

Objective

Installing Airelight™ Linears in Suspended Ceiling T-Grids

Luminaires: Airelight™ Linear SC 0.5
Airelight™ Linear SC 1.0

Airelight™ Luminaires are classified as Class 2 low-voltage devices, qualifying for greatly simplified code regulations in most jurisdictions. However, as these regulations often vary, Goldeneye recommends that any installation be done or supervised by a licensed electrician with knowledge of all applicable local building and electrical codes.



Tools and materials required:

While installation of the actual Airelight™ Linears requires no tools, mounting of power supplies, dimmers, enclosures, and other components in the system may require one or more of the following:

1. Wire strippers
2. Screw driver
3. Needle-nose pliers
4. Ladder
5. Electric Drill/driver
6. Small Clamp (or blue masking tape)
7. 18 gauge, 2 conductor wire

Step 1- Prepare a lighting plan that determines the number and positioning of Airelight™ Linears on the T-grid to deliver the desired illumination. For large projects or mixed-use spaces, Goldeneye recommends consulting with a lighting/interior designer and preparing a detailed lighting plan using modeling software created for that purpose.

Step 2- Taking into consideration the lighting plan prepared in Step 1 and the location of the AC branch circuit power source(s), prepare an electrical plan that lays out the positioning of the number of 24 VDC power supplies, dimmers, and monitors/sensors required for the installation, as well as a wiring diagram for both the AC and DC side of the circuit. If the lighting plan calls for multiple zones for dimming/controls, this should be reflected in the electrical installation plan.

Important considerations in preparing an electrical plan for suspended ceilings:

- a. 24 VDC power supplies and the low voltage cables connecting the Airelight™ Linear SC should be supported independently from the suspended ceiling, either from or on the permanent ceiling above or other structural elements.
- b. If the space above the ceiling is being used for air-handling (ie. As a plenum), additional installation steps/equipment may be necessary, such as enclosures for the power supplies and the use of plenum rated wire. If in doubt consult with a qualified Air-Conditioning engineer/installer.
- c. Airelight™ Linear SC are connected in daisy-chained runs of multiple units with the total number of watts for the run matched to the driver's output. Refer to the Airelight™ specifications to match the total watts used in any one run to the rated wattage of the driver/power supply.
- d. Use the sample block wiring diagram in Figure 1 below as a reference for connecting multiple Airelight™ Linear SC units and other optional devices.

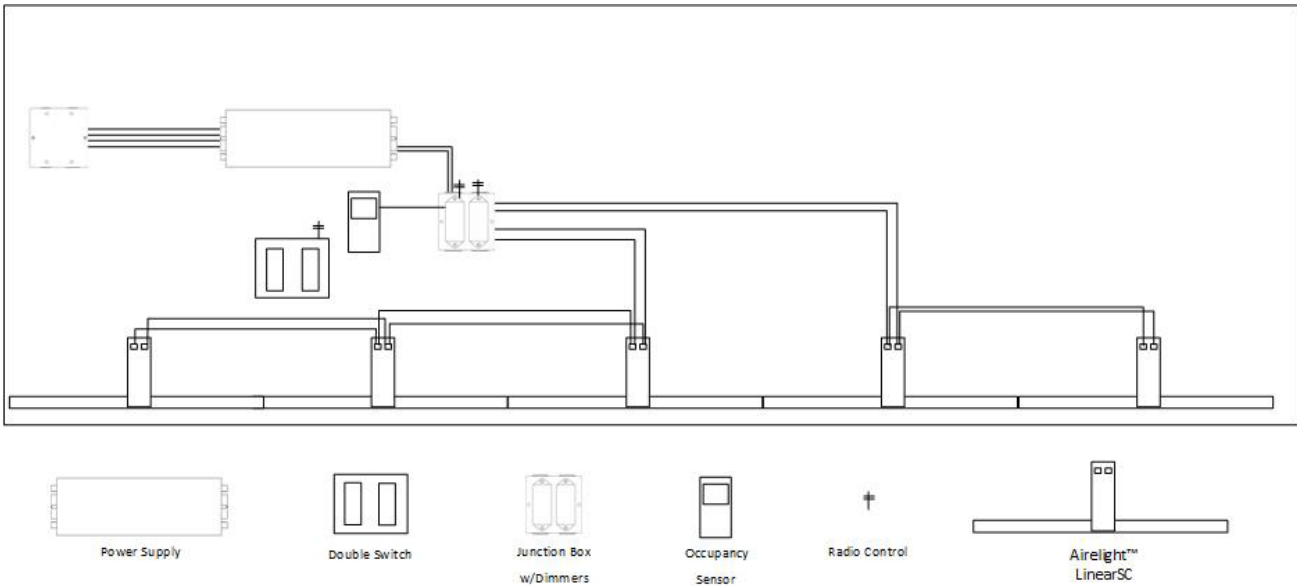


Figure 1

Important considerations for Steps 3 - 7:

- a. Connections between the AC branch line and the input to 24 VDC power supply must be contained within an approved electrical enclosure, (see step 3 below). Check local codes for exact requirements.
- b. DC current has a “plus” (+) and “minus” (-) polarity that must be matched from the power supply through the circuit to the Airelight™ Linears. Note which of the two leads is connected to the red “plus” (+) lead from the 24 VDC power supply.
- c. 24 VDC wiring running to the Airelight™ Linear SC positions should be installed in a manner that allows ceiling tiles to be lifted up freely. (Supported from above and not laying across the top of the tiles).

Step 3a- Install the DC Power supplies in a UL approved enclosure. Figure 2 shows a typical installation, with switched AC from the branch line in and the 24 vdc out. Note that in this example, the outside of the enclosure also provides the mounting surface for the RF dimmers called out in the electrical plan.



Figure 2

Step 3b- With ceiling tiles removed (or prior to their installation), and the AC power off, securely attach the enclosure to a joist, rafter or other structural building component. It should NOT be attached to the t-grid or any other part of the suspended ceiling. Connect the AC branch line to the AC “in” side of the enclosure. Also connect any sensors, dimmers and/or other components on the DC side.

Step 4- Attach the Airelight™ Linear SC units for the first run or group to be installed on the T-grid in accordance with the lighting plan (Figure 3). The units are held in place by strong magnets, and their positions can be easily adjusted. Make sure that the ribbon connector is hanging freely and not caught between the back of the Linear SC and the T-grid.



Figure 3

Step 5- Cut two lengths of 18 gauge wire the length necessary to connect from the DC supply (or any dimmer(s)) to the two Airelight™ Linear SC units at the center of the run (or daisy-chained group). For example, if there are 6 Airelight Linear SC units in the run, the leads should reach the #3 and #4 units in the line.* Strip 1/4” of insulation from the ends of the leads. With the AC power still off, connect one end of each of the two leads to the DC side of the driver using a suitable connector (such as a lever connector or wire nuts).

**Note: Goldeneye recommends this to avoid any possible voltage drop in runs of multiple units.*

(Caution before performing step 6 : When making connections to an individual Airelight™ Linear SC on the t-grid, temporarily secure the unit to the t-grid with a clip (as in Figure 4 at right) or masking tape. This will prevent accidental dislodgement and possible damage to the Linear SC if it were to fall to the floor.



Figure 4

Step 6- Locate the ribbon connector on one of the two Airelight Linear SC units at the center of the run or group (or if that connection has been made, the next unit to be daisy-chained in accordance with the plan). Note that each ribbon connector has two double connectors, one for positive (marked with a “+”) and one for negative polarity (see Figure 5). Insert the (stripped) ends of the positive and negative leads from the driver (or previous Linear SC in the daisy-chain) into the matching connector on the pigtail (Figure 6).



Figure 5



Figure 6

Step 7- Cut a length of 18 gauge 2-conductor wire to the length necessary to connect to the next LinearSC in the line or group and strip 1/4” of insulation from the ends of the leads. Insert one (stripped) end of each lead (Figure 7) into remaining available receptacle of the positive and negative connectors on center Linear SC’s pigtail, noting the polarity. Figure 8 shows the completed connection.



Figure 7

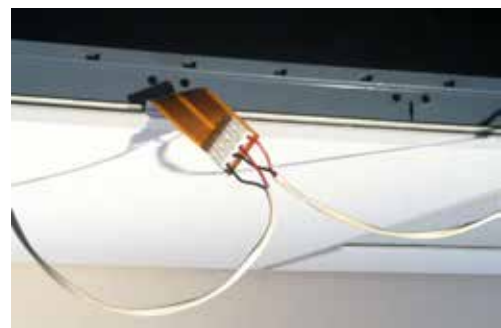


Figure 7

Step 8- Slide the supplied u-clip over the ribbon connector and onto the t-grid (as shown in figure 9). This holds the connector out of the way for installation of the ceiling tiles.

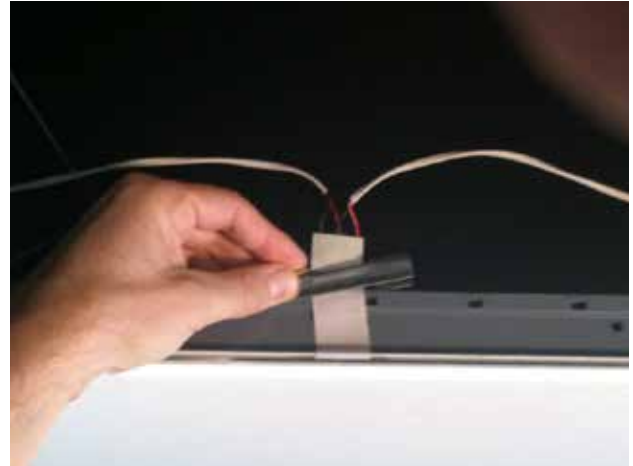


Figure 9

Step 9- Repeat steps 6-8 for each of the Linear SC units in this line or group daisy-chain. Figure 10 shows 3 Linear SC units connected correctly.



Figure 10

Step 10- Turn on the power to the circuit(s) and check that the connections have been made securely and all the Airelight™ Linear SC units in the daisy-chain are working. When check is complete, turn power off.

Step 11- Repeat steps 3 through 10 for all additional runs or groups to be installed.

Step 12- Install ceiling tiles according to manufacturer's instructions.