



Installation Instructions

for Taxiway & Runway Signs

Size 1, Size 2, Size 3 & Size 5

DO NOT DISCARD

Important information for AIRPORT MAINTENANCE DEPT

To install:

1. Locate the frangible couplings (item #1 see **Electrical Connection Detail**) and floor flanges (#2) that are provided with the sign. (For small sign orders, they may be packaged in the box with the sign. Larger order will have a separate carton containing this hardware.) Coat the threads of the frangible couplings with an anti-seize compound or petroleum jelly, then screw them hand tight into the floor flanges .

Note: It is also important that the correct couplings be used with the sign. The coupling size and mode are etched on the outside of the coupling. Incorrectly sized couplings will not meet FAA frangibility requirements.

2. Locate the power cord (#4). It will be visible protruding from the power leg slipfitter (#3).

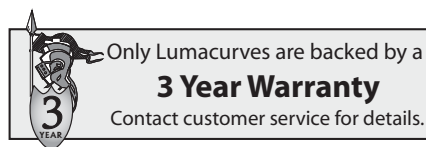
Note: the power cord and electrical components are located in the module nearest the nameplate on the end of the sign.

3. Slip the coupling/floor flange assemblies into each slipfitter (#3) on the bottom of the sign. Tighten the set screws (#5) just enough to hold them in place. Floor flanges must be oriented with mounting holes perpendicular to the sign base. For the power cord leg, pull enough power cord slack from the sign to allow a connection with the isolation transformer secondary extension cord (#6).

Note: The power cord that is provided is extra long to allow exiting the sign through any leg desired.

Note: in a typical remote L867 base can installation, the sign leg is connected to the remote can with 2" rigid galvanized steel (RGS) conduit. An isolation transformer secondary extension cord (#6) is fed through the conduit and connects the sign power cord plug to the isolation transformer secondary plug.

4. Locate the cable clamp (#7, provided with the sign for most new sign installations). Tighten the cable clamp (#7) onto the isolation transformer secondary extension cord female plug at grade level. Ensure the cable clamp side labeled "TOP" is facing up. The cable clamp should nest on the under side of the floor flange (#2) and on top of the conduit (#8) that is flush with the surface of the concrete mounting pad. Insert the power cord plug (male) into the isolating transformer secondary extension cord plug (female). *Note: As required by the FAA, this step in conjunction with step 6 ensures that the power cord will be disconnected/unplugged in the event that the sign is knocked over.*



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To install (continued):

5. Lift the sign upright into place on the cement pad. Use the sign as a template to locate and mark mounting holes. Place sign off to one side and install anchor bolts. *Recommended anchor bolts: 3/8" x 5" for mode 2 signs, 1/2" x 5" for mode 3 signs.* Position sign over the anchor bolts and fasten the floor flanges to the cement pad with lockwashers and nuts. Temporarily loosen the slipfitter set screws (#5). With a pipe wrench, tighten the frangible couplings 1/4 - 1/2 turn into the Floor Flanges. (*Warning: Do not use the wrench above the shear groove.*) Ensure that the sign is level and the modules are aligned by sighting down the length of the tops. Tighten the slipfitter set screws using a socket wrench.

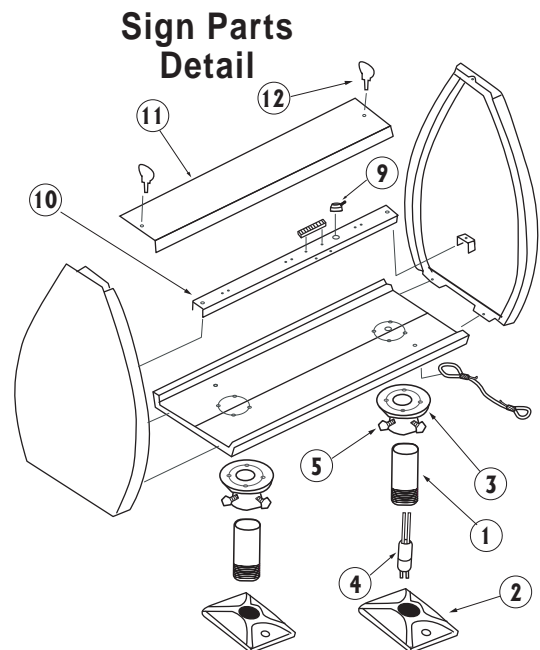
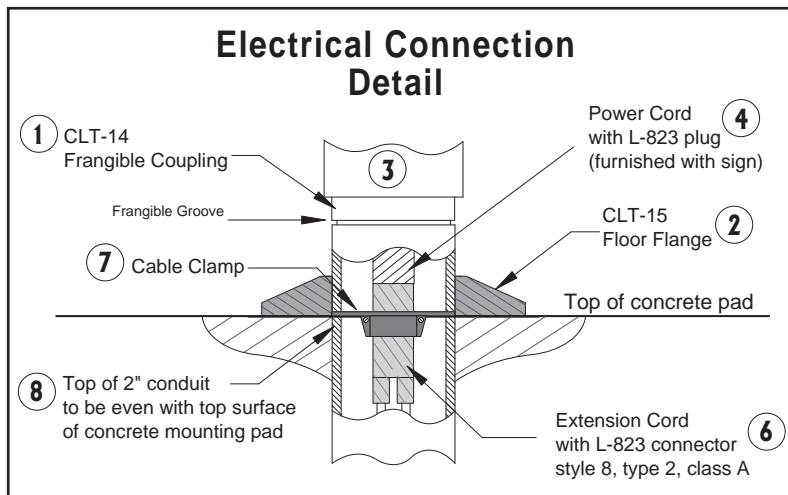
6. Locate the strain relief clamp (#9) on the inside of the sign. It can be found on the light bar (#10) on which the lamps are mounted. Remove the sign cover (#11) nearest to the nameplate on the end of the sign by unscrewing the two turn fasteners (#12) and then slide out the legend panels. Remove all slack in the power cord between the plug and the strain relief clamp, then tighten the set screw on the strain relief clamp. Extra cord can be coiled & placed in the bottom of the sign. (*As required by the FAA, this step in conjunction with Step 4 ensures that the power cord will be disconnected/unplugged in the event that the sign is knocked over.*)

7. Electrical adjustments are now required. Power supply settings have been factory set but must be rechecked with an RMS meter once installed in the airfield environment. Please refer to the "Parts & Electrical Information" sheet for the lighting system being installed. Follow the "Installation" portion of those directions to ensure that the electrical settings are correct.

8. Replace any covers removed.

Note: sometimes legend panels seem to obstruct the re-installation of the top covers.

If panels are not engaging on the underside of the top cover into the gasketed channel, please try the following: Engage the turn fasteners loosely. With the palms of your hands, slap or "pop" the centers of the opposing panels inward simultaneously. The internal pressure should apply a force that allows the top to drop in to place. Apply pressure downward on the top. If the technique worked and the panels are engaged properly, the resistance (or obstruction) to tightening the turn fasteners should be eliminated.

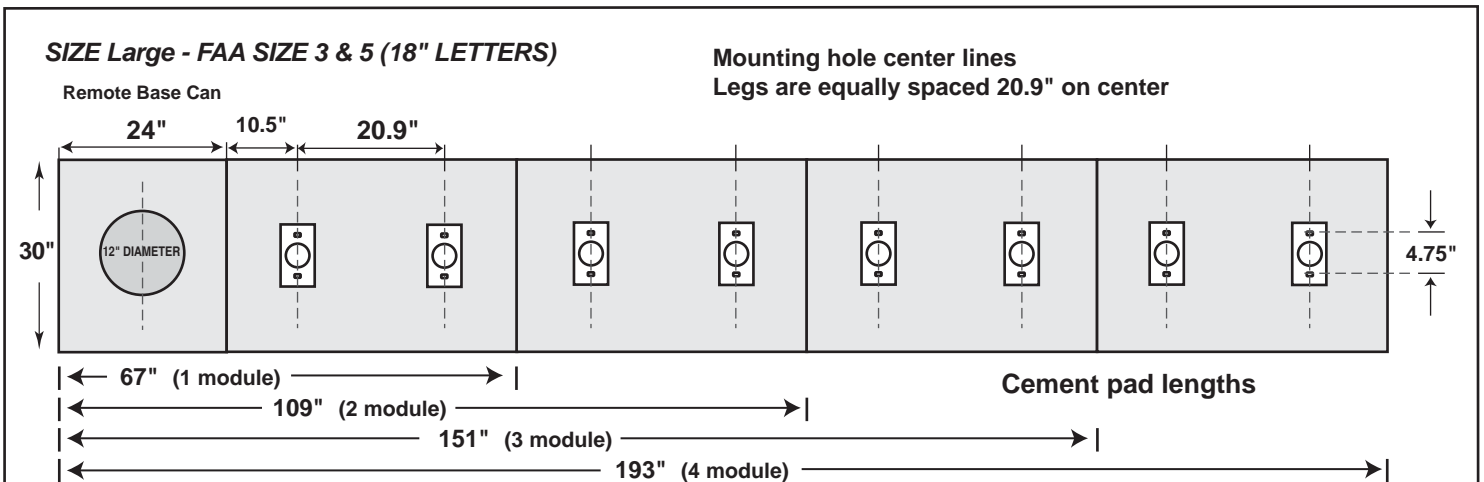
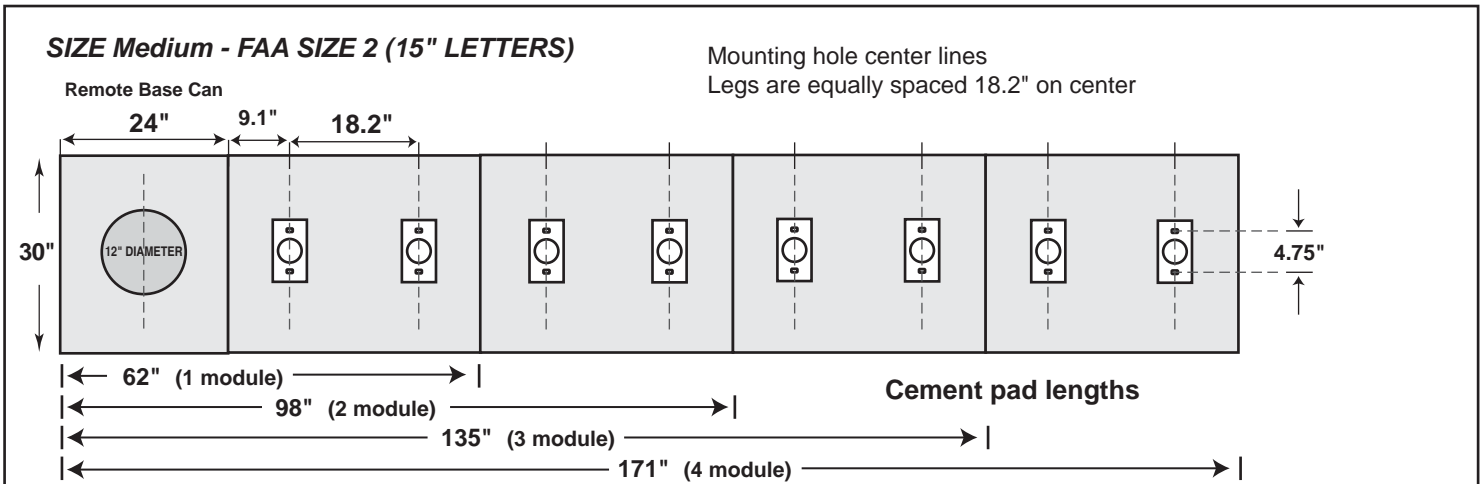
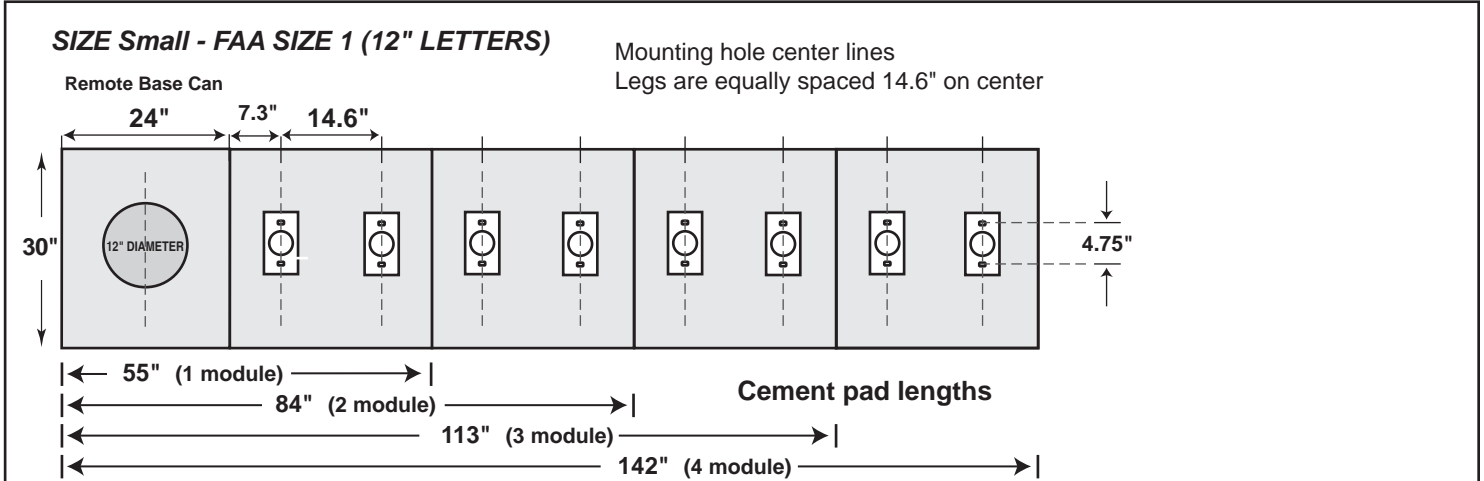




Installation Instructions

Pad dimensions & mounting locations
Sign Sizes: 1, 2, 3 & 5

Standard Installation - "Inner Mount" (For Mode 3 or "Outer Mount" see separate instructions)

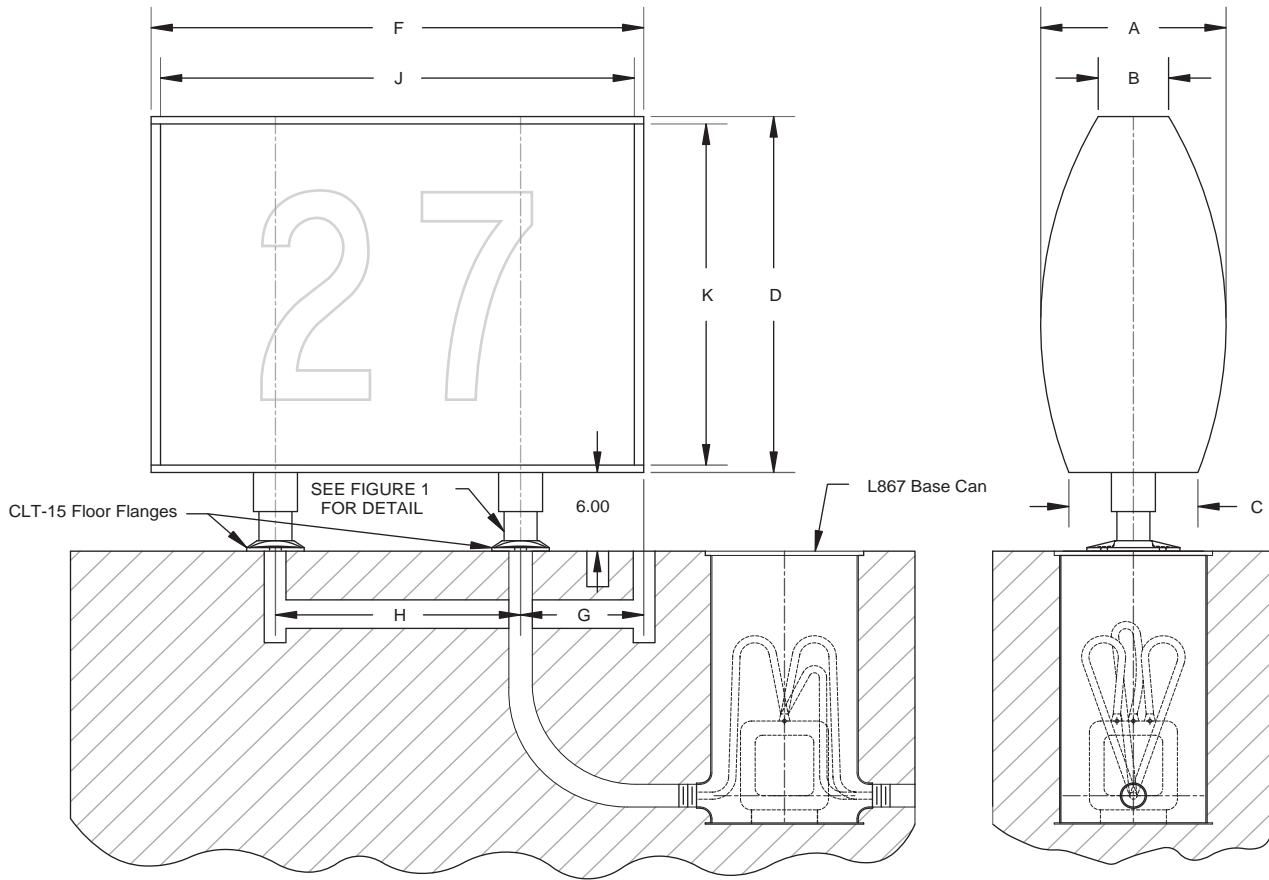


Above references recommended cement pad dimensions and mounting bolt locations for Lumacurve signs

*Recommended concrete thickness : 6" - 8"

*Recommended anchor bolts: 3/8" diameter (minimum) with LOCK washers.

For Mode 3 signs see supplemental Mode 3 "Outer Mount" instructions.



Size	1	2	3
Letter Ht.	12.0 (305)	15.0 (381)	18.0 (457)
Lamps	1	2	2*
A	13.2 (335)	14.4 (366)	15.8 (401)
B	6.0 (152)	6.0 (152)	6.0 (152)
C	11.0 (280)	11.0 (280)	11.0 (280)
D	19.3 (490)	25.3 (643)	31.3 (795)
F	29.4 (747)	36.6 (930)	42.0 (1067)
G	7.4 (188)	9.2 (234)	10.6 (269)
H	14.6 (371)	18.2 (462)	20.9 (531)
J	27.8 (706)	35.0 (889)	40.4 (1026)
K	18.0 (457)	24.0 (610)	30.0 (762)

Note: Dimensions are in english with metric equivalents in parenthesis

*Note: Older size 3 lighting systems had 3 lamps per module prior to 2009.

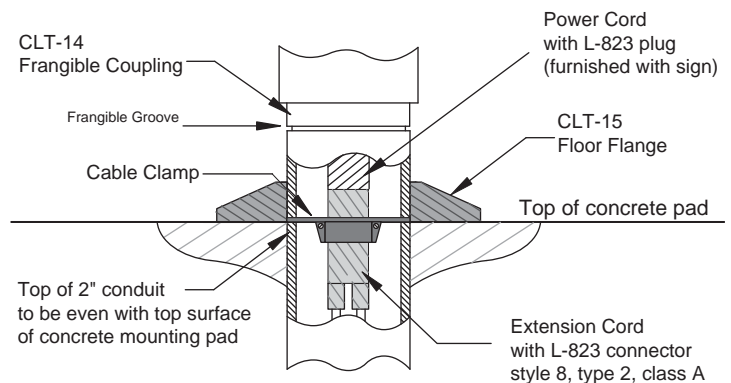


FIGURE 1



Manufacturer of the First FAA Sign in 1955



Parts & Electrical Information for Taxiway & Runway Signs LED Lighting Systems

Certified to current FAA Advisory Circular 150/5345-44

Specification for Runway and Taxiway Signs

View our Certificate of Conformance

LUMACURVE LED System

The LUMACURVE LED system maintains constant sign brightness in accordance with FAA A/C 150-5345-44 with appreciably higher efficiency relative to traditional lighting systems, and is available in new signs or in kit form for retrofit. This system delivers a constant voltage to the 4W LED lamps at all CCR current steps. This system works equally well for high intensity (Style 3, 2.8A-6.6A), medium intensity (Style 2, 4.8A-6.6A) and Style 5 (5.5A fixed) dedicated sign circuits without internal modification*. The lamps authorized for use in this system are Standard Signs, Inc. 4W LED lamps with medium screw base. They are available directly from Standard Signs, Inc.

IMPORTANT!

The LUMACURVE LED lighting system is designed exclusively for FAA styles 2, 3 & 5 operation on a series circuit together with and without non-sign fixtures, such as edge lights, where the sign brightness control components are necessary to maintain constant sign brightness regardless of CCR step.

INSTALLATION:

System lamp voltage is factory set but we recommend that one sign per CCR be spot checked with a DC voltmeter after installation. Lamp voltage is read across the lamp socket leads. If voltage varies from recommended settings (170V DC for Sizes 1, 2, 3, and 5), call and ask for technical support: 800-258-1997.

LAMP REPLACEMENT:

When a lamp fails, the controller will sense that there is a lamp out and will turn off the remaining lamps. This feature is required per current FAA specifications. With the sign energized, press and hold the lamp reset button located on the side of the controller. After approximately 7-8 seconds, the lamps will re-energize revealing the failed lamp. Replace the failed lamp. This completes the lamp replacement process.

WARNING:

The use of non-OEM replacement lamps may damage electrical components as well as cause premature lamp failure. Only OEM Lumacurve 4W LED lamps will maintain FAA certifications and factory warranties.

DIELECTRIC GREASE:

These LED lamps are powered by a DC source and are susceptible to corrosion from moisture. We recommend the use of dielectric grease on the lamp base to prevent corrosion.

*Isolation transformer wattage requirements may vary for each application.

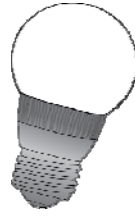
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Jumper position Based on Regulator Type

The L-828 Constant current regulator maintains constant amperage to the airfield circuit. There are two types of L-828 regulators. The first is an SCR type (silicone rectifier) L-828 regulator, commonly known as a solid state (electronics based) regulator. The second is a ferro-resonant type L-828 regulator that uses transformer technology.

For SCR type L-828 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).

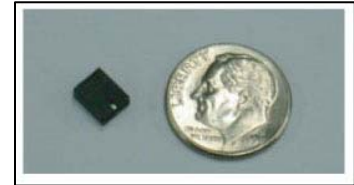


Photo #1

Instructions for installing the Jumper:

- Identify the type of L-828 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.

“L610 – REV. 05 or older”

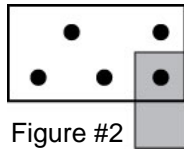
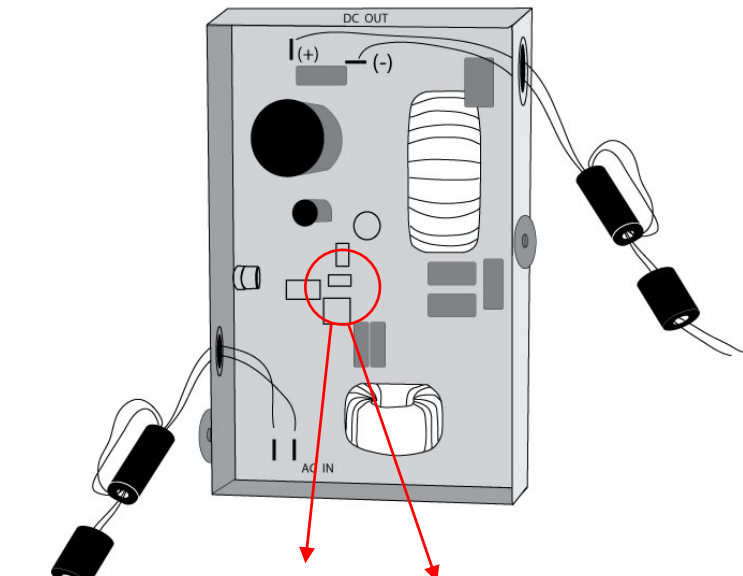


Figure #2
Jumper position for a ferro-resonant regulator

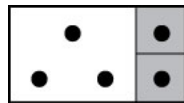


Figure #3
Jumper position for SCR regulator

“L610 – REV. 06”

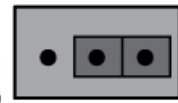
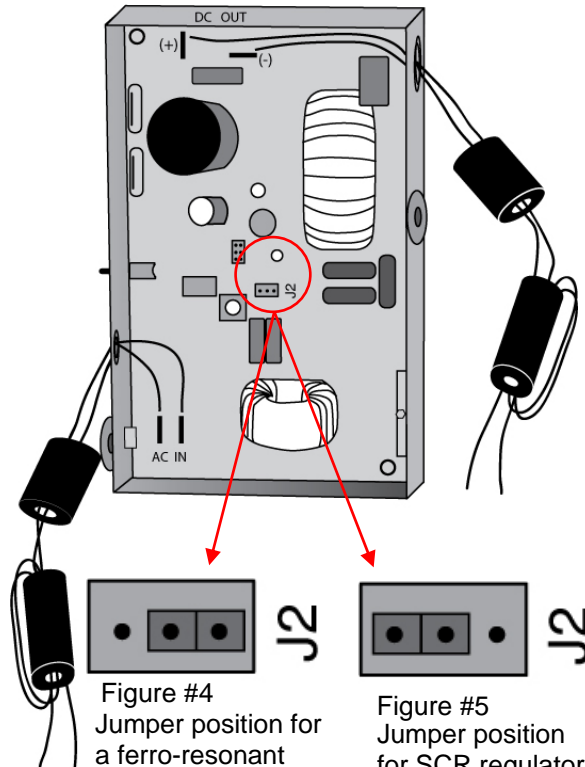


Figure #4
Jumper position for a ferro-resonant regulator.

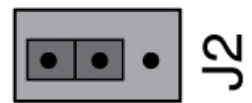
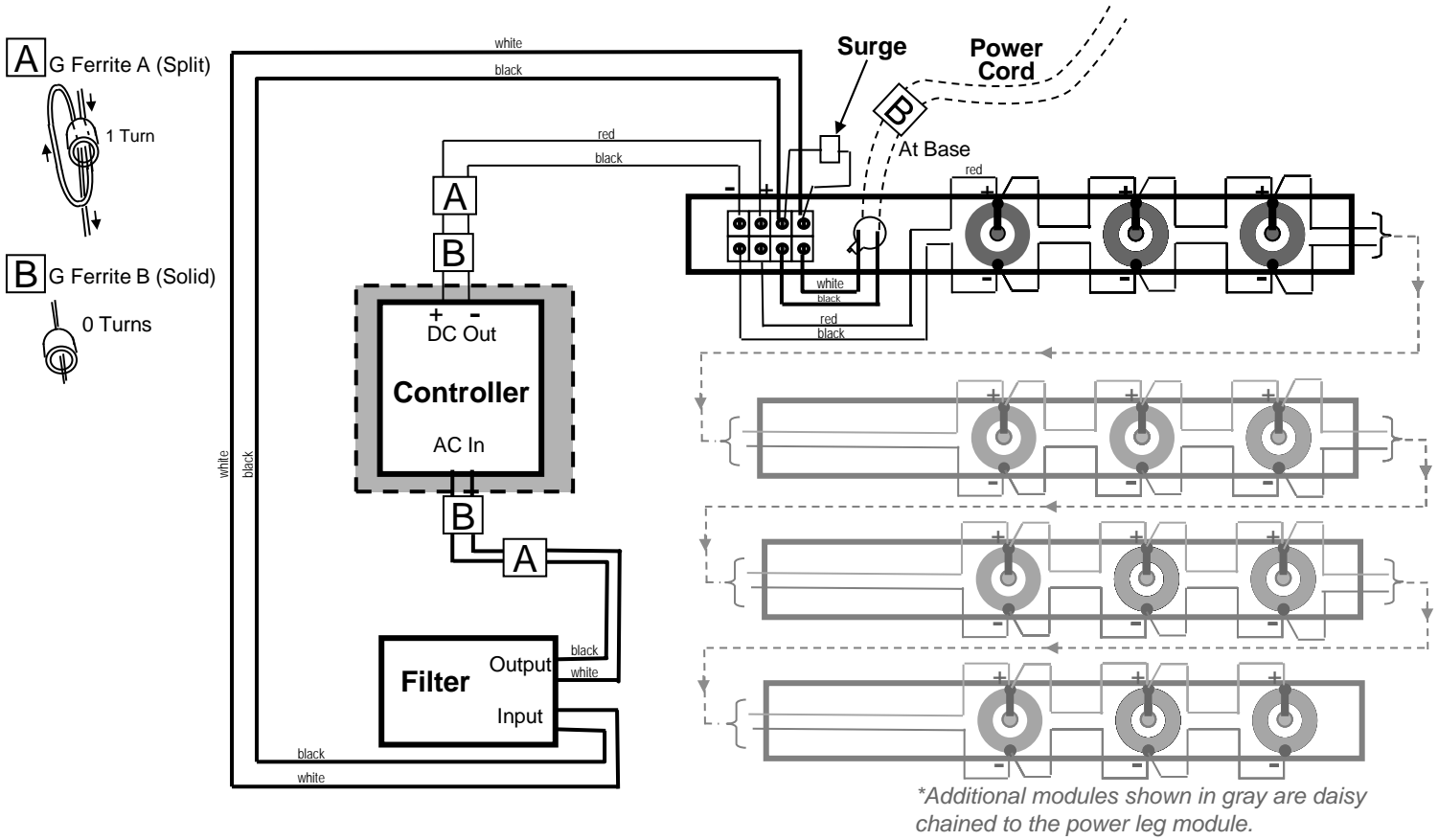


Figure #5
Jumper position for SCR regulator

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Wiring Diagram, LED Lighting System



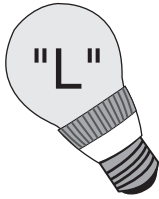
LED VA Loads, Power Factors and Isolation Transformers

Sign Size & Module Length		LED Lighting Systems								
		FAA Style 2 (4.8A-6.6A) 4W LED			FAA Style 3 (2.8A-6.6A) 4W LED			FAA Style 5 (5.5A) 4W LED		
Lamps	Isol Xfmr	Max VA	Pwr Factr	Isol Xfmr	Max VA	Pwr Factr	Isol Xfmr	Max VA	Pwr Factr	
Size 1, 1-mod	2	45W	44	0.92	45W	43	0.93	45W	34	0.92
	2-mod	45W/65W*	51	0.94	45W/65W*	50	0.94	45W	40	0.95
	3-mod	45W/65W*	57	0.95	100W	63	0.92	45W	47	0.96
	4-mod	100W	69	0.94	100W	69	0.94	100W	56	0.96
Size 2, 1-mod	3	45W	47	0.93	45W	47	0.92	45W	37	0.95
	2-mod	45W/65W*	57	0.95	100W	63	0.92	45W	47	0.96
	3-mod	100W	72	0.94	100W	72	0.94	100W	59	0.96
	4-mod	100W	80	0.96	100W	80	0.96	100W	68	0.97
Size 3, 1-mod	3	45W	47	0.93	45W	47	0.92	45W	37	0.95
	2-mod	45W/65W*	57	0.95	100W	63	0.92	45W	47	0.96
	3-mod	100W	72	0.94	100W	72	0.94	100W	59	0.96
	4-mod	100W	80	0.96	100W	80	0.96	100W	68	0.97
Size 5, 1-mod	3	45W	47	0.93	45W	47	0.92	45W	37	0.95
	6	45W/65W*	57	0.95	100W	63	0.92	45W	47	0.96

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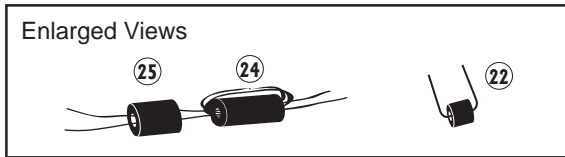
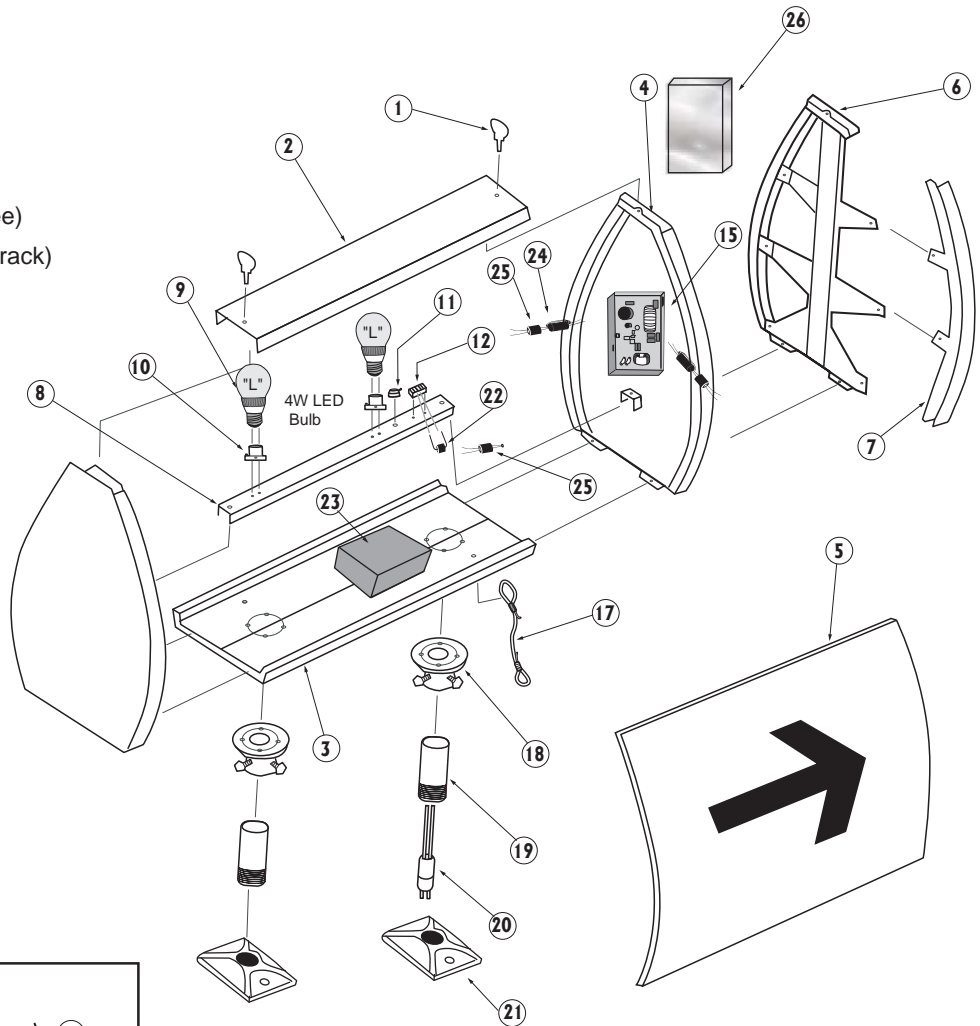


LUMACURVE PARTS LIST

LED Lighting Systems (4W LED screw base type lamp)

Certified to current FAA Advisory Circular 150/5345-44
Specification for Runway and Taxiway Signs
View our Certificate of Conformance

Item	Description
1.	340/345 Turn Fasteners
2.	*CLT-2 Cover
3.	*CLT-3 Base
4.	*CLT-4 End Panel
5.	*CLT-5 Legend Panel ¹
6.	*CLT-6 Multi-Module Insert (Tree)
7.	*7-B Face Insert Channel ² (Track)
8.	*8-A Light Bar
9.	L lamp 4W 4W LED Lamp
10.	500 Medium Screw Socket
11.	480 Cable Clamp
12.	420 Terminal Strip (section)
15.	L610 LED PCB Controller
17.	CLT-19 Tether
18.	130 Slipfitter
19.	*140 6" Frangible Coupling
20.	430 Cord & Plug
21.	15 Floor Flange
22.	E416 Surge Protector
23.	Filter ALD Low Pass Filter
24.	Ferrite A Ferrite Core Split
25.	Ferrite B Ferrite Core Not Split
26.	G EMI Shield Controller Screen Screen



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No extra charge! Call 800.258.1997

To help in placing your order:

*Prefix part number with one of the following sign sizes: "S" (small/ size 1), "M" (medium/ size 2), "L" (large/ size 3 & 5)

¹ Specify one of the following sign types: L-858Y ("Y"ellow), L-858R ("R"ed), L-858L ("L"ocation), or Blank/ Black

² Specify one of the following track colors: (B) Black, (Y) Yellow or (R) Red