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

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.

THIS DEVICE IS NOT INTENDED FOR USE WITH EMERGENCY EXITS.

Only use the control provided with or specified by these instructions to control this lamp. This lamp will not operate properly when connected to a standard (incandescent) dimmer or dimming control.

TYPE B LAMP – Intended for operation in luminaires with traditional fluorescent-type lampholders wired directly to the branch circuit. This includes both factory-wired luminaires as well as those converted for this purpose under a retrofit program.

KEYSTONE LIGHT MADE EASY

DIRECTDRIVE DX2

SINGLE- OR DOUBLE-ENDED LINE VOLTAGE T8 TUBES

WATTAGE	INPUT VOLTAGE	CRI	RF
10.5W	120-277V	>80	>0.90
FREQUENCY	INPUT CURRENT	COLOR	WARRANTY
50/60HZ	95mA at 120V 42mA at 277V	3000K/3500K/ 4000K/5000K/ 6500K	5 Years

RoHS Compliant

CAT. NO.:
KT-LED10.5T8-48GC-8CSJ-DX2

COLOR SELECT

Installation & Operating Instructions below

CAUTION: Before installing, make certain the AC power to the fixture is off.
CAUTION: The electrical rating of this product is 120-277V. Installer must confirm that there is 120-277V at the fixture before installation.
CAUTION: LEDs are extremely bright. Do not look directly at the LED light source for extended time as over-exposure may cause harm to the eyes.

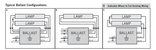
EASY CODE:
VM-863

8 45654 17101 2

Instructions for Single-Ended Wiring Installation

Removing Existing Fluorescent System
1. Remove fluorescent tubes.
2. Remove the power cord from the fixture.
3. Remove lens and wiring compartment, if applicable.
4. Locate the ballast and disconnect the wires (see Diagrams A, B, and C).
5. Identify what type lamp holders are in fixture. Single Ended wiring installations of Keystone Direct Drive DX2 tubes require non-shunted (CC) or non-shunted (CC) lamp holders.
6. If applicable, replace lamp holders with non-shunted lamp holders.

Typical Ballast Configurations



7. Complete all electrical connections with appropriate connectors/wire nuts as needed, per all local and national electrical codes.
NOTE: There should not be any exposed wires from sockets left in the fixture.
8. Replace wiring compartment cover.
9. Install all of the Keystone Direct Drive DX2 tubes. Install LED tubes with the Keystone Direct Drive DX2 tubes in the same luminaires, and install any lens or diffuser as applicable. Starting times may be longer for several seconds.

CAUTION: Use only non-shunted lamp holders for Single-Ended wiring installations.
Some existing fluorescent lamp wiring installations of product in a fixture with shunted lamp holders found in all fixtures using instant start ballasts. If the existing lamp holders are shunted (SC), they must be replaced with non-shunted lamp holders with non-shunted lamp holders to maintain the universal mount if applicable. Make new connections directly to lamp holder terminals as shown in Figure C.

Typical Non-Shunted Lampholder



Typical Shunted Lampholders



Installing the Lamps
NOTE: For Single-Ended wiring installations, power is only applied to endcap labeled Side A. DO NOT apply power to Side B.
1. Confirm that power is still disconnected from fixture.
2. Make sure fixture is properly grounded.
3a. Follow step 1 for single lamp application or steps 2 & 3 for multiple lamp application, based on the number of lamps in the fixture.

Single Lamp
1. On the hole A lamp holder, connect line (L) and neutral (N) AC wires to the corresponding pins marked (L) and (N) on the endcap. If only one lamp is being installed, proceed to step 4.



Multiple Lamps
1. Use the hole A lamp holder for single lamp connection to connect the first lamp.
2. Connect the terminals on the powered lamp holder from the first lamp to the matching terminals on the powered lamp holder of the second lamp with line (L) and neutral (N) wires. Refer to the right Combo-Assy chart connection for each additional lamp.



4. Complete all electrical connections with appropriate connectors/wire nuts as needed, per all local and national electrical codes.
NOTE: There should not be any exposed wires from sockets left in the fixture.
5. Replace wiring compartment cover.
6. Install all of the Keystone Direct Drive DX2 tubes. Install LED tubes with the Keystone Direct Drive DX2 tubes in the same luminaires, and install any lens or diffuser as applicable. Starting times may be longer for several seconds.

Instructions for Double-Ended Wiring Installation

Removing Existing Fluorescent System
1. Remove fluorescent tubes.
2. Remove the power cord from the fixture.
3. Remove lens and wiring compartment, if applicable.
4. Cut all wires connected to the ballast as shown in Diagrams A, B, and C above.
5. Identify what type lamp holders are in fixture. Double Ended wiring installations of Keystone Direct Drive DX2 tubes can be used with shunted (CC) or non-shunted (CC) lamp holders. Non-shunted (CC) is recommended for new installations.

Installing the Lamps
1. Confirm that power is still disconnected from fixture.
2. Make sure fixture is properly grounded.
3. Follow step 1 for single lamp application or steps 2 & 3 for multiple lamp application, based on the number of lamps in the fixture.

Single Lamp
1. On the hole A lamp holder, connect line (L) wire to one pin and neutral (N) wire to the other pin.

Shunted Lampholders



Non-Shunted Lampholders



Multiple Lamps
1. Follow the steps above for single lamp connection to connect the first lamp.
2. Connect the terminals on the powered lamp holder from the first lamp to the matching terminals on the powered lamp holder of the second lamp with line (L) and neutral (N) wires. Refer to the right Combo-Assy chart connection for each additional lamp.

Shunted Lampholders



Non-shunted Lampholders



4. Complete all electrical connections with appropriate connectors/wire nuts as needed, per all local and national electrical codes.
NOTE: There should not be any exposed wires from sockets left in the fixture.
5. Replace wiring compartment cover.
6. Install all of the Keystone Direct Drive DX2 tubes. Install LED tubes with the Keystone Direct Drive DX2 tubes in the same luminaires and install any lens or diffuser as applicable. Starting times may be longer for several seconds.

Safety and Electrical Parameters

These tubes are designed to operate on standard ballast output. Check that the AC electrical input to the ballast powers luminaire that uses a maximum of 5 straight tubular lamps (T8 or T12) and that the ballast and luminaire simultaneous of the luminaire are calculated below.

LED TUBE MODEL NO.	Lamp Compartment Dimensions (min)	Max. Lamps in Luminaire	Space Between Lampholders (min)
KT-LED10.5T8-48GC-8CSJ-DX2	2.2 in / 56.1 mm	4	47 in / 1194 mm

Luminaires with incandescent cable, sockets, the following must be observed when using this LED lamp:

LED TUBE MODEL NO.	INPUT VOLTAGE	INPUT FREQUENCY	INPUT CURRENT	INPUT WATTAGE	TUBE LENGTH
KT-LED10.5T8-48GC-8CSJ-DX2	120-277V	50-60 Hz	0.095-0.042A	10.5W	4ft

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.

AVERTISSMENT: Risque d'incendie ou d'électrocution. L'installation d'un kit d'installation retrofit a led nécessite une bonne connaissance des systèmes électriques des luminaires. si vous n'êtes pas qualifié, ne tentez pas l'installation et contacter un électricien qualifié.

WARNING: Risk of fire or electric shock. Install this kit only in 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.

AVERTISSMENT: Risque d'incendie ou d'électrocution. Installer cet ensemble uniquement pour les luminaires présentant les caractéristiques de fabrication et les dimensions indiquées sur les photographies et / ou les dessins et pour lesquels la puissance d'entrée de l'ensemble d'après installation ne dépasse pas la puissance nominale du luminaire.

WARNING: To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.
AVERTISSMENT: Pour éviter d'endommager le câblage ou éviter son abrasion, ne le placez pas sur les bords de surfaces en tôle ou près de tout autre objet coupant.

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. All electrical connections shall be provided with an enclosure.

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.