

Redbird LED Cardinal® Stripit Kit® Installation Instructions

06-20-2017

Required Tools & Supplies

- ✓ Cordless drill/driver, with torque limiting adjustable clutch-head with 1/4" magnetic hex bit on a 6" extension. Set torque limit with the adjustable clutch-head to be ~ 10 in/Lbs to ensure the that when used to install the TEK-screws they do not 'strip-out' in the thin sheel metal of the fixture.
- ✓ Wire stripper with wire cutter
- ✓ 18 gauge solid core copper wire in two colors for the LED Plus and Minus power connections (Typically Black (-) and Red (+))
- ✓ Wire nuts and/or WAGO-style connectors for primary power connection

Pre-Installation Steps:

1. Turn off power to the fixture to be retrofitted
2. Remove Prismatic or Parabolic lens
3. Remove all Fluorescent tubes and dispose of properly
4. Remove ballast cover
5. Disconnect power wiring to the ballast – if possible, save the wire nuts commonly employed here to re-use for power connection to new LED Driver
6. Remove Ballast and dispose of properly
7. Remove all mechanical devices associated with the original fluorescent light system - tombstones [tube sockets], terminal bars that hold the sockets, and internal fixture wiring - and dispose of properly

Installing the Stripit Kit[®]

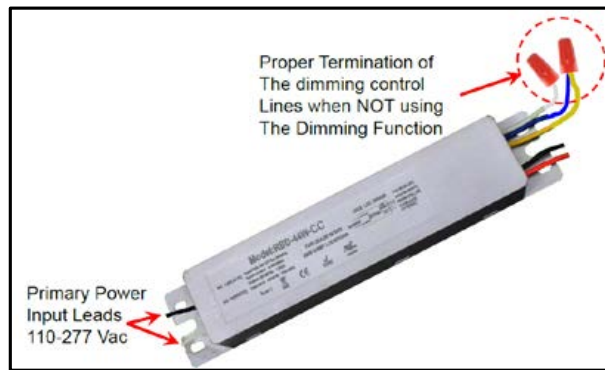
***Note, Installing TEK-Screws Properly:** When installing the supplied #6 self-drilling/self-tapping TEK-Screws, one must be careful to not 'OVER-TIGHTEN' them. This can usually be a avoided by using a driver with a adjustable torque-limit set at the appropriate level. The many different fixtures which can be retrofitted with the Stripit Kit[®] means that may different gauges of sheet metal may be encountered during the installation process. If a TEK-Screw is inadvertently 'stripped' during the installation process, one should remove said Screw (s) and reposition the component being mounted a small amount to allow a new, non-stripped TEK-Screw installation into fresh metal.



1. In many fixtures it is possible to install the diffuser/lens after the LED strip-extrusion assembly has been fastened into the fixture. However our experience shows that in general it is easier if you install the RedBird LED diffusers (or lenses) onto all of the LED Strips before mounting in the fixture, while working on a flat surface. Please refer to the following videos for guidance and tips on this installation.

If installing Snap-On Polycarbonate Lenses: <https://youtu.be/kEaGsHoUjlk>

2. Mount RedBird LED Driver in place of the ballast using supplied TEK screws. (see installing TEK-Screws Properly)
3. Using the wire nuts, connect the primary power leads to the driver's WHITE and BLACK wires on the driver's primary power input side. [All of the RBD series Drivers are fully isolated and it makes no difference which wire is connected to hot or neutral]



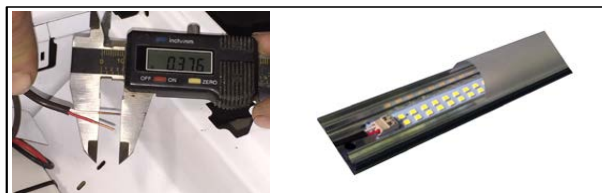
Please note: Many of the RedBird RBD series LED constant current drivers offer the Dimmable feature with the 0-10 volt control signal:

◆ If you will NOT be utilizing this Driver's dimming function: To install in the most stable configuration to provide immunity from electrical noise affecting the dimming function and to ensure full power is being delivered by the driver at all times. Connect the DIM + [yellow] lead to the Vcc+ Aux power [blue] lead. In some instances these two leads may come from the factory already tied together by a jumper or wire-nut. Simply leave this jumper in place.

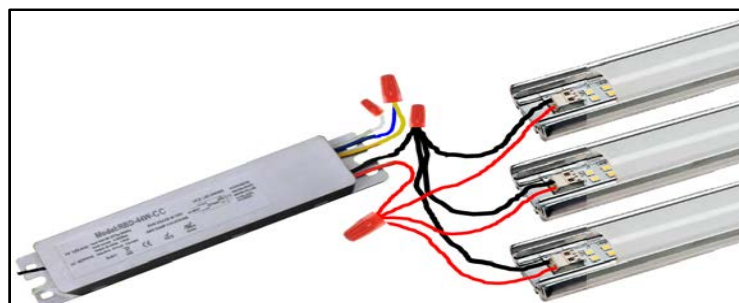
For ALL 0-10 V Dimmable Drivers, if these signal lines are not being used one should ensure that the DIM - lead be covered using electrical tape or a wire nut to avoid it touching anything randomly. If a driver does not have an auxiliary power lead to connect to the DIM+ lead, It should also be insulated from any random connection. This is simply extra insurance to avoid having these sensitive signal level control lines picking up any electronic noise or transients present in the installed environment which could produce erratic results.

◆ If you WILL be utilizing this Driver's 1-10 volt dimming function: In Drivers where the DIM + [yellow] and the Vcc+ Aux power [blue] lead have already been connected remove this connection or jumper: The DIM + [yellow] and the DIM - [white] should be connected to the Dim+ and Dim- control lines respectively. If any additional device or sensor is used which needs the +10 VDC power source provided by the Vcc+ Aux power [blue] lead, then this should be connected to the V+ input on the device and the DIM - [white] lead serves double duty as the Vcc- Aux power which should be connected to the V- or Ground lead of the same device.

4. Strip approx. 7/16" - 1/2" of insulation from the end of the RED and BLACK leads on the driver's low voltage DC Output side, and connect to the WAGO-style connector at either end of the first Stripit Kit LED strip; POLARITY MUST BE OBSERVED IN THIS STEP. Make sure to connect the RED wire to the (+) push-in terminal and the BLACK wire to the (-) push-in terminal To make sure the wires have been completely engaged in the spring-loaded, push-in terminals, gently pull on the wires to ensure they can't be pulled out. Many RedBird Drivers come with two pairs of red(+) and black(-) output lines. If you are only powering a single strip with the driver, you should cut and/or Tape the ends of the extra set of output lines to ensure that they do not touch anything conductive. If a driver with only one set of output leads is powering more than one LED strip element, then additional RED and BLACK power delivery leads should be spliced to the low voltage output leads of the Driver as shown below to provide a direct 'Home-Run' current path to each Strip. When this is done attention should be paid to keep these power leads nominally the same length to ensure uniform power distribution between all strip elements.



Strip Insulation back on the solid core, 18 gauge power delivery ~ 1/2"



Correct Wiring Method for Parallel wiring of Multiple Strips to a single driver.

- Using the supplied ¼" hex head TEK screws, mount the first Strip in the fixture (connect the lead wire before mounting the LED strip in the fixture), via the mounting holes at each end of the Strip. Be careful to not over-torque the screw and strip the self-threading attachment mechanism out from the sheet-metal of the fixture. If your cordless driver has a clutch-head feature it is useful to set this at a low level to avoid the too-tight mistake.



Connecting Additional Strips

- Measure distance from the driver to each strip and cut suitable sections of the 18 gauge solid-core wire to length of each color.
- Strip approx. 7/16"-1/2" off both ends of each wire
- Insert one end of the wire into the new Strip, following the RED/BLACK polarity convention.
- When all Strips have had their power leads attached mount each strip in the fixture using one TEK screw on each end to fasten it securely. Caution-do not over torque the TEK screws causing them to strip-out the self-formed threads in the fixture. If this happens, slightly relocate the strip so a new mounting point can be used.



Installing LED Strips in Fixture With TEK Screws

- With all Strips and the Driver installed in the fixture, connect all of the Red power leads from the strips to the Red Lead coming from the driver and all of the Black power leads from the strips to the Black Lead coming from the driver using wire-nuts, WAGO connectors, or crimp connectors.



LED Strips and driver installed in 2 x 2 Troffer Completed Retrofit with ballast cover and Trim Reinstalled

11. Replace the ballast cover, which now covers the RedBird LED driver, making sure that the LED power leads exit through an area with adequate clearance to avoid being pinched or cut by any sharp edges.
12. Install the 'Fixture Retrofitted' Label supplied with the kit to the fixture to ensure that anyone servicing this fixture in the future is fully aware that it has been modified by the installation of the RedBird LED Cardinal® Stripit Kit® retrofit system. This also ensures that any inspectors can readily ascertain that all UL compliance of the original fixture has been maintained by the proper installation of this UL listed retrofit kit.

WARNING-FIXTURE HAS BEEN MODIFIED
FIXTURE HAS BEEN RETROFITTED WITH CARDINAL® STRIPIT KIT LED
RETROFIT SYSTEM USING AN EXTERNAL LOW-VOLTAGE DRIVER. USE
ONLY REDBIRD LED ORIGINAL PARTS TO REPAIR OR REPLACE ANY
COMPONENTS IN THIS FIXTURE.

 **RedBird LED**
www.RedBirdLED.com


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FIXTURE LABEL CAN BE APPLIED AFTER RETROFIT HAS BEEN INSTALLED

13. Replace any trim such as a Prismatic or Parabolic lens components on the fixture
14. Turn main power on and enjoy the energy savings and high quality light output of RedBird LED's Stripit Kits!