

Redbird LED Cardinal® Stripit Kit® Installation Instructions

September 2015

Required Tools & Supplies

- ✓ Cordless drill/driver, preferably with adjustable clutch-head with ¼" magnetic hex bit on a 6" extension
- ✓ 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
- ✓ Electrical tape

Pre-Installation Steps:

1. Turn off power to the fixture to be retrofitted. Preferably at the breaker box.
2. If working on a dropped ceiling troffer, remove Prismatic lens or Parabolic grill assembly from the fixture.
3. Remove all Fluorescent tubes and dispose of properly
4. Remove ballast cover
5. Disconnect primary power connection to the ballast – if possible, save the wire nuts commonly employed here to reuse for power connection to new Driver
6. Detach from fixture all mechanical devices associated with the original fluorescent light system - tombstones [tube sockets], terminal bars that hold the sockets, and internal fixture wiring. Generally it is possible to leave all of this hardware connected to the ballast and remove it all as an assembly.
7. Remove Ballast and all connected fluorescent hardware and wiring from the troffer and dispose of properly

Installing the Stripit Kit



1. We recommend that you install the RedBird LED thin film diffusers (or the snap-on PC 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 Standard Thin Film Diffusers: <https://youtu.be/4qMwpG0xpRQ>

If installing Snap-On Polycarbonate Lenses; <https://youtu.be/kEaGsHoUjIk>
If installing Low Profile Thin Film Diffusers: <https://youtu.be/JT56jB-Rovo>

2. Mount RedBird LED Driver in the place of the ballast using supplied TEK screws making note to orient the driver such that the Red and Black LED output wires are proximal to the end of the troffer where you intend to connect them to the Strips. The Drivers are supplied with a long enough lead length on the Red and Black output lines to facilitate a direct connection into the Wago style connectors on the strips without having to add additional length or extensions if the driver is located 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. [Since the Driver is fully isolated and cannot be cross connected, it makes no difference which wire is connected to hot or neutral]



Please note: If you have purchased a Dimmable Driver, and:

◆ Will NOT be utilizing this Driver's dimming function: In order to guarantee full power is being delivered by the driver at all times the DIM + [yellow] lead should be connected 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. We also recommend that the bare end of the DIM - [white] lead be covered and terminated using electrical tape or a wire nut to avoid it touching anything randomly. This is simply extra insurance that the sensitive control lines will not be susceptible to any electronic noise or transient signals present in the installed environment which could produce erratic results.

◆ 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:

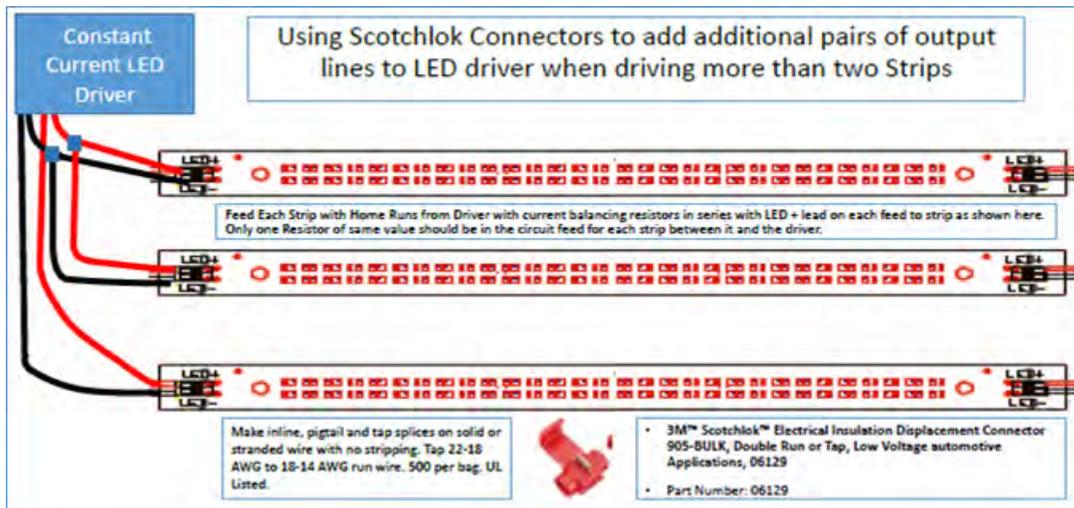
The DIM + [yellow] and the DIM - [white] should be connected to the Dim+ and Dim- control lines respectively. If a device is used which needs the 10 VDC power source provided by the Vcc+ Aux power [blue] lead, then this should be connected to the V+ input on the device and the DIM - [white] lead serves double duty as the Vcc- Aux power which should be connected to the V- or Ground lead of the same device.

4. Each 9w – 36w driver has TWO pairs of Red and Black output wires which will enable direct connections from the driver to each of two Strips. As this 'one driver for two strip' layout seems to be the most common Stripit Kit installation configuration [ex: S4-2-28W-50K], having the drivers pre-wired this way will simplify and speed up the installation process in most cases.

For installations employing only one Strip powered by a single driver [ex: S4-1-18W-41K], you may simply cut the 2nd pair of Red/Black wires off a few inches away from the driver wrap the

ends with electrical tape to ensure conductive core does not touch anything forming a possible short-circuit. Cutting these wires in a staggered fashion, i.e., leaving one wire ~ 1/2 " longer than the other allows a single piece of tape wrapped around them to serve this function without concern of the two wires touching each other.

In the case where more than two strips are being driven by a single driver [ex: S2-3-28W-41K], additional direct feeds from the Red and Black output lines on the driver should be spliced onto these lines using either wire-nuts or the Scotchlok™ inline splicers to add the extra direct feed lines to the driver to connect to the additional Strips [see wiring diagram below].

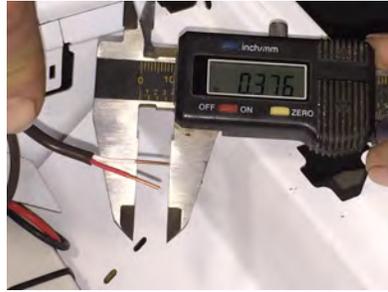


Please note that the wire configuration for RedBird’s 44 watt dimmable drivers utilizes a single pair of red and black output wires (two wires total). In this case, if more than one strip is to be connected to the output of the 44 watt driver, the same method of using either wire-nuts or the Scotchlok™ inline splicers to add the extra direct feed lines needed to the driver should be employed to connect to the additional Strips

RedBird’s 72w and 88w drivers will also have the two pairs of red and black output lines (four wires total); each pair is configured as an independent 36w or 44w CC source. If these drivers are to be used to drive more than two strips total, then the additional strips should be added in a balanced fashion using either wire-nuts or the Scotchlok™ inline splicers to add the extra direct feed lines needed to the driver should be employed to connect to the additional Strips. That is, **PAIRS** of strips should be added, one to each set of output lines. Otherwise, because each set of Red and Black output lines is internally connected to a **separate** Constant Current source, if you wire two strips to one set and only one strip to the other, the single strip will be driven twice as hard and the pair of strips and the light output levels will not be balanced.

5. Strip approx. 3/8" – 7/16" of insulation from the end of all 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.



6. For Kits with a second Strip, connect the second pair of RED/BLACK leads from the driver to the second Strip.
7. Position the strips within the troffer to optimize their location within the bounds of the other physical structure of the troffer. For example, in a parabolic troffer, one would typically wish to center the strip assembly either directly above the center of a line of the parabolic cells or directly over the cross-bar between such a line of cells. Typically the troffer hardware has enough regular features in the way of holes, punch indents, and so forth that one can use these to ensure a 'square' line-up to the troffer opening. We recommend that you make some small marks in the troffer to help line up the strips when finally screwing them in place. Once you have established where you intend to mount the strips, proceed to step 7.
8. 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 screws engagement in the sheet-metal of the troffer. If your cordless driver has a clutch-head feature this can be set to a low level to avoid over-tightening.



Troffer with LED Driver and First Strip Installed.

Connecting Additional Strips –

9. Simply repeat the procedure in step 7 to connect and install the second strip in the troffer. In the case where you are installing more Strips than available RED/BLACK output wires, as indicated above, additional direct feeds from the Red and Black output lines on the driver should be spliced onto these lines using either wire-nuts or the Scotchlok™ inline splicers to add the extra direct feed lines to the driver to connect to the additional Strips [see wiring

diagram in Step 4 above]. Once these additional LED strip power feed lines are installed, simply repeat step 7 once again. Continue until all Strips are mounted.

10. 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.

11. Replace the any trim such as a Prismatic or Parabolic lens components onto the fixture



12. Turn main power on – and enjoy the energy savings and high quality light output of RedBird LED's Stripit Kits!