

Pre-Engineered Airfield Lighting Field Electrical Center (ALFEC)

Liberty Airport Systems' Airfield Lighting Field Electrical Centers (ALFEC) provide complete integrated solutions to all your airfield power and control requirements. Based on 40 years experience designing custom engineered ALFECs, we are pleased to introduce the pre-engineered *Spirit Series*™ ALFEC.

Construction Features

The *Spirit Series*™ ALFEC is based on a standard ISO shipping container, modified to include a man-door, insulation, interior walls, ceiling, steel floor and all the electrical equipment required to power the airfield lighting. Available in standard 20' or 40' lengths, these buildings are ideal for shipping by truck, rail, ocean freight or cargo aircraft to remote communities, oil fields, mining complexes, or military installations.

The building walls, ceiling and floor are thermally insulated up to RSI 7.0 (R40) to meet extreme arctic or tropical climates. Interior walls and ceiling are covered with pre-painted wall panels. Exterior insulated doors incorporate pressed steel frames, with thermal break, arctic weatherstripping, door hold backs, lockable handles and panic hardware. Main entrance doors are large enough to allow removal or addition of new equipment.

Thermostatically controlled heating and ventilation systems c/w weatherhoods, intake filters and automatic louvres are provided to ensure reliable operation of the equipment under ambient weather conditions. Air Conditioning systems can be provided for extreme hot or humid environments.

The building is provided complete with all electrical equipment including single or three phase incoming service, panelboards, interior and exterior lighting, receptacles, emergency lighting and obstruction lights. The ALFEC includes either wall mounted, standalone or switchgear regulators, as well as non-regulated feeders, circuit selectors and control system.

Larger buildings can be provided with a standby diesel-generator, integrated fuel tank and automatic transfer panel for backup power.

Fire alarm systems can be provided complete with heat sensors, smoke detectors, local and remote annunciation and Novex-1230 or FM200 fire suppression systems.



Fig. 1 8' x 20' ALFEC and external wind walls during installation in the high Arctic, c/w 10 Switchgear Cells (Regulators, Circuit Selectors, Non-Regulated Cells), and FM-200 Fire Suppression System.

Benefits

The ALFEC is supplied completely factory-assembled providing the following advantages:

- Pre-engineered buildings based on modified ISO Containers reduce time and cost for the engineering design and approval process.
- ISO Container designs reduce shipping costs and simplify shipping by truck, rail, ship or aircraft.
- Available for incoming voltages from 208 volts to 600 volts, 50/60 hertz.
- Compact design reduces heating, ventilating and maintenance costs.
- Low profile permits locating the ALFEC close to the runway, reducing cable costs while minimizing obstruction view to pilots.
- Self supporting base allows mounting on compact gravel, concrete pad, wood sleepers or caissons.
- Reduced field installation time. Arrival at site to completed changeover is less than 1 week.
- Factory assembly provides on schedule delivery (not subject to weather conditions or site delays).
- Factory tested to provide high system quality and reliability. Customer may witness testing ensuring all items are approved prior to arrival at site.
- Single source responsibility providing integrated design, procurement, fabrication and testing.
- Minimal site logistics and coordination.

Type:

- SFEC1 - Spirit Series ALFEC - 20' x 8' x 8.5'h
- SFEC2 - Spirit Series ALFEC - 20' x 8' x 9.5'h
- SFEC3 - Spirit Series ALFEC - 40' x 8' x 8.5'h
- SFEC4 - Spirit Series ALFEC - 40' x 8' x 9.5'h

Incoming Service Entrance:

- A - 200A Fused Switch E - 200A Fused Switch - Outdoor NEMA 4X
- B - 400A Fused Switch F - 400A Fused Switch - Outdoor NEMA 4X
- C - 600A Fused Switch G - 600A Fused Switch - Outdoor NEMA 4X
- D - 800A Fused Switch H - 800A Fused Switch - Outdoor NEMA 4X

Input Voltage:

- 1 - 208 VAC, 60 Hz, 3Ø 3 - 480 VAC, 60 Hz, 3Ø 5 - Other (Specify)
- 2 - 240 VAC, 60 Hz, 1Ø 4 - 600 VAC, 60 Hz, 3Ø

Standby Generator kW Rating:

- A - None D - 80 kW E - 125 kW
- C - 50 kW D - 100 kW E - 150 kW

Fire Systems:

- 1 - None 3 - FM-200 Fire Suppression
- 2 - Fire Alarm Only 4 - Novec-1230 Fire Suppression

Airfield Lighting CCR Type:

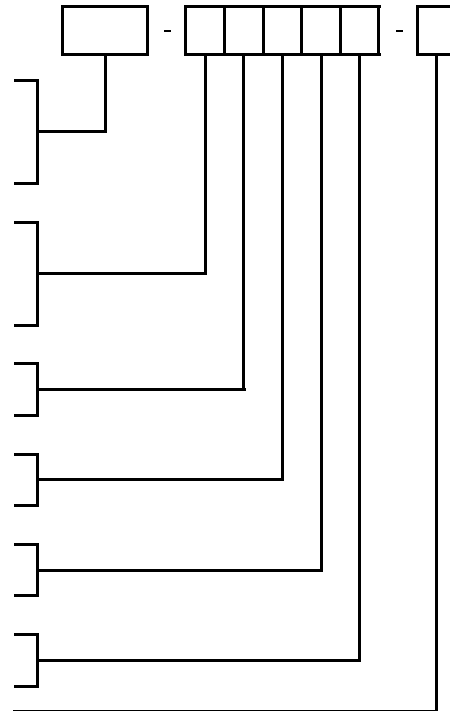
- A - Spirit Thyristor CCR C - Freedom Switchgear Thyristor CCR
- B - Spirit Ferro CCR D - Freedom Switchgear Ferro CCR

Options (Select as Many as Required):

- 01 - Utility Meter Base (mounted external)
- 02 - Service Entrance Mast
- 03 - TVSS Surge Protection
- 04 - Sub-base mounted 24 Hour Fuel (Day) Tank
- 05 - External Fuel Tank (Specify litres)
- 06 - Recirculating Louvres for Generator Exhaust
- 07 - OB Lights
- 08 - Air Conditioning
- 09 - Workbench
- 10 - Storage Cabinet

Legend:

- CSR-X = L-847 Circuit Selector (where X= # Circuits: 2 or 4)
- NRCL-X = Non-Regulated Control Cell with 'X' 600V contactors (2,4,6,8)
- NRC-X = Non-Regulated Control Cell with 'X' KVA transformer (5,10,15)
- TDC-X = Transformer Feeder Cell with 'X' KVA transformer (5,10,15,25)
- ALCMS = Control System Interface Cell



Airfield Lighting CCRs and Equipment (Specify options on product data sheets)			
Qty	CCR Ratings	Qty	Other
	1 KW		CSR-X
	2 KW		NRCL-X
	4 KW		NRC-X
	7.5 KW		TDC-X
	10 KW		ALCMS
	15 KW		Incoming
	20 KW		ARCAL
	25 KW		PAPI Heater
	30 KW		



Fig. 2 Spirit Series wall mounted CCRs, Non-regulated panel, ARCAL, ALCMS & Novec-1230 Fire Suppression.



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