



WARNING

- Installation, service, and maintenance of luminaires should be performed by a qualified licensed electrician.
- Read all safety information and instructions before starting installation.
- Examine all parts of the existing fixture for damage and replace any damaged parts prior to installation.

CAUTION

- Suitable for damp locations – Not for use where directly exposed to water.
- This device is not intended for use with emergency exits.
- Type A Application Warnings:
 - DO NOT INSTALL THIS IN A PRE-HEAT LUMINAIRE. THIS LAMP ONLY OPERATES ON ELECTRONIC BALLASTS.
 - Do not use with dimmers. (See Compatible Ballasts section for list of compatible dimming ballasts. If none found, proceed with Type B wiring to bypass the ballast.)
 - USE ONLY IN PLACE OF FLUORESCENT LAMPS SPECIFIED ON PRODUCT LABEL.
 - When working with electronic ballasts, please check the compatibility list first. If you do not find your ballast on the list, then bypass the fixture as a Type B installation. Do not install the LED tube with a ballast that is not on the ballast compatibility list.
 - IF THE LAMP OR LUMINAIRE EXHIBITS UNDESIRABLE OPERATION (BUZZING, FLICKERING, ETC..), IMMEDIATELY TURN OFF POWER, REMOVE LAMP FROM LUMINAIRE, AND CONTACT THE MANUFACTURER.
 - IF LAMP DOES NOT LIGHT WHEN THE LUMINAIRE IS ENERGIZED, REMOVE LAMP FROM THE LUMINAIRE AND CONTACT LAMP MANUFACTURER OR A QUALIFIED ELECTRICIAN.
- Type B Application Warnings:
 - In this Type B (ballast bypass) installation, the luminaire will no longer operate fluorescent lamps after the removal of the electronic ballast.
 - LED Retrofit Kit installation requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a licensed electrician.
 - Only use this lamp with compatible dimmers. See Compatible Dimmers section for full list of approved dimmers.
 - Install this kit only in the luminaires that have the construction features and dimensions shown in the photographs and/or drawings and where the input rating of the retrofit kit does not exceed the input rating of the luminaire.
 - Do not make or alter any open holes in the wiring enclosure or electrical components during kit installation.
 - Installers should not disconnect existing wires from lamp socket terminals to make new connections at lamp socket terminals. Instead, installer should cut existing lamp socket leads away from the lamp socket and make new electrical connections to lamp socket lead wires by employing connectors suitable for the application.
 - For single-ended power input: To avoid potential fire or shock hazard, do not use this lamp in luminaires employing shunted bi-pin lamp holders. Shunted lamp holders are found only in fluorescent luminaires with Instant-Start ballasts. Instant-start ballasts can be identified by the words "Instant Start" or "I.S." marked on the ballast. This designation may be in the form of a statement pertaining to the ballast itself, or may be combined with the marking for the lamps with which the ballast is intended to be used, for example F40T12/IS. Contact the manufacturer for additional information.
 - THIS RETROFIT KIT IS ACCEPTED AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY AUTHORITIES HAVING JURISDICTION. PRODUCT MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH THE APPLICABLE AND APPROPRIATE ELECTRICAL CODES. THE INSTALLATION GUIDE DOES NOT SUPERSEDE LOCAL OR NATIONAL REGULATIONS FOR ELECTRICAL INSTALLATIONS.
 - Only use with the compatible dimmers found in the Compatible Dimmers section.



2FT/3FT/4FT LED T8 TUBES TYPE A+B HYBRID

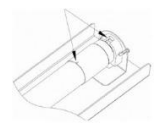
WARNING, CAUTION, SAFETY AND INSTALLATION INSTRUCTIONS

- For a linear tubular LED lamp conversion, there shall be text or a diagram showing how the supply connections were made to the lamp holders so the correct connections can be made to the lamp when the lamp is installed or replaced.
- To prevent early lamp failure, lamp should only be installed in operating environments ranging between: -20°C and 45°C (-4°F and 133°F).
- The units covered in this report were intended to retrofit surface mount fluorescent luminaires with diffuser for these models, and Type IC or non-IC recessed mount listed fluorescent luminaires that use a maximum of four tubular lamps. The minimum lamp compartment dimensions are tabulated below:

Model	Min. Luminaire Dimensions Length x Width x Height	Max. # of Lamps	Spacing between tube lamps, center to center
PLTP4135 PLTP4134	24.53×22.17×2.64in 623×563×67mm	4	2.52in 64mm
PLTP9933 PLTP9934 PLTP9935	36.2×22.36×2.56in 920×568×65mm	4	2.52in 64mm
PLTP3235 PLTP3234 PLTP3335 PLTP3334	47.95×22.56×2.56in 1218×573×65mm	4	2.52in 64mm

Installation Instructions

WARNING – Risk of fire: Tubes must be installed with the end cap marks in correct alignment with the sockets as shown. Please ensure the mark is aligned with the sockets as shown.



TYPE A (Plug and Play) Installation

NOTE: Before installation, check the ballast compatibility list. If ballast is not listed, install as Type B (ballast bypass).

<ol style="list-style-type: none"> 1. Switch off power to the luminaire. (Figure 1) 2. Remove the diffuser (if one is present), then remove the existing fluorescent lamps. (Figure 2) 3. Install the LED tube lamp, then reinstall the diffuser (if removed in step 2). (Figure 3) 4. Return power to the luminaire. Installation is complete. (Figure 4) 	
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Type B (Ballast Bypass) Installation

<ol style="list-style-type: none"> 1. Disconnect power from the luminaire. <ol style="list-style-type: none"> a. Disconnect power from the AC main breaker panel. Ensure all power is off by using a voltmeter or other method to confirm. 	<p>Luminaire Fluorescent to be replaced</p> <p>Disconnect the power</p>
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WARNING, CAUTION, SAFETY AND INSTALLATION INSTRUCTIONS

2. Remove existing tube lamp(s).
 - a. Remove the lens, if present.
 - b. Remove the existing fluorescents by rotating one quarter turn and sliding the lamp(s) out.
 - c. Remove the ballast wiring cover (cover may be secured with screws or tabs).
3. Retrofit the luminaire.
 - a. Bypass the ballast according to the appropriate wiring diagram (See Wiring Diagrams section), then reattach the ballast wiring cover.



a) Troffer and lamps b) Remove tube lamps c) Remove ballast cover (lens removed)

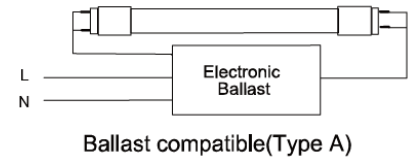
4. Insert the LED tubes.
 - a. If one of the "Single-ended power input" options is selected, read the labels on the LED tube to identify the powered end, then install the LED lamp until locked in place.
 - b. Attach the modification sticker to a location that remains visible during routine maintenance or relamping. Be sure to mark the selected wiring type (single or double-ended) and powered end on the luminaire.
 - c. Reattach the lens, if applicable.
 - d. Restore power from the AC main breaker panel and test the light. If necessary, adjust the position of the LED tube(s).

Wiring Diagrams

Type A

Note:

- The ballast wiring should be the same as the ballast wiring diagram.
- When working with a ballast, check the compatibility list first. If no compatible ballast is listed, bypass the ballast.
- Do not install the LED tube if the fixture's ballast is not on the compatibility list.

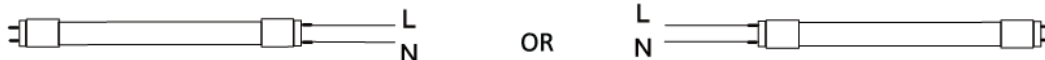


Type B

Connect two wires to branch circuit L and N according to the below figures:

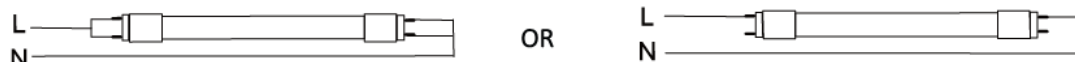
Case 1: Direct AC wiring diagram without dimming

1. Single-ended power input



Input voltage:120-277V 50/60Hz

2. Double-ended power input



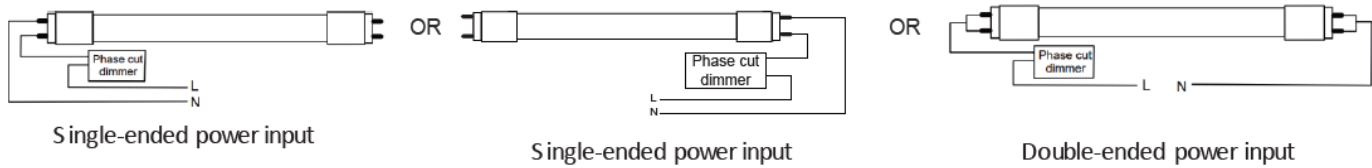
Input voltage:120-277V 50/60Hz



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WARNING, CAUTION, SAFETY AND INSTALLATION INSTRUCTIONS

Case 2: Direct AC wiring diagram with reverse phase dimming (Refer to Compatible Dimmers section)



Input Voltage: AC120V 60Hz

Important Notes:

- Single-ended: use non-shunted sockets.
- Double-ended: use non-shunted or shunted sockets.

Compatible Dimmers

For Type B installation only.

Brand	Model Number
LUTRON	DVELV-300P
LUTRON	DVELV-303P
LUTRON	MAELV-600

FCC Warning

- This product complies with Part 18 of the FCC rules but may cause interference to radios, televisions, wireless telephones, and remote controls. If interference occurs, move the product away from these devices or plug it into a different outlet. Do not install this product near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30MHz.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- This Class B digital apparatus complies with Canadian ICES-005.

⚠ WARNING

- Before installing, servicing, or performing routine maintenance upon this equipment, follow these general precautions.



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WARNING, CAUTION, SAFETY AND INSTALLATION INSTRUCTIONS

- To reduce the risk of death, personal injury, or property damage from fire, electric shock, falling parts, cuts/abrasions, and other hazards, read all warnings and instructions included with and on the fixture box and all fixture labels.
- Proper grounding is required to ensure safety.
- Power must be turned off at the breaker before installation or maintenance.
- This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved.
- Wear gloves and eye protection at all times while installing, servicing, or performing maintenance on the luminaire, and avoid direct eye exposure to the light source while it is on.
- To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.
- Do not install damaged product. Inspect luminaire for damage that may have occurred during transit. If damaged, contact the manufacturer immediately.
- These instructions do not purport to cover all details or variations in equipment nor to provide every possible contingency to meet in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's or owner's purposes, contact the manufacturer.

⚠ ADVERTENCIA

- Antes de instalar, reparar o realizar el mantenimiento de rutina de este equipo, siga estas precauciones generales.
- Para reducir el riesgo de muerte, lesiones personales o daños a la propiedad por fuego, descarga eléctrica, caída de piezas, cortes / abrasiones y otros peligros, lea todas las advertencias y instrucciones incluidas con y en la caja del dispositivo y todas las etiquetas del dispositivo.
- Se requiere una conexión a tierra adecuada para garantizar la seguridad.
- Se debe apagar la energía en el disyuntor antes de la instalación o el mantenimiento.
- Este producto debe ser instalado de acuerdo con el código de instalación aplicable por una persona familiarizada con la construcción y operación del producto y los peligros involucrados.
- Utilice guantes y protección para los ojos en todo momento durante la instalación, el servicio o el mantenimiento de la luminaria, y evite la exposición directa de los ojos a la fuente de luz mientras está encendida.
- Para evitar daños o abrasiones en el cableado, no exponga el cableado a bordes de láminas de metal u otros objetos afilados.
- No instale un producto dañado. Inspeccione la luminaria en busca de daños que puedan haber ocurrido durante el tránsito. Si está dañado, comuníquese con el fabricante de inmediato.
- Estas instrucciones no pretenden cubrir todos los detalles o variaciones en el equipo ni proporcionar todas las posibles contingencias a cumplir en relación con la instalación, operación o mantenimiento. Si desea obtener más información o si surgen problemas particulares que no están suficientemente cubiertos para los propósitos del comprador o propietario, comuníquese con el fabricante.