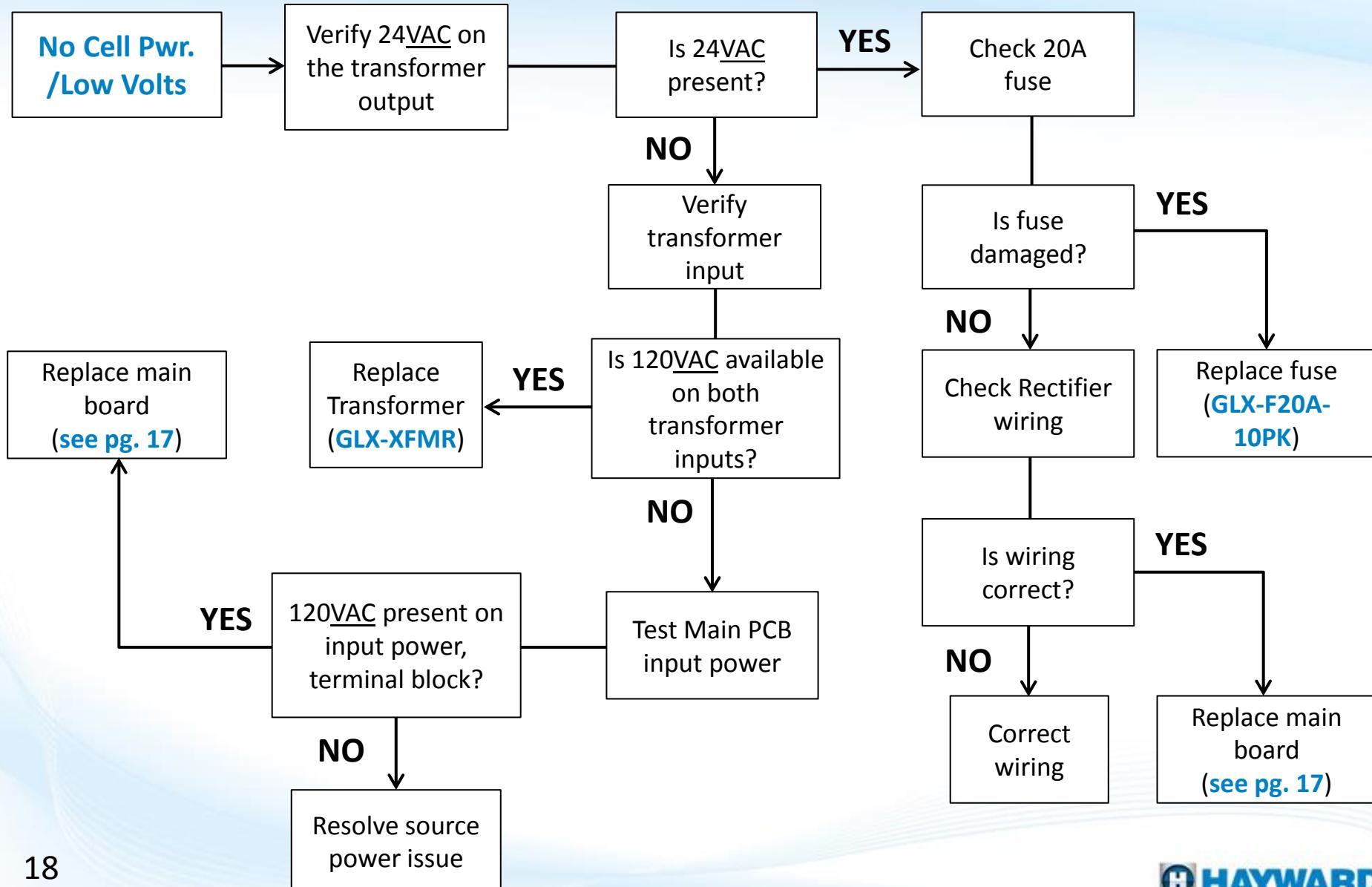
Troubleshooting



SKUs: ProLogic vs. AquaLogic

Product SKUs			
<i>ProLogic</i>		<i>AquaLogic</i>	
Main Board	GLX-PCB-PRO	Main Board	GLX-PCB-MAIN
Local Display	<p>*GLX-PL-LOC-xx</p> <p><i>*substitute appropriate model number (xx=P4, PS4, PS8, or PS16)</i></p>	Local Display	<p>**GLX-LOCAL-xx</p> <p><i>**substitute appropriate model number (xx=P-4, PS-4, PS-8, or PS-16)</i></p>

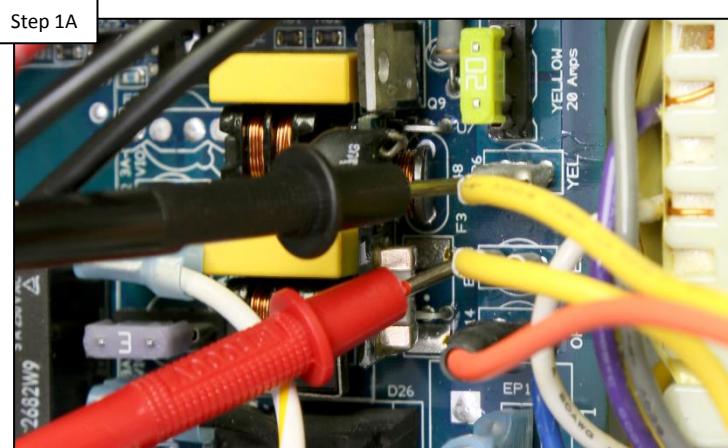
1. No Cell Power/Low Volts



1. No Cell Power/Low Volts

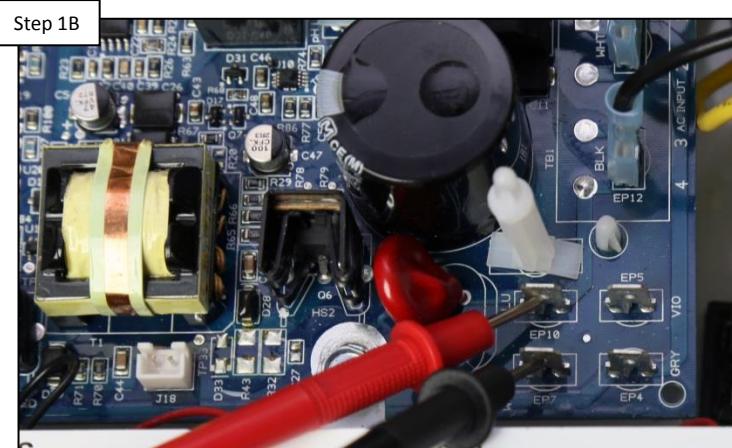
'No Cell Power' & Low Volts implies the chlorinator cycle has been interrupted due to no/low voltage detected when the cell power relay was turned on. If the system reports 'CELL POWER ERROR', replace the main board (see pg. 17).

Test transformer output



Verify that 20-24VAC is present between the two yellow wires (this represents the transformer output).
IF no/low volts, proceed to step 1B. IF voltage is correct, jump ahead to step 1D

Test transformer input

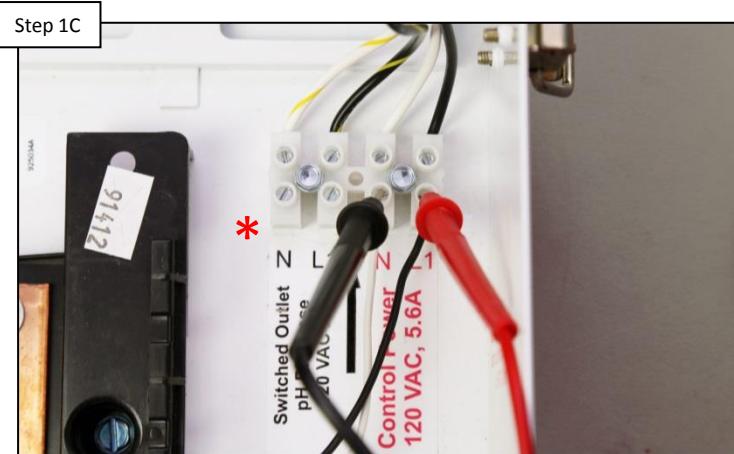


Disconnect the transformer input wires. On the PCB, verify 120VAC between blue & white posts, & 120VAC between violet & grey. IF no/low voltage, go to 1C. IF voltage is correct, replace transformer ([GLX-XFMR](#)).

1. No Cell Power/Low Volts (cont.)

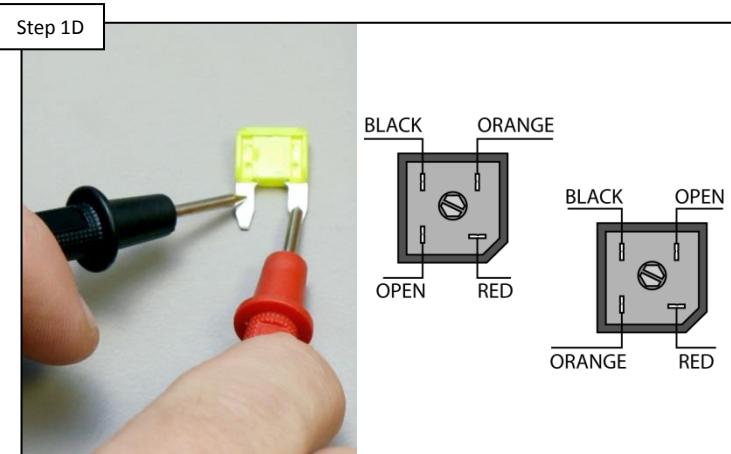
'No Cell Power' means the current chlorinator cycle has been interrupted due to no voltage being detected when the cell power relay was turned on.

PCB Input Power



Verify the ProLogic is receiving 120VAC between the black & white wires on the "Control Power" side of the terminal block. IF no/low volts, correct at the breaker. IF correct replace the main PCB board (see pg. 17).

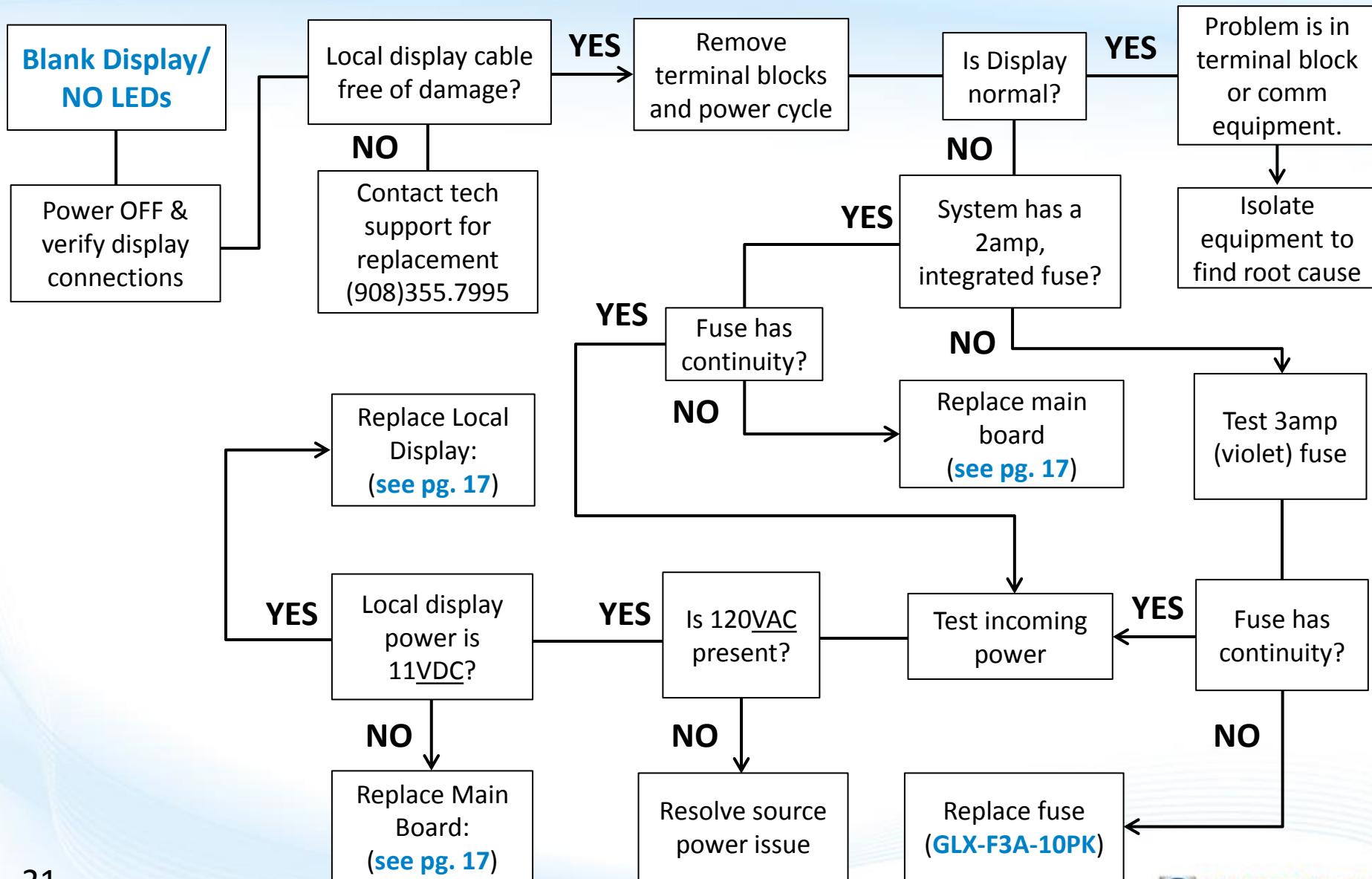
Inspect Fuse & Rectifier wiring



Visually inspect & test the 20Amp fuse. IF fuse is blown, replace it ([GLX-F20A-10PK](#)). IF fuse is OK, inspect the rectifier wiring. IF rectifier wiring is correct, replace the main board (see pg. 17).

NOTE: Verify the main board's input power comes from positions 3 & 4 on the terminal block, which is labeled "Control Power". The two bottom left terminal blocks are factory installed for SENSE & DISPENSE OUTPUT POWER ONLY, AND SHOULD NOT BE USED TO POWER THE MAIN SYSTEM BOARD.

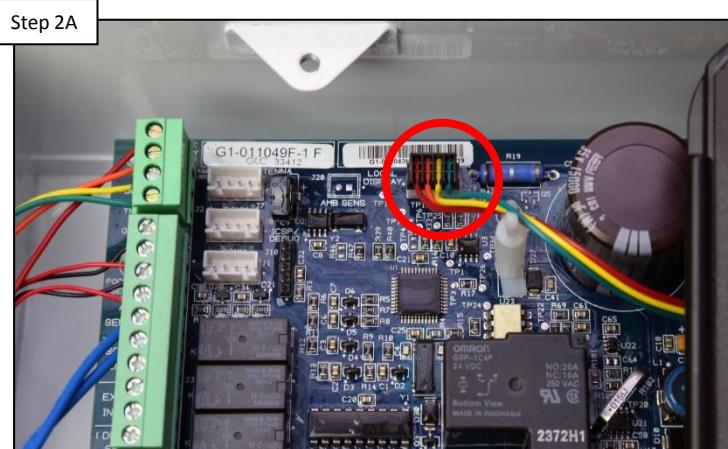
2. Blank Display/No LEDs



2. Blank Display/No LEDs

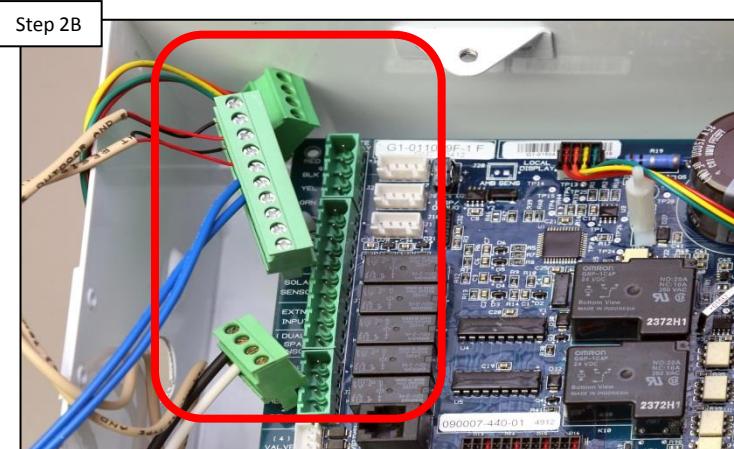
If the local display shows a blank display or no lights are illuminated an abrupt power outage may have been the cause, in this case, resetting the unit may correct this problem.

Verify display connections



Turn off power at the main breaker and remove the display wiring harness. Inspect for damage and reseat. IF damaged, contact technical support for a replacement cable (908.355.7995). IF okay, go to 2B.

Disconnect terminal blocks



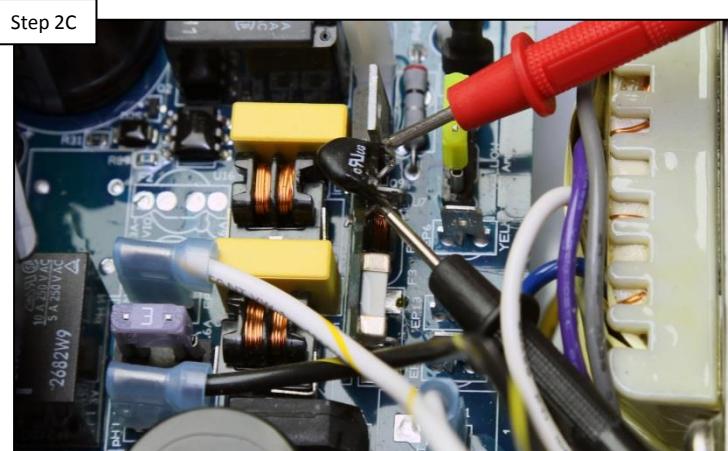
With power OFF, remove the terminal blocks on the left side of the PCB (including comm equipment). Restore power. IF display appears, problem resides in the terminal blocks. IF display is still OFF, go to 2C.

NOTE: If the blank display or No LEDs symptom is being caused by the comm equipment or in the terminal blocks. Isolate the problem by plugging in one piece of equipment at a time, until the problem reappears.

2. Blank Display/No LEDs (cont.)

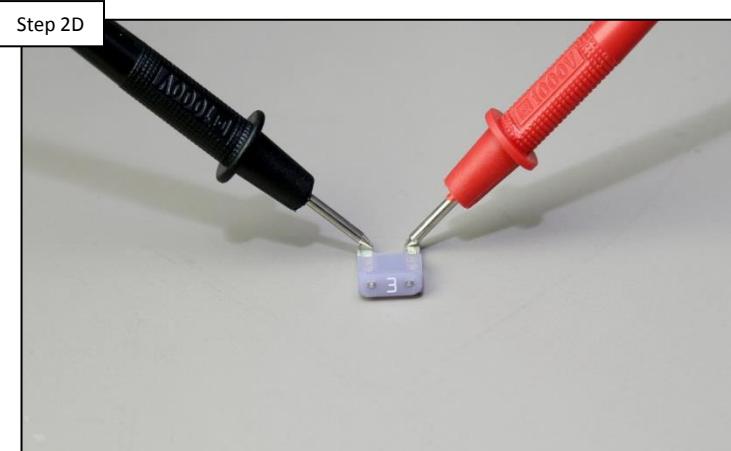
ProLogic main boards have a 2amp, permanently installed fuse that protects the local display circuit. AquaLogic main boards had a 3amp violet ATO style fuse that protected the local display circuit.

Test fuse



With power OFF, test the 2amp fuse integrated into the board. IF this fuse is not present, go to step 2D. IF fuse has continuity, proceed to step 2E. IF the fuse is damaged, replace the main board (see pg. 17).

Test 3amp fuse



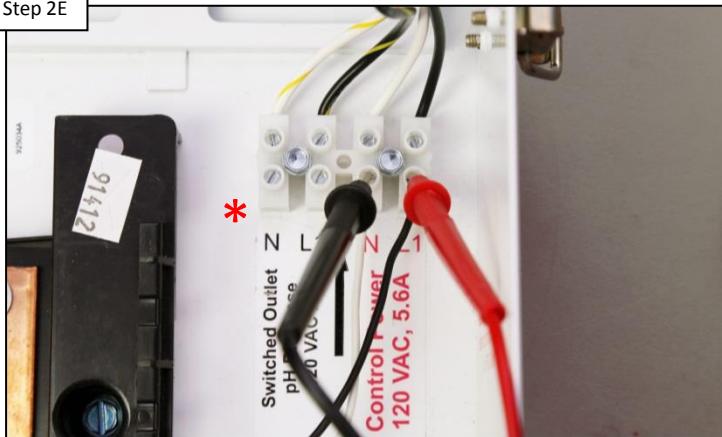
With power OFF, test the 3amp fuse, located near the local display. IF the fuse is bad, replace it ([GLX-F3A-10PK](#)). IF the fuse has continuity, go to step 2E. NOTE: this style of fuse is only found on AquaLogic systems.

2. Blank Display/No LEDs (cont.)

If the local display shows a blank display or no lights are illuminated an abrupt power outage may have been the cause, in this case, resetting the unit may correct this problem.

Test incoming power

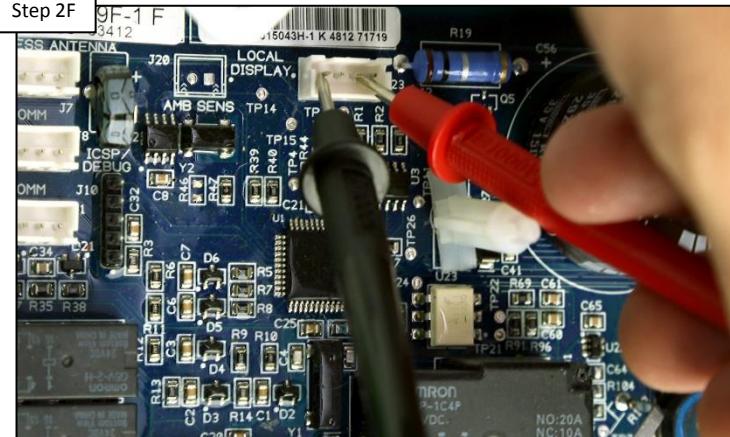
Step 2E



Turn the main system breaker ON and verify that **120VAC** of input power is present. IF no/low voltage, correct the source power issue. IF voltage is correct, proceed to step 2F.

Test local display power

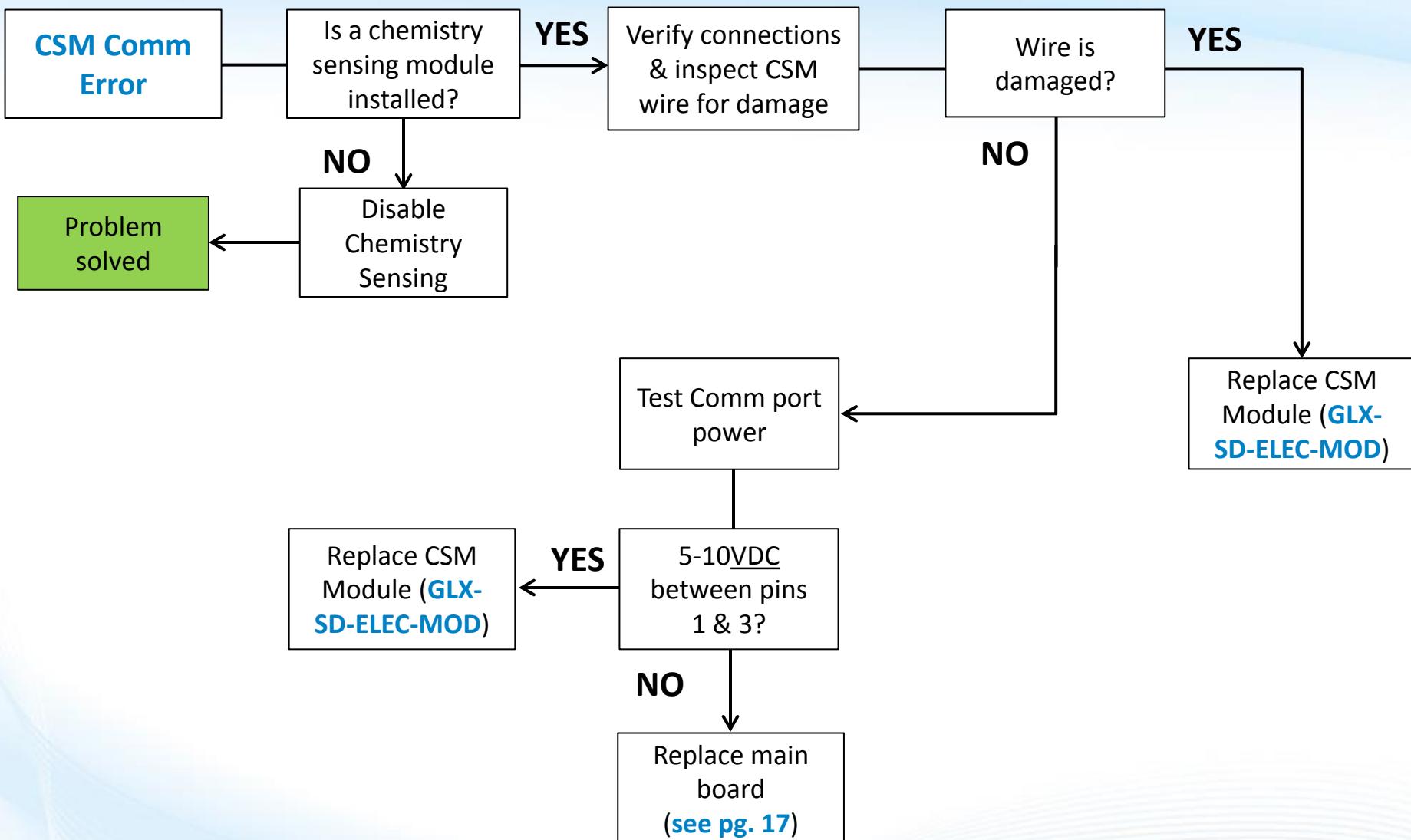
Step 2F



With power OFF, disconnect display, and restore power. Verify, across pins 1 & 3 (left to right) for 5-11VDC. IF no/low voltage replace main board. IF correct, replace display (see pg. 17).

NOTE: Verify the main board's input power comes from positions 3 & 4 on the terminal block, which is labeled "Control Power". The two bottom left terminal blocks are factory installed for SENSE & DISPENSE OUTPUT POWER ONLY, AND SHOULD NOT BE USED TO POWER THE MAIN SYSTEM BOARD.

3. CSM Comm Error



3. CSM Comm Error

CSM stands for (Chemistry Sensing Module), this error appears when Sense & Dispense is enabled, but the Chemistry Sensing Module is not found.

Verify HL-CHEM is installed



HL-CHEM
CSM =
Chemical
Sensing
Module

Verify whether or not a HL-CHEM (sensing module and enclosure) is installed. IF not installed, go to step 3B to disable this feature. IF a sensing module is installed, proceed to step 3C.

Disable sensing system

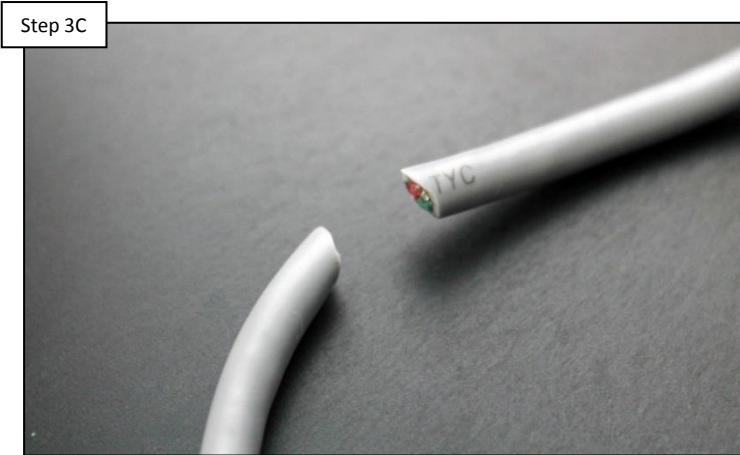


Press 'Menu' button until, 'Configuration Menu' appears. Press & hold the (<) & (>) buttons until config. Is unlocked. Press (>) until 'Chemistry Wizard' appears, press (+) to enter. Finally, press (+) again to disable.

3. CSM Comm Error (cont.)

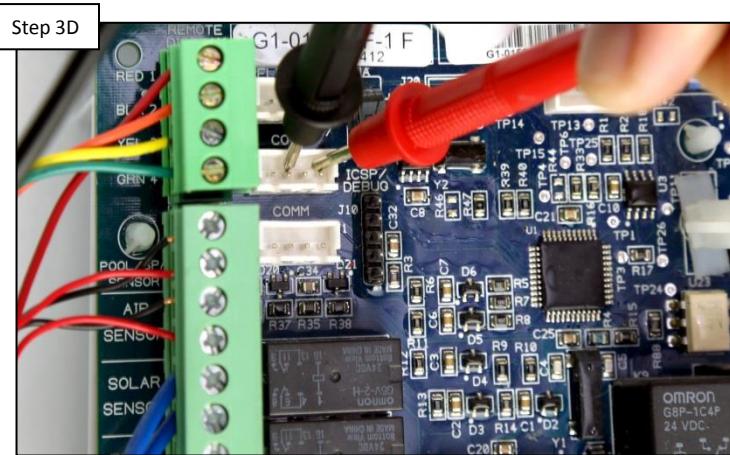
The Chemistry Sensing Module plugs into one of the three available communication ports of the ProLogic (which are located on the top left side of the main board).

Verify wires & connection



Verify wire between HL-CHEM and ProLogic, is not damaged. Unplug CSM connector from main board & plug it back in. IF wire/connector is damaged replace (GLX-SD-ELEC-MOD). IF free of damage, go to step 3D.

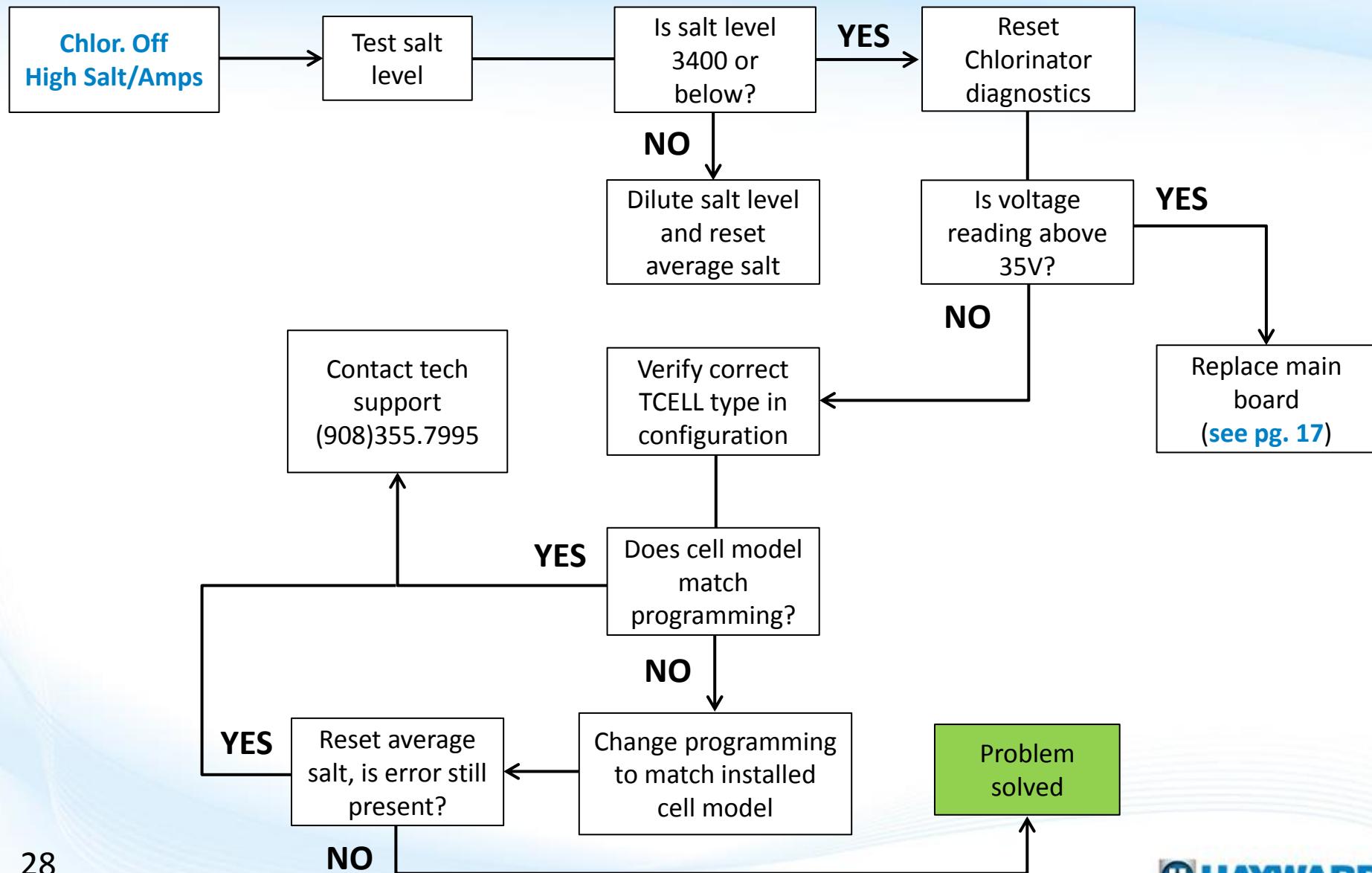
Test comm port



While powered, test for **5-10VDC** between pins 2 & 4 (left to right). IF no/low voltage, replace the main board (see pg. 17). IF voltage is correct, replace the chemistry sensing module (**GLX-SD-ELEC-MOD**).

NOTE: If the cable that runs from the HL-CHEM to the ProLogic board is damaged then the chemistry module MUST be replaced. DO NOT attempt to repair damaged cable.

4. Chlorinator OFF, High Salt/Amps



4. Chlorinator OFF, High Salt/Amps

The message 'Chlorinator Off – High Salt/Amps' indicates that the ProLogic has detected an amperage draw, from the turbo cell, that exceeds the allowable threshold for the programmed cell model.

Test salt level



Test the salt concentration of the water using an independent test, with a calibrated salt meter. IF salt is above 3400, go directly to 4E. IF correct, go to 4B.

Reset chlorinator in diagnostics



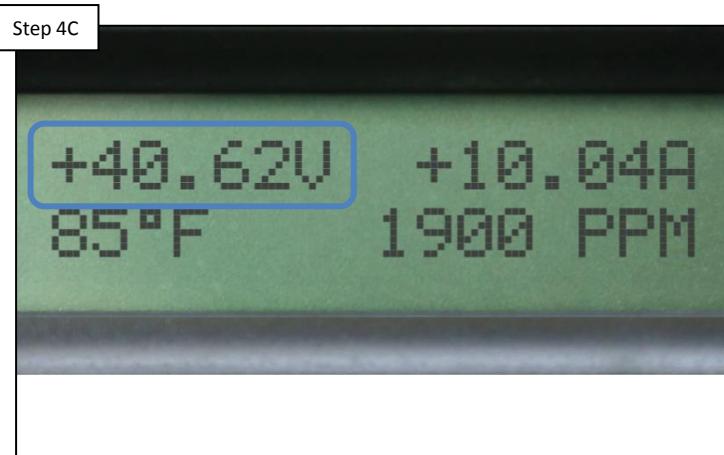
With the pump running, press the 'Menu' button until 'Diagnostic Menu' appears. Press the (>) one time. Then press the (+) to reset the chlorinator and go to 4C.

NOTE: If the main circulation pump was recently turned on, the chlorinator may show up to a 60 second Filter delay. Once the countdown expires, verify the voltage, amperage, temperature and salt level are expressed under the 'Diagnostic Menu'.

4. Chlorinator OFF, High Salt/Amps (cont.)

The message 'Chlorinator Off – High Salt/Amps' indicates that the ProLogic has detected an amperage draw, from the turbo cell, that exceeds the allowable threshold for the programmed cell model.

Verify chlorinator readings



After a short delay, new readings should appear on the display. These readings reflect the active information related to the chlorinator circuit. IF the ProLogic is reporting a voltage of 35V or higher, replace the main board (see pg. 17). IF voltage is under 35V, proceed to step 4D.

Verify cell programming



Verify model number of installed cell. To verify, press the 'Menu' until 'Configuration Menu' appears. Press (>) one time, followed by (+). Press (>) two times to display 'Cell Type'. IF programmed cell does not match model, use (+)/(-) to change. IF correct, contact tech support (908) 355.7995.

NOTE: The chlorinator circuit should never exceed 33Volts. If the voltage reads higher than 33V, under the 'Diagnostic Menu' the main board will need to be replaced.

4. Chlorinator OFF, High Salt/Amps (cont.)

The salt concentration will need to be reduced. To calculate how much water to drain, follow the formula provided below (Proportional Method):

Step 4E

Part I

(Ave. Pool Depth" X 3200)

Actual Salt level in Pool

Part 1: Take the average depth of the pool in inches and multiply that by 3200. Then divide that number by the actual salt level in the pool (based on the independent test).

Part 2: Subtract the "Ave. Pool Depth" by the answer from part 1. This will give you the total number of inches to drain and replenish with fresh water to achieve a salt level of 3200.

Part II

Ave. Pool Depth - Answer from Part 1 = Amount of Water to Drain

Example: a pool has an ave. depth of 54" and the salt level is 4500ppm

Example: Part I

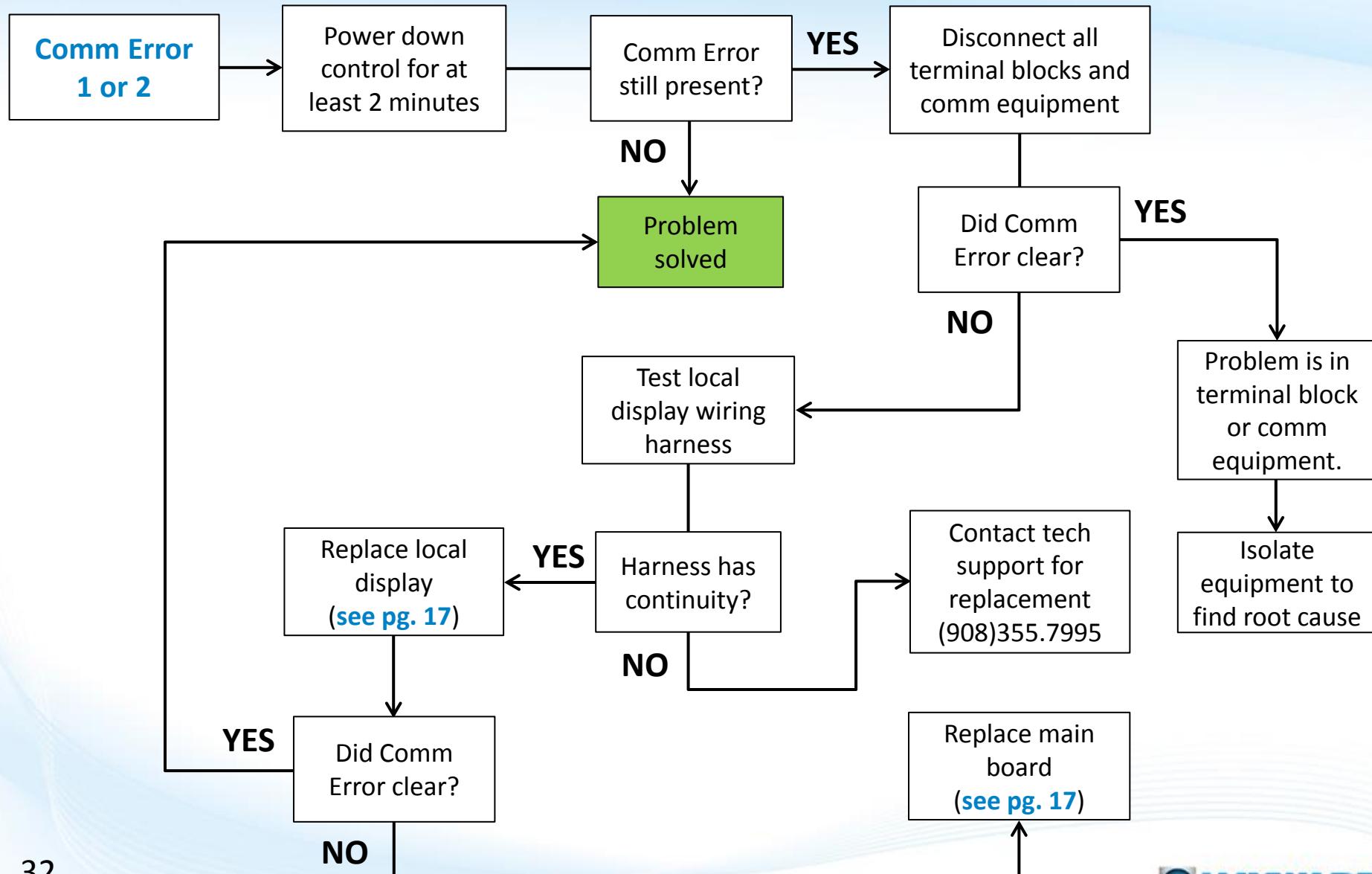
$$54 \times 3200 = \frac{172800}{4500} = 38.4$$

Example: Part II

$$54 - 38.4 = 15.6"$$

Note: It is recommended to reduce the water level no more than six inches at a time before replenishing with fresh water. Failure to do so may result in damage to the pool structure or surface.

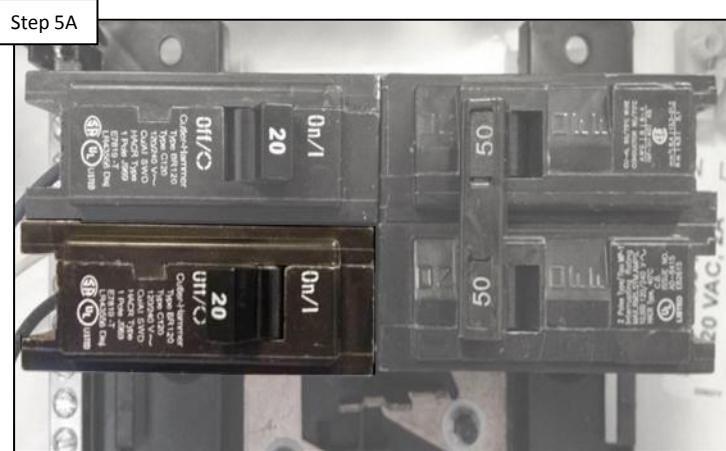
5. Comm Error 1 OR 2



5. Comm Error 1 OR 2

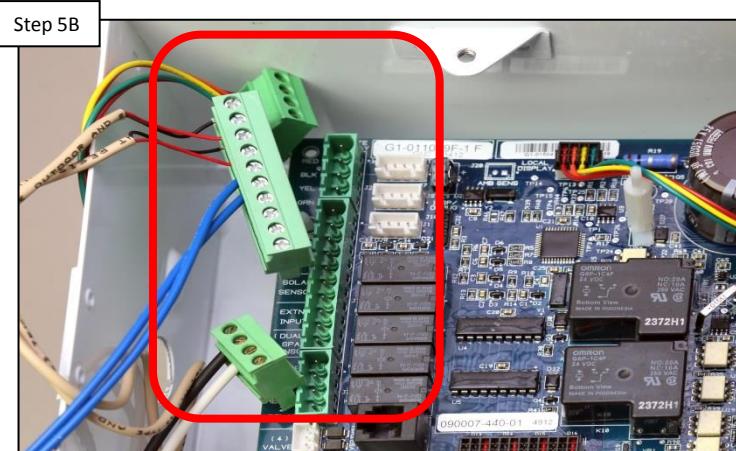
Comm Error 1: Typically occurs after a brownout or power outage and typically can be cleared by power cycling.

Power cycle



Move breaker (supplying the ProLogic with power) to the Off position for 2 minutes, then restore power. IF Comm Error clears, then the problem is solved. IF Comm Error is still present, go to step 5B.

Disconnect terminal blocks



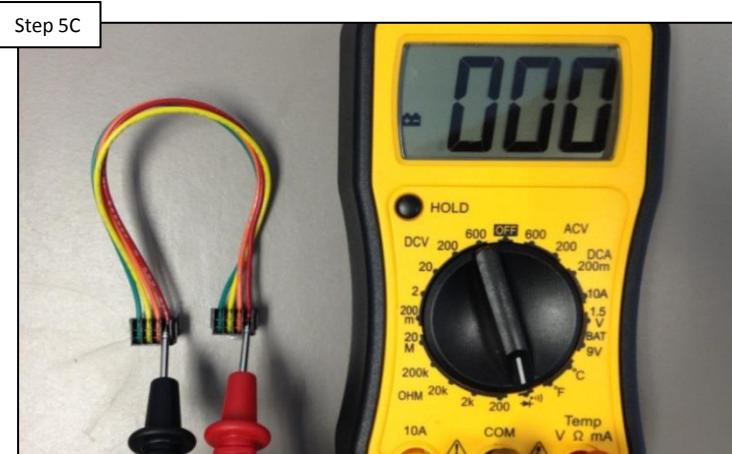
With power OFF, remove the terminal blocks on the left side of the PCB (including comm equipment). Restore power. IF Comm Error clears, the problem resides in the terminal blocks. IF still present, go to 5C.

NOTE: With ProLogic revision 4.10, a heater terminal block was added (moving the heaters off the main sensor block which was common in older revisions). Verify all connected heaters are wired to the correct terminal position, as this can cause display problems and communication errors.

5. Comm Error 1 OR 2 (cont.)

Comm Error 2: Typically appears when power is incorrectly applied to the communication circuit, a problem with the local display, OR in some rare cases the main circuit board.

Test the local display harness



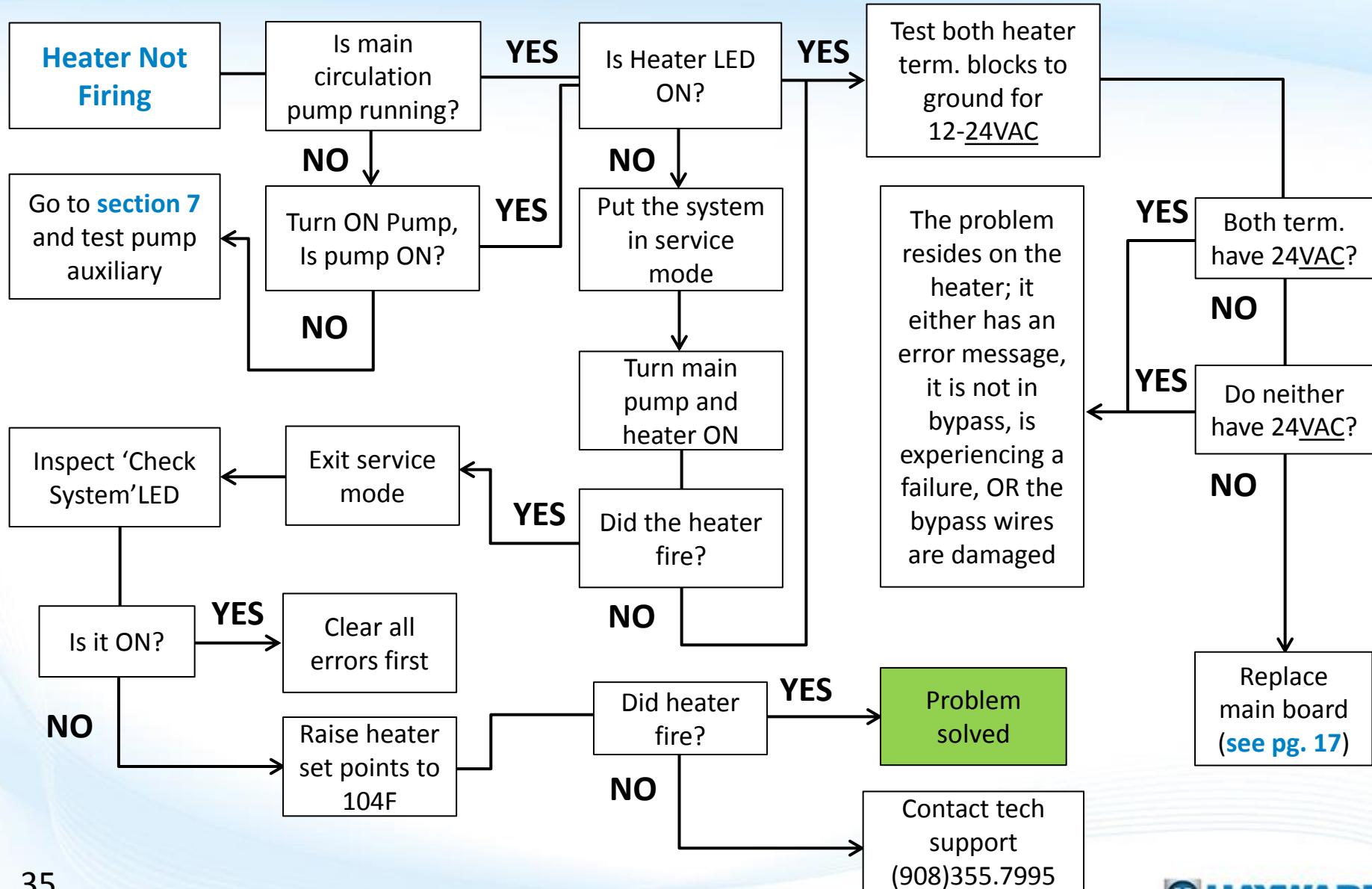
Inspect the local display wiring harness for damage and test continuity (matching wire colors). IF continuity is found on each wire, go to step 5D. IF not, contact tech support for a replacement (908)355.7995.

Replace the local display



Replace the local display (matching the model number inside control door with the replacement part number on pg. 17). IF replacing the display does not solve the problem, replace the main board (see pg. 17).

6. Heater Not Firing



6. Heater Not Firing

The ProLogic features a normally open circuit for each heater. When heat is called for, based on the temp set point and water sensor, the low voltage contact will close; once closed, the low voltage supplied by the heater (12-24VAC) should be returned to it.

Check main circulation pump



On the display, verify that the Filter relay is activated (denoted by an illuminated Filter LED). Also, verify the main circulation pump is running. IF the pump is off and cannot be turned on through the controller, go to section 7. IF pump is running, proceed to step 6B.

Verify the heater LED is ON



On the local display, with the main circulation pump running, verify the Heater LED is illuminated. IF the heater LED is not illuminated, go to step 6C. IF the heater LED is illuminated, proceed to step 6D to test the heater relay.

6. Heater Not Firing (cont.)

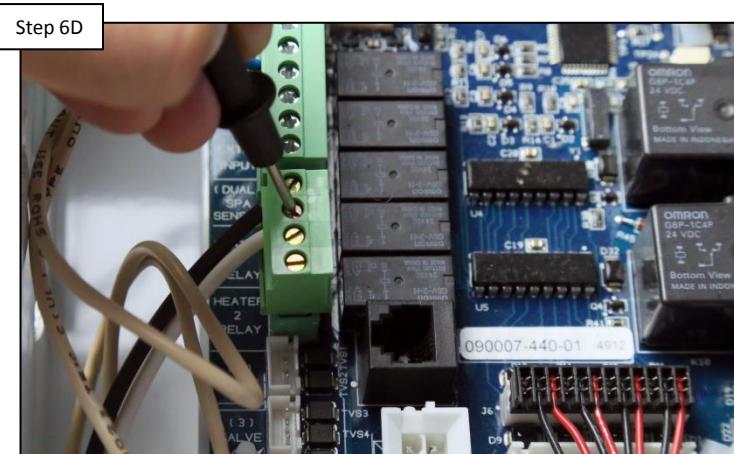
Service mode cancels all scheduled automation and also suspends safety features such as 'Freeze Protection'. If the heater only fires while in service mode, make sure freeze protection is not active, also verify that solar priority is not overriding regular heating.

Service mode test



Press the service mode button AND turn on the main circulation pump. Press the heater button to force it on. If the heater LED illuminates AND the heater fires, then take the system out of service and go to step 6F. IF the heater LED illuminates but the heater does not fire, go to step 6D.

Test the heater relay

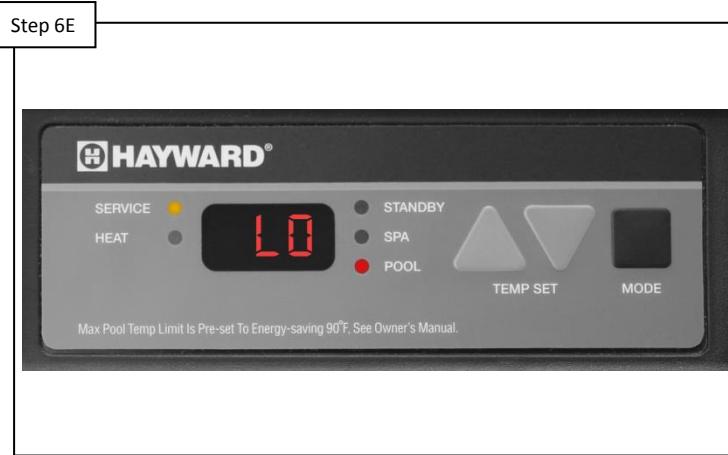


With the heater LED illuminated, test the top heater terminal for 24VAC against ground, then do the same for the bottom terminal against ground. IF both OR neither terminals show 24VAC, go to step 6E. IF only one terminal shows voltage, replace main board (see pg. 17).

6. Heater Not Firing (cont.)

The ProLogic supports features like Solar Priority. Verify that no additional heating is occurring, as this can take precedence over automatic heating.

Troubleshoot heater



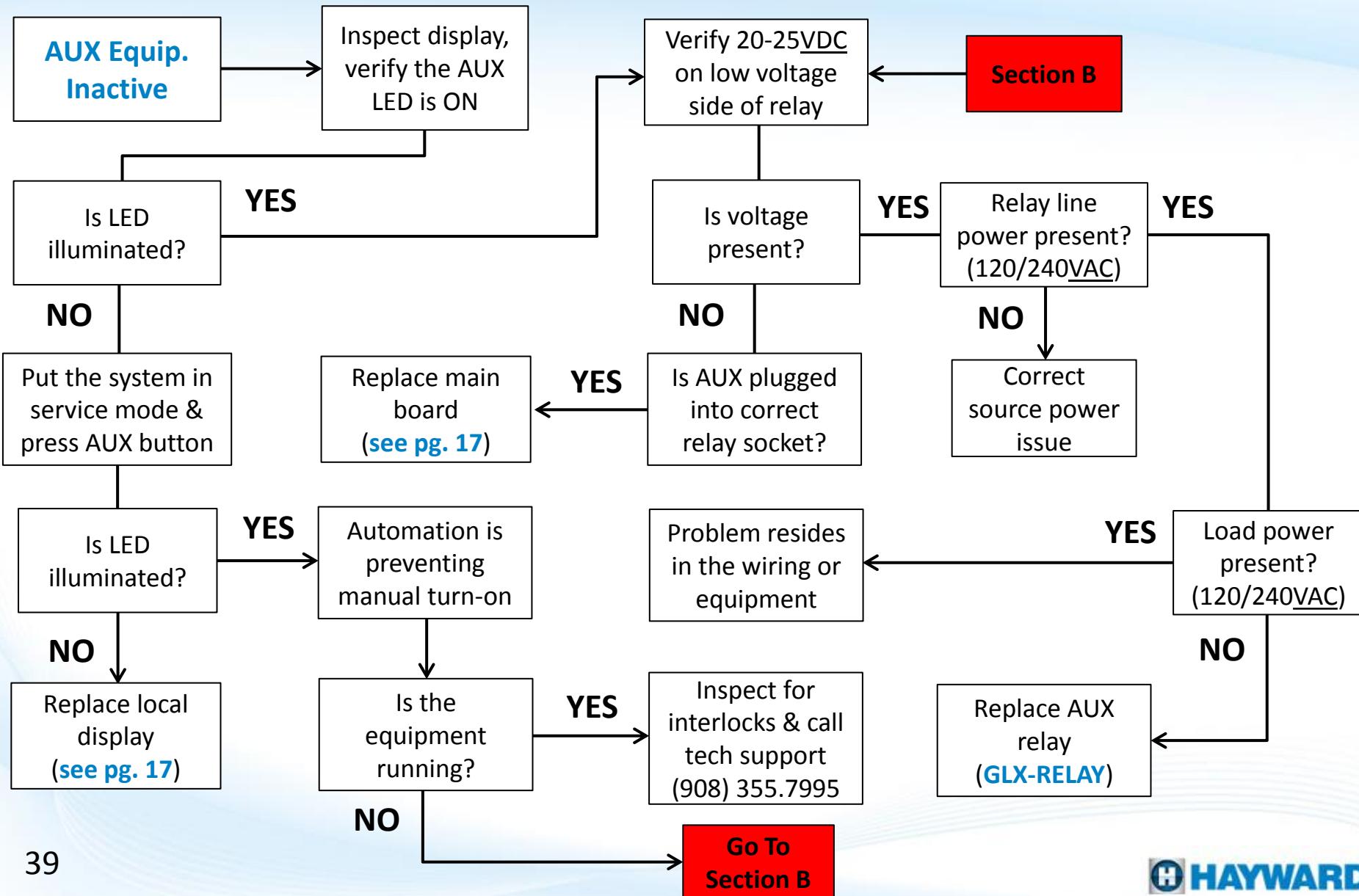
Verify the heater has power AND inspect heater for errors. If the heater displays an error please contact tech support (908) 355.7995. IF no errors appear, test each wire in the heater's bypass loop for 24VAC. IF voltage is present on both or neither wires, the heater has an error, is not in bypass, or may be experiencing a failure. IF voltage is present on only one wire, then bypass wires are likely damaged.

Verify set points and/or errors



First verify the status of the Check System LED. IF ON, go to the 'Default Menu' to identify if error relates to heating (i.e. water temperature sensor failure). IF Check System LED is OFF, access the heater set points under the 'Settings Menu'. Raise all heater set points to 104°F. IF heater still does not fire contact tech support (908)355.7995. Prior to calling, under the 'Settings Menu' return set points back to their original state.

7. Auxiliary Equipment Inactive



7. Auxiliary Equipment Inactive

The ProLogic Relays are rated for 120/240VAC, 300W, 25A. To avoid damage, make sure wired equipment does not exceed these specifications.

Inspect relay LED



Service mode



7. Auxiliary Equipment Inactive (cont.)

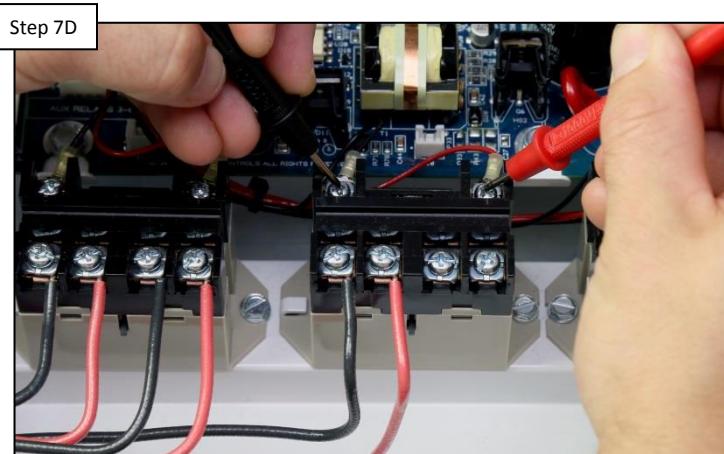
Service mode suspends all automation, including schedules, equipment protections and set point limitations.

Equipment running/on in service?



While in service mode: IF the equipment wired to the relay in question does not run/turn on, go to step 7D. IF running/on, then exit service & attempt to manually turn Auxiliary ON. After pressing the button the system should explain any interlocks or preventions, contact service for additional assistance (908)355.7995.

Test relay: low voltage side



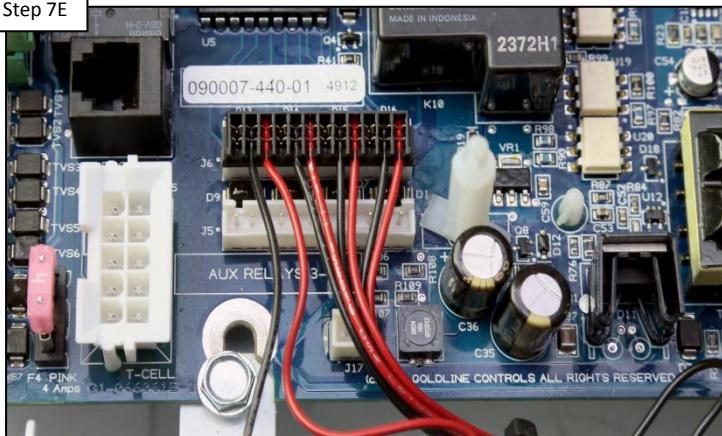
With the Auxiliary LED illuminated, remove the relay bracket, providing access the low voltage side of the relay. Test suspect relay for 20-25VDC, between the red & black wires. IF no/low voltage is present, proceed to step 7E. IF correct, jump to step 7F to test the high voltage side.

7. Auxiliary Equipment Inactive (cont.)

There are two relay sockets on the ProLogic board. IF the ProLogic is a P-4, PS-4, OR PS-8V then the top socket should be filled and the bottom should remain open.

Inspect Relay wiring harness

Step 7E

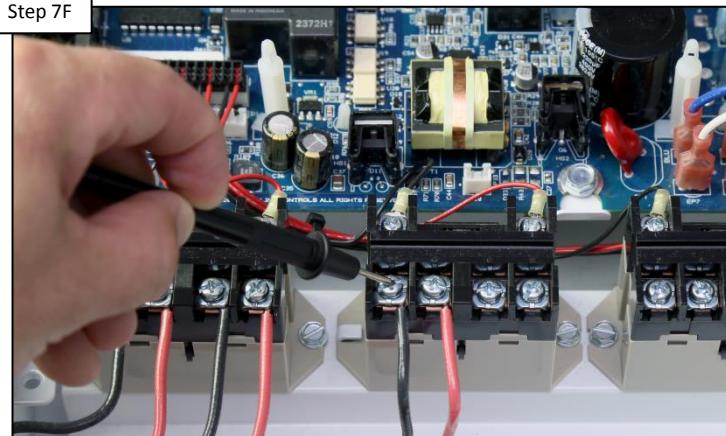


Verify whether the Auxiliary in question is mounted in the top or bottom set of relays. Make sure the wiring harness is plugged into the correct socket on the board.

IF incorrect, power down & move wiring harness & retest. IF correct, replace main board ([see pg. 17](#)).

Test relay: source power (line side)

Step 7F

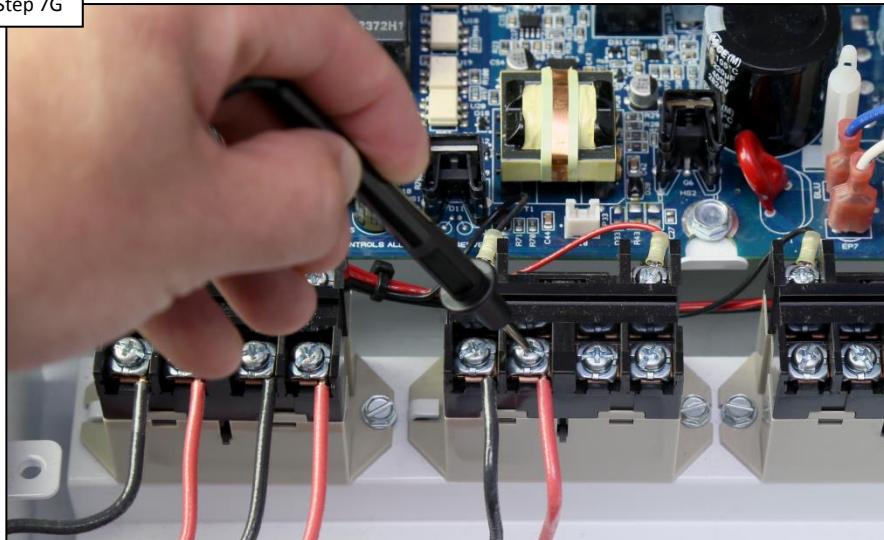


To verify the relay is receiving power test the first terminal against ground to verify 120VAC is present. IF wired for 240VAC, also test the third terminal against ground. IF terminal 1 (120V) OR 1 & 3 (240V) do not have power, correct at the breaker. IF correct go to 7G.

7. Auxiliary Equipment Inactive (cont.)

Test relay: high voltage (load side)

Step 7G



With the Auxiliary LED illuminated, test the load side of the relay off the second terminal to ground (left to right) for 120VAC. For 240V equipment, also test the fourth terminal to ground for 120VAC. If no voltage is present on either 2 OR 2 AND 4, then replace the relay ([GLX-RELAY](#)). If power is correct, the problem resides in the equipment wiring or equipment itself.



ProLogic®

Additional Information



Software Revision: Cell Compatibility Chart

Cell Type	Control Center Model		
	<i>AquaLogic</i>	<i>AquaPlus</i>	<i>ProLogic</i>
T-CELL-3 For residential pools up to 15,000 gallons	X	4.10 or later	4.10 or later
T-CELL-5 For residential pools up to 18,000 gallons	All revisions	All revisions	All revisions
T-CELL-9 For residential pools up to 25,000 gallons	X	4.10 or later	4.10 or later
T-CELL-15 For residential pools up to 40,000 gallons	All revisions	All revisions	All revisions

Air/Water Sensors: Resistance Chart

Use the following chart to determine the reported temperature of a sensor based on either resistance (with sensor disconnected) or DC voltage (with sensor connected):

F°	Ohms	Volts	F°	Ohms	Volts	F°	Ohms	Volts	F°	Ohms	Volts									
1	82,719	4.46	21	44,879	4.09	41	25,391	3.59	61	14,921	2.99	81	9,076	2.38	101	5,697	1.81	121	3,679	1.34
2	80,142	4.45	22	43,577	4.07	42	24,704	3.56	62	14,543	2.96	82	8,861	2.35	102	5,570	1.79	122	3,602	1.32
3	77,656	4.43	23	42,318	4.04	43	24,037	3.53	63	14,176	2.93	83	8,651	2.32	103	5,446	1.76	123	3,527	1.30
4	75,255	4.41	24	41,099	4.02	44	23,391	3.50	64	13,820	2.90	84	8,447	2.29	104	5,326	1.74	124	3,454	1.28
5	72,937	4.40	25	39,919	4.00	45	22,764	3.47	65	13,473	2.87	85	8,249	2.26	105	5,208	1.71	125	3,382	1.26
6	70,698	4.38	26	38,777	3.97	46	22,156	3.45	66	13,136	2.84	86	8,056	2.23	106	5,094	1.69	126	3,312	1.24
7	68,535	4.36	27	37,671	3.95	47	21,566	3.42	67	12,809	2.81	87	7,867	2.20	107	4,982	1.66	127	3,244	1.22
8	66,447	4.35	28	36,601	3.93	48	20,993	3.39	68	12,491	2.78	88	7,684	2.17	108	4,873	1.64	128	3,177	1.21
9	64,428	4.33	29	35,565	3.90	49	20,438	3.36	69	12,182	2.75	89	7,506	2.14	109	4,767	1.61	129	3,112	1.19
10	62,479	4.31	30	34,561	3.88	50	19,900	3.33	70	11,882	2.72	90	7,333	2.12	110	4,664	1.59	130	3,049	1.17
11	60,595	4.29	31	33,590	3.85	51	19,377	3.30	71	11,589	2.68	91	7,164	2.09	111	4,563	1.57	131	2,987	1.15
12	58,774	4.27	32	32,648	3.83	52	18,870	3.27	72	11,305	2.65	92	6,999	2.06	112	4,464	1.54	132	2,926	1.13
13	57,014	4.25	33	31,737	3.80	53	18,377	3.24	73	11,029	2.62	93	6,839	2.03	113	4,368	1.52	133	2,867	1.11
14	55,313	4.23	34	30,853	3.78	54	17,899	3.21	74	10,761	2.59	94	6,683	2.00	114	4,274	1.50	134	2,809	1.10
15	53,669	4.21	35	29,998	3.75	55	17,435	3.18	75	10,500	2.56	95	6,530	1.98	115	4,183	1.47	135	2,752	1.08
16	52,078	4.19	36	29,169	3.72	56	16,985	3.15	76	10,246	2.53	96	6,382	1.95	116	4,094	1.45	136	2,697	1.06
17	50,541	4.17	37	28,365	3.70	57	16,548	3.12	77	9,999	2.50	97	6,238	1.92	117	4,007	1.43	137	2,643	1.05
18	49,054	4.15	38	27,587	3.67	58	16,123	3.09	78	9,758	2.47	98	6,097	1.89	118	3,922	1.41	138	2,591	1.03
19	47,616	4.13	39	26,832	3.64	59	15,711	3.06	79	9,525	2.44	99	5,960	1.87	119	3,839	1.39	139	2,539	1.01
20	46,225	4.11	40	26,100	3.61	60	15,310	3.02	80	9,297	2.41	100	5,827	1.84	120	3,758	1.37	140	2,489	1.00

Salt Addition Chart: lbs. required for 3200ppm

Current Salt Level	Pool Size - Gallons																	
	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	28,000	30,000	32,000	34,000	36,000	38,000	40,000	
0	213	267	320	373	427	480	533	587	640	693	747	800	853	907	960	1013	1067	
200	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
400	187	233	280	327	373	420	467	513	560	607	653	700	747	793	840	887	933	
600	173	217	260	303	347	390	433	477	520	563	607	650	693	737	780	823	867	
800	160	200	240	280	320	360	400	440	480	520	560	600	640	680	720	760	800	
1000	147	183	220	257	293	330	367	403	440	477	513	550	587	623	660	697	733	
1200	133	167	200	233	267	300	333	367	400	433	467	500	533	567	600	633	667	
1400	120	150	180	210	240	270	300	330	360	390	420	450	480	510	540	570	600	
1600	107	133	160	187	213	240	267	293	320	347	373	400	427	453	480	507	533	
1800	93	117	140	163	187	210	233	257	280	303	327	350	393	397	420	443	467	
2000	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	
2200	67	83	100	117	133	150	167	183	200	217	233	250	267	283	300	317	333	
2400	53	67	80	93	107	120	133	147	160	173	187	200	213	227	240	253	267	
2600	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
2800	27	33	40	47	53	60	67	73	80	87	93	100	107	113	120	127	133	
3000	13	17	20	23	27	30	33	37	40	43	47	50	53	57	60	63	67	
3200	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	
3400	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
3600+	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	

Note: Prior to adding salt, always test water with independent tests to determine current salt and stabilizer levels.

How to add salt

Brushing the salt around will speed up the dissolving process. DO NOT allow the salt to sit in a pile at the bottom of the pool. Salt water is heavier than fresh water, so the salt water will tend to accumulate at the deepest part of the pool. Run the filter system with the suction coming from the main drain for 24 hours to evenly distribute the salt throughout the pool

Note: Refer to the Plasters recommendations for cure time before adding salt.

Chlorine Output & Salt Levels

1. The cycle time (reversal of polarity) is 180 minutes (3 hrs). When you set the 'Desired Output %' through the control system it sets the level of chlorination based on the three hour cycle. 50% represents the factory default. The following represents an example of how the system reacts to percentage output:
 - **3 hr cycle:** If the output is set at 50% and the total time for operation is 9 hrs, the salt cell will operate (and produce chlorine) for 50% (1.5 hrs) of each 3 hr. cycle for a total of 4.5 hrs
2. Super-chlorinate is an additional option to use in order to 'catch up' in chlorine production when making adjustments to the desired output level. To activate, press the menu button until the 'Settings Menu' appears. Press the right arrow until 'Super Chlorinate Off' appears; press the (+) to change it from 'Off' to 'On'. This will cause the system to produce chlorine at 100% output for 24 hours (unless the Super Chlorination duration was changed previously in the configuration. Once the Super Chlorinate function has concluded the chlorine output percentage will once again drive the chlorine production.

Chlorine Output & Salt Levels (cont.)

3. It is possible that the displayed salt level can be significantly different from the actual salt level (when measured through an independent test). This can happen as a result of a dirty cell or from a cell that is experiencing the aging process. Low salt readings should ALWAYS be followed by a cell cleaning first and then an actual meter measurement of the salt level in the water. If the cell is clean and the level of salt measured in the water is correct, then the cell has started to age, which results in a lower calculated salt level. This is an acceptable situation, assuming the level of free chlorine in the pool is appropriate. NEVER add additional salt in this circumstance.

4. If the free chlorine is not appropriate and the steps in item 2 have been followed and addressed as needed, then the 'Desired Output %' needs to be increased in a 25% increment (for example from 50% to 75%) to allow for the TurboCell to operate for a longer period (% of total operating time) in order to produce a sufficient amount of chlorine as the cell begins to age. Allow 24 hours and re-test free chlorine. Increase in increments of +10% if required. Keep in mind this is assuming the chemistry parameters are correct in the pool and there is nothing that is creating a significant chlorine demand. Also, it is common to have to increase the chlorine output % during the hotter months of the season, when atypical temperatures are recorded.

Reading Serial Numbers

Beginning 08-05-2011

3L11284- 123456

3L11284 = Standard Warranty Term
3L11284 = Product Family
3L11284 = Year of Manufacture
3L11284 = Day of Manufacture
123456 = Manufacturing ID

Beginning 11-01-2001

3L0112- 123456

3L0112 = Standard Warranty Term
3L0112 = Product Family
3L0112 = Year of Manufacture
3L0112 = Month of Manufacture
123456 = Manufacturing ID