

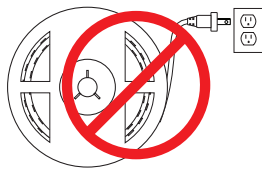
# HYDROLUME® LED STRIP LIGHT

## INSTALLATION GUIDE

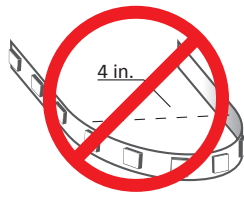
### SAFETY & WARNINGS

1. Install in accordance with national and local electrical code regulations.
2. This product is intended to be installed and serviced by a qualified, licensed electrician.
3. Only install with a Listed Class 2 DC Constant Voltage LED driver.
4. When installing UNDERWATER such as pools, spas and fountains, install in accordance with NEC 680. It is required to mount with HYDROLUME Mounting Channel for these applications.
5. All plastics are affected by the elements and may shift in color and other properties after product installation, particularly with direct exposure to sun, chlorinated water, and other chemicals.
6. There are 2 versions of Hydrolume and Hydrolume Plus with UL Listing 2108 or 676. The product label will indicate if Hydrolume is acceptable to install in underwater applications (UL 676 model).
7. It is not recommended to mount to fiberglass or vinyl pool walls and/or defacing the surface in any way. Always consult your pool supplier and contractor for proper installation of 3rd party products.
8. Strip light and leads are rated as submersible. ENSURE to make electrical connections OUTSIDE of liquid or in a submersible-compliant electrical enclosure.
9. HYDROLUME is NOT rated as field-cuttable. Do not modify or disassemble this product beyond instructions or this warranty will be void.

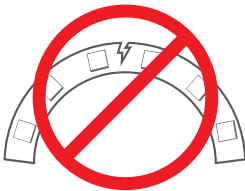
### HANDLE PRODUCT WITH CARE!



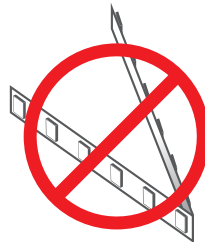
**DO NOT** POWER STRIP LIGHT WHILE ATTACHED TO SPOOL OR TIGHTLY COILED.



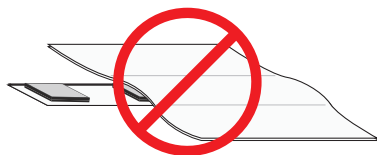
**DO NOT** BEND LED STRIP LIGHT TO A DIAMETER LESS THAN 4 INCHES.



**DO NOT** BEND LED STRIP LIGHT ON A HORIZONTAL PLANE.



**DO NOT** FOLD, CREASE, OR TWIST LED STRIP LIGHT.



**DO NOT** COVER STRIP LIGHT WITH ANY MATERIALS.

### QUICK SPECS / MODELS

**DI-24V-HL\*\***

**DI-24V-HLP\*\***

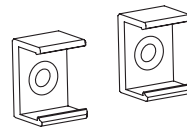
Input	24VDC Constant Voltage	
Power	Standard	1.13W/ft. (0.65W/cut point)
	Plus	2.04W/ft. (1.2W/cut point)
Max Run	Standard	81.5 ft.
	Plus	32.6 ft.
Ambient Temp †	-4° ~ 122°F (-20° ~ 50°C)	

\*\* Indicates model and CCT

† Do not install product in environment outside listed temperature.

### ADDITIONAL ACCESSORIES

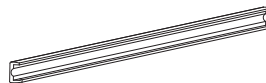
Mounting Bracket  
DI-HL-MTBR



Stake Bracket  
DI-HL-STBR



Mounting Channel (Required for use in pools, spas & fountains - UL 676 Listing)  
DI-HL-MTCH



### CERTIFICATIONS

There are 2 versions of Hydrolume and Hydrolume Plus with UL Listing 2108 or 676. The product label will indicate if the product is acceptable to install in underwater applications (UL 676 Model only). The application of install and method of manufacturing is determined during the time of purchasing the product.

*The UL 676 Model is manufactured with a minimum 12 ft. power feed so the product can be properly installed/serviced. The UL 676 Model must be mounted with the Hydrolume Mounting Channel (DI-HL-MTCH) to ensure the product cannot be easily removed from underwater mounting surface walls.*

## INSTALLATION - UL LISTED 676 MODELS

### FOR UNDERWATER APPLICATIONS

For other applications that are not underwater, see **INSTALLATION - UL LISTED 2108 MODELS**.

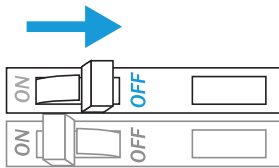
#### NEC 680

When installing in water, install in accordance with NEC 680. Per UL instructions It is required to mount strip light with HYDROLUME Mounting Channel (DI-HL-MTCH) for these applications.

## 1 TURN POWER OFF AT CIRCUIT BREAKER

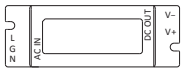


**SHOCK HAZARD! May result in serious injury or death.**  
Turn power OFF at circuit breaker prior to installation.

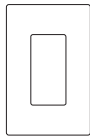


## 2 DETERMINE LOCATION TO INSTALL COMPONENTS

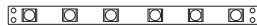
Refer to **SYSTEM DIAGRAMS**



1) Class 2 Driver



2) Control



3) Hydrolume

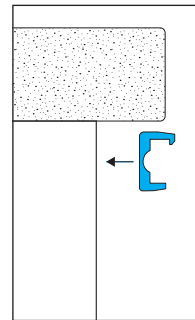
#### WIRE GAUGE & VOLTAGE DROP

Ensure applicable wire is installed between driver, fixture, and any controls in between. When choosing wire, factor in voltage drop, amperage rating, and type (in-wall rated, wet location rated, etc.)

## 3 ADHERE MOUNTING CHANNEL TO SURFACE

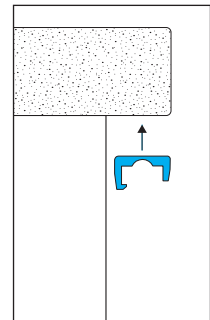
#### ATTENTION: FIBERGLASS & VINYL LINED POOLS

Unlike concrete pools, most fiberglass and vinyl lined pools have strict warranty guidelines that do not allow the user to deface the pool wall surface. Diode LED does not recommend mounting to fiberglass or vinyl pool walls and/or defacing the surface in any way (ex. drilling into surface to route lead wires). It is recommended to mount to a separate pool coping or lip to ensure your pool warranty is not voided. Always consult with your pool supplier and contractor for proper installation of 3rd party products.



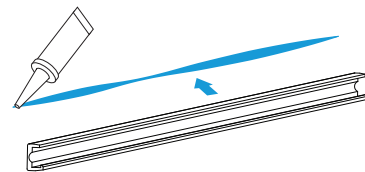
#### Wall Mount

Concrete Pools Only

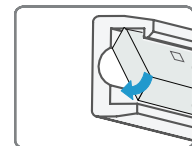
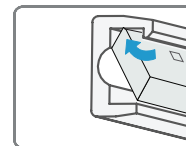


#### Coping Mount

Concrete Pools  
Fiberglass Pools  
Vinyl-Line Pools



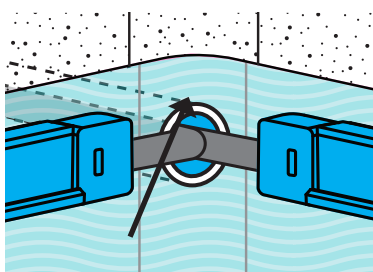
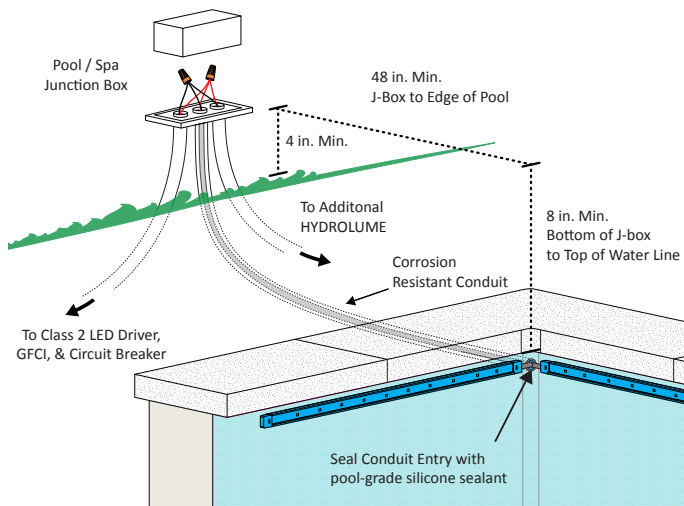
Mount channel to dry surface using a chlorine resistant waterproof adhesive. Allow adhesive to cure/dry.



Once adhesive is dry, firmly press HYDROLUME into mounting channel working one end to the other.

## INSTALLATION: UL LISTED 676 MODELS

### 3 CONT.



For concrete pools, seal conduit entry with pool-grade silicone sealant. **DO NOT drill holes in fiberglass pools/hot tubs or vinyl-lined pools.** An alternate method is to route the wire directly out of pool.

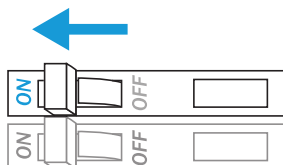
### 4 ATTACH CONTROL AND DRIVER

Verify a compatible constant voltage driver is installed. Utilize applicable wiring when installing outdoors.

### 5 REVIEW SYSTEM

Ensure all polarities are correct and connections are secured.

### 6 TURN POWER ON AT CIRCUIT BREAKER



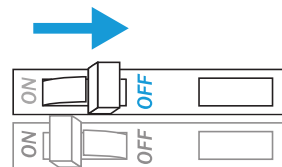
## INSTALLATION: UL LISTED 2108 MODELS

FOR APPLICATIONS THAT ARE NOT UNDERWATER.

### 1 TURN POWER OFF AT CIRCUIT BREAKER

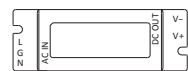


**SHOCK HAZARD! May result in serious injury or death.**  
Turn power OFF at circuit breaker prior to installation.

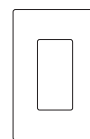


### 2 DETERMINE LOCATION TO INSTALL COMPONENTS

Refer to **SYSTEM DIAGRAMS**



1) Class 2 Driver



2) Control



3) Hydrolume

### WIRE GAUGE & VOLTAGE DROP

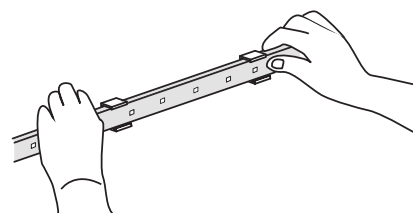
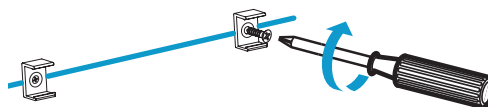
Ensure applicable wire is installed between driver, fixture, and any controls in between. When choosing wire, factor in voltage drop, amperage rating, and type (in-wall rated, wet location rated, etc.)

### 3 MOUNT HYDROLUME TO SURFACE.

See mounting options a, b & c.

#### a HYDROLUME Mounting Brackets

Mark placement for HYDROLUME Mounting Brackets -- roughly 12 inches apart. Fasten brackets with M2.9 (#4) screw or similar size (not provided). Once mounted, fasten HYDROLUME to brackets.

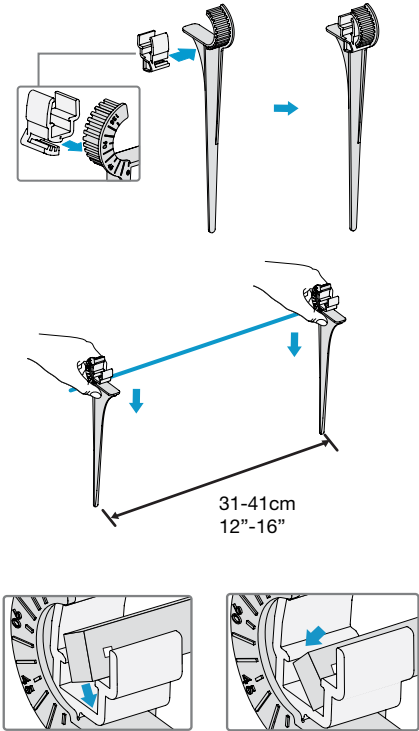


**INSTALLATION: UL LISTED 2108 MODELS**  
**FOR APPLICATIONS THAT ARE NOT UNDERWATER.**

**3** Cont.

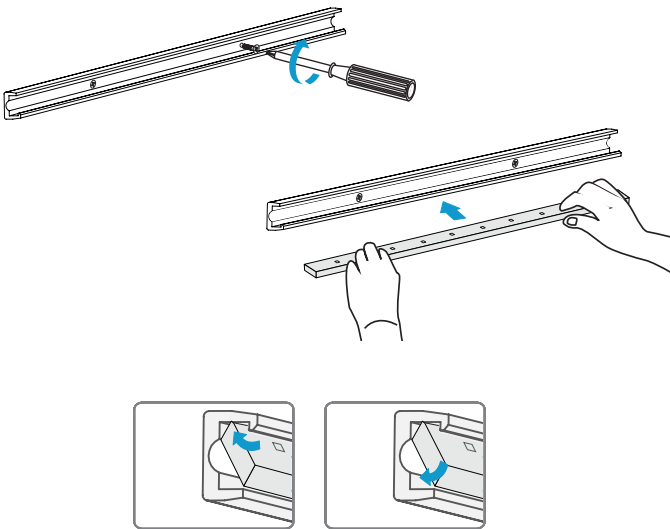
**b) HYDROLUME Stake Brackets**

Slide bracket into stake at desired angle to position HYDROLUME strip. Press stakes into ground roughly 12 - 16 inches apart. Once stakes are planted into ground, firmly press HYDROLUME strip light into brackets.



**c) HYDROLUME Mounting Channel**

Mount channel to desired surface using minimum 2x M2.9 (#4) screws or a similar size (not provided). Once channel is mounted, firmly press HYDROLUME into channel pressing one end to the other.



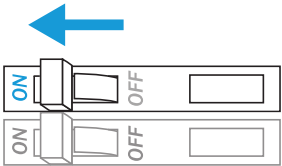
**4** ATTACH CONTROL AND DRIVER

Verify a compatible constant voltage driver is installed. Utilize applicable wiring when installing outdoors.

**5** REVIEW SYSTEM

Ensure all polarities are correct and connections are secured.

**6** TURN POWER ON AT CIRCUIT BREAKER

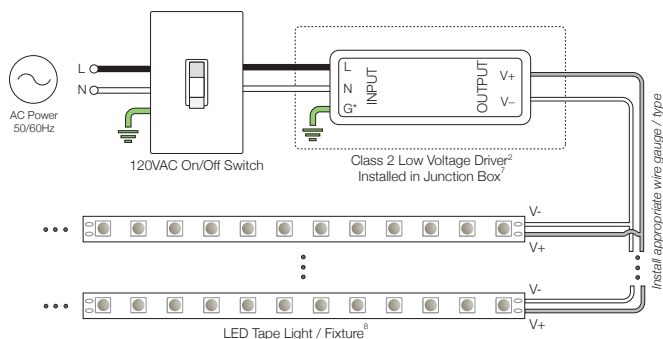


Shift in brightness and/or kelvin	• Ensure applicable AWG (gauge) is installed between strip light and LED driver. <b>See VOLTAGE DROP CHARTS.</b>
Some LEDs are not functional	• Ensure strip light has not been bent excessively, which could damage circuitry.
Lights are flickering	• Ensure a compatible driver and/or dimming control is installed. Check for loose connections.
Lights are turning on/off repeatedly	• Ensure driver is not overloaded. An overloaded driver will trip the internal auto-reset (of driver) repeatedly, turning the system on/off.

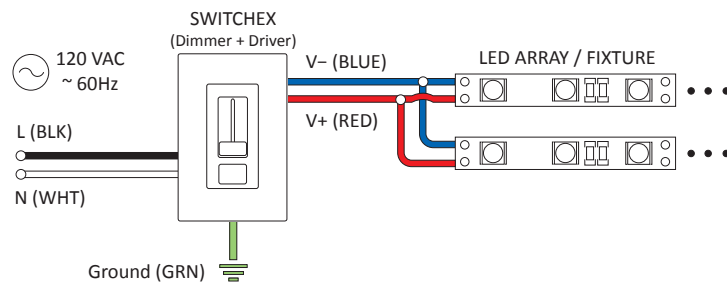
## SYSTEM DIAGRAMS

The following diagrams are provided as example system designs. For information regarding larger systems or systems not pictured below, please see our web page or contact technical support. Always review each component installation guide for detailed and up-to-date wiring instructions. Install in accordance with national and local electrical codes.

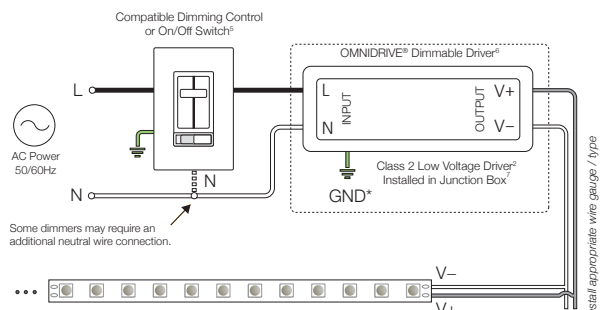
### Traditional ON/OFF Switch System



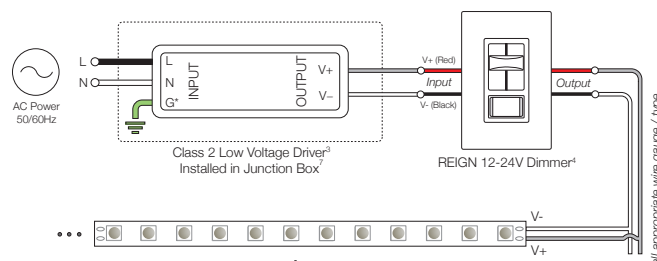
### SWITCHEX® Dimmer/Driver System



### OMNIDRIVE® Electronic Dimmable Driver System



### REIGN® 12-24V Dimmer System



\* Driver may not require a fault ground connection. Refer to driver specifications for additional information.

\*\* Install a compatible Class 2 constant voltage driver. Refer to each driver specification sheet for full power ratings & load deratings.

\*\*\* Install a Class 2 constant voltage driver compatible with a low voltage PWM controller/dimmer switch. Refer to each driver specification sheet for full power ratings & load deratings.

\*\*\*\* Determine the number of low voltage outputs of the driver when installing multiple PWM controllers/dimmer switches. No more than one PWM controller/dimmer switch can be attached to a single output of the driver.

^ Install a compatible dimming control or switch. See the 'Electronic Dimmable Driver / Dimmer Compatibility List' for compatible dimming controls. See the dimming control manufacturer installation guide for complete wiring instructions.

^^ Ensure to load the driver at least 60% the labeled load for proper dimming performance (required for dimmable installations only).

† Install a compatible magnetic low voltage dimmer switch. See the MFG installation guide for complete wiring instructions.

†† Dimmable drivers may require a compatible magnetic low voltage dimmer switch to supply the driver and fixture with appropriate input voltage. Do not test or install directly connected to an AC power source or to an On/Off switch. Refer to each driver specification sheet for full power ratings & load deratings. See spec sheet for potential updated information. See dimmer switch manufacturer specifications for minimum load recommendations.

‡ Refer to driver or controller specifications for a compatible junction box.

‡‡ See fixture specifications for maximum series run limits.

## VOLTAGE DROP CHARTS

For best performance and lumen output, ensure proper wire gauge is installed to compensate for voltage drop of low voltage circuits.

### Example: 12V Voltage Drop & Wire Length Distance Chart

Wire Gauge	10 W .83 A	20 W 1.7 A	30 W 2.5 A	40 W 3.3 A	50 W 2.1 A	60 W 4.2 A
18 AWG	34 ft.	17 ft.	11 ft.	8 ft.	6 ft.	5 ft.
16 AWG	54 ft.	27 ft.	18 ft.	13 ft.	10 ft.	9 ft.
14 AWG	86 ft.	43 ft.	29 ft.	21 ft.	17 ft.	14 ft.
12 AWG	134 ft.	68 ft.	45 ft.	34 ft.	27 ft.	22 ft.
10 AWG	199 ft.	99 ft.	66 ft.	49 ft.	39 ft.	33 ft.



1 Determine load size. Let's assume load is 55 W. Round up to nearest load.



2 Determine distance from driver to load. Let's assume the distance is 20 ft.



3 It's recommended to install 12 AWG to eliminate excess voltage drop.

### 12V Voltage Drop & Wire Length Distance Chart

Wire Gauge	10 W .83 A	20 W 1.7 A	30 W 2.5 A	40 W 3.3 A	50 W 2.1 A	60 W 4.2 A
18 AWG	34 ft.	17 ft.	11 ft.	8 ft.	6 ft.	5 ft.
16 AWG	54 ft.	27 ft.	18 ft.	13 ft.	10 ft.	9 ft.
14 AWG	86 ft.	43 ft.	29 ft.	21 ft.	17 ft.	14 ft.
12 AWG	134 ft.	68 ft.	45 ft.	34 ft.	27 ft.	22 ft.
10 AWG	199 ft.	99 ft.	66 ft.	49 ft.	39 ft.	33 ft.

### 24V Voltage Drop & Wire Length Distance Chart

Wire Gauge	10 W .42 A	20 W .83 A	30 W 1.3 A	40 W 1.7 A	50 W 2.1 A	60 W 2.5 A	70 W 2.9 A	80 W 3.3 A	100 W 4.2 A
18 AWG	134 ft.	68 ft.	45 ft.	33 ft.	27 ft.	22 ft.	19 ft.	17 ft.	14 ft.
16 AWG	215 ft.	109 ft.	72 ft.	54 ft.	43 ft.	36 ft.	31 ft.	27 ft.	22 ft.
14 AWG	345 ft.	174 ft.	115 ft.	86 ft.	69 ft.	57 ft.	49 ft.	43 ft.	36 ft.
12 AWG	539 ft.	272 ft.	181 ft.	135 ft.	108 ft.	90 ft.	77 ft.	68 ft.	56 ft.
10 AWG	784 ft.	397 ft.	263 ft.	197 ft.	158 ft.	131 ft.	112 ft.	98 ft.	82 ft.



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