Universal ColorLogic® & CrystaLogic

Troubleshooting Guide Residential

TSG-UCL100e

Safety Precautions

High Voltage Electrocution Hazard

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

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

Table of Contents

Universal ColorLogic: How It Works

- Universal ColorLogic and Universal CrystaLogic (white only), are low voltage lighting solutions that require no bond or ground, when paired with their all plastic niches.

- The low voltage UCL, CL320/160 and CL 80/40 are offered in two versions:
    1. Switched Style (power interruption)
    2. Network Style (communication)

- When paired with a Hayward ColorLogic Light controller or OmniLogic Automation system, colors and shows can be toggled automatically in contrast to the more traditional method of manually interrupting power.

ColorLogic: Network Compatibility

Compatibility

- The AQL-COLOR-MODHV is compatible with all Hayward ProLogic PS controls operating with software version 4.10 or greater and whose enclosures provide a cutout for installation. **Note: To maximize the features available in UCL, CL320/160, or CL80/40 network lights, the ProLogic main board should be a revision 4.40 or higher.**

- The ColorLogic Network Module will only operate with Generation 4 or later Hayward ColorLogic 120VAC pool/spa light(s), UCL, and CL320/160

Description

- The ColorLogic Network Module is used with the ProLogic to fully control the color, speed, motion and brightness of pre-set light shows in compatible Hayward network lights. Note: an additional relay and network couplers will be necessary to control the advanced network features offered by the ColorLogic Module.

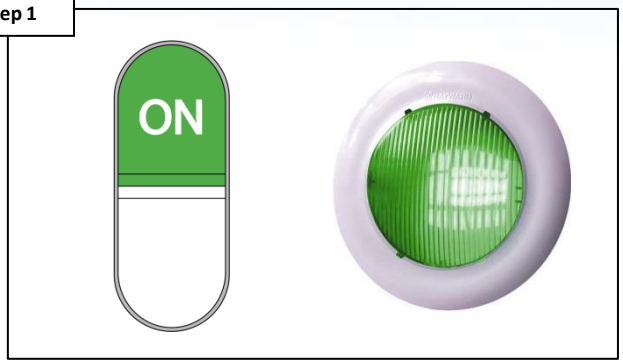
Universal ColorLogic® & CrystaLogic

How To:

How To: Resync Lights - Manual

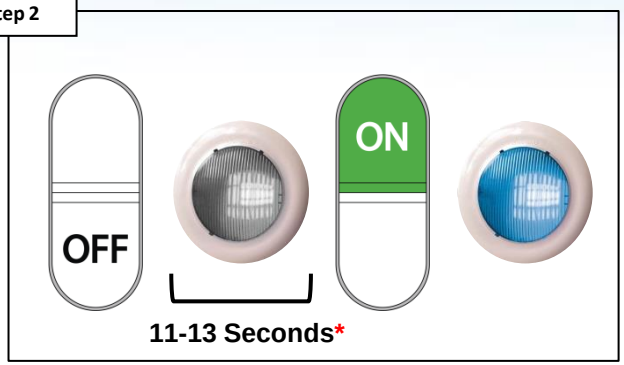
The following sequence should be used to Resync lights if controlled through a simple switch, ProLogic, E-Command 4 or OnCommand.

Step 1



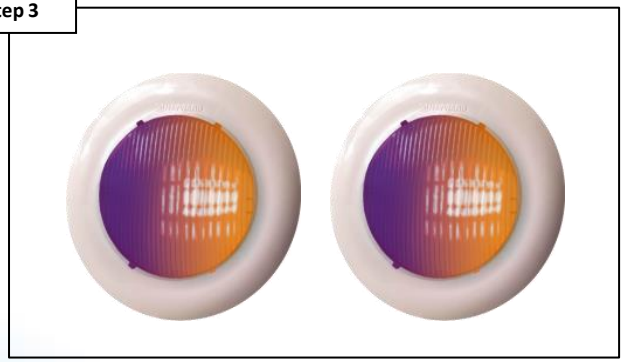
Turn the light ON and wait a minimum of 60 seconds.

Step 2



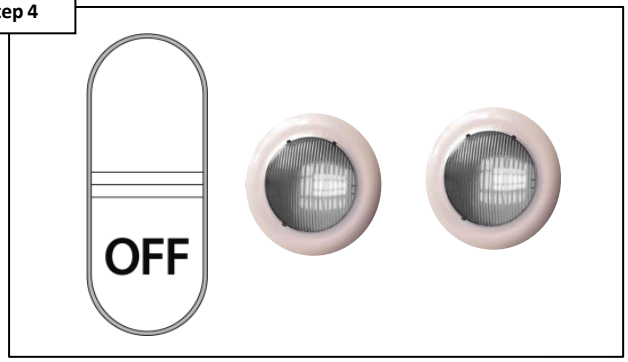
Turn OFF the light off for 11-13 seconds*, then immediately back ON.

Step 3



Verify that all lights are acting the same, IF not repeat step 2 (time the OFF cycle).

Step 4



Once confirmed, turn the lights OFF for a minimum of 2 minutes.

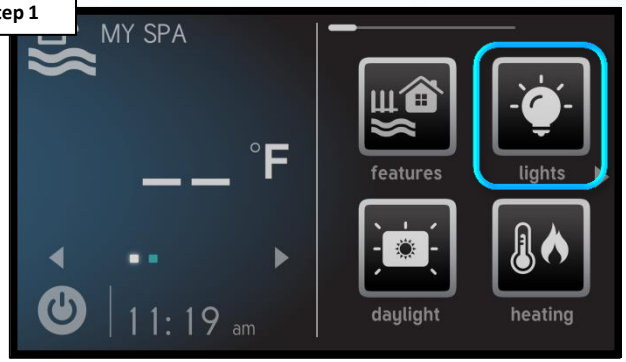
NOTE: In order for the sequence to work, the OFF states MUST BE timed.

HAYWARD

How To: Resync Lights – OmniLogic

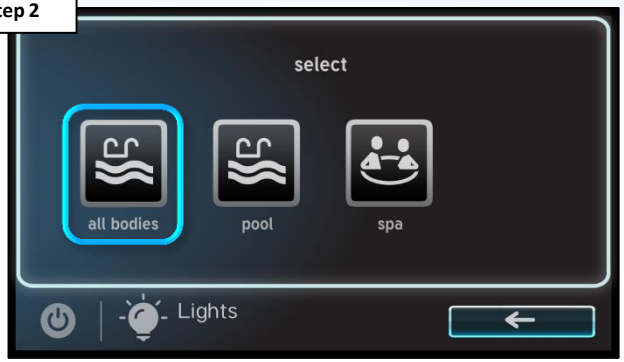
The following sequence should be used to Resync lights if controlled through an OmniLogic.

Step 1



Tap on the right side of the dashboard locating the appropriate UCL light option.

Step 2



Select the body of water the lights are associated with (all bodies if applicable).

Step 3

Locate and tap the resync icon, in the lower right hand corner.

Step 4

Once complete, tap the back arrow to return to the dashboard.

NOTE: The resync process can also be conducted manually by entering and toggling relays in service mode.

HAYWARD

How To: Resync Lights – CL Light Ctrl.

The following sequence should be used to Resync lights if controlled through a ColorLogic Light Controller.

Step 1

On the CL Light Controller, push and release the center knob, to turn the lights on.

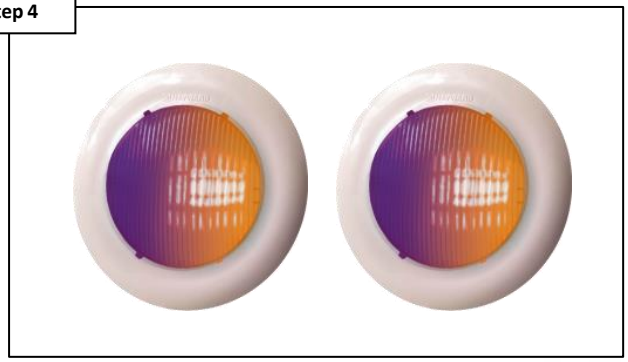
Step 2

Wait 2 minutes then press and hold the resync button for no less than 3 seconds.

Step 3

During the resync process, the LEDs around the knob will chase several times (clockwise).

Step 4



Once complete, the lights should all be synchronized, if not repeat Step 2.

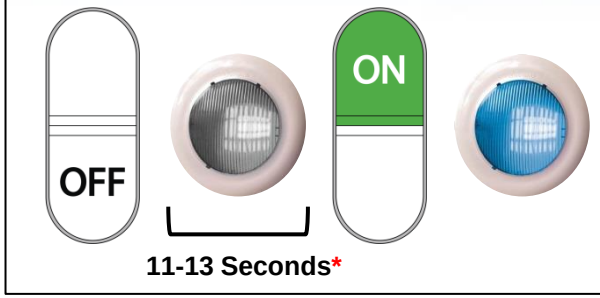
How To: Check Light Mode

The following sequence should be used to CHECK what mode the ColorLogic LED are currently programmed to (Switch Mode LEDs ONLY).

Step 1

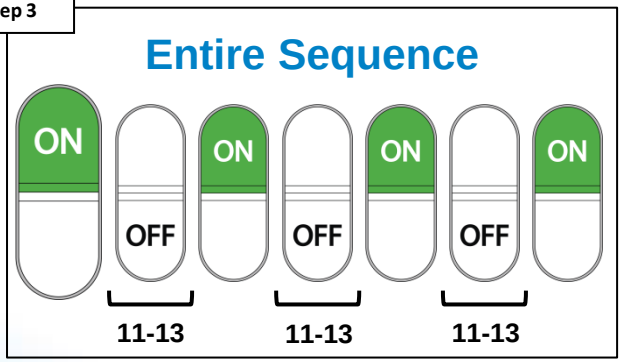
Turn the light ON and wait 2 minutes.

Step 2



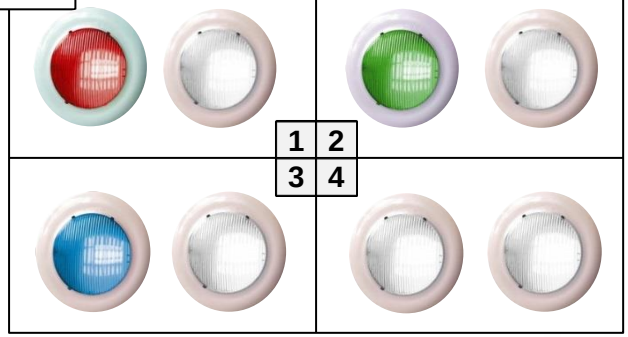
Turn OFF for 11-13 seconds*, then ON.

Step 3



Repeat Step 2, two more times (a total of three timed OFF sequences).

Step 4



(1) UCL Mode, (2) CL 4.0 Mode, (3) CL 2.5 Mode, (4) SaM Light Mode.

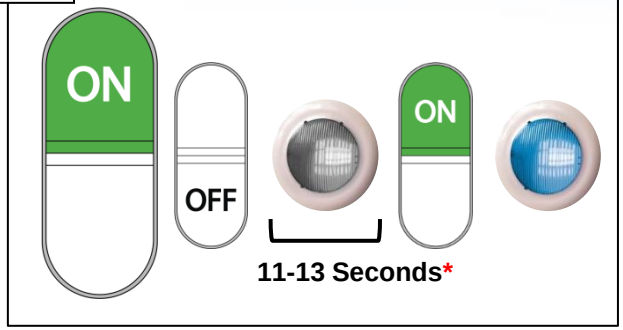
NOTE: In order for the sequence to work, the OFF states MUST BE timed. IF lights are in the desired mode, power down the light for at least 1 minute.

HAYWARD

How To: Change Light Modes

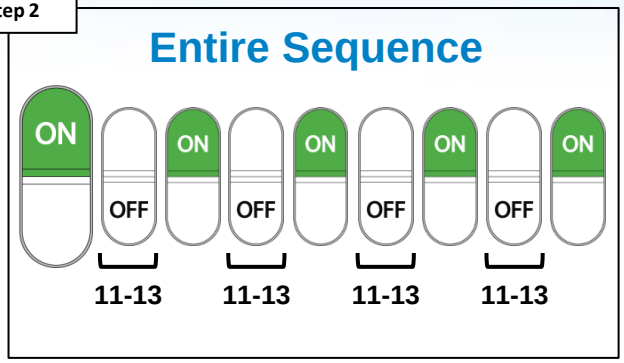
The following sequence should be used to CHANGE ColorLogic LED modes (Switch Mode LEDs ONLY).

Step 1



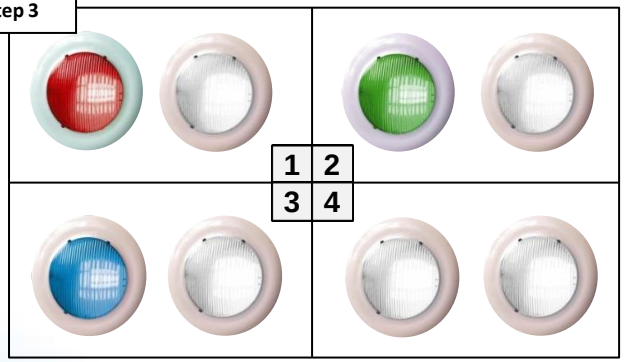
The sequence is similar to checking the mode, follow steps 1-2 on the previous page

Step 2



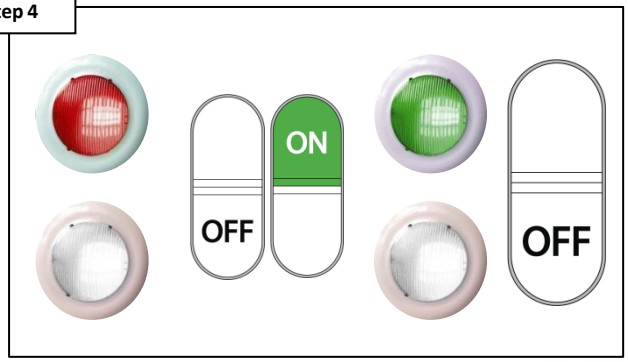
Repeat the sequence three more times (total of four timed OFF sequences) .

Step 3



Each mode's blink sequence:
(1) UCL Mode, (2) CL 4.0 Mode,
(3) CL 2.5 Mode, (4) SaM Light Mode.

Step 4



To change modes, quickly turn light OFF then right back ON. Once mode is correct, keep OFF for 2 minutes to lock it in.

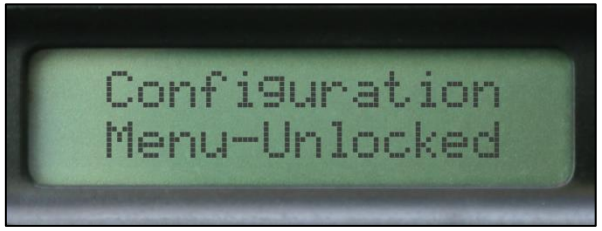
NOTE: In order for the sequence to work, the OFF states MUST BE timed.

HAYWARD

How To: Reset ColorLogic to Default

Follow these steps ONLY IF using network lights, a ProLogic with a software revision equal to or greater than 4.10., a network module, AND network couplers.

Step 1

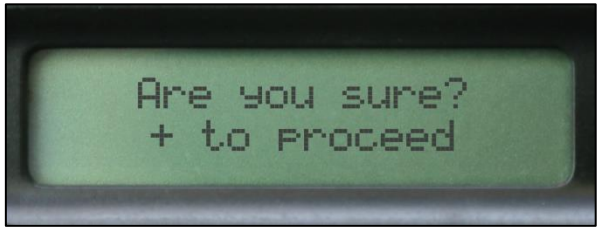


Press the Menu button until "Config. Menu – Locked" appears, then press and hold the (<) & (>) until "Unlocked".

Step 2

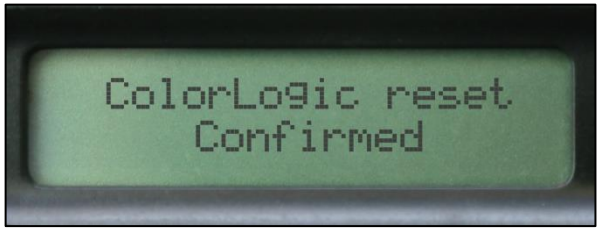
Press the (<) until "Reset ColorLogic to Default." appears on the screen, then press the plus (+) to enter.

Step 3



Press the (+) to confirm the reset.

Step 4



Once complete press the "Menu" button to exit.

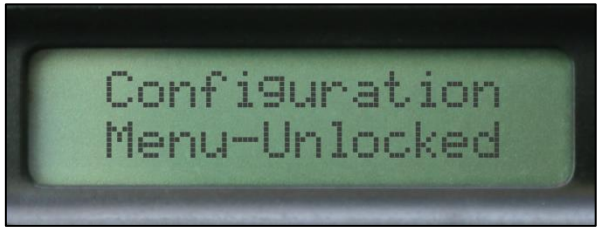
NOTE: After resetting the ColorLogic Config. to Default it is recommended to power cycle the controller.

HAYWARD

How To: Find Network Light(s)

Follow these steps ONLY IF using network lights, a ProLogic with a software revision equal to or greater than 4.10., a network module, AND network couplers.

Step 1

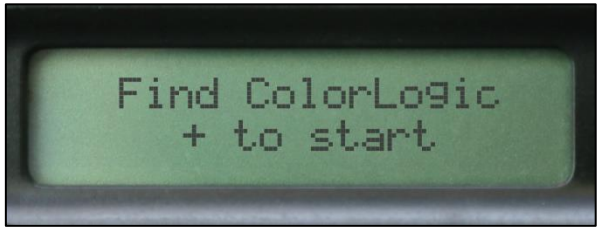


Press the Menu button until "Config. Menu – Locked" appears, then press and hold the (<) & (>) until "Unlocked".

Step 2

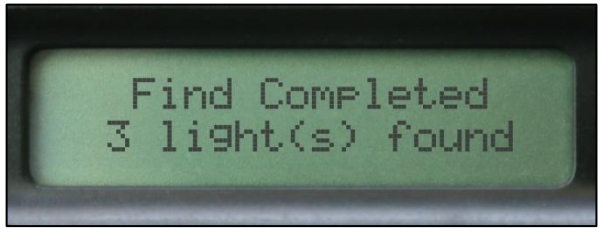
Press the (>) until "ColorLogic Config." appears on the screen, then press the plus (+) to enter.

Step 3



Press the (+) to initiate the light finding sequence, DO NOT interrupt the finding sequence.

Step 4



Once complete, press the (>) and assign each light a number using (+) & (-) NOTE: recommended for advanced programming.

HAYWARD

How To: Find Network Light(s) (cont.)

Once lights are found, it is advised to number the lights in a manner that makes sense. This makes advanced programming easier.

Step 5

Once complete, navigate to each relay you wish to control the lights through by pressing the (>), press (+) to enter each relay.

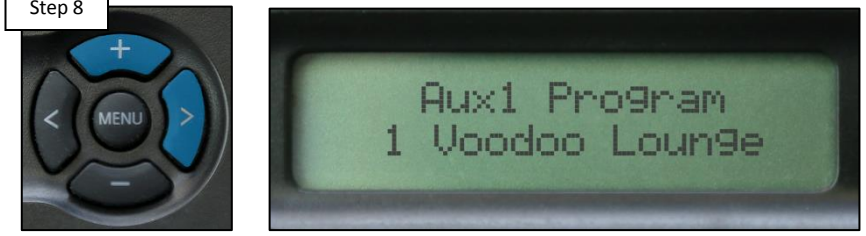
Step 6

Press the (>) to locate the relay type and change it to "ColorLogic" by pressing the (+), then press (>) to assign lights.

Step 7

Once all the desired relays are set to "ColorLogic", press the "Menu" button until the "Settings Menu" appears.

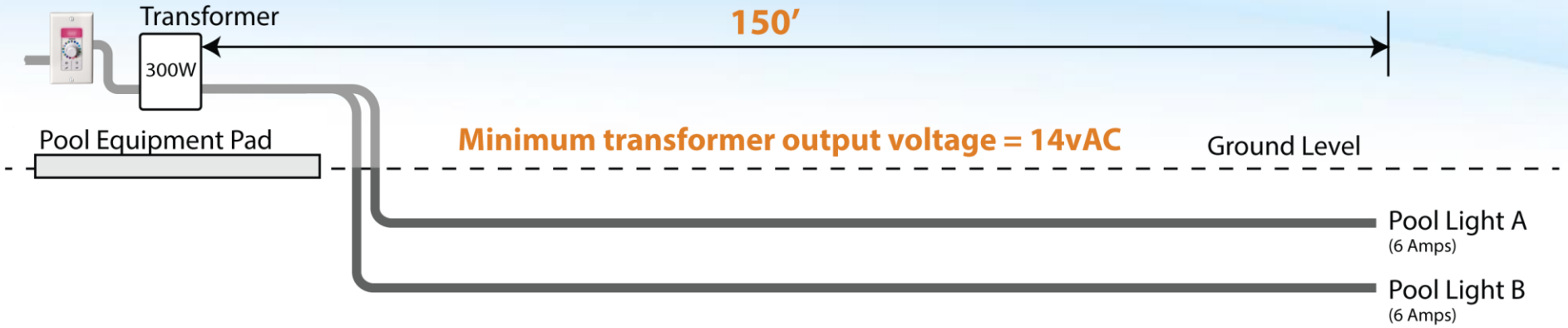
Step 8



Press the (>) to navigate through the Setting Menu, press the (+) to enter each relay and fine tune brightness, colors, shows..etc.

HAYWARD

How To: Understanding Voltage Drop



General Rules:

1. If the light are wired directly to the transformer, use the table to determine the minimum voltage.

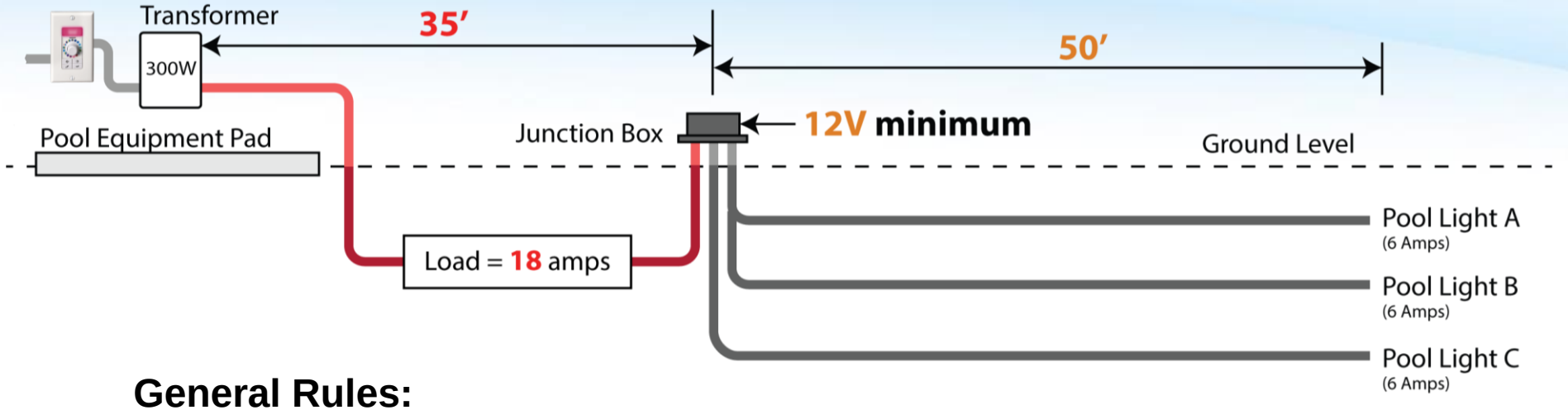
2. Notice a 150’ cord light requires 14 vAC at the cord’s junction point. This means when 150’ corded lights are used, there can be no junction box between the lights and the transformer.

Light Cord Length	Voltage Required at Light Cord Junction Point
50′	12-14 vAC
100′	13-14 vAC
150′	14 vAC

IF installing lights with different cord lengths, use the longest cord length when referencing the table.

HAYWARD

How To: Understanding Voltage Drop



General Rules:

1. Whenever a junction box is used, the transformer MUST be wired to yield 14 volts AC.

2. The wire gauge between the transformer and the junction box should be selected based on anticipated voltage drop.

3. Use a voltage drop calculator for the left portion of the circuit (before the j-box) and the table for the right portion of the circuit.

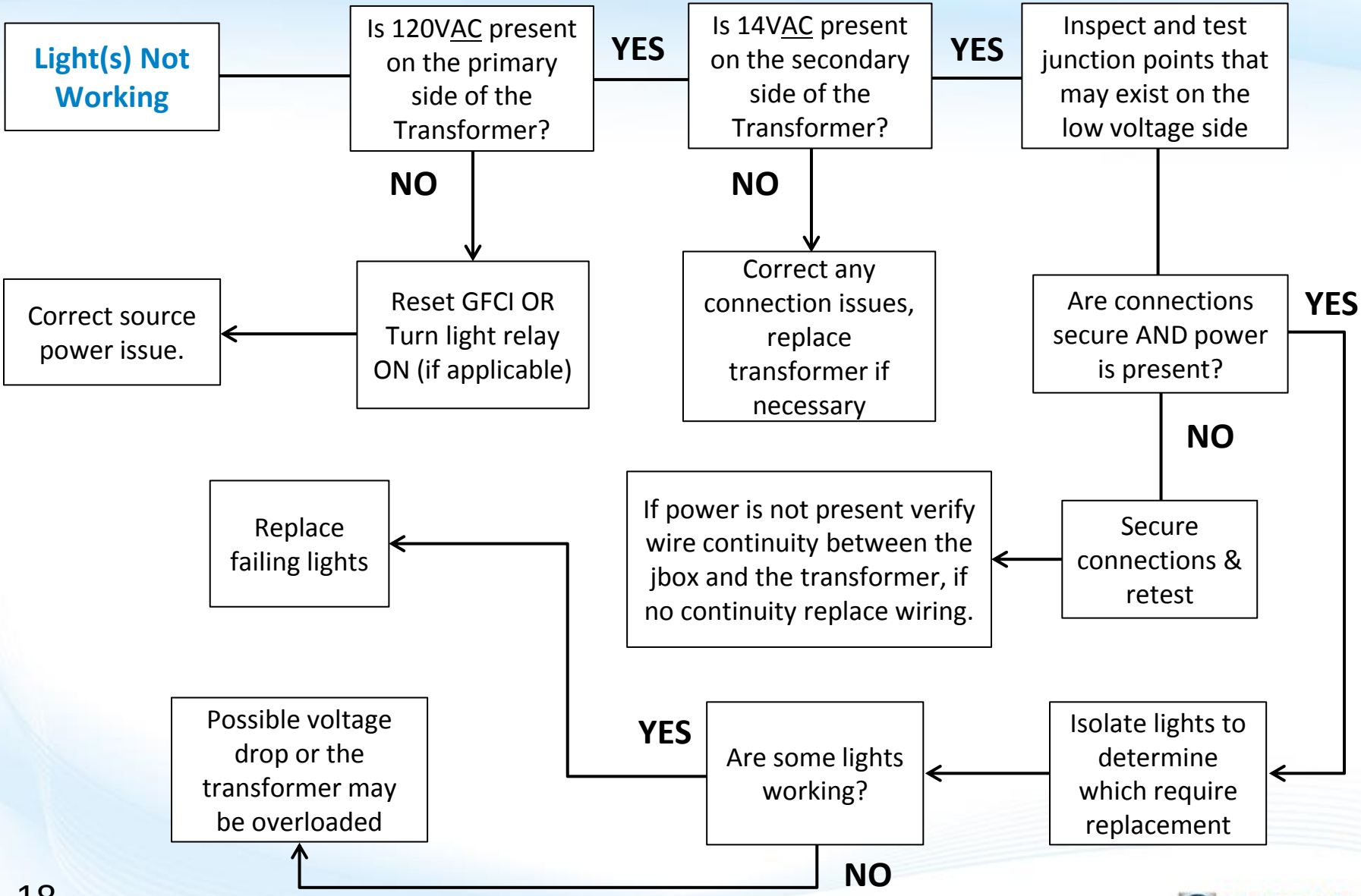
Light Cord Length	Voltage Required at Light Cord Junction Point
50′	12-14 vAC
100′	13-14 vAC
150′	14 vAC

HAYWARD

Universal ColorLogic® & CrystaLogic

Troubleshooting:

1. Switched: Light(s) Not Working



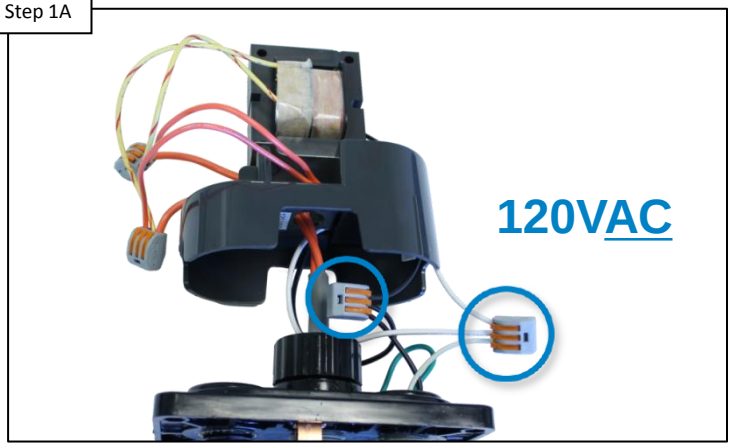
HAYWARD

1. Switched: Light(s) Not Working

IF the lights are being controlled through a ColorLogic Light Switch, Controller, or other device make sure the lights are being called for.

Verify 120VAC on primary side

Step 1A



Verify that the transformer has 120VAC on the primary side. IF NO voltage is present, correct source power issue (tripped GFCI, Light relay not engaged…etc.). IF voltage is correct, go to step 1B.

Verify 14VAC on secondary side

Step 1B

Verify that the transformer has 14VAC on the secondary side. IF NO voltage is present, verify connection and replace transformer if necessary. IF voltage is correct, go to step 1C.

NOTE: IF using a LTBUY11300 (300 Watt Transformer) verify the power is wired through the blue and white wires to ensure the output (secondary side) provides 14 Volts.

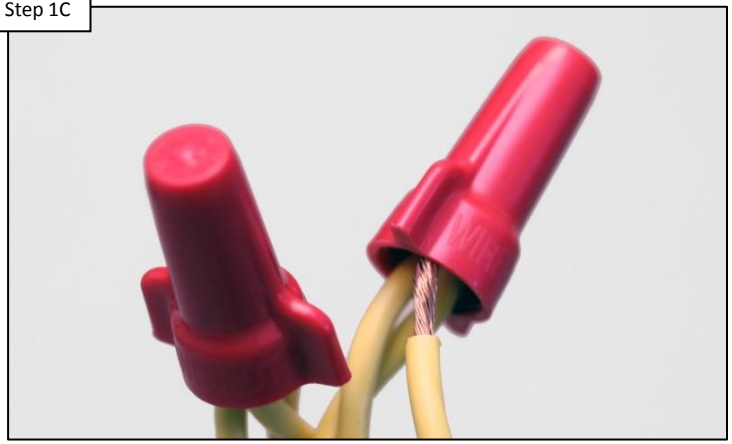
HAYWARD

1. Switched: Light(s) Not Working

IF the lights are being controlled through a ColorLogic Light Switch, Controller, or other device make sure the lights are being called for.

Inspect all junction points

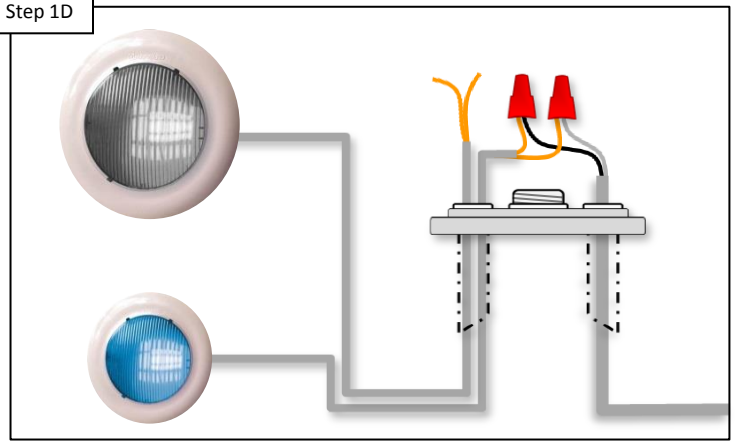
Step 1C



Inspect any junction points for poor connections. Check voltage, verifying 12-14VAC is present. IF connections are correct, go to step 1D. IF NOT, correct and/or replace damaged or faulty wiring.

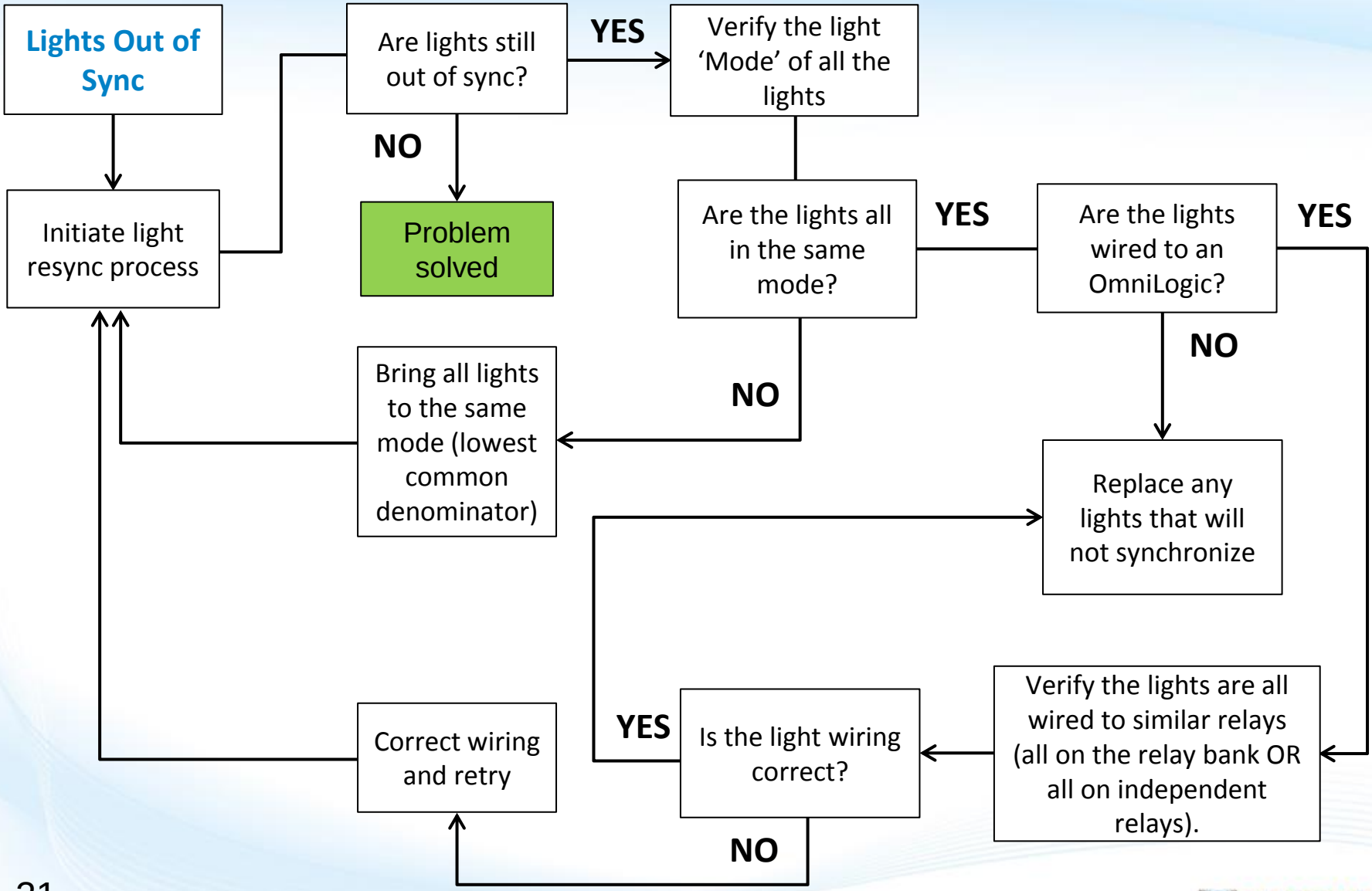
Isolate lights (one-by-one)

Step 1D



Isolate each light one at a time, IF all lights work individually, then voltage drop or overloading are likely playing a factor. IF only certain lights are working, replace any faulty lights.

2. Switched: Lights Out of Sync



HAYWARD

2. Switched: Lights Out of Sync

Lights can fall out of synchronization due to power outages, brownouts, repeated toggling, voltage drop, or even due to overloading a transformer.

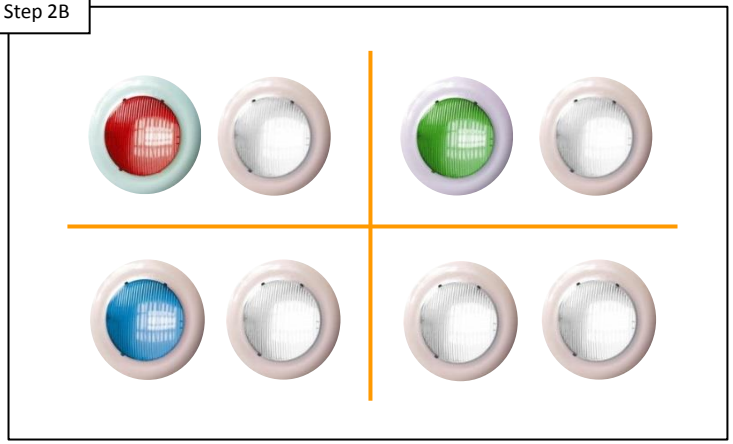
Initiate the light resync process

Step 2A

Initiate the light resync process, either manually or through the controller (pg. 7-9). Once complete, IF lights are still out of sync, then proceed to step 2B.

Verify lights are in the same mode

Step 2B



Verify the light mode of each light (pg. 10). IF any of the lights are not in the same mode, correct this (pg. 11). IF lights are all in the same mode, go to step 2C.

HAYWARD

2. Switched: Lights Out of Sync

Lights can fall out of synchronization due to power outages, brownouts, repeated toggling, voltage drop, or even due to overloading a transformer.

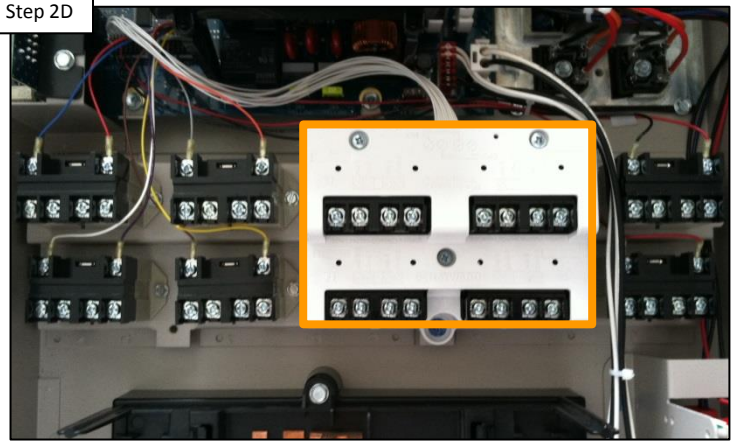
Verify where the lights are wired

Step 2C

Verify where the lights are wired. IF the lights are wired to an OmniLogic, then proceed to step 2D. IF the lights are not wired into an OmniLogic & resyncing does not correct the problem, replace out-of-sync lights.

Inspect lighting relay(s)

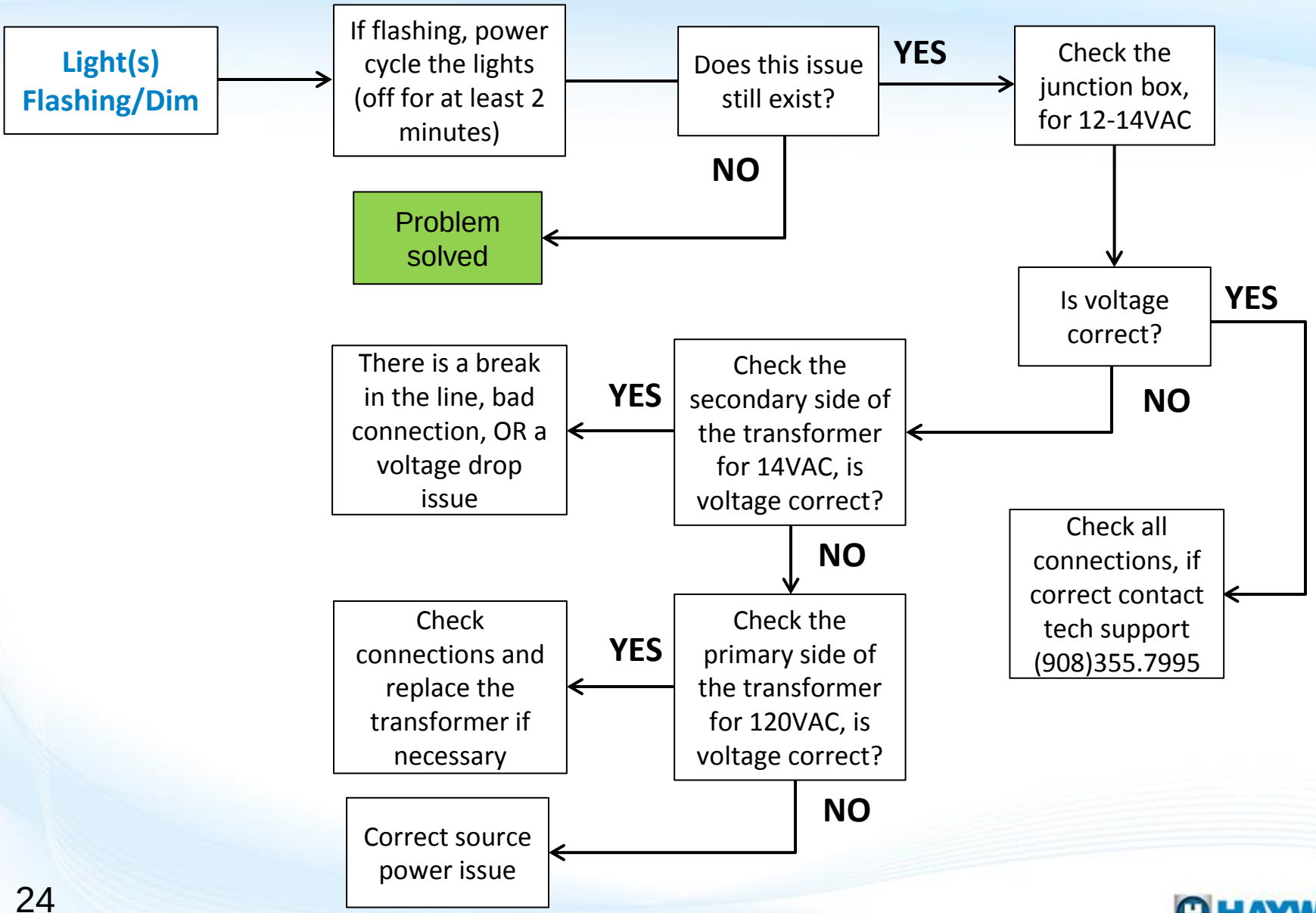
Step 2D



When installed in an OmniLogic, lights should either all be ON or all OFF the relay bank. IF light are wired into mixed relays, correct and retest. IF not mixed, & resyncing does not correct, replace out-of-sync lights.

HAYWARD

3. Switched: Light(s) Flashing/Dim



HAYWARD

3. Switched: Light(s) Flashing/Dim

Lights generally become dim or flash when a voltage drop is affecting light power, there is a problem with a connection, or a potential problem with the light.

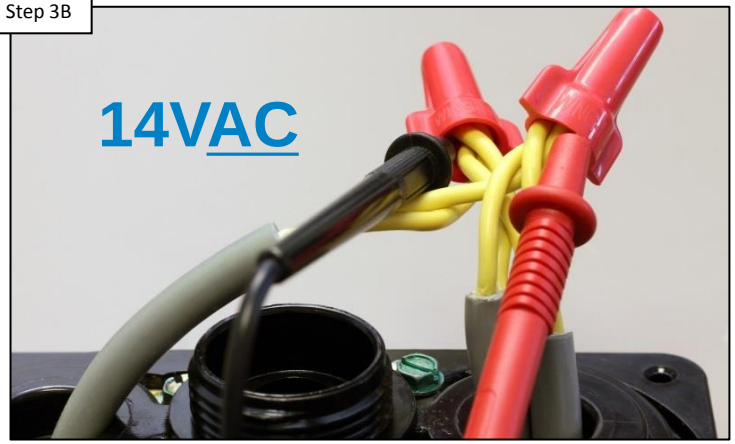
Power cycle the lights

Step 3A

Power the lights down for a minimum of 2 minutes either through the breaker or through the controller. After restoring power and cycling, IF lights are still dim/flashing, go to step 3B.

Verify 12-14VAC at junction box

Step 3B



The LED(s) will flash if not enough power is being supplied. Verify power is 12-14VAC at the junction point. IF no/low voltage, go to step 3C. IF correct, check connections and call tech support (908) 355.7995.

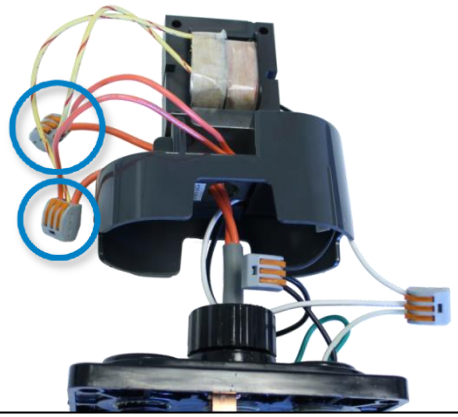
HAYWARD

3. Switched: Light(s) Flashing/Dim

IF the lights are being controlled through a ColorLogic Light Switch, Controller, or other device make sure the lights are being called for.

Verify 14VAC on secondary side

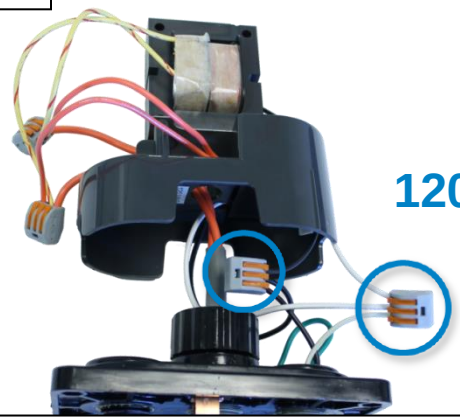
Step 3C



Verify that the transformer has 14VAC on the secondary side. IF NO voltage is present, go to step 3D. IF voltage is correct, there is a break in the line, a bad connection, OR a voltage drop issue.

Verify 120VAC on primary side

Step 3D

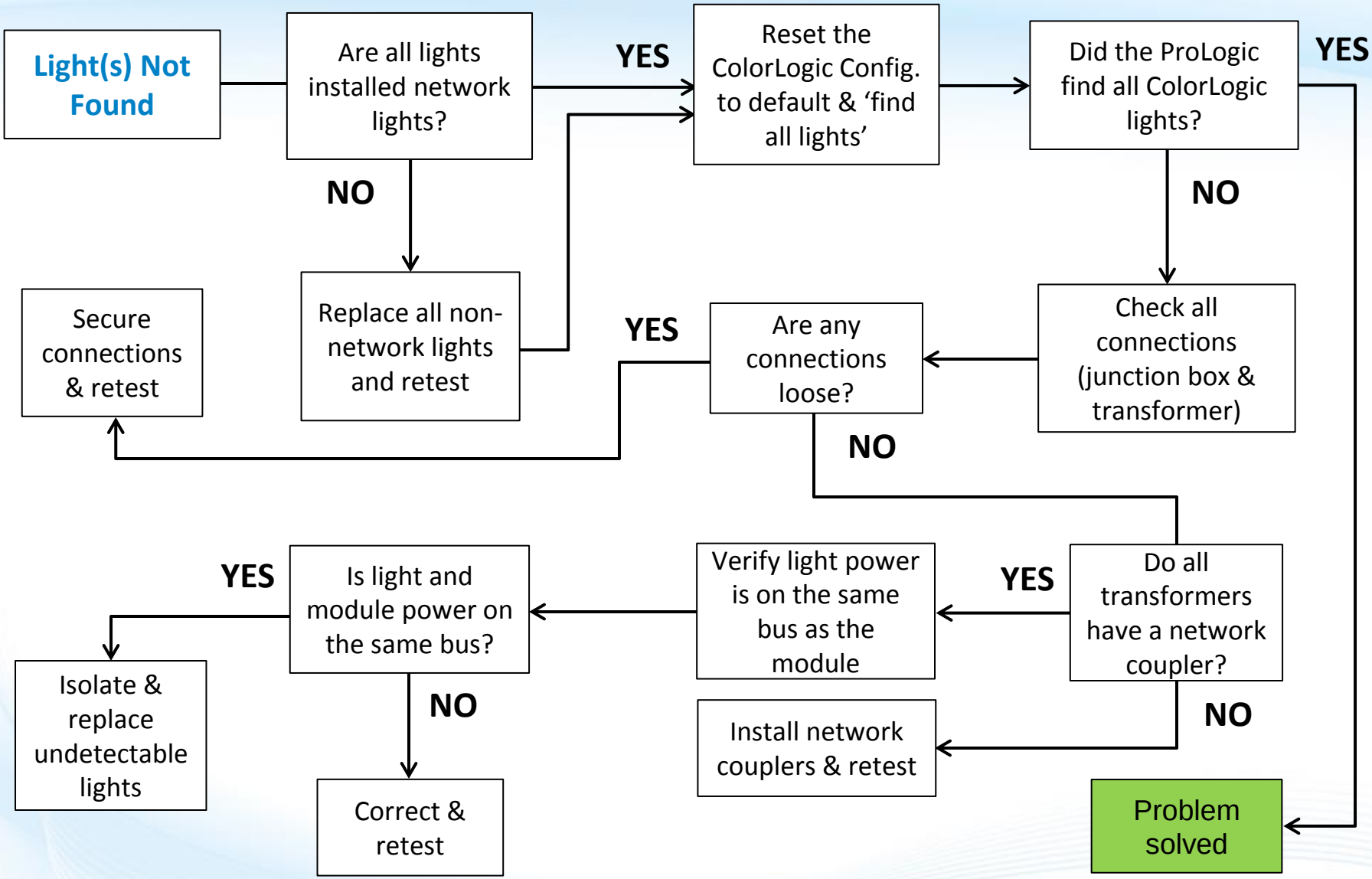


Verify that the transformer has 120VAC on the primary side. IF NO voltage is present, correct source power issue. IF voltage is correct, check connections then replace transformer if necessary.

NOTE: IF using a LTBUY11300 (300 Watt Transformer) verify the power is wired through the blue and white wires to ensure the output (secondary side) provides 14 Volts.

HAYWARD

4. Network: Light(s) Not Found



HAYWARD

4. Network: Light(s) Not Found

Only Network lights that contain a "CUN" in the part number have the ability to communicate with a ProLogic network module.

Verify light network compatibility

Step 4A

Verify all installed lights are network compatible. A network light will have a "CUN" on the back label. IF all are compatible, go to step 4B. IF not, replace incompatible lights with network ready ones.

Reset ColorLogic to default

Step 4B

On the ProLogic, under the "Configuration Menu", reset ColorLogic to default (pg. 12). Then attempt to find all the lights (pg. 13-14). IF not all lights are found, proceed to step 4C.

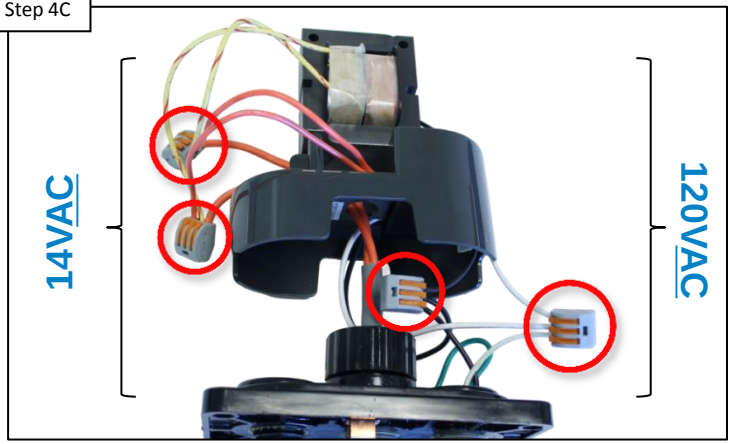
NOTE: After resetting the ColorLogic Config. to Default, be sure to power cycle the ProLogic; remove power for approximately 2 minutes, before attempting to find the lights.

4. Network: Light(s) Not Found

The network coupler is necessary to restore communication that may get degraded, distorted, or lost while passing through the transformer.

Test and test connections

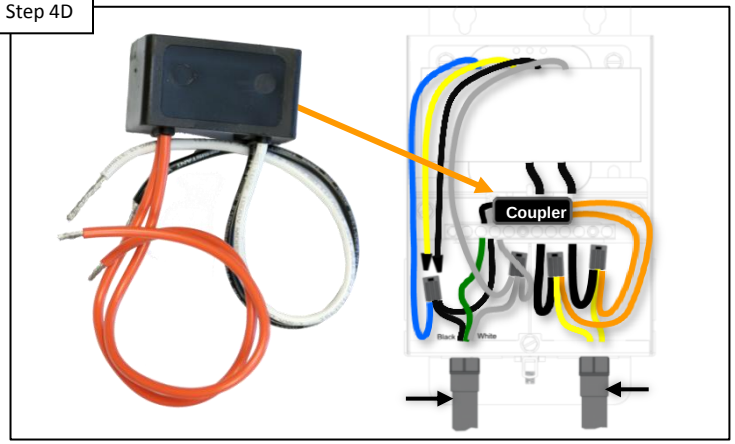
Step 4C



Verify that all connections in the junction box are secure and measuring correctly. IF connections are not correct, secure them and retest. IF connections are secure, proceed to step 4D.

Identify transformer couplers

Step 4D



Each transformer used for network lighting should have its own coupler (this boosts the communication). IF any couplers are missing, install them (LKBUN1000). IF all transformers have network couplers, go to 4E.

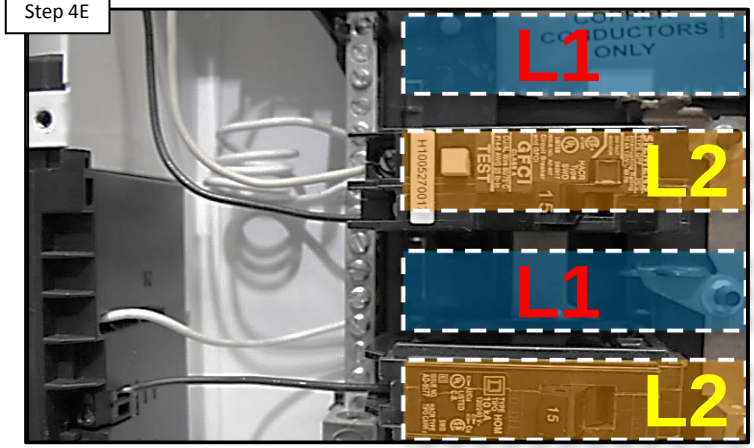
HAYWARD

4. Network: Light(s) Not Found

The network coupler is necessary to restore communication that may get degraded, distorted, or lost while passing through the transformer.

Verify the power source

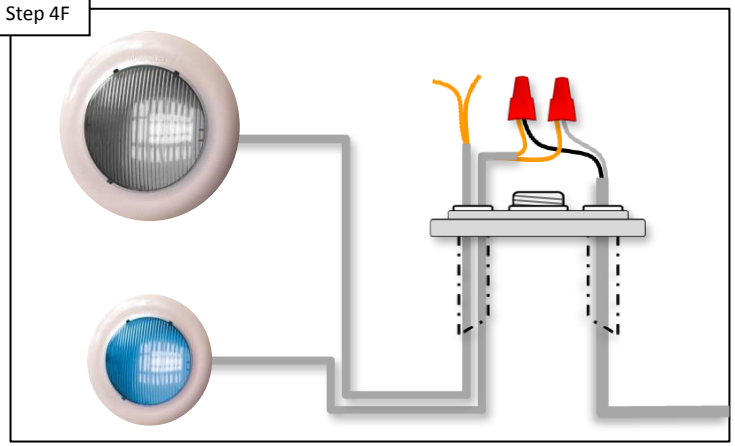
Step 4E



The source power that is provided to the lights needs to be on the same bus as the power provided to the module. Verify they are. IF power is not on the same bus, correct and retest. IF correct, go to 4F.

Isolate lights (one-by-one)

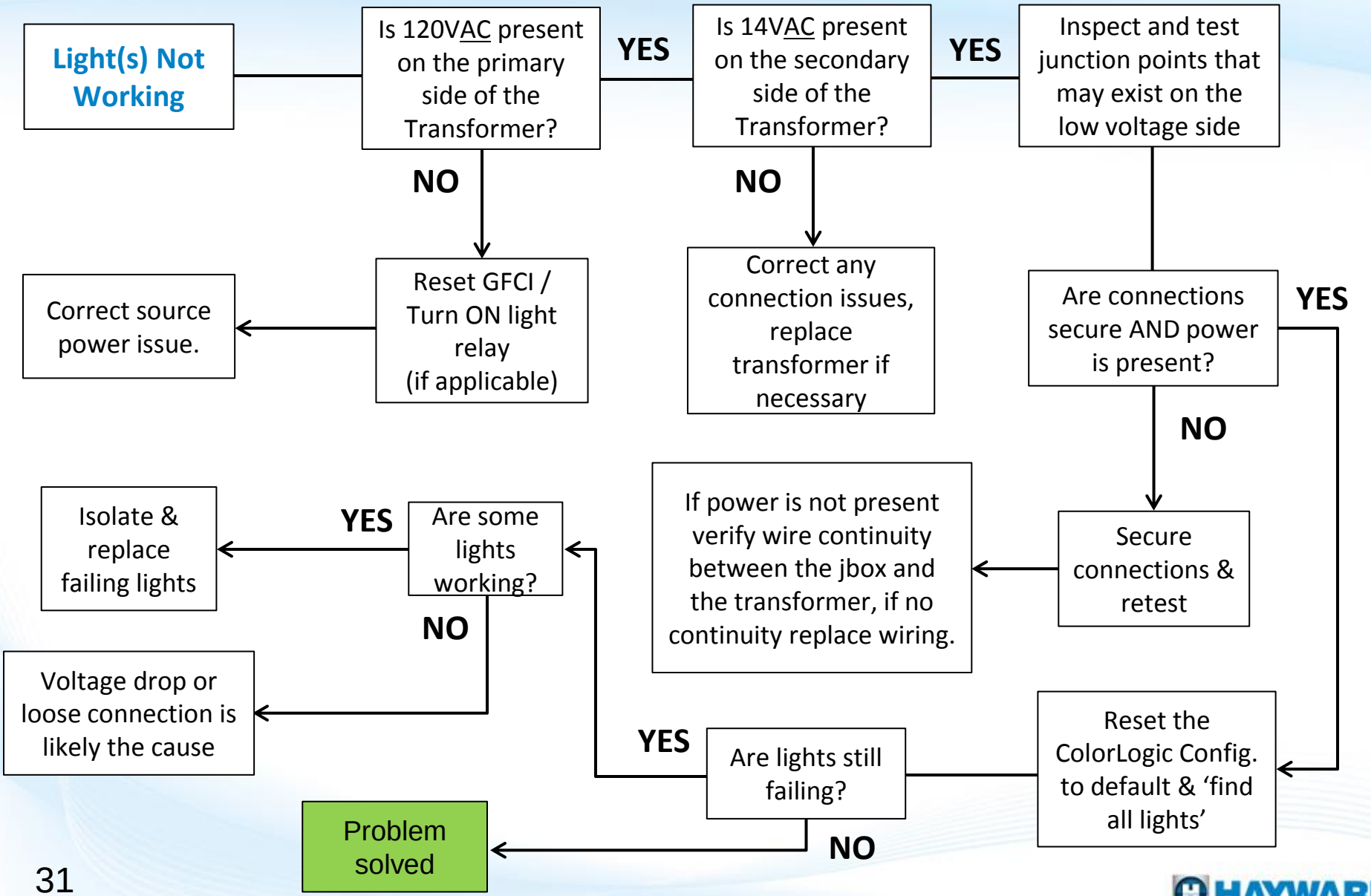
Step 4F



Isolate each light one at a time, IF all lights work individually, then voltage drop or overloading are likely playing a factor. IF only certain lights are working, replace any faulty lights.

HAYWARD

5. Network: Light(s) Not Working



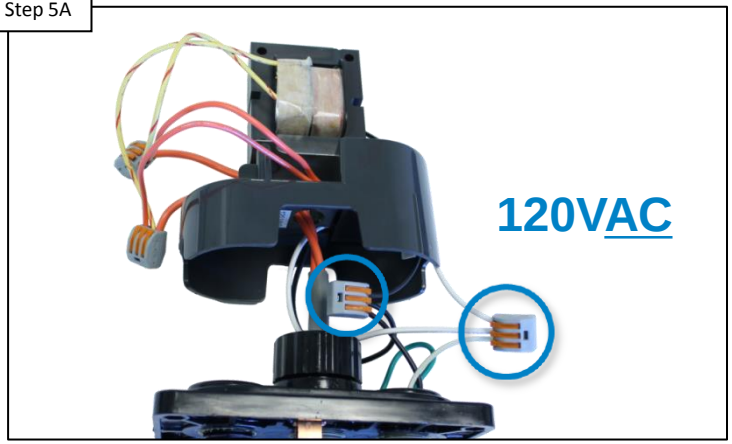
HAYWARD

5. Network: Light(s) Not Working

Before starting make sure all lights are network compatible, are hooked up to a ProLogic Controller with rev. 4.10 or higher, and that each transformer includes a network coupler.

Verify 120VAC on primary side

Step 5A



Verify that the transformer has 120VAC on the primary side. IF NO voltage is present, correct source power issue (tripped GFCI, Light relay not engaged…etc.). IF voltage is correct, go to step 5B.

Verify 14VAC on secondary side

Step 5B

Verify that the transformer has 14VAC on the secondary side. IF NO voltage is present, verify connection and replace transformer if necessary. IF voltage is correct, go to step 5C.

NOTE: IF using a LTBUY11300 (300 Watt Transformer) verify the power is wired through the blue and white wires to ensure the output (secondary side) provides 14 Volts.

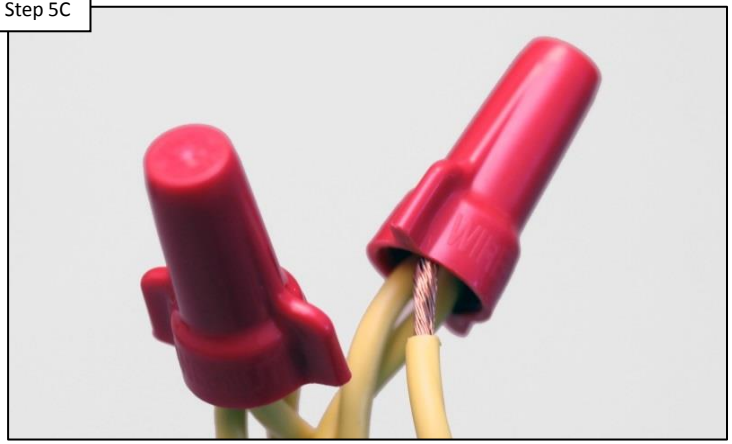
HAYWARD

5. Network: Light(s) Not Working

It is recommended to power cycle the ProLogic, after resetting any menu back to default, including the ColorLogic config. Restore power after 2 minutes before attempting to find the lights.

Inspect all junction points

Step 5C



Inspect any junction points for poor connections. Check voltage, verifying 12-14VAC is present. IF connections are correct, go to step 5D. IF NOT, correct and/or replace damaged or faulty wiring.

Reset ColorLogic to default

Step 5D

On the ProLogic, under the "Configuration Menu", reset ColorLogic to default (pg. 12). Then attempt to find all the lights (pg. 13-14). IF not all lights are found, proceed to step 5E.

NOTE: After resetting the ColorLogic Config. to Default, be sure to power cycle the ProLogic; remove power for approximately 2 minutes, before attempting to find the lights.

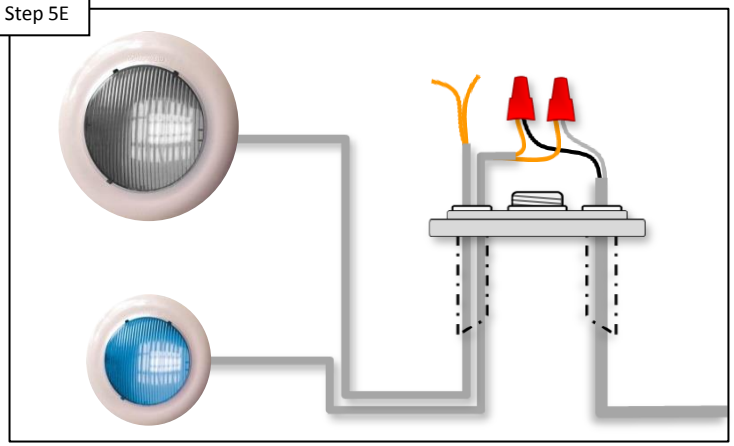
HAYWARD

5. Network: Light(s) Not Working

IF the lights were not working from the start, verify that the power supplied to the lights is on the same bus as the power to the module (this is essential to reliable communication).

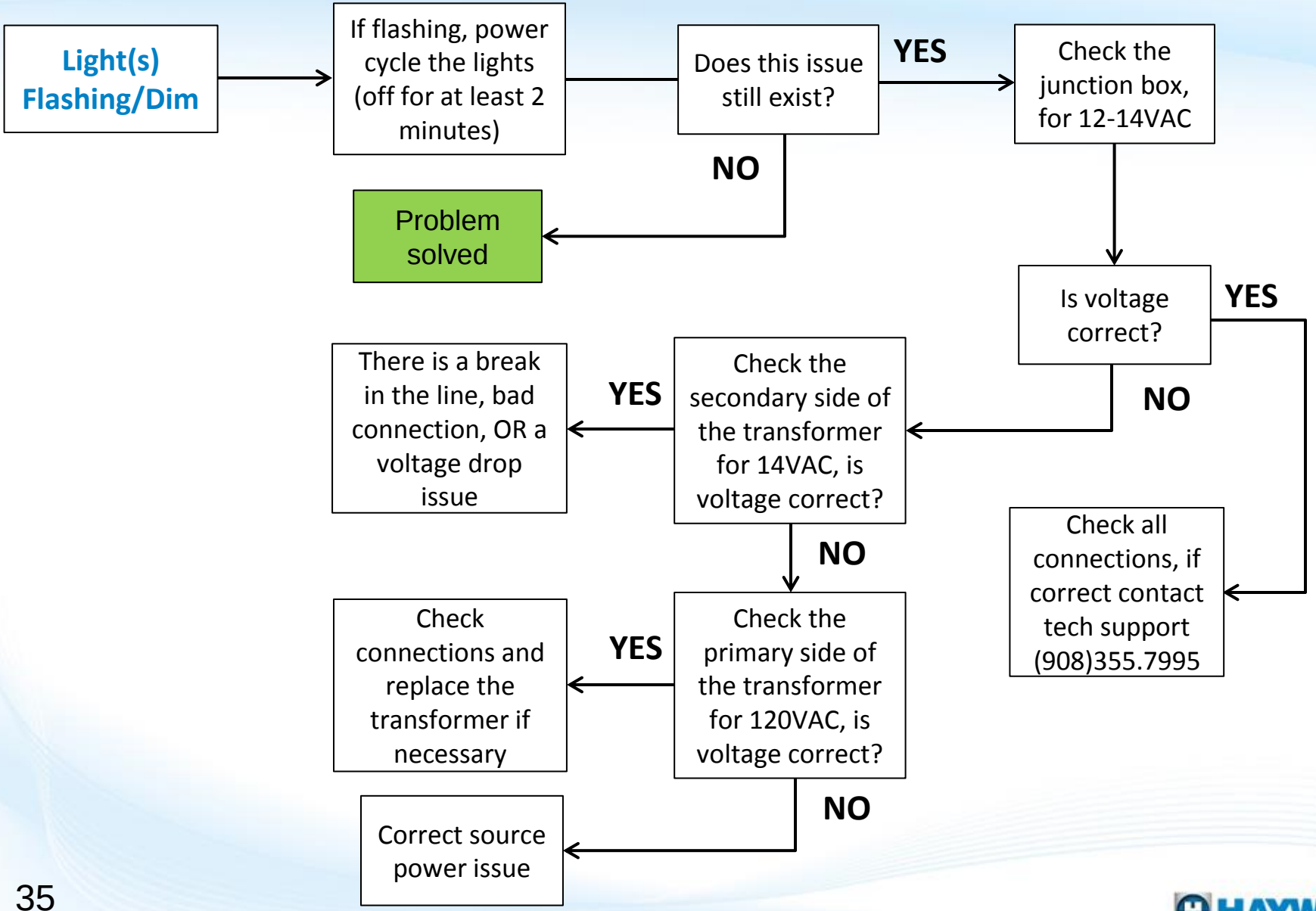
Isolate lights (one-by-one)

Step 5E



Isolate each light one at a time, IF all lights work individually, then voltage drop or overloading are likely playing a factor. IF only certain lights are working, replace any faulty lights.

6. Network: Light(s) Flashing/Dim



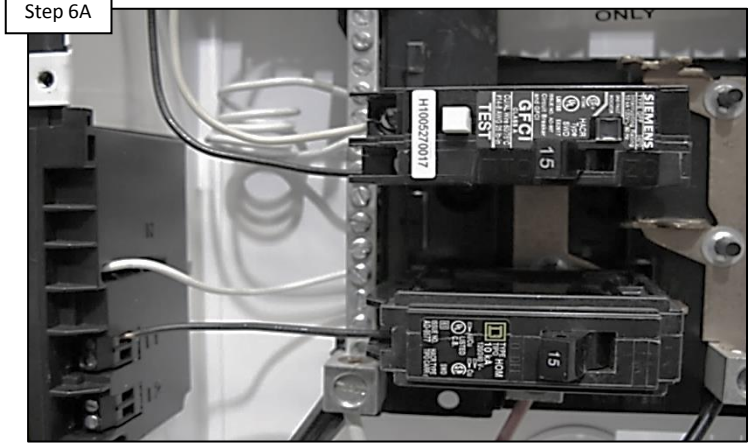
HAYWARD

6. Network: Light(s) Flashing/Dim

Lights generally become dim or flash when a voltage drop is affecting light power, there is a problem with a connection, or a potential problem with the light.

Power cycle the lights

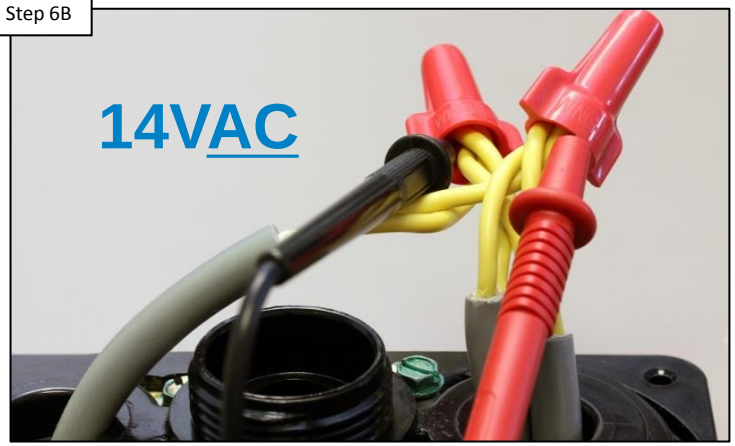
Step 6A



Power the lights down for a minimum of 2 minutes either through the breaker or through the controller. After restoring power and cycling, IF lights are still dim/flashing, go to step 6B.

Verify 12-14VAC at junction box

Step 6B



The LED(s) will flash if not enough power is being supplied. Verify power is 12-14VAC at the junction point. IF no/low voltage, go to step 6C. IF correct, check connections and call tech support (908) 355.7995.

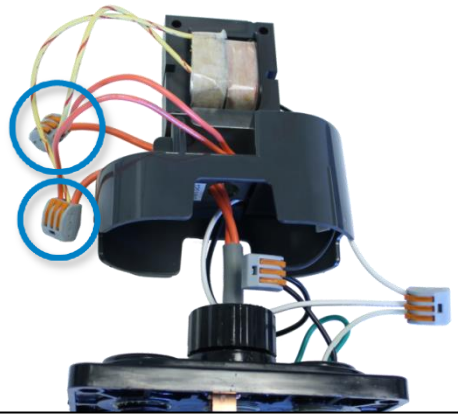
HAYWARD

6. Network: Light(s) Flashing/Dim (cont.)

IF the lights are being controlled through a ColorLogic Light Switch, Controller, or other device make sure the lights are being called for.

Verify 14VAC on secondary side

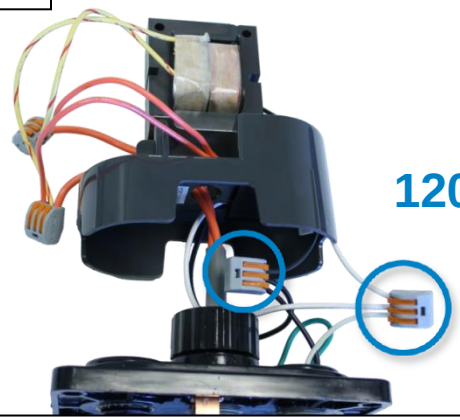
Step 6C



Verify that the transformer has 14VAC on the secondary side. IF NO voltage is present, go to step 6D. IF voltage is correct, there is a break in the line, a bad connection, OR a voltage drop issue.

Verify 120VAC on primary side

Step 6D

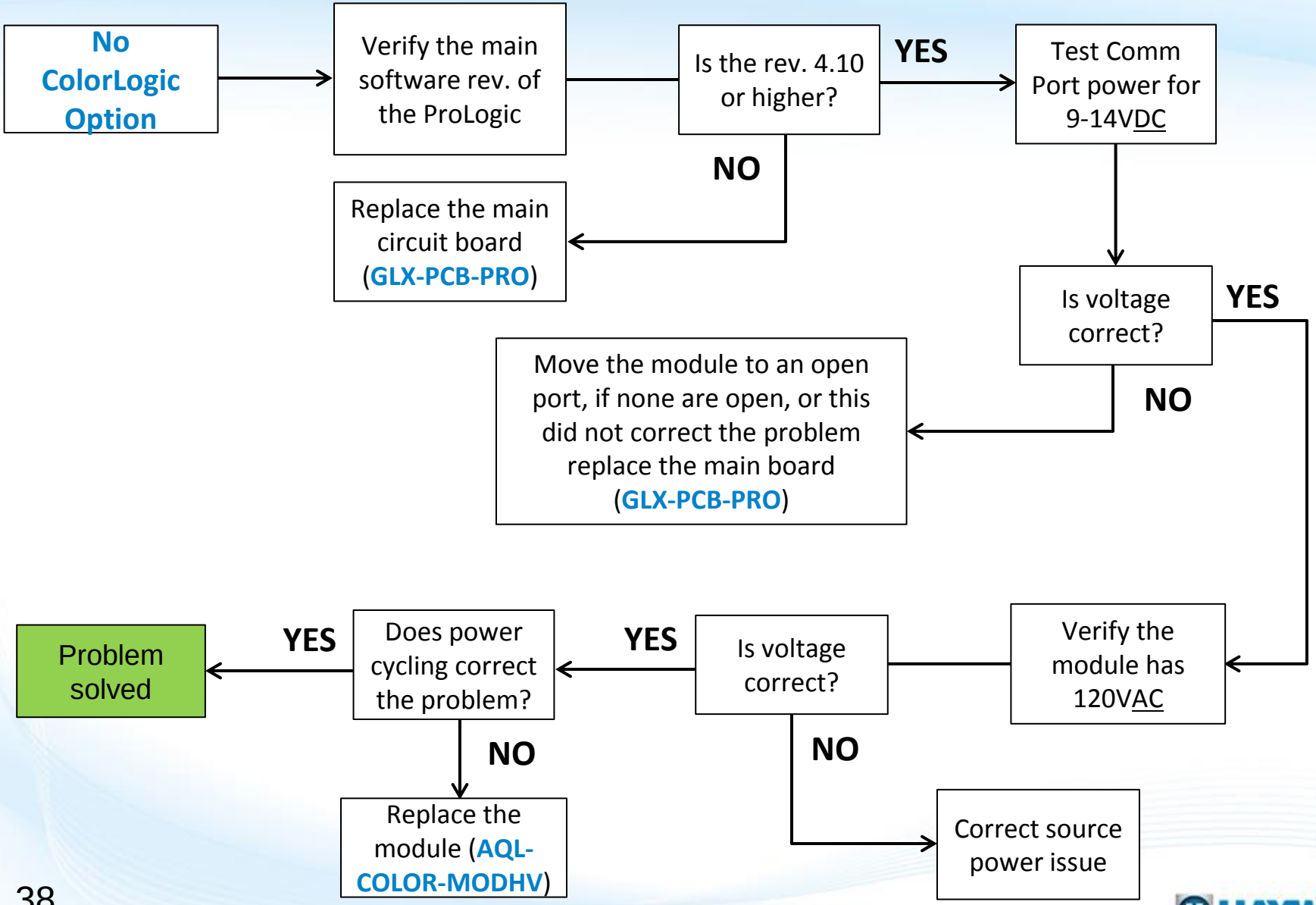


Verify that the transformer has 120VAC on the primary side. IF NO voltage is present, correct source power issue. IF voltage is correct, check connections then replace transformer if necessary.

NOTE: IF using a LTBUY11300 (300 Watt Transformer) verify the power is wired through the blue and white wires to ensure the output (secondary side) provides 14 Volts.

HAYWARD

7. Network: No ColorLogic Option



HAYWARD

7. Network: No ColorLogic Option

If communication is not occurring due to main board incompatibility or a comm port problem, then no options related to ColorLogic Network programming will appear in any of the ProLogic's menus.

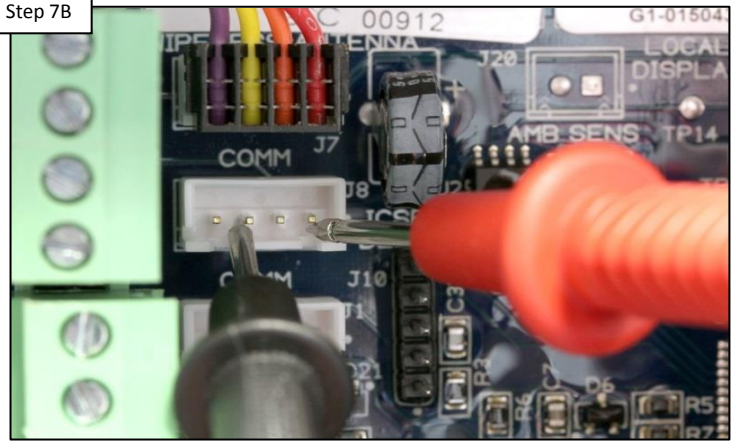
Main Software rev. 4.10

Step 7A

Verify the main software rev. of the ProLogic is 4.10 or higher. This can be found in the back of the Diagnostic Menu. IF correct go to, 7B. IF incorrect, replace the main board with a newer version (GLX-PCB-PRO).

Check 9-14VDC off comm bus

Step 7B



Test the comm port (bus) where the module plugs in for 9-14VDC between pins 2 & 4 (left to right). IF the voltage is correct, skip directly to step 7D. IF incorrect, proceed to step 7C.

The Comm port is essential for communication to occur between the ProLogic main board and the Network Module.

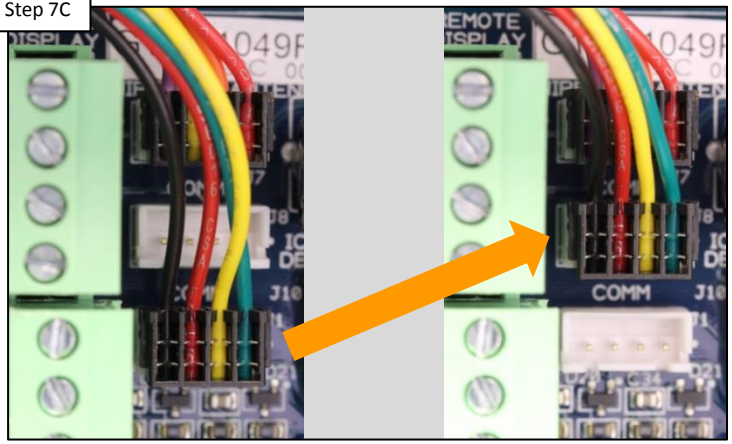
HAYWARD

7. Network: No ColorLogic Option

The network module has two input circuits, either input circuit will work, if power is being supplied to the module yet no ColorLogic options are not showing up in the ProLogic, try moving input power to the open input circuit.

Plug module into a different port

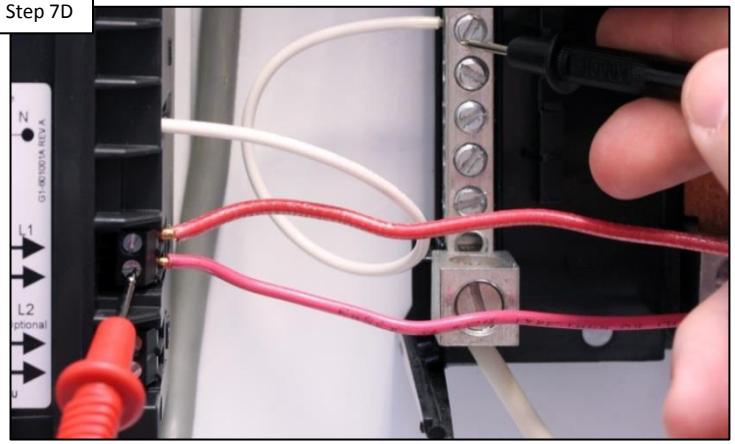
Step 7C



Move the network module's communication connector to an open port. IF no open ports are available OR moving it does not correct the problem, replace the main circuit board (GLX-PCB-PRO).

Test for 120VAC into the module

Step 7D



Test the module for 120VAC by checking either terminal to neutral. IF 120VAC is present, power cycle and replace the module if the problem persists (AQL-COLOR-MODHV). IF not, correct source power issue.

Both input circuits are the same on the Network Module and either can be used for power.

HAYWARD

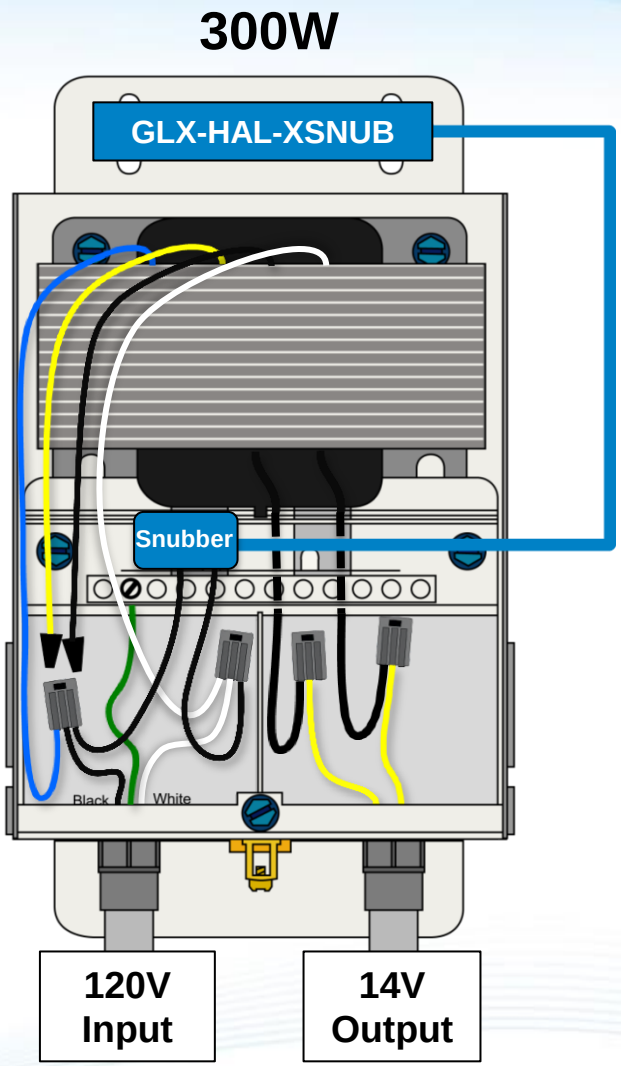
Universal ColorLogic® & CrystaLogic

Additional Information:

How and When to Install a Snubber

If the following conditions exist then a snubber may be recommended:

- **IF** an isolation transformer for low voltage lighting is installed.
- **IF** turning the light OFF or toggling ON/OFF (either via light switch or relay) causes a GFCI breaker to trip, even on unrelated circuits.
- **THEN** connect the GLX-HAL-XSNUB, a snubber capacitor across the primary leads (line to neutral) in the transformer.



Reading Serial Numbers

1U11284-123456

1U11284 = **Standard Warranty Term**

1**U**11284 = **Product Family**

1U**11**284 = **Year of Manufacture**

1U11**284** = **Day of Manufacture**

123456 = **Manufacturing ID**

HAYWARD