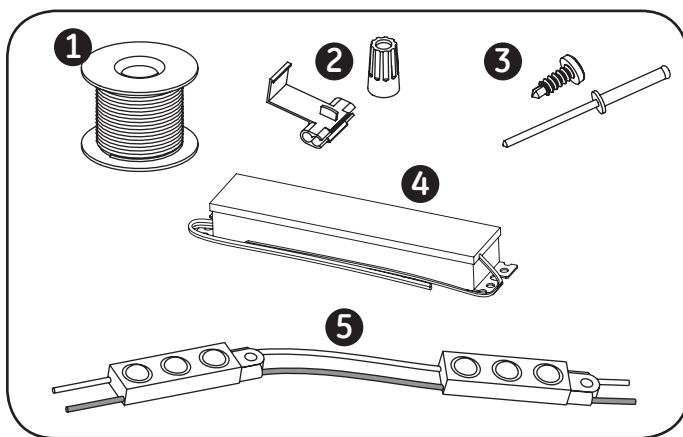


Tetra® miniMAX

LED Lighting System

(GEMM71-1, GEMM50-1, GEMM41-1, GEMM32-1, GEMMRD-1, GEMMGL-1, GEMMBL-1, GEMMPO-1)

Components



- 1 UL approved 18 AWG (0.82 mm²) supply wire
- 2 UL approved 22-14 AWG (0.33-2.08 mm²) wire connectors or 22-18 AWG (0.33-0.82 mm²) in-line/IDC connectors
- 3 #6 or #8 (M3 or M4) screws, 1/8 inch (3.2 mm) rivets, or electronic grade silicone or equivalent
- 4 Tetra® 12 Volt Power Supply
- 5 Tetra® miniMAX LED modules



BEFORE YOU BEGIN

Read these instructions completely and carefully.

⚠ WARNING/AVERTISSEMENT

RISK OF ELECTRIC SHOCK

- Turn power off before inspection, installation or removal.
- Properly ground Tetra® power supply enclosure.

RISK OF FIRE

- Use only UL approved wire for input/output connections. Minimum size 18 AWG (0.82mm²)
- Follow all NEC and local codes.

RISQUES DE DÉCHARGES ÉLECTRIQUES

- Coupez l'alimentation avant l'inspection, l'installation ou le déplacement.
- Assurez-vous de correctement mettre à terre l'alimentation électrique Tetra®.

RISQUES D'INCENDIE

- N'utilisez que des fils approuvés par UL pour les entrées/sorties de connexion. Taille minimum 18 AWG (0.82mm²)
- Respectez tous les codes NEC et codes locaux.

Save These Instructions

Use only in the manner intended by the manufacturer.
If you have any questions, contact the manufacturer.

Prepare Electrical Wiring



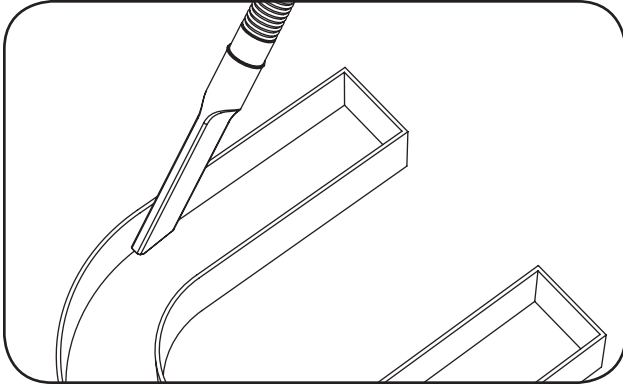
Electrical Requirements

- Do not use in wet locations.
- The grounding and bonding of the LED Driver shall be done in accordance with National Electric Code (NEC) Article 600.
- Follow all National Electric Codes (NEC) and local codes.

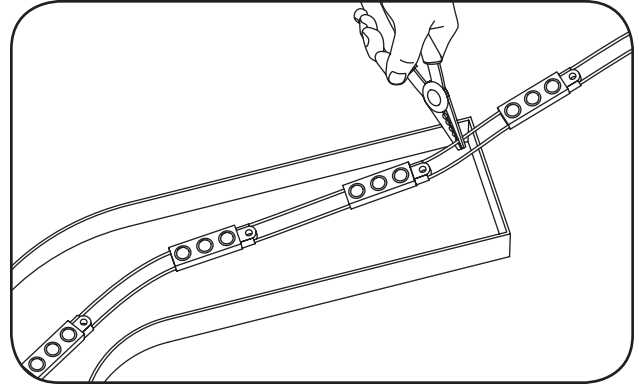


imagination at work

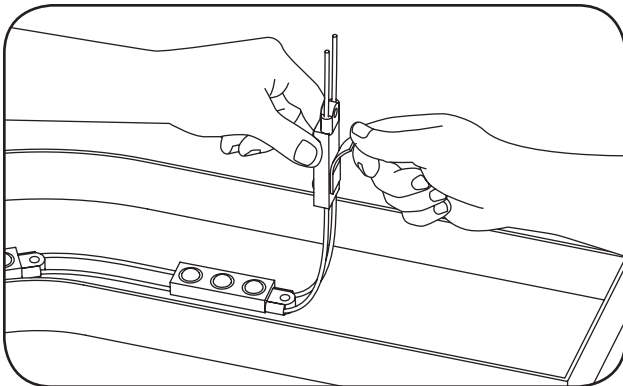
Layout Modules



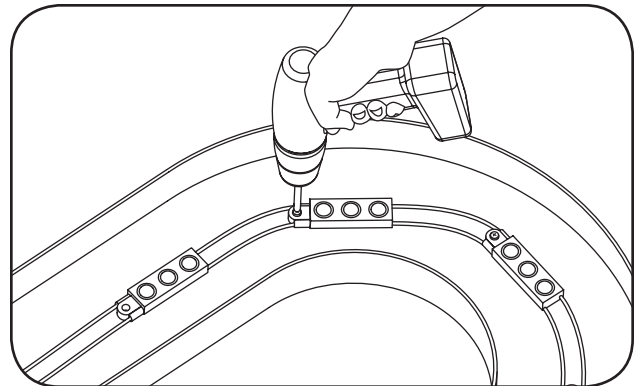
- 1 Clean & remove all debris from the inside of the channel letter before you begin.



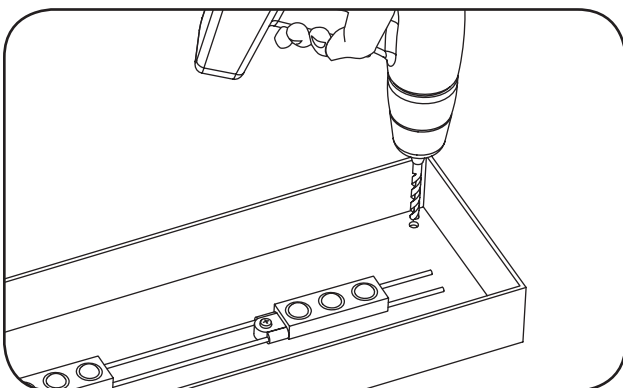
- 2 Measure and cut Tetra LED strip to the appropriate length for each letter. Cuts can be made between any of the modules.



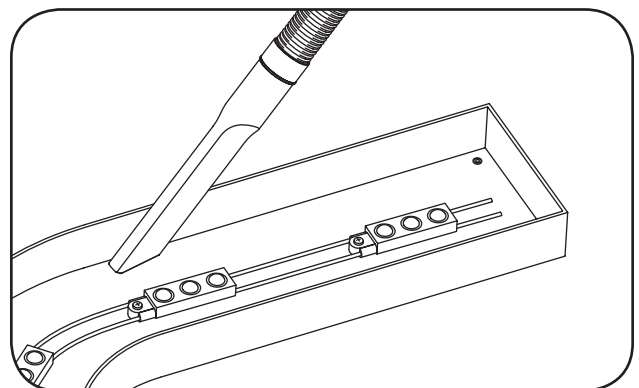
- 3 Remove tape backing and stick LED modules into place. Continue until you have reached the end of the strip.



- 4 Use rivets, screws, or silicone to secure at least every fifth LED module within the channel letter. Use #6 (M3) or #8 (M4) pan headed metal screws, 1/8-inch (3.2 mm) rivets, or silicone.



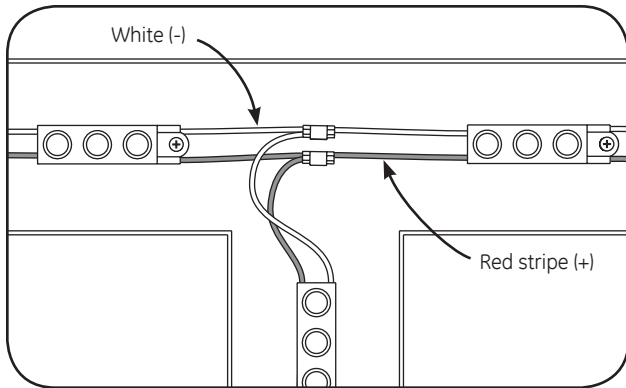
- 5 Drill a 1/4-inch (6.4 mm) hole near the LED strip and grommet the hole for supply wire access.



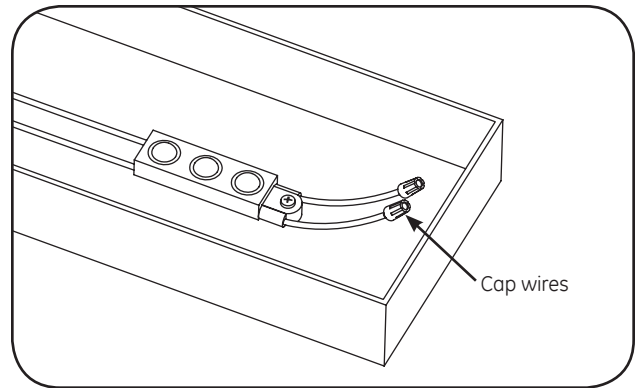
- 6 Clean & remove all debris from the inside of the channel letter. Replace sign face.

NOTE: For halo-lit applications LED modules should be mounted on UL recognized clear acrylic or polycarbonate. The light output from the LED system should be directed back into the sign enclosure. This will allow for uniform backlighting of the sign and will provide simple mounting and protection against moisture.

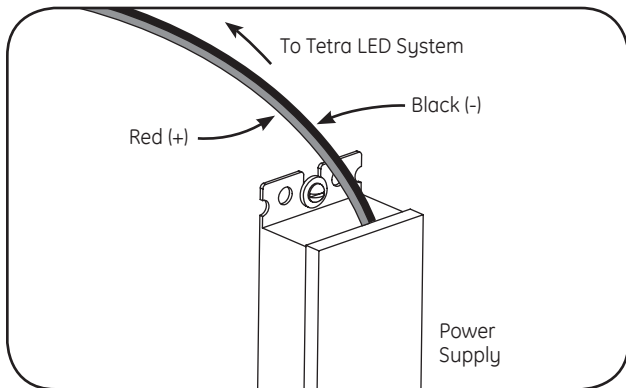
Electrical Connections



- 1** Connect LED strips using in-line (IDC) connectors or twist-on wire connectors.

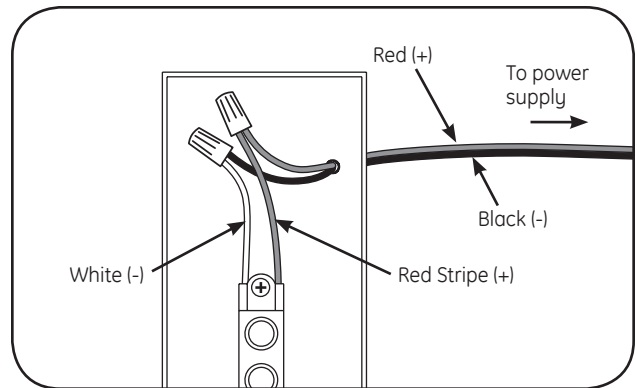


- 2** Must cap all exposed wires with appropriate wire connectors.



- 3** Run a wire from the Power Supply to each channel letter and connect to the first LED module on the strip.

Must be used with **Tetra® 12 Volt Power Supplies**.



- 4** Connect the red stripe wire (+) of the LED strip to the red wire (+) of the power supply. Connect the white wire (-) of the LED strip to the black wire (-) of the power supply.

NOTE: All electrical connections should be made within the letter.

Troubleshooting

Symptom	Solution
All letters are OFF	<ul style="list-style-type: none"> • Check AC input connection and/or check circuit breaker. • Check wire connection(s) at the Tetra® LED System and power supply for improper termination(s) or short circuits. Properly terminate or replace the wire connection(s). • Check that connections are the red striped wire (+) of the LED strip to the red wire (+) of the power supply and the white wire (-) of the LED strip to the black wire (-) of the power supply.
Some LEDs appear dim	<ul style="list-style-type: none"> • Ensure the overall length of the Tetra® LED System does not exceed the maximum load. • Ensure the length of supply wire is equal to or below the recommended remote mounting distance.
Some of the letters are not illuminated	<ul style="list-style-type: none"> • Check wire connection(s) at the Tetra® LED System and power supply for improper termination(s) or short circuits. Properly terminate or replace the wire connection(s). • Check that connections are the red striped wire (+) of the LED strip to the red wire (+) of the power supply and the white wire (-) of the LED strip to the black wire (-) of the power supply.
Shadows	<ul style="list-style-type: none"> • Re-route supply wire and secure to the back of the can with silicone. Adjust wire connector orientation so that it does not cover any LEDs. • Adjust LED layout to ensure uniformity of illumination on the face of the letter.

Tips

- Tetra® LED systems are rated for damp location use by UL, and should be protected from direct exposure to moisture (i.e., rain & snow).
- For optimal light uniformity in halo-lit applications the Tetra® LED modules should be mounted on UL recognized plastic and the light output from the Tetra® LED system should be directed back into the sign enclosure. This will allow for uniform backlighting of the sign and will provide simple mounting for the Tetra® LED system.
- When mounting LED modules for halo-lit applications the clear acrylic should be recessed into the body of the sign or a bead of silicone should be applied to provide a barrier against the elements.
- A best practice for the supply wire at the point at which it is brought into the sign is to have a drip loop on the inside of the letter to keep water from collecting on the Tetra® LED strip.

Specifications

Maximum Loading per Tetra 12 VDC Power Supply

SKU	Rating	20W Power Supply	60W Power Supply	180W Power Supply
		<i>Note: Load shall not exceed 1.6A</i>	<i>Note: Load shall not exceed 5A</i>	<i>Note: Load shall not exceed 5A per each (of 3) output channels</i>
GEMM71-1, GEMM50-1, GEMM41-1, GEMM32-1, GEMMRD-1, GEMMGL-1, GEMMBL-1	12VDC, 32mA/module	50 modules/20 ft. (6.10 m)	150 modules/60 ft. (18.29 m)	150 modules/60 ft. (18.29 m) per output channel 450 modules/180 ft. (54.88 m) per power supply
GEMMPO-1	12VDC, 40mA/module	40 modules/16 ft. (4.88 m)	120 modules/48 ft. (14.63 m)	120 modules/48 ft. (14.63 m) per output channel 360 modules/144 ft. (43.89 m) per power supply

Maximum Remote Mounting Distance

	18 AWG/0.82 mm ² Supply Wire	16 AWG/0.82 mm ² Supply Wire	14 AWG/0.82 mm ² Supply Wire	12 AWG/0.82 mm ² Supply Wire
20W Power Supply	120 ft./36.6 m	-	-	-
60W Power Supply	30 ft./9.1 m	50 ft./15.2 m	80 ft./24.4 m	120 ft./36.6 m
180W Power Supply	30 ft./9.1 m	50 ft./15.2 m	80 ft./24.4 m	120 ft./36.6 m

NOTE: For linear runs longer than 40ft, center connection to the LED strip is recommended to minimize voltage drop.

Conforms to the following standards:
IP66 rated: separate enclosure required for outdoor use, UL damp location rated



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