SINCE 1945 KEYSTONE

SIGN HERO

INSTALLATION AND OPERATING INSTRUCTIONS

For use with all Single and Double Sided Tubes DX2 version

INSTALLATION

Product includes the following components:

PARTS	QUANTITY (Distributor Pack)	QUANTITY (Carton Pack)
LED Tube	1	9 pcs/box
Installation Instruction Sheet	1	1
Directwire Warning Label	1	9 pcs/box

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.

Attention : Avant d'installer, assurez-vous que l'alimentation de l'appareil est éteint.

Attention : La puissance nominale de ce produit est de 120-277V. Programme d'installation doit confirmer qu'il y a 120-277V à l'appareil avant l'installation.
Attention : Les LED sont extrêmement brillants. Ne regardez pas directement la source lumineuse de LED pendant de longues périodes car une surexposition peut causer des dommages aux yeux.

WARNINGS

WARNING: Risk of fire or electric shock. This LED retrofit kit installation requires knowledge of luminaires/sign electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.
WARNING: Risk of fire or electric shock. Install this LED retrofit kit only in luminaires/sign 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 sign.
WARNING: To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.
WARNING: Risk of fire or electric shock. 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.
WARNING: To avoid potential fire or shock hazard, do not use this LED 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 "IS" 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 more information, contact Keystone Technologies.
WARNING: Risk of fire or electric shock. 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.

AVERTISSEMENT: Risque d'incendie ou de choc électrique. L'installation de ce kit de conversion à LED nécessite la connaissance des systèmes électriques des luminaires. Si non qualifié, ne tentez pas l'installation. Contactez un électricien qualifié.
AVERTISSEMENT: Risque d'incendie ou de choc électrique. Installer cette rénovation LED kit seulement dans des luminaires / signer qui ont les caractéristiques de la construction et les dimensions indiqué dans les photos ou dessins.
AVERTISSEMENT: Pour éviter tout endommagement ou abrasion du câblage, ne l'exposez pas aux bords des tôles ou autres objets coupants.
AVERTISSEMENT: Risque d'incendie ou de choc électrique. Installation de ce kit de rénovation de LED peut impliquer de forage ou de poinçonnage de trous dans la structure de la signe. Vérifiez le câblage et composants pour éviter d'endommager les pièces électriques et de câblage
AVERTISSEMENT: Pour éviter tout incendie ou choc électrique, ne pas utiliser ce kit de rénovation de LED dans des luminaires employant shunte bi-broches douilles. Remarque : Les douilles Shunte sont trouvent uniquement dans des luminaires fluorescents avec les ballasts à démarrage instantané. Les ballasts à démarrage instantané peuvent être identifiées par les mots « Instant Start » ou « IS » marqué sur le ballast. Cette désignation peut prendre la forme d'une déclaration concernant le ballast lui-même ou être combinée avec le marquage des luminaries le ballast est destiné à être utilisé avec.Pour plus d'informations, contactez Keystone Technologies.
AVERTISSEMENT: 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.

Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.
The Retrofit process to be handled by a qualified electrician that is familiar with the National Electrical Code (NEC).
The retrotit is only suitable for use with LISTED sign only.
Only those open holes indicated in the photographs and/or drawings may be added or altered as a result of kit installation. Do not leave any other open holes in the wiring enclosure or electrical component enclosure during installation.

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

Please 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.

Repair and seal any unused openings in the electrical enclosure. Openings greater than 12.7mm (1/2in) 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.

THIS DEVICE IS NOT INTENDED FOR USE WITH EMERGENCY EXITS.

SAVE THESE INSTRUCTIONS

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.

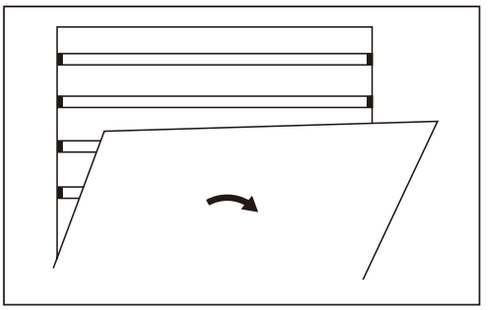
Lampe de TYPE B - destinée à fonctionner dans des luminaires avec des lampes fluorescentes traditionnelles câblées directement sur le circuit de branchement. Cela comprend les luminaires câblés en usine ainsi que ceux convertis à cette fin dans le cadre d'un programme de modernisation.

INSTALLATION

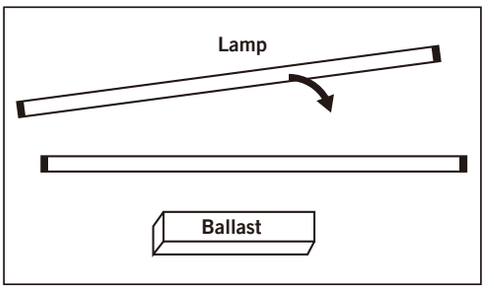
Note: Both ends of this LED tube receive power

Removing existing fluorescent system:

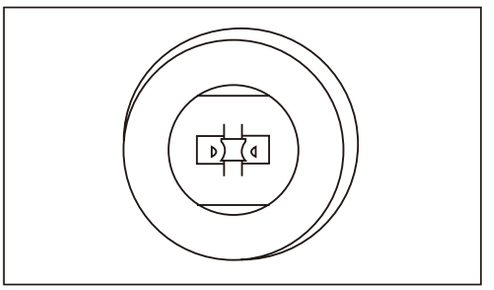
1. Disconnect power from fixture and open sign.



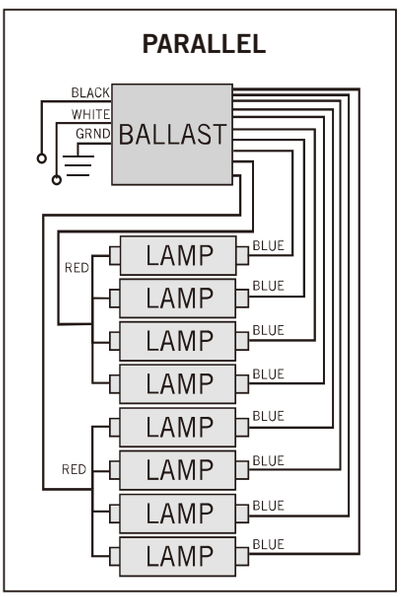
2. Remove fluorescent lamp(s), also lens and wiring if applicable.

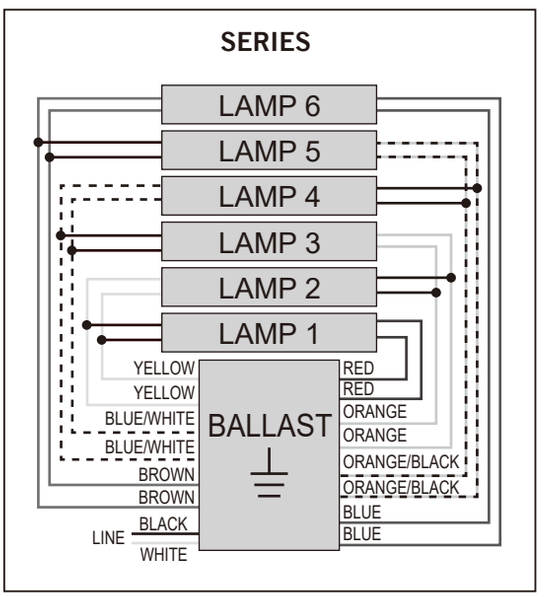


3. Confirm that the lampholders in the fixture are in good shape and are bi-pin R17d lampholders. These LED tubes require bi-pin R17d lampholders.

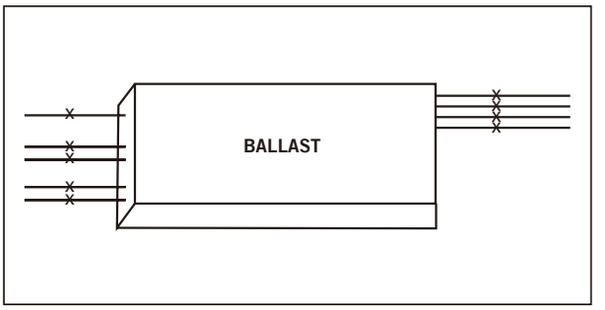


4. Access sign raceway/wiring box. Ballast configuration should be similar to one of the diagrams.





5. Cut all input and output wires connected to the ballast accordingly. Do not remove ballast if removal leaves opening in raceway.



6. If a disconnect switch is integral to the disconnect ballast, the disconnect switch will need to be relocated and mounted to a visible location on the sign.

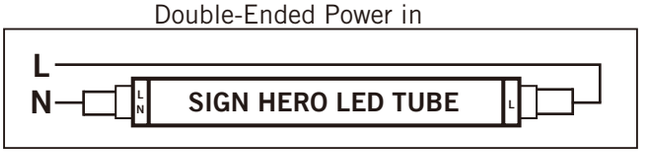
   Make sure the electrical rating of the switch or circuit breaker is not exceeded. See "Mounting Instructions for Disconnect Switch".

7. Confirm that power is still disconnected from fixture.
8. Make sure fixture is properly grounded.
9. Move the CCT switch to the desired CCT position. Follow step A for single lamp application or step B for multiple lamp application, based on the number of lamps in the fixture:
10. After ballast is removed and fixture is rewired, affix the Directwire Warning Label to an area on the sign or luminarie that is readily visible to those servicing it.

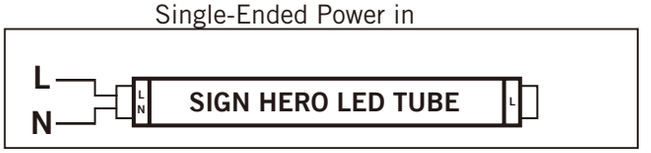
Single Lamp

A. Connect the line AC wires to the lampholders as in the diagrams below.
   If only one lamp is being installed, proceed to step 10.

Double-Ended Power in



Single-Ended Power in



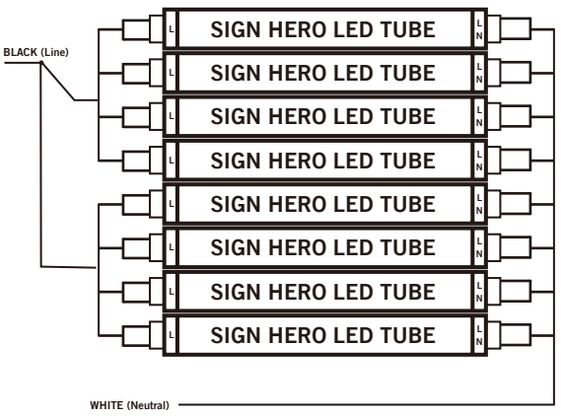
Multiple Lamps

B. Rewire the fixture using existing lampholders as shown below according to the original ballast wiring configuration. Maximum 8 tubes used.

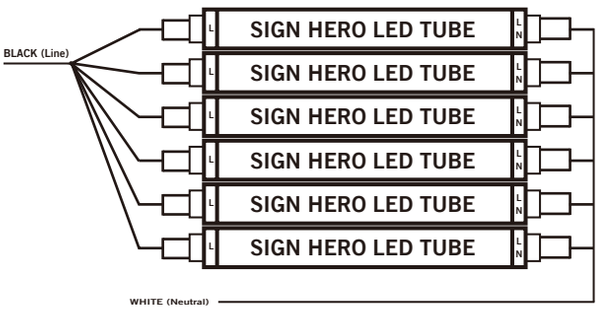
Typical Ballast Configurations

Double-Ended Power in

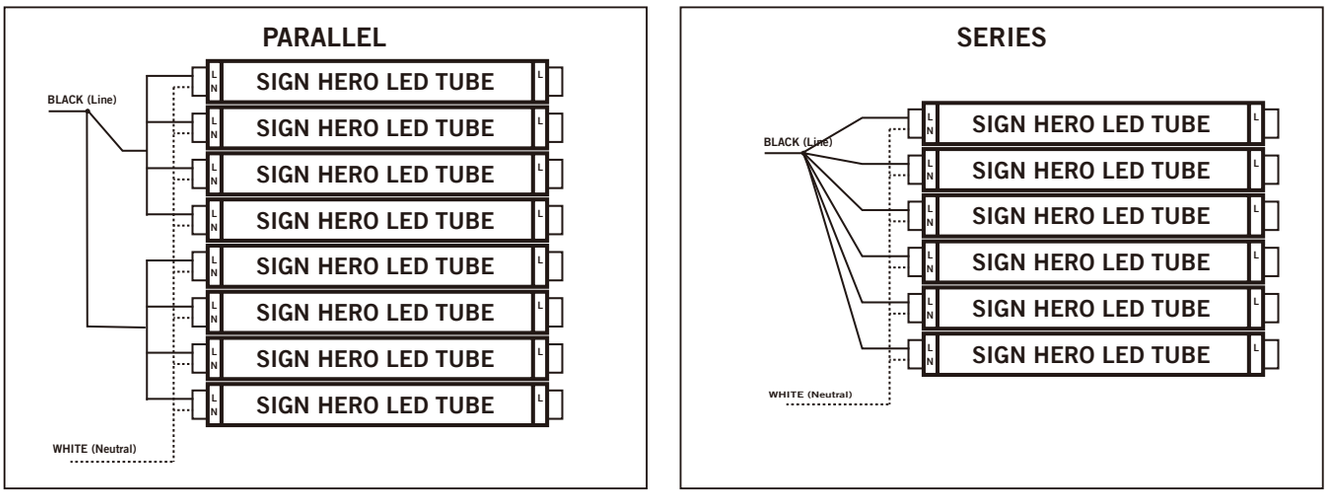
PARALLEL



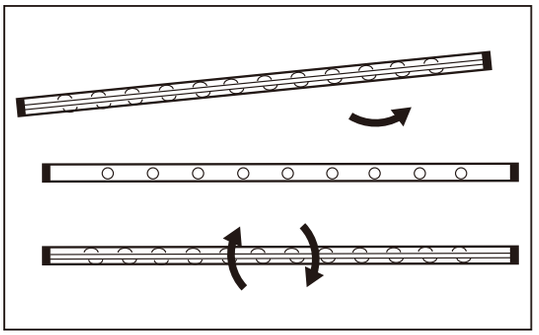
SERIES



Single-Ended Power in



11. Complete all electrical connections with appropriate connectors/wire nuts as needed, per all local and national electrical codes.
12. Replace wiring compartment cover.
13. Install all of the Sign Hero LED tubes, rotating the LEDs into the desired position for optimal illumination. Ensure side marked "L" is connected to corresponding line lampholder and "N" is connected to corresponding neutral lampholder.



14. Apply power to fixture and check for illumination.

Mounting Instructions for Disconnect Switch (if applicable):

i. Install at a location at or near the point of each supply connection of sign;
ii. Switch shall have a manual actuator which shall be protected against mechanical injury and shall be operable before entering the electrical enclosure;
iii. Switch shall open all ungrounded conductors;
iv. Switch shall be marked with the ON and OFF positions;
v. Switch shall have no energized parts (primary) accessible to contact when in the OFF position;
vi. Switch shall not be of the solid-state type.
vii. Switch shall be suitably rated for wet location use or provided with a wet-location switch boot if mounted to an outdoor rated sign.

To comply with the published safety standards, the following must be observed when using this LED tube:

INSTALLATION

1. These LED tubes are intended for lighting systems only.
2. Maximum ambient temperature must not exceed 55°C (131°F).
3. Avoid use in sunlight, abnormal heat, or moist/condensing environments.
   - Working temperature:-20°C~55°C (-4°F~131°F)
   - Working humidity: 30%~85%
   - Storage temperature: -40°C~65°C (-40°F~149°F)
   - Storage humidity: 10%~90%

4. Access sign raceway/wiring box. Ballast configuration should be similar to one of the diagrams shown below.
5. These LED tubes are constructed such that they do not rely upon the luminaire enclosure for protection against accidental contact with live parts.
6. These LED tubes are intended to retrofit maximum eight lamps for UL Listed surface mount, type IC or non-IC recessed mount fluorescent luminaries with or without diffuser that use straight tubular lamps; or to retrofit maximum eight lamps for UL Listed sign lighting system.
7. These LED tubes are intended to be used in dry or damp locations only.
8. These LED tubes are not for use with dimmers.
9. These LED tubes are not intended for use with emergency exit fixtures of any type.
10. These tubes are intended to be installed in the same orientation as the fluorescent tubes they are replacing.
11. Retrofit sign conversion LED kit: For use only in accordance with kit instructions.

TROUBLESHOOTING GUIDLINE

Symptom	Solution
Nothing is lighting up.	• Check the power coming in. • Check the input wiring to the lampholders. • Look for miswiring and short circuits.

If problem persists, please contact: Keystone Technologies

SPECS AVAILABLE

LED TUBE MODEL NO.	INPUT VOLTAGE	INPUT FREQUENCY	INPUT CURRENT	INPUT WATTAGE	MAX TUBE LENGTH
KT-LED7T8-18P2SO-8CSK-DX2	120-277V	50/60Hz	60mA	7W	404mm
KT-LED10T8-24P2SO-8CSK-DX2	120-277V	50/60Hz	90mA	10W	557mm
KT-LED13T8-30P2SO-8CSK-DX2	120-277V	50/60Hz	115mA	13W	709mm
KT-LED16T8-36P2SO-8CSK-DX2	120-277V	50/60Hz	140mA	16W	861mm
KT-LED18T8-42P2SO-8CSK-DX2	120-277V	50/60Hz	160mA	18W	1014mm
KT-LED21T8-48P2SO-8CSK-DX2	120-277V	50/60Hz	185mA	21W	1166mm
KT-LED26T8-60P2SO-8CSK-DX2	120-277V	50/60Hz	230mA	26W	1471mm
KT-LED28T8-64P2SO-8CSK-DX2	120-277V	50/60Hz	245mA	28W	1573mm
KT-LED31T8-72P2SO-8CSK-DX2	120-277V	50/60Hz	275mA	31W	1776mm
KT-LED37T8-84P2SO-8CSK-DX2	120-277V	50/60Hz	325mA	37W	2081mm
KT-LED42T8-96P2SO-8CSK-DX2	120-277V	50/60Hz	370mA	42W	2385mm
KT-LED47T8-108P2SO-8CSK-DX2	120-277V	50/60Hz	415mA	47W	2690mm
KT-LED50T8-117P2SO-8CSK-DX2	120-277V	50/60Hz	440mA	50W	2919mm
KT-LED52T8-120P2SO-8CSK-DX2	120-277V	50/60Hz	460mA	52W	2995mm
KT-LED4T8-18P1SO-8CSK-DX2	120-277V	50/60Hz	35mA	4W	404mm
KT-LED5T8-24P1SO-8CSK-DX2	120-277V	50/60Hz	45mA	5W	557mm
KT-LED7T8-30P1SO-8CSK-DX2	120-277V	50/60Hz	60mA	7W	709mm
KT-LED8T8-36P1SO-8CSK-DX2	120-277V	50/60Hz	70mA	8W	861mm
KT-LED9T8-42P1SO-8CSK-DX2	120-277V	50/60Hz	80mA	9W	1014mm
KT-LED11T8-48P1SO-8CSK-DX2	120-277V	50/60Hz	100mA	11W	1166mm
KT-LED13T8-60P1SO-8CSK-DX2	120-277V	50/60Hz	115mA	13W	1471mm
KT-LED14T8-64P1SO-8CSK-DX2	120-277V	50/60Hz	125mA	14W	1573mm
KT-LED16T8-72P1SO-8CSK-DX2	120-277V	50/60Hz	140mA	16W	1776mm
KT-LED19T8-84P1SO-8CSK-DX2	120-277V	50/60Hz	170mA	19W	2081mm
KT-LED21T8-96P1SO-8CSK-DX2	120-277V	50/60Hz	185mA	21W	2385mm
KT-LED24T8-108P1SO-8CSK-DX2	120-277V	50/60Hz	210mA	24W	2690mm
KT-LED25T8-117P1SO-8CSK-DX2	120-277V	50/60Hz	220mA	25W	2919mm
KT-LED26T8-120P1SO-8CSK-DX2	120-277V	50/60Hz	230mA	26W	2995mm