OmniLogic®
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 panel
- Replace damaged wiring immediately
- Insure panel is properly grounded and bonded
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OmniLogic: Overview

• The OmniLogic is an internet and App ready, intuitive, modular automation system.

• This elite automation system features a USB backup and upgrade option. The USB feature allows customers and servicers to backup existing configurations as well as upgrade the system with the latest revision in minutes.

• With touch screen technology the MSP or display allows users to navigate through screens and commands in virtually any lighting condition.

• Each OmniLogic base unit supports up to 10 relays, 8 valves, 8 heaters, and 8 sensors. It also supports up to 25 themes (groups) and 50 favorites.
# OmniLogic: Terminology

<table>
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<tr>
<th>Term</th>
<th>Description</th>
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<td>MSP</td>
<td>Main System Processor (display)</td>
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<tr>
<td>MPP</td>
<td>Main Panel Processor (main board)</td>
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<td>MP</td>
<td>Main Panel (enclosure)</td>
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<td>PSU</td>
<td>Power Supply Unit (PWR Supply)</td>
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<tr>
<td>I/O</td>
<td>Input / Output Expansion Card</td>
</tr>
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<td>HVR</td>
<td>High Voltage Relay</td>
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<tr>
<td>LVR</td>
<td>Low Voltage Relay</td>
</tr>
<tr>
<td>LVA</td>
<td>Low Voltage Actuator</td>
</tr>
<tr>
<td>RB</td>
<td>Relay Bank</td>
</tr>
</tbody>
</table>
OmniLogic: Main PCB Layout (MP)

- **A**: Sensor Blocks (SENS 1-4)
- **B**: Low Voltage Relays (LVR 1-4)
- **C**: Valve Actuators (VLV 1-4)
- **D**: (2) 4-wire Comm Bus
- **E**: (2) RS485 Comm
- **F**: (3) High Speed Buses
- **G**: (1) High Speed Terminal Block
- **H**: 4A Fuse (Valve Actuators)
- **I**: MSP Port (Local Display)
- **J**: Flow Switches (FLOW 1-2)
- **K**: Turbo Cell (CHLR1)
- **L**: Wifi Antenna LAN Power
- **M**: Relay Bank (HVR 5-8)
- **N**: High Voltage Relay (HVR 1-4)
- **O**: High Voltage Relay (HVR 9+10)
- **P**: (2) 20A Fuse (Surge Protection)
- **Q**: (1) 5A Fuse (Prevents Overdraw)
- **R**: 120VAC input (from Breaker)
- **S**: 120VAC to Power Supply
- **T**: Rectifier Input/output AC to DC (Cell)
- **U**: 20A Fuse (Protects Cell Circuit)
- **V**: Transformer Output 24VAC (Cell Circuit)
- **W**: DC (from Power Supply (Board Function))
- **X**: 4A Fuse (Transformer + Cell Circuit)
- **Y**: Transformer Input 120VAC (Cell Circuit)
- **Z**: I/O Expansion (For I/O Expansion Card)
OmniLogic®
How To:
How To: Back-Up Configuration

Use the steps provided to backup a configuration. These steps aid firmware upgrades, MSP changes, and corrupted configurations.

Step 1
On the right of the dashboard locate and tap the “config” icon.

Step 2
Select the “backup config” option (third down on the left most column).

Step 3
Select “Backup to USB”, after inserting a USB drive, then press the check mark.

Step 4
Once the backup is confirmed press the check mark to finalize.
How To: Download Firmware

To download the latest firmware to a USB drive go to www.hayward.com Support Center > Automation > OmniLogic > Firmware Updates

Step 1: Right click on the link of the file you wish to download.

Step 2: Within the options menu select "Save link as..."
(Note: USB drive must already be connected to your computer).

Step 3: From the "Save As" window navigate to the desired USB drive.
(Note: please make sure to select the root directory of the USB drive).

Step 4: Before saving, change the “Save as type” to “All Files” AND remove the “.txt” file extension that automatically appears. Then click on "Save" button.
(Note: failing to remove the .txt file extension will result in an unreadable firmware upgrade file).

This process was accomplished through Google’s Chrome Browser.
How To: Upgrade Firmware

Insert the USB drive into the side of the MSP and follow the steps provided below:

Step 1
- Press the power button.

Step 2
- Select “service mode”.

Step 3
- Tap the “Upgrade” icon.

Step 4
- Tap device to upgrade then check mark.
How To: Upgrade Firmware (cont.)

NOTE: Make sure all devices are up to the latest firmware revision.

Step 5
Select storage method (USB).

Step 6
Select latest file (downloaded from web).

Step 7
Press check mark to start the upgrade process (DO NOT power off while in process).

Step 8
Press check mark when complete (100%), system will reboot.
How To: Clear DDT

The DDT (device discovery table) holds a list of all the smart devices the MSP talks to. Sometimes this table needs to be removed to refresh communications.

1. On the right of the dashboard locate and tap the “config” icon.

2. Once in config, press the right arrow once and tap on “shell command”.

3. Tap anywhere on the screen to advance past the warning screen.

4. Locate and tap on “RemoveDDT” AND power cycle the OmniLogic.
How To: Clear DDT – Post Action

After removing a DDT it may be necessary to reassign HUAs when multiple smart components of the same type are being used (for example multiple EcoStar pumps).

Step 1
Power up smart components and record HUAs for each (with descriptions).

Step 2
On the right of the dashboard locate and tap the “config” icon.

Step 3
Select “system info” icon and record the msp id (top), then press back arrow.

Step 4
Select the “config wizard” option (the first option in top left).
How To: Clear DDT – Post Action (cont.)

The MSP ID is not only used to register the OmniLogic through the web but it is also required to modify an existing configuration.

Enter recorded “msp id” number and press the check mark.

Tap on device type, then tap HUA.

Tap on “config wizard”, select edit>quick (if applicable). Next, select site of device.

Select the HUA status window to add.
How To: Clear DDT – Post Action (cont.)

Repeat steps 6 – 10 for all smart devices that are not already captured in the system configuration. Once complete, save the configuration (Step 11).

Step 9
Select the appropriate HUA and press the check mark.

Step 10
Once correct, press home icon (main menu) or back arrow (back one screen).

Step 11
Repeat steps 6-10 for all smart devices and then press the save icon.

Step 12
After saving the changes made under edit, the system will reboot.
How To: Connect to Wi-Fi

The following identifies how to connect to a Wi-Fi signal. Only follow these steps if using an HLWLAN (Wi-Fi) antenna.

**Step 1**
On the right of the dashboard locate and tap the “config” icon.

**Step 2**
Press the “wifi bridge” option on the right side of the screen.

**Step 3**
Select the desired network name or SSID to attempt connection.

**Step 4**
Enter the network password, followed by the check mark to complete.

NOTE: The network password IS CASE SENSITIVE. To confirm connection, go to Config>Network and verify IP addresses appear under the dynamic tab.
How To: Verify Web Server Information

The following identifies how to access Web Server information. If the IP addresses and Port #s are incorrect, registration and/or remote operation will not be possible.

Step 1
On the right of the dashboard locate and tap the “config” icon.

Step 2
Press the “web server” option on the right side of the screen.

Step 3
Verify that the main IP address is: 198.61.209.236 and backup: 166.78.4.254.

Step 4
To change, select the IP address, enter new value, and select check to save.
1. MSP: Blank Display

- **Problem solved**

  - **MSP: Blank Display**
  - Tap screen to wake up
  - Screen still blank?
    - **YES**
      - Inspect cable, is display still blank?
      - **YES**
        - Problem solved
      - **NO**
        - Replace MSP: HLX-LOC-DSP
    - **NO**
      - Problem solved

  - **NO**
    - Is voltage correct?
      - **YES**
        - Problem solved
      - **NO**
        - Test PSU output (red & black for 12vDC)
        - Is voltage low?
          - **YES**
            - Replace MSP: HLX-LOC-DSP
          - **NO**
            - Replace MPP: HLX-PCB-MAIN

  - **NO**
    - Check PSU input (120vAC white & black wires)
    - Is voltage correct?
      - **YES**
        - Test breaker for 110-130vAC
        - Is voltage correct?
          - **YES**
            - Test 5A fuse, is blown?
              - **YES**
                - Replace 5A fuse
              - **NO**
                - Replace MPP: HLX-PCB-MAIN
          - **NO**
            - Resolve at breaker

  - **NO**
    - Replace PSU: HLX-PSUPPLY
1. MSP: Blank Display

The MSP display runs off of 12VDC. Verify the breaker, powering the OmniLogic MPP, is not tripped.

Tap on the screen in an attempt to wake the display from a system shutdown. Make sure glare is not the culprit. IF tapping does not change the display state, go to step 1B.

Unplug MSP and check between the 12vDC and GND solder points. IF correct, check cable connections and plug back in. IF still blank, replace MSP (HLX-LOC-DSP). IF low/no voltage go to step 1C.
The power supply (located in the lower right portion of the cabinet) converts 120vAC to 12vDC and 24VDC.

Test PSU output

- Test between the red and black wires of the power supply output for 12vDC. IF no/low go to step 1D. IF correct, replace MPP (HLX-PCB-MAIN).

Test PSU input

- Test between the black and white wires for 120vAC. IF no/low, go to 1E. IF correct, replace power supply (HLX-PSUPPLY).
1. MSP: Blank Display (cont.)

The MPP should be supplied with 120vAC, if power is less than 110, the incoming power should be resolved.

Test MPP input

Test power from the breaker to the MPP for 110-130vAC. IF correct, go to step 1F. IF not, resolve at breaker.

Test fuses

Inspect 5amp fuse and check for continuity. IF bad, replace the fuse. IF fuse is not compromised replace MPP (HLX-PCB-MAIN).
2. Valves Not Rotating

Valves Not Rotating

MSP Comm Loss?
- YES: Go to Section B
- NO: Go to Section 3

I/O EM Comm Loss?
- YES: Go to Section 4
- NO: Go to Section B

Section B

Confirm programming, Is valve engaged?
- YES: Toggle actuator switch, does valve move?
- NO: Pull handle to engage valve

Actuator power is 24vAC, is power present?
- YES: Reprogram, does valve rotate?
- NO: Test fuses, are any bad?

Test fuses, are any bad?
- YES: Test xformer output, is 20-24vAC present?
- NO: Test xformer input, is 110-130vAC present?

Test xformer output, is 20-24vAC present?
- YES: Problem solved
- NO: Test xformer input, is 110-130vAC present?

Test xformer input, is 110-130vAC present?
- YES: Replace Transformer: HLX-TRNSFMR
- NO: NO

Contact Support (908) 355.7995

Replace bad fuse(s)

Contact Support (908) 355.7995

Is 5A fuse OK?
- YES: Replace MPP: HLX-PCB-MAIN
- NO: Replace 5A fuse

Is 110-130vAC present at breaker?
- YES: Is 5A fuse OK?
- NO: Replace 5A fuse

Correct at breaker

Replace MPP: HLX-PCB-MAIN

Replace 5A fuse
2. Valves Not Rotating

Comm Loss Alarms can prevent equipment, such as valve actuators, from functioning. The alarms icon is located on the right side of the MSP dashboard. Before proceeding, verify whether or not a Comm Loss Alarm appears.

Check MSP for any Comm Loss Alarms

On the MSP select the “alarm” icon (on right side of the screen). IF an MPP Comm Loss appears go to section 3, IF an I/O EM Comm Loss alarm appears, go to section 4. IF no Comm Loss alarms appear, go to 2B.
2. Valves Not Rotating (cont.)

The valve actuator circuit is linked to the MPP input power circuit and does not rely on the PSU for power.

Make sure all valve actuators are correctly programmed. Power is only supplied to the circuit if actuators are configured. IF programming is confirmed, go to step 2C.

Confirm programming

Verify the actuator shaft is engaged (as shown above). IF the valve moves freely, when rotating the handle, pull up on the handle to engage, IF engaged, proceed to step 2D.

Verify shaft is engaged

Make sure all valve actuators are correctly programmed. Power is only supplied to the circuit if actuators are configured. IF programming is confirmed, go to step 2C.
2. Valves Not Rotating (cont.)

NOTE: GVA-24s come factory preset with toggle switches in the OFF position. For the valve actuator to rotate based on supplied power, the switch will have to be moved to the ON1 or ON2 position (which will depend on the installation).

Check actuator toggle

Locate toggle switch (bottom of actuator). Verify switch is either in ON1 or ON2 positions. Toggle the switch between ON1/ON2, IF actuator does not move, go to step 2E, otherwise go to 2J.

Check ACT power

Measure 20-24vAC between pin 1-3 or 2-3 (depending on expected valve position). IF no/low voltage is present, go to step 2F. IF correct, replace actuators that fail to rotate (GVA-24).
2. Valves Not Rotating (cont.)

NOTE: There are two 4amp fuses (pink) and one 20amp fuse (yellow) on the MPP. The one 4A located in the top left protects the actuator circuit, the 4A in the top right protects the transformer, and the 20A (yellow) protects the transformer output.

Check (2x) 4amp & 20a fuses

Test transformer output

Inspect and test all 4A fuses & the 20A fuse located near the transformer. IF any of the fuses are bad, replace them. IF good, go to step 2G.

Test between the two yellow wires for 20-24vAC. IF low or no voltage, go to 2H. IF correct, Contact Support (908) 355.7995.
NOTE: The transformer converts 120vAC into 24vAC for not only salt chlorination but also for actuator circuit power.

Test transformer input

Unplug transformer primary wires and test for 120vAC between pins, 1 & 3 and 120vAC between pins 2 & 4. IF voltage is present, replace transformer (HLX-TRNSFMR). IF not, go to 2I.

Check MPP power

Test the MPP input power for 110-130vAC off the breaker. IF no/low resolve at breaker. IF voltage is correct, check 5amp AC fuse. IF fuse is OK, replace MPP (HLX-PCB-MAIN).
2. Valves Not Rotating (cont.)

If the valve(s) in question is related to the suction/return valves, toggle between Bodies of Water; if related to an option valve, engage that feature through MSP.

Turn on Valve (MSP)

Step 2J

Activate valve using the MSP in service mode. IF the valve rotates then the problem is solved. IF the valve still does not rotate, go to step 2K.

Reprogram valve(s)

Step 2K

Reprogram the valve(s) & retest. IF the valve(s) rotate, problem is solved. IF not, contact Technical Support (908) 355.7995.
3. Alarms: MPP – Comm Loss

- **MPP Comm Loss**
  - Clear DDT & power cycle
    - Alarm still exists?
      - NO
        - Problem solved
        - Backup config.
      - YES
        - Inspect 12V & 24V MPP LEDs, are either off?
          - NO
            - YES
              - Replace MPP: HLX-PCB-MAIN
          - YES
            - Replace MPP: HLX-PCB-MAIN
    - YES
      - MPP Comm Loss still displayed?
        - NO
          - Problem solved
          - Backup config.
        - YES
          - Reconfigure, or load saved config.

- Replace MSP: HLX-LOC-DSP
  - YES
    - MPP Comm Loss still displayed?
      - NO
        - Problem solved
        - Backup config.
      - YES
        - Test breaker for 110-130vAC, is voltage low?
          - YES
            - Resolve at breaker
          - NO
            - Replace MPP: HLX-PCB-MAIN
    - NO
      - Test breaker for 110-130vAC, is voltage low?
        - NO
          - Replace PSU: HLX-PSUPPLY
        - YES
          - Test PSU input for 120vAC, is voltage low?
            - YES
              - Replace PSU: HLX-PSUPPLY
            - NO
              - Test PSU output for 12vDC & 24vDC, is voltage low?
                - YES
                  - Replace PSU: HLX-PSUPPLY
                - NO
                  - Replace MPP: HLX-PCB-MAIN
3. Alarms: MPP – Comm Loss

A “MPP - COMM LOSS” will occur when the MSP (display) is unable to communicate with the MPP (main panel processor).

Remove DDT & power cycle

Step 3A

Check MPP power LEDs

Step 3B

Follow steps to remove DDT (pg. 12-15). IF after programming is reestablished, the problem still persists go to step 3B. IF problem is corrected backup configuration (pg. 8).

Inspect both the 12v and 24v LEDs. IF either LED is not on solid green, then go to step 3E to diagnose power supply. IF both LEDs are on solid, proceed to step 3C located on the next page.
3. Alarms: MPP – Comm Loss (cont.)

The Micro LED should turn ON for 6 seconds then OFF for 6. If LED is ON for 1 second and OFF for 6 then a “MPP – COMM ERROR” will be present.

---

Inspect Micro LED

Step 3C

Inspect the Micro LED. IF the LED is always off, then replace the MPP (HLX-PCB-MAIN). IF the LED is behaving normally (combination of ON & OFF, every 6 seconds), proceed to step 3D.

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Reconfigure OmniLogic

Step 3D

Either delete the configuration, power cycle, & reconfigure; OR load a backed up configuration. IF the problem still persists, replace the MSP (HLX-LOC-DSP).
3. Alarms: MPP – Comm Loss (cont.)

The 12vDC circuit drives communication and the 24vDC circuit drives relay activation. The incoming power, power supply, and fuses all impact those circuits.

Check PSU output

Check for 12vDC between the black and red (bottom two) wires and 24vDC between blue and white (top two). IF voltage is correct, replace MPP (HLX-PCB-MAIN). IF low/no voltage, go to 3F.

Check PSU input

Check for 120vAC between the black and white wires of the “AC TO PWR SUPPLY”. IF no/low voltage, go to step 3G. IF voltage is correct, replace the PSU (HLX-PSUPPLY).
When checking MPP power, verify the circuit breaker is not tripped. If tripped the system will not be receiving power.

Check MPP power

Step 3G

Check for 110-130vAC off of the breaker. IF low voltage, correct power source/breaker. IF voltage is correct, check 5 amp fuse. IF fuse is good, replace MPP (HLX-PCB-MAIN).
4. Alarms: Smart Device Comm Loss

- **SD Comm Loss**
  - Inspect cables & connectors
  - Broken wires or bad connections?
    - **YES**
      - Replace wires or fix connections
    - **NO**
      - Go to Section B
  - Resolve at breaker
    - **YES**
      - Is power below 110vAC?
        - **YES**
          - Test breaker power
        - **NO**
          - Replace smart device
    - **NO**
      - Test 5A fuse, if ok, replace MPP: HLX-PCB-MAIN

- **Section B**
  - Inspect smart device LED, is LED always off?
    - **YES**
      - Inspect micro LED, is LED always off?
        - **YES**
          - Replace MPP: HLX-PCB-MAIN
        - **NO**
          - Replace smart device
    - **NO**
      - Backup config.
      - Clear DDT & power cycle, alarm clear?
        - **YES**
          - Reprogram the SD feature
        - **NO**
          - Does smart device show up in DDT table?
            - **YES**
              - Replace smart device
            - **NO**
              - Replace MPP: HLX-PCB-MAIN
      - Replace micro LED, is LED always off?
        - **YES**
          - Inspect 12v & 24v LEDs, are both on?
            - **YES**
              - Replace MPP: HLX-PCB-MAIN
            - **NO**
              - Inspect micro LED, is LED always off?
                - **YES**
                  - Replace smart device
                - **NO**
                  - Inspect 12v & 24v LEDs, are both on?
                    - **YES**
                      - Replace MPP: HLX-PCB-MAIN
                    - **NO**
                      - Inspect micro LED, is LED always off?
                        - **YES**
                          - Replace smart device
                        - **NO**
                          - Inspect 12v & 24v LEDs, are both on?
                            - **YES**
                              - Replace MPP: HLX-PCB-MAIN
                            - **NO**
                              - Inspect micro LED, is LED always off?
                                - **YES**
                                  - Replace smart device
                                - **NO**
                                  - Inspect 12v & 24v LEDs, are both on?
                                    - **YES**
                                      - Replace MPP: HLX-PCB-MAIN
                                    - **NO**
                                      - Inspect micro LED, is LED always off?
4. Alarms: Smart Device - Comm Loss

Each smart component, when not communicating, will generate its own specific alarm. The following table outlines the possible messages that may appear.

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<thead>
<tr>
<th>Alarm (Device Displaying Alarm)</th>
<th>Component Description</th>
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</thead>
<tbody>
<tr>
<td>CSM – Comm Loss (MSP)</td>
<td>Chemistry Sensing Module</td>
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<tr>
<td>EcoStar – Comm Loss (MSP)</td>
<td>EcoStar</td>
</tr>
<tr>
<td>EPP – Comm Loss</td>
<td>Expansion Panel</td>
</tr>
<tr>
<td>I/O EM – Comm Loss (MSP)</td>
<td>I/O Expansion Module</td>
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<tr>
<td>RB – Comm Loss (MSP)</td>
<td>Relay Bank</td>
</tr>
<tr>
<td>TriStar – Comm Loss (MSP)</td>
<td>TriStar</td>
</tr>
<tr>
<td>WDT – Comm Loss (Remote)</td>
<td>Wired Display Terminal</td>
</tr>
<tr>
<td>WT – Comm Loss (Remote)</td>
<td>Wireless Display Terminal</td>
</tr>
</tbody>
</table>
4. Alarms: Smart Device - Comm Loss (cont.)

For those smart devices that need to be wired for communication, verify wiring matches instructions found in the owner’s manual. Also check plug connections.

Check cable/connection

Inspect all comm lines & connections. IF no breaks exist and/or connections are correct, go to step 4B. IF comm wiring/connections are broken/incorrect, replace wire and/or correct connections and retest.

Verify LED status

Most smart devices will have an LED indicator. Verify the LED is illuminated. IF LED is OFF, go to step 4E. IF LED cycles between ON/OFF or device does not have a LED, go to step 4C.
4. Alarms: Smart Device - Comm Loss (cont.)

The DDT or Device Discovery Table keeps track of all the devices embedded with an HUA as long as the smart device is powered and communicating.

Remove DDT & power cycle

Follow steps to remove DDT (pg. 12-15). IF after programming is reestablished the problem still persists, go to step 4D. IF problem is corrected, backup configuration (pg. 9).

Inspect HUA(s) under System Info

Attempt to locate device’s HUA in the OmniLogic. To locate, go to config > system info. IF the smart device is not expressed, replace the smart device. IF shown, reprogram the feature related to the smart device.
4. Alarms: Smart Device - Comm Loss (cont.)

The 12vDC circuit drives communication and the 24vDC circuit drives relay activation. The incoming power, power supply, and fuses all impact those circuits.

Inspect the Micro LED. IF the LED is always OFF, then replace the MPP (HLX-PCB-MAIN). IF the LED is behaving normally (combination of ON & OFF, every 6 seconds), proceed to step 4F.

Check MPP power LEDs

Inspect the 12v and 24v LEDs. IF either LED does NOT remain ON solid green, then go to step 4G to investigate the power supply. IF both LEDs are on solid, replace the smart device.
The 12vDC circuit drives communication and the 24vDC circuit drives relay activation. The incoming power, power supply, and fuses all impact those circuits.

Check for 12vDC between the black and red (bottom two) wires and 24vDC between blue and white (top two). IF voltage is correct, replace MPP (HLX-PCB-MAIN). IF low/no voltage, go to 4H.

Check for 120vAC between the black & white wires of the “AC TO PWR SUPPLY”. IF no/low voltage, go to step 4I. IF voltage is correct, replace the PSU (HLX-PSUPPLY).
4. Alarms: Smart Device - Comm Loss (cont.)

NOTE: The OmniLogic MPP should never be supplied more than 120vAC. The subpanel is designed for 240vAC, 125amp max.

Check MPP power

Step 41

Check for 110-130vAC off of the breaker. IF low voltage, correct power source/breaker. IF voltage is correct, check 5 amp fuse. IF fuse is good, replace MPP (HLX-PCB-MAIN).
5. Salt Chlorinator Not Detected

No Chlorination → Pump ON, wait 3 minutes, check %

Is chlor. still off? → NO → Problem solved → YES → Test 4A & 20A fuses, are any bad?

Are any chlor. alarms present? → NO → Reverse polarity, is chlor still off?

YES → Reconfigure OR load saved config. is chlor still off?

NO → Replace fuse(s)

Section B → Replace MSP: HLX-LOC-DSP → YES → Go to Section B

Is power below 110vAC? → YES → Resolve at breaker

NO → Fix wiring & retest

Resolve at breaker → Test breaker power

Replace MPP: HLX-PCB-MAIN → YES → Verify rectifier wiring, is it correct?

NO → Replace transformer: HLX-TRNSFMR → YES → Test xformer input, is 110-130vAC present?

Test xformer output, is 20-24vAC present?

NO → Test 5A fuse, if ok, replace MPP: HLX-PCB-MAIN

Replace transformer: HLX-TRNSFMR

Go to Section B
5. Salt Chlorinator Not Detected

NOTE: To chlorinate the pump must be on and primed, solar must not be in operation, flow must be detected, the water temperature must be above 50 degrees, and the salt level must be between 2700-3400ppm.

Activate pump and check the Chlorinator %

Engage the pump for a specific Body of Water, wait three minutes, and verify the chlorinator percentage is above 0. Finally, confirm the chlorinator is in the ON position. IF cell readings still are not present go to step 5B.
5. Salt Chlorinator Not Detected (cont.)

NOTE: If the system is reporting a “CHLOR relay K1 or K2 stuck open” then there may be a problem with the 20amp - chlorinator fuse, 4amp - transformer fuse, the transformer, or the rectifiers.

Check for alarms

Under dashboard, select the alarm icon. IF no alarms related to flow, cell, or cell power appear, then go to step 5C. IF alarms are present go to 5E.

Reverse polarity

Under chlorination, use list icon and press reversal button to change polarity. IF readings (including cell temp) are missing, go to step 5D.
5. Salt Chlorinator Not Detected (cont.)

NOTE: “T-CELL Cable/Sensor Open” implies that the cell cord is cut or the cell is not properly plugged into the board. Verify cell cable is plugged in snugly.

Reconfigure OmniLogic

Test 4amp & 20amp fuses

Either delete config., power cycle, & reconfigure (verifying chlorinator is programmed); OR load a backed up config. that includes the chlorinator. IF problem persists, replace MSP (HLX-LOC-DSP).

Test the 4amp transformer fuse AND the 20amp chlorinator fuse. IF either fuse has failed replace it/them and retest. IF fuses are fine, proceed to step 5F to test the transformer.
5. Salt Chlorinator Not Detected (cont.)

Test the transformer output (2) yellow wires for 24vAC. Each wire when measured against ground should deliver about 12vAC.

Test transformer output

Measure 24vAC between the two yellow wires. IF voltage is good, check rectifier wiring. IF rectifier wiring is correct, replace the MPP (HLX-PCB-MAIN). IF no/low voltage, go to step 5G.

Test transformer input

Unplug transformer primary wires and test for 120vAC between pins, 1 & 3 and 120vAC between pins 2 & 4. IF correct, replace transformer (HLX-TRNSFMR). IF no/low voltage, proceed to step 5H.
NOTE: If the power supplied to the MPP is under 110vAC, then the chlorinator circuit will be affected.

Test MPP power at the breaker

Step 5H

Check for 120vAC off of the breaker. IF low voltage is present, correct at the power source/breaker. IF voltage is correct, check 5 amp fuse. IF fuse is blown, replace it; otherwise, replace MPP (HLX-PCB-MAIN).
6. Wi-Fi: No Connection/IP Address

- **WiFi: No connectivity**
  - Upgrade firmware & retest
  - Check all HLWLAN connections
    - Power cycle router & Confirm password & retry Wi-Fi setup
      - IP addresses assigned?
        - NO
          - Verify network toggle is on
          - IP addresses assigned?
            - NO
              - Replace all Ethernet cables & retest
            - YES
              - Problem solved
          - YES
            - Replace MSP HLX-LOC-DSP
          - YES
            - Contact Support (908) 355.7995
            - Are MSP LEDs ON?
              - YES
                - Replace MSP HLWLAN
              - NO
                - Move HLWLAN closer & retest
            - NO
              - Replace all Ethernet cables & retest
            - YES
              - Are any LEDs ON?
                - YES
                  - Replace MSP HLX-LOC-DSP
                - NO
                  - Contact Support (908) 355.7995
                  - Are MSP LEDs ON?
                    - NO
                      - Contact Support (908) 355.7995
                      - Are any LEDs ON?
                        - NO
                          - Problem resides in the network settings, please consult a network professional
                        - YES
                          - Contact Support (908) 355.7995
                          - Try direct connection, IP addresses assigned?
                            - NO
                              - Replace all Ethernet cables & retest
                            - YES
                              - Pair another device to customer’s Wi-Fi
                                - Are at least 2 bars of signal present?
                                  - NO
                                    - Move HLWLAN closer & retest
                                  - YES
                                    - Problem solved
                        - YES
                          - Contact Support (908) 355.7995
                          - Are MSP LEDs ON?
                            - NO
                              - Replace MSP HLX-LOC-DSP
                            - YES
                              - Replace MSP HLWLAN
                      - NO
                        - Contact Support (908) 355.7995
                        - Are any LEDs ON?
                          - NO
                            - Replace all Ethernet cables & retest
                          - YES
                            - Replace MSP HLX-LOC-DSP
                    - NO
                      - Replace all Ethernet cables & retest
                  - YES
                    - Replace MSP HLX-LOC-DSP
              - NO
                - Replace all Ethernet cables & retest
            - YES
              - Replace MSP HLX-LOC-DSP
          - YES
            - Replace MSP HLWLAN
    - Is firmware up-to-date?
      - YES
        - Problem solved
      - NO
        - Try direct connection, IP addresses assigned?
          - NO
            - Replace all Ethernet cables & retest
          - YES
            - Problem solved
    - Does device have internet access?
      - YES
        - Problem solved
      - NO
        - Replace all Ethernet cables & retest
    - Confirm if 2.4GHz router connection is available & contact support (908) 355.7997
6. Wi-Fi: No Connection/IP Address

*NOTE: These steps are only applicable when using the HLWLAN or Wi-Fi bridge antenna. For best results, first make sure firmware is updated to the latest rev. **Passwords ARE case sensitive.**

**Wi-Fi bridge connections**

Verify all Wi-Fi bridge connections match diagram. Verify MSP firmware is updated (pg. 10-11). Finally, verify network password by connecting another Wi-Fi compatible device. Power cycle router & go to 6B.

**Wi-Fi bridge setup**

Under the config icon, locate and select “Wi-Fi bridge”. First confirm, then select the customer’s network name from the list, refresh as needed. Type in the network password & press the check mark, then go to step 6C.

*NOTE: DO NOT connect the MSP to the PoE port (located on the Wi-Fi power adaptor). The MSP MUST be connected to the LAN port. Failure to do so will prevent pairing and may even cause damage to hardware.*
NOTE: Most networks are configured for dynamic (the router assigns IP addresses to devices that with correct credentials). Static networks require the device to have the IP address programmed in prior to connecting.

Check for IP addresses

Under config. select the “network” icon. Verify the toggle switch is ON and system is set to either dynamic or static (depending on network). IF IP addresses appear verify web server (pg. 17). IF no IP addresses appear go to step 6D.

Verify WLAN & signal strength

Behind Wi-Fi bridge antenna. IF no LEDs are on, replace cables. IF LEDs never appear, replace bridge (HLWLAN). IF LEDs show 2nd bar or less, move antenna closer to Wi-Fi router. IF antenna shows a flashing WLAN LED, go to step 6E.
The HLWLAN works off of the 2.4GHz band **ONLY**. It is recommended to move all newer indoor devices to the 5GHz band when possible, this will free up possible congestion.

**Pair a Wi-Fi compatible device**

Using a phone or another Wi-Fi compatible device, connect to network using correct password. IF device does not connect, go to step 6F. IF device connects, verify the router has 2.4GHz broadcast and contact tech support (908) 355.7995.

**Direct Ethernet test**

Try connecting the MSP directly to the router. IF IP addresses are assigned, the problem resides in the Wi-Fi network. Inspect connection, IF LEDs do not appear where the Ethernet cable plugs in, then the cable is bad or the MSP requires replacing (HLX-LOC-DSP).
7. Wired: No Connection/IP Address

**Wired: No connectivity**

- Check all MSP & router connections

**Is Ethernet Cable free of damage?**

- YES
  - On laptop, turn Wi-Fi OFF
  - Move CAT5e cable from MSP to laptop
  - Move cable to a different port on router

- NO
  - Replace CAT5e & retest
  - Does laptop have internet access?

**Does laptop have internet access?**

- YES
  - Plug CAT5e back into MSP, inspect wired LED
  - Are LEDs active?

- NO
  - Replace MSP: HLX-LOC-DSP

**NO**

- Go to Section B

**Section B**

- IP addresses assigned?

- YES
  - Problem solved
  - Verify cable wiring matches diagram under 7E

- NO
  - Write down router model number & contact support (908) 355.7995
  - Replace CAT5e & retest
  - Does laptop have internet access?

- NO
  - Go to Section B

- YES
  - Replace MSP: HLX-LOC-DSP
**7. Wired: No Connection/IP Address**

**NOTE:** The Ethernet cable that is provided from the home router to the OmniLogic should not exceed 300’ and should be run in low voltage conduit only. Make sure the MSP is updated to the latest firmware (pg. 9-11).

Inspect connections

- **Step 7A**
  - Verify the Ethernet cable is plugged in snugly in both the MSP and router. Visually inspect the cable. IF damaged, replace it. IF cable is not damaged, proceed to step 7B.

Laptop computer check

- **Step 7B**
  - With Wi-Fi disabled, unplug the Ethernet cable (from MSP) & plug it into a laptop. IF computer has internet access, proceed to step 7C. IF the laptop does not have internet access, go to 7D.
7. Wired: No Connection/IP Address (cont.)

**NOTE:** Most routers have an activity and link LED for each port. Verify whether these LEDs are active once the cable is plugged in.

**MSP LEDs**

Step 7C

Plug the Ethernet cable back into the MSP and verify if LEDs are active. IF LEDs are active, then verify the router is not blocking MSP. IF LEDs are not active, replace MSP (HLX-LOC-DSP).

**Change port on router**

Step 7D

Move the Ethernet to a different port on the home router and confirm connection LEDs appear on router. 

IF after changing router ports, IP addresses still don’t appear go to 7E.

**NOTE:** DO NOT connect the Ethernet cable to a PoE port on the router. If unsure which ports, if any, are classified as PoE ports, please contact the router manufacturer.
7. Wired: No Connection/IP Address (cont.)

The cable configuration is a standard through put CAT5e. The Ethernet cable should be in low voltage conduit ONLY.

Check/change cable

Step 7E

TIA/EIA 568A Wiring

1 2 3 4 5 6 7 8

TO MSP

TIA/EIA 568B Wiring

1 2 3 4 5 6 7 8

TO MSP

TIA/EIA 568A Wiring

1 2 3 4 5 6 7 8

TO ROUTER

TIA/EIA 568B Wiring

1 2 3 4 5 6 7 8

TO ROUTER

Confirm the cable configuration matches either of the two configuration shown above. IF the cable does not pass, replace the cable. IF okay, go to step 7F.

Repeat laptop check

Step 7F

IF computer now has internet access, plug Ethernet into MSP. IF still no internet access, then look into home network, service may be down, IP conflict, or blocking.
8. Web Control: Link Lost

Web Control: Link Lost

Check for IP address

Are IP addresses assigned?

YES → Verify the router is broadcasting an internet signal

NO → Verify network toggle is on

YES → Does home network have internet access?

NO → The home network must have internet access to allow remote control, custom should contact their ISP

YES → The home network must have internet access to allow remote control, custom should contact their ISP

Try logging into both the OmniLogic app & web program

Are the values correct?

YES

NO → Change values & retest (pg. 17)

Check web server information, under the config. menu

If both still show lost link, contact tech support: (908) 355.7995

Main IP should be: 198.61.209.236 (port 5858)
Back up IP should be: 166.78.4.254 (port 5858)
8. Web Control: Link Lost

**NOTE:** Lost link indicates that the OmniLogic cannot reach the Web Server; due to either a problem with the customer’s internet service, lost connection between the router and MSP, the web server is down, or the web server IP is incorrect.

**Check for IP addresses**

Under config. select the “network” icon. Verify the toggle switch is ON and system is set to either dynamic or static (depending on network). IF IP addresses appear go to 8B. IF they do not appear, go to step 8D.

**Internet access onsite**

Make sure the router, supplying the OmniLogic with an IP address, has internet access. IF the Internet service is down, then the system cannot communicate with the web server. IF internet service is up, go to step 8C.
8. Web Control: Link Lost (cont.)

**Note:** In order for the OmniLogic to properly communicate with the web server, the IP addresses must be confirmed under `config>web server`.

Verify web server

- **Step 8C**

<table>
<thead>
<tr>
<th>main name / IP</th>
<th>port</th>
</tr>
</thead>
<tbody>
<tr>
<td>198.61.209.236</td>
<td>5858</td>
</tr>
<tr>
<td>backup name / IP</td>
<td>port</td>
</tr>
<tr>
<td>166.78.4.254</td>
<td>5858</td>
</tr>
</tbody>
</table>

Make sure system is pointing to the correct web server *(pg. 17).* Then try logging into both [www.haywardomnilogic.com](http://www.haywardomnilogic.com) as well as the app. IF both the web & app produce the same results contact tech support (908) 355.7995.

Wi-Fi or Wired Network

- **Step 8D**

  - **Wi-Fi go to Section 6**
  - **Wired go to Section 7**

The following steps have been covered in the previous sections. IF the customer is using a HLWLAN, go to the beginning of section 6. IF the customer is running a wired configuration, then go to the beginning of section 7.
**Reading Serial Numbers**

- **3K11284** = Standard Warranty Term
- **3K11284** = Product Family
- **3K11**284 = Year of Manufacture
- **3K11284** = Day of Manufacture
- **123456** = Manufacturing ID

**Example Serial Number:** 3K11284-123456