

# HanleyLED

SOLUTIONS THAT MAKE SENSE

## PEREGRINE SERIES RETROFIT INSTALLATION GUIDE



*Light Up New Markets*

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## Channel Letter & Cabinet Modules

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This guide is designed to aid in the installation of HanleyLED's channel letter and cabinet modules. Skilled trades people that are familiar with general construction, electrical, and sign installation techniques should do the installation. Licensed electricians should provide all installation and hook-up of both the primary and secondary input/outputs of the HanleyLED power supply. All installation and hook-up should be done in accordance with all National and Local codes and permits. In no way is this document intended to construe warranty or fitness of use of the products described, nor is it intended to provide safety instruction for those installing the product.

THE FIELD INSTALLATION OF THIS RETROFIT SYSTEM INTO A SIGN IS SUBJECT TO THE ACCEPTANCE OF LOCAL INSPECTION AUTHORITY.

**CAUTION:** TURN OFF POWER TO THE SIGN BEFORE INSPECTING OR REMOVING EXISTING LIGHT SOURCE. THE POWER MUST REMAIN OFF WHILE INSTALLING THE LED RETROFIT KIT.

## Tools Required:

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- Wire cutter & strippers
- Measuring tape
- Marking pens
- Drill
- Standard hardware and supplies in addition to the HanleyLED modules installation guides (UL listing may be required on certain items)

## Prepping the Channel Letter or Cabinet

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### Step 1

Remove existing neon or fluorescent bulbs by having a licensed electrician disconnect and remove the neon transformers or fluorescent ballasts. Remove existing neon and standoffs or fluorescent lamps. Leave fluorescent sockets in cabinets with leads disconnected. This should leave an empty channel letter or cabinet.

**NOTE:** ALL MATERIALS REMOVED MUST BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL LAWS.

### Step 2

Using a non- oil based cleaner, clean the back surfaces of the channel letter or cabinet where the LED modules will be mounted. This is an important step for good adhesion of HanleyLED modules mounting tape.

### Step 3

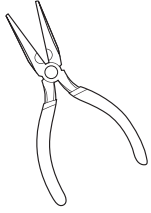
Any existing holes in the letters or cabinet that will not be used in the installation of HanleyLED modules should be patched to avoid water damage. Openings smaller than ½" diameter may be sealed with the appropriate amount of rated caulk or sealant. Openings larger than ½" should be patched using an aluminum or zinc coated steel patch with rivets and sealant.

### Step 4

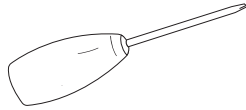
Proceed with the appropriate HanleyLED module installation guide for your specific product.

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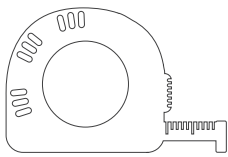
## Tools required:



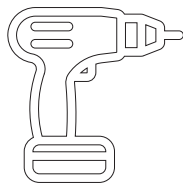
Wire Strippers



Screw Driver/Rivet Gun

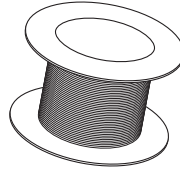


Tape Measure

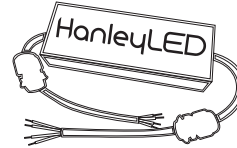


Drill

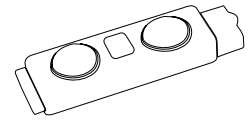
## Components:



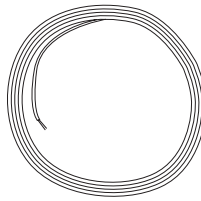
18 AWG Wire UL Approved



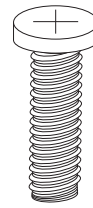
HanleyLED Power Supply



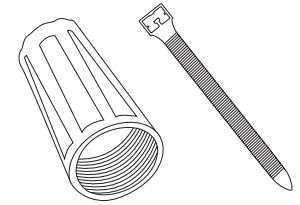
HanleyLED Peregrine Modules



Power-Limited Tray Cable  
(UL Listed)

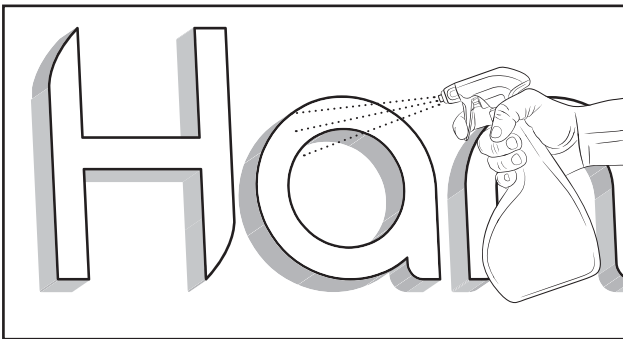


#6 or #8 Screws or  
1/8" rivets or silicone caulk



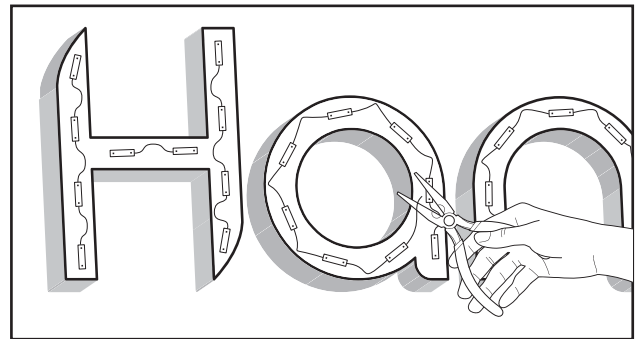
22-14 AWG wire connectors or  
22-18AWG wire nuts, IDC connectors  
Butt splice connectors, Cable ties  
(UL Listed)

## Module Installation:



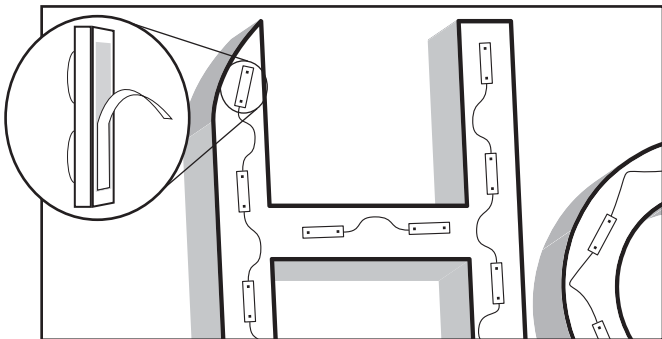
### Step 1

Remove all debris from the inside of the channel letter or cabinet and clean the inside with denatured alcohol. Allow alcohol to dry before proceeding.



### Step 2

Place modules in sign according to layout. Cut product accordingly. \*Product may be cut in between modules.



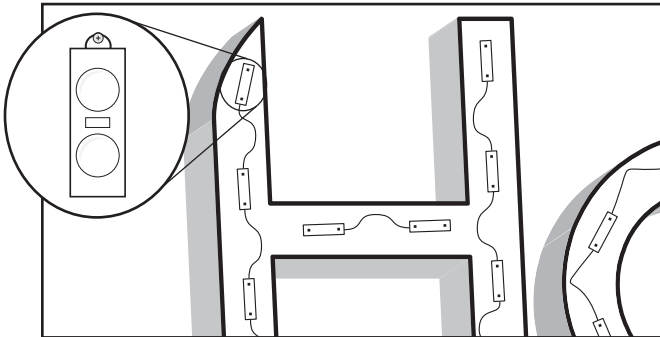
### Step 3

To adhere the product to the cabinet or letters, remove liner from tape and press LED modules in place. Repeat process for the rest of the layout.



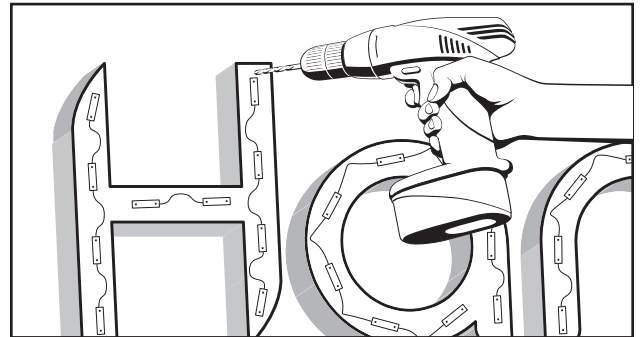
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## Module Installation:



### Step 4

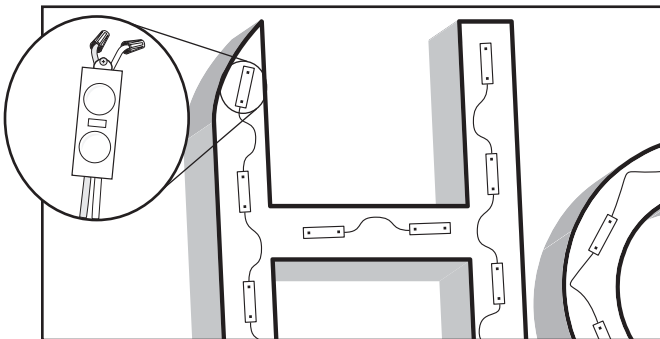
Screws, rivets or silicone should also be used to attach LED modules to backs if mechanical fasteners are required or desired. (use #6 or #8 sheet metal or 1/8" rivets)



### Step 5

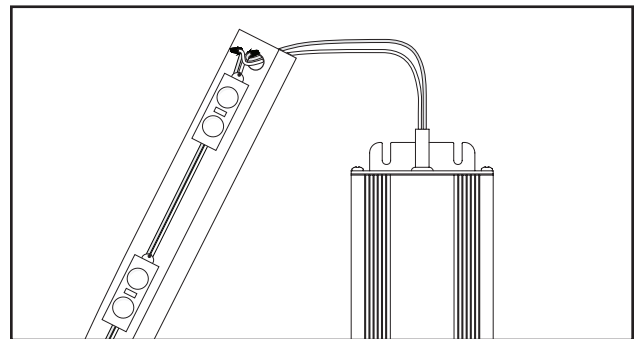
Drill an access hole if needed in the desired location and fit with an insulator for feeding supply wire to product.

## LED Module Wiring Instructions:



### Step 1

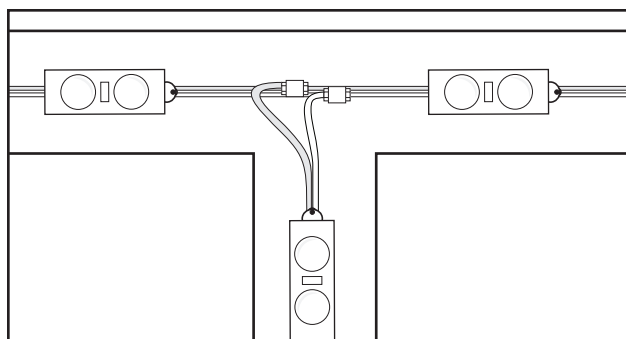
Use appropriate wire connectors to cover the ends of the exposed wires not being used as a connection point.



### Step 3

Connect the power supply to the product

- Use the proper gauge wire for connecting the power supply to product
- Must use approved Hanley power supply or equivalent (12V, 60 or 100 watt- 100-277V)
- Fill in all holes 0.5 in. (13 mm) or smaller with the appropriate amount of rated caulk or sealant. For holes greater than 0.5 in. (13 mm), use an aluminum or zinc coated steel patch with rivets and sealant.
- Connect the power unit to the supply line in accordance with the applicable local, state, and country electrical codes, and the instructions found in the power supply installation guide. All power supplies must be installed in a raceway or suitable electrical enclosure.
- If required, the disconnect switch shall be installed by qualified personnel, in accordance with applicable local, state, and country electrical codes.



### Step 2

To connect (splice) wires, use an in-line (IDC) connector or twist on wire connector.

# PEREGRINE SERIES RETROFIT INSTALLATION GUIDE

## Power Supply Load Chart:

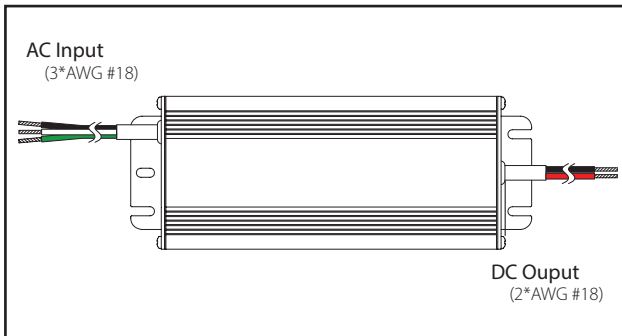
Model	Number of Modules			
	35Watt	60Watt	100Watt	150Watt
<b>P-2072</b>	48	83	133	208
<b>P-3072</b>	48	83	133	208
<b>P-3120</b>	29	50	80	125
<b>P-4144</b>	24	41	66	104
<b>PH20-3027</b>	48	83	133	208
<b>PH20-3140</b>	25	42	71	107

## Troubleshooting:

Malfunction & Solutions		
Malfunctions	Possible Causes	Solutions
All LEDs do not work	The power supply did not connect to power grid	Power on
	No electricity due to short-circuit of external power supply.	Remove the malfunction caused by short-circuit, power on again
	The wires of module connect to power supply output reversely	Check the connection and ensure the wires are connected correctly
Part of LEDs do not work	Part of power supplies do not have output	Check the power supply system
	Part of module wires have malfunction	
Brightness of LEDs is weak or uneven	Overloaded power supply	Replace it with higher power supply
	The power loss of power circuit is huge or the power loss to each existing circuit	Ensure working voltage of modules is within $\pm 5\%V$ of rated voltage. (1.Shorten the length of wires between the first module and power supply or replace with wires with bigger diameter; 2. Ensure the cascading qty of string is less than or equal to the allowed maximum cascading qty, and each module cascading qty is well-balanced.)
	Too many modules in series/cascade	Lessen the cascading qty for module and ensure the qty for each electrical circuit is within the maximum cascading qty
LEDs are blinking	Poor wiring connections	Check all wiring connections immediatly
	Failures in power supply	Replace power supply

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## Power Supply Wiring Instructions:

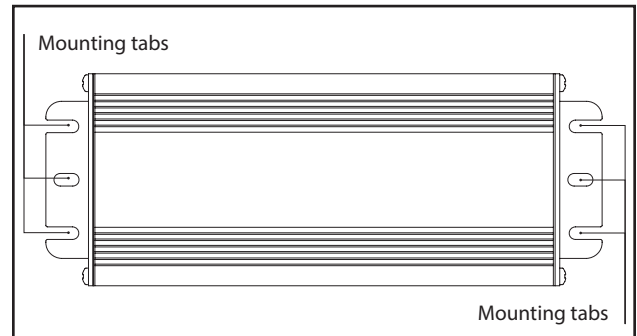


AC Input wires:

- Black - Line, White - Neutral, Green - Ground

DC Output wires:

- Black - Negative (-), Red - Positive (+)



For mounting purposes, there are mounting tabs on either end of the power supply with several different positions to aid in ease of mounting.

## Power Supply Box Installation:

- Determine desired location of box.
- Attach the box to the substrate. Screw through the middle and lower channels. (For use in a wet location, attach box using screws with rubber gasketed heads.)  
\*The Transformer box is to be attached in all applications with the 13/16" holes always facing down.
- Using the maximum 1/2" long self-tapping screw, attach the transformer\* to the raised platform.  
\*See transformer manufacturer's specification for clearances.

The bottom of the box has 3 standard 13/16" diameter holes and 2 pilot holes for additional 13/16" holes.

- Use the middle back 13/16" hole. Attaching your metal conduit nipple from the safety disconnect switch box. It is important that the primary (120 VAC) wires be separated from the secondary (DC) circuit wires as much as possible. Make all the 120 VAC splices in the safety disconnect box. No excess 120 VAC wiring should be in the transformer box.

\*Keep all secondary wiring as far away from the primary wiring as possible.

\*\*Remember that this location is a dry/damp area. Use appropriate conduit & strain relief products.

- Use the included #8 x 1/2" machine screw as the grounding lug. This lug can be attached to the box either with the threads and two green nuts facing the inside of the box or so they face outside the box. The hole in the bottom of the box between the two 13/16" holes is for the attachment of the grounding lug. Attach the grounding wires from the LED letters to the box (if grounding of the letters is required). Place the faceplate on the box, push up under the lip and secure with self-drilling screws to the box.

