

## How To Install External Power Supply RedBird LED Cardinal™ Linear Replacement Lamps

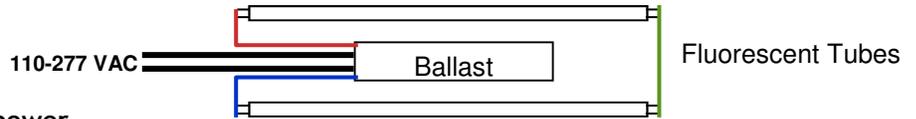
LED RETROFIT LUMINAIRE CONVERSION FOR USE ONLY WITH PRODUCTS DESCRIBED AND INSTALLED IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED WITH THIS RETROFIT KIT FOR DRY AND DAMP LOCATIONS

[www.RedBirdLED.com](http://www.RedBirdLED.com)

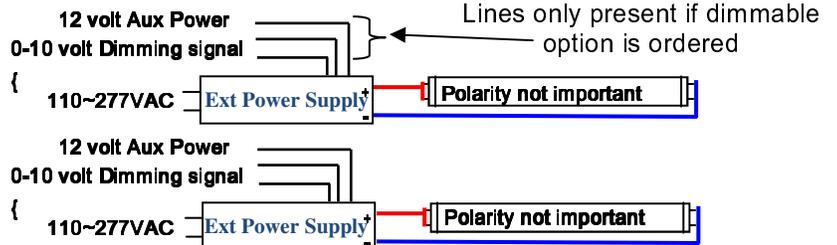
phone: (678) RED-BIRD

**TURN OFF POWER TO LIGHT FIXTURE, BEFORE DOING ANY WORK. CUT THE POWER AT THE BREAKER.**

A typical 2 lamp fluorescent tube fixture is probably wired like this

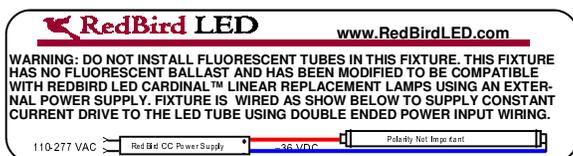


For the external power supply double-end-power-input LED tube version the LED configuration will be wired like this after the retrofit. The 0-10 volt control signal must be supplied to the Signal input lines on each dimmable power supply. If a fixed external supply is used, the basic wiring is the same but there would be no dimming control signal connections or auxiliary power lines to deal with



### Detailed instructions for the above

1. This product is designed to be installed in any UL, ETL or CSA compliant luminaire designed to operate with T8 or T12 fluorescent tube lamps for dry and damp locations. As part of the installation the fixture wiring and labeling needs to be modified as described in steps 2 through 12 below. Each lamp system comprises one external power supply designed to drive one of the 4', LED tubes compatible with the low voltage, constant current output of the supply. If the dimmable option is chosen, then each power supply is responsive to the 0-10 volt dimming signal when applied to the signal input lines.
2. Ensure that no power is applied to the fixture by cutting power at the fuse or circuit breaker box to this circuit.
3. **Remove and dispose of properly of any fluorescent lamps that may be installed in the fixture .**
4. Remove any fluorescent ballast installed in the fixture. Recycle/dispose of properly any ballast that is removed.
5. Install the external power supply in the area under the ballast cover.
6. Using crimp connections or twist on wire-nuts, connect the primary power wires to the designated connection on the external power supplies . One is neutral (usually white) and the other is the Hot or line-voltage (usually black). These power supplies will operate properly on all input voltages from 110 to 277 VAC @ 50-60 Hz.
7. **These externally powered LED tubes are configured to receive the drive current with positive on one end and negative on the opposite, Polarity is not important as the tubes have internal circuitry to accommodate either connection.** In many cases, if the fixture is old, to ensure the overall mechanical and electrical integrity of the completed retrofit it is recommended that all sockets be replaced with a new, locking ring type socket. Specifically, those sockets that do not require the bi-pin tube to be rotated into them should be avoided if possible. Additionally, all installed sockets should be solidly mounted to prevent them from 'splaying' open and letting the lamp fall out. See the socket images at the bottom of this page to confirm the recommended type.
8. Connect the positive lead from the power supply to the tube terminals on one end of the fixture and the negative lead to the tube terminals on the other end of the fixture. **Polarity is not important.** For the dimmable power supplies Connect the source of the 0-10 volt dimming control signal to the signal input lines on the PS. Each dimmable power supply may also provide a 12 volt aux-power output which can be used to drive various other modules, such as a wireless control signal generator. Remove any unused wires or components. Neatly tuck all wiring within the fixture's ballast cover.
9. Re-install the ballast cover on the light fixture.
10. **To maintain 100% UL compliance, install the Fixture Modification Label supplied with the LED tube light to the fixture itself to inform anyone looking to replace the installed LEDs that this fixture has been modified and is no longer compatible with fluorescent tubes.**
11. Install your new LED light tubes as if they were standard fluorescent lamps paying attention to ensure that the end of the tube marked as the power input end is installed in the wired socket.
12. **If the tube light model you are installing has the optional ROTATABLE END-CAPS make certain that the contact pins are located in a plane perpendicular to the long dimension of the terminal socket to ensure both good electrical and mechanical connections.** Finally, aim the light output as desired by twisting the tube about it's long axis as follows Simultaneously hold both end-caps secure in their sockets while a third hand rotates the central body of the tube.
13. Turn the power to the lights on and enjoy!



Label To be applied to the fixture in step

