

# LineFit Light-LED (LFL-LED)

## LED Lighting System

24  
Volt

(GEF18xxxHOLED-1, GEF24xxxHOLED-1, GEF30xxxHOLED-1, GEF36xxxHOLED-1, GEF42xxxHOLED-1, GEF48xxxHOLED-1, GEF60xxxHOLED-1, GEF64xxxHOLED-1, GEF72xxxHOLED-1, GEF84xxxHOLED-1, GEF96xxxHOLED-1)\*

\* key for xxx: D = Daylight (6500K), SGN = Sign White (5400K), CW = Cool White (4100K)



### 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 power supply enclosure.

#### RISK OF FIRE

- Use only UL approved wire for input/output connections. Minimum size 18 AWG (0.82mm<sup>2</sup>)
- Follow all NEC and local codes.
- Not to be submerged or used in a marine environment.

#### RISK OF FIRE OR ELECTRIC SHOCK

- LED Retrofit Kit installation requires knowledge of sign electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.
- Install this kit only in host signs that have been identified in the installation instructions and where the input rating of the retrofit kit does not exceed the input rating of the sign.
- Installation of this LED retrofit kit may involve drilling or punching of holes into the structure of the sign. Check for enclosed wiring and components to avoid damage to wiring and electrical parts.
- Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.

#### 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.

#### 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.
- Ne pas submerger ou installer dans un environnement marin.

#### RISQUE D'INCENDIE OU DE CHOC ÉLECTRIQUE

- L'installation de l'équipement de remplacement DEL exige la connaissance des systèmes électriques pour enseignes. Si non qualifié, ne tentez pas d'installation. Veuillez contacter un électricien qualifié.
- Risque d'incendie ou de choc électrique. Installez cet ensemble seulement dans des enseignes hôtes qui ont été identifiés dans les instructions d'installation et dont la capacité d'entrée de l'ensemble ne dépasse pas la capacité d'entrée de l'enseigne.
- L'installation de cet équipement de remplacement DEL peut impliquer le perçage ou le poinçonnage de trous dans la structure du panneau. Vérifiez le câblage et les composants inclus pour éviter d'endommager le câblage et les composants électriques.
- Ne pas faire ou modifier les trous ouverts dans une enceinte de câblage ou de composants électriques pendant l'installation de cet équipement de remplacement DEL.

## 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.

## Save These Instructions

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



RETROFIT SIGN CONVERSION LED KIT FOR USE ONLY IN ACCORDANCE WITH KIT INSTRUCTIONS.

KIT IS COMPLETE ONLY WHEN ALL PARTS REQUIRED BY THE INSTRUCTIONS ARE PRESENT.

TROUSSE DE CONVERSION À DEL POUR LA MODERNISATION DES ENSEIGNES

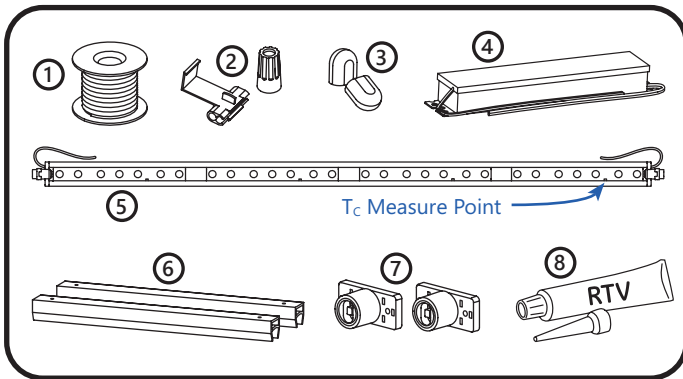
À UTILISER CONFORMÉMENT AU GUIDE D'INSTALLATION.

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.

## 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 (0.33-0.82 mm<sup>2</sup>) inline/IDC connectors
- ③ End caps
- ④ 24 Volt Power Supply
- ⑤ LineFit Light-LED (LFL-LED) modules
- ⑥ 32619 LFL-LED Coupler 2 Line Fit Light Coupler-2nd Gen (optional)
- ⑦ 93020091 LFL-LED Sockets LineFit Light Sockets (optional)
- ⑧ Electrical grade RTV silicone.

### Example electrical grade RTV silicones include:

- Momentive RTV 6700 Series Silicone Rubber Adhesive Sealant
- Momentive White Blanc RTV 162 Silicone Rubber Adhesive Sealant-Electrical Grade
- Dow Corning 3140 - Non-Corrosive Flowable (clear)
- Dow Corning 3145 - Non-Corrosive Nonflowable (clear or gray)
- Dow Corning RTV 748 Non-Corrosive Sealant-White

## Installation

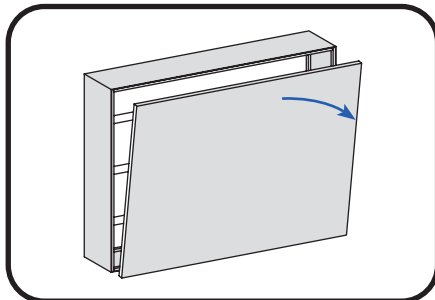
Prior to installation, survey the site for information regarding power and accessibility inside and outside the building. Ensure that the branch circuit supplying the existing transformer or ballast will be within the voltage ratings of the new LED power supply, and have a current rating not exceeding 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.

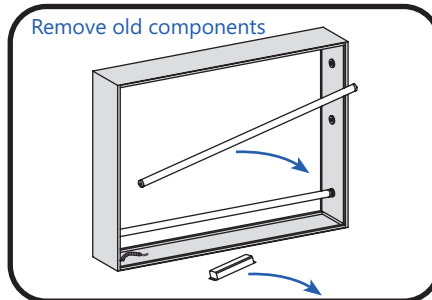
If required, the disconnect switch shall be installed by qualified personnel, in accordance with applicable local, state, and country electrical codes.

Repair and seal any unused openings in the electrical enclosure. Openings greater than 12.7-mm (1/2-in) diameter require a metal patch secured by screws or rivets and caulked with non-hardening caulk. Smaller openings may be sealed with non-hardening caulk.

**NOTE:** If component 6 is necessary, refer to 32619 LFL-LED Coupler2 Line Fit Light Coupler-2nd Gen Installation Guide. If component 7 is necessary, refer to 33125 LFL-LED Sockets LineFit Light Sockets Installation Guide.

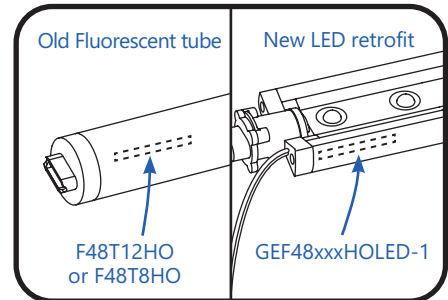


- ① Turn off power and remove panel from fluorescent box sign.

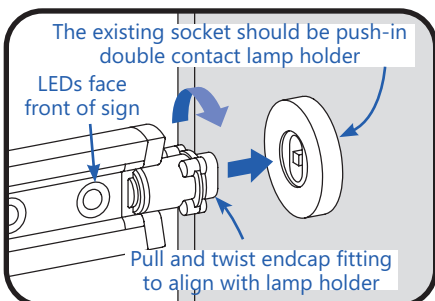


- ② Remove old fluorescent tubes, ballast and wiring. DO NOT remove existing fluorescent lamp holders.

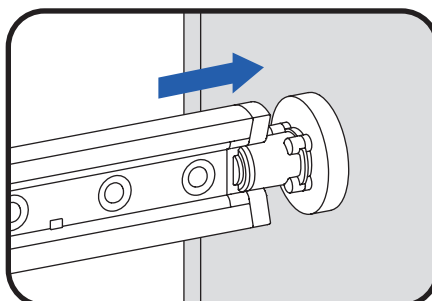
**NOTE:** Follow all federal and local regulations when disposing of neon tubing, fluorescent tubes, transformers and ballasts.



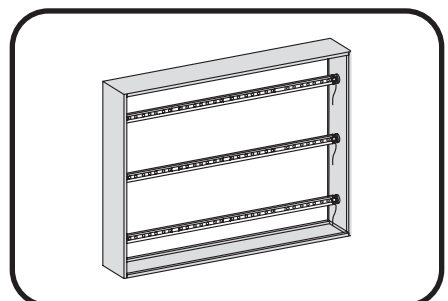
- ③ Read the product labels to determine Line Fit Light length required to span width of sign based on table in the **Specifications** section (last page).



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



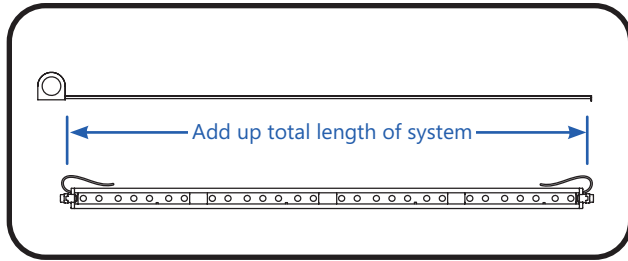
- ⑤ Push Line Fit Light into existing fluorescent lamp holders.



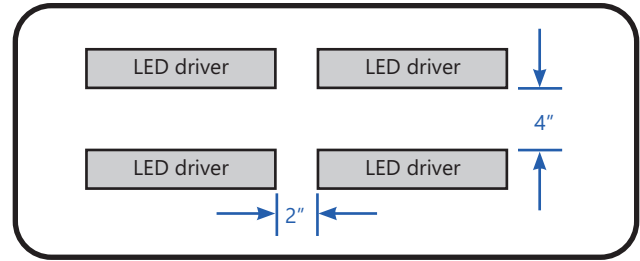
- ⑥ Continue installing Line Fit Light fixtures.

## Electrical Connections

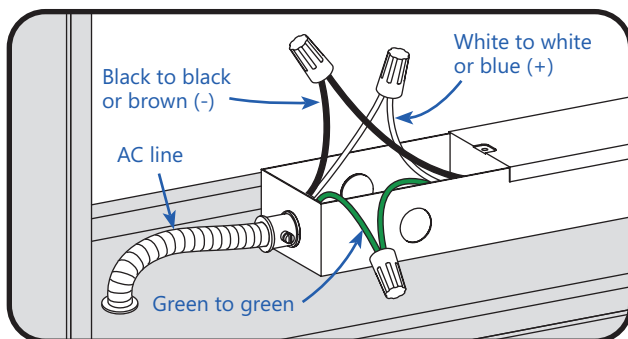
**NOTE:** Do not use connectors pre-filled with silicone grease/mineral base protective grease or use silicone grease to seal connections.



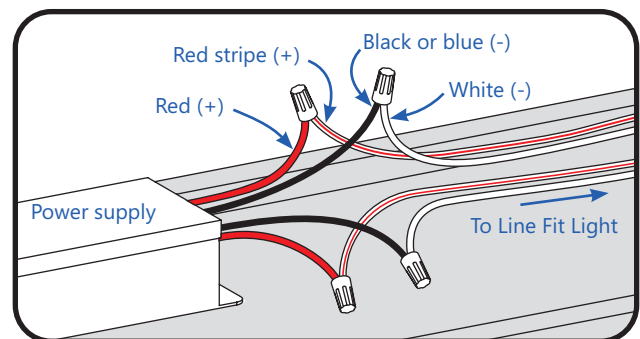
- ① Add up total footage of the system to determine the appropriate number of 24VDC Class 2 LED drivers to use based on the **Power Supply Loading** chart on last page.



- 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.

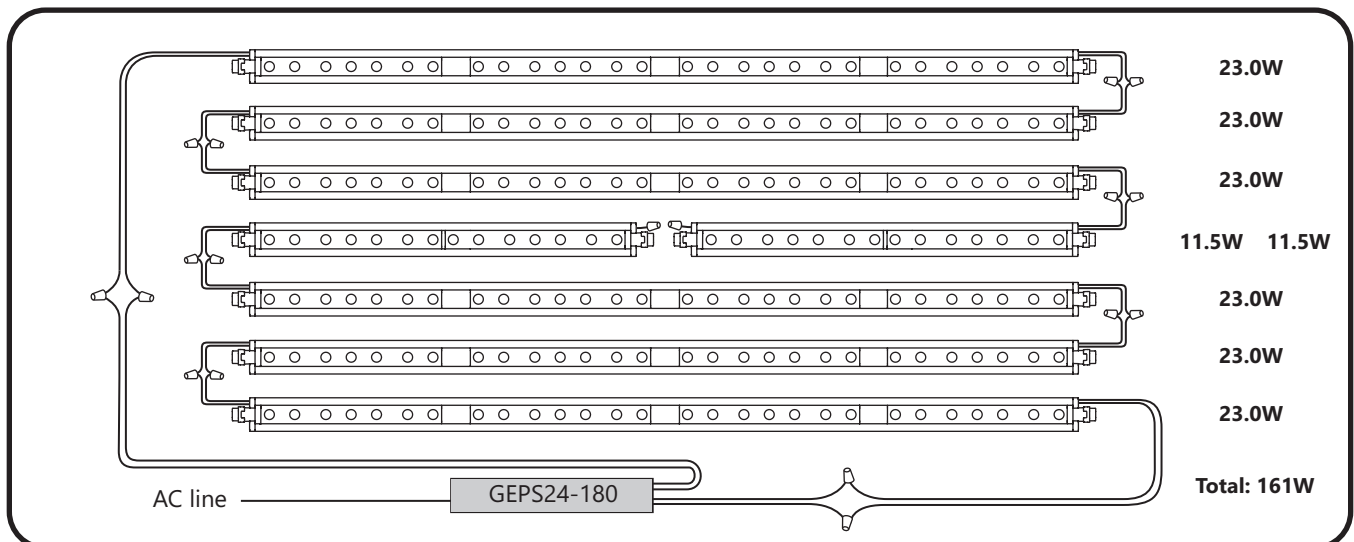


- ③ Wire AC line to LED driver(s) in accordance with the applicable local, state, and country electrical codes. Connect black to black or brown, white to white or blue, and green to green using 18 AWG (0.82mm<sup>2</sup>) wire connectors.



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



- ⑤ Connect Line Fit Lights using twist-on wire connectors or in-line (IDC) connectors. Join white wires together and red striped wires together. Cap all exposed wires with appropriate end caps or apply electric grade (non-corrosive) silicone for additional weather protection.

**NOTE:** Make sure not to exceed LED driver power limits (see Step 1). Drawing above is for reference only; your lighting layout may differ.

**NOTE:** All electrical connections should be suitably protected from mechanical damage and the environment. Seal all connections in locations that may be exposed to water with electrical grade RTV silicone.

## 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 stripe-to-red and white-to-black 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)
32500, 32520, 32553	GEF18xxxHOLED-1	18" Sign White, Daylight, Cool White LED Lamp	1.5'	8.64
32501, 32527, 32554	GEF24xxxHOLED-1	24" Sign White, Daylight, Cool White LED Lamp	2'	11.52
32502, 32528, 32557	GEF30xxxHOLED-1	30" Sign White, Daylight, Cool White LED Lamp	2.5'	14.4
32504, 32529, 32560	GEF36xxxHOLED-1	36" Sign White, Daylight, Cool White LED Lamp	3'	17.28
32505, 32531, 32572	GEF42xxxHOLED-1	42" Sign White, Daylight, Cool White LED Lamp	3.5'	20.16
32511, 32532, 32573	GEF48xxxHOLED-1	48" Sign White, Daylight, Cool White LED Lamp	4'	23.04
32513, 32533, 32574	GEF60xxxHOLED-1	60" Sign White, Daylight, Cool White LED Lamp	5'	28.8
32515, 32535, 32579	GEF64xxxHOLED-1	64" Sign White, Daylight, Cool White LED Lamp	5.33'	31.68
32516, 32538, 32587	GEF72xxxHOLED-1	72" Sign White, Daylight, Cool White LED Lamp	6'	34.56
32517, 32547, 32588	GEF84xxxHOLED-1	84" Sign White, Daylight, Cool White LED Lamp	7'	40.32
32518, 32548, 32607	GEF96xxxHOLED-1	96" Sign White, Daylight, Cool White LED Lamp	8'	46.08

## Power Supply Loading

Watts	Power Supply	Long Description	FT per PS
60W	GELP24-60U-GL	Power Supply (24VDC / 60W), Input Voltage: 108-305VAC; Damp Rated; Remote or Raceway; 1 Output Bank; Class 2	9'
	GEPS24D-60U-GLX	0-10V Dimming Power Supply (24VDC/60W), Input Voltage: 108-305VAC; Damp Rated; Remote or Raceway; 1 Output Bank; Class 2	9'
80W	GEPS24D-80U	0-10V Dimming Power Supply (24VDC/80W), Input Voltage: 90-305VAC; Damp Rated; Remote or Raceway; 1 Output Bank; Class 2	12'
	GEPS24W-80	Power Supply (24VDC/80W), Input Voltage: 90-264VAC; Wett Location Rated; 1 Output Bank; Class 2	12'
100W	GEPS24-100U-GLX USVI-100024FE USVI-100024FBA	Power Supply (24VDC / 96W), Input Voltage: 108-305VAC; Damp Rated; Remote or Raceway; 1 Output Bank; Class 2	16'
	GEPS24D-100U-NA	0-10V Dimming Power Supply (24VDC/100W), Input Voltage: 108-305VAC; Damp Rated; Remote or Raceway; 1 Output Bank; Class 2	16'
	GEPS24-100U-GLX2/TT	Power Supply (24VDC/100W), Input Voltage: 108-305VAC; Damp Rated; Remote or Raceway; 1 Output Bank; Class 2	16'
180W	GEPS24-180U	Power Supply (24VDC/180W), Input Voltage: 90-305VAC; Damp Rated; Integrated junction box, Remote or Raceway; 2 Output Banks of 90W each; Class 2	14' per bank, 28' total
200W	GEPS24-200U-GLX2	Power Supply (24VDC/200W), Input Voltage: 108-305VAC; Damp Rated; Integrated junction box, Remote or Raceway; 2 Output Banks of 100W each; Class 2	16' per bank, 32' total
300W	GEPS24-300U-GL	Power Supply (24VDC/288W), Input Voltage: 108-305VAC; Damp Rated; Integrated junction box, Remote or Raceway; 3 Output Bank; Class 2	16' per bank, 48' total
	GEPS24-300U-GLX2	Power Supply (24VDC/300W), Input Voltage: 108-305VAC; Damp Rated; Integrated junction box, Remote or Raceway; 3 Output Banks of 100W each; Class 2	16' per bank, 48' total

If you have any questions about these instructions or your specific application, please contact support at [tetra.support@LED.com](mailto:tetra.support@LED.com).

For the latest install guides for your product go to: [www.LED.com/tetra](http://www.LED.com/tetra)

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:

