

# Tetra<sup>®</sup> LED Systems Power Supply

GEPS12W-60M (100-240 VAC input / 12 VDC output / 60 W / Wet Rated)

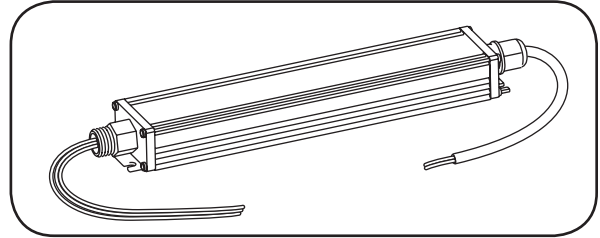
## Power Supply Features

- Supports all 12 VDC Tetra Channel Letters, Box signs and Tape Product
- IP66 rated
- Class 2 wiring per NEC Article 725 (SELV)
- M20 Thread



## BEFORE YOU BEGIN

Read these instructions completely and carefully.



### ⚠ WARNING/AVERTISSEMENT

#### RISK OF ELECTRIC SHOCK

- Disconnect power at fuse box or circuit breaker before servicing or installing product.
  - Properly ground Tetra<sup>®</sup> power supply.

#### RISK OF FIRE

- Minimum 5 cm (2") spacing from heat producing components required.
- Minimum 10 cm (4") to side and 2.5 cm (1") spacing in compartment surrounding component required.
  - Application considerations potentially requiring additional spacing include high ambient temperature seen by the power supply, poor contact with a heat dissipating material, inadequate ventilation, or direct exposure to sun.
  - Use only Tetra<sup>®</sup> supply wire to make connection from Tetra<sup>®</sup> power supply to Tetra<sup>®</sup> LED strip.
  - Use only approved wire for input/output connection. Minimum size 18 AWG (0.82 mm<sup>2</sup>).
  - Follow all local codes.

#### RISQUES DE DÉCHARGES ÉLECTRIQUES

- Coupez l'alimentation électrique à la boîte de fusibles ou au disjoncteur avant l'entretien ou l'installation du produit.
- Assurez-vous de correctement mettre à terre l'alimentation électrique Tetra<sup>®</sup>.

#### RISQUES D'INCENDIE

- Un espacement minimum de 5 cm (2") entre les composantes émettrices de chaleur est requis.
  - Un espacement minimum de 10 cm (4 po) entre 2 alimentations de puissance est requis ainsi qu'un espacement minimal de 2,5 cm (1 po) avec toute enceinte.
  - Certains environnements de l'application pourraient requérir un espacement additionnel tels que la température ambiante autour de l'alimentation, un mauvais contact avec une matière dissipatrice de chaleur, une ventilation inadéquate ou une exposition directe au soleil
  - N'utilisez que le fil d'approvisionnement Tetra<sup>®</sup> pour faire la connexion entre l'alimentation Tetra<sup>®</sup> et la bande DEL Tetra<sup>®</sup>.
  - N'utilisez que des fils approuvés pour les entrées/sorties de connexion. Taille minimum 18 AWG (0.82 mm<sup>2</sup>).
  - Respectez tous les codes locaux.

### ⚠ CAUTION/ATTENTION

#### RISK OF INJURY

- While performing installations described, gloves, safety glasses or goggles should be worn.

#### RISQUE DE BLESSURE

- Lors de l'exécution des installations décrites, des gants, des lunettes de sécurité ou des lunettes de protection doivent être portées.

## 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

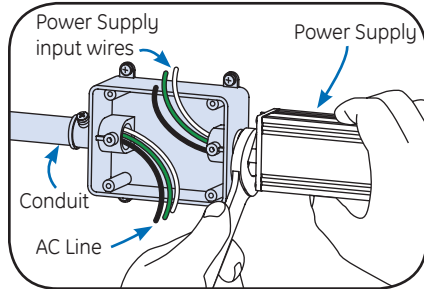
- Acceptable for use in dry, damp and wet locations.
- The grounding and bonding of the LED Driver shall be done in accordance with National Electric Code (NEC) Article 600.
- Follow all National Electric Codes (NEC) and local codes.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

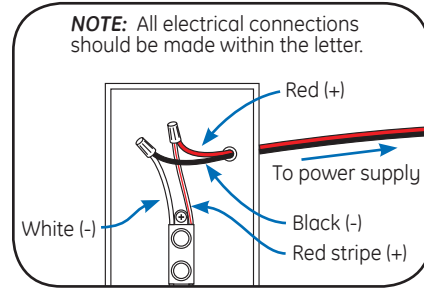
**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This Class [A] RFLD complies with the Canadian standard ICES-005. Ce DEFR de la classe [A] est conforme à la NMB-005 du Canada.

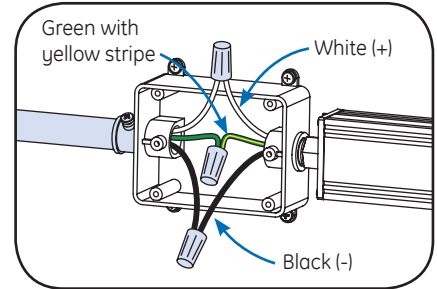
## Power Supply Installation



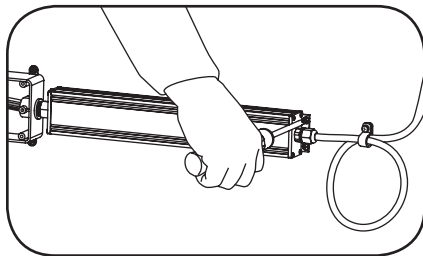
- 1 Run AC line through conduit and attach conduit to outdoor-rated/UL approved enclosure. Attach power supply to enclosure.



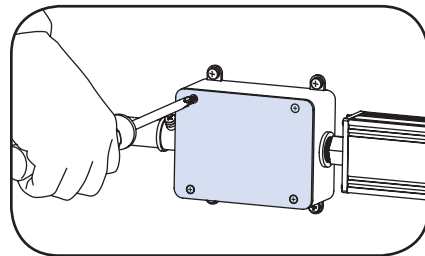
- 2 Connect the red stripe wire (+) of the LED strip to the red wire (+) of the power supply. Connect the white wire (-) of the LED strip to the black wire (-) of the power supply.



- 3 Connect the AC line to the black (line) and white (neutral) input wires of the power supply using 18-14 AWG (0.82-2.08 mm<sup>2</sup>) twist-on wire connectors. Properly ground (green wire with yellow stripe) power supply in accordance with National Electric Code (NEC) Article 600.



- 4 Mount Power Supply in a horizontal orientation with a minimum of one screw per mounting plate (two screws per power supply) with the base in contact with the mounting surface in accordance with the power supply spacing requirements described above.



- 5 AC Input connections must be protected from weather by a weather-tight seal or may be sealed with electrical grade silicone.

If not protected from the weather, the output DC connections with LED module must also be protected by a weather box or with electrical grade silicone. Please, refer to the LED module install instructions for more details

**NOTE:** For CSA approval, a disconnect/toggle switch of appropriate rating needs to be placed within 29.5 ft. (9 m) of primary side of the power supply. The minimum rating of the switch must be either 120 or 220 Volts AC. The switch must also support twice the amount of input current.

**NOTE:** When installing power supply, connect to the appropriate sized building breaker or disconnect device for line and neutral connections, in accordance with local, state or country regulations.

**NOTE:** The grounding and bonding of the power supply and overall sign shall be done in accordance with National Electric Code (NEC) Article 600.

## Retrofit Instructions

1. **(Existing Signs Only)** Prior to installation, survey the site for information regarding power and accessibility inside and outside the building. Ensure that the branch circuit supplying the existing transformer or ballast will be within the voltage ratings of the new LED power supply, and have a current rating not exceeding 20A, or that permitted by applicable local, state, or country electrical codes (whichever is less).
2. **(Existing Signs Only)** Remove the existing lighting equipment to be replaced, such as neon tubing or fluorescent tubes; and associated transformers and ballasts. Care should be taken not to break the existing neon or fluorescent tubes.  
**NOTE:** Follow all federal and local regulations when disposing of neon tubing, fluorescent tubes, transformers and ballasts.
3. **(Existing Signs Only)** If removal of the existing lighting equipment eliminates the disconnect switch, as required by applicable local, state, or country electrical codes; a new disconnect switch must be installed.
4. **(Existing Signs Only)** Make sure the removal of lighting equipment does not compromise the integrity of the sign body (i.e. water intrusion). 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.
5. Using the layout guidelines within the LED module installation instructions, determine required number of LED modules required to illuminate the sign.
6. Using the applicable LED module maximum Loading chart, determine the number of Tetra Class 2 Power Supplies required to power the number of LED modules required to illuminate the sign, so as not to overload any single power supply output.
7. Follow the LED module instructions to properly mount the LED modules.
8. Connect the DC output of the power supply to the LED modules using the Power Supply Installation instructions above.
9. Connect the power unit to the supply in accordance with the applicable local, state, and country electrical codes, and the Power Supply Installation instructions above.
10. If required, the disconnect switch shall be installed by qualified personnel, in accordance with applicable local, state, and country electrical codes.

# Power Supply Specifications

Performance Data	Min	Typical	Max
Input Voltage (VAC)	90	100-240	264
Input Frequency (Hz)	-	50/60	-
Input Current (A)	-	-	0.85
Output Voltage (VDC)	11.4	12.0	12.6
Output Current (ADC)	0.8	-	5.0
Output Power (W)	-	-	60
Dimensions	12 in. x 2 in. x 1.25 in. (307 mm x 52 mm x 32 mm)		

\*Maximum case temperature is 80°C

Supports Tetra Products	SKUs	Rated Power	Maximum Load per Power Supply	Remote Mounting Distance			
				18 AWG/ 0.82 mm <sup>2</sup>	16 AWG/ 1.31 mm <sup>2</sup>	14 AWG/ 2.08 mm <sup>2</sup>	12 AWG/ 3.31 mm <sup>2</sup>
Tetra miniMAX	GEMM71-W1, GEMM50-W1, GEMM41-W1, GEMM32-W1	0.324W/module	170 modules/68 ft. (20.73 m)	15 ft./4.6 m	23 ft./7.0 m	38 ft./11.6 m	65 ft./19.8 m
	GEMMRD-W1, GEMMBL-W1	0.384W/module	150 modules/60ft.(18.29m)	15 ft./4.6 m	23 ft./7.0 m	38 ft./11.6 m	65 ft./19.8 m
	GEMMGL-W1	0.312W/module	150 modules/60ft.(18.29m)	15 ft./4.6 m	23 ft./7.0 m	38 ft./11.6 m	65 ft./19.8 m
	GEMMPO-W1	0.48W/module	120 modules/48ft.(14.63m)	15 ft./4.6 m	23 ft./7.0 m	38 ft./11.6 m	65 ft./19.8 m
	GEMS71-1, GEMS50-1, GEMS41-1, GEMS32-1	0.384W/module	150 modules/60 ft. (18.29 m)	30 ft./9.1 m	50 ft./15.2 m	80 ft./24.4 m	120 ft./36.6 m
	GEMSGL-1	0.312W/module	150 modules/60 ft. (18.29 m)	30 ft./9.1 m	50 ft./15.2 m	80 ft./24.4 m	120 ft./36.6 m
Tetra MAX	GEMX71-W1, GEMX50-W1, GEMX41-W1, GEMX32-W1	0.456W/module	128 modules/64 ft. (19.51 m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GEMXH71-W1, GEMXH50-W1, GEMXH41-W1, GEMXH32-W1	0.720W/module	80 modules/40 ft. (12.20 m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GEMXRD-W1 GEMXBL-W1	0.48W/module	120 modules/60ft.(18.29m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GEMXGL-W1	0.384W/module	120 modules/60ft.(18.29m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GEMXPO-W1	0.36W/module	160 modules/80ft.(24.38m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GEMXRC-W1	0.29W/module	200 modules/100ft.(30.48m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GEMXYG-W1	0.54W/module	106 modules/53ft.(16.15m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GEMXHRD-W1	0.564W/module	100 modules/50ft.(15.24m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
Tetra PowerMAX	GEPM71-W1, GEPM50-W1 GEPM41-W1, GEPM32-W1	1.32W/module	42 modules/28 ft. (8.53 m)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
Tetra miniStrip	GEBS71-2, GEWWBSP3-50K, GEWWBSP3-41K, GEWWBSP3	0.84W/module	60 modules/60 ft. (18.28 m)	20 ft./6.1 m	25 ft./7.6 m	35 ft./10.6 m	40 ft./12.1 m
	GEBSH71-2, GEBSH50-1, GEBSH41-1, GEBSH32-1	0.972W/module	50 modules/50 ft. (15.23 m)	20 ft./6.1 m	25 ft./7.6 m	35 ft./10.6 m	40 ft./12.1 m

Chart continued on next page

Chart continued

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Flexible Tape	GETP35-1	4.5W/m (1.37W/ft.)	10m (32 ft.)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GETP40-1						
	GETP50-1						
	GETP60-1						
	GETPH35-1	10.8W/m (3.3W/ft.)	4m (13 ft.)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GETPH40-1						
	GETPH50-1						
	GETPH60-1						
	GETPRD-1	3.5W/m (1.06W/ft.)	12m (39 ft.)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GETPGL-1	2.4W/m (0.73W/ft.)	15m (49 ft.)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m
	GETPBL-1	4.5W/m (1.37W/ft.)	10m (32 ft.)	20 ft./6.1 m	30 ft./9.1 m	50 ft./15.2 m	86 ft./26.2 m

This product is intended to be used as a lamp control gear that is installed after the mains control switch.

Conforms to the following standards:



[www.currentbyge.com](http://www.currentbyge.com), [www.gelighting.com](http://www.gelighting.com)

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