

# LED Tubes

Redefining Lighting With Our Range of  
**Highly Efficient and Durable LED Tubes**



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## About **IKIO**

IKIO is one of the fastest growing LED lighting brands that has built a successful track record of being a reliable and trusted LED lighting partner. We at IKIO combine innovative ideas, expertise & advanced technology to create cutting-edge lighting solutions that are changing the landscape of the industry. Moreover, we are ideally positioned to offer the right solutions for all your lighting requirements because of our holistic approach and vertically integrated infrastructure.



# Why Choose **IKIO**?



## One-stop destination

From Industrial to Commercial, Educational to Sports, and Retail to Hazardous Locations, we have lighting products for all kinds of applications.



## Constant research & design

We have a world-class R&D and design team that constantly strive to create avant-garde solutions that are unique, reliable & highly efficient.



## In-house manufacturing units

We have 6 state-of-the-art manufacturing units across different countries that are capable of manufacturing approximately 10 million LED lighting fixtures annually.



## Proactive client servicing

We strive to serve our customers to their utmost satisfaction through our dedicated service portals.



## IKIO's Range Of LED Tubes

LED tubes are the most sought-after lighting solutions that are suitable for use in almost all kinds of commercial, industrial, and public spaces. The luminaire's ability to cater to wide-ranging application areas, offering high energy savings, and the varied options available to meet specific requirements has resulted in its increased popularity. Viewing the versatility of this luminaire, IKIO has engineered its own range of ground-breaking LED tubes that are of top-notch quality and contain the ability to last longer than the conventional fluorescent lighting fixtures.

## Types Of LED Tubes

LED tubes are widely used luminaires offered in different types. Based on the installation process, operations, and maintenance, they are divided into four main categories namely, UL Type A, B, C and A&B. Continue reading to know about some of the Tube Types that IKIO offers.

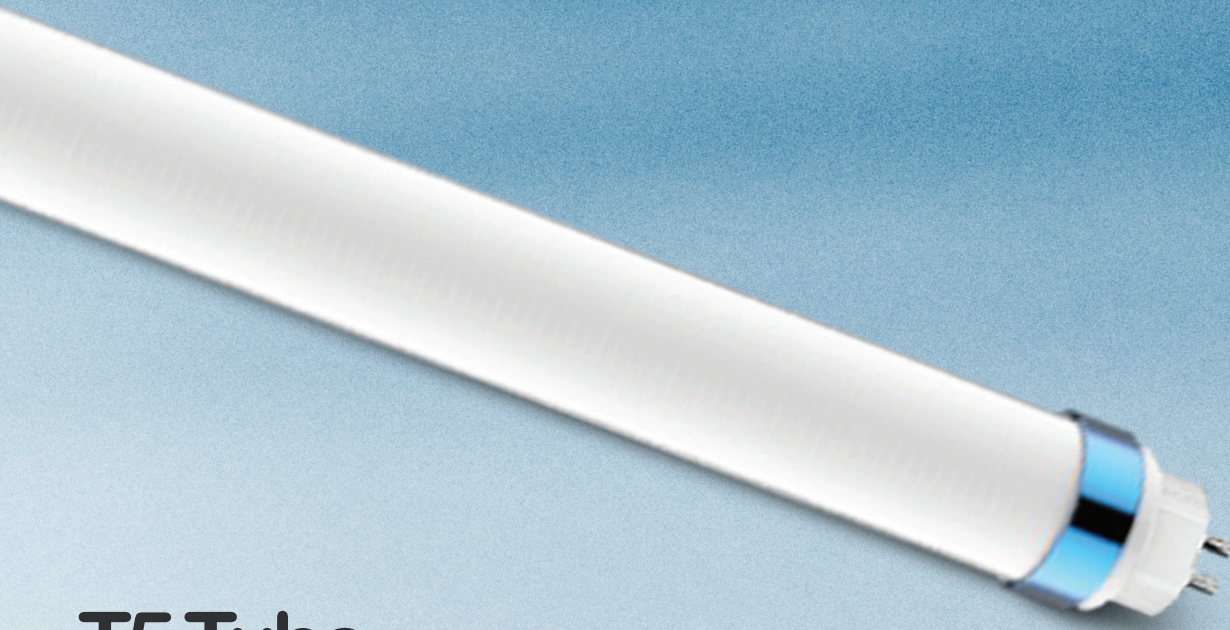


# LED TUBE TYPE B

LED Tube Type B is a direct replacement for existing fluorescent fixtures. It is often referred to as the Ballast Bypass LED Tube because it can function directly off of the main voltage while completely bypassing the ballast. This helps overcome any compatibility issues and eliminate any maintenance cost related to ballast replacement.

However, it is important to note that using a Type B (Bypass Ballast) Tube would require a professional electrician who can proficiently interact with the line voltage without leading to accidents.





# T5 Tube

## TYPE B

### Electrical

Power	15 W   18 W   24 W
Voltage	100-277 V
Power Factor	≥0.90

\*24 W only available in 150 lm/W

### Lighting Performance

Lumens	2400 lm   2988 lm   3840 lm
Efficacy	160 lm/W
Color Temperature (CCT)	2700 K   4000 K   5000 K
Color Rendering (CRI)	80+
Beam Angle	360°
Light Distribution	Type I, Very Short
Dimmable Lighting Control	Non Dimmable

### Environment

Operating Temperature	-13 °F ~ +113 °F
Suitable Location	<b>DAMP</b>
Ingress Protection Rating (IP)	IP20

### Lifespan

Average Life (Hours)	50,000
Warranty (Years)	<b>5</b>

### Dimensions (Inches)

Length	48"
Height (Between End Cap Pins)	0.19"
Diameter	Ø0.90"

### Components

Driver	IKIO Internal Driver
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### Construction

Housing	Aluminum
Lens	Clear (Polycarbonate)
Base / Power Supply	Hard Wired
Finish	White

### Application Areas

Schools, Offices, Hospitals, Hotels, Manufacturing Industrial Facilities, Residential Areas

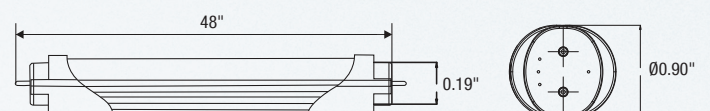
### Qualifications and Certifications

Qualified Part Number	<b>IK-T504</b>
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\*Specifications, Warranty, and Qualifications can vary per item/SKU. See technical data sheets (TDS) for specific information.







## T8 Tube

### TYPE B

#### Electrical

Power	40 W
Voltage	100-277 V
Power Factor	≥0.90

#### Lighting Performance

Lumens	5840 lm
Efficacy	146 lm/W
Color Temperature (CCT)	4000 K   5000 K
Color Rendering (CRI)	84
Beam Angle	120°
Dimmable Lighting Control	Non Dimmable

#### Environment

Operating Temperature	-13 °F ~ +113 °F
Suitable Location	<b>DAMP</b>
Ingress Protection Rating (IP)	IP20

#### Lifespan

Average Life (Hours)	50,000
Warranty (Years)	<b>5</b>

#### Components

LED Light Source	Everlight
Driver	IKIO Internal Driver

#### Construction

Housing	Aluminum
Diffuser	Clear (Polycarbonate)
Base / Power Supply	FA08 / G13 / R14D / Hard Wired
Finish	Milky

#### Application Areas

Schools, Offices, Hospitals, Hotels, Manufacturing Industrial Facilities, Residential Areas

#### Qualifications and Certifications

Qualified Part Number	<b>IK-T808</b>
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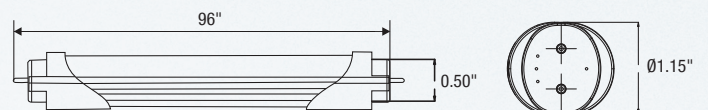


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\*Specifications, Warranty, and Qualifications can vary per item/SKU. See technical data sheets (TDS) for specific information.

#### Dimensions (Inches)

Length	96"
Height (Between End Cap Pins)	0.50"
Diameter	Ø1.15"





## Installation Instructions

### Important Safeguards

**PLEASE FIND A QUALIFIED ELECTRICIAN FOR INSTALLATION. PLEASE READ THE INSTRUCTIONS BEFORE YOU INSTALL AND USE THE T8 RETROFIT LAMPS. GENERAL: ALL ELECTRICAL CONNECTIONS MUST BE IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRICAL CODE (N.E.C.) STANDARDS. IF YOU ARE UNFAMILIAR WITH PROPER ELECTRICAL WIRING CONNECTIONS OBTAIN THE SERVICES OF A QUALIFIED ELECTRICIAN. REMOVE THE TRIM FROM THE BOX AND MAKE SURE THAT NO PARTS ARE MISSING.**

**WARNING** - Installation requires knowledge of luminaries electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.

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

**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. Install this kit only in luminaries that have the construction features and dimensions shown in the photographs and/or drawings. Suitable for use with SHUNTED and NON-SHUNTED lamp holders.

This item is rated at 120-277 V. Installer must determine whether line voltage 120-277 V is available at the luminaire before installation.

Not for use with emergency exit fixtures.

Suitable for dry and damp locations only.

Not for use with dimmers.

 **WARNING:** TURN OFF POWER SUPPLY FROM MAIN CIRCUIT BREAKER BEFORE INSTALLING OR SERVICING.

### Installation

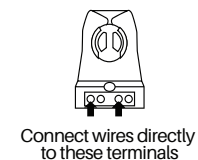
1. Read all WARNINGS before continuing this section.
2. Ensure fixture is 120-277 V.
3. Make sure POWER IS TURNED OFF AT THE SOURCE.  
Do not simply switch off fixture.
4. Remove existing covers from the light fixtures according to the light fixture manufacturer's instructions. Carefully remove the existing fluorescent tubes and dispose them off according to federal, state and local laws.
5. Cut off wires connected to ballast, and remove ballast (and starter if present).  
Dispose off removed ballast according to federal, state and local laws. (Fig. 1)
6. Make sure to connect the line (L) and neutral (N) to the corresponding ends of the tube marked L and N. (Fig. 2)

**Note:** this product is double-ended, do not wire to a single end.

7. Follow wiring diagrams for numbers of lamps. (Fig. 3 - Fig. 6)

"This luminaire has been modified and can no longer operate the originally intended lamp," shall be marked on the retrofit luminaire where readily visible by the user during normal maintenance including re-lamping.

**Typical Non-Shunted Lampholder**



**Typical Shunted Lampholder**

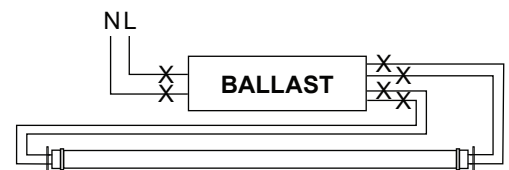
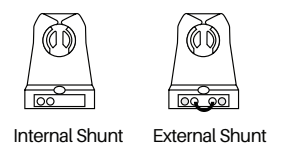


Fig. 1

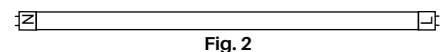


Fig. 2

Fig. 3: 1 Lamp

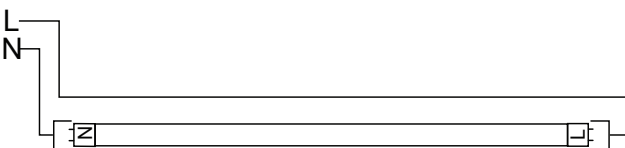


Fig. 4: 2 Lamps

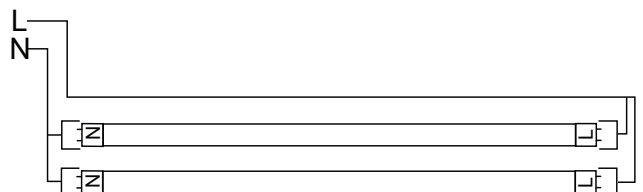


Fig. 5: 3 Lamps

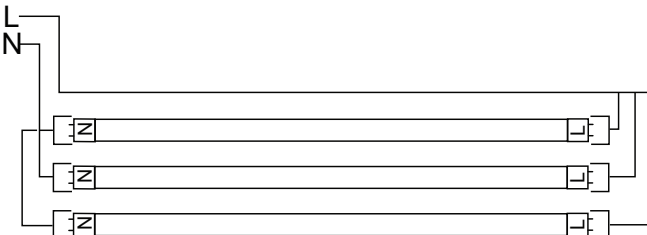
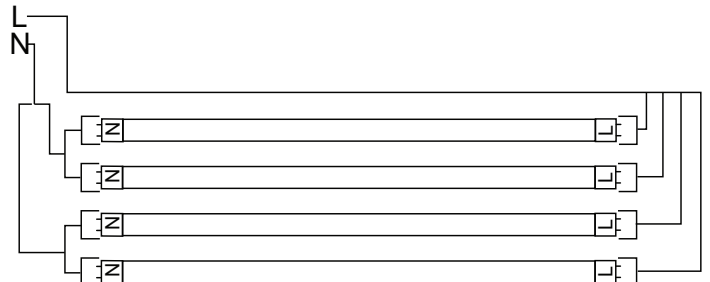
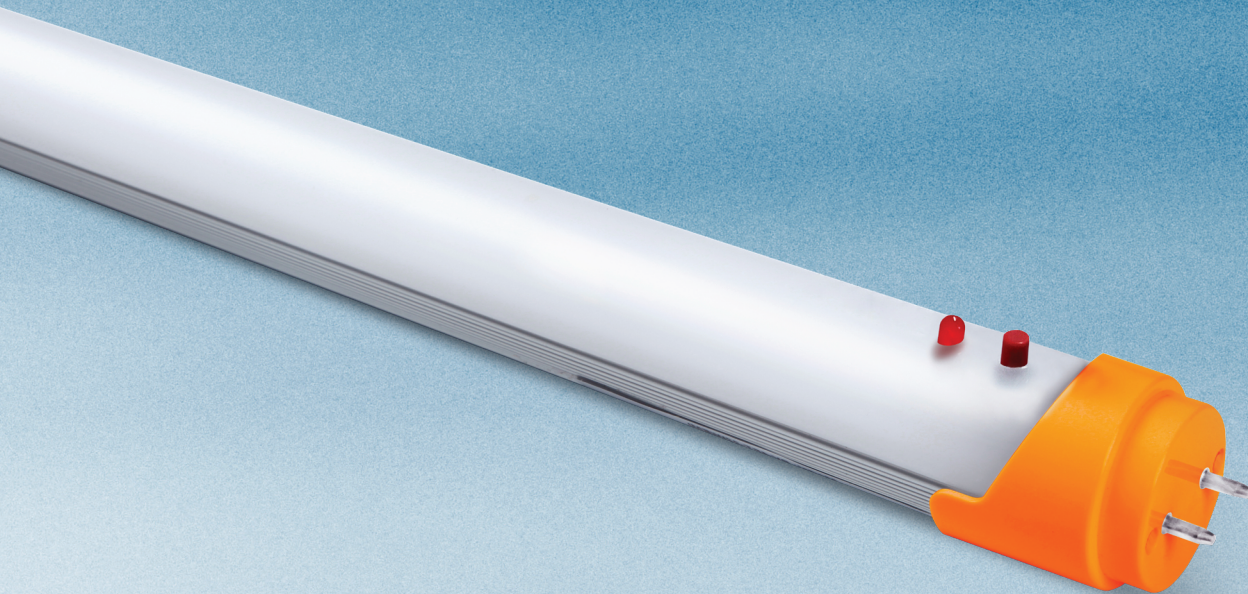


Fig. 6: 4 Lamps







# Emergency Tubes

## TYPE B

### Electrical

Power	15 W
Voltage	120-277 V
Power Factor	>0.9

### Lighting Performance

Lumens	2250 lm
Efficacy	150 lm/W
Color Temperature (CCT)	3500 K   4000 K   5000 K
Color Rendering (CRI)	80+
Beam Angle	120°
Dimmable Lighting Control	Non Dimmable

### Environment

Operating Temperature	-4 °F ~ +104 °F
Suitable Location	<b>DAMP</b>
Ingress Protection Rating (IP)	IP20

### Lifespan

Average Life (Hours)	75,000
Warranty (Years)	<b>10</b>

### Components

LED Light Source	Lumileds
Driver	IKIO Internal Driver

### Construction

Housing	Aluminum
Diffuser	Clear
Base / Power Supply	FA08 / G13 / R14D / Hard Wired
Finish	Milky

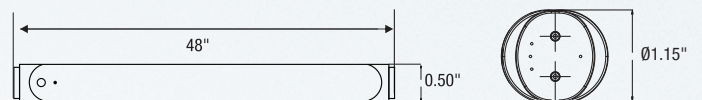
### Application Areas

Offices, Schools, Retail Stores, General Areas, Residential Spaces, Lobbies

\*Specifications, Warranty, and Qualifications can vary per item/SKU. See technical data sheets (TDS) for specific information.

### Dimensions (Inches)

Length	48"
Height (Between End Cap Pins)	0.50"
Diameter	Ø1.15"

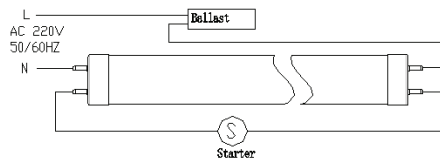




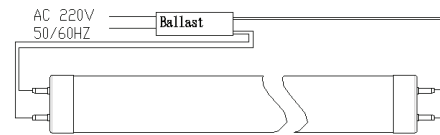
## Installation Instructions

- Step 1 Turn off the power, and take out the old fluorescent tubes.
- Step 2 Isolate the ballast and remove starter where present.
- Step 3 Connect the wiring as in the following wiring diagram.
- Step 4 Install the Emergency LED tube.
- Step 5 Turn on the switch and install finish.

Modify the circuit diagram



Traditional inductance wiring schematic



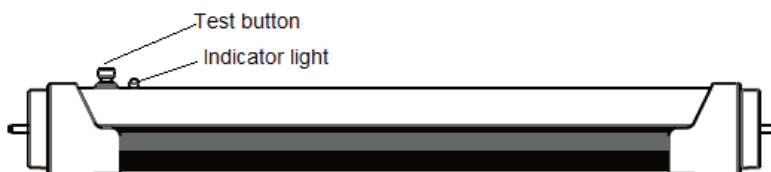
Traditional electronic wiring schematic



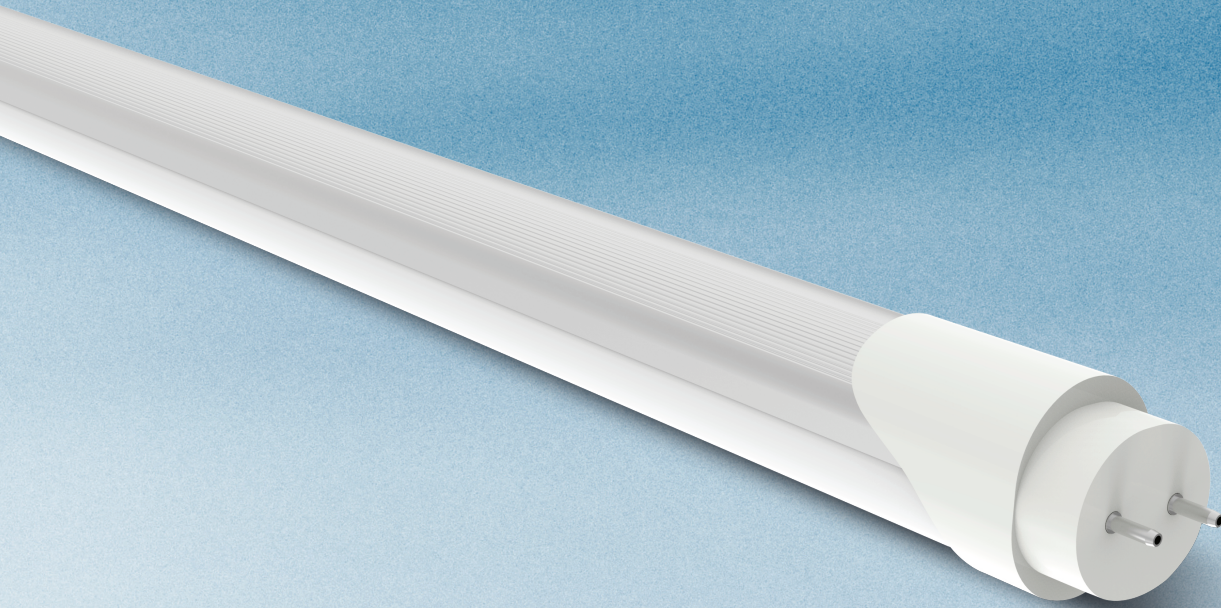
LED tube wiring schematic

## Function

- Combine emergency function and general lighting function together
  - (1) When the city power is working well. The tube can work as general lighting, and turn on/off control controlled by the wall switch.
  - (2) When the city power is shut down suddenly. What ever the tube is in turn on/off status, the emergency status will be automatically be activated, and provide 90 minutes emergency
- Self-test function, self-test monthly and yearly, If the emergency function is abnormal, the indicator light will blink.
- Automatic charging function, The indicator light shows charging status and full charge status.
- Battery transportation protection function. Press the test button three times quickly, the battery will go into hibernation, and standby 8000 hrs before installation.







# T8 Triac Dimming Tube

## TYPE B

### Electrical

Power	8 W   12 W   15 W   18 W
Voltage	100-277 V
Power Factor	>0.9

### Lighting Performance

Lumens	1200 lm   1800 lm   2250 lm   2700 lm
Efficacy	150 lm/W
Color Temperature (CCT)	3000 K   4000 K   5000 K
Color Rendering (CRI)	80+
Beam Angle	140°

### Environment

Operating Temperature	-4 °F ~ +49 °F
Suitable Location	<b>DAMP</b>
Ingress Protection Rating (IP)	IP20

### Lifespan

Average Life (Hours)	50,000
Warranty (Years)	<b>5</b>

### Components

LED Light Source	Lumileds
Driver	IKIO Internal Driver

### Construction

Housing	Aluminum
Diffuser	Frosted
Base / Power Supply	G13
Finish	White

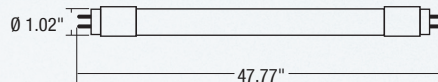
### Application Areas

Offices, Schools, Retail Stores, General Areas, Residential Spaces, Lobbies

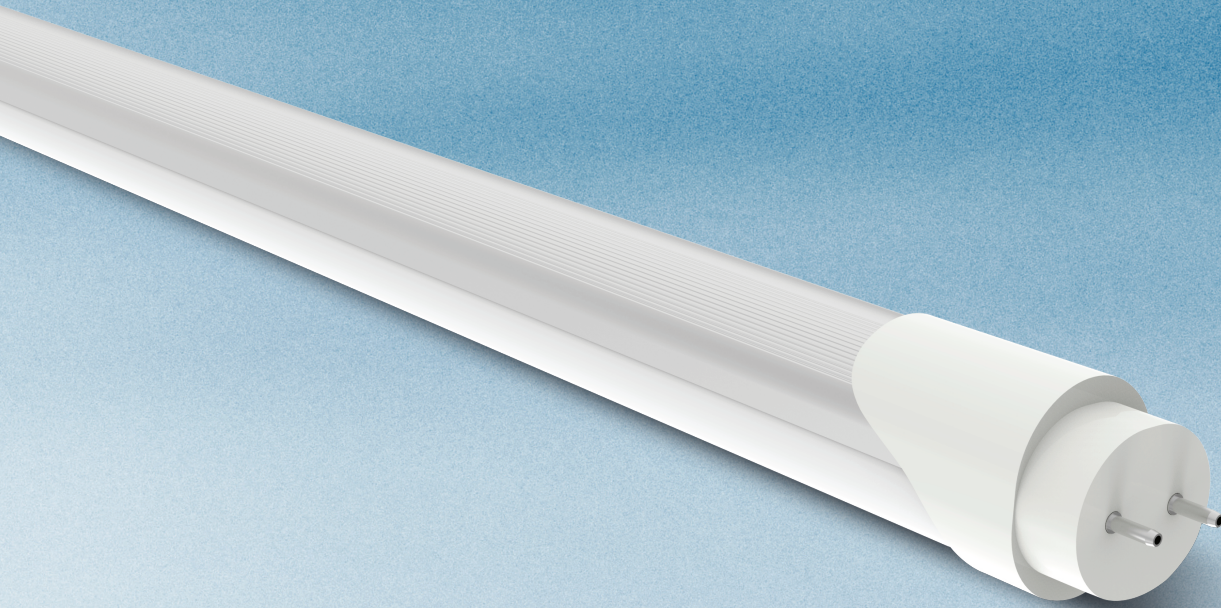
\*Specifications, Warranty, and Qualifications can vary per item/SKU. See technical data sheets (TDS) for specific information.

### Dimensions (Inches)

Length	48"
Diameter	Ø 1.02"







# T8 Flicker Free Tube

## TYPE B

### Electrical

Power	8 W   12 W   15 W   18 W
Voltage	100-277 V
Power Factor	>0.9

### Lighting Performance

Lumens	1200 lm   1800 lm   2250 lm   2700 lm
Efficacy	150 lm/W
Color Temperature (CCT)	3000 K   4000 K   5000 K
Color Rendering (CRI)	80+
Beam Angle	140°

### Environment

Operating Temperature	-4 °F ~ +49 °F
Suitable Location	<b>DAMP</b>
Ingress Protection Rating (IP)	IP20

### Lifespan

Average Life (Hours)	50,000
Warranty (Years)	<b>5</b>

### Components

LED Light Source	Lumileds
Driver	IKIO Internal Driver

### Construction

Housing	Aluminum
Diffuser	Frosted
Base / Power Supply	G13
Finish	White

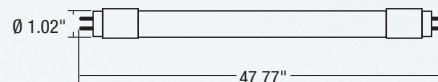
### Application Areas

Offices, Schools, Retail Stores, General Areas, Residential Spaces, Lobbies

\*Specifications, Warranty, and Qualifications can vary per item/SKU.  
See technical data sheets (TDS) for specific information.

### Dimensions (Inches)

Length	48"
Diameter	Ø 1.02"



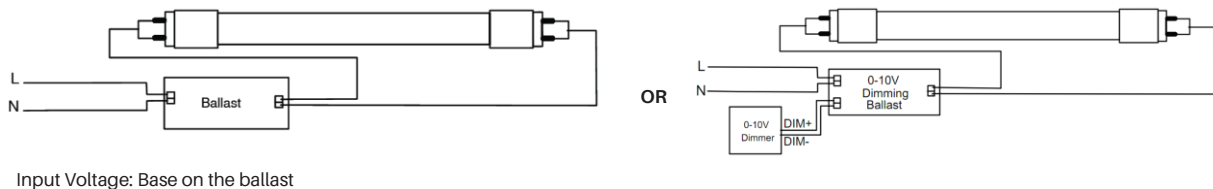


## Installation Instructions

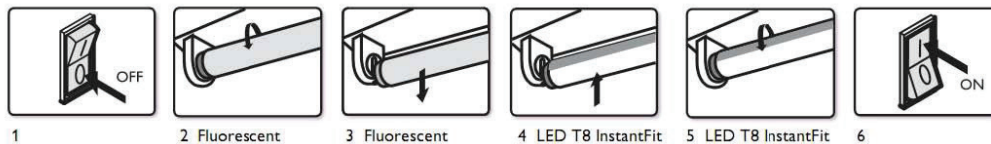
### Markings/Warning

1. Risk of fire or electric shock. When work with electronic ballast please check the compatible list first! If you do not find your ballast on the list then please bypass the fixture, or please contact us! Do not install the LED tube with the ballast which not on the ballast compatible list, risk of firing!
2. 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.
3. 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.
4. Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation
5. To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.
6. 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.
7. 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.
8. 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 will be made to the lamp when the lamp is installed or replaced.
9. This retrofit kit is accepted as a component of a luminaire where the suitability of the combination shall be determined by authorities having JURISDICTION.
10. If the tube is intal as Type B, the luminaire, once modified as retrofit fixture, will no longer operate fluorescent lamps.

### TYPE A-Assembly introduction



### Type A-Installation Guide



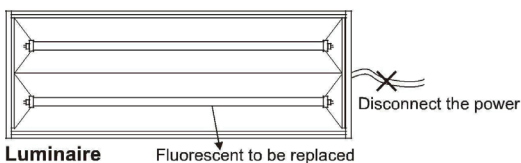
#### Instructions:

1. Switch-off power to the luminaire.
2. Remove diffuser (if provided).
3. Remove the existing fluorescent lamps from the luminaire.
4. Install the LED tube lamp.
5. Install diffuser (if removed in step 2)
6. Switch on power to the luminaire.
7. Before installation, please check specifications for the most current ballast compatibility list, if no match, please insert led tubes according to below type B installation instructions.

### TYPE B-Assembly introduction

#### Instructions:

##### 1. Disconnect Power Of Luminaire



Disconnect power to luminaire or circuit (if possible).  
Ensure all power is off by using a voltmeter or other method to confirm.

##### 2. Remove Existing Tube Lamp (S)

- a. Remove troffer lens, if present.
- b. Remove existing fluorescent by rotating one quarter turn and sliding lamp(s)
- c. Remove ballast cover. (Cover may be secured with screws or tabs)



a) Troffer and lamps

b) Remove tube lamps

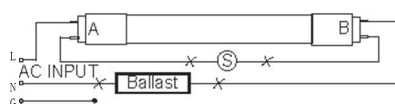
c) Remove ballast cover (lens removed)



## 3. Retrofit Luminaire

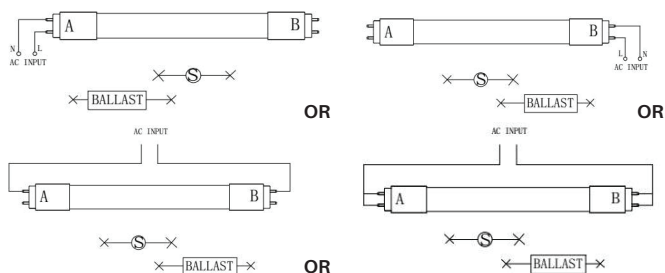
### Retrofit luminaire with electronic ballast

1. Disconnect the wires between starter and ballast according to the below figure.



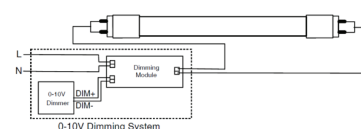
2. Connect two wires to branch circuit L and N according to the below figure.

Case 1: Direct AC wiring diagram without dimming



Voltage Input: AC120-277 V 50/60Hz

Case 2: Direct AC wiring diagram with 0-10V dimming system



Voltage Input: AC120-277 V 50/60Hz

## 4. Insert LED Tubes

- a. Read label on the LED tube to ensure the power end of LED is aligned with powered tube socket, then insert LED lamp in the normal way by sliding pins into sockets and rotating a quarter turn until LED tube locks in place.
- b. LED lamps are now fully installed.
- c. Replace troffer lens, if present.
- d. After modification completed. Attach the Replacement Marking and cautionary Label to a visible place on the luminaire and keep it visible after installation.

## 5. Restore The Power Of Luminaire

Restore power to circuit/luminaire and test light. If necessary, adjust position of LED tube, and enjoy your new LED tube light!



# LED TUBE TYPE A&B

The LED Tube Type A&B can function in dual modes, which is why it is also called Hybrid Tube. This tube type can work with existing fluorescent ballast and can also operate off of line voltage if the fixture is rewired to bypass the ballast. Basically, choosing LED Tube Type A&B will offer you more flexibility in application areas, along with other important benefits such as greater energy savings and even illumination.





# T8 Tube

## TYPE A&B

### Electrical

Power	12 W   15 W   18 W   20 W
Voltage	100-277 V
Power Factor	0.9

### Lighting Performance

Lumens	1800 lm   2250 lm   2700 lm   3000 lm
Efficacy	160 lm/W
Color Temperature (CCT)	3000 K   3500 K   4000 K   5000 K
Color Rendering (CRI)	80+
Beam Angle	180°
Dimmable Lighting Control	Non Dimmable

### Environment

Operating Temperature	-13 °F ~ +113 °F
Suitable Location	<b>DAMP</b>
Ingress Protection Rating (IP)	IP20

### Lifespan

Average Life (Hours)	50,000
Warranty (Years)	<b>5</b> (10 Years Warranty Option Available)

### Components

LED Light Source	Sanan
Driver	Non isolated IKIO Internal Driver

### Construction

Housing	Aluminum and Polycarbonate
Diffuser	Frosted   Clear
Base / Power Supply	G13 / Direct Wire or Ballast use
Finish	White

### Application Areas

Offices, Schools, Retail Stores, Residential Spaces, Lobbies

### Qualifications and Certifications

Qualified Part Number	<b>K-T804-0012</b>
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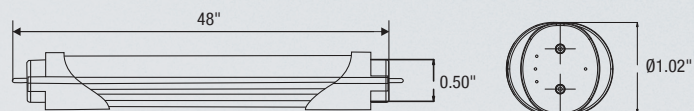


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\*Specifications, Warranty, and Qualifications can vary per item/SKU. See technical data sheets (TDS) for specific information.

### Dimensions (Inches)

Length	48"
Height (Between End Cap Pins)	0.50"
Diameter	Ø1.02"







## T8 Tube

### TYPE A6B

Efficacy  
**175 lm/W**

#### Electrical

Power	12 W
Voltage	100-277 V
Power Factor	≥0.90

#### Lighting Performance

Lumens	2100 lm
Efficacy	175 lm/W
Color Temperature (CCT)	3000 K   3500 K   4000 K   5000 K
Color Rendering (CRI)	80+
Beam Angle	180°
Dimmable Lighting Control	Non Dimmable

#### Environment

Operating Temperature	-13 °F ~ +113 °F
Suitable Location	<b>DAMP</b>
Ingress Protection Rating (IP)	IP20

#### Lifespan

Average Life (Hours)	50,000
Warranty (Years)	<b>5</b> (10 Years Warranty Option Available)

#### Components

LED Light Source	Sanan
Driver	Non isolated IKIO Internal Driver

#### Construction

Housing	Aluminum and Polycarbonate
Diffuser	Frosted   Clear
Base / Power Supply	G13 / Direct Wire or Ballast use
Finish	White

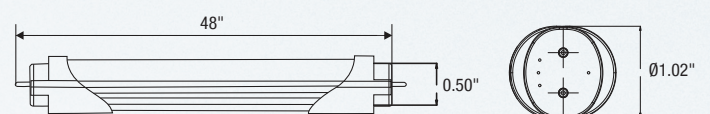
#### Application Areas

Offices, Schools, Retail Stores, Residential Spaces, Lobbies
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\*Specifications, Warranty, and Qualifications can vary per item/SKU.  
See technical data sheets (TDS) for specific information.

#### Dimensions (Inches)

Length	48"
Height (Between End Cap Pins)	0.50"
Diameter	Ø1.02"





## Installation Instructions

### Important Safeguards

**READ CAREFULLY BEFORE INSTALLING. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

- **CAUTION** - Risk of fire or electric shock. Do not install this lamp in a pre-heat luminaire.
- **WARNING** - Risk of electric shock. Turn off electrical power at fuse or circuit breaker box.
- This product must be installed in accordance with applicable manufacturer installation instructions.
- Installation must be performed only by a licensed electrician in accordance with the National Electrical Code (NEC) and local electrical codes. Proper grounding is required for safety.
- **WARNING** - Test lamp before mass installation.
- **WARNING** - These lamps are not to be used with a light dimmer.
- **WARNING** - This device is not intended for use with emergency exits.
- This lamp can be used indoors or outdoors. (damp locations rated).
- **CAUTION** - If the lamp or luminaire exhibits undesirable operation (buzzing, flickering, etc.), immediately turn off power, remove the lamp from luminaire and contact the manufacturer.

 **WARNING:** TURN OFF POWER SUPPLY FROM MAIN CIRCUIT BREAKER BEFORE INSTALLING OR SERVICING.

#### Direct Replacement:

1. Switch off power to luminaire.
2. Remove diffuser (if provided).
3. Remove existing fluorescent lamp(s) from luminaire.

**Note:** Verify that the fluorescent tube type is listed on the LED lamp label.

4. Install LED lamp (one for each fluorescent lamp removed, ensure pins are firmly seated in lamp holders).
5. Switch on power to luminaire and reattach diffuser (if provided).

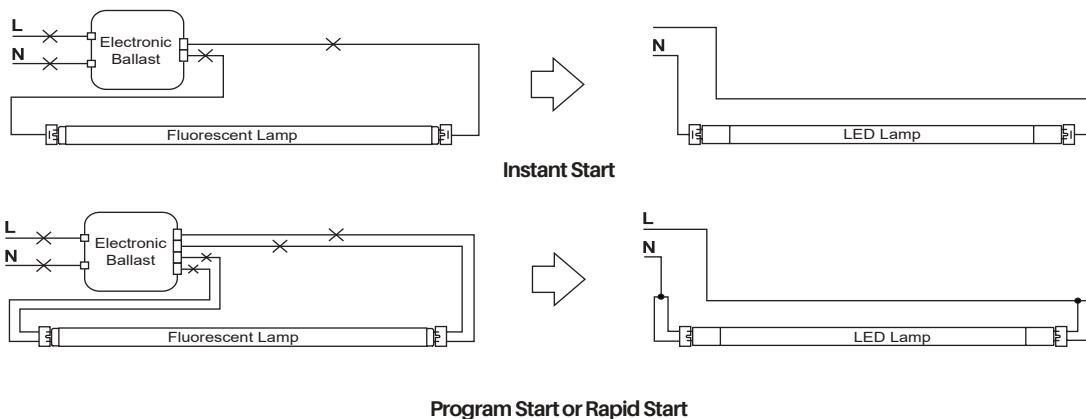
#### Ballast Bypass Double-ended Power:

Suitable for use with both shunted and non-shunted lamp holders.

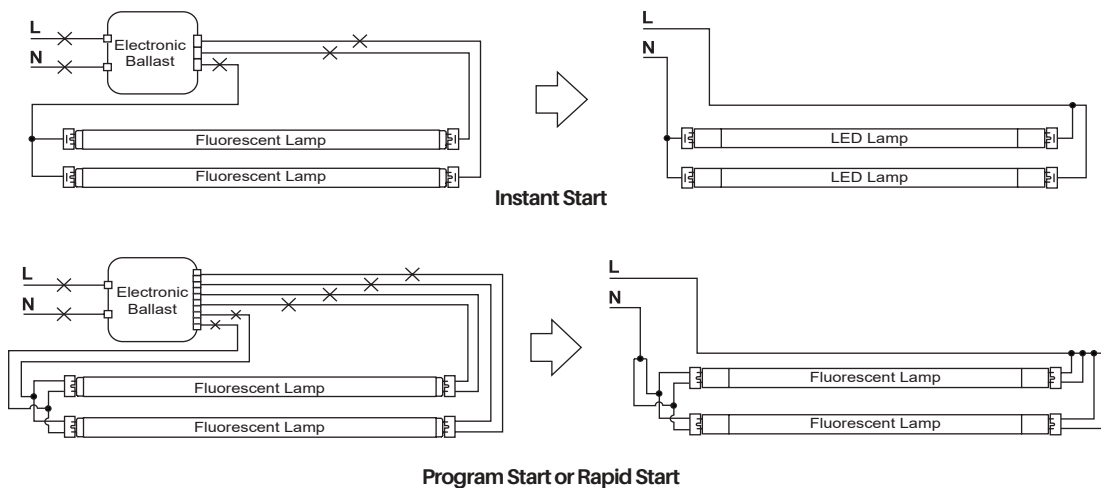
#### The Below Ballast Wiring Represents Typical Configuration.

The actual ballast wiring varies according to ballast model. It is not needed to change socket (if in good condition) to operate double ended lamps, regardless the type of sockets. Please make sure one side of fixture is connected to Live (L) and the other side to Neutral (N).

### Retrofit Luminaire For Bypass (1 Lamps)

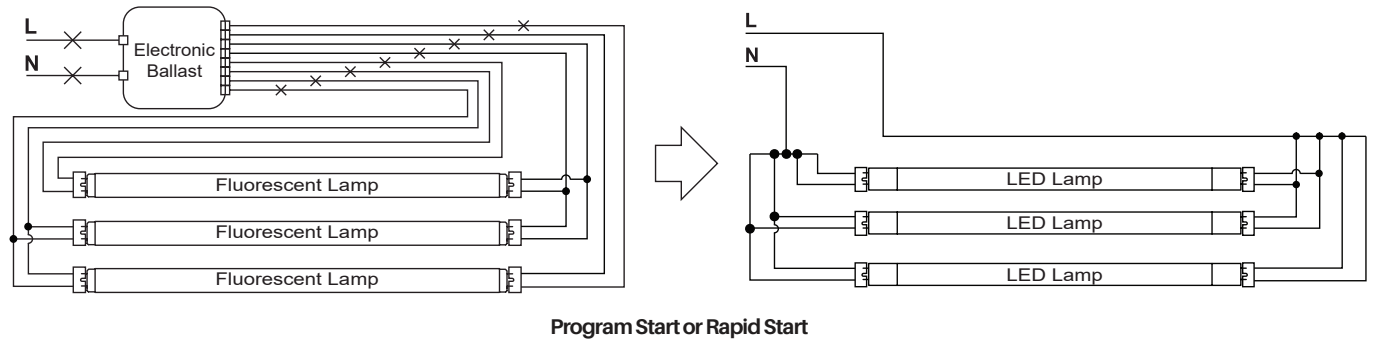
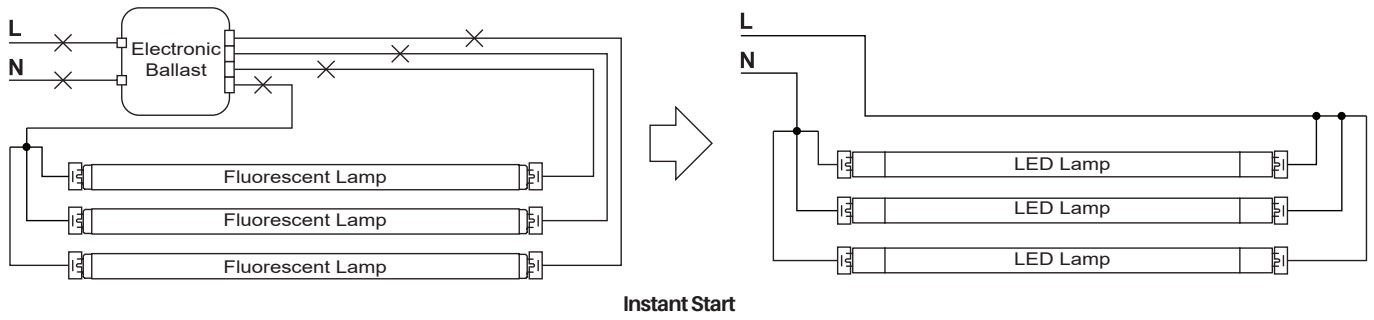


### Retrofit Luminaire For Bypass (2 Lamps)

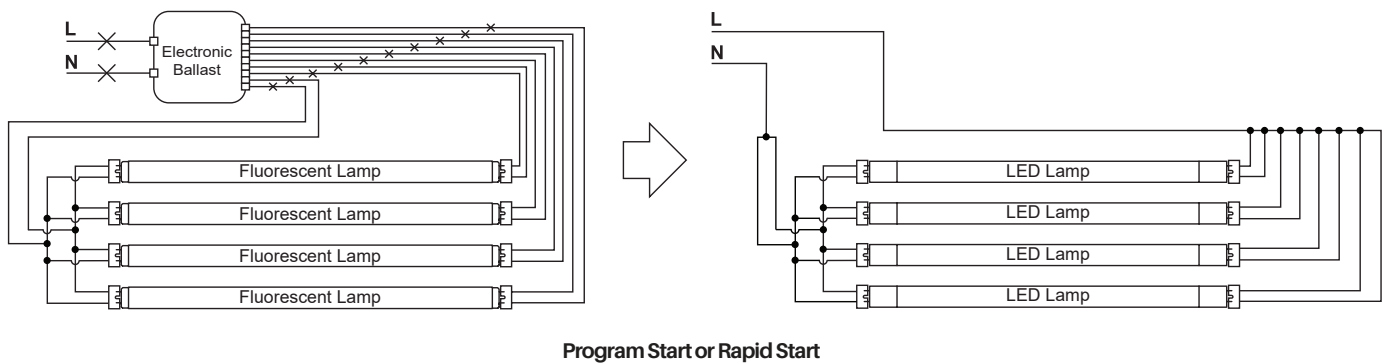
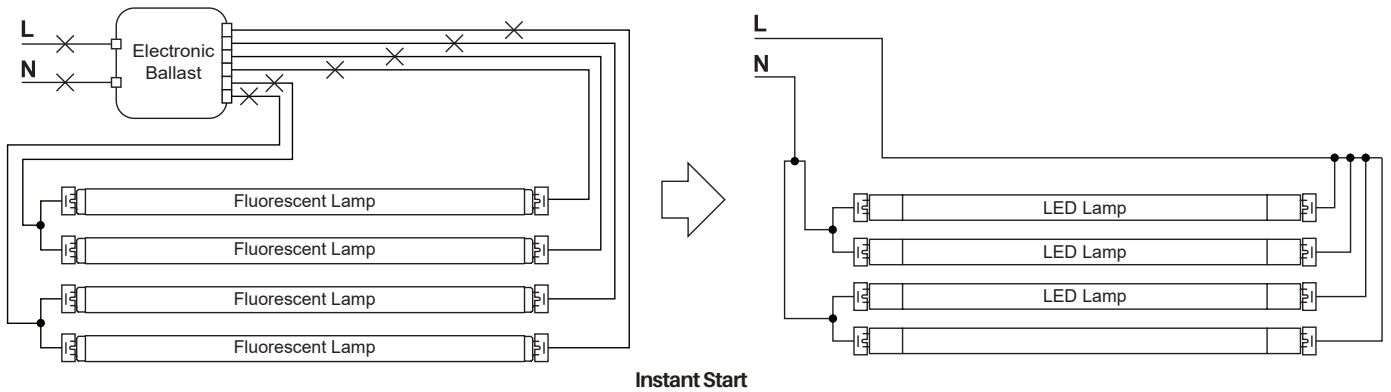




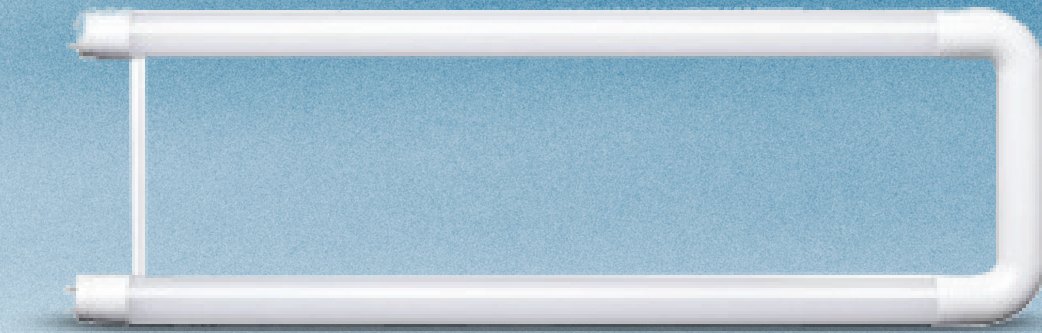
## Retrofit Luminaire For Bypass (3 Lamps)



## Retrofit Luminaire For Bypass (4 Lamps)







# T8 U-Bend Tube

## TYPE A&B

### Electrical

Power	15 W
Voltage	100-277 V
Power Factor	≥ 0.90

### Lighting Performance

Lumens	1950 lm
Efficacy	130 lm/W
Color Temperature (CCT)	4000 K   5000 K
Color Rendering (CRI)	80+
Beam Angle	180°
Dimmable Lighting Control	Non Dimmable

### Environment

Operating Temperature	-22° F ~ +149° F
Ingress Protection Rating (IP)	IP20

### Lifespan

Average Life (Hours)	50,000
Warranty (Years)	5 (10 Years Warranty Option Available)

### Components

LED Light Source	Everlight
Driver	IKIO Internal Driver

### Construction

Housing	Aluminum and Polycarbonate
Diffuser	Frosted   Clear
Base / Power Supply	G13 / Hard Wired
Finish	White

### Application Areas

Schools, Offices, Hospitals, Hotels, Manufacturing Industrial Facilities, Residential Areas

### Qualifications and Certifications

Qualified Part Number	IK-T802U-0015
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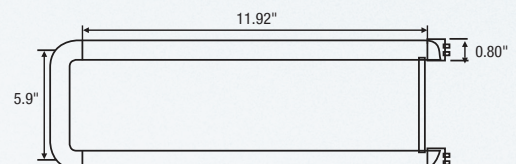


DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

\*Specifications, Warranty, and Qualifications can vary per item/SKU. See technical data sheets (TDS) for specific information.

### Dimensions (Inches)

Length	11.92"
Width	5.9"
Thickness	0.80"

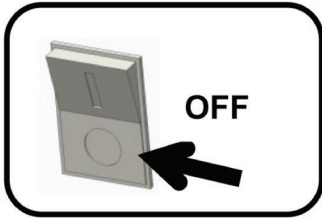




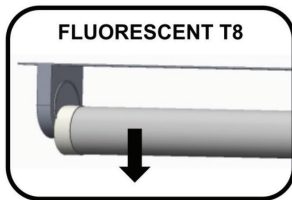
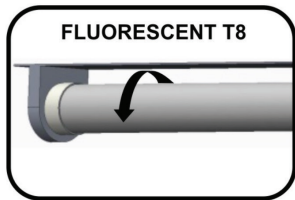
## Installation Instructions

### "Plug" and "Play" procedure (UL type A)

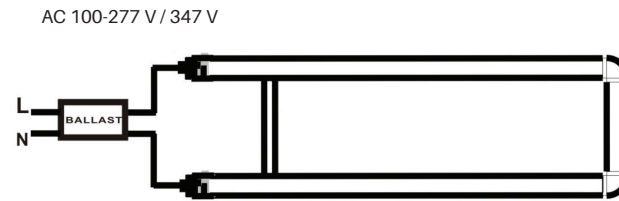
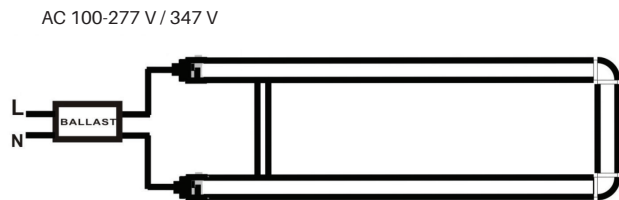
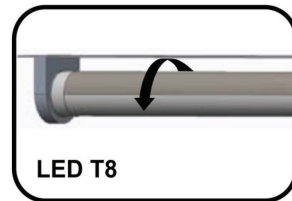
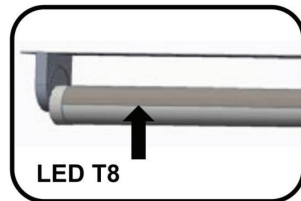
1. Turn off the power to the light fixture at the breaker panel before installation.



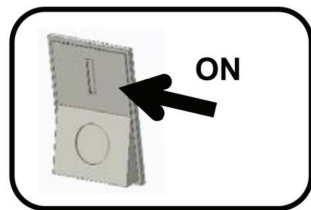
2. Open the diffuser from the light fixture.
3. Remove the fluorescent tubes. Please dispose of these items properly as they contain mercury.



4. Put LED tube into the lighting fixture.



5. Install the LED tubes, close the diffuser.
6. Turn on the Power.



- \* For one ballast by three fluorescent tubes fixture, at least need to put two pieces of ballast compatible tube.  
For one ballast by four fluorescent tubes fixture, at least need to put three pieces of ballast compatible tube.

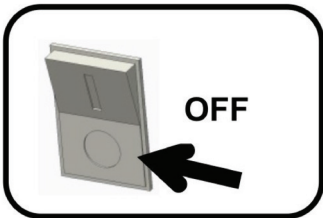
### ⚠ WARNING

- Risk of fire. Do not install this lamp in a pre-heat luminaire.
- Risk of electric shock.
- Use only in place of fluorescent lamps specified on label.
- This device is intended for use with emergency exists.
- These lamps are to be used in indoor damp location only.
- Not suitable for wet location.
- These lamps are not to be used with a light dimmer.
- Direct replacement for fluorescent Lamps with specific electronic ballast only.
- If the lamp or luminaire exhibits undesirable operation (Buzzing, Flickering, etc.), immediately turn off power, remove lamp from luminaire and contact manufacturer.
- This lamp only operates on electronic ballasts. If lamp does not light when the luminaire is energized, remove this lamp from luminaire and contact manufacturer.
- Do not make mass installation before testing.

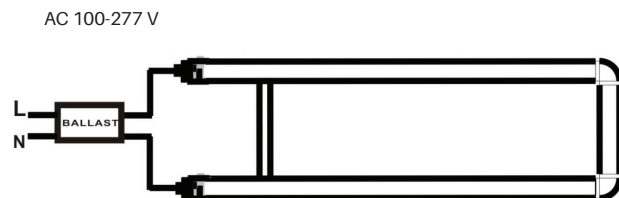
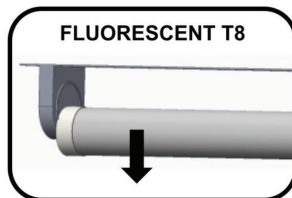
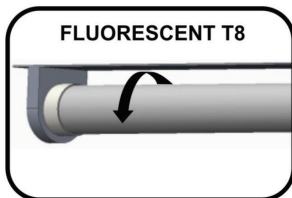


## Retrofit Procedure (UL type B)

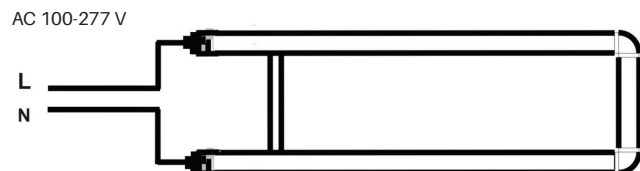
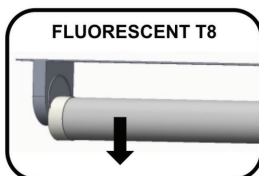
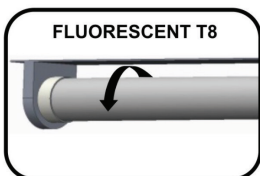
1. Turn off the power to the light fixture at the breaker panel before installation.



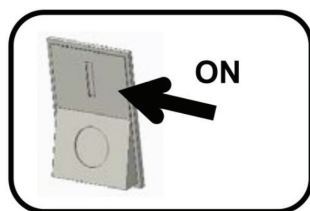
2. Open the diffuser from the light fixture.
3. Remove the fluorescent tubes. Please dispose of these items properly as they contain mercury.
4. Put LED tube into the lighting fixture.



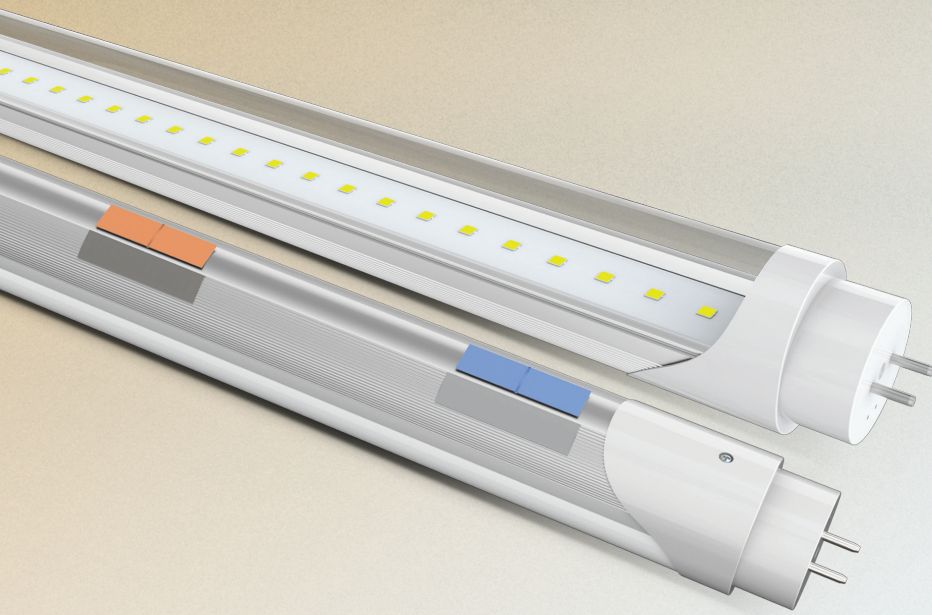
5. Make the new wire connect to branch circuit shown as the diagram below.
6. Replace the cover over the wiring channel.
7. Install the LED tubes, close the diffuser.



8. Turn on the Power.







# Delphi T8 Tubes

**TYPE A6B** Dual Mode IKIO Internal Driver



## Electrical

Power	10 W-12 W-15 W
Voltage	100-277 V (Also available in 100-347 V)
Power Factor	0.963

## Lighting Performance

Lumens	1700 lm-1800 lm-1950 lm
Efficacy	170 lm/W-150 lm/W-130 lm/W
Color Temperature (CCT)	3500 K-4000 K-5000 K
Color Rendering (CRI)	82.8
Beam Angle	120°
Dimmable Lighting Control	Non Dimmable

## Environment

Operating Temperature	-04 °F ~ +104 °F
Suitable Location	<b>DAMP</b>
Ingress Protection Rating (IP)	IP22

## Dimensions (Inches)

Length	48"
Height (Between End Cap Pins)	0.50"
Diameter	Ø1.02"

## Lifespan

Average Life (Hours)	50,000
Warranty (Years)	<b>5</b>

## Components

LED Light Source	Sanan
Driver	Dual Mode IKIO Internal Driver

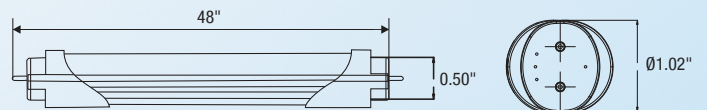
## Construction

Housing	Aluminum
Cover Material / Lens	Polycarbonate
Diffuser	Clear-Frosted
Base / Power Supply	G13/ Direct Wire or Ballast use

## Application Areas

Offices, Hospitals, Schools, Corridors, Underground Stations, Stairways

\*Specifications, Warranty, and Qualifications can vary per item/SKU. See technical data sheets (TDS) for specific information.





## Installation Instructions

### Important Safeguards

**READ CAREFULLY BEFORE INSTALLING. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

- **CAUTION** - Risk of fire or electric shock. Do not install this lamp in a pre-heat luminaire.
- **WARNING** - Risk of electric shock. Turn off electrical power at fuse or circuit breaker box.
- This product must be installed in accordance with applicable manufacturer installation instructions.
- Installation must be performed only by a licensed electrician in accordance with the National Electrical Code (NEC) and local electrical codes. Proper grounding is required for safety.
- **WARNING** - Test lamp before mass installation.
- **WARNING** - These lamps are not to be used with a light dimmer.
- **WARNING** - This device is not intended for use with emergency exits.
- This lamp can be used indoors or outdoors. (damp locations rated).
- **CAUTION** - If the lamp or luminaire exhibits undesirable operation (buzzing, flickering, etc.), immediately turn off power, remove the lamp from luminaire and contact the manufacturer.

 **WARNING:** TURN OFF POWER SUPPLY FROM MAIN CIRCUIT BREAKER BEFORE INSTALLING OR SERVICING.

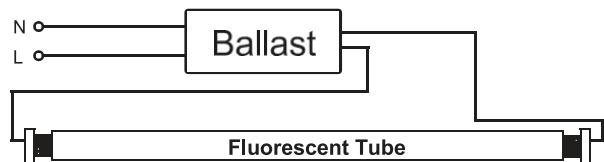
### Planning The Installation

This device installation requires planning to ensure successful installation with minimal complications and down time. It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate the device in such a manner as to comply with all state and local laws, ordinances, and regulations.

### Installation Preparing

Before installation prepare below items:

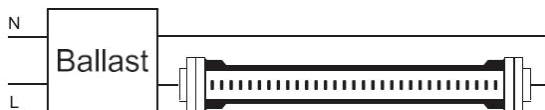
- 1) Turn off the power to the light fixture at the breaker panel before installation.
- 2) Open the diffuser from the light fixture.
- 3) Remove the fluorescent tubes. Please dispose of these items properly as they contain mercury.



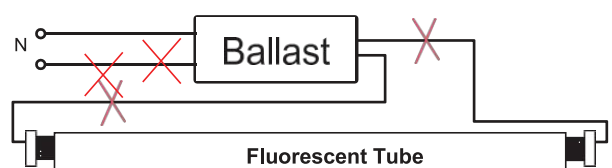
### Installation Preparing

1. Ballast Compatible Installation: If the item number of the old ballast were listed in the ballast lighting document which comes together with this installation instruction, the our LED Tube would be compatible with the old ballast, and you would not need to remove the old ballast and you could install the new LED Tube onto the fluorescent fixture directly. Install the tube as below: Working with Ballast, and put the "L" wire and "N" wire connect to different ends.

#### Working with Ballast



By this installation way, you might save the workers cost, but as ballast also need extra power, so it may also increase a little more electric energy.



2. If the item number of the old ballast were NOT listed in the ballast lighting document, you must need to take off the ballast, and then the LED Tube could light on. First, take off the ballast with four times cut: Second, connect the LED Tube light to AC100-277V directly with below 2 installation ways:

A: connect "L" and "N" wires to the same side of LED Tube

AC100-277V



B: connect "L" and "N" wires to the different sides of LED Tube



3. Install the LED tubes, close the diffuser, and turn on the power in the end.













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