



Manufacturer of the First FAA Sign in 1955

## Installing: Lumacurve LED Upgrade kits Size 4 Distance Remaining Signs

Section D: "Installation & Modification"

### Installing Lumacurve Distance Remaining Size 4 LED Upgrade kits

The purpose of this guide is to help contractors and airfield personnel install Lumacurve LED Upgrade Lighting Kits into existing Lumacurve Size 4 Distance Remaining signs. Work through the steps below and if you have any problems, don't hesitate to call us for technical support.

We recommend reading through the entire instructions first and familiarizing yourself with the procedures before beginning the installation.

**NOTE: Using Non-OEM after-market parts will void FAA Certification and void manufacturer warranties.**  
**WARNING:** The sign must be de-energized before working on Lumacurve airfield guidance signs, unless otherwise instructed. Failure to do so may result in personal injury or damage to internal sign components.

**Recommended tools:** (Additional tools may be needed to remove existing lighting system.)

Small Standard Screwdriver

#2 Phillips Screwdriver

3/8" Socket Wrench or NutDriver

Round file

Power Drill

Drill Bits: 13/64", 1/4", 5/32", 1/8"

9/16" Socket or Wrench

Pop Rivet Tool 1/8"

5/16" Nutdrivers

#### 1. Removing of existing lighting system

- Remove one face panel, exposing "power" leg to your left. Be careful to not strip fiberglass frame components.
- Completely remove existing lighting system.

#### 2. Installing the Line Filter (image)

- Position filter mounting plate on the lower 2 U-bolt threaded ends as shown in *Figure #1*
- Secure using two 3/8" hex nuts
- Install power cord leads through cable clamp, connect to terminal strip, shown in *Figure #2*

#### 3. Installing the Distance Marker LED Light Bars

- Light bars need to be 3" from flat edge of the end panel.
- Install the light bars with lead wires into position first on the power side of sign.
- Install the non-power side light bar.
- Install lamp socket wiring in terminal strip as shown in *Figure #2*

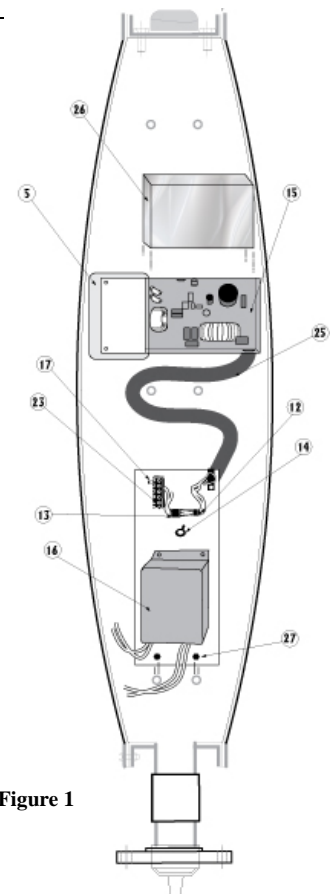


Figure 1

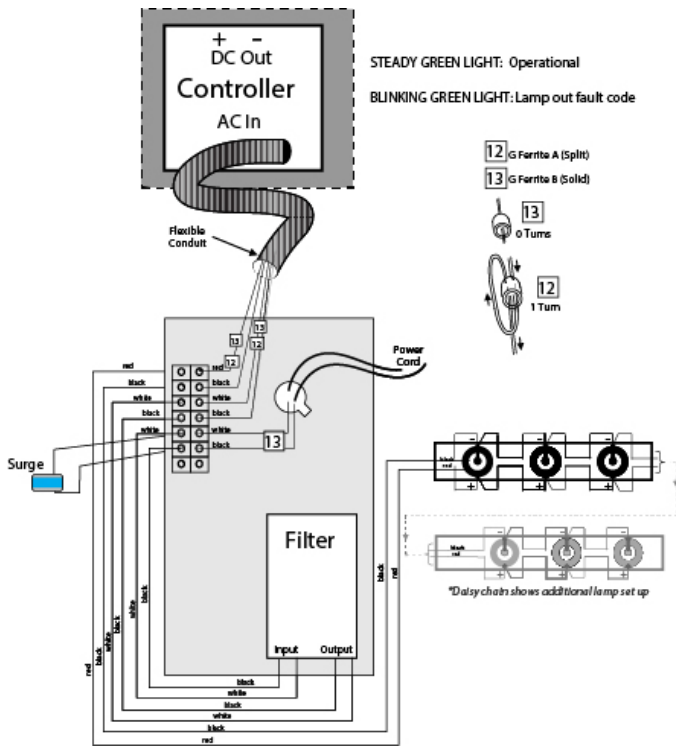


Figure 2:  
General Wiring

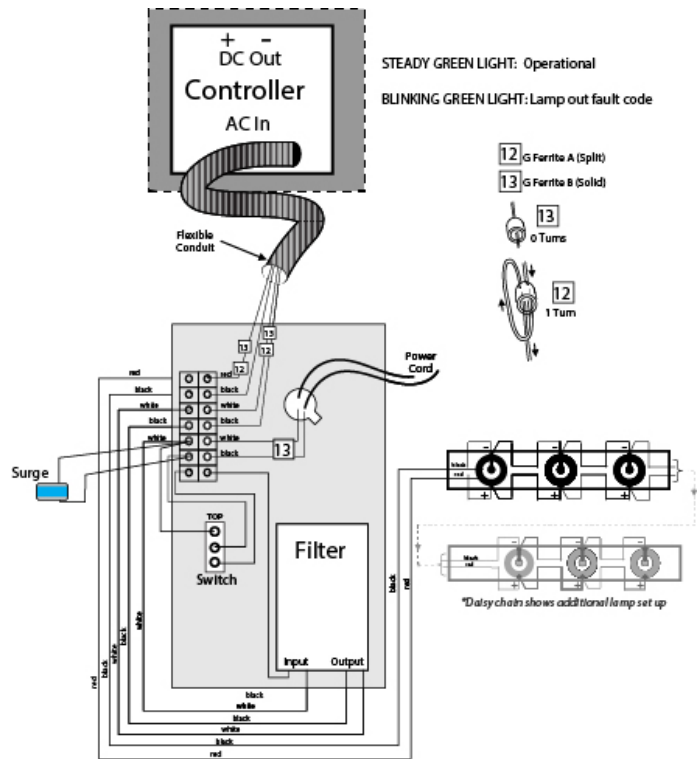


Figure 2A:  
On/Off Switch Wiring

#### 4. Installing the Controller

- Remove Power side access door.
- Carefully install new access door (with controller and controller plate.)
- Secure wire harness end furthest from controller to filter mounting plate at top right with #8 x 5/8" screw.

#### 5. Making Electrical Connections

- Identify the controllers input leads. Install these black and white leads into the terminal strip opposite of the Filter Output wires as shown in figure #2.
- Identify the DC output leads. Connect these red and black wires opposite the lamp socket red and black wires on the filter plate terminal strip as shown in figure #2.
- The wiring diagram for our signs' On/Off switch is shown in figure 2A.

#### 6. Using the switches on the revised L610 – REV.07M Controller

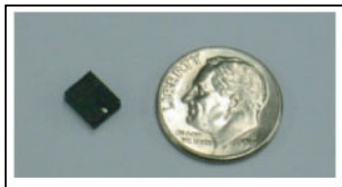
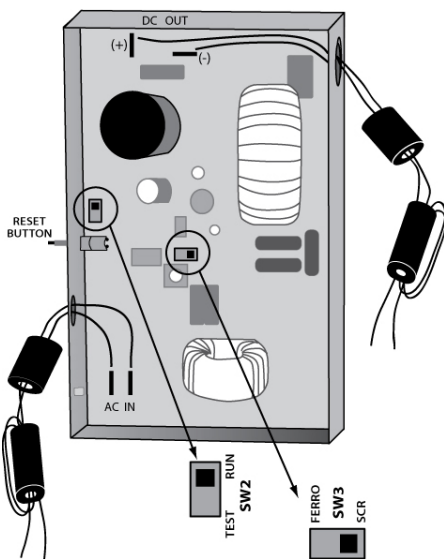


Photo #1

- Switch SW2 (Run & Test) is used to isolate controller programming functions when troubleshooting (1 out all out).
- Switch SW3 (Ferro & SCR) is used to set controller functions with constant current regulators (CCR's)

**Jumper position Based on Regulator Type for older versions of L610 Controllers (December 2014 or older versions)**

## “L610 – REV. 07M”



## “L610 – REV. 06 or older”

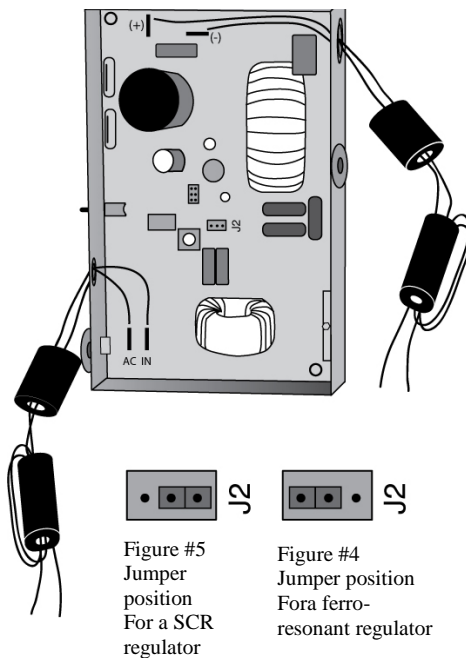


Figure #5  
Jumper position  
For a SCR  
regulator

Figure #4  
Jumper position  
For a ferro-  
resonant regulator

## “L610 – REV. 05 or older”

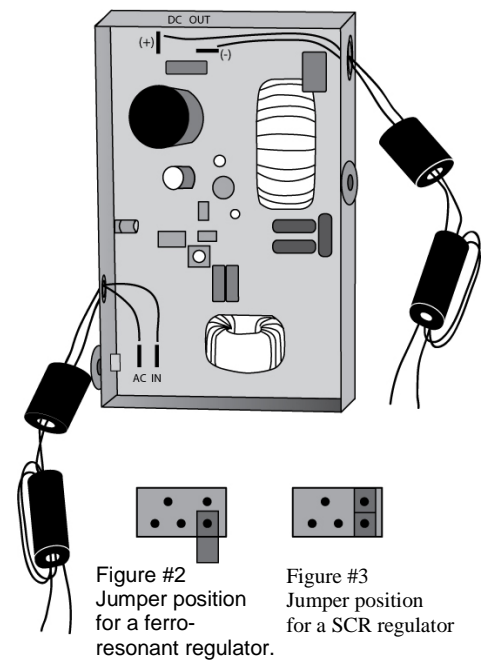


Figure #2  
Jumper position  
for a ferro-  
resonant regulator.

Figure #3  
Jumper position  
for a SCR  
regulator.

The L-828 and L-829 Constant current regulator maintain constant amperage to the airfield circuit.

The L-829 is an SCR type (silicone rectifier) commonly known as a solid state (electronic based) regulator. The L-828 is a ferro-resonant that uses transformer technology.

For SCR type L-829 regulators, a jumper (photo #1) must be installed on the LED controller (as shown in figure #3 or figure #5). For ferro-resonant type L-828 regulators controller (as shown in figure #2 or figure #4).

### **Instructions for installing the Jumper:**

- Identify the type of Constant Current Regulator powering this sign. (“SCR” solid state or “Ferro-Resonant” type)
- Remove shield screen by loosening the fender washers.
- Locate the small black jumper. The jumper is factory installed. (figure #2 or figure #4).
- When using SCR regulator, remove jumper for ferro-resonant regulator application and reinstall over both pins as shown in photo (figure #3 or figure #5).
- Reinstall shield screen.

## **7. Installing the Shielding Screen**

On each side of the controller are screws and fender washers (*Figure #3*). These hold the shielding screen in place. If the fender washers are tight to the side of the controller, loosen them slightly to slip the edge of the screen between the fender washer and the controller case. The shielding screen is shaped to precisely fit the controller. Once the screen is in place, tighten the screw & fender washers to secure screen.

## 8. Installing the OEM Electrical Upgrade Nameplate

Each Lumacurve LED Upgrade kit comes with an OEM upgrade nameplate (Photo #4) & (2) 1/8" pop-rivets. It is essential that the correct nameplate be installed after the electrical installation is completed. This is critical information for the future maintenance of the sign. The nameplate should be mounted adjacent to the original factory nameplate.



Photo 4

## 9. Checking system & restoring the sign to service

All the electrical components should now be mounted and wired properly.

- a) Insert all lamps into the sockets.  
*Warning: the use of non-OEM replacement lamps may damage electrical components and cause premature lamp failure. Only OEM Lumacurve lamps will maintain FAA photometric requirement and factory warranties.*
- b) Check that the properly sized isolation transformer is being used. *See chart.*
- c) Signs powered by SCR regulators (solid state) must have jumper in place on the controller. *(see step #6)*
- d) Power up sign and check that all lamps are functioning properly.  
*Note: If sign is not functioning, revisit above steps once again to ensure the sign is wired properly. If there are still problems, contact us for technical support at 800-258-1997.*
- e) Reinstall the legend panel.

Use the chart below to identify the proper size isolation transformer:

Sign Size & Module Length		LED Lighting Systems										
		FAA Style 2 (4.8A-6.6A)			FAA Style 3 (2.8A-6.6A)			FAA Style 5 (5.5A)				
Lamps	4W LED	Isol Xfmr	Max VA	Pwr Factr	4W LED	Isol Xfmr	Max VA	Pwr Factr	4W LED	Isol Xfmr	Max VA	Pwr Factr
Size 1, 1-mod	2	45W	47	0.93	45W	47	0.93	45W	37	0.94		
	2-mod	4	100W	59	0.88	100W	58	0.88	100W	47	0.91	
	3-mod	6	100W	66	0.90	100W	66	0.90	10W	54	0.93	
	4-mod	8	100W	73	0.92	100W	72	0.92	100W	61	0.94	
Size 2, 1-mod	3	100W	57	0.87	100W	56	0.87	100W	44	0.89		
	2-mod	6	100W	66	0.90	100W	66	0.90	100W	54	0.93	
	3-mod	9	100W	76	0.92	100W	76	0.92	100W	64	0.94	
	4-mod	12	100W	86	0.94	100W	86	0.94	100W	75	0.96	
Size 3, 1-mod	3	100W	57	0.87	100W	56	0.87	100W	44	0.89		
	2-mod	6	100W	66	0.90	100W	66	0.90	100W	54	0.93	
	3-mod	9	100W	76	0.92	100W	76	0.92	100W	64	0.94	
	4-mod	12	100W	86	0.94	100W	86	0.94	100W	75	0.96	
Size 5, 1-mod	3	100W	57	0.87	100W	56	0.87	100W	44	0.89		
Size 4, 1-mod	6	100W	66	0.90	100W	66	0.90	100W	54	0.93		