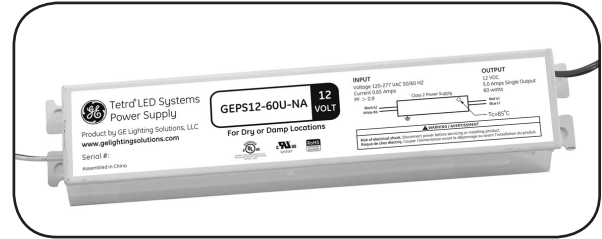


# Tetra<sup>®</sup> LED Systems Power Supply

GEPS12-60U-NA (120-277 VAC input / 12 VDC output / 60 W)

## Power Supply Features

- Supports all 12 VDC Tetra Channel Letters, Box signs and Tape Product
- Dry and damp location rated
- Class 2 wiring per NEC Article 725 (SELV)
- IP66 rated: separate enclosure required



## 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.
- Must be enclosed in a end product.

#### 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>.
- Doit être inclus à l'intérieur d'un produit final.

#### 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'alimentation 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

- Limited to use in dry and damp locations.
- The suitability of rain enclosure shall be determined if intended for wet location.
- 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.

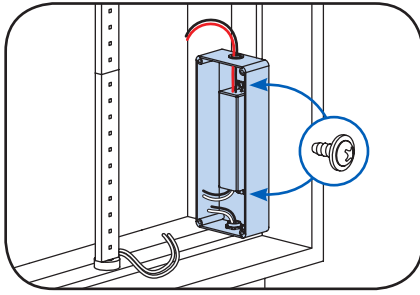
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**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.

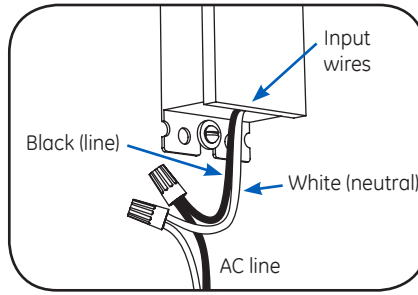
This Class [A] RFLD complies with the Canadian standard ICES-005. Ce DEFR de la classe [A] est conforme à la NMB-005 du Canada.



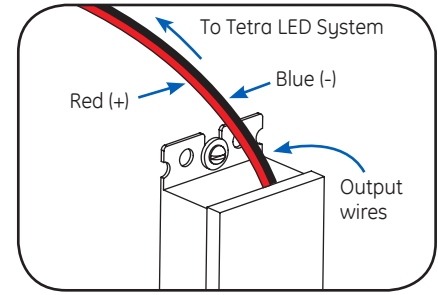
# Power Supply Installation



- 1** Mount the power supply with the base in contact with the mounting surface in an electrical enclosure with adequate dimensions to satisfy the power supply spacing requirements described in the warning section, and suitable for the installation environment. The power supply and electrical connections shall be protected from weather and not subject to saturation with water or other liquids. 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



- 2** 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>) or 18-10 AWG (0.82-5.26 mm<sup>2</sup>) twist-on wire connectors.



- 3** Connect the supply wire that is attached to the Tetra LED System to the red (+) and blue (-) output wires of the power supply as outlined in the **“Electrical Connections”** section of your LED system’s Installation Instructions.

**NOTE:** For installation in Canada, a disconnect switch of appropriate rating needs to be placed within 29.5 feet (9 meters) of primary side of the power supply. The switch voltage rating shall not be less than the branch circuit voltage. 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, neutral and ground connections, in accordance with National Electric Code (NEC) Article 600 and all local regulations.

**NOTE:** Exceeding maximum load per bank will cause the power supply to shut down. Once the excess load is removed, cycle the input power to restart the power supply.

## 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.
- Using the layout guidelines within the LED module installation instructions, determine required number of LED modules required to illuminate the sign.
- 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.
- Follow the LED module instructions to properly mount the LED modules.
- Connect the DC output of the power supply to the LED modules using the Power Supply Installation instructions above.
- 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.
- If required, the disconnect switch shall be installed by qualified personnel, in accordance with applicable local, state, and country electrical codes.

# Power Supply Specifications

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
	GEMSG1-1	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
Tetra Flexible Tape	GETP35-1 GETP40-1 GETP50-1 GETP60-1	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
	GETPH35-1 GETPH40-1 GETPH50-1 GETPH60-1	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
	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

# Power Supply Specifications

Performance Data	Min	Typical	Max
Input Voltage (VAC)	108	120-277	305
Input Frequency (Hz)	-	50/60	-
Input Current (A)	-	-	0.65
Output Voltage (VDC)	11.0	12.0	13.0
Output Current (ADC)	-	-	5.0
Output Power (W)	-	-	60
Environmental Operating Temperature Range	-40°C	+25°C	+60°C*
Environmental Humidity (non-condensing)	10%	-	90%
Environmental Storage Temperature Range	-40°C	-	+85°C
Dimensions	9.5 in. x 1.7 in. x 1.2 in. (240 mm x 43 mm x 30 mm)		

\*Maximum case temperature is 85°C

This product is intended solely for the use of commercial refrigerated, display or case lighting and is not intended for use in any other application. Conforms to the following standards:



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