

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 on page 2) 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-sieze 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 slip fitter. *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 slip fitter (#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 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.



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:* $3/8" \times 5"$ for mode 2 signs, $1/2" \times 5"$ 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 slip fitter 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 slip fitter 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 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 & layed 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.









Size Letter Ht. Lamps	1 1 2.0 (305) 1	2 15.0 (381) 2	3 18.0 (457) 2 *	CLT-14 Frangible Coupling (furnished with sign)
A B C D F G H J K	13.2 (335) 6.0 (152) 11.0 (280) 19.3 (490) 29.4 (747) 7.4 (188) 14.6 (371) 27.8 (706) 18.0 (457)	14.4 (366) 6.0 (152) 11.0 (280) 25.3 (643) 36.6 (930 9.2 (234) 18.2 (462) 35.0 (889) 24.0 (610)	15.8 (401) 6.0 (152) 11.0 (280) 31.3 (795) 42.0 (1067) 10.6 (269) 20.9 (531) 40.4 (1026) 30.0 (762) with metric	Frangible Groove CLT-15 Floor Flange Top of concrete pad Top of 2" conduit to be even with top surface of concrete mounting pad Extension Cord with L-823 connector style 7, type 2, class A
Note.	equivalents	in parenthesi	S	FIGURE 1





Parts & Electrical Information

XTL lighting systems (gray base bulbs)

Certified to current FAA Advisory Circular 150/5345-44 Specification for Runway and Taxiway Signs

LUMACURVE XTL System

The LUMACURVE XTL system maintains a 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 ensures delivery of a constant voltage to the 10V/20W halogen lamps at all constant current regulator (CCR) current steps without internal modification (true for high intensity (Style 3, 2.8A - 6.6A) and medium intensity (Style 2, 4.8A - 6.6A) and Style 5 (5.5A fixed) dedicated sign circuits. The lamps authorized for use in this system are Standard Signs, Inc. P/N #"XTL Quartz" with 10V/20W Bipin quartz halogen lamp & custom ceramic adapter base. They are available directly from Standard Signs, Inc.

Important: The LUMACURVE XTL lighting system is designed exclusively for FAA styles 2 & 3 operation on a series circuit together with non-sign fixtures, such as edge lights, where the sign brightness control components are necessary to maintain constant sign brightness regardless of CCR step. Non-sign resistive load must be present on the circuit for proper CCR operation. Design consideration should be given to CCR loading at all current steps. XTL Signs should NOT be installed on a circuit that powers only signs. For circuits dedicated to signs, please request LUMACURVE lighting systems designed for FAA style 5 operation.

DO NOT CHANGE LAMPS WITH SIGN ENERGIZED. A burned out lamp causes an E610 controller to reach max power and exceed the lamps' rated voltage. Inserting a replacement lamp in an energized sign will shock the lamps and damage filaments.

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 white and brown leads at the sign terminal strip on the light bar (P/N #CLT 8A). If voltage varies from recommended settings (9.5V at lowest CCR step for all size signs), all signs on that circuit should be checked and adjusted. To adjust, turn the small screw in the upper left corner of the printed circuit board (E610) controller mounted on the inside of the end panel (P/N #CLT-4).

Note: The adjustment screw is designed only for fine-tuning and does not function as a dimmer. Signs must not be operated at less than 9.5 volts.

There is a 10-minute warm-up period for lamps to come to set voltage but sign brightness meets FAA specifications even at cold voltages.

*Isolation transformer wattage requirements may vary for each application.



Parts & Electrical Information

XTL Wiring Diagram (Style 2 & 3)



*Additional modules shown in gray are daisy chained to the power leg module.

Adjust as near as possible to 9.5 volts across White and Brown at Terminal Strip. NOTE: Adjustments must be done at the lowest step of the Constant Current Regulator powering the circuit.

		XTL Lighting Systems						
	FAA Style 2 (4.8A-6.6A)				FAA Style 3 (2.8A-6.6A)			
Sign Size &		XTL 20W Quartz				XTL 20W Quartz		
		Isol						Pwr
Module Length	Lamps	Xtmr	Max VA	Pwr Factr		Isol Xfmr	Max VA	Factr
Size 1, 1-mod	1	100W	71	0.89		100W	71	0.89
2-mod	2	100W	79	0.93		200W	78	0.92
3-mod	3	200W	102	0.93		300W	107	0.91
4-mod	4	200W	127	0.93		300W	131	0.92
Size 2, 1-mod	2	100W	79	0.93		200W	78	0.92
2-mod	4	200W	127	0.93		300W	131	0.92
3-mod	6	300W	167	0.93		500W	174	0.92
4-mod	8	300W	214	0.94		600W**	222	0.93
Size 3, 1-mod	2	100W	79	0.93		200W	78	0.92
2-mod	4	200W	127	0.93		300W	131	0.92
3-mod	6	300W	167	0.93		500W	174	0.92
4-mod	8	300W	214	0.94		600W**	222	0.93
Size 5, 1-mod	2	100W	79	0.93		200W	78	0.92
Size 4, 1-mod	4	200W	127	0.93		300W	131	0.92

* For less than ideal circuits, we recommend an upsized transformer to ensure adequate power to the sign.

**A Siamese pigtail with two male L-823 plugs and one tennis ball female receptacle is supplied with these signs for connection to two isolation transformers making the required wattage sum.

LUMACURVE PARTS LIST



(Gray Base 10V/20W quartz halogen lamps)

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

	ltem	Description
1.	340/345	Turn Fastener
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.)	XTL Quartz	XTL 10V/20W Quartz Lamp
10.	E400A	Lampholder (5)
11.	480	Cable Clamp
12.	420	Terminal Strip
13.	420	Terminal Strip (section)
14B.	E611	Capacitor for E610 (2 required)
15B.	E610	PCB Controller, 75 Volt (1-8 lamps)
16.	E540	Bridge Rectifier 35A/1000V
17.	190-3/16"	Tether
18.	130	Slipfitter
19.	*140	6" Frangible Coupling
20.	430	Cord & Plug
21.	15	Floor Flange
22.	E416	Surge Protector
One	lamp syster	as only require:
	E550	Resistor 3 OHM 25w (and mounting brackets)

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