HAYWARD®

Universal
ColorLogic® and CrystaLogic™

LED Light Fixtures

Installation and Operation Manual
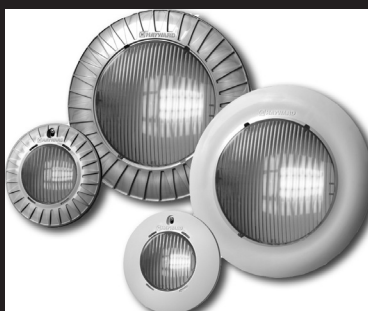
Contents

C US
LISTED

LPCUS11xxx,   LPCUN11xxx
LSCUS11xxx,   LSCUN11xxx
LPLUS11xxx,   LSLUS11xxx
LPWUS11xxx

Pour obtenir le manuel de l'usager
en Francais consultez www.hayward-pool.ca.

Hayward Pool Products
620 Division Street, Elizabeth NJ 07207
www.hayward.com

IMPORTANT SAFETY INSTRUCTIONS

SAFETY WARNING: Do not open. Light has no user serviceable parts inside. Improper installation may result in death or serious injury to bathers or service personnel or others by way of electric shock. Disconnect electrical power before installing or servicing this equipment. Read and follow all instructions. This product to be installed by qualified personnel only.

INSTALLATION DEPTH REQUIREMENT: Except when the fixture is installed in an area of the swimming pool that is not used for swimming and the lens is adequately guarded to keep any person from contacting it, the fixture shall be in installed in or on a wall of the pool, with the top of the lens opening not less than 4 in. and no more than 72 in. below the normal water level of the pool.

IMPORTANT WIRING CHECKLIST

Do not skip any steps in this or any section of the manual.

- ☐ The above safety warnings and the complete installation instructions in this manual have been read and followed.

- ☐ A SAFETY LISTED **POOL/SPA ISOLATION TRANSFORMER** HAS BEEN USED TO SUPPLY 14 VOLTS TO THE FIXTURE.

- ☐ The transformer output wiring HAS NOT been tied or shorted to ground.

- ☐ The cord length has not been extended beyond the guidelines in this manual.

- ☐ The cord jacket is not damaged, cut or spliced except as noted below.

- ☐ Extensions or splices to the cord are only made in a safety listed Pool / Spa junction box or junction box transformer system.

- ☐ The luminaire is firmly secured to the niche and cannot be removed without the use of a tool.

- ☐ The niche is properly bonded UNLESS a Hayward Universal ColorLogic Niche is used.

- ☐ The luminaire has been installed by qualified personnel in compliance with the National Electrical Code (NEC) or Canadian Electric Code (CE Code) and any applicable local codes and/or regulations.

Installed by: _____ of company _____ Date: _____

LEAVE THESE INSTRUCTIONS WITH PROPERTY OWNER

Introduction

Congratulations on your purchase of a Hayward® Universal ColorLogic®/CrystaLogic™ LED Light. Welcome to a more colorful world brought to you by Hayward that generates colored light and effects using a microprocessor to control red, green, blue, and white LED's.

Your Hayward Universal ColorLogic/CrystaLogic underwater pool or spa light has these special features:
1.   Long-lasting LED's (light-emitting diodes) which can last up to 10 times longer than current incandescent or halogen pool and spa lights.
2.   Multicolor capability without any color wheels or moving parts to wear out.
3.   Multi color program capability which allows you to select any one of 17 different programs, 10 fixed colors, and 7 color shows in stand-alone mode.
4.   When networked with a Hayward Pro Logic® pool/spa controller, Universal ColorLogic lights (LSCUN11xxx and LPCUN11xxx) are capable of 4 additional shows, 101 fixed light colors and offer custom speed, brightness and motion control.
5.   Offers spectacular brilliant light with low power consumption. Uses up to 86% less energy than a typical incandescent pool light.

The 12 volt Hayward Universal ColorLogic and CrystaLogic LED (light-emitting diode) underwater lighting fixtures you have purchased are UL Listed to be installed in all Hayward or any other manufacturer's light fixture housing (niche).

Installation of light and niche must be in accordance with Article 680 of the National Electrical Code (NEC) and any applicable local codes. Ensure that your niche is properly grounded and bonded. NOTE: the Hayward LFGUY1000 low profile, all plastic niche does not require bonding or grounding.

Because of the all plastic design with an impact resistant lens, these lights can be installed as little as 4 inches (10cm) from below the normal water level of the pool or spa to the top of the lens. It can also be installed upward facing without a rock guard for lighting ponds, fountains, or water falls.

Important Note When Installing LFGUY1000 Niches in Concrete/Gunite Pools:
LFGUY1000 Niche: A gunite/plaster shield is provided to protect the niche and ring during construction. The shield is designed to be installed during the gunite and plastering process. When finished guniting, pull on the tab and remove the outer ring of the shield. Keep the shield in place while plastering and until the light is ready to be installed.

GIVE THESE INSTRUCTIONS TO POOL/SPA OWNER AFTER INSTALLATION

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Installation

If replacing an existing light, remove power to the light at the panel before starting this installation. Installation must be performed in accordance with Local and NEC codes.

Cord Length and Minimum Required Voltage

When installing Universal ColorLogic/CrystaLogic low voltage lights, the length of the cord has an effect on performance. To prevent performance problems, verify the transformer is providing the minimum required voltage according to the table below. To check this voltage, measure the voltage at the transformer while the light is "on" and operating in "white" mode. In some cases, a voltage greater than 12 volts is required due to a long cord run. Some transformers provide higher voltage taps for this purpose; check your transformer manufacturer's installation instructions for details. When using Hayward or other transformers that offer a 14v option, we suggest that you always use the 14 volt tap.

Product	Total Cord Length from Transformer to Light	Minimum Required Voltage at Transformer
12v Universal ColorLogic Pool Light	30 ft	12 - 14 volts
	50 ft	13 - 14 volts
	100 ft	14 volts
12v Universal ColorLogic Spa Light	30 ft	12 - 14 volts
	50 ft	13 - 14 volts
	100 ft	14 volts

Install Niche (new installations)

NOTE: For installation of Hayward niches, see installation instructions provided with the unit. The light fixture must be installed in or on a wall of the pool or spa with the top of the lens not less than 4 inches (10 cm) below the normal water level of the pool except when the fixture is installed in an area of the swimming pool that is not used for swimming. Select a location for the light fixture(s) that will give optimum light dispersion for the pool or spa design. Be sure to consider the direction of emitted light and take care not to point lights directly at the house or outdoor living spaces.


4 in (10cm)
MINIMUM
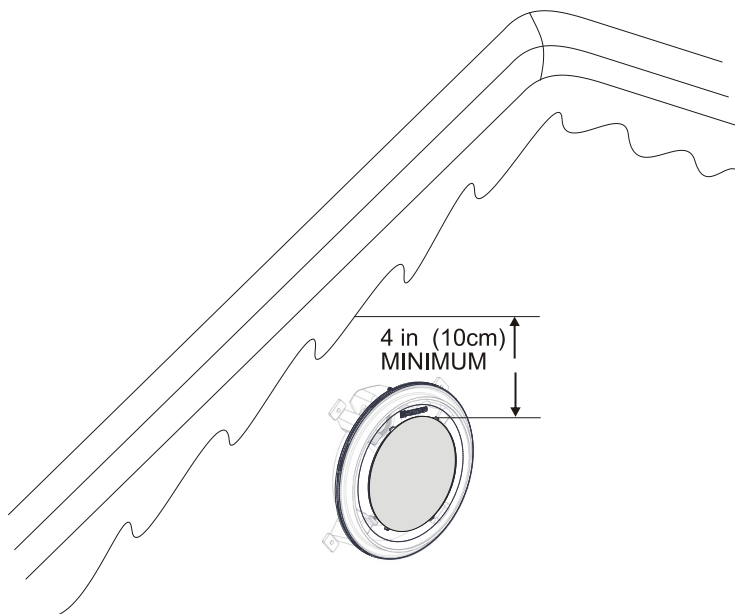
Install Junction Box or Junction Box Transformer

When using a wallmount low voltage transformer, a junction box should be installed to make the connection to the pool/spa light. If using more than one light, an adequate amount of junction boxes must be installed. Alternatively, Hayward low voltage junction box transformer kits (LTBUY11H65) can be used when in-line transformers are desired. Refer to page 9 for more information.

Junction boxes must be installed not less than 48 inches (1.22 m) from the edge of the pool or spa. Run conduit from the niche up to the junction box such that the junction box is not less than 8 inches (20 cm) above the maximum pool or spa water level, or not less than 4 inches (10 cm) above the ground, whichever is greater. Additional conduit should be run from the junction box to the power supply, switch panel, pool/spa controller, etc.

48 in. (1.22 m) Minimum

to other Junction Box(es)
(Optional)

to Power Supply
or Switch

5
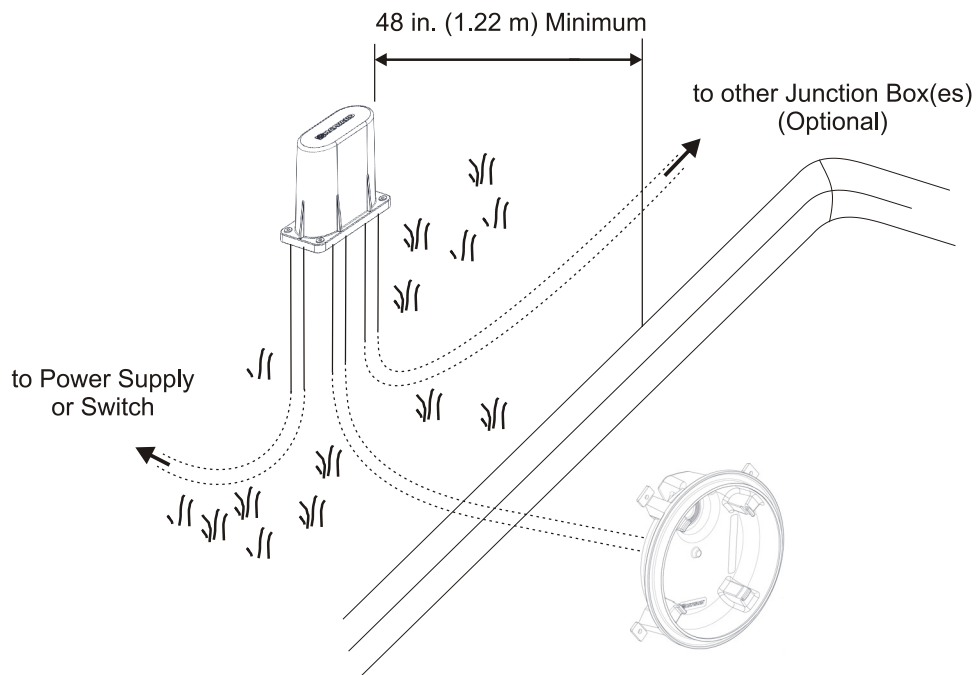
Mounting the Hayward Universal ColorLogic/CrystaLogic LED Light into Hayward Niche LFGUY1000
NOTE: Be sure that the trim ring is detached from light before attempting to install. Turn trim ring counter clockwise to detach. You may have to gently use a screwdriver in one of the 4 slots (located at 1,5,7 and 11 o'clock) to help turn the trim ring.

The Universal ColorLogic/CrystaLogic Light offers a unique tool-less design when used with the LFGUY1000 niche. To prepare for installation, remove the mounting screw and spacer from the top of the light (this will not be needed) and verify that the Twist Lock Latch is installed (Figure 1). The latch is removable and extras are included with the niche. The Twist Lock Latch will allow the light to fasten to the LFGUY1000 niche without the need for tools.

Coil up the extra cord (3-4ft) and insert it in the LFGUY1000 niche. To mount the light, insert it into the niche with the mounting hole located at the 11 o'clock position. Twist the light fixture clockwise until it firmly locks. The mounting hole should now be at the 12 o'clock position (Figure 2).

Install the trim ring by positioning the HAYWARD logo at the 11 o'clock position onto the light fixture. Twist the trim ring clockwise until it firmly locks. The Hayward logo should now be in the 12 o'clock position (Figure 3).

To remove the Universal ColorLogic/CrystaLogic LED Light from the LFGUY1000 Niche: Remove the trim ring by turning it counter clockwise. If removal is difficult, carefully insert a flat head screwdriver in one of the four front slots to help rotate the trim ring.   With the trim ring removed, Insert a small screwdriver into the access hole as show below (Figure 4). Pushing straight into the hole will release the lock, allowing you to rotate the light counter clockwise. Remove the screwdriver and continue to rotate the light until it can be removed from the light fixture.
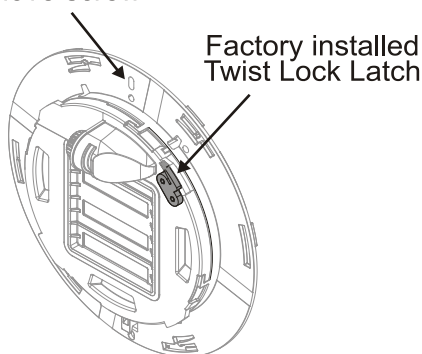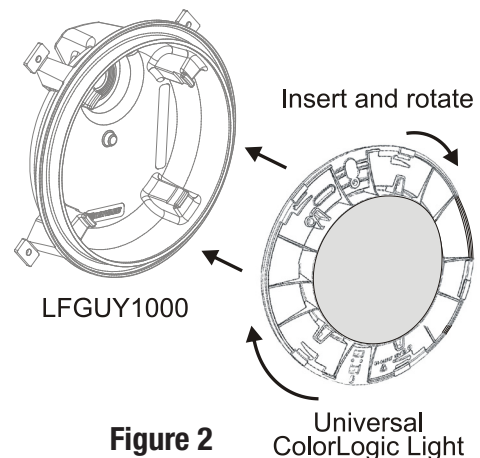
Remove screw

Factory installed
Twist Lock Latch

Figure 1

Insert and rotate

LFGUY1000

Figure 2   Universal
ColorLogic Light

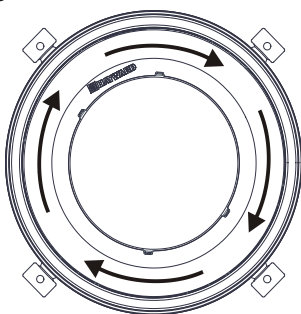Rotate trim ring until it locks
(logo should be at 12 o'clock)

Figure 3

To remove light from LFGUY1000
niche, insert #2 phillips head
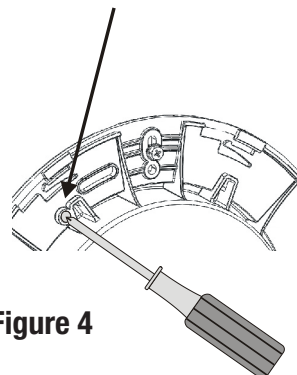screwdriver into this hole and
rotate light counter-clockwise.

Figure 4

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## Mounting the Hayward Universal ColorLogic/CrystaLogic LED Light to other Niches

The Hayward Universal ColorLogic/CrystaLogic light is designed to install in virtually all niches. Refer to the chart below for a list of compatible niches and check the Hayward website for the very latest compatibility information. In the interest of improving our products, if you find a niche that we have not listed or if you find that our list is inaccurate, please contact Hayward and provide feedback. We will send you a small gift in exchange for you time.

| Hayward®	Purex®
American®	Pentair® (may need to use spacer - see page 8)
Anthony®	Sta-Rite® (may need to drill out tab - see page 8)
CHD®	Swimquip® (may need to drill out tab - see page 8)
Jandy®	Hydrel® (contact Hayward for adapter kit)
PacFab®	Paragon® (contact Hayward for adapter kit)

NOTE: You may need additional installation instructions on page 8.

Before starting the installation, remove the trim ring from the light fixture by holding the light fixture firmly and rotating the outer trim ring counterclockwise until it detaches. Note that the light comes with the removable Twist Lock Latch factory installed for mounting into a Hayward niche LTGUY1000. In most cases, the latch will not interfere with other installations. If you find that the latch prevents the installation in your niche, remove it by pulling it off of the two pins.

With the trim ring removed, coil up the extra cord and insert it in the niche behind the light fixture. To mount the light fixture, position the fixture with the mounting screw at the top (12 o'clock position). Insert the bottom hook of the light into the niche (6 o'clock position), then pivot the top of the fixture up and secure it with the mounting screw. Be sure the hook on the bottom catches on the niche. Install the trim ring by rotating it clockwise until it locks. When removing the fixture from the niche, remove the trim ring, unscrew the mounting screw, tilt the top of the fixture out, and lift it up and out.
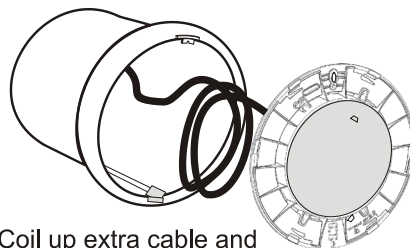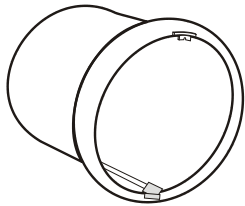
Coil up extra cable and insert in niche.
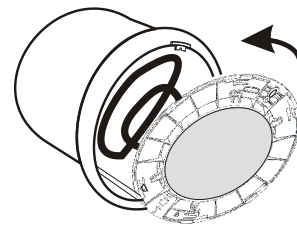
Place hook on bottom of light into niche at 6 o'clock position then pivot top of light into niche.
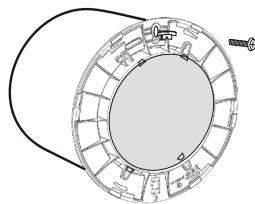
Fasten with included screw.
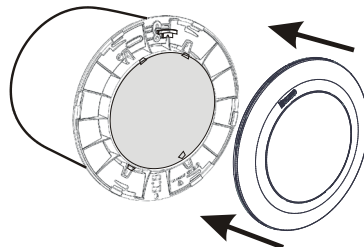
Install Trim Ring with logo positioned at 11 o'clock

Rotate Trim Ring clockwise until it locks.

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Universal ColorLogic Light

Fit Plastic Spacer into slot
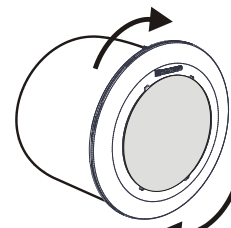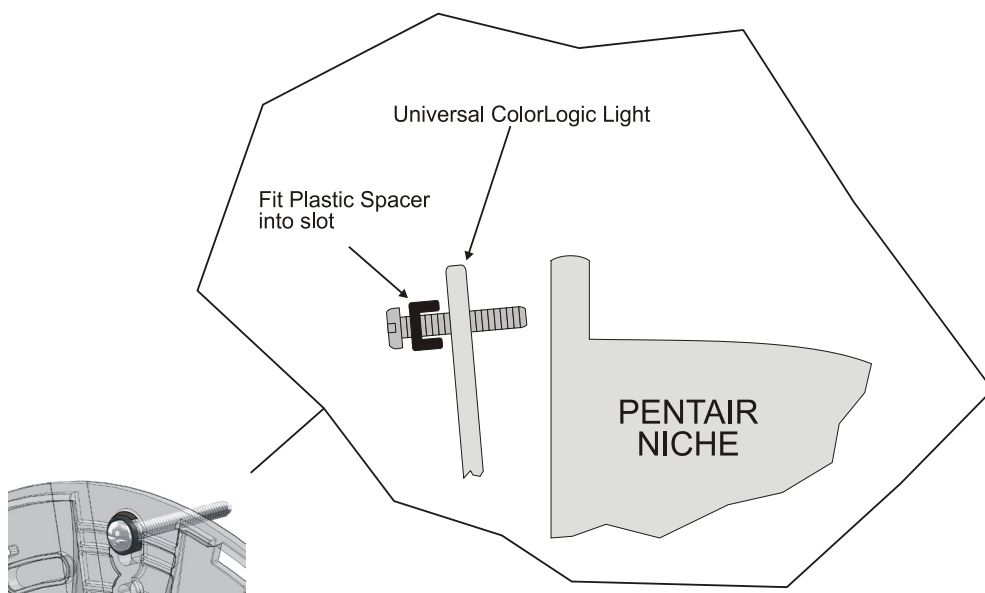
PENTAIR NICHE

For some installations into Pentair® niches, the plastic spacer must be used.

Drill two 5/16" Holes

Remove Tab after drilling
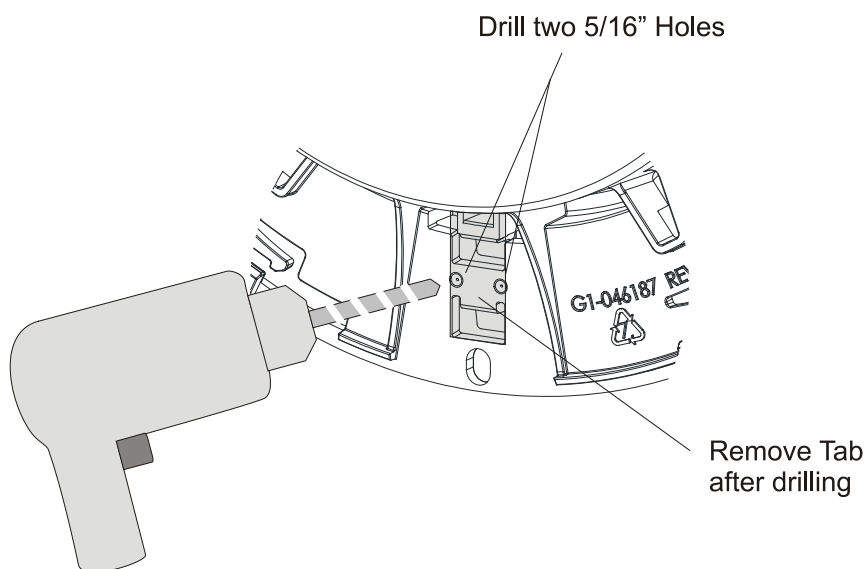
For some installations into Sta-Rite® and SwimQuip® niches, the bottom tab may need to be removed.

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Install Wiring using a Wallmount Transformer

A suitable transformer must be installed which is agency listed for low-voltage swimming pool and spa lights (Hayward LTBUY11300, Intermatic® model PX100/PX300, or equivalent). The transformer must be rated at or above the total wattage used by all attached light fixtures. Up to four Universal ColorLogic/CrystaLogic LED lights (three pool lights max.) can be connected to a single Hayward LTBUY11300 transformer.

Run conduit from the junction box to the low voltage transformer, pool/spa controller, or switch box. Snake 2 wires through the conduit from the junction box to the power supply. If multiple lights are being installed, run additional conduit/wires from the junction box to the additional junction box(es). When wiring multiple lights to the same 12 volt source, do not exceed the transformers's total rated wattage. Refer to the manufacturer's specifications and instructions for run length and wiring size. Use wire nuts to connect the field-installed wiring to the light fixture cord in the junction box. Connect the ground wires to the ground terminal connections inside the junction box.

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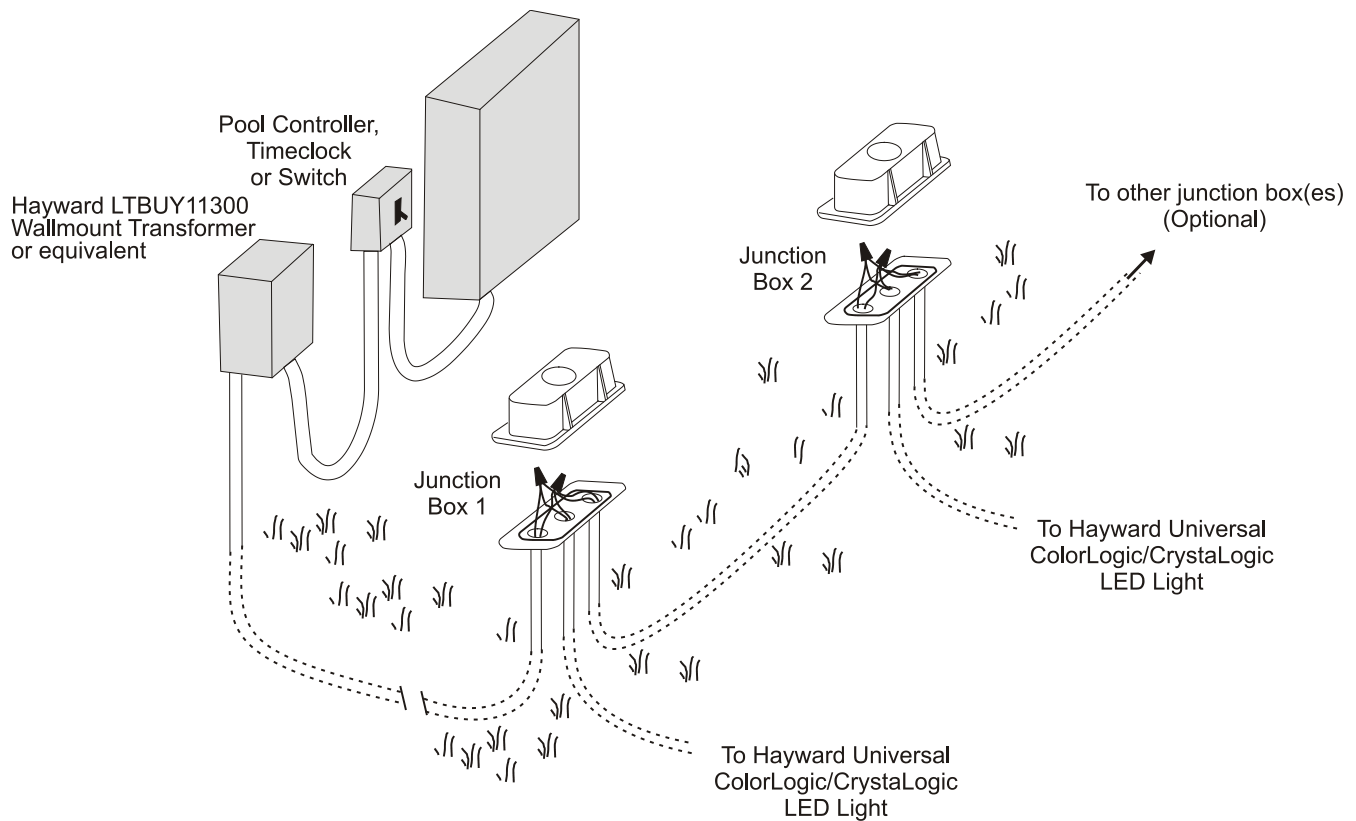
Install Wiring using a Hayward Junction Box Transformer

Hayward offers pool/spa light transformers designed to fit into various manufacturer's junction boxes. Refer to the table on this page to determine which model transformer will fit you type of junction box. These transformers are designed to power a single Hayward ColorLogic/CrystaLogic LED light. If more than one light is installed, multiple junction box transformers must be used. The LRBUY11M13 model can be used to power two lights.

Run conduit from the junction box transformer to the pool/spa controller or switch box. Snake 3 wires through the conduit. Connect the ground wires to the ground terminal connections inside the junction box. Use wire nuts to connect the field-installed wiring to the 120V side of the transformer and the Universal ColorLogic/CrystaLogic LED light cord to the low voltage side of the transformer. Refer to wiring diagram below.

Junction Box Manufacturer	Junction Box Model	Hayward Transformer	Rating	Gang
Hayward®	SP680,SP681	LRBUY11H65	70 watt	single
Pentair®	78310500 78310600 78310700	LRBUY11P65	70 watt	single
Intermatic®	PJB2175	LRBUY11M13	70 watt	single
ThermoCraft®	JBP75175	LRBUY11T65	70 watt	single
Intermatic®		LRBUY1113	140 watt	double
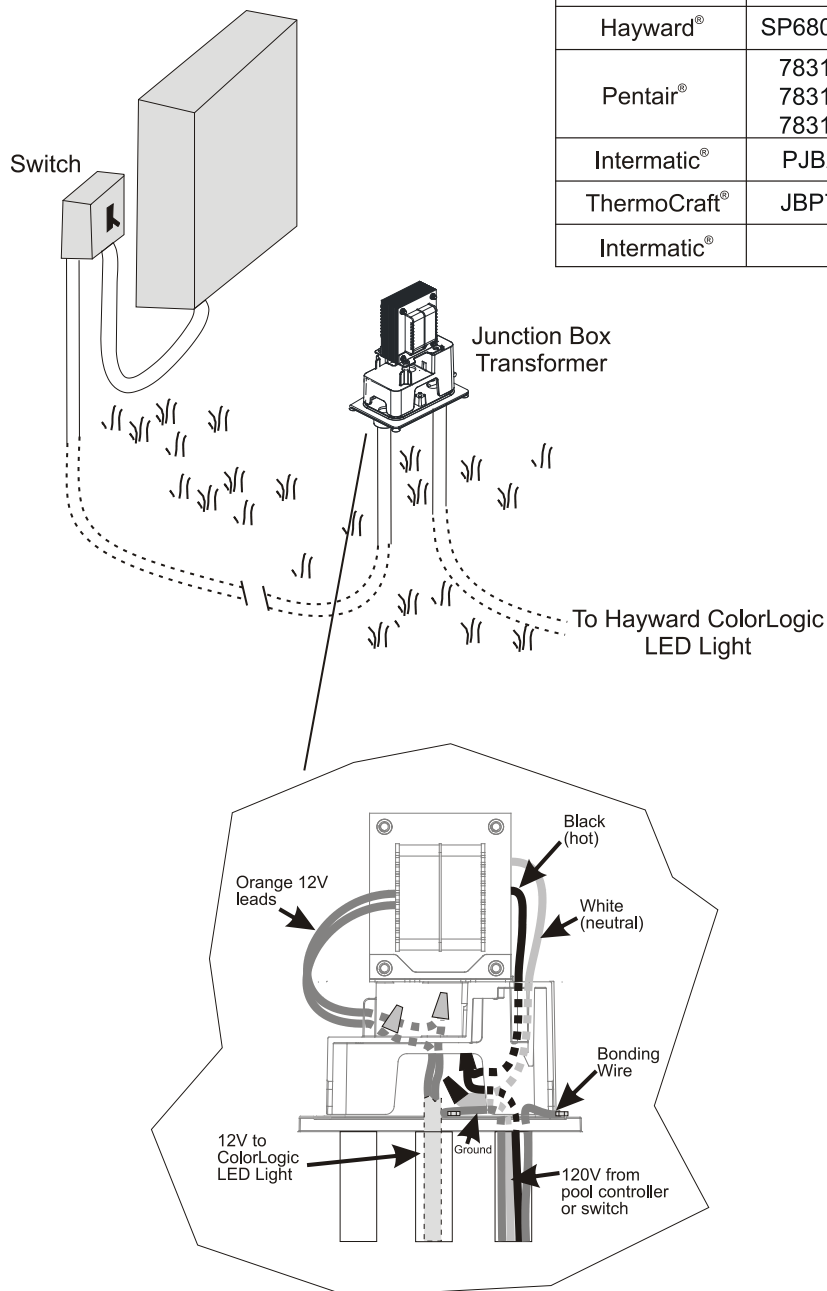
For Network Control Only: Hayward LKBUN1000 Coupler

The Hayward LKBUN1000 is a coupler that is designed to be used with Hayward Pro Logic® PS Pool/Spa Controllers and an AQL-COLOR-MODHV Modem. Together, these components allow the user to have complete network control over the installed Universal ColorLogic/CrystaLogic light(s) using the Pro Logic Controller. When using network control, custom colors and custom light shows can be programmed for each or all lights. An LKBUN1000 is required for each transformer in use and is designed to install into the Hayward LTBUY11300 300 Watt and Hayward Junction Box transformers. Refer to the LKBUN1000 installation manual for mounting and wiring instructions. See "Networking" on page 13.

LKBUN1000
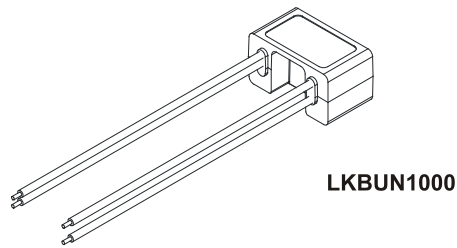
Replacement Parts

Pool Light Parts

ITEM	PART NUMBER	DESCRIPTION	QTY
1	LN(x)UY1000	Pool Trim Rings	1
2	SPX0800Z1	Metal Light Screw Kit	1
3	SPX0800RW	Spacer Washer for Pool Light	1
4	G1X-046237	Twist Lock Latch	1

Spa Light Parts

ITEM	PART NUMBER	DESCRIPTION	QTY
1	LQ(x)UY1000	Spa Trim Rings	1
2	SPX0800Z1	Metal Light Screw Kit	1

Operation

Universal ColorLogic/CrystaLogic Light modes

The Hayward Universal ColorLogic/CrystaLogic light is designed to operate in one of four modes; Universal ColorLogic (default), ColorLogic 4.0, ColorLogic 2.5 & earlier and Pentair SAM.

Universal ColorLogic mode (default): The light is shipped in this mode. Use this mode for new installations and for installations with other Universal ColorLogic/CrystaLogic lights.

ColorLogic 4.0 mode: Use this mode when installing your new light in systems with ColorLogic 4.0 lights. The Universal ColorLogic/CrystaLogic light will be "seen" as another ColorLogic 4.0 light and will operate in the same manner as the others.

ColorLogic 2.5 & earlier mode: Use this mode when installing your new light in systems with ColorLogic 2.5 & below lights. The Universal ColorLogic/CrystaLogic light will be "seen" as another ColorLogic 2.5 & earlier light and will operate in the same manner as the others.

Pentair SAM: Use this mode when installing your new light in systems with Pentair SAm® or SAL® lights. The Universal ColorLogic/CrystaLogic light will be "seen" as another Pentair SAm®/SAL® light and will operate in the same manner as the others.

How to change modes:
1. Turn on lights and then turn off for between 11-15 seconds.
2. Turn on lights and then turn off for between 11-15 seconds.
3. Turn on lights and then turn off for between 11-15 seconds.
4. The light should blink one of 4 colors indicating which mode it is currently in. Refer to the table below to determine which mode the Universal Color-Logic/CrystaLogic is in. Note that new lights are shipped from the factory in Universal ColorLogic mode (blinking red).

Mode	Color
Universal ColorLogic	Red
ColorLogic 4.0	Green
ColorLogic 2.5	Blue
Pentair SAM	White

5. To change modes, turn light off and back on. The light will then advance to the next mode. Continue this method until you arrive at the desired mode.
6. When the light is in the desired mode, remove power from the lights for at least one minute.
7. The light will restart in the new mode the next time it is turned on.

Operating the Universal ColorLogic/CrystaLogic Light

The Universal ColorLogic/CrystaLogic light is controlled through power-cycling: a method of changing light programs which requires no special controller or interface. To activate the light, simply turn on the switch. To deactivate the light, turn off the switch. To advance to the next light program (fixed color or color show), turn the switch off, then back on within 10 seconds.

When the light has been off for over 60 seconds, and is first turned on, it will come on to white for 15 seconds for quick clear view of your pool, then go to the last fixed color or color show it was running.

Light Synchronization

If your pool or spa has multiple Hayward Universal ColorLogic/CrystaLogic LED lights, they may be operated independently, or they can be easily synchronized so they will all display the same colors and shows at the same time. For light synchronization, all lights must be wired to the same switch. Once installed, all lights should be automatically synchronized, however, if they get out of sync, they can be re-synchronized easily. To re-synchronize your lights,

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turn the switch on, then back off, then wait between 11 and 14 seconds and turn the switch back on. When the lights come back on, they should enter program #1, and be synchronized.

Programs

When in Universal ColorLogic mode (default), the Universal ColorLogic/CrystaLogic light has the capability to display 17 different programs; 10 fixed colors and 7 color-changing shows.   These programs are advanced using power-cycling (quickly powering the lights on, then off, then back on). The programs are listed below:

1.   Show-Voodoo Lounge
2.   Fixed-Deep Blue Sea
3.   Fixed-Royal Blue
4.   Fixed-Afternoon Skies
5.   Fixed-Aqua Green
6.   Fixed-Emerald
7.   Fixed-Cloud White
8.   Fixed-Warm Red
9.   Fixed-Flamingo
10.   Fixed-Vivid Violet
11.   Fixed-Sangria
12.   Show-Twilight
13.   Show-Tranquility
14.   Show-Gemstone
15.   Show-USA
16.   Show-Mardi Gras
17.   Show-Cool Cabaret

Refer to the included color card as a quick reference to the available programs.

Networking

Using a ColorLogic modem AQL-COLOR-MODHV and Coupler LKBUN1000, owners of Hayward Pro Logic PS pool/spa controllers can network their LS-CUN11xxx and/or LPCUN11xxx Universal ColorLogic light(s) allowing them to fully control the color, speed, motion and brightness of preset light shows. If the lights will be networked, refer to the AQL-COLOR-MODHV ColorLogic Network module for operation instructions.

Troubleshooting

If you have a problem with your Hayward Universal ColorLogic/CrystaLogic light, please try the following tips before calling for service:

PROBLEM: Light will not advance to the next program when it is power-cycled (turned "off" and then back "on").
SOLUTION: Do not power-cycle the switch too rapidly. Leave it off for at least 1 second before turning it back on.

PROBLEM: Light goes to white whenever it is power-cycled (turned "off" and then back "on").
SOLUTION: Be sure that you power-cycle the light for less than 10 seconds.

PROBLEM: Multiple lights are not correctly synchronized.
SOLUTION: Verify that the Universal ColorLogic/CrystaLogic light is in the proper mode (page 12). Follow the steps in these instructions to re-synchronize the lights.

PROBLEM: Light will not come on.
SOLUTION: Check input power to transformer and then light. Check ground fault and reset if necessary.

PROBLEM: Light will not come on or light cycles on and off.
SOLUTION: Automatic thermal switch may be cycling due to excessive temperatures. Check pool or spa water temperature.

PROBLEM: Light does not function properly, or does not function at all.
SOLUTION: Verify that your pool/spa controller is not "dimming" the light.

Hayward® Pool Products Limited Warranty

To original purchasers of this equipment, Hayward Pool Products, Inc. warrants its Universal ColorLogic® and CrystaLogic™ pool and spa lights, niches, pool light transformers, and couplers to be free from defects in materials and workmanship for a period of ONE (1) year from the date of purchase, when used in single family residential applications.

The limited warranty excludes damage from freezing, negligence, improper installation, improper use or care or any Acts of God. Parts that fail or become defective during the warranty period shall be repaired or replaced, at our option, within 90 days of the receipt of defective product, barring unforeseen delays, without charge.

Proof of purchase is required for warranty service. In the event proof of purchase is not available, the manufacturing date of the product will be the sole determination of the purchase date.

To obtain warranty service, please contact the place of purchase or the nearest Hayward Authorized Service Center. For assistance on your nearest Hayward Authorized Service Center please visit us at www.hayward.com.

Hayward shall not be responsible for cartage, removal, repair or installation labor or any other such costs incurred in obtaining warranty replacements or repair.

The Hayward Pool products warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply.

The express limited warranty above constitutes the entire warranty of Hayward Pool Products with respect to its' pool products and is in lieu of all other warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose. In no event shall Hayward Pool products be responsible for any consequential, special or incidental damages of any nature.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

HAYWARD®

PRODUCT REGISTRATION
(Retain For Your Records)

DATE OF INSTALLTION   _____

Retain this Warranty Certificate (upper portion) in a safe and convenient location for you records.

✂ DETACH HERE: Fill out bottom portion completely and mail within 10 days of purchase/installation or register online.
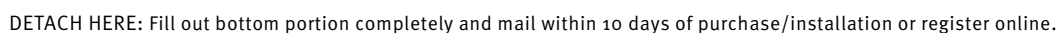
UNDERWATER LIGHTING FIXTURE   Warranty Card Registration

Please Print Clearly:

First Name_____ Last Name_____

Street Address_____

City_____ State_____ Zip_____

Phone Number_____ Purchase Date_____

E-Mail Address_____

Serial Number

Model Number_____

Pool Capacity_____(U.S. Gallons)

☐ Please include me on all e-mail communications regarding Hayward Equipment or promotions.

Years Pool has been in service

☐ ‹ 1 year   ☐ 1-3   ☐ 4-5   ☐ 6-10   ☐ 11-15   ☐ ›15

Purchased from_____

☐ Builder ☐ Retailer ☐ Pool Service ☐ Internet/Catalog

Company Name_____

Address_____

Type of Pool:

☐ Concrete/Gunite

☐ New Installation   ☐ Replacement

Installation for:

☐ In Ground   ☐ Spa

Mail to: Hayward Pool Products, 620 Division Street, Elizabeth, NJ 07207

Attn: Warranty Dept

or REGISTER YOUR WARRANTY ONLINE AT WWW.HAYWARD.COM

FOR FURTHER INFORMATION OR CONSUMER
TECHNICAL SUPPORT, VISIT OUR WEBSITE AT
www.hayward.com

HAYWARD®

USE ONLY HAYWARD GENUINE REPLACEMENT PARTS