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, 800-258-1997.

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 the existing lighting system.)

Small Standard Screwdriver	Power Drill	Pop Rivet Tool 1/8"
#2 Phillips Screwdriver	Drill Bits: 13/64", ¼," 5/32", 1/8"	5/16" Nut drivers
3/8" Socket Wrench or Nut Driver	9/16" Socket or Wrench	Round file

1. Removing the existing lighting system
   a) Remove one face panel, exposing the "power" leg to your left. Be careful not to strip fiberglass frame components.
   b) Completely remove the existing lighting system.

2. Installing the Line Filter (image)
   a) Position filter mounting plate on the lower 2 U-bolt threaded ends as shown in Figure #1
   b) Secure using two 3/8" hex nuts
   c) Install power cord leads through cable clamp, connect to the terminal strip, shown in Figure #2

3. Installing the Distance Marker LED Light Bars
   a) Lightbars need to be 3" from the flat edge of the end panel.
   b) Install the light bars with lead wires into position first on the power side of the sign.
   c) Install the non-power side light bar.
   d) https://lumacurve.com/wp-content/uploads/2020/10/G.DM-LED-InstallInstructions.pdfInstall into the terminal strip as shown in Figure #2
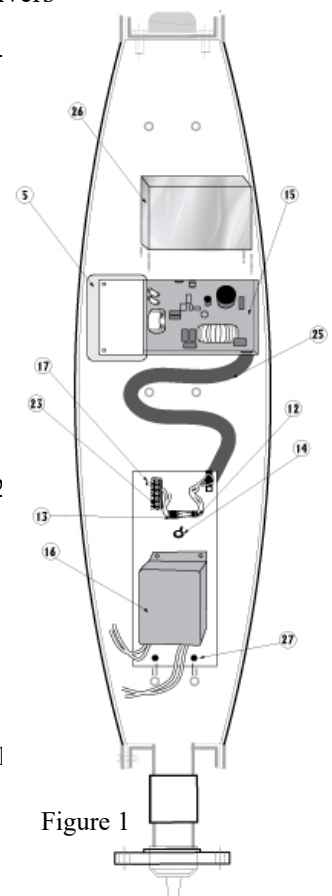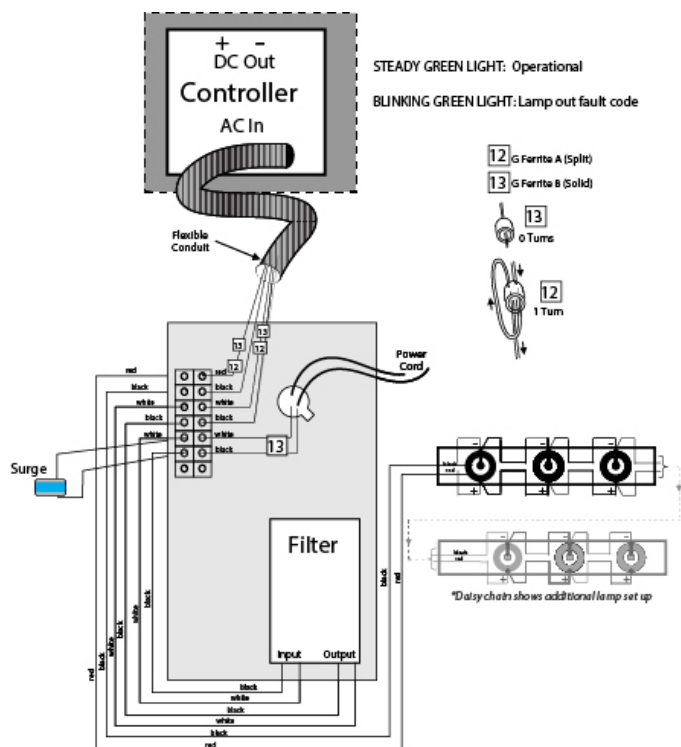

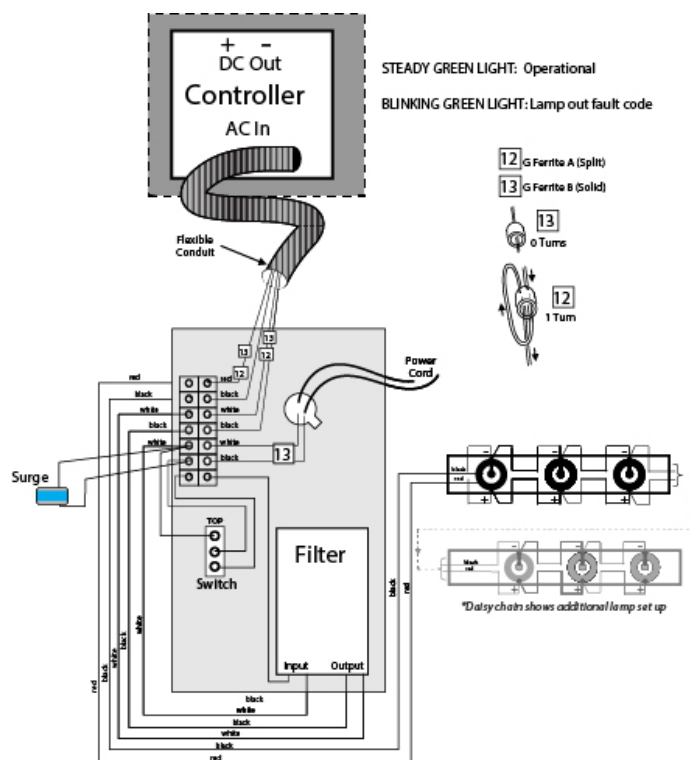Figure 1

Figure 2:
General Wiring

Figure 2A:
On/Off Switch Wiring

4. Installing the Controller

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

5. Making Electrical Connections

a) 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.
b) 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.
c) The wiring diagram for our signs' On/Off switch is shown in Figure #2A.
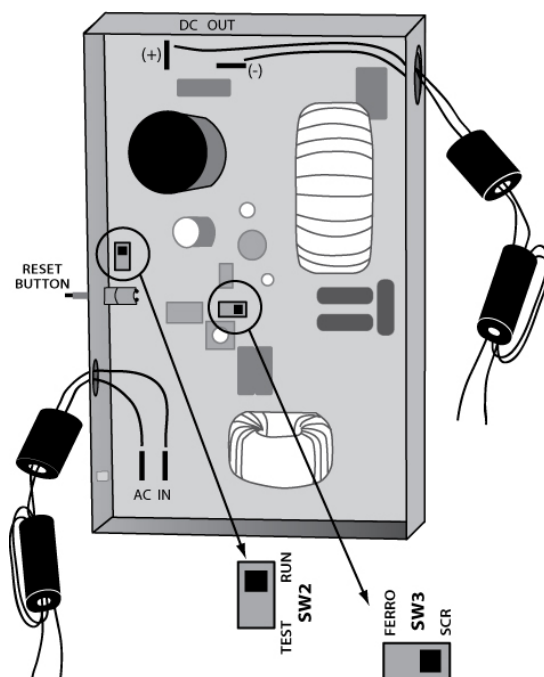
6. Using the switches on the L610 Controller

- 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)

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.

(Figure #3)

Fender washer and screw serves as a clamp to hold the shielding screen in place

Finished look of the controller
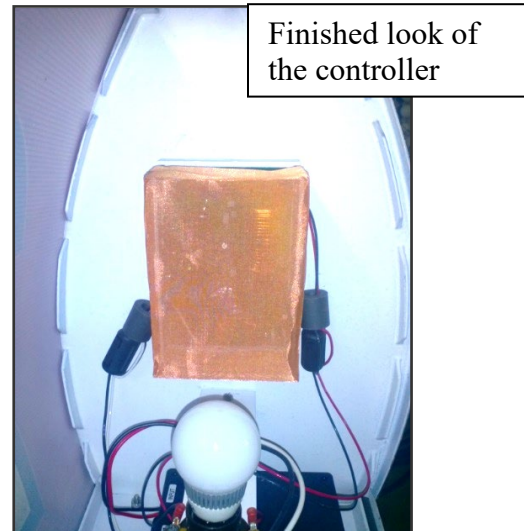
8. Installing the OEM Electrical Upgrade Nameplate

Each Lumacurve LED Upgrade Kit is contains an OEM Electrical Upgrade Label Figure #4 and (2) 1/8" pop-rivets. Information on this label is critical for future sign maintenance. This label should be mounted to the sign end panel (power side of sign) just below the original factory nameplate.

a) Be careful not to come into contact with any components mounted on the inside of the end panel. Carefully position the OEM Electrical Upgrade Label just below the original factory nameplate. While holding the label in place, use a 1/8" or 9/64" drill bit to drill through the two holes in the label.

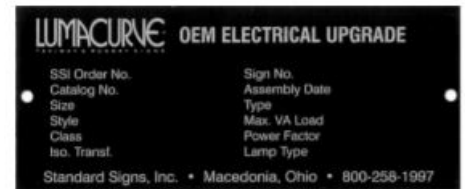b) Install two 1/8" pop-rivets to secure the label in place.

Figure #4

9. Checking system & restoring the sign to service

The electrical components should now be mounted and wired correctly.

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 requirements and factory warranties.

b) Check that the properly sized isolation transformer is being used. See chart.

c) Power up the sign and check that all lamps are functioning adequately.

d) Reinstall all the legend panels.

Note: If the sign is not functioning, revisit the 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 or visit our Help Yourself Center
for videos and troubleshooting documents at www.lumacurve.com/helpyourself

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

SIGN SIZE & MODULE LENGTH	LAMPS	FAA Style 2 (4.8A-6.6A) / FAA Style 3 (2.8A-6.6A) 4W LED				FAA Style 5 (5.5A) 4W LED		
		ISO XFMR	MAX VA	POWER FACTOR		ISO XFMR	MAX VA	POWER FACTOR
Size 1, 1-mod	2	100W	49	.94		100W	37	.94
2-mod	4	100W	64	.88		100W	48	.89
3-mod	6	100W	67	.89		100W	50	.90
4-mod	8	100W	73	.90		100W	56	.91
Size 2, 1-mod	3	100W	62	.87		100W	46	.88
2-mod	6	100W	67	.89		100W	50	.90
3-mod	9	100W	74	.90		100W	58	.92
4-mod	12	100W	78	.91		100W	62	.93
Size 3, 1-mod	3	100W	62	.87		100W	46	.88
2-mod	6	100W	67	.89		100W	50	.90
3-mod	9	100W	74	.90		100W	58	.92
4-mod	12	100W	78	.91		100W	62	.93
Size 5, 1-mod	3	100W	62	.87		100W	46	.88
Size 4, 1-mod	6	100W	67	.89		100W	50	.90