



511 Fairview Drive, Carson City NV 89701 - 775-841-4490 - Sales@TheLEDLight.com

Populating Channel Letters with LED Sign Modules

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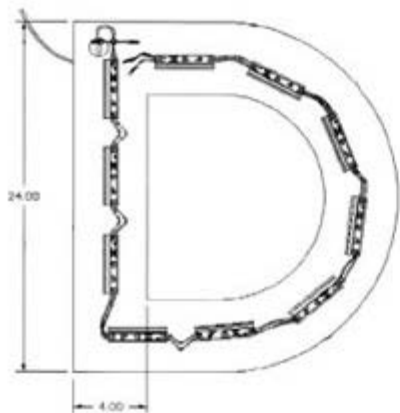
Populating channel letters with LED Modules is as easy as peeling the liner off the mounting tape and firmly placing the light modules in the desired locations. Bonding surface must be clean and dry.

To determine where the LED Modules should be placed and how many to use, refer to the following guidelines. Results may vary based upon desired light intensity, letter construction, and the module you choose for your project. You will need to experiment in the field to determine the best placement and number of modules per stroke in order to achieve the best result for your project.

Basically:

1. LED Modules are designed to be placed in rows. Each type of module has wire in between. The amount of wire is typically the maximum distance recommended for that particular module. You can place the modules closer together by simply looping the wire as shown below.
2. LED Modules are designed to cover a stroke width of 4" in a channel letter with a depth of 4 to 8". Letters with a 4" stroke width or smaller should have one row of LED Modules. Letters with a stroke width larger than 4" should have multiple rows of LED Modules placed as follows:
 - A) 4 to 6" stroke - 2 rows
 - B) 6 to 8" stroke - 3 rows
 - C) 8 to 10" stroke - 4 rows
 - D) Actual number of rows/modules may vary depending upon the application. The above schedule is offered only as a guideline.
3. When all modules are in place, the secondary output from the power supply can be connected. Multiple letters in a sign must be connected to the power supply in parallel. Use UL Listed Insulation Displacement Connectors to make this connection and to cap off the open ends of the row.

Here is an example of 24" Channel Letter with 4" stroke populated with one stroke of LED Modules

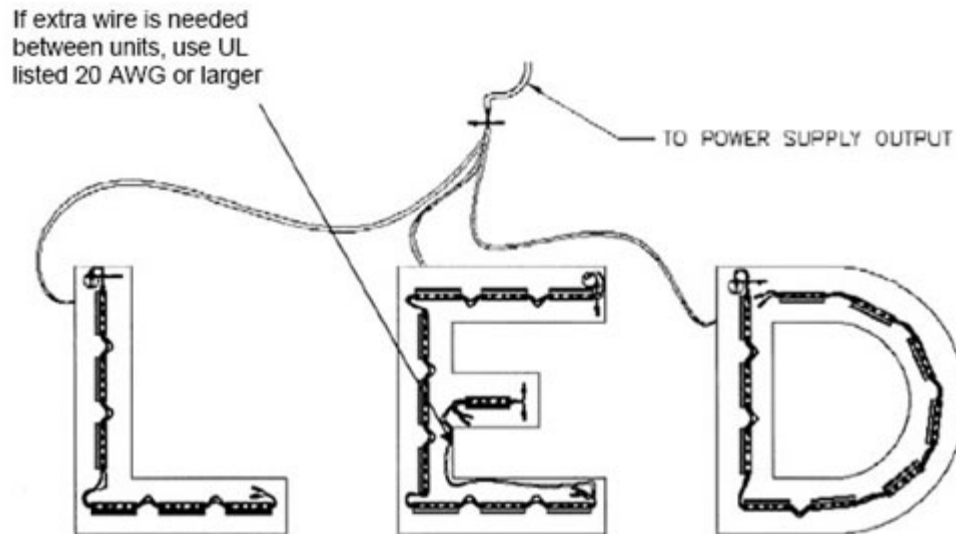


Power Supply Installation:

The power supply must be mounted in a well ventilated area which allows for accessibility after

installation and must not be adjacent to combustible materials or in an area that exceeds the operating characteristics of the power supply you choose for your project. Mount the power supply indoors, out of the weather, and do not leave exposed to rain or water. For outdoor or wet location, the power supply can be enclosed inside a raceway, inside the channel letter itself, in a UL Listed for wet location transformer box or in a NEMA 3R box with ventilation. Some acceptable boxes for power supplies being mounted outdoors are Hoffman A12R126, Western TC 18SO-UL or equivalent.

Sample Sign Layout and Connections:



All of our LED Modules operate at 12 V DC. All color modules can be connected to the same power supply. Colors can be mixed on the same power supply. RGB LED Modules also require a color controller.

Connecting the Primary:

If you are using a direct wire type transformer, have the primary connected by a licensed electrician in accordance with local and national codes. If you are using a plug in type transformer, simply plug the AC power cord into a standard grounded outlet.

Connecting the Output:

Do not exceed output power in Watts as stated in the specifications for the transformer you have selected for your project. All transformers must be de-rated by 20%. In other words, if the transformer is marked 60W, you can only power 48W with that transformer.

It is recommended that the current be checked on each power supply output after loading is complete. The current drawn by each leg should not exceed the current rating on the power supply label. If the measured current does exceed the rated current, reduce the number of LED modules on that leg until the current is below the rated output (de-rated by 20%). If any power supply output leads are left unused, the unterminated wires must be individually capped inside a UL listed junction box, raceway or sign housing.

Routing Secondary Wires:

When wiring the secondary outputs of the power supply, all routing through walls must be sealed with outdoor rated caulk to protect the sign and building from water damage and the cable from chafing. The power supply leads and letter to letter jumpers can be routed through walls, inside and outside without conduit. It is recommended that all connections be enclosed in a UL listed junction box with strain relief.

Extension of Power Supply Leads:

If a longer lead wire from the power supply to LED modules is needed, an extension can be used. The

extension should be kept as short as possible (under 15 feet for 18 AWG UL Listed or under 50 feet for 14 AWG UL Listed)