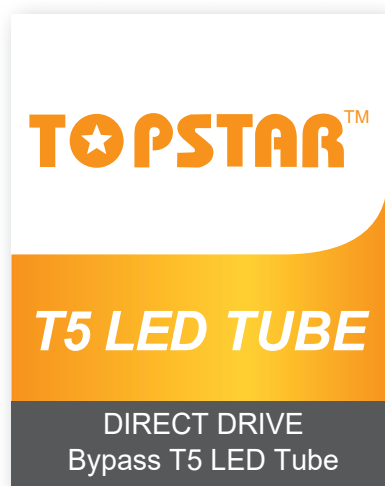




Easily upgrade to LED TUBE from fluorescent.

Topstar Direct Drive LED T5 Replacement Tubes are an ideal energy saving choice for existing linear fluorescent fixtures.

Perfect for a wide range of applications

- Full light output in spaces with temperatures down to -4°F (-20°C)
- Perfect for applications with frequent "on/off" switching cycles
- Buildings that desire to be mercury free

Easy to experience

- Instant on, no flash or buzz
- Fits into existing linear fixtures
- Optimized performance with symmetric driver design
- Eliminate the need for expensive external driver or ballast, simply connect the 120-277V line voltage directly

Easy to experience

- No mercury allowing for non-hazardous waste disposal
- Emits virtually no UV rays or IR
- Ideal light emitting, building comfortable living, and working environment
- 5-year limited warranty
- Suitable for use in fixtures where ambient temperature is between -4°F (-20°C) and 113°F (45°C).

Energy savings

- 50% energy savings vs F54 T5 HO

Material

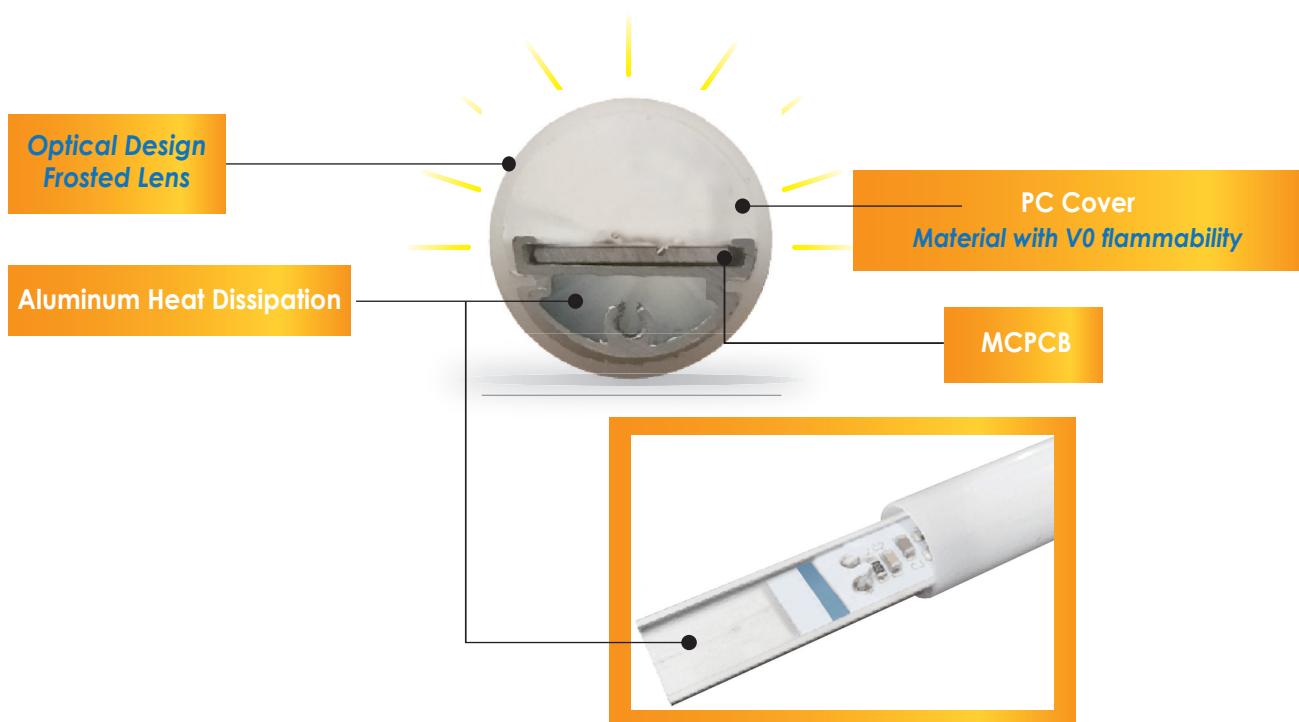
- Full PC Shell with Aluminum Heat Sink

Electrical and Technical Data (subject to change without notice)

Ordering Code	Bare Lamp Watt (W)	Initial Lumen	Base	CRI	Color Temp.	Rated Average life	MOL (in.)	Case Qty.	Beam Angle
L22T5HE-8YY-10P-P4-BP	9.5	1200	G5	82	3000K/3500K/4000K/5000K	50,000	22	24	140
L22T5HO-8YY-11P-P4-BP	11	1500	G5	82	3000K/3500K/4000K/5000K	50,000	22	24	140
L34T5HE-8YY-12P-P4-BP	12	1500	G5	82	3000K/3500K/4000K/5000K	50,000	34	24	140
L34T5HO-8YY-15P-P4-BP	15	1900	G5	82	3000K/3500K/4000K/5000K	50,000	34	24	140
L46T5HE-8YY-14P-P4-BP	14.5	2000	G5	82	3000K/3500K/4000K/5000K	50,000	46	24	140
L46T5HO-8YY-25P-P4-BP	25	3500	G5	82	3000K/3500K/4000K/5000K	50,000	46	24	140

* Initial lumen output value above is @ 4000K

** Though nominally referred to as a T5, this lamp has a T6 diameter



The special construction with Aluminum Heat Sink provides excellent working environment, which is with more than 20 degrees less than other design.

Installation Guide

- 1) Read all WARNINGS before continuing this section.
- 2) Ensure fixture is 120-277V.
- 3) **TURN OFF THE POWER BEFORE INSTALLATION.**
- 4) Remove lens if applicable, remove cover and fluorescent tubes.
- 5) Cut all wires that connect ballast (Cf. Diagram 1). Properly discard ballast or cap off wires. Cut wire away from lamp holders.
- 6) If applicable, replace lamp holders at power end with non-shunted lamp holders.
- 7) Connect Live (L) from power source into non-Shunted lamp holder "L In".
- 8) Connect neutral (N) wire from power source into non-Shunted lamp holder "N In".
- 9) If installing a single tube refer to Diagram 3 and go to section 13. If connecting multiple lamps, continue reading.
- 10) Connect separate hot wire into "Hot Out" from primary source lamp holder and connect that wire into "Hot In" on the adjacent tube.
- 11) Connect separate neutral wire into "Neutral Out" from primary source lamp holder and connect that wire into "Neutral In" on the adjacent tube. See Diagram 4 below.
- 12) Continue this process for additional lamps.
- 13) This device is powered on one end only; the end with L and N markings (Cf. Diagram 2). Do not wire opposite end of lamp holder.
- 14) Install lamp with the L and N markings into the wired lamp holder end.
- 15) Visibly affix "Modification Sticker" and reinstall housing cover and lens if applicable.
- 16) Return power back to source and installation is now completed.

Diagram 1 – Cut all ballast wires

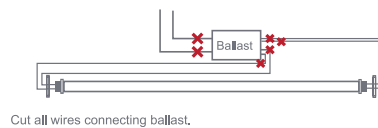


Diagram 2 – Connecting end

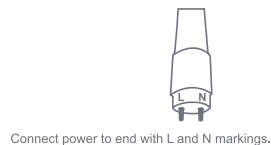


Diagram 3 – Single tube wiring

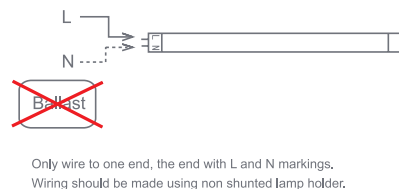
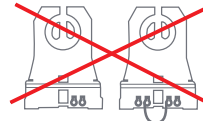


Diagram A – Non-Shunted



Diagram B – Shunted



CAUTION: Use only non-shunted lampholders.

WARNING - Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of luminaire electrical systems. Installation should be performed only by a qualified electrician in accordance with the National Electrical Code and relevant local code.

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.

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. Luminaire wiring and electrical parts may be damaged when drilling for installation of LED retrofit kit. Check for enclosed wiring and components.

- Disconnect power at the source before installation, inspection or removal. Do not simply switch off fixture.
- This item is rated at 120-277V. Installer must determine whether line voltage 120-277V is available at the luminaire before installation.
- Not intended for use with emergency exit fixtures or emergency exit lights.
- Not for use with luminaire ballast.
- Do not use if product is damaged.
- This lamp is non-dimmable. Not for use with dimmers.
- Suitable for use with non-shunted lamp holders only.
- Connect hot wire only to end cap with the L and N markings. See Diagram 2. Opposite end cap is dead, do not wire.
- Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.
- 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.
- 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.
- **SUITABLE FOR DAMP LOCATIONS.** Suitable for use in wet locations when used in an outdoor-rated fixture. Not for use where directly exposed to the weather or water.
- 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.
- **SUITABLE FOR "TYPE IC" OR "TYPE NON-IC" LUMINAIRES.**
- No external weight or mechanical force should be applied to tube or components.
- **THE RETROFIT ASSEMBLY IS ACCEPTED AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY UL OR AUTHORITIES HAVING JURISDICTION.**