



OmniPL[®] (non optimized)

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

Table of Contents

OmniPL® Overview & Terminology	Pg. 4-5
OmniPL: Main PCB Layout (MP)	Pg. 6
How To:	Pg. 7-18
Backup Config. & Download Firmware	8-9
Upgrade Firmware	10-12
Exit Service Mode	13
Connect to Wi-Fi & Network Diagnostics	14-18
Troubleshooting:	Pg. 19-51
1. MSP: Blank Display	20-23
2. Valves Not Rotating	24-29
3. Alarms: MPP – Comm Loss	30-33
4. Alarms: Smart Device Comm Loss	34-38
5. Salt Chlorinator Not Detected	39-43
6. Wi-Fi: No Connection/IP Address	44-46
7. Wired: No Connection/IP Address	47-49
8. Web Control: Link Lost	50-51
Reading Serial Numbers:	Pg. 52

OmniPL: Overview

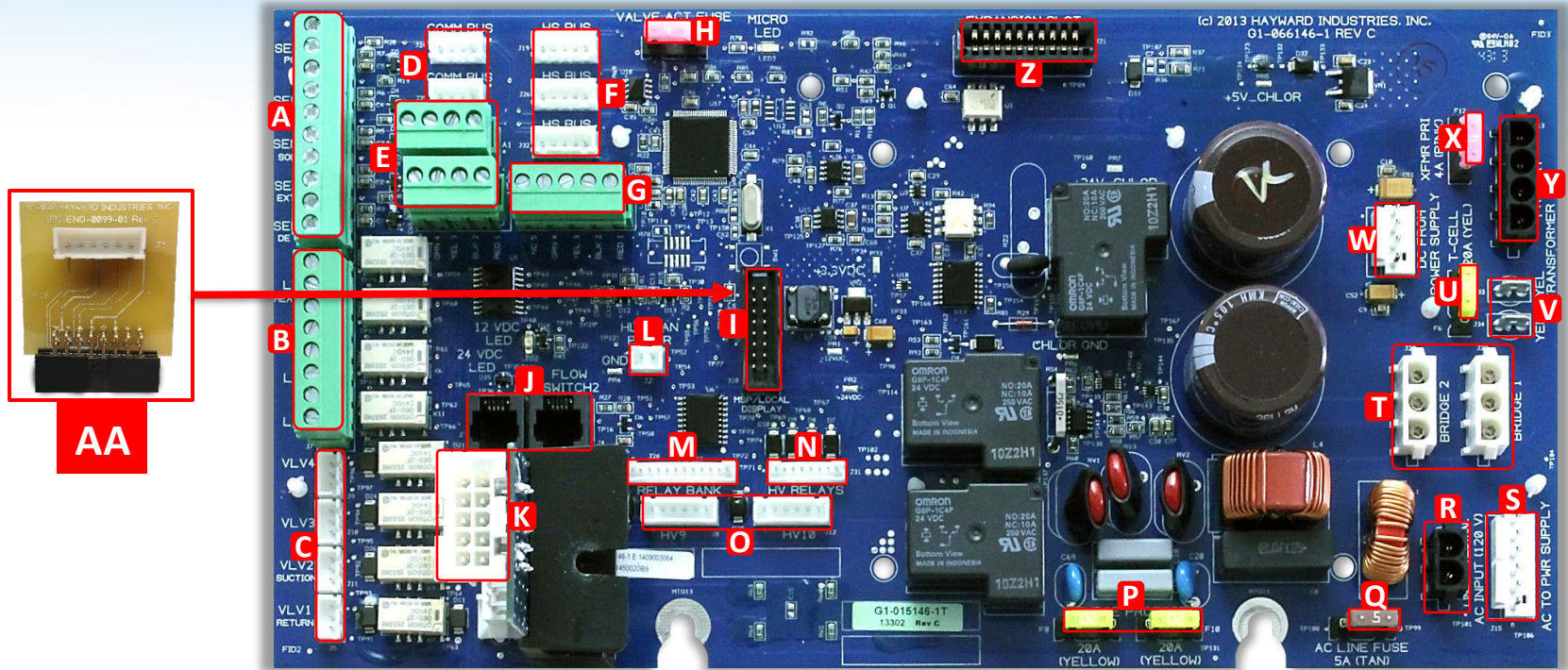
- The OmniPL is an internet and App ready, intuitive, modular automation system.
- This elite automation system features a USB backup and upgrade option. The USB feature allows customers and servicers to backup existing configurations as well as upgrade the system with the latest revision in minutes.
- With touch screen technology the MSP or display allows users to navigate through screens and commands in virtually any lighting condition.
- Each OmniPL base unit supports up to 8 variable speed pumps, 6 relays, 2 external Smart Relays, 5 sensors, 4 heaters, and 4 valves. It also supports up to 25 themes (groups) and 50 favorites.
- OmniPL also supports the HLWIRELESS remote as well as the HLSPASIDE and the HLWALLMOUNT wired remotes.



OmniPL: Terminology

Term	Description
MSP	Main System Processor (controller)
MPP	Main Panel Processor (main board)
MP	Main Panel (enclosure)
PSU	Power Supply Unit (PWR Supply)
DBB	Display Bridge Board
HVR	High Voltage Relay
LVR	Low Voltage Relay
LVA	Low Voltage Actuator
EXR	External Smart Relay

OmniPL: Main PCB Layout (MP)



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



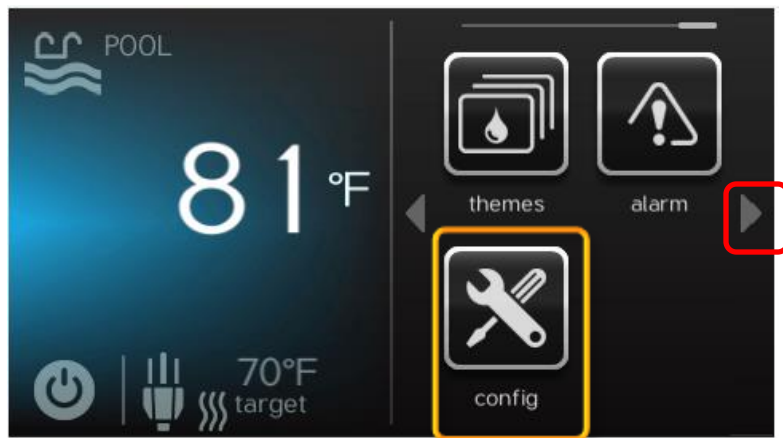
OmniPL®

How To Guide:



How To: Sync Time With The Internet

Use the steps provided to synchronize the System Time with the Internet. The Over The Air Firmware Upgrade require that the system date and time is set to synchronize with the Internet.



1. On the right of the dashboard right arrow click to locate and then tap the “config” icon.

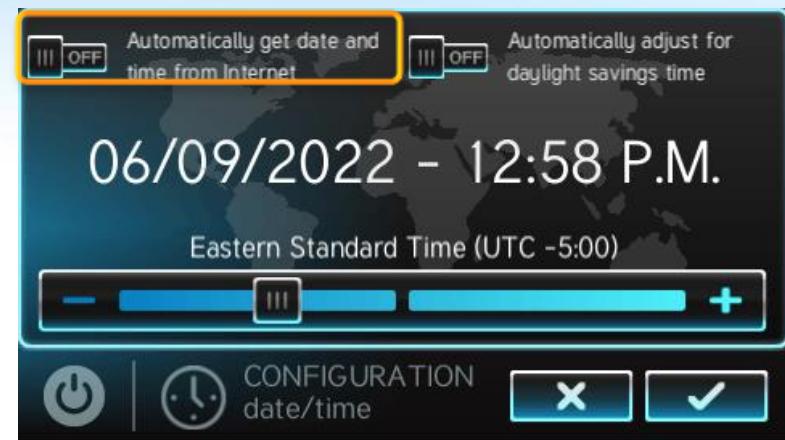


2. Select the “date/time” option (third down on the right most column).

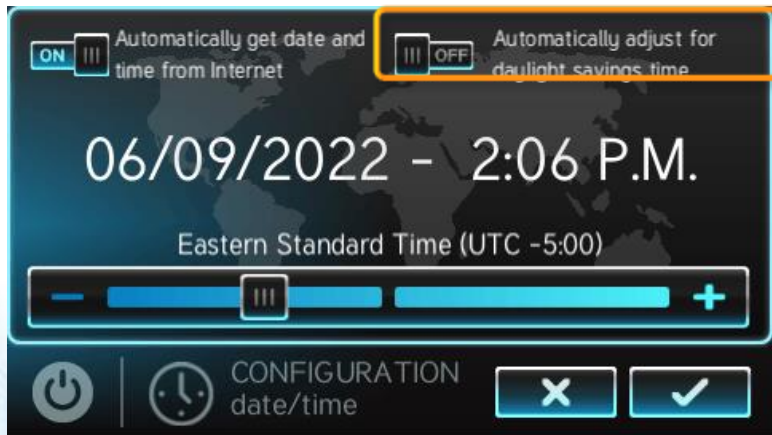
How To: Sync Time With The Internet



3. Select “**Network Time Options**” in the upper most left.



4. Select the “**ON**” for “**Automatically get date and time from Internet**” in the upper right



5. Select the “**ON**” for “**Automatically adjust for daylight saving time**”.



6. Set the **time zone** slider for your location and last, select the **checkmark** button to complete setting the time options.

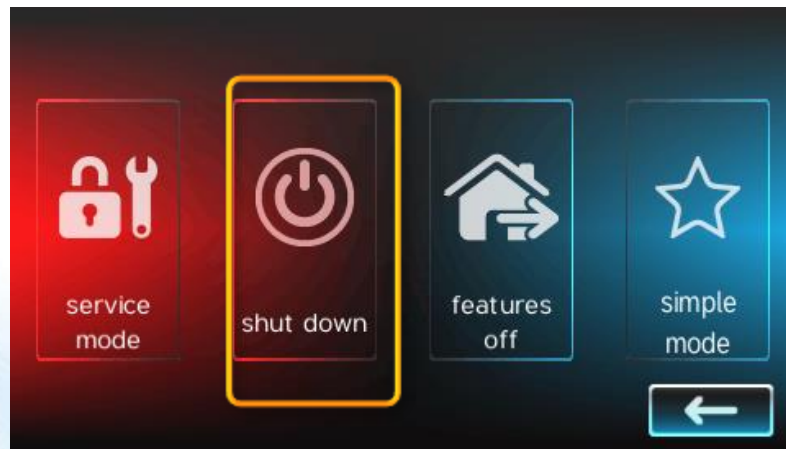
How To: Sync Time With The Internet



5. At this point your date/time screen is expected to look like the following example with the two toggle switches at the top set to ON and the time zone set to your location.



6. Reboot the Omni by pressing the power button



7 Select "shut down".



8. Restart by tapping the power button on the left..

How To: USB Thumb Drive Requirements

A USB thumb drive is used to store backup configurations and make firmware upgrade files available to controller/display.

USB drive information

- **A USB drive is not required for MSP and Terminal upgrades if the Omni has firmware 4.0.0 or higher is installed on the controller used to upgrade. You can process the upgrade over the air(OTA). More information on how to process an OTA upgrade is covered immediately after the “How To: Exit Service Mode” section.**
- A USB drive is required to USB upgrade the firmware of the Omni controller.
- A USB drive is required to backup the configuration of the Omni controller.
- The preferred USB drive to use for the upgrade is the 16GB or smaller Sandisk Cruzer.
- The memory size of the USB thumb drive must be 16GB or less.
- The format of the USB thumb drive must be FAT32.
- Upgrade files must be at the root of the USB thumb drive, Do not place the upgrade files in a folder.
- We recommend backing up the Omni’s configuration before processing any firmware upgrade.
- When ready to backup the configuration or USB upgrade the firmware, insert the USB drive into the USB port of the Omni controller.

How To: Back-Up Configuration

Use the steps provided to backup a configuration.

These steps aid firmware upgrades, MSP changes, and corrupted configurations.

A USB drive must be inserted in the controller to backup to a USB.

See the next page for USB drive considerations.



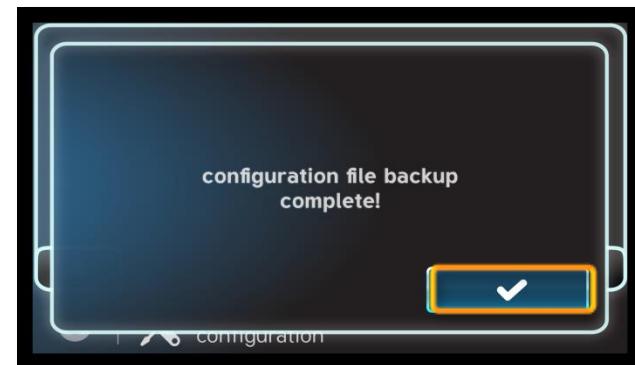
1. On the right of the dashboard right arrow click to locate and then tap the “config” icon.



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



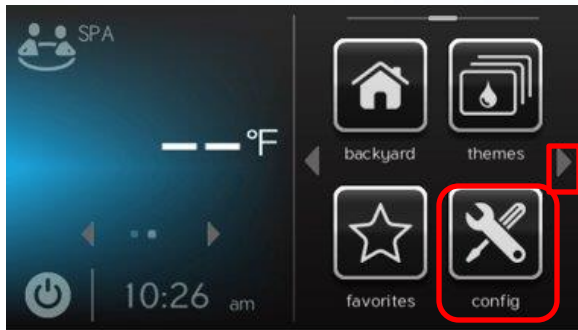
3. Select “Backup to USB”, after inserting a USB drive, then press the check mark.



4. Once the backup is confirmed press the check mark to finalize.

How To: Verify the MSPID and Firmware

IMPORTANT: Before upgrading the firmware, check which version of the firmware is installed on your Omni control system. From the Omni controller's display, do the following to view the system info screen:



1. Right arrow navigate to find the "config" button and select it.



2. Press "system info"



3. System info screen:

Your Omni's msp id

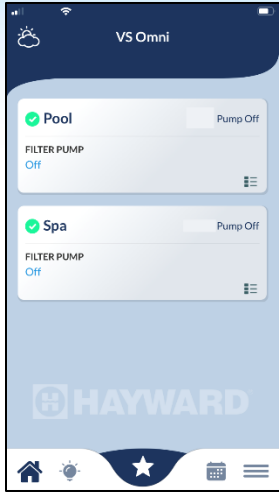
Your current firmware version

The component

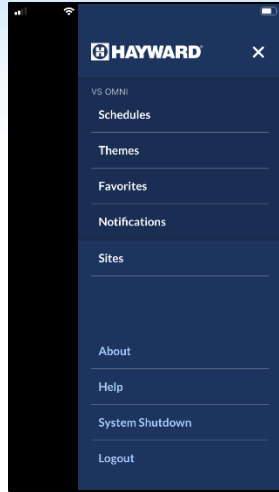


How To: Verify the MSPID and Firmware

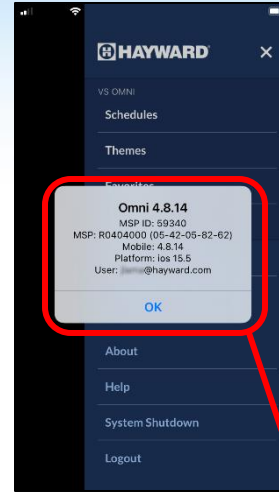
To locate your Omni's firmware from the app, open the Omni app on your smartphone and do the following:



1. Press the three lines at the bottom right corner.

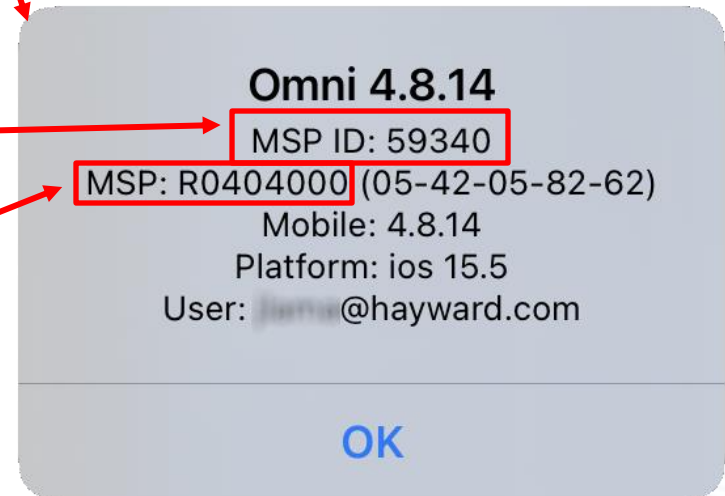


2. Press "About".



The Omni's MSP ID.

The firmware of the Omni Controller.

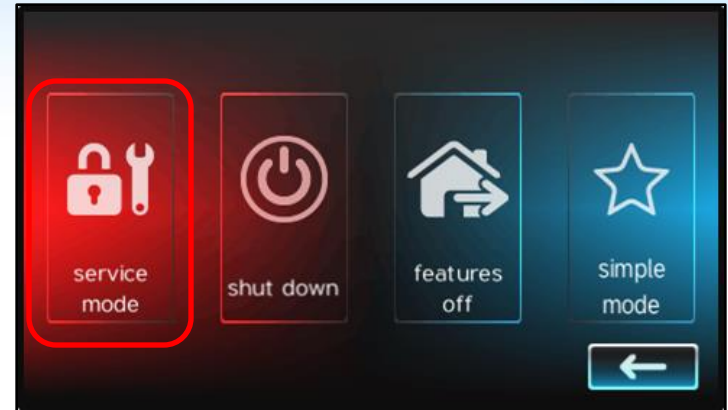


How To: Enter Service Mode

NOTE: Entering service mode will stop all devices and disable controls



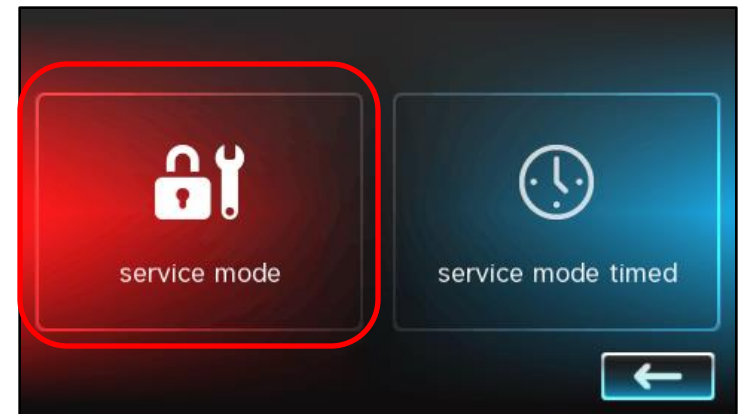
1. Press the power button icon.



2. Press "service mode".



3. Press the checkmark to continue.



4. Press "service mode" to enter service mode.

How To: Exit Service Mode

NOTE: Exiting service mode will re-enable all devices and controls



1. Press the power button found in the bottom left corner of the screen. 1.



2. To exit “service mode” press “service mode exit.” If you would like to reboot the OmniPL, press “shutdown.”

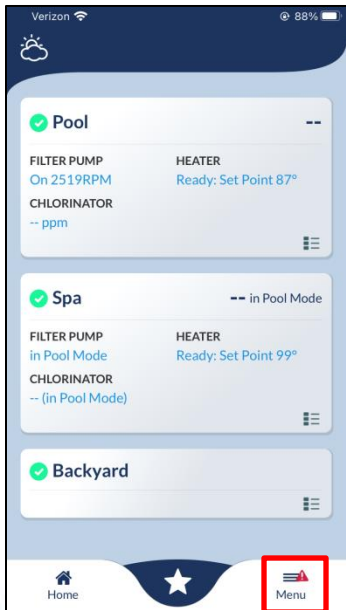
How To: Over The Air Upgrade Firmware

Omni firmware **R4.0.0 and above** may process firmware updates Over The Air (OTA) via an Internet connection.

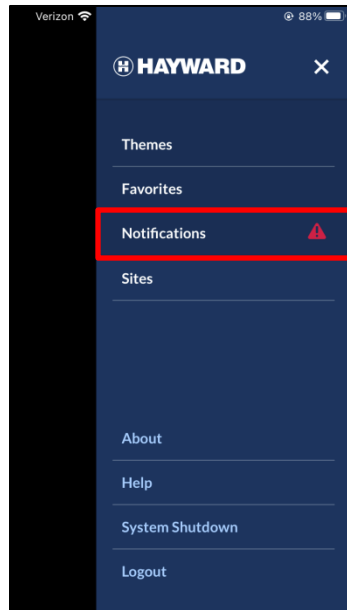
- When a new firmware update is available, users will receive an alert in the Omni App.
- Users will also see an alarm on the Omni's display.

How to view if an OTA upgrade is available:

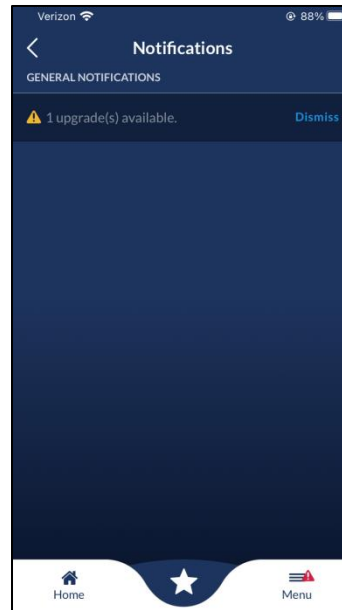
From the Omni App



Press "Menu"



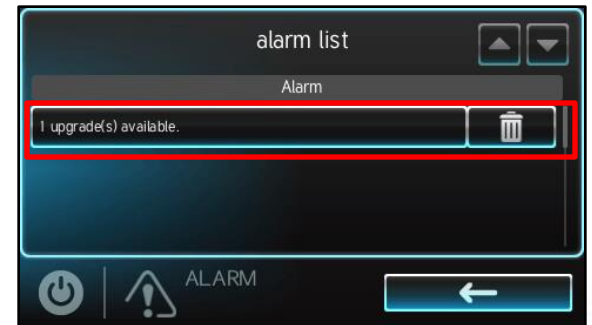
Press "Notifications"



From the Omni Controller's Display



Press the "alarm" button



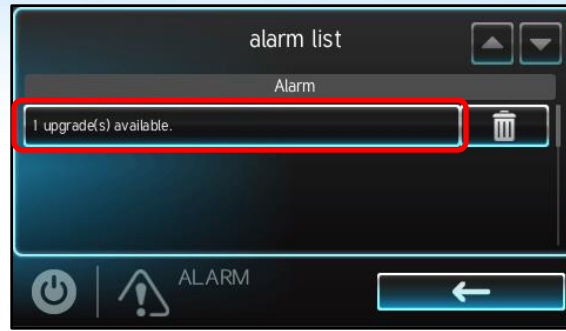
Important: The app only allows users to view if an upgrade is available. To process the upgrade, go to the Omni Controller.

How To: Over The Air Upgrade Firmware

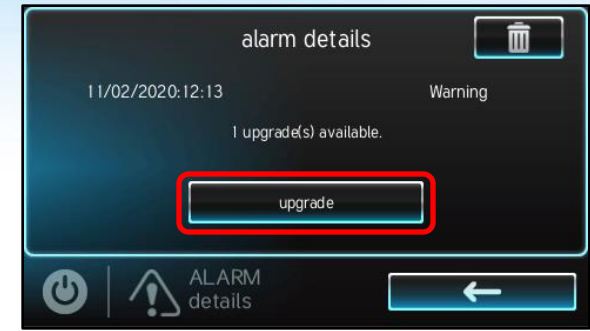
How to process an OTA upgrade **with** an alarm notification



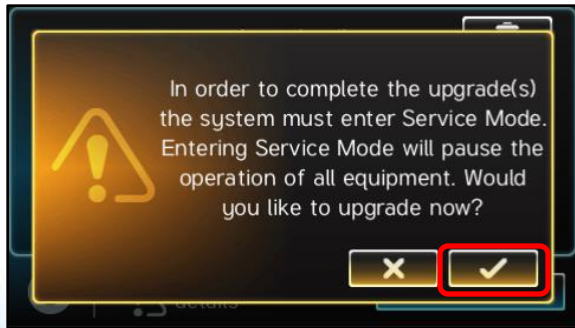
1. Press the “alarm” button.



2. Select the upgrade available button.



3. Press the “upgrade” button.



4. Press the checkmark to enter service mode and continue.



5. Press “Upgrade All”.



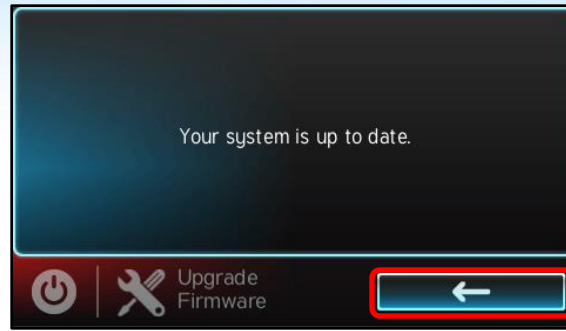
6. Press the checkmark to start the upgrade.

How To: Over The Air Upgrade Firmware

How to process an OTA upgrade **with** an alarm notification (continued)



7. Press the checkmark to complete.



8. Press the back arrow to exit.



9. Press the checkmark to reboot the system and return to standard operating mode.

Additional Information

- This same process can be repeated to upgrade certain Omni components, such as the
 - MSP: This is the Main System Processor, the controller and embedded display
 - Wired Remotes
 - Wireless Remotes
- Any other components with available upgrades will need to be downloaded and placed on a USB drive to be installed using the USB Upgrade method.

How To: Check for OTA Upgrades

Omni firmware **R4.0.0 and above** may process firmware updates Over The Air (OTA) via an Internet connection.

To check for new firmware updates from the Omni display in Service Mode do the following steps,



1. Select down and press “Upgrade”



This screen indicates that there are no upgrades available



2. Press “Upgrade from Internet”



This screen indicates that there is an update available. Press “Update All” to upgrade.

How To: Download Firmware for USB Upgrade

- The latest Omni firmware can be downloaded from <https://www.hayward.com/firmware>
- Do not place the upgrade file into a folder on the USB drive.
- Ensure the upgrade file does not have a file extension added. (The next few pages cover how to remove file extensions)

Firmware Updates

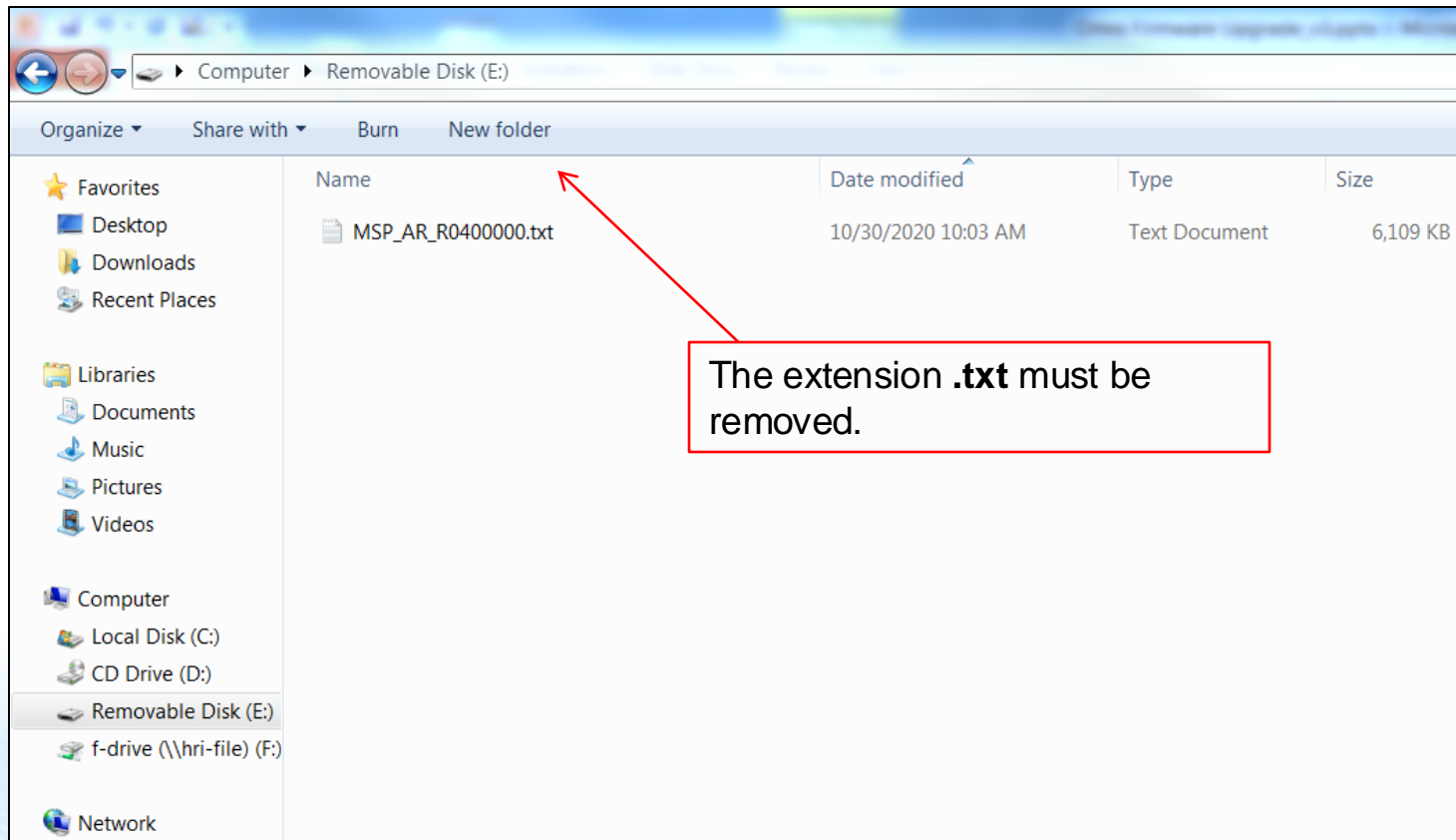
Below you will find the latest Hayward OmniLogic Controls Firmware updates available. Please locate the Hardware that you would like to update and download the latest Firmware onto your USB memory stick. You will need to bring the USB memory stick to the Omni Control product. For OmniLogic and OmniPL, simply plug it into the side of the Local Display behind the Dead Front. For OmniHub, you will need to access the port on the bottom of the display. Next, you will need to access service mode through the power button on the bottom left corner of the main screen and from the next menu find the upgrade button, then pick the component or remote that you are upgrading. The Omni controllers will automatically reboot after the upgrade is complete. We suggest you consult your pool professional when upgrading OmniLogic firmware.

Hardware	Version	Release Date	Release Notes	Download
MSP (Main System Processor / Main System Touch Display)	R4.0.1	01/14/2021	View	6 MB Previous Version
MPP (Main Panel Processor / Main Board)	R3.2.0	12/19/2019	View	81 KB Previous Version
Wired (Remote) Terminal - HLWALLMOUNT Wireless (Remote) Terminal - HLWIRELESS	R4.0.0	10/30/2020	View	4.9 MB Previous Version

How To: Download Firmware for USB Upgrade

How to remove the .txt file extension from the upgrade file

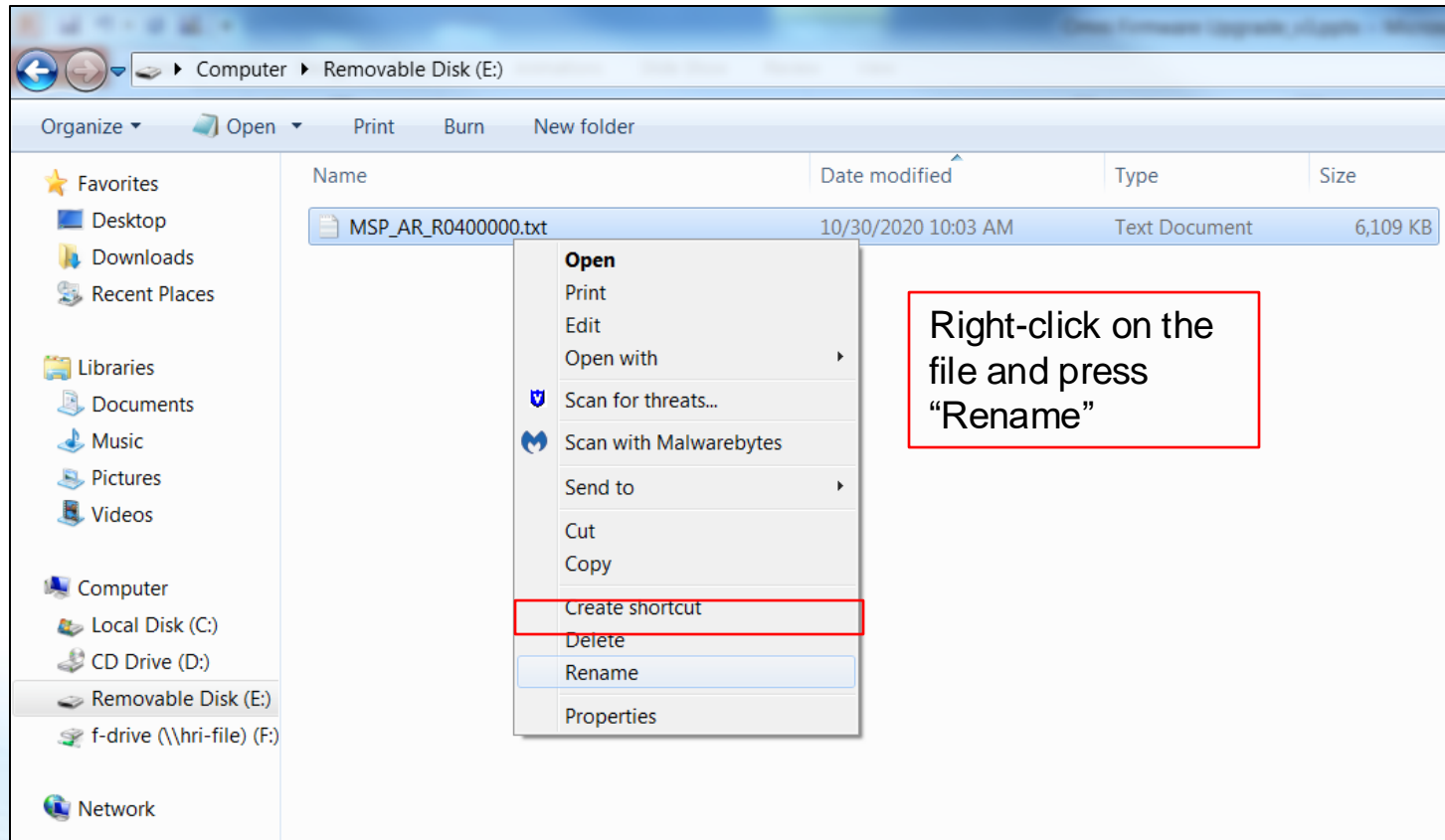
- After downloading the firmware from Hayward's website, check to see if a file extension was added.
- Any extension to the firmware upgrade file must be removed. Rename the file to remove the extension. (See Below)
- This can be done before or after the file is loaded onto a USB drive.



How To: Download Firmware for USB Upgrade

How to remove the .txt file extension from the upgrade file

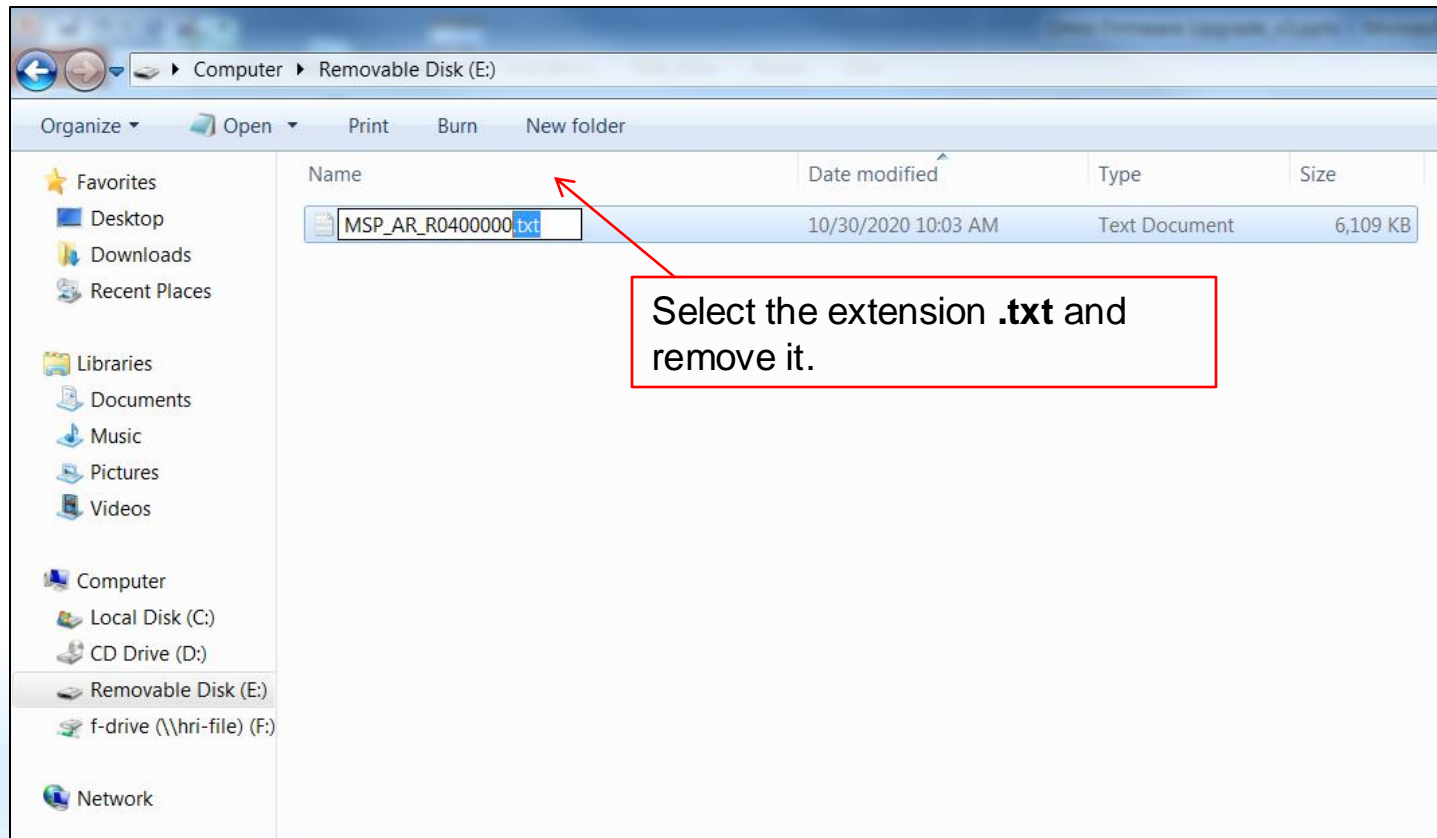
- Right-click on the file and press “Rename”



How To: Download Firmware for USB Upgrade

How to remove the .txt file extension from the upgrade file

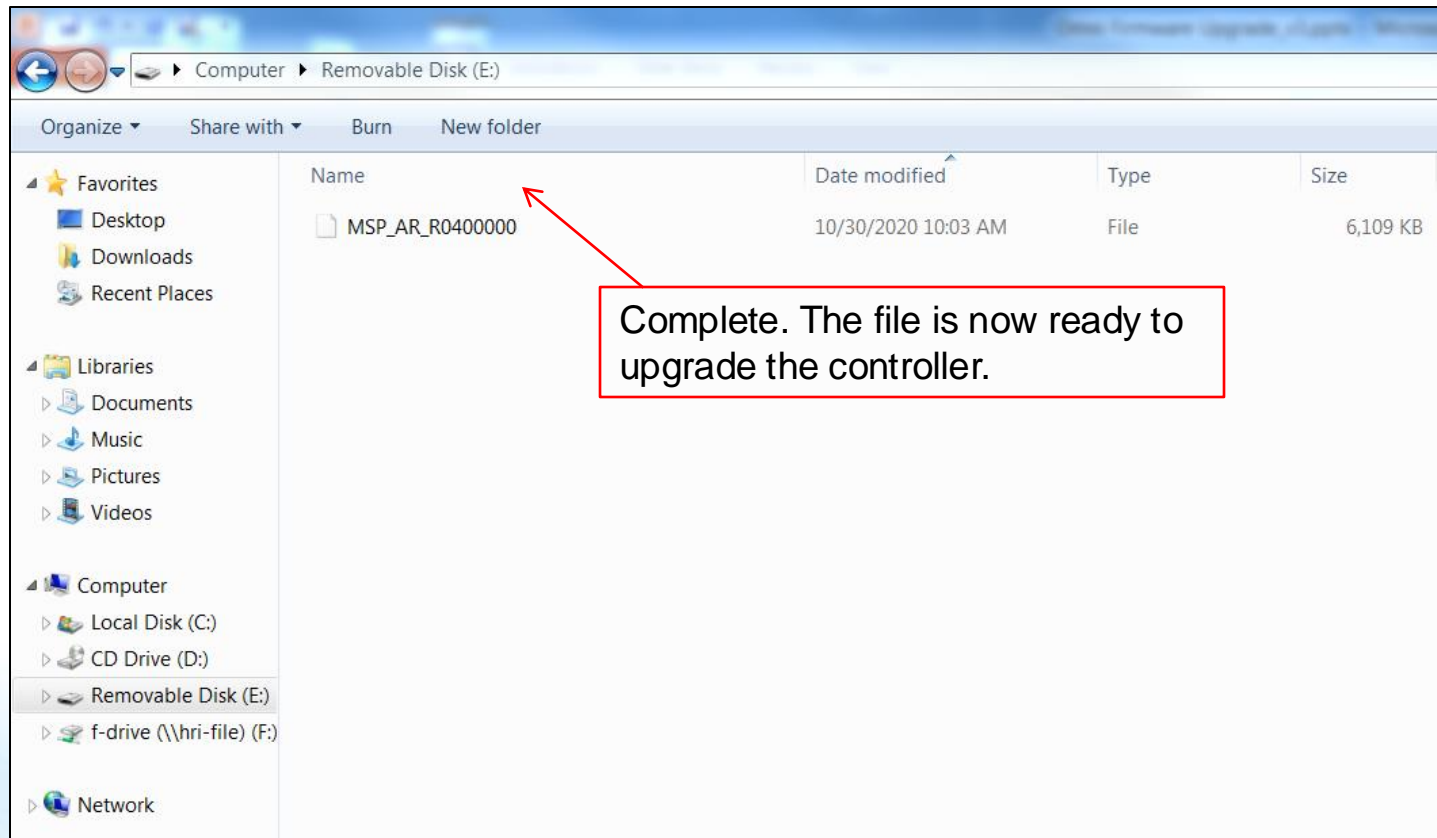
- Select **.txt** and delete it.



How To: Download Firmware for USB Upgrade

How to remove the .txt file extension from the upgrade file

- When ready, insert the USB drive with the upgrade file into the USB port of the Omni controller.
- Pages 11-13 will demonstrate how backup the configuration and complete the upgrade from the Omni controller's display.

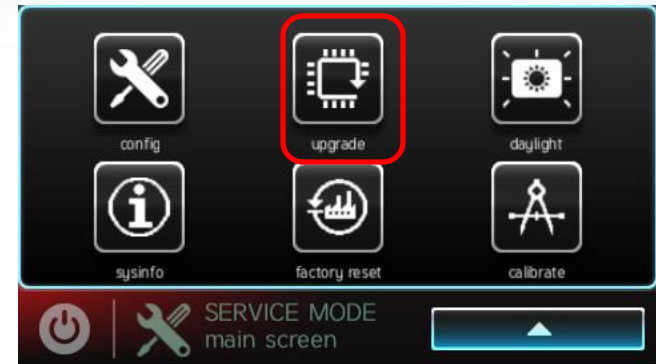


How To: USB Upgrade Firmware

With the USB drive inserted in The Omni Controller display in Service Mode, perform the following steps.



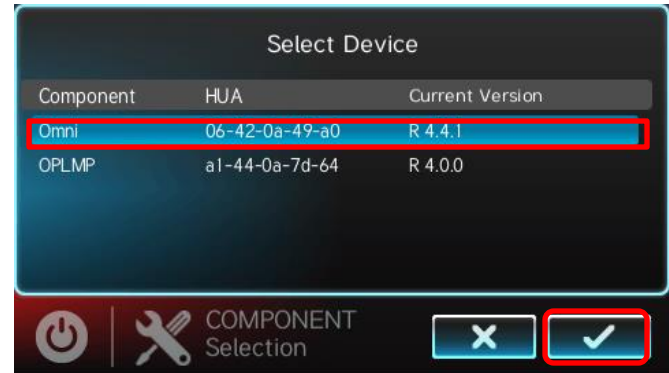
1. Press the down button to find the “upgrade” button.



2. Press the “upgrade” button



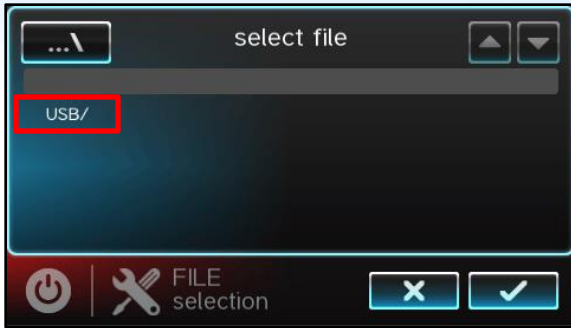
3. Press the “Upgrade from USB” button.



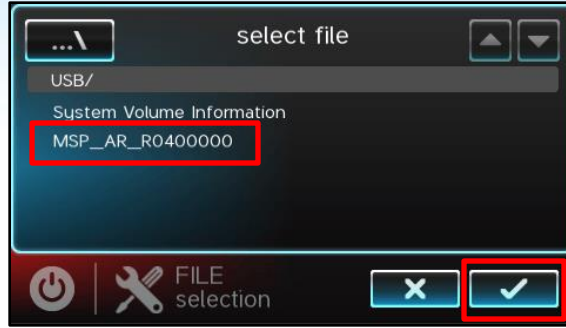
4. Select “MSP” then press the checkmark to continue.

How To: USB Upgrade Firmware

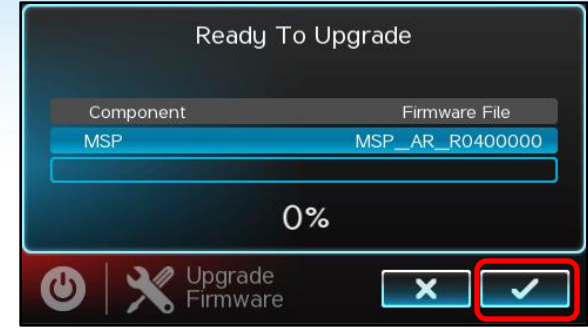
With the USB drive inserted, perform the following from the Omni controller's display



7. Press "USB/"



8. Select the upgrade file, then press the checkmark to continue.



9. Press the checkmark to begin the firmware upgrade.



10. Press the checkmark to complete the upgrade and restart the controller.

Additional Information

- This same process can be repeated to upgrade all Omni components, such as the
 - MSP: This is the Main System Processor controller/display
 - OPLMP: This is the Main Board
 - Wired & Wireless Remotes
 - Smart Relay
 - Spa Side Remote

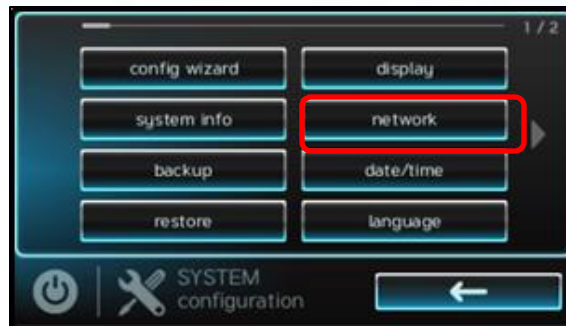
With the MSP firmware at **R4.0.0 or above**, the Omni controller can process future MSP, Wired & Wireless updates Over The Air (OTA)..

How To: How to Configure a Wi-Fi Connection

To initially connect to a 2.4 GHz Band Wi-Fi network, perform the following at the Omni controller:



1. Use the right arrow to find the "config" icon, then press it.



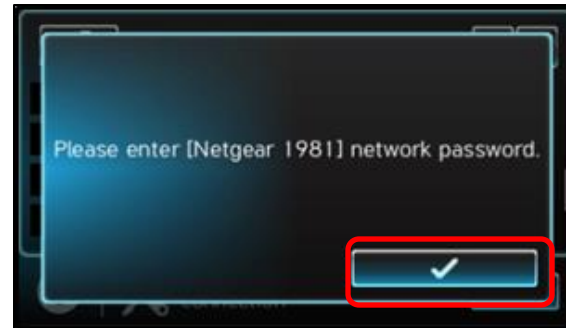
2. Press "network"



3. Press "setup wifi"



4. Select your Wi-Fi network

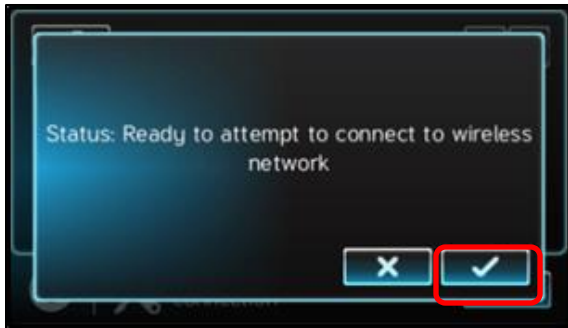


5. Press the checkmark

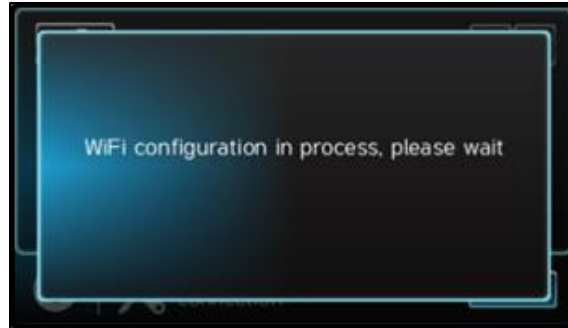


6. Enter your network password, then press the checkmark

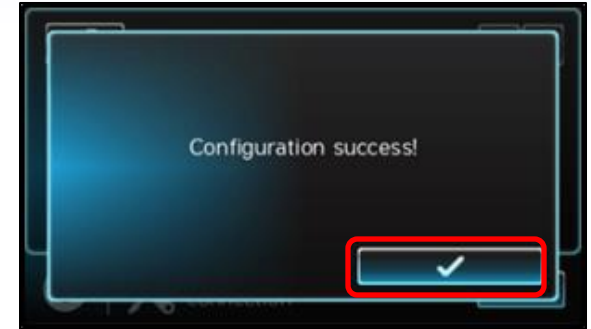
How To: How to Configure a Wi-Fi Connection



7. Press the checkmark



8. Configuration can take up to 5 minutes



9. Press the checkmark to complete.

Please be advised that the networking of all Omni products use the 2.4 GHz Wi-Fi band and support WPA or WPA2 security and TKIP or AES (CCMP) as a cypher.

Please note that the Omni firmware uses an American English standard keyboard at the controller. Due to the Omni keyboard, non American English characters, such as available in French and Spanish, cannot be used for a network Password that the Omni can support.

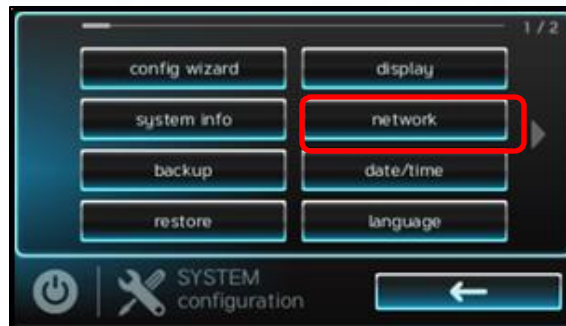
The single quote/apostrophe (') and accent grave (`) characters are not supported for either a WiFi Name or Password by the Omni firmware.

How To: How to Change Wi-Fi Networks

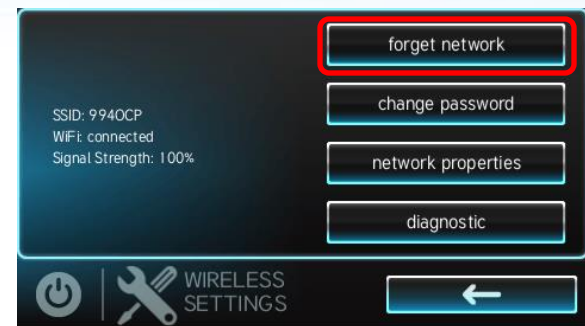
To change the configuration of a 2.4 GHz Band Wi-Fi network, perform the following at the Omni controller:



1. Use the right arrow to find the “config” icon, then press it.



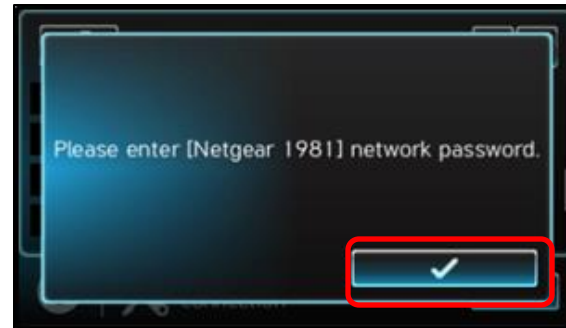
2. Press “network”



3. Press “forget network”



4. Select your Wi-Fi network

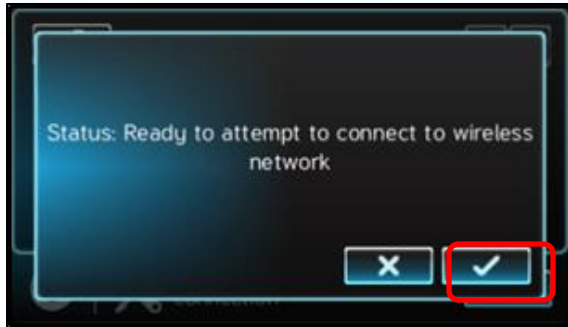


5. Press the checkmark

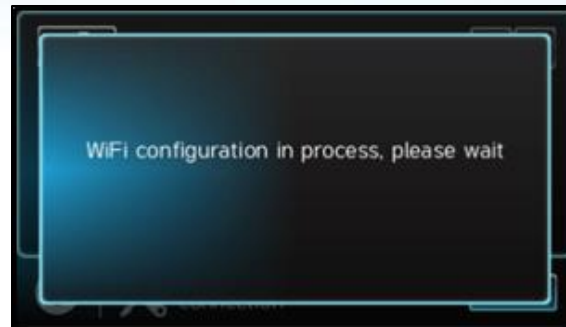


6. Enter your network password, then press the checkmark

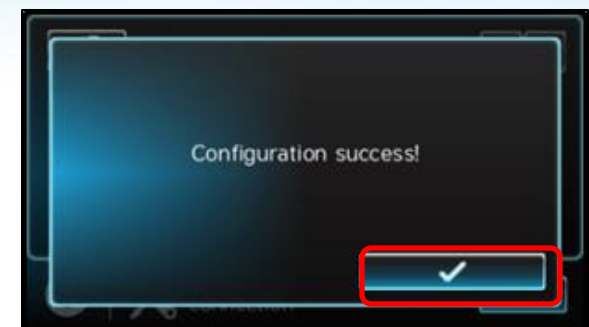
How To: How to Change Wi-Fi Networks



7. Press the checkmark



8. Configuration can take up to 5 minutes



9. Press the checkmark to complete.

Please note that the only difference in the steps describing how to initially configure the W-Fi network connection and configuring a change is the name of the button to select has changed.

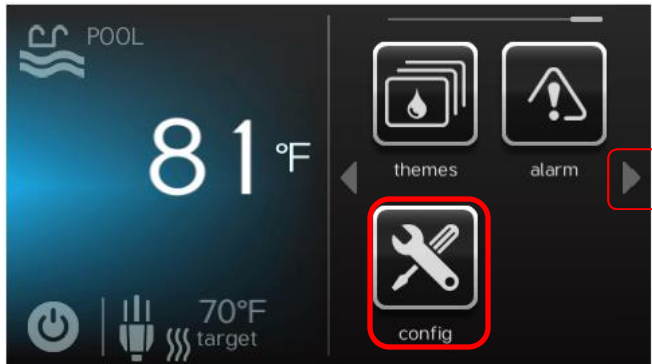
Please be advised that the networking of all Omni products use the 2.4 GHz Wi-Fi band and support WPA or WPA2 security and TKIP or AES (CCMP) as a cypher.

Please note that the Omni firmware uses an American English standard keyboard at the controller. Due to the Omni keyboard, non American English characters, such as available in French and Spanish, cannot be used for a network Password that the Omni can support.

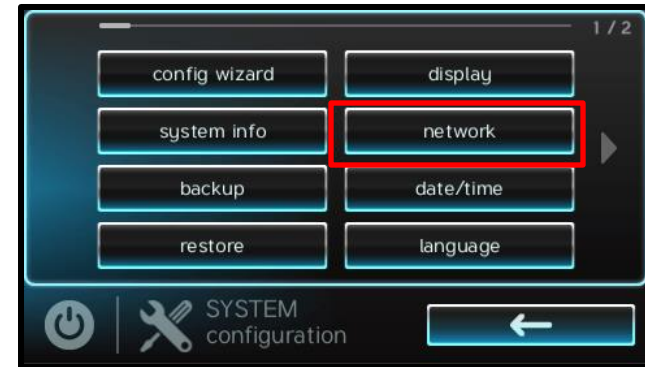
The single quote/apostrophe (') and accent grave (`) characters are not supported for either a WiFi Name or Password by the Omni firmware.

How To: Network Diagnostics

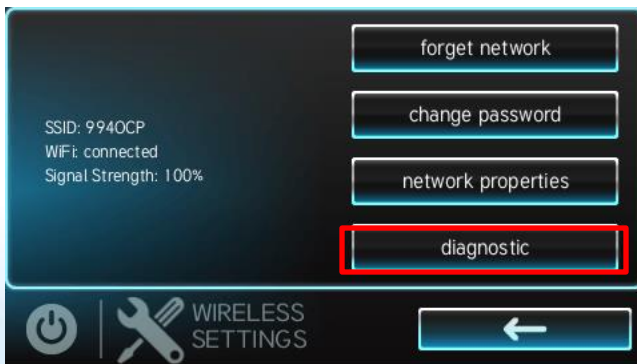
Perform the following steps at the Omni controller's display to run the Network Diagnostic.



1. Right arrow to find the “config” icon, then press it.



2. Press “network”



3. Press “diagnostic”



4. “NETWORK diagnostic” screen

How To: Network Diagnostics

Network Diagnostic Screen: How to read the diagnostic screen. The left side of the screen describes how your system is connected to your network.

Omni w/Wireless



Omni w/Wired



- **SSID:** When connected to your Wi-Fi network, the name of your network will display here.
- **WiFi:** Will display “connected” when the OmniHub is connected to a router.
- **Signal Strength:** Will display the strength of the Wi-Fi connection.
- **Mode:** Displays connection type either dynamic or static
- **Local IP:** The IP address of the Omni
- **Gateway:** The router’s IP address

- **Ethernet:** When connected to your network, the status will display as “**connected**”..
- **Mode:** Displays connection type either dynamic or static
- **Local IP:** The IP address of the Omni
- **Gateway:** The router’s IP address

How To: Network Diagnostics

Upon entering the diagnostic screen, as in this wireless network example, the Omni will begin to perform a diagnostic of your connection. What follows is a description of each potential failure that can be detected.



Verifying Netlink: The Omni Wireless is not communicating with the router.

What to do: Ensure that the password was typed correctly. Attempt connecting to your router again and re-enter the password.

Verifying Network Address: The router may not be providing an IP address.

What to do: Verify that the router has DHCP enabled. If so, or if you're unable to connect try using a Static IP address.*

Verifying Network connection: Your router's firewall maybe preventing the router from answering ping or you're attempting to connect to a guest network.

What to do: You may have to adjust your router's firewall settings to allow ping.* If using a guest network switch to a non-guest network.

*You may need to contact your internet service provider or an IT professional for assistance with making changes to your router's settings.

How To: Network Diagnostics



Verifying DNS: The router firewall is blocking ping or the router is not connected to the internet.

What to do: Verify that the router is connected to the internet. If connected, adjust your router's firewall settings to allow ping.*

Verifying Internet Connection: The router may not be connected to the internet, or the firewall is blocking ping.

What to do: Verify that the router is connected to the internet. If connected, adjust your router's firewall settings to allow ping.*

No visible error message: You may not be using the correct account login on your mobile device, or the router's firewall is blocking UDP Port 5858.

What to do: Verify that you are using the correct login. If so, use port triggering or port forwarding in your router's settings to open UDP Port 5858.*

*You may need to contact your internet service provider or an IT professional for assistance with making changes to your router's settings.

How To: Network Diagnostics

For additional assistance:

If you are still unable to connect and would like us to help diagnose the problem further, we will need you to do the following.

- Go to the network diagnostic screen
- Take note of which step of the diagnostic failed and what was the specific error message received when it failed.
- Locate your MSP ID, from the Omni controller display by pressing “config”, then “system info”. The MSP ID is displayed at the top of the screen.

Email a brief description of the problem along with

- The step at which the diagnostic failed
- The specific error message
- And your MSP ID

To customerappsupport@hayward.com. Someone will respond within 24-48 hours.



OmniPL[®]

Troubleshooting



1. MSP: Blank Display

The MSP runs off of 12VDC. Verify breaker powering the OmniPL is not tripped.

Tap on the screen

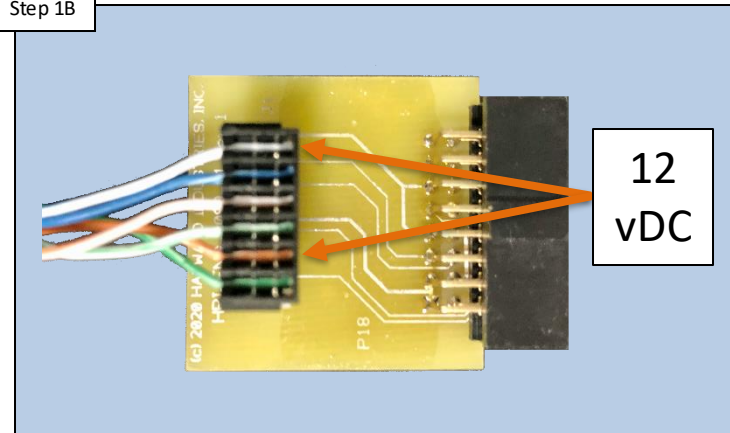
Step 1A



Tap on the screen in an attempt to wake an idle display. Make sure glare is not the culprit. If tapping the display does not change the display state, go to step 1B.

Test for 12vDC

Step 1B

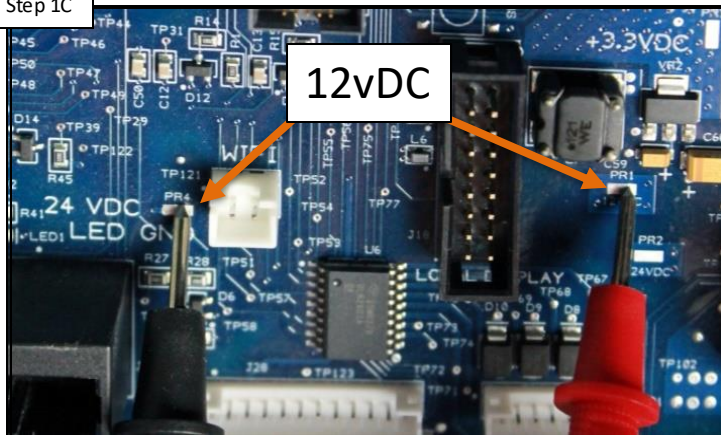


Test power to controller at the DBB. Use a multimeter to test 10-12vDC between the striped blue & solid orange wires. If voltage is present, replace controller (**HLX-PL-DSP**). If not, go to step 1C.

1. MSP: Blank Display (cont.)

Test MPP

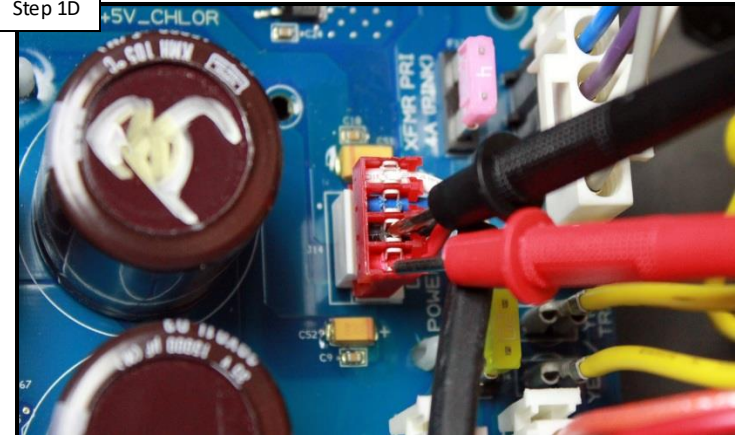
Step 1C



Unplug the DBB and check between the 12vDC and GND solder points. If voltage is present, replace the DBB ([HLX-PL-485BPCB](#)). If not present go to step 1D.

Test PSU Output

Step 1D



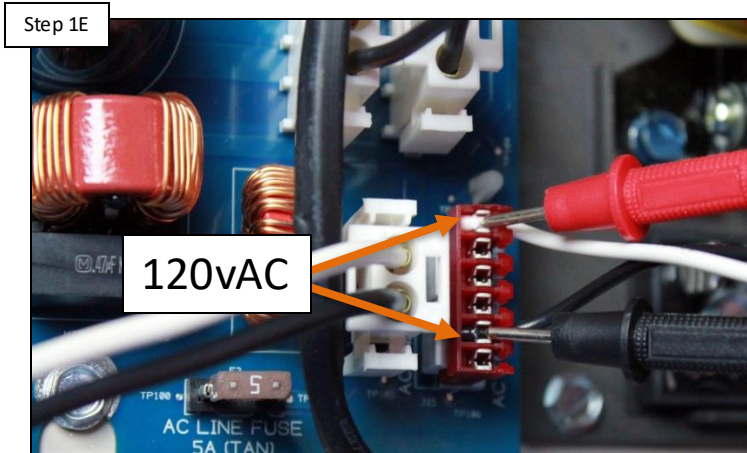
Test for 12vDC between the red and black wires on the PSU output plug. If voltage is present replace the MPP ([HLX-PCB-MAIN](#)). If not present go to step 1E.

NOTE: The 12vDC LED should be illuminated if voltage is present.

1. MSP: Blank Display (cont.)

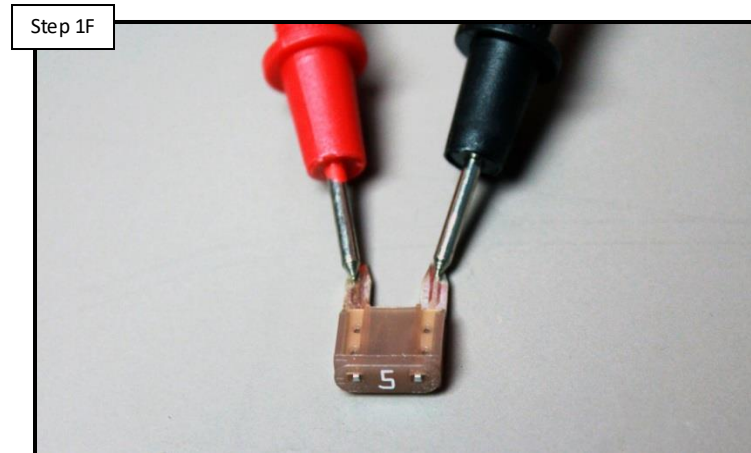
The power supply (located in the lower right portion of the cabinet) converts 120vAC to 12vDC and 24VDC.

Test PSU output



Test the PSU output plug for 120vAC between the black and white wires. If voltage is present replace power supply (**HLX-PSUPPLY**). If not, go to step 1F.

Test PSU input

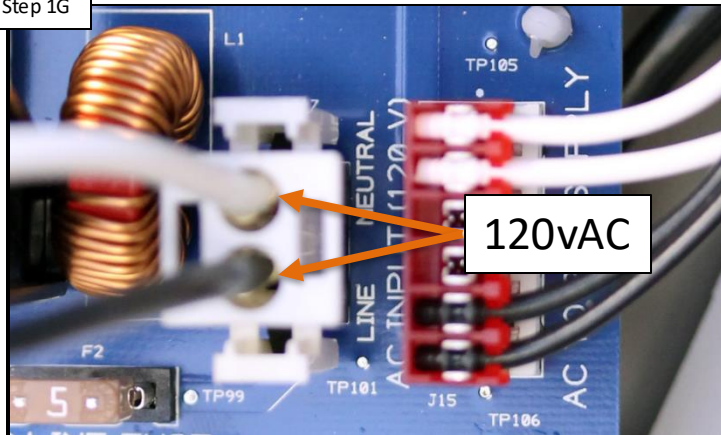


Inspect the brown 5 amp fuse and check for continuity. If the fuse is bad, replace the fuse. If the fuse has not been compromised go to step 1G.

1. MSP: Blank Display (cont.)

Test AC input

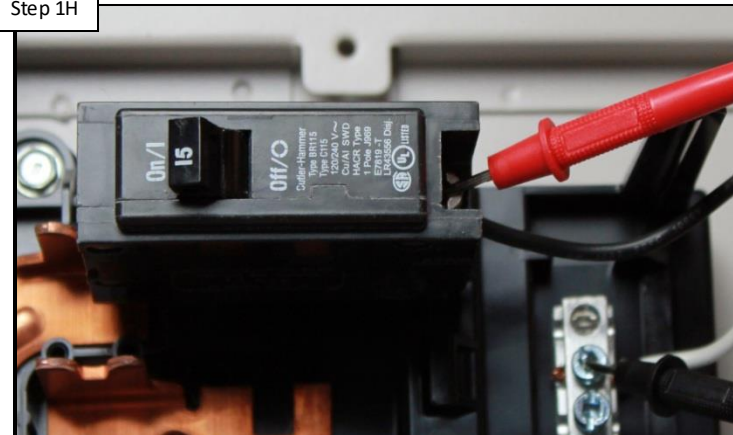
Step 1G



Test AC input voltage plug for 120vAC. If voltage is present, replace the MPP ([HLX-PCB-MAIN](#)). If not, go to step 1H.

Test PSU input

Step 1H

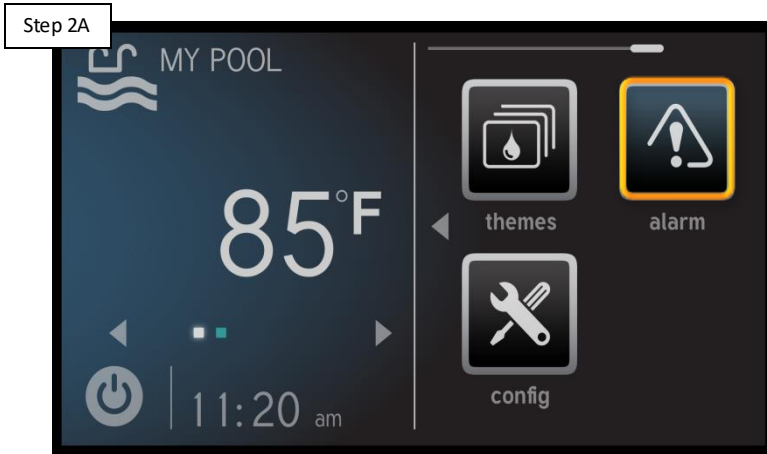


Test AC voltage at the breaker. If voltage is not present, reset breaker and re-test. If still not present resolve the voltage issue.

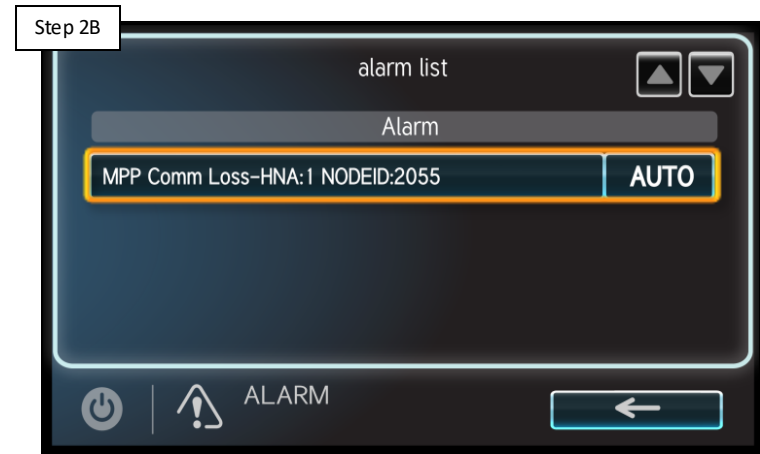
2. Valves Not Rotating

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). Go to step 2B.

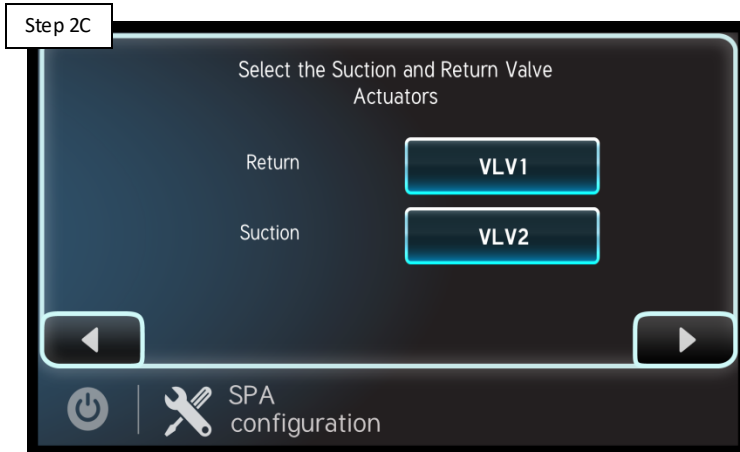


If an MPP Comm Loss appears go to section 3. If no Comm Loss alarms appear, go to step 2C.

2. Valves Not Rotating (cont.)

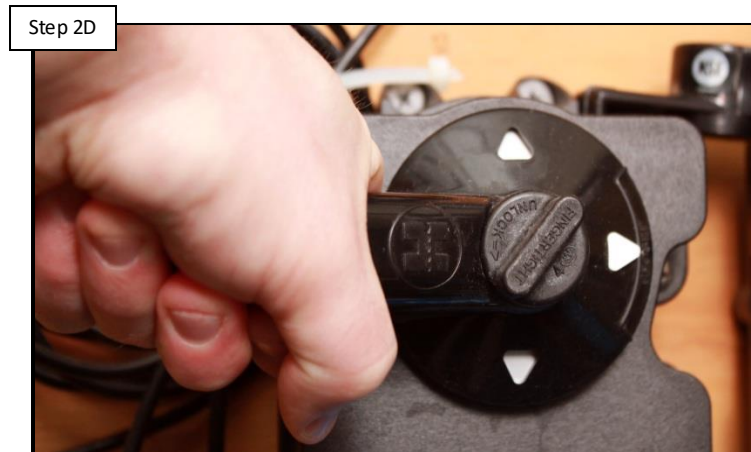
The valve actuator circuit is linked to the MPP input power circuit and does not rely on the PSU for power.

Confirm programming



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 2D.

Verify shaft is engaged



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 valve is engaged, go to step 2E.

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

Step 2E



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 2F, otherwise go to step 2K.

Check ACT power

Step 2F



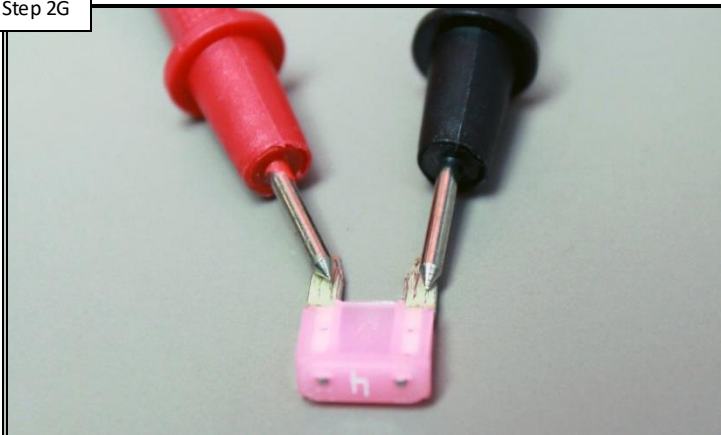
Measure 20-24vAC between pin 1-3 or 2-3 (depending on expected valve position). If no/low voltage is present, go to step 2G. If voltage is correct, replace actuators that fail to rotate ([GVA-24](#)).

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

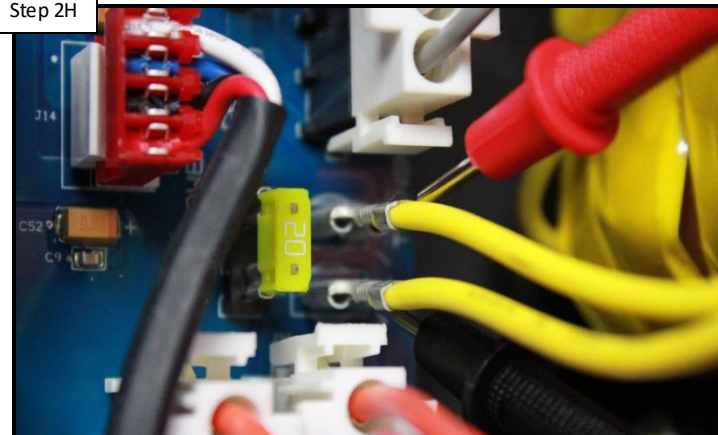
Step 2G



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 2H.

Test transformer output

Step 2H



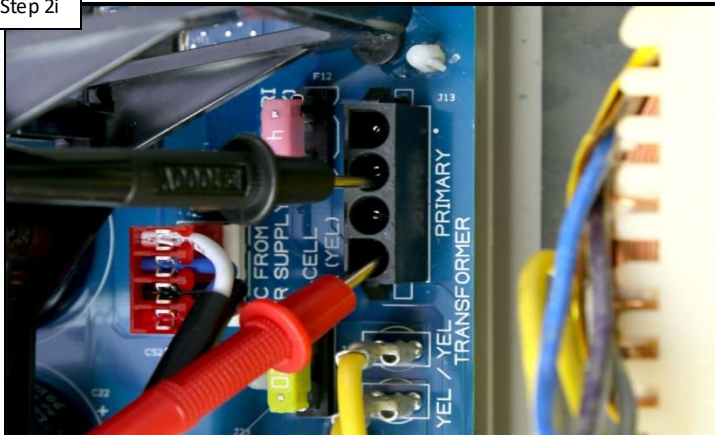
Test between the two yellow wires for 20-24vAC. If low or no voltage, go to step 2i. If correct, contact Technical Support (908) 355.7995.

2. Valves Not Rotating (cont.)

NOTE: The transformer converts 120vAC into 24vAC for not only salt chlorination but also for actuator circuit power.

Test transformer input

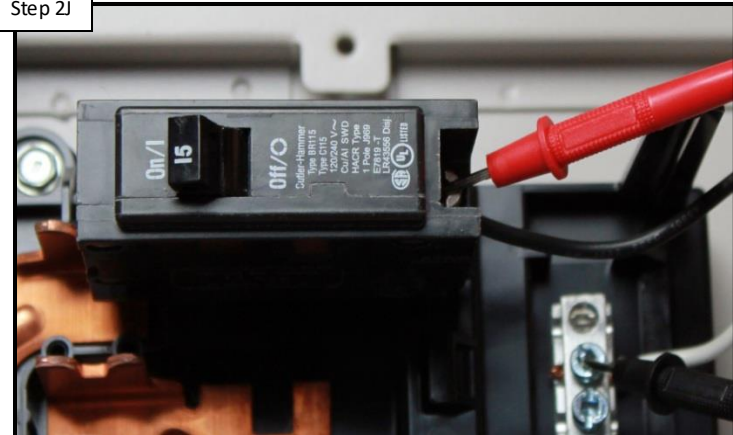
Step 2i



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 step 2j.

Check MPP power

Step 2j

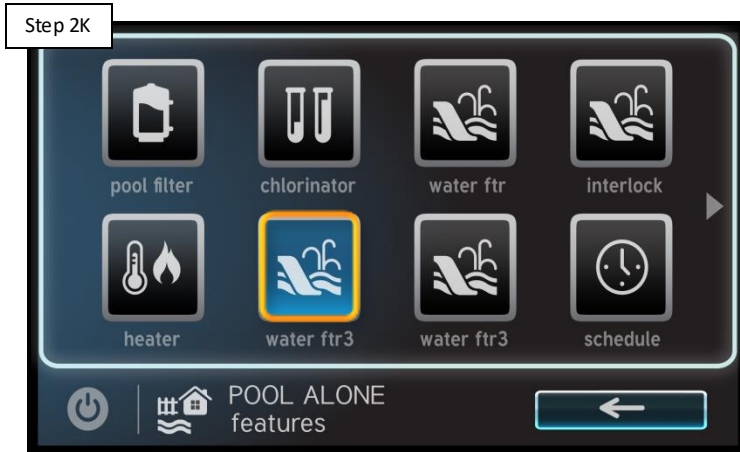


Test the MPP input power for 110-130vAC off the breaker. If no/low resolve at breaker. If voltage is correct, check 5amp AC fuse. If fuse is OK, replace MPP ([HLX-PCB-MAIN](#)).

2. Valves Not Rotating (cont.)

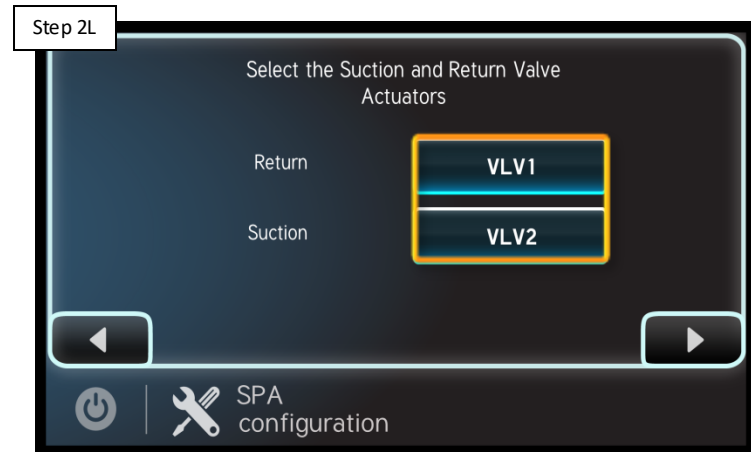
If the valve(s) in question is related to the suction/return valves, toggle between Bodies of Water; if related to an option valve, engage that feature through MSP.

Turn on Valve (MSP)



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 2L.

Reprogram valve(s)



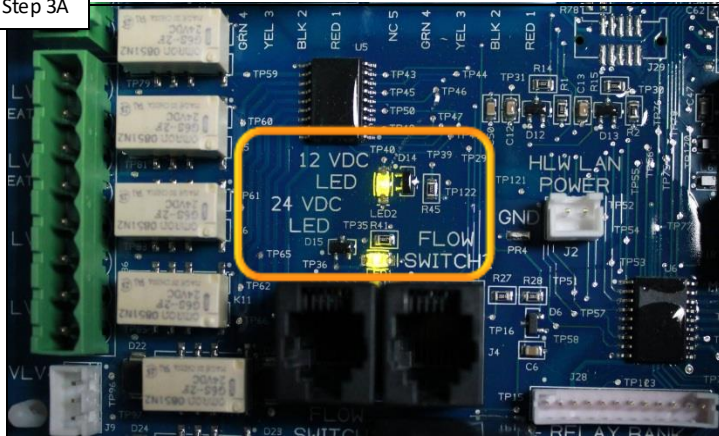
Reprogram the valve(s) & retest. If the valve(s) rotate, problem is solved. If not, contact Technical Support (908) 355.7995.

3. Alarms: MPP – Comm Loss

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

Check MPP power LEDs

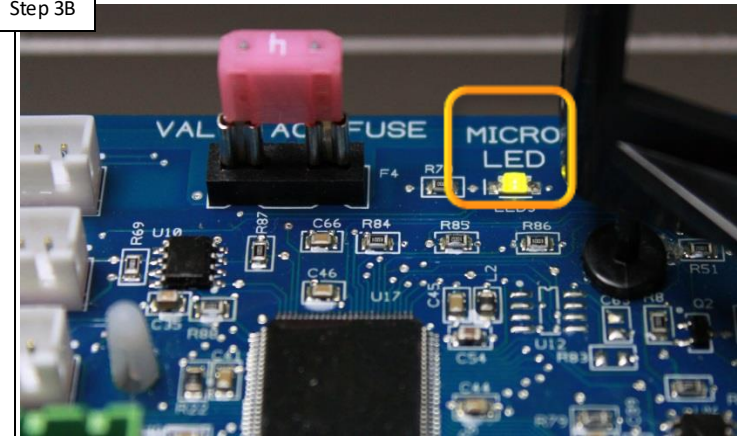
Step 3A



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 3B

Check MPP micro LEDs

Step 3B



Inspect Micro LED. If LED is always off, replace MPP (HLX-PCB-MAIN). If LED is behaving normally (flashing ON & OFF, every 6 seconds), go to step 3C.

3. Alarms: MPP – Comm Loss (cont.)

Attempt recovery of MPP

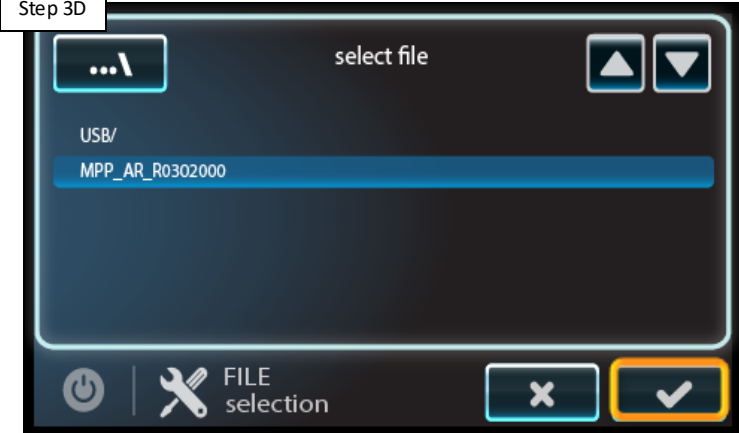
Step 3C



Enter service mode and navigate to the upgrade screen. If the "MPP" (sometimes shown as MP) is not listed, select "Recovery" and press check. Go to step 3D.

Select MPP upgrade file

Step 3D



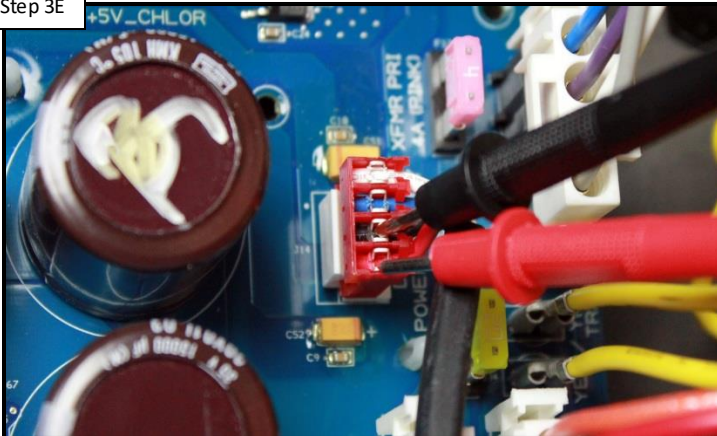
Select MPP file. Press check to begin recovery process. Once complete, the MPP should appear on the upgrade list. If not, replace the MPP (HLX-PCB-MAIN).

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

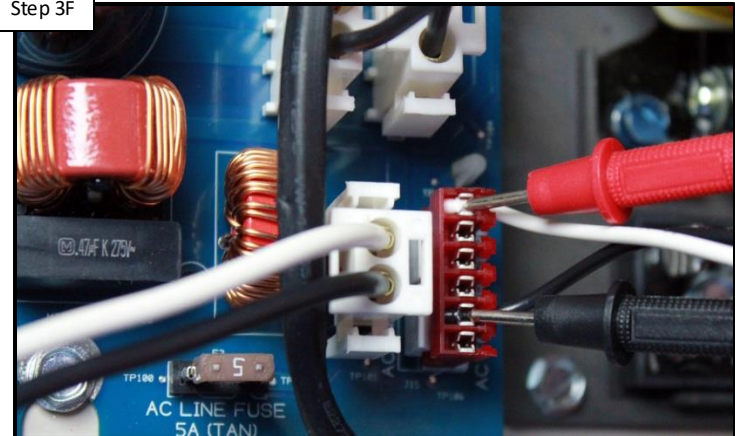
Step 3E



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 step 3F.

Check PSU input

Step 3F

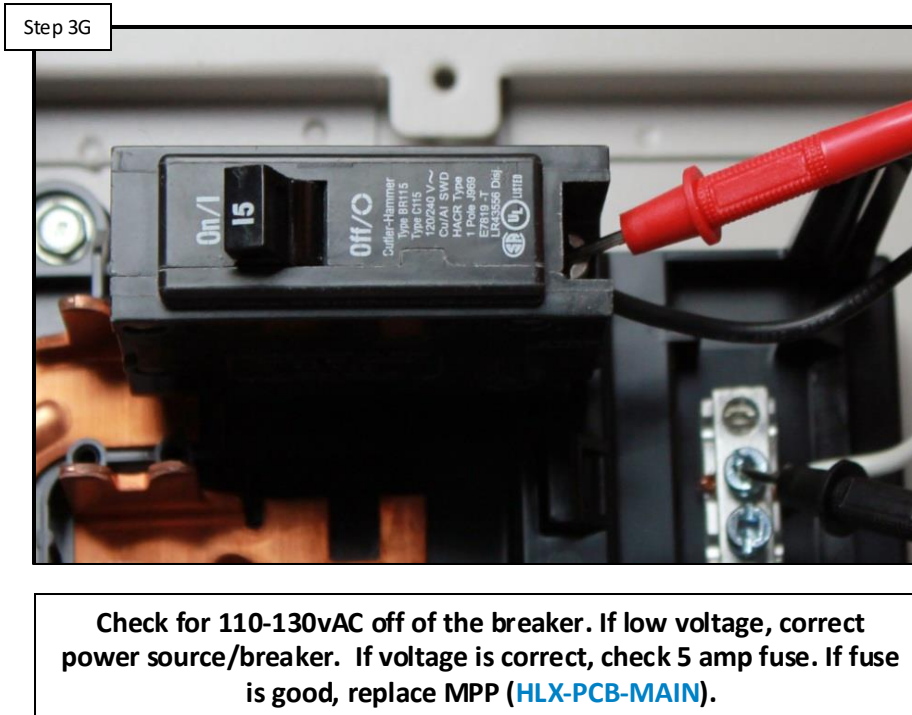


Check for 120vAC between the black and white wires of the “AC TO PWR SUPPLY”. If no/low voltage, go to step 3G. If voltage is correct, replace the PSU (HLX-PSUPPLY).

3. Alarms: MPP – Comm Loss (cont.)

When checking MPP power, verify the circuit breaker is not tripped. If tripped the system will not be receiving power.

Check MPP power



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.

Alarm (Device Displaying Alarm)	Component Description
CSM – Comm Loss (MSP)	Chemistry Sensing Module
VSP – Comm Loss (MSP)	Variable Speed Pump
Smart Relay – Comm Loss (MSP)	External Smart Relay
WDT – Comm Loss (Remote)	Wired Display Terminal
HLSPASIDE – Comm Loss (Remote)	Wired Spaside Remote

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

Step 4A



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

Step 4B



Most smart devices will have an LED indicator. Verify the LED is illuminated. If LED is OFF, go to step 4D. If LED cycles between ON/OFF or device does not have a LED, go to step 4C.

4. Alarms: Smart Device - Comm Loss (cont.)

Locate HUA

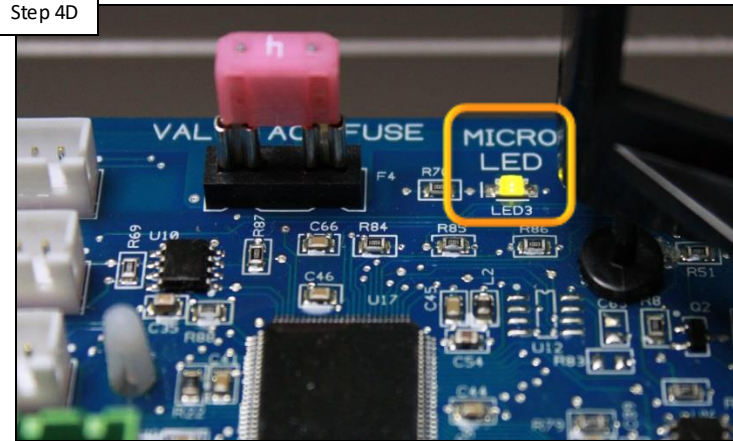
Step 4C



Attempt to locate device's HUA in the OmniPL. 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.

Inspect Micro LED

Step 4D



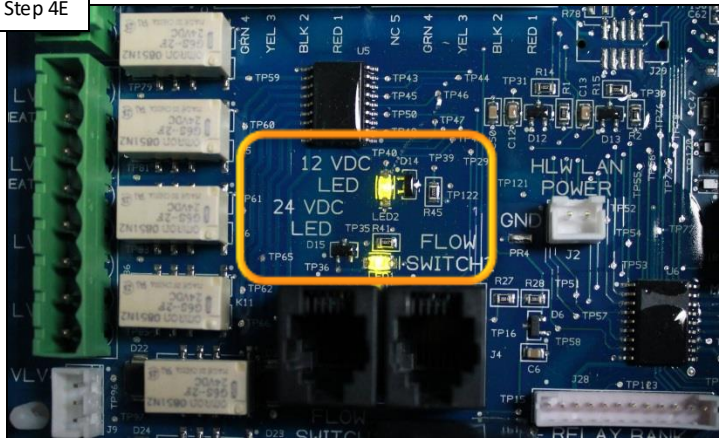
Inspect the Micro LED. If the LED is always OFF, then replace the MPP (**HLX-PCB-MAIN**). If the LED is behaving normally (combination of ON & OFF, every 6 seconds), go to step 4E.

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.

Check MPP power LEDs

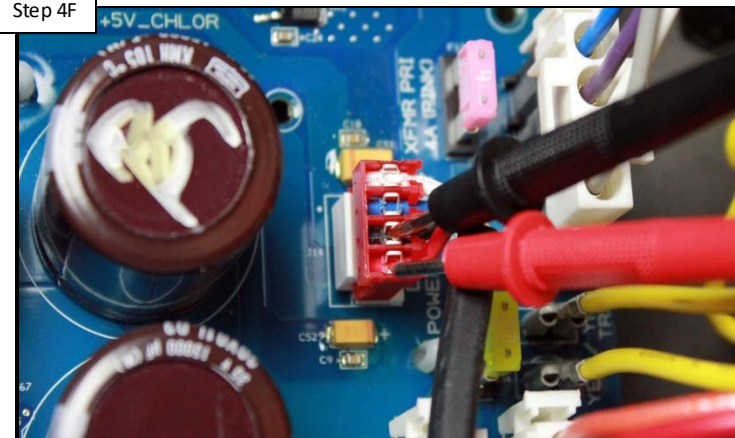
Step 4E



Inspect the 12v and 24v LEDs. If either LED does NOT remain ON solid green, then go to step 4F to investigate the power supply. If both LEDs are on solid, replace the smart device.

Check PSU output

Step 4F



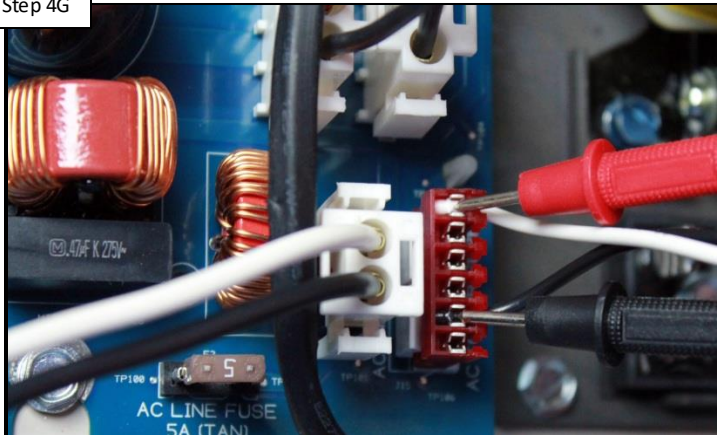
Check for 12vDC between the black and red (bottom two) wires and 24vDC between blue and white (top two). If voltage is correct, replace MPP (HLX-PCB-MAIN). If low/no voltage, go to step 4G.

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.

Check PSU input

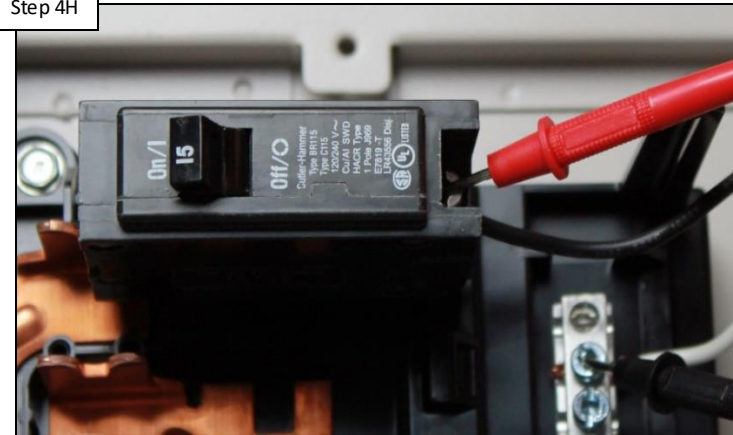
Step 4G



Check for 120vAC between the black & white wires of the “AC TO PWR SUPPLY”. If no/low voltage, go to step 4H. If voltage is correct, replace the PSU (HLX-PSUPPLY).

Check MPP power

Step 4H



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).

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

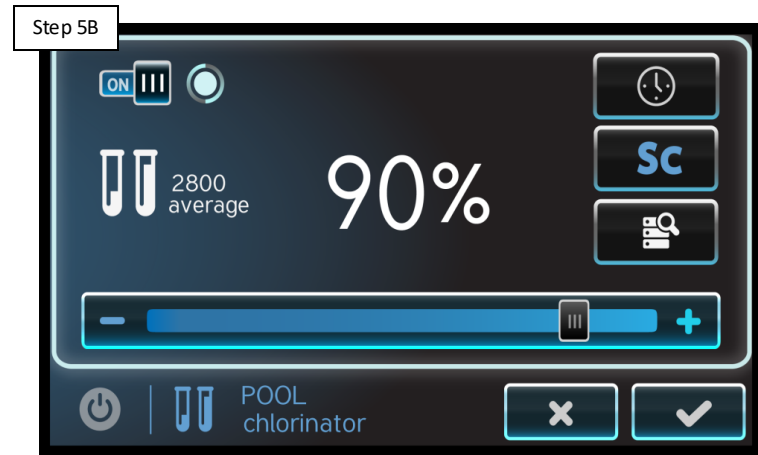
5. Salt Chlorinator Not Detected

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 pump for the specific Body of Water. Wait 3 minutes to allow chlorinator to engage, go to step 5B.



Under chlorination, verify switch is ON & set above 0%. If readings are not present, go to step 5C.

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.

Reverse polarity

Step 5C

The screenshot shows a 'diagnostic' screen with the following data: cell temp: 85 °F, cell voltage: 0.00 V, instant salt: 0 ppm, cell current: 0.00 A, average salt: 3300 ppm, cell type: T-CELL-15, and relay polarity: OFF. There are three buttons on the right: a refresh icon, a +/- button, and a '00.00' button. The bottom bar includes a power icon, a magnifying glass icon, the text 'POOL diagnostic', and a back arrow.

Under chlorination, use list icon and press reversal button to change polarity. If readings (including cell temp) are missing, go to step 5D.

Check for alarms

Step 5D

The screenshot shows an 'alarm list' screen with two entries: 'MPP Comm Loss-HNA:1 NODEID:2055' and 'RB Comm Loss-HNA:2 NODEID:2072', each with an 'AUTO' button. The bottom bar includes a power icon, an alarm icon, the text 'ALARM', and a back arrow.

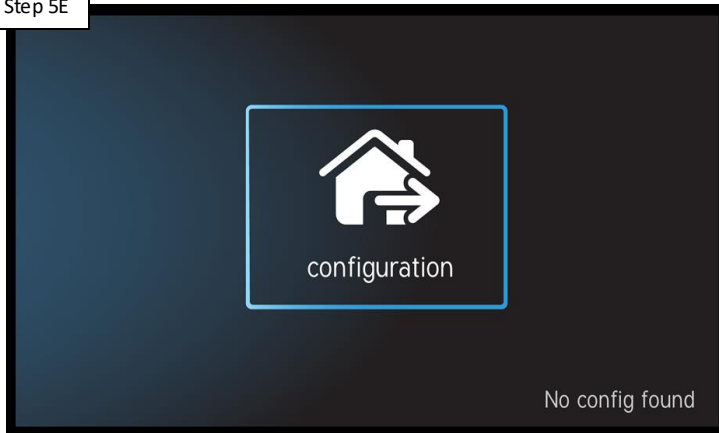
Under dashboard, select the alarm icon. If no alarms related to flow, cell, or cell power appear, then go to step 5E. If alarms are present go to 5F.

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

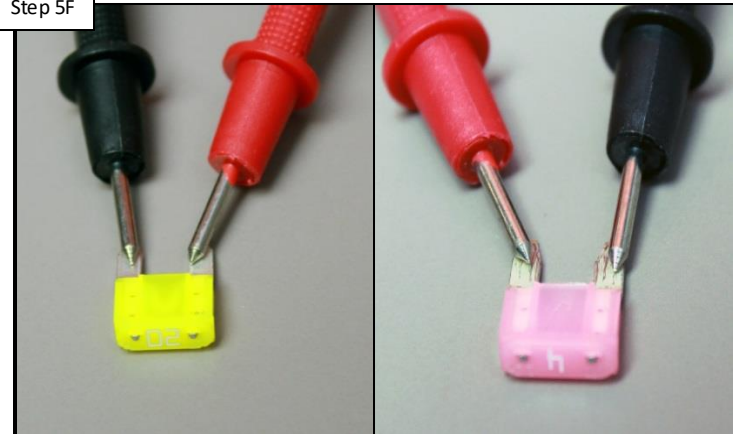
Step 5E



Either delete config., power cycle, & reconfigure (verifying chlorinator is programmed); OR load a backed up config. that includes the chlorinator. If problem persists, replace controller ([HLX-PL-DSP](#)).

Test 4amp & 20amp fuses

Step 5F



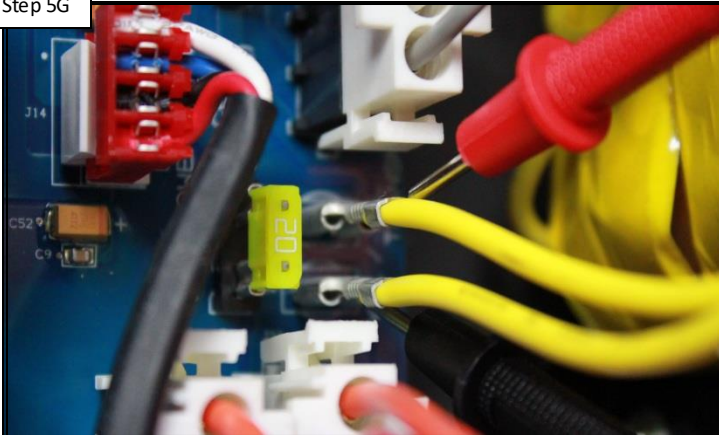
Test the 4amp transformer fuse AND the 20amp chlorinator fuse. If either fuse has failed replace it/them and retest. If fuses are fine, go to step 5G to test the transformer.

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

Step 5G



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 5H.

Test transformer input

Step 5H



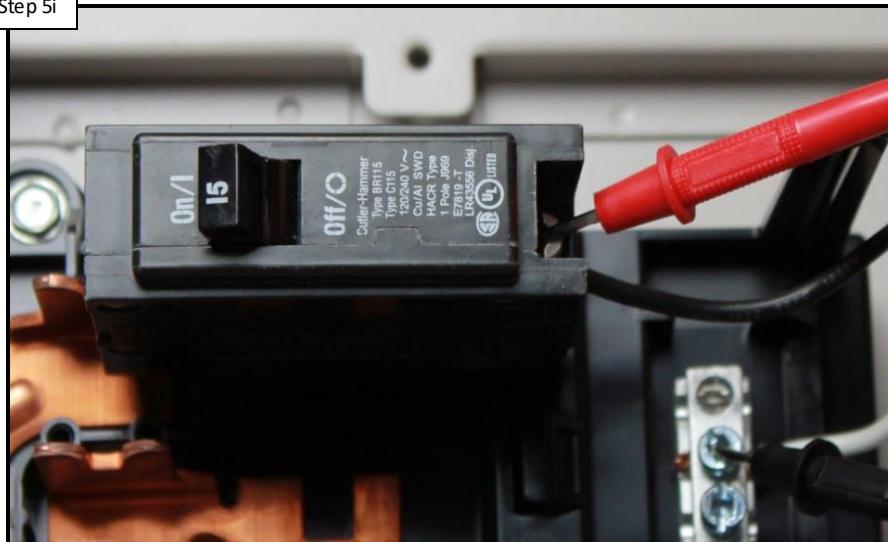
Unplug transformer primary wires and test for 120vAC between pins, 1 & 3 and 120vAC between pins 2 & 4. If correct, replace transformer ([HLX-TRNSFMR](#)). If no/low voltage, go to step 5i.

5. Salt Chlorinator Not Detected (cont.)

NOTE: If the power supplied to the MPP is under 110vAC, then the chlorinator circuit will be affected.

Test MPP power at the breaker

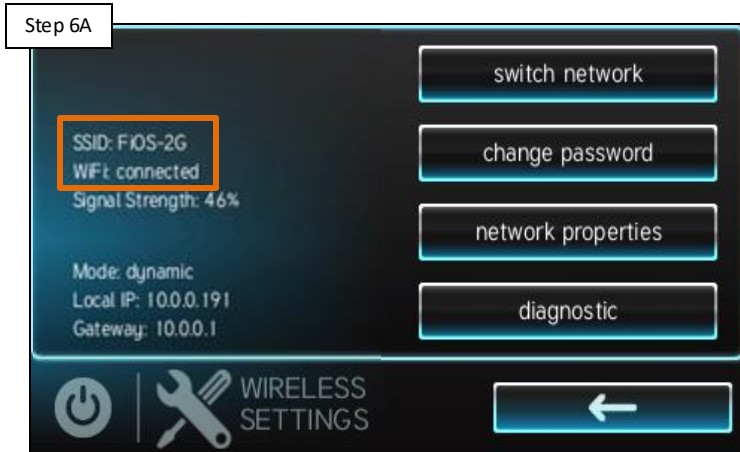
Step 5i



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](#)).

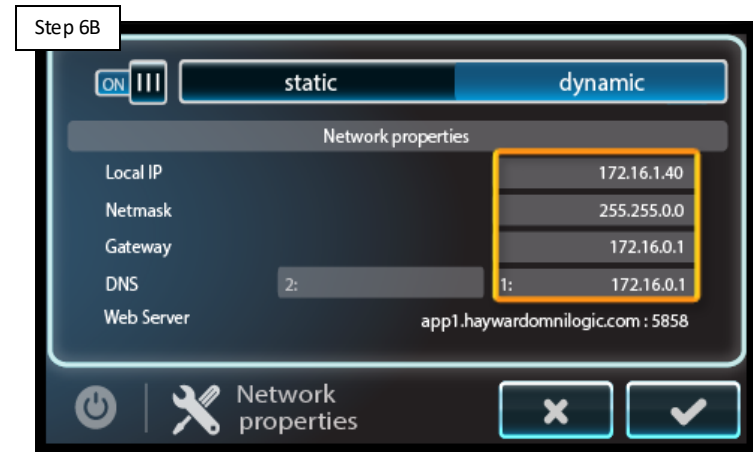
6. Wi-Fi: No Connection/IP Address

Wi-Fi set-up



Under the config icon, select “network”. Verify the SSID matches the wifi network and shows as connected. If not, select switch network. If correct go to step 6B

Network properties



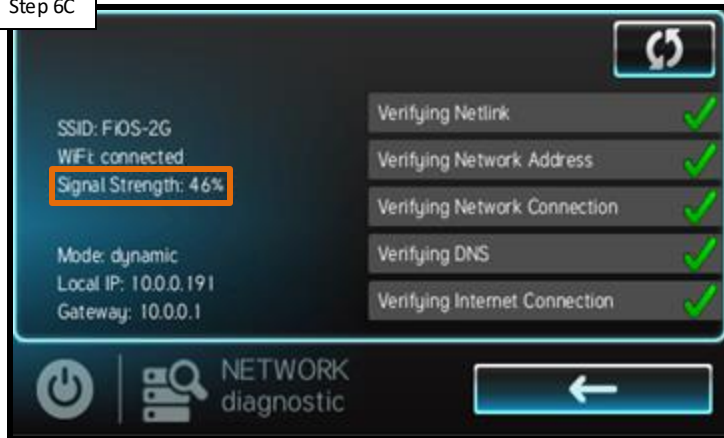
Select “network properties” and verify correct network type is selected. Verify IP address info is populated. Finally make sure web server is correct. Go to step 6C.

6. Wi-Fi: No Connection/IP Address (cont.)

NOTE: Most networks are configured for dynamic (the router assigns IP addresses to devices with correct credentials). Static networks require the device to have the IP address programmed in prior to connecting.

Network properties

Step 6C



Run a “diagnostic” test. Verify all green check marks and signal strength is above 35%. If correct, OmniPL is connected to the server. If not, go to step 6D.

Pair a wifi compatible device

Step 6D



Using another wifi compatible device to connect to the network. If device does not connect, reset router. If wifi device does connect, go to step 6E

6. Wi-Fi: No Connection/IP Address (cont.)

*Note: The OmniPL requires a 2.4ghz wifi signal.
Verify your router has this capability.*

Direct Ethernet test



Connect a direct Ethernet cable to the OmniPL controller. Set system to “wired connection” using the “configuration wizard.” Save and restart the system. If network information populates, you may have a wifi signal issue. If it does not, verify Ethernet cable connections are correct using the steps found on [page 48-49](#). If issue persists, replace the controller ([HLX-PL-DSP](#)).

Hayward Tech Support – (908)355-7995

7. Wired: No Connection/IP Address (cont.)

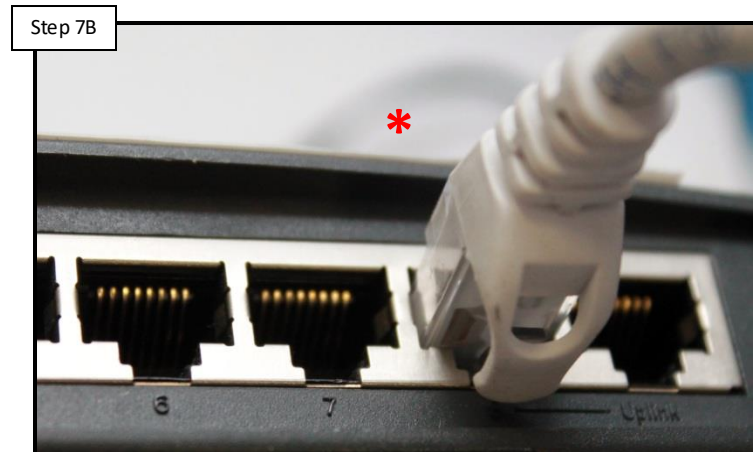
NOTE: Most routers have an activity and link LED for each port. Verify whether these LEDs are active once the cable is plugged in.

MSP LEDs



Remove Ethernet cable from the controller plug. Inspect the end of the Ethernet cable. Repair any damage found. Plug the cable securely into the OmniPL controller. Go to 7B.

Change port on router



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 7C.

****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

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. 10-12](#)).

Inspect Ethernet cable

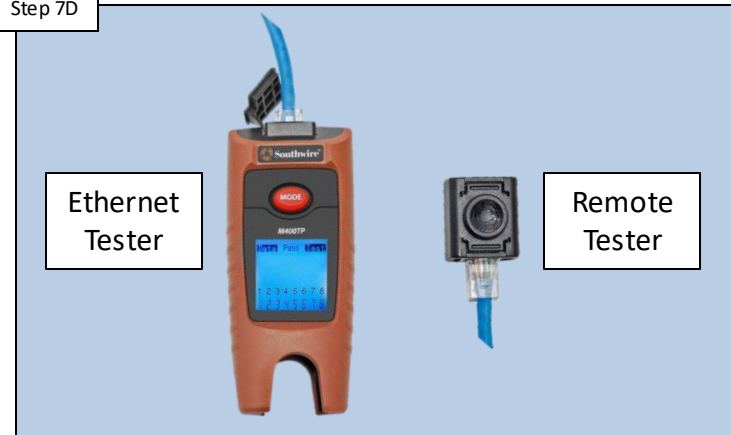
Step 7C



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 7D.

Ethernet cable test

Step 7D

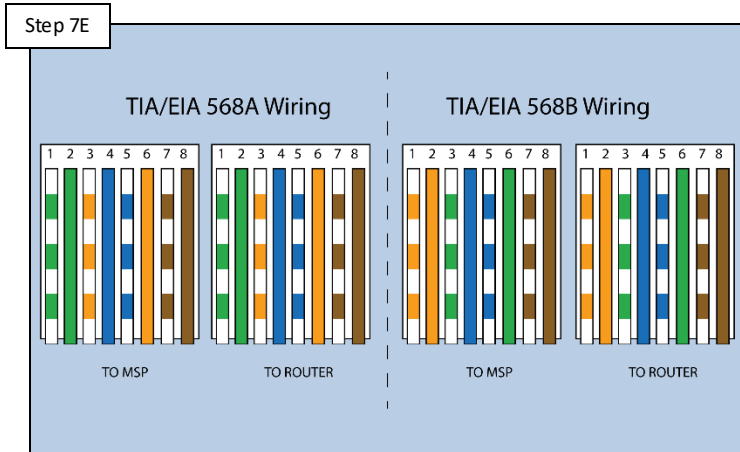


Unplug Ethernet cable from controller and plug into remote tester. Plug other end of Ethernet cable into main tester and press test. Correct any errors found. Go to step 7E.

7. Wired: No Connection/IP Address (cont.)

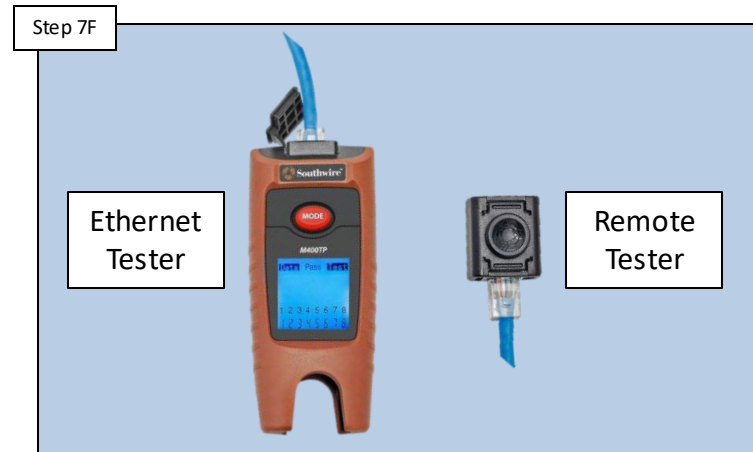
The cable configuration is a standard through put CAT5e. The Ethernet cable should be in low voltage conduit ONLY.

Check/change cable



Confirm cable ends matches either of the configurations shown above. If cable does not pass correct ends. If okay, go to step 7F.

Repeat cable test

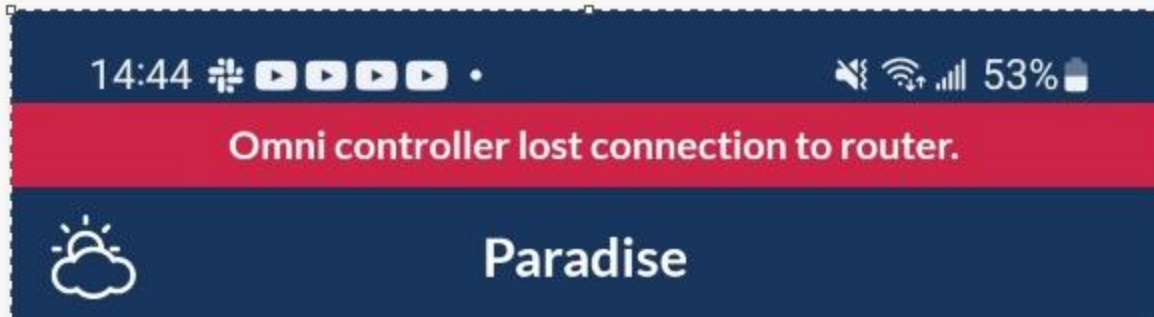


Test cable again. If cable passes, plug back into the controller and run a network diagnostic test. If issue persists, replace the controller (HLX-PL-DSP).

8. Remote Control Failure

NOTE: A failure to remotely control the Omni from either the App or the web site 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.

App Omni controller lost connection to router.



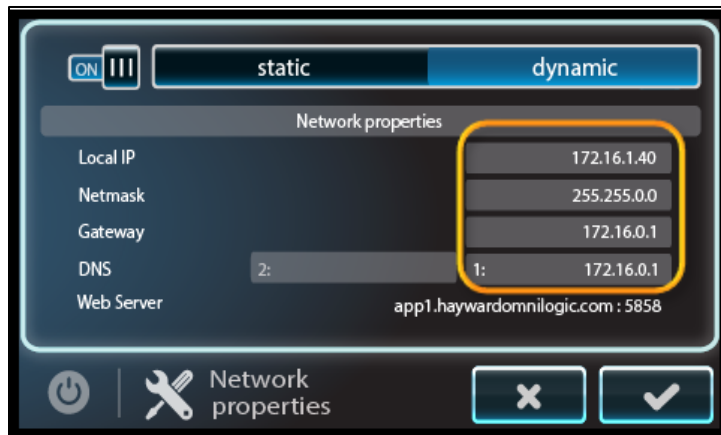
Web site Lost Link



8. Remote Control Failure

NOTE: when remote control of the Omni fails you can check the connectivity at the controller display as described below.

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 run the network diagnostic, as shown to the right. If not, check the correctness of the network settings. You may need to replace the MSP ([HLX-LOC-DSP](#)).

Verify server connection



Select “Diagnostic” in the “Networks.” Verify all checks appear. If all green check marks appear, you are now connected to the server. If you have any red X marks contact tech support (908) 355-7995.

Reading Serial Numbers

3K20101-123456

3K20101 = Standard Warranty Term

3K20101 = Product Family

3K20101 = Year of Manufacture

3K20101 = Day of Manufacture

123456 = Manufacturing ID