



# CHANNEL LETTER LIGHTING INSTALLATION GUIDE



### WARNING

- Installation must only be performed by a licensed electrician.
- To prevent death, injury or damage to property this product must be installed in accordance to National Electric Code in the US or Canadian Electrical Code (CSA22.1) in Canada.
- US LED Channel Letter modules are only to be used with the 12VDC power supplies listed in this guide.



## INSTALLATION INSTRUCTIONS

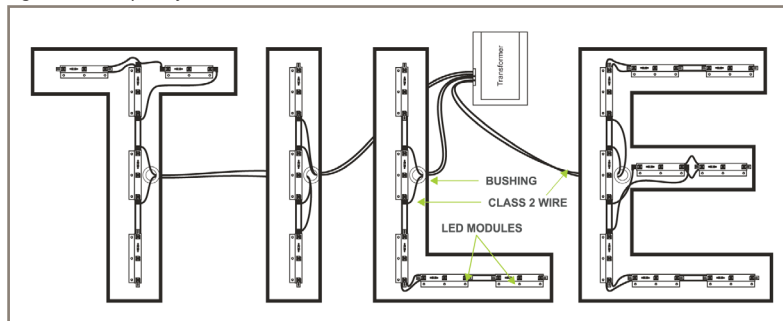
1. Lay out the modules like neon, only without double-backs, approximately 2-4 per foot, depending on the module type (see Figure 1 for spacing modules center-center). Be sure to test your first letter to make sure you are satisfied before proceeding.

Figure 1: Module spacing

| Module Series | Approximate Center - Center | Module Series | Approximate Center - Center |
|---------------|-----------------------------|---------------|-----------------------------|
| MegaWhite     | 6"                          | Point2        | 8"                          |
| Right Light   | 4" - 5"                     | Saver2        | 8"                          |
| Tadpole       | 3"                          |               |                             |

2. For power supply loading, see Page 5 or follow this link: [www.usled.com/channel\\_letter\\_loading.htm](http://www.usled.com/channel_letter_loading.htm).
3. Install length of product in letters by fastening mounting clips with VHB tape (supplied) or mechanically through holes in the clip, or both. Add silicone for additional security if desired (see Figure 2).

Figure 2: Example layout



4. Connect separate runs of product within a letter using Quick Connect jumper wires with pre-crimped connectors. These wires come in pairs of Blue (negative) and Red (positive). Simply connect one negative tab at the end of any module on one run to a negative tab at the end of any module on the second run. Then repeat process connecting a positive tab on one run to a positive tab on the other (Figures 3 and 4). See Wiring Diagram on Page 5 for further details.

Figure 3: Example power jump

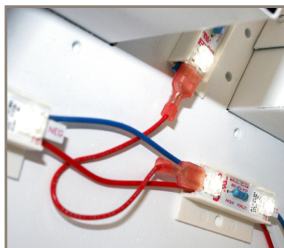
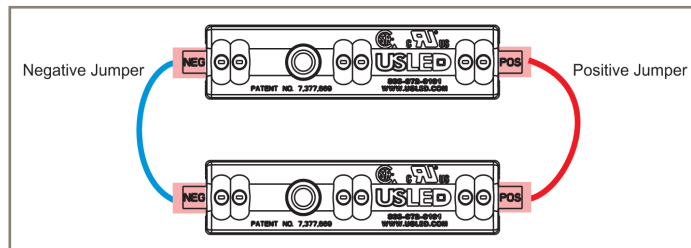


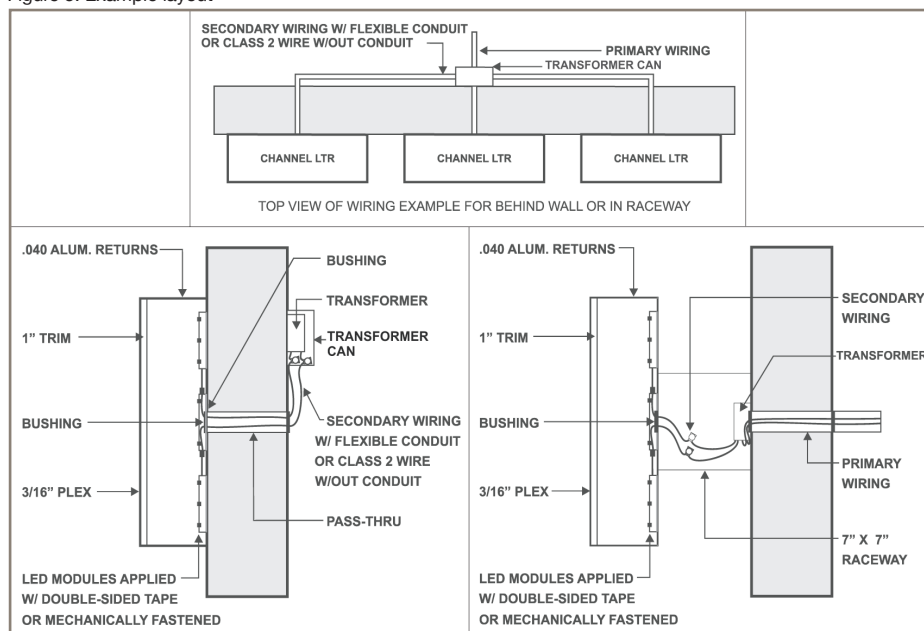
Figure 4: Connecting modules with Quick Connect Jumper Wires



## INSTALLATION INSTRUCTIONS (cont)

- The 36" Quick Connect jumper wires with class 2 wire should be used to connect modules from letter to letter, while the 5-Foot Whip is to be used to connect a run of modules to a power supply (See Wiring Diagram on Page 5). Although jumps can be made from letter to letter and then from the final letter to the power supply, the preferred method is to run each letter to the power supply. The secondary wires on the power supplies are color coordinated to match (Blue for negative and Red for positive or Black for negative and Yellow for positive on older products). All runs through a wall must either be in a conduit or "pass-thru" or be made with class 2 wire. See Figure 5 for an example installation.

Figure 5: Example layout



Limit the total number of modules per run to 1/3 of the total power supply load. This will increase your load balance and light uniformity. For example: using the Quasar (QZR-6-12-W) on a 60W power supply, you would limit the total number of modules on each run to 26 (or 13 feet) and connect at the midpoint.

- Repair and seal any unused openings in the rain enclosure. Openings greater than 1/2 inch diameter require a metal patch secured by screws or rivets and caulked with non-hardening caulk. Smaller openings may be sealed with non-hardening caulk.
- Attach channel letter face(s).
- Energize sign.

## POWER SUPPLY LOADS

### Right Light Series

| Model Number  | Feet / 12W |     | Feet / 60W |     |
|---------------|------------|-----|------------|-----|
|               | Min        | Max | Min        | Max |
| RLS-2-12-RX   | 1          | 5   | 5          | 27  |
| P SVR-2-12-RX | 2          | 10  | 9          | 52  |
| RLS-3-12-RX   | 2          | 8   | 7          | 41  |
| P SVR-3-12-RX | 3          | 15  | 14         | 78  |
| RLS-2-12-O    | 2          | 6   | 6          | 33  |
| RLS-3-12-O    | 2          | 10  | 9          | 50  |
| RLS-2-12-Y    | 2          | 6   | 6          | 33  |
| RLS-2-12-G    | 2          | 11  | 10         | 55  |
| RLS-2-12-B    | 2          | 11  | 10         | 55  |
| PNT-3-12-W    | 2          | 11  | 10         | 55  |
| PT2-3-12-W    | 2          | 6   | 5          | 30  |
| SVR-3-12-W    | 3          | 16  | 14         | 83  |
| SV2-3-12-W    | 2          | 9   | 8          | 45  |

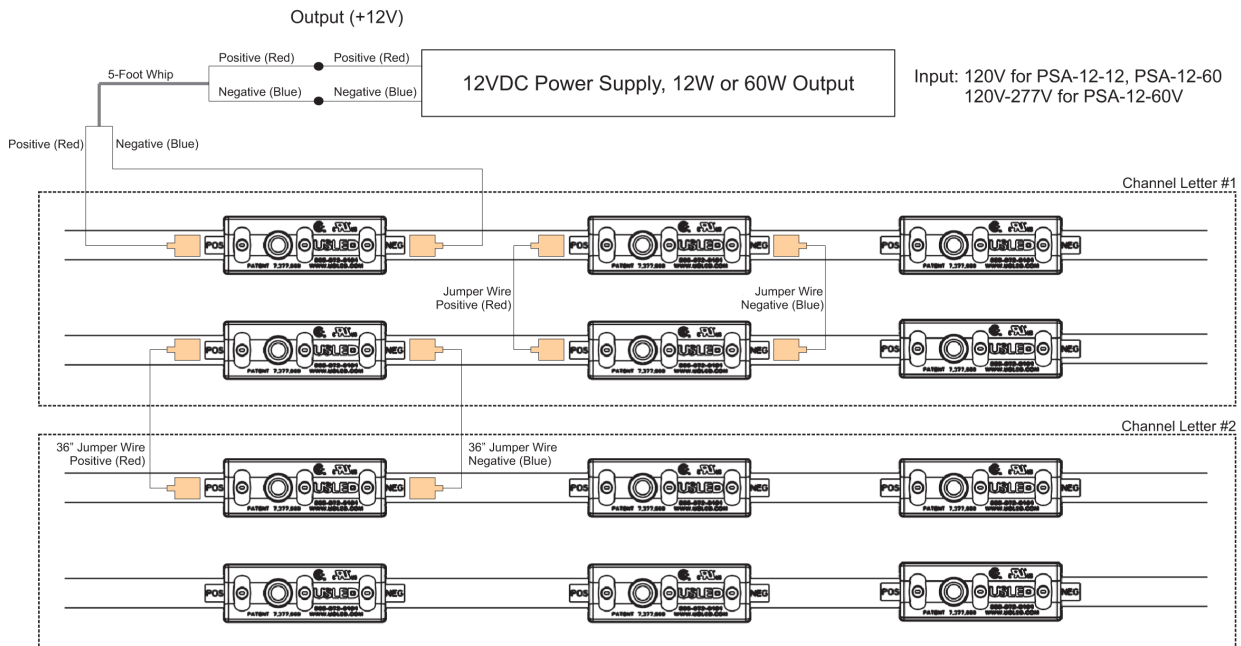
### Tadpole Series

| Model Number  | Feet / 12W |     | Feet / 60W |     |
|---------------|------------|-----|------------|-----|
|               | Min        | Max | Min        | Max |
| TP-2-12-RX    | 1          | 4   | 4          | 20  |
| TP-2-12-O     | 1          | 4   | 4          | 20  |
| TPL-2-12-G    | 2          | 8   | 7          | 41  |
| TPL-2-12-B    | 2          | 8   | 7          | 41  |
| P TPL-2-12-W  | 2          | 8   | 7          | 41  |
| P TPL-2-12-7W | 1          | 4   | 4          | 23  |

### MegaWhite Series

| Model Number | Feet / 12W |     | Feet / 60W |     |
|--------------|------------|-----|------------|-----|
|              | Min        | Max | Min        | Max |
| QZR-6-12-W   | 2          | 8   | 7          | 41  |

## WIRING DIAGRAM



## TROUBLESHOOTING

| Symptom                            | Possible Cause   | Solution  |
|------------------------------------|--|---|
| A single module not lighting       | Malfunction on module  | Leave malfunctioning module in place. Mount replacement module alongside and using jumper wires, connect the positive tab to the positive tab of any module on the run. Do likewise with the negative tab.  |
| LEDs flicker                       | A. Underloaded or overloaded<br>B. Malfunctioning power source   | A. Adjust loads on power sources to be within recommended limits.<br>B. Replace power source.   |
| Entire product run is not lighting | A. Bad wire connections<br>B. If only one run of product on power source, malfunctioning power source<br>C. Short<br>D. Overload | A. Restore connection.<br>B. Check power source and replace if appropriate.<br>C. Search wiring for a short circuit between the red and blue wires. Replace bad wiring or use electrical tape to insulate the bad wire(s).<br>D. Adjust loads on power sources to be within recommended limits. |