



15W/T8/AB/40K/DE



TYPE A/B BYPASS AND DIRECT REPLACEMENT

INSTALLATION AND SAFETY INSTRUCTIONS

IMPORTANT: Read before installing fixture. Retain for future reference.

The retrofit kit includes an LED tube and modification sticker.

WARNING

DANGER: Risk of shock. Disconnect power before installation.

DO NOT INSTALL THIS LAMP IN A PRE-HEAT LUMINAIRE.

NOTE

This item is rated at 120-277V. Installer must determine whether line voltage 120-277V is available at the luminaire before installation. This item complies with Part 15 of FCC. 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. These products are not suitable for use with emergency exit fixtures or emergency exit lights.

Suitable for damp location.

Suitable for use in enclosed luminaires.

For use with fluorescent luminaires.

Suitable for use with luminaires with the minimum dimensions lamp compartment. See below table.

Suitable for use with luminaires with maximum 4 lamps.

This item is suitable for use with existing ballasts (Type A) or with directly on line voltage 120-277V power (Type B).

The minimum lamp compartment dimensions are described below:

Model Number	Lamp Compartment Dimension			Maximum Lamps in Luminaire
	Length	Width	Height	
15W/T8/AB/40K/DE	47-15/16"	22-9/16"	2-9/16"	4

TYPE A INSTALLATION GUIDE – WARNING

TYPE A LAMP - INTENDED FOR DIRECT SUBSTITUTION OF A FLUORESCENT LAMP AND OPERATING FROM THE INTEGRAL BALLAST WITHOUT ANY MODIFICATIONS TO THE FLUORESCENT LUMINAIRE.

CAUTION: RISK OF FIRE. IF THE LAMP OR LUMINAIRE EXHIBITS UNDESIRABLE OPERATION (BUZZING, FLICKERING, ETC.), IMMEDIATELY TURN OFF POWER, REMOVE LAMP FROM LUMINAIRE AND CONTACT MANUFACTURER.

WARNING - RISK OF FIRE. USE ONLY IN PLACE OF FLUORESCENT LAMPS SPECIFIED ON LAMP LABEL.

WHEN THIS LAMP ONLY OPERATES ON ELECTRONIC BALLASTS. IF LAMP DOES NOT LIGHT WHEN THE LUMINAIRE IS ENERGIZED, REMOVE LAMP FROM LUMINAIRE AND CONTACT LAMP MANUFACTURER OR QUALIFIED ELECTRICIAN.

EXAMINE LUMINAIRE FOR DAMAGE BEFORE INSTALLING LED LAMP. IF LAMPHOLDERS OR OTHER PARTS ARE VISIBLY DAMAGED CONTACT A SERVICE PERSON.

DO NOT MIX FLUORESCENT AND LED LAMPS IN THE SAME LUMINAIRE UNLESS BALLAST IS MARKED FOR THIS PURPOSE.

- Suitable for use with existing ballasts. For a complete compatibility list, refer to the last page of this instruction sheet.
- This lamp is not compatible with luminaires that use a remote starter.
- Suitable to replace T8 fluorescent lamps as specified on the product label.

TYPE A INSTALLATION INSTRUCTIONS:

One LED T8 tube installation:

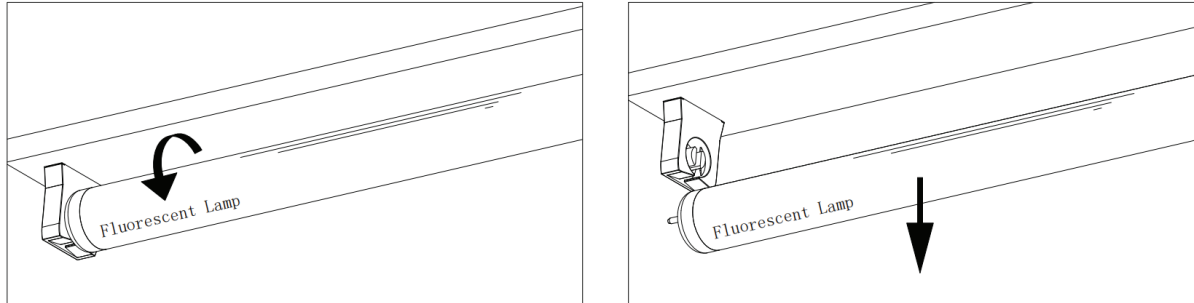
Please ensure the ballast is compatible. Refer to the ballast compatibility list for guidance.

STEP 1: Switch off power to the luminaire.

STEP 2: Remove the diffuser (if applicable).

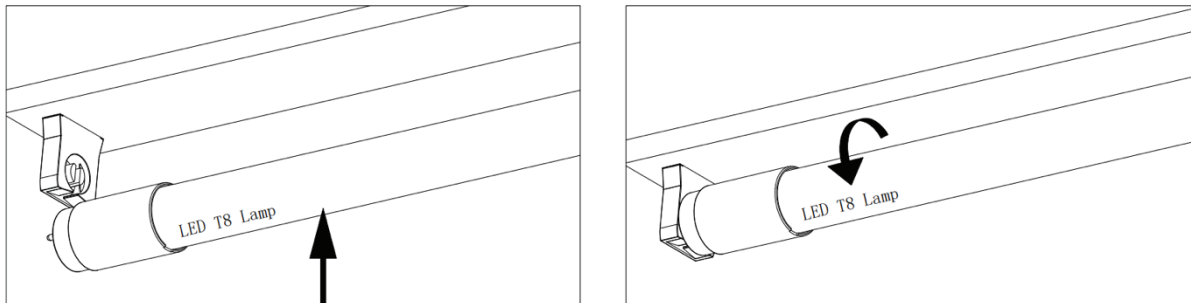
STEP 3: Remove the existing fluorescent lamps from the luminaire, as shown in Fig. A1.

Fig.A1



STEP 4: Install the LED T8 tube onto the luminaire bracket, as shown in Fig. A2. Ensure the pins are firmly seated in the lamp holders.

Fig.A2



STEP 5: Reinstall the lens or diffuser (if applicable).

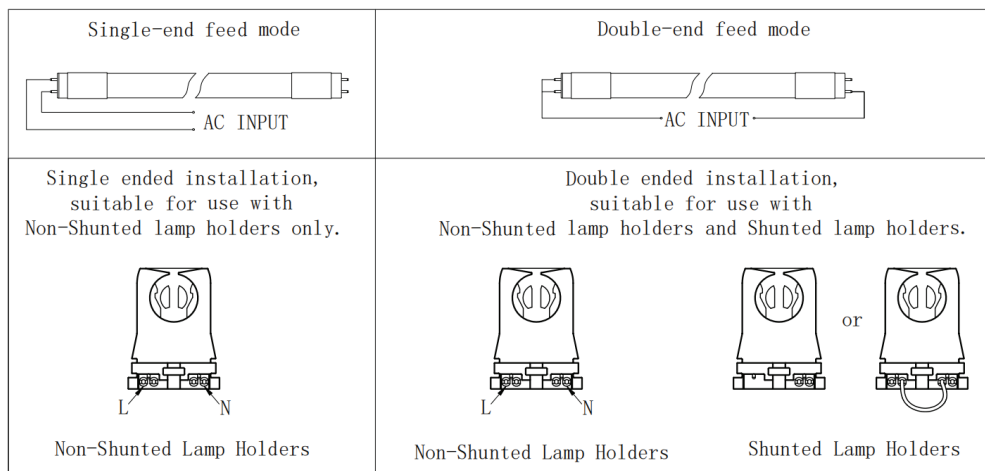
STEP 6: Switch the power back on.

INSTALLATION OF MULTIPLE LED T8 TUBES

Repeat Steps 1 to 6.

TYPE B SINGLE AND DOUBLE ENDED WIRING INSTALLATION GUIDE - WARNING

TYPE B LAMP – INTENDED FOR OPERATION IN LUMINAIRES WITH TRADITIONAL FLUORESCENT-TYPE LAMP HOLDERS WIRED DIRECTLY TO THE BRANCH CIRCUIT. THIS INCLUDES BOTH FACTORY-WIRED LUMINAIRES AND THOSE THAT HAVE BEEN MODIFIED FOR THIS PURPOSE UNDER A RETROFIT PROGRAM.



WARNING – Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.

WARNING – Risk of fire or electric shock. 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.

WARNING – Risk of fire or electric shock. Luminaire wiring and electrical parts may be damaged when drilling for installation of LED retrofit kit. Check for enclosed wiring and components.

WARNING – RISK OF FIRE OR ELECTRIC SHOCK. 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.

Installers should not disconnect existing wires from lampholder terminals to make new connections at lampholder terminals. Instead installers should cut existing lampholder leads away from the lampholder and make new electrical connections to lampholder lead wires by employing applicable connectors.

THE 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.

WARNING – Risk of fire. Input ratings may need to be determined based on any configuration(s) permitted by the installation instructions. Regardless of the configuration(s) of the retrofit kit, the input ratings of the overall retrofit kit shall not exceed the marked input ratings of the host luminaire.

WARNING - To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.

WARNING - Installers should examine all parts that are not intended to be replaced by the retrofit kit for damage and replace any damaged parts prior to installation of the retrofit kit.

Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.

Prior to installation, review all environmental designation locations in the retrofit kit installation instructions. Only install in damp or wet locations if so indicated in the installation instructions.

- Not for use with luminaire ballast when used as Type B.
- Suitable for use with non-shunted lamp holders only for single ended wiring.
- For single ended wiring, to avoid potential fire or shock hazard, do not use this retrofit kit in luminaires employing shunted bi-pin lamp holders. Note: 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. For more information, contact the LED luminaire retrofit kit manufacturer
- "This luminaire has been modified to operate LED lamps" shall be marked on the retrofit luminaire where readily visible by the user during normal maintenance including re-lamping.
- Risk of fire or electric shock. Do not open or modify. No user serviceable parts inside.

TYPE B (DOUBLE-ENDED) INSTALLATION INSTRUCTIONS:

Retrofit Steps.

Retrofit fluorescent luminaire with electric ballast:

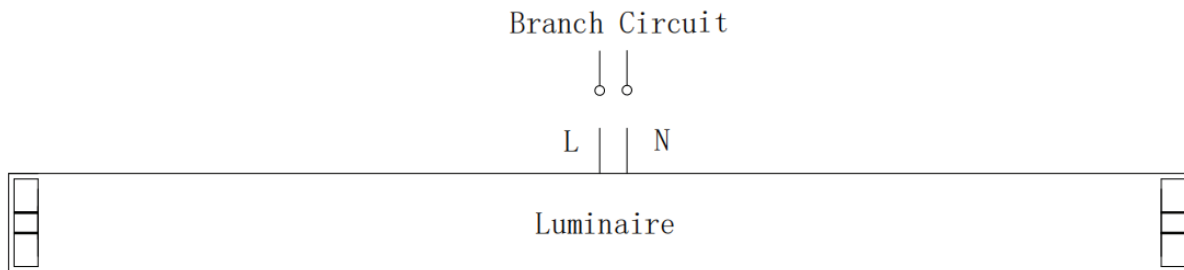
STEP 1: Read all warnings carefully before proceeding with this section.

STEP 2: Ensure power is turned off at the source to the location where you are installing the product.

STEP 3: Remove the existing fluorescent tube(s), diffuser (if applicable), and open the ballast cover.

STEP 4: Disconnect the luminaire supply wires (L and N) from the branch circuit, as shown in Fig. B1.

Fig.B1



STEP 5: Following wiring diagrams for number of lamps and original ballast type(Instant start, programmed start or rapid start)

(It is applicable when using Instant Start) Original circuit as shown in Fig.B2. Cut lampholder leads "1, 2, 3, 4", then connect one lead from each lampholder to branch circuit as follows, "Leads 3" connected to L; "Leads 4 " connected to N, as shown in Fig.B2.1. Cut as far away from the lampholders to allow for longer lengths of wire at both lampholders.

Note: Mark "L" at the lamp socket of lead 3 and "N" at the lamp socket of lead 4.

Fig.B2

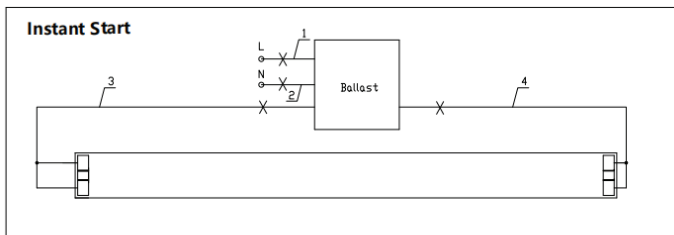
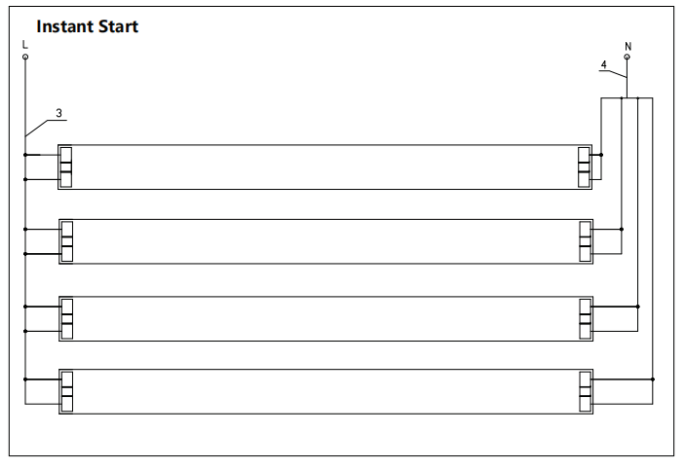
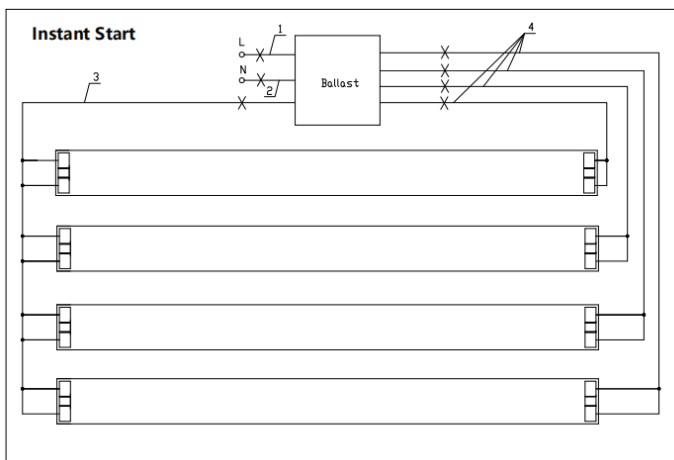
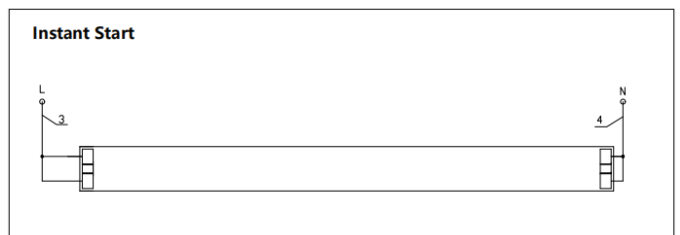


Fig.B2.1



(It is applicable when using Program Start or Rapid Start) Original circuit as shown in Fig.B2.2. Cut lampholder leads “1, 2, 3, 4, 5”, then connect one lead from each lampholder to branch circuit as follows, “Leads 3, 4” connected to L; “Leads 5 ” connected to N, as shown in Fig.B2.3. Cut as far away from the lampholders to allow for longer lengths of wire at both lampholders.
Note: Mark “L” at the lamp socket of lead “3, 4” and “N” at the lamp socket of lead 5.

Fig.B2.2

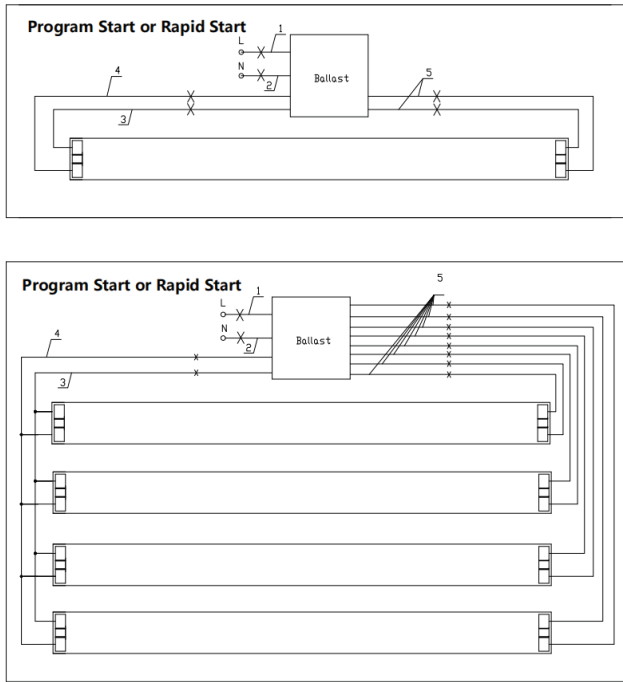
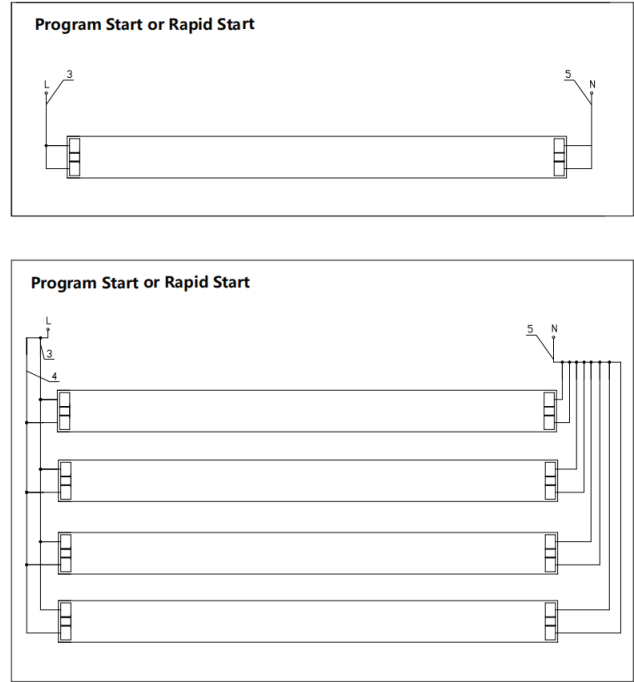


Fig.B2.3

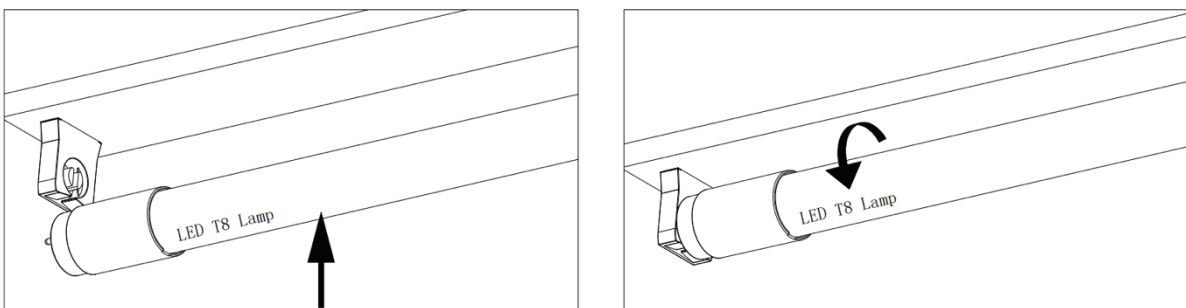


STEP 6: Dispose of the removed ballast and fluorescent lamps in accordance with government regulations.
STEP 7: Reinstall the ballast cover and diffuser (if applicable) onto the luminaire.
STEP 8: Visibly affix the modification sticker to the fixture and reinstall the housing cover and lens (if applicable).

LED T8 TUBE INSTALLATION

STEP 9: Install the LED T8 tube on the luminaire bracket as shown in as shown in Fig.B3

Fig.B3



STEP 10: Turn on the AC power source, LED Tube will illuminate.

TYPE B (SINGLE-ENDED) INSTALLATION INSTRUCTIONS:

When using a Type B single-ended LED tube, power is supplied to only one end of the tube (both live and neutral connections are on the same side).

Do not use this retrofit kit in luminaires employing shunted bi-pin lamp holders.

Note: 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.

Retrofit Steps.

Retrofit fluorescent luminaire with electric ballast:

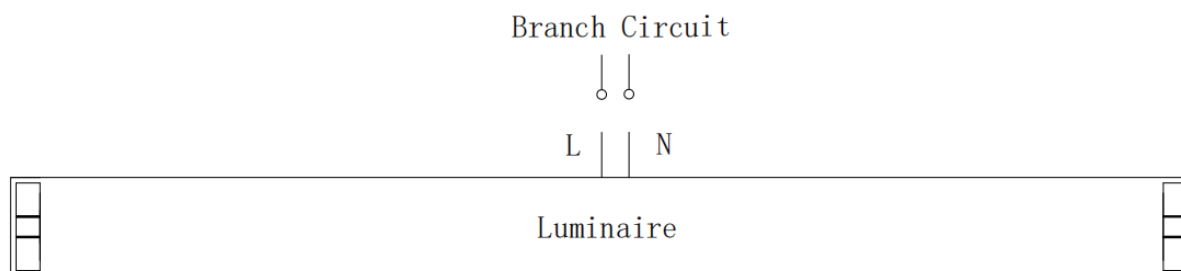
STEP 1: Read all warnings carefully before proceeding with this section.

STEP 2: Ensure the power is turned off at the source to the location where you are installing the product.

STEP 3: Remove the existing fluorescent tube(s), diffuser (if applicable), and open the ballast cover.

STEP 4: Disconnect the luminaire supply wires (L and N) from the branch circuit, as shown in Fig. C1.

Fig.C1



STEP 5: The original circuit is shown in Fig. C2. Cut lampholder leads "1, 2, 3, 4, 5," then connect one lead from each lampholder to the branch circuit as follows: "Lead 3" connected to L; "Lead 4" connected to N, as shown in Fig. C2.1. Cut as far away from the lampholders as possible to allow for longer lengths of wire at both lampholders. Note: Mark "L" at the lamp socket of lead 3 and "N" at the lamp socket of lead 4.

Fig.C2

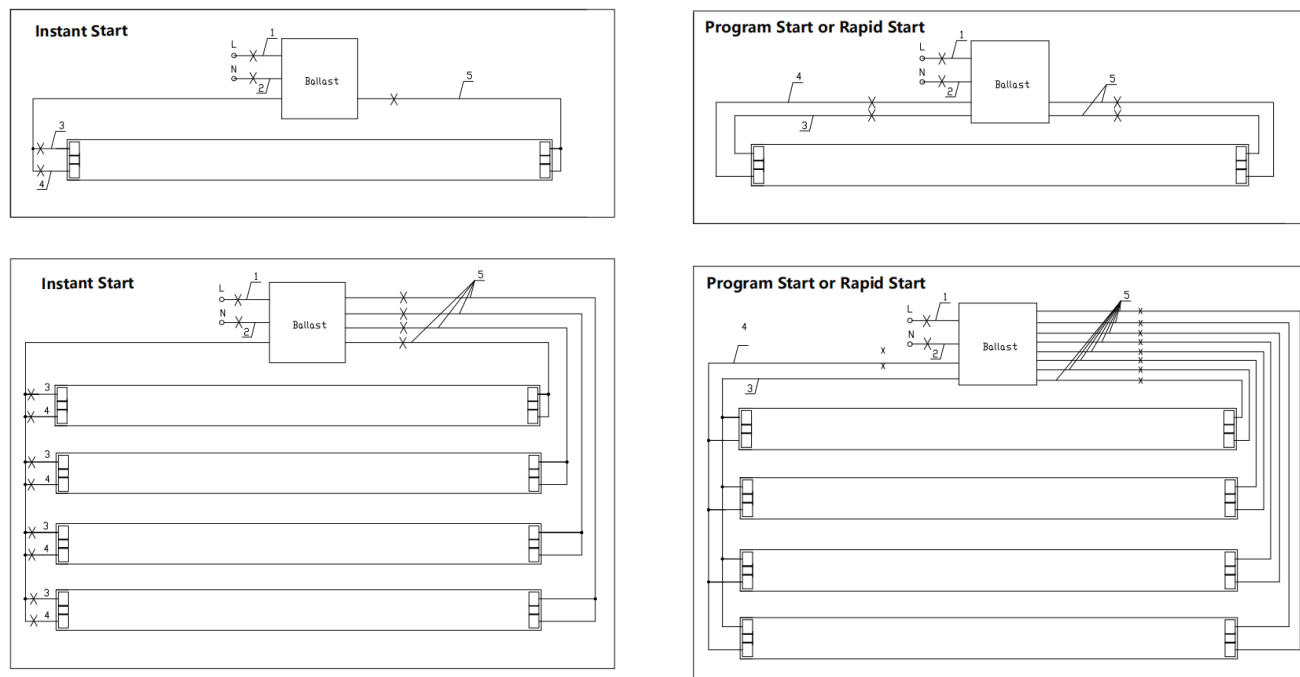
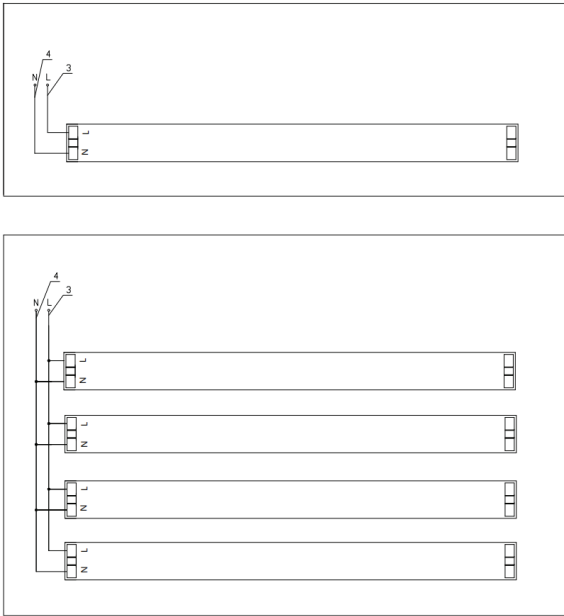


Fig.C2.1

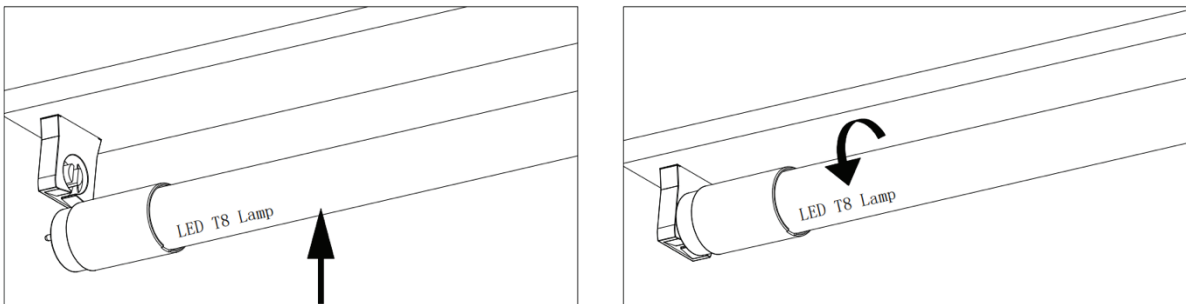


STEP 6: Dispose of the removed ballast and fluorescent lamps in accordance with government regulations.
STEP 7: Reinstall the ballast cover and diffuser (if applicable) onto the luminaire.
STEP 8: Visibly affix the modification sticker to the fixture, and reinstall the housing cover and lens (if applicable).

LED T8 TUBE INSTALLATION

STEP 9: Install the LED T8 tube on the luminaire bracket as shown in as shown in Fig. C3.

Fig.C3



STEP 10: Turn on the AC power source. The LED tube will illuminate.

WARRANTY: Each Greenlite™ LED tube is warranted to be free from defects in workmanship and material for 5 years. If it fails to do so, Greenlite™ will send you, at its election, a replacement or equivalent. Please visit www.greenliteusa.com to find out how to initiate a warranty claim. This limited warranty does not cover tubes subject to accident, neglect, abuse, misuse or acts of God. Replacement or refund is your sole remedy.

BALLAST COMPATIBILITY LIST

BRAND	MODEL	LAMP QUANTITY
TAYOLE	40155-SU-SB/232/MV	2
ACT	ACT2P32ISUNVE	2
ACCUPRO	AP-RC-232IP	2
Universal	B232IUNVHE-N	2
Universal	B232IUNVHP-N	2
Universal	B332IUNVHE-A	3
Universal	B332IUNVHP-A	3
Universal	B432IUNVEL-A	4
Universal	B432IUNVHP-A	4
TCP	E3P32/SUN VEx2	2
TCP	E4P32ISUNVHE	4
HOWARD INDUSTRIES	EP2/32IS/MV/MC/HE	2
HOWARD INDUSTRIES	EP3/32IS/MV/MC/HE	3
HOWARD INDUSTRIES	EP4/32IS/MV/MC/HE	4
HOWARD INDUSTRIES	EP432IS/MV/HE	4
HOWARD INDUSTRIES	EPL2/32IS/MV/MC/HE	2
HOWARD INDUSTRIES	EPL3/32IS/MV/SC	3
HOWARD INDUSTRIES	EPL3/32IS/MV/SC/HE	3
UltraMax	GE132MAXP-N/ULTRA	1
PROLINE	GE232-120-RES	2
UltraMax	GE232MAX-G-N	2
UltraMax	GE232MAX-G-N-DIY8	2
UltraMax	GE232MAXP-N/ULTRA	2
UltraMax	GE-332-120-N	3
UltraMax	GE332MAX-G-N	3
UltraMax	GE332MAX-N/ULTRA	3
UltraMax	GE332MAXP-N/ULTRA	3
UltraMax	GE432MAX-G-N	4
UltraMax	GE432MAX-N/ULTRA	4
HATCH	HL432BIS/UV/HE/W	4

BRAND	MODEL	LAMP QUANTITY
PHILIPS ADVANCE	ICN-3P32-N	3
PHILIPS ADVANCE	ICN-4P32-N	4
PHILIPS ADVANCE	IEA432T8120N	4
PHILIPS ADVANCE	IOP-2P32-N	2
PHILIPS ADVANCE	IOP-3P32-N	3
PHILIPS ADVANCE	IOP-4P32-N	4
PHILIPS ADVANCE	IOPA-1P32-N	1
PHILIPS ADVANCE	IOPA-3P32-LW-N	3
PHILIPS ADVANCE	IOPA-3P32-N	3
PHILIPS ADVANCE	IOPA-4P32-LW-N	4
PHILIPS ADVANCE	IOPA-4P32-N	4
PHILIPS ADVANCE	IOPA-4P32-SC	4
Robertson	ISU232T8120 3P20116	2
KEYSTONE	KTEB-232RIS-I-TP-SL	2
KEYSTONE	KTEB-232-UV-IS-N-P	2
KEYSTONE	KTEB-332-UV-IS-N-P	3
OSRAM	QHE 2x32T8/UNV ISN-SC	2
OSRAM	QHE 2x59T8/UNV ISL-SC	2
OSRAM	QHE 4x32T8/UNV ISL-SC	4
OSRAM	QTP 2x32T8/UNV ISH-SC	3
OSRAM	QTP 3x32T8/UNV ISN-SC	3
PHILIPS ADVANCE	REB-2P32-N	2
SUNPARK	U-4/32ISE	4
ESPEN	VE2P32MVHIPE	2
FULHm	WHS61-UNV-T8-IS	1
FULHm	WHS64-UNV-T8-IS	4