

Included:

- (1) toggled LED tube (Model: D416-XX311, D416-XX321, D312-XX321, D208-XX321)
- (1) Fixture Modification Label
- (2) Wire nuts
- (2) Non-shunted lampholders

Important Information - Read before beginning installation

Warning - Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of luminaire electrical systems. If not qualified, do not attempt installation.

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 wire abrasion, do not expose wiring to edges of sheet metal or other sharp objects.

Warning - To avoid potential fire or shock hazard, do not use this retrofit kit in luminaires employing shunted bi-pin lampholders.

Warning - This fixture must be grounded and installed in accordance with local and national electrical codes, by a person familiar with the construction and operation of the product and the hazards involved.

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

This retrofit process does not change the environmental rating of the fixture being retrofitted. For damp or wet location placements, the fixture needs to be rated as such.

This device is intended for indoor use or weather protected fixtures only. Do not use where directly exposed to water or water spray.

This device is not intended for use with emergency exits.

FCC Notice

This device complies with Part 15 of the FCC Rules and with Industry Canada license-exempt RSS Standards. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

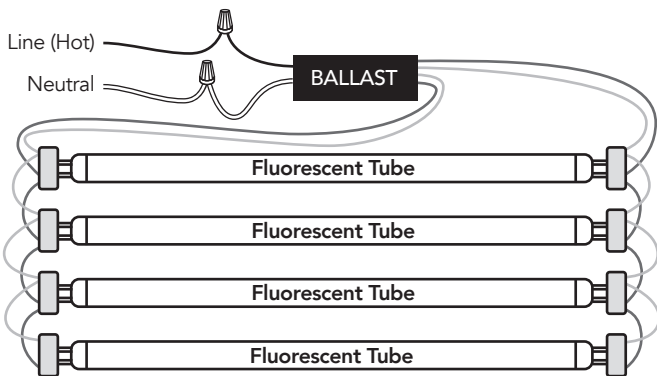
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in an installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

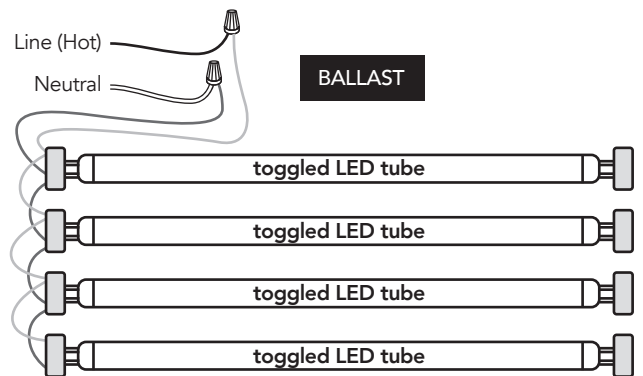
Changes or modifications not expressly approved by toggled could avoid the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Before Retrofit:



After Retrofit:



Installation

IMPORTANT - Installation of toggled LED tubes requires modification of the wiring within the existing fluorescent fixture. Please read the entire installation instructions before beginning your installation.

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.

1. Turn off power to the fluorescent fixture(s) at the circuit breaker.



2. Remove existing fluorescent tubes and ballast cover.

3. Cut all wires attached to the ballast(s).

Wires should be cut as close to the ballast as possible as you will be reusing them later.





Watch installation video
www.toggled.com/installation

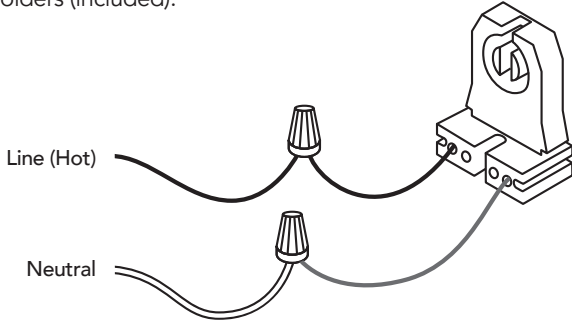
Installation

4. Connect lampholders to the AC supply (120VAC).

toggled tubes are powered from only one end and require the use of non-shunted lampholders.

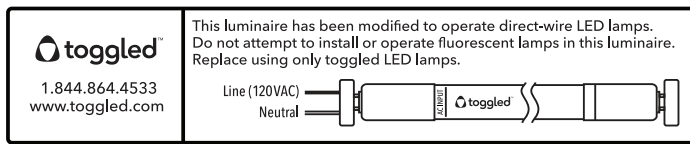
- The powered end is labeled with "AC Input" on the tube.
- The opposite end is for mechanical support only and is not electrically connected.

If lampholders are shunted, they must be replaced with non-shunted lampholders (included).

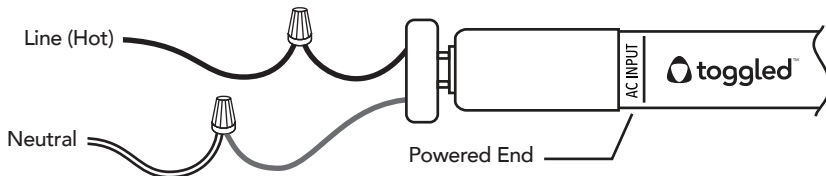


5. Reinstall any removed ballast covers or wiring covers.

6. Apply the fixture modification label to the powered end of the fixture.



7. Install the new toggled tube(s).



8. Turn power back on at the circuit breaker.



What are shunted lampholders?

Shunted lampholders have contacts that are connected together internally (shorted). As a result, line and neutral cannot be supplied separately to the lamp with a shunted lampholder.

Shunted lampholders 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 toggled.

Shunted Lampholder Replacement

Shunted lampholders only need to be replaced on one end of the fixture (the powered end).

- Remove brackets or covers holding the shunted lampholders.
- Remove the existing shunted lampholders.
- Install new pre-wired lampholders included with this retrofit kit.
- Route wires from new lampholders to incoming power source.
- Resume installation at Step 4.

Troubleshooting

Symptom	Cause	Remedy
No light from LED tube(s) when powered on	LED Tube installed backwards	Ensure lamp is installed with label nearest the wired (powered) end of the fixture
	Fixture wired improperly or loose connections exist	<ul style="list-style-type: none"> • Check wiring with schematic in provided installation instructions • Check wire-nuts for loose connections • Check lampholder(s) at powered end of fixture to ensure both lamp pins are receiving 120VAC
	Faulty LED tube	Contact toggled (1-844-864-4533)
Circuit breaker trips when power is turned on	Shunted Lampholders installed	Replace existing lampholders with included replacement non-shunted lampholders. Follow above installation instructions.
	Fixture wired improperly	<ul style="list-style-type: none"> • Check wiring with schematic in provided installation instructions • Check wire-nuts for loose connections • Check lampholder(s) at powered end of fixture to ensure both lamp pins are receiving 120VAC
All other issues	Unknown	Contact toggled (1-844-864-4533)

For additional help or support, please contact toggled support via phone (1.844.864.4533) or email (support@toggled.com).