

## WIRING INSTRUCTIONS

### Fabricated Metal Letters - Lit with OSRAM LEDs

Warnings in English & French for Canada

F9-ULAB-A2

Rev. 11/8/16

#### Customer Installation/Tips/Troubleshooting Guide

Enclosed are your fabricated lit letters, populated with OSRAM LEDs.

Each individual letter has been carefully filled with LED modules, designed to provide a consistent Lumen output.



#### Components Used

All components used in Gemini lit letters are UL approved for LED lighting.

Gemini Sign Body UL#E319118 - UL Listed.

OSRAM LED Systems - UL#E311887.

UL Listed electrical tap connectors - 3M Scotchlok 558

UL approved twist on wire connectors - GB 10-001.

UL approved 18 awg lead wires-#E135243, or Cables

12VDC-Class 2 Power Supply: UL information listed on power supply.



#### Electrical Connections

It is recommended that all electrical connections be performed by a licensed electrical contractor. Each Fab Metal letter has been filled with GE LEDs, and contains three 18AWG

lead wires or cable. **Separate wires:** Red (+), Black, (-) and Green ground wire. **Cable Option:** Red stripped (+) cable wire, Blue with Silver wire (-), and center copper ground wire - for connecting letters to a main 14AWG line and/or Power Supply.

(see wiring example). When Class 2 wiring circuits are located in a concealed space, such as above a suspended ceiling, or passing through a wall, NEC code requires use of conduit or a UL Listed Class 2 cable.

#### Power Supply (PS) Connections

Power Supplies provided are UL, 60watt (Max 5 amp), Class 2, Wet location rated, Max. 277VAC input.

Do NOT mount power supply directly into letters. Amperage ratings are listed on the power supply labels.

Maximum remote mounting distance for Power Supply, with 18 AWG lead wire is 30ft.

Connect **Red (+)** Lead wires to a **Red** main line, in parallel, then to the **Red (+)** wire of the power supply - or direct to the power supply. Connect **Black (-)** Lead wires to a **Black** main line, in parallel, then to the **Black (-)** wire of the power supply - or direct to power supply. Connect **Green** ground wires to main ground wire, then to PS ground or a proper grounding location. Connect power supply to appropriate sized breaker or power cord, in accordance with National Electric Code (NEC), Article 600, UL 48 and all local electric codes.

Each PS is equipped with external connection cables (approx. 11"long) containing 3 input wires, for connecting to power source, and two output wires for connecting to the LEDs (letters). All field wiring to be 14AWG stranded.

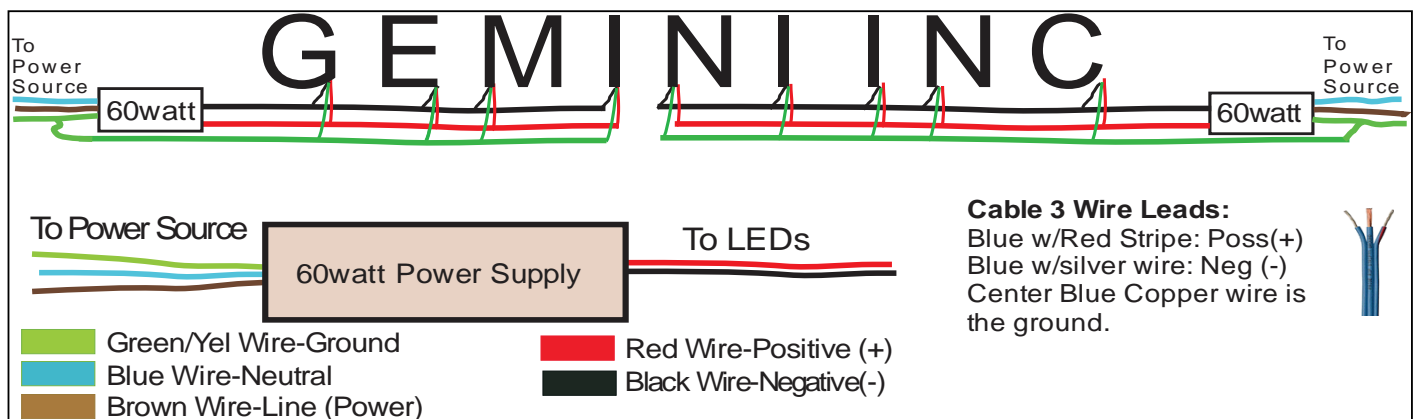
All orders will be supplied with a line drawing that details letter groupings to Power Supplies (PS).

#### Power Supply Wiring - Example

"G E M I" are powered by one 60watt power supply.

"N I I N C" are powered by one separate 60watt power supply.

**Caution:** Plugging LEDs direct into 110V will destroy them.  
Use ONLY Class 2 Power Supplies



**Notes:**

LED Modules

Individual LED modules have been secured to the LEXAN backs with double faced tape. Every other module has been further secured with a plastic support blocks. Should you need to reposition any LED modules, break off the support block with pliers, reposition module, re-tape module, then secure with silicone on sides and wires.

Lexan Backs

All UL required components are supplied with weep (drain) holes in the Lexan backs, per UL requirements. Weep holes are used to allow moisture or water to escape.

Letter Stand-Off

Halo lit letters are designed to stand-off the mounting surface by using studs and spacers. Adjusting the spacer length or stand-off from the wall will effect the halo lighting effect. Typical stand-offs for optimal halo lighting is around 1-1/2" from the mounting surface.

Mounting Surface

When Halo (back) lighting, it is best to install on a non-glossy, lighter colored mounting surfaces. Dark, Glossy backgrounds will absorb the LED light and will not produce a desirable halo effect.

**LED Troubleshooting Guide**

Blinking LEDs:

Blinking LEDs: Too many LEDs connected to a given power supply. Reduce the number of letters or modules attached to your power supply.

LEDs in one or more letters will not light:

LEDs will not light: Too many LED modules are connected to a given power supply. Reduce the number of letters or modules attached to your power supply. Check letter connections. Make sure pigtailed are properly wired to power supply line. Make sure all Red (+) wires are connected together and to the Red (+) wire of the power supply. Make sure all Black (-) wires are connected together and to the Black (-) wire of the power supply. Check AC input connection and/or check circuit breaker.

One LED module is Dark (not lit):

You may have a bad module. Check lighting of letter with face covered to determine impact of one dark LED. If the face is too dark or visible shadows exist, additional LEDs may have to be added to the letter.

I see light shadows in the letter face:

Ensure that all modules are secured to the backs of the formed channel cans. If a module has come loose, press it back down and secure with additional DF tape and/or silicone.

Some LEDs appear dim:

Ensure that the overall length of the LED system does not exceed the maximum load. Ensure that the length of supply wire is equal to or below the recommended remote distance. LUX LED systems are rated for damp location use by UL but should still be protected from exposure to moisture.

**Caution:** Plugging LEDs direct into 110V will destroy them. Use ONLY Class 2 Power Supplies

**Electrical Contractor Required**



It is recommended that all electrical connections be performed by a licensed electrical contractor. Always follow proper OSHA LOTO (Lockout/Tagout) and NEC practices and procedures.

**RISK OF ELECTRIC SHOCK:**

- Turn power **OFF** before inspection, installation or removal.
- Properly ground any Power Supply enclosures.
- Shut off power at fuse box or circuit breaker before install.

**Prepare Electrical Wiring** (*Electrical Requirements*)

- The grounding and bonding of the LED Driver shall be done in accordance with NEC Article 600. Always understand and follow all National Electric Codes (NEC) and local electrical codes.

**RISK OF FIRE:**

- Use only UL approved supply wires, minimum 18 AWG.
- Follow all NEC and Local Electrical Codes.
- Use only UL approved wire for input connection. Minimum size 1.02mm

**Entrepreneur en électricité AVERTISSEMENTS obligatoires!**

Il est recommandé que toutes les connexions électriques doivent être faites par un maître électricien.

Toujours suivre OSHA LOTO (verrouillage/étiquetage) et NEC pratiques et procédures appropriées.

**RISQUE DE CHOC ÉLECTRIQUE : RISQUES D'INCENDIE :**

- Coupez l'alimentation avant l'inspection, l'installation ou la suppression.
- Utilisez uniquement UL approuvé fils d'alimentation,
- Terre correctement tous les boîtiers alimentation minimum de 18 AWG.
- Coupez l'alimentation de la boîte à fusible ou le disjoncteur avant d'installer.
- Suivez toutes NEC et les codes électriques locaux.
- Utilisez uniquement UL fil pour l'entrée approuvé

Préparer le câblage électrique (Spécifications électriques) de connexion. Taille minimale 1,02 mm

- La mise à la terre et la liaison du conducteur de LED doivent être effectués en conformité avec l'article NEC 600.

Toujours comprendre et suivre toutes les codes NEC (National Electric) et les codes électriques locaux.

Toutes les alimentations doivent être classé endroit humide, classe 2 avec UL lettres.

