

# 3-6 amp, -48 VDC Power System with 3 amp Rectifiers and Battery Backup

## Key Features

- **Single Point Adjustment**—single system setting simplifies installation
- **Plug 'n' Play**—no shutdown required to add or replace a PCU
- **Thermal Current Limit**—protects system in high ambient temperatures
- **Temperature Compensation**—extends battery life in harsh environments
- **Optional Batteries**—covers a wide range of loads and reserve times
- **Local and Remote Alarms**—continuously monitors complete system status

## Description

The Lorain® V6CAB Power System is comprised of a modular lightweight -48VDC 6 ampere rectifier cabinet with optional battery cabinets. Systems can be specified in a variety of configurations to suit your specific power requirements.

The rectifier cabinet is arranged to accept one or two 3 ampere rectifier modules that supply -48 VDC load current while float charging a standby battery. If commercial power fails, the battery immediately supplies load current. Six GMT fuse positions are provided for individual load protection. Local and remote indicators provide status for AC, rectifiers, load and battery. The cabinet is equipped with an IEC 320 socket arranged for 120/230 VAC 50/60 HZ commercial power.

Battery cabinets can be specified in 7 or 12 ampere hour capacities. Multiple or larger batteries can be provided where longer reserve times are required. Each battery is protected by an internal circuit breaker and a low voltage disconnect is available to protect the battery and load.

## Application

The V6CAB is designed to supply primary or backup DC power to communications equipment installed in remote cabinets or for customer premises applications. Specific applications include: DSLAM, xDSL, microwave, PBX, key systems, multiplexers, PCS equipment, FITL electronics and alarm or security circuits.



front view



rear view

V6CAB Power System

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## Rectifier and Cabinet Specifications

### Input

Voltage: 120/220 VAC  
 Range: 96-132/180-264 VAC  
 Operational to: 90 VAC  
 Frequency: 50/60 Hz (47-63 Hz)  
 Connection: IEC 320 receptacle detachable cordset,  
 6 ft (1.83 m)

### Output

System Configuration	Load Current	Maximum Temperature
1 Rectifier	1.5 amps	+65° C
	3.0 amps	+40° C
2 Rectifiers	3.0 amps	+65° C
	6.0 amps	+40° C

Voltage: 52-58 VDC (set at 54.8 V), single point system voltage adjustment  
 Regulation:  $\pm 1\%$  over line and load range  
 Voltage Drift:  $\pm 0.25\%$  max. over 8 hours at constant line and load  
 Filtering: Less than 30 mV rms

### Protection

AC Input: 5 amp fuse per rectifier  
 DC Output: (6) 0-5 amp GMT fuses  
 Battery: 10 amp circuit breaker  
 Rectifier: Thermal current limit  
 High voltage shutdown: 59 VDC



**V6 Battery Cabinet**

### Alarm and Controls

Visual: system OK (green), AC fail (red), load fuse fail (red), temp comp on (yellow), temp comp fail (red), PCU OK (green), thermal current limit (yellow), PCU fail (red)  
 Remote Alarms: minor alarm (C contact), major alarm (C contact)  
 Minor alarm activates for first rectifier failure, temp compensation fail or battery disconnect bypass.  
 Major alarm activates for second rectifier failure, fuse alarm, AC failure or battery failure.  
 LVA present at 46V, switch selectable 43V to 47V LV disconnect at 42V, reconnect at 47V  
 Internal LVC maintenance bypass switch  
 Test points to measure system voltage and current

### Environmental

Operating Temperature: -40° C to +65° C (-40° F to 149° F)  
 Storage Temperature: -40° C to +85° C (-40° F to +185° F)  
 Humidity: 0-95%, noncondensing  
 Altitude: Sea level to 10,000' (3048 M)  
 Ventilation: Bottom to top convection  
 Audible Noise: Less than 45 dBA measured 5ft (1.52 M) from any surface  
 EMI: FCC part 15 subpart B class B  
 Surge Protection: ANSI/IEEE C62.41 1980 Category B  
 Seismic: Designed for Zone 4

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## Rectifier and Cabinet Specifications (continued)

Cabinet	Height	Width	Depth	Weight
Rectifier	1.75" 44.5 mm	17.5" 444.5 mm	11.8" 299.7 mm	12 lbs. 5.5 kgs
7 AH Battery	5.25" 133.4 mm	17.5" 444.5 mm	8.25" 209.6 mm	34.5 lbs. 15.6 kgs.
12 AH Battery	5.25" 133.4 mm	17.5" 444.5 mm	8.25" 209.6 mm	47.5 lbs. 21.5 kgs.

### Safety Compliance

CSA Certification: CSA 22.2 Number 950

UL 1950

CE

V6CAB cabinet has front access circuit cards and controls with connection made at rear. All cabinets are arranged for 19" or 23" rack mounting. Finish: textured off-white

### Battery Information

#### Batteries

Capacity: @20 Hr rate and 25° C (77° F)

LO6: 12 AH (HE12V12.7 FR)

LO7: 7 AH (HE12V7.7 FR)

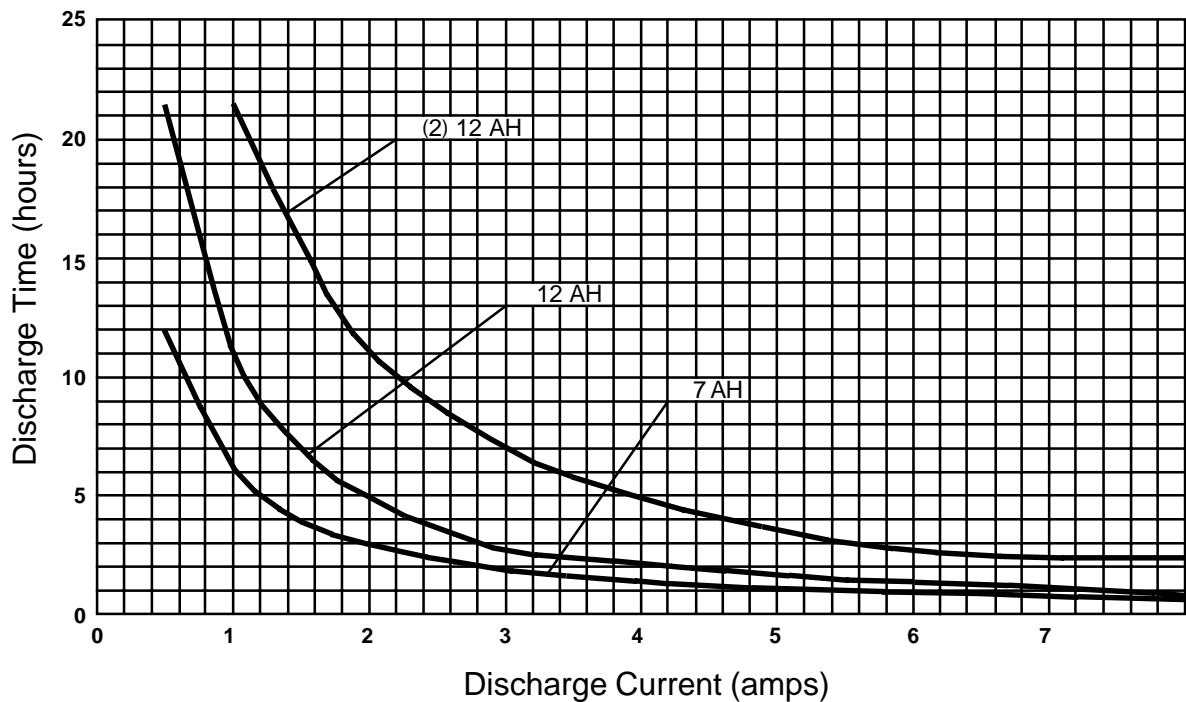
Type: Sealed VRLA

Fusing: 10 amp circuit breaker

Flammability: UL94 VO flame retardant case

Shelf Life: 6 months

Predicted Life: 3-5 years (@ +25° C (77° F), 54.8-55.4 V)



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Battery Information (continued)

Load Current (amps)		0.5	1.0	1.5	2.0	3.0	4.0	5.0	6.0
Battery Type		Discharge Time (hours)							
List 07	7 AH	11.8	6	3.7	2.7	1.7	1.2	0.9	0.8
List 06	12 AH	21.4	11.3	7.2	5.1	2.9	2.4	1.8	1.4
2 x List 06	2 x 12 AH		21.4	15.7	11.3	7.2	5.1	3.7	2.9

Note: All data shown above is typical. Actual results will vary depending on battery and environmental conditions.



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