

# NB2000 Light Bar

## LED Lighting System

(LEDT12HO/18/D, LEDT12HO/24/D, LEDT12HO/30/D, LEDT12HO/36/D, LEDT12HO/42/D, LEDT12HO/48/D, LEDT12HO/60/D, LEDT12HO/64/D, LEDT12HO/72/D, LEDT12HO/84/D, LEDT12HO/96/D)\*

\* key: D = Daylight (6500K)



### 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 certified wire for input/output connections. Minimum size 18 AWG (0.82mm<sup>2</sup>).
- 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 (0.82mm<sup>2</sup>).
- Respectez tous les codes NEC et 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 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.
- These products are only suitable for connection to a circuit from a Class 2 power source. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.

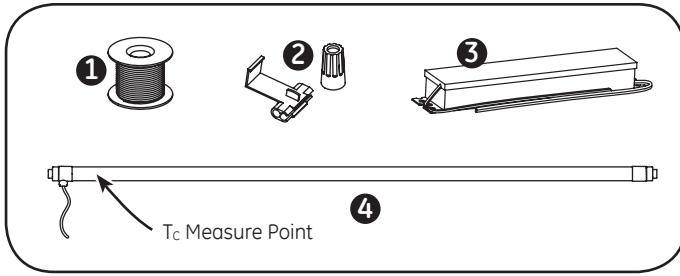
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**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-003. Ce DEFR de la classe [A] est conforme à la NMB-003 du Canada.



imagination at work



## Components

- 1 UL certified 18 AWG (0.82 mm<sup>2</sup>) supply wire
- 2 UL certified 22-14 AWG (0.33-2.08 mm<sup>2</sup>) wire connectors or 22-18 AWG (0.33-.82 mm<sup>2</sup>) inline/IDC connectors
- 3 Tetra® 24 Volt Power Supply
- 4 NB2000 Light Bar

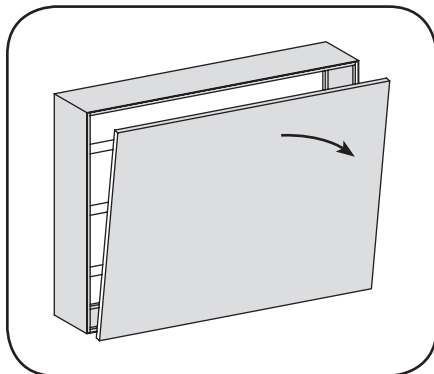
## Installation

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).

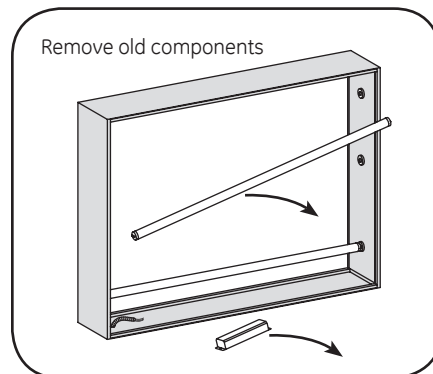
If removal of the existing lighting equipment (see Step 2) eliminates the disconnect switch, as required by applicable local, state, or country electrical codes; a new disconnect switch must be installed.

If required, the disconnect switch shall be installed by qualified personnel, in accordance with applicable local, state, and country electrical codes.

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.

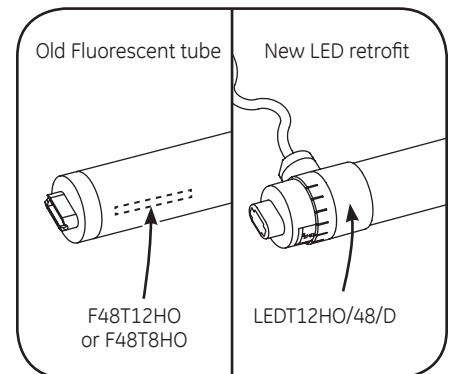


- 1 Turn off power and remove panel from fluorescent box sign.

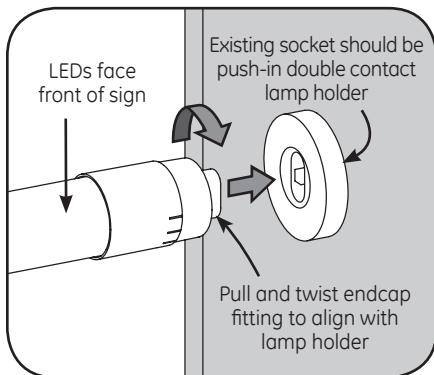


- 2 Remove old fluorescent tubes, ballast and wiring. DO NOT remove existing fluorescent lamp holders.

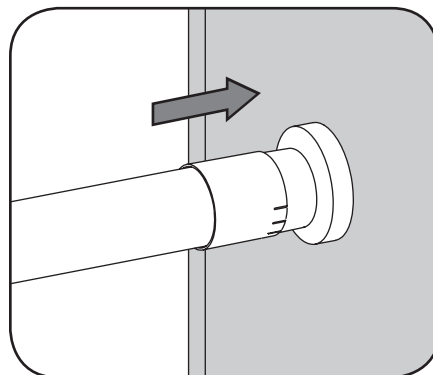
**NOTE:** Follow all federal and local regulations when disposing of neon tubing, fluorescent tubes, transformers and ballasts.



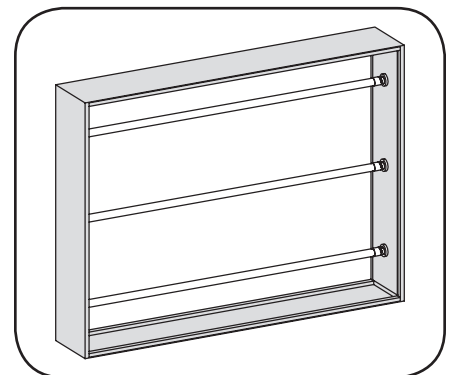
- 3 Read the product labels to determine NB2000 length required to span width of sign based on table in the **Specifications** section (last page).



- 4 Orient NB2000 so LEDs are facing front of sign, then pull and twist the two endcap fittings so they align with existing fluorescent lamp holders.

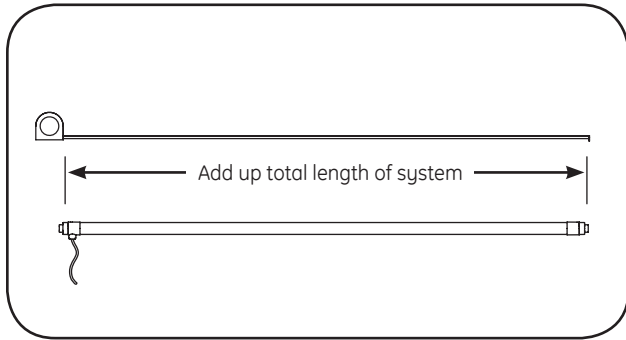


- 5 Push NB2000 into existing fluorescent lamp holders.

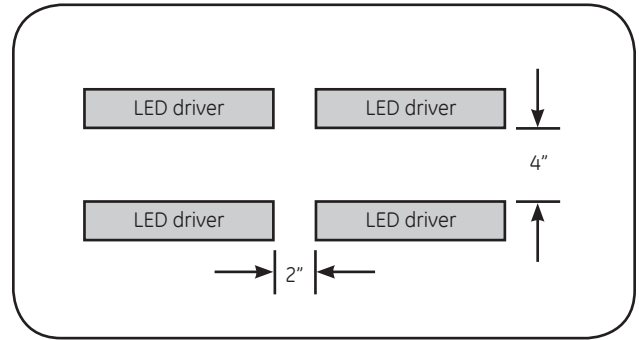


- 6 Continue installing NB2000 fixtures.

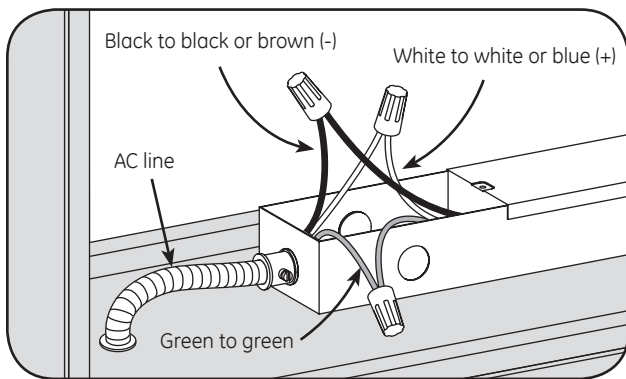
# Electrical Connections



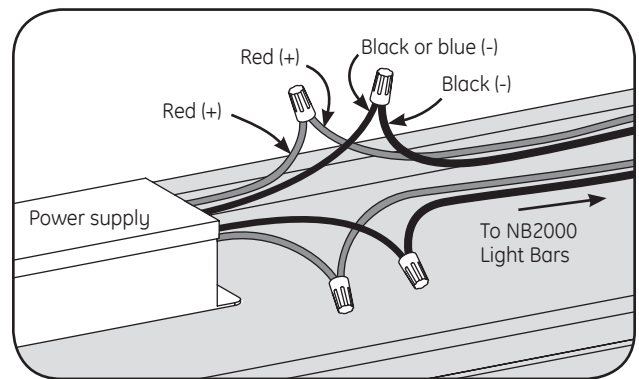
**1** Add up total footage of the system to determine the appropriate number of 24VDC Class 2 Tetra® LED drivers to use based on the **Power Supply Loading** chart on last page.



**2** If installing multiple LED drivers, keep them at least 2" (50.8mm) apart end to end and 4" (101.6mm) apart along the sides.

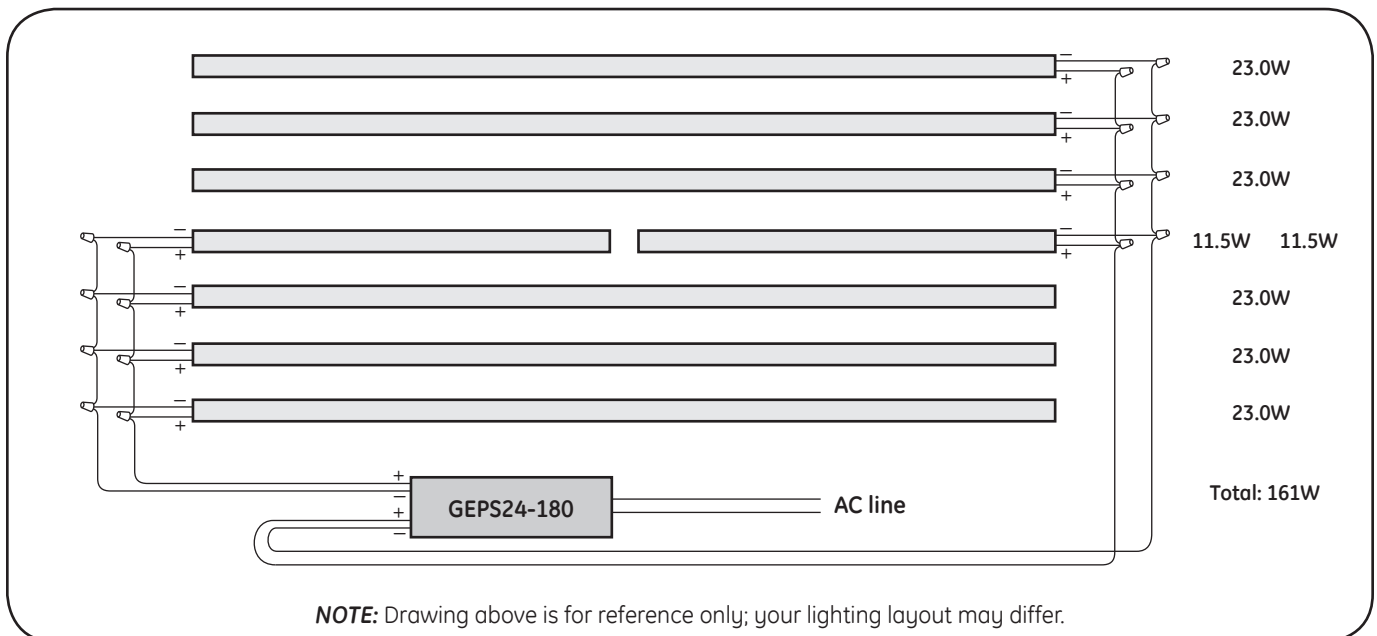


**3** Wire AC line to LED driver(s) in accordance with the applicable local, state, and country electrical codes. Connect black to black or brown, white to white or blue, and green to green using 18 AWG (0.82mm<sup>2</sup>) wire connectors.



**4** Connect the red wire (+) of the LED system to the red wire (+) of the power supply. Connect the black wire (-) of the LED system to the black or blue wire (-) of the power supply.

**NOTE:** All drivers except GEPS24-180U must be installed in a raceway or be provided with a GEPSJB60 LED driver extended enclosure.



**NOTE:** Drawing above is for reference only; your lighting layout may differ.

**5** Connect NB2000 using twist-on wire connectors or in-line (IDC) connectors. Join black wires (-) together and red wires (+) together.  
**NOTE:** Make sure not to exceed LED driver power limits (see Step 1 above).

# Troubleshooting

Symptom	Solution
Row of fixtures does not light	<ul style="list-style-type: none"> <li>• Check wire connections to power supply to ensure red-to-red and black-to-black/blue connections.</li> <li>• Check row-to-row polarity connections.</li> </ul>
Sign does not light	<ul style="list-style-type: none"> <li>• Check input and output voltage and check power supply input/output connections.</li> <li>• Check polarity connections.</li> </ul>
Individual fixture does not light	<ul style="list-style-type: none"> <li>• Remove fixture and replace with another working fixture.</li> </ul>

# Specifications

Product Code	Description	Long Description	Ft	Rating (Watts)
93024401	LEDT12HO/18/D	GE 18" Daylight LED Lamp	1.5'	7.68
93024402	LEDT12HO/24/D	GE 24" Daylight LED Lamp	2'	11.52
93024403	LEDT12HO/30/D	GE 30" Daylight LED Lamp	2.5'	15.36
93024404	LEDT12HO/36/D	GE 36" Daylight LED Lamp	3'	19.2
93024405	LEDT12HO/42/D	GE 42" Daylight LED Lamp	3.5'	19.2
93024406	LEDT12HO/48/D	GE 48" Daylight LED Lamp	4'	23.04
93024407	LEDT12HO/60/D	GE 60" Daylight LED Lamp	5'	30.72
93024408	LEDT12HO/64/D	GE 64" Daylight LED Lamp	5.33'	30.72
93024409	LEDT12HO/72/D	GE 72" Daylight LED Lamp	6'	34.56
93024410	LEDT12HO/84/D	GE 84" Daylight LED Lamp	7'	38.4
93024411	LEDT12HO/96/D	GE 96" Daylight LED Lamp	8'	46.08

# Power Supply Loading

Description	Long Description	Ft per PS
GEPS24-100U-GL	Power Supply (24VDC / 96W), Input Voltage: 108-305VAC; Damp Rated; Self-Contained, Remote or Raceway; 1 Output Bank; Class 2	16'
GEPS24-100U-NA	Power Supply (24VDC / 96W), Input Voltage: 108-305VAC; Damp Rated; Self-Contained, Remote or Raceway; 1 Output Bank; Class 2	16'
GEPS24-180U	Power Supply (24VDC/180W), Input Voltage: 90-305VAC; Damp Rated; Self-Contained, Remote or Raceway; 2 Output Banks of 90W each; Class 2	14' per Bank
GEPS24D-80U	0-10V Dimming Power Supply (24VDC/80W), Input Voltage: 90-305VAC; Damp Rated; Self-Contained, Remote or Raceway; 1 Output Bank; Class 2	12'
GEPS24W-80	Power Supply (24VDC/80W), Input Voltage: 90-264VAC; Wet Location Rated; 1 Output Bank; Class 2	12'
GEPS24-300U-GL	Power Supply (24VDC/288W), Input Voltage: 108-305VAC; Damp Rated; Self-Contained, Remote or Raceway; 3 Output Bank; Class 2	16' per Bank

This product is intended solely for the use of non-residential signage lighting and is not intended for use in any other applications. Conforms to the following standards:



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