

900-1,200 amp, +24 VDC Power System with 100 amp Rectifiers

Key Features

- **Wide Capacity Range**—24 VDC system configuration to 1,200 amps
- **Front Access Design**—for most effective use of valuable floor space
- **N+1 Redundancy**—eliminates costly duplicate backup equipment
- **UL Listed Models Available**—compliance to local codes

Description

The Lorain® +24 VDC modular power system is designed to meet a wide range of wireless site requirements. This system features compact system components and high density rectifier modules that reduce space requirements. Distribution is simplified with a compact, well configured distribution cabinet with circuit breakers that provide full system protection. The cabinet houses the control and monitoring center, allowing users to view system status indicators, major and minor alarms, output alarm fuses and an easy-to-read, six function, digital meter.

The power bay is equipped with a specified number of factory installed, wired and tested rectifier module shelves. Each shelf will accept up to three 100 amp rectifier modules. The modules can quickly be installed and powered up in minutes. The interchangeable 100 amp modules can be added or repositioned without system shutdown or loss of service to your customers. Spare modules can be kept on hand for emergency replacement.

The rectifier modules can be configured for N+1 redundancy. A single module provides additional battery recharging capacity and serves as a backup to any failed module in the power bay.

Each power module is power factor corrected to substantially reduce AC current draw. This reduces AC wire size, supply transformer capacity and the use of oversized protection devices.

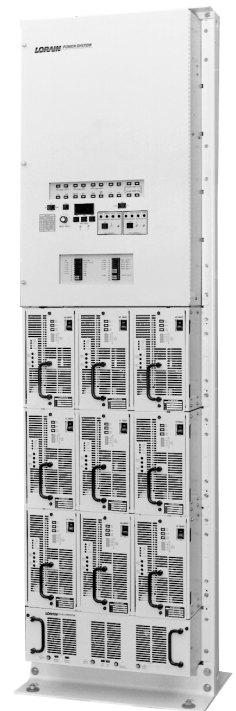
A compact DC-DC converter shelf, which uses only 7" (17.78cm) of vertical rack space, accepts up to ten, 3 amp +24V to -48V high density converter modules. These modules can be added as needed without system shutdown.

Application

The Lorain 900 and 1,200 amp power systems are ideal for metropolitan cell sites with limited space and increased capacity potential.

Additional Information

For additional specification, engineering and installation information, request model number 1211A2CPS, spec. number 581102300 (900 amp system) or spec. number 581102600 (1,200 amp system).



Lorain 900 amp
Power System

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Rectifier Module Specifications

Design Technology: High frequency

Input

Voltage: 208 (184-220) VAC, single phase; 240 (212-254) VAC, single phase

Frequency: 50/60 Hz (47-63)

Protection: 2 pole circuit breaker (in module). If the input voltage falls below approximately 120 volts, the rectifier module power conversion circuitry inhibits, disabling module output. When the input voltage increases to approximately 130 volts, the module will automatically restart.

Output

Voltage:

Float — Adjustable from 24.0 to 29.0 VDC

Equalize — Adjustable from 24.0 to 29.0 VDC

Current: 100 amps, full load

Regulation: Steady state output voltage remains within $\pm 0.5\%$ in a 24.0 to 28.0 VDC range for any load current (no load to full load) within the specified input voltage and frequency ranges.

Filtering: When the rectifier module is connected to a 400 AH battery, the following specifications apply

Voice Band Noise — Less than 32dBnC

Wide Band Noise — Does not exceed 250 mv peak-to-peak over a 10 Hz to 14 MHz frequency range

Protection

Current Limiting — Adjustable from 80% to 105% of full load.

High Voltage Shutdown — If the rectifier module voltage exceeds a preset value, the module will shut down. The high voltage shutdown range is 24 to 30 VDC.

Alarm/Indicators: Power-On LED; Fan- Failure LED;

Rectifier-Failure LED; Rectifier-Current LED Bar Graph (10 amp increments)

Remote Float/Equalize: Remote location control only

Load Sharing: Programmed slope control

Current Walk-In: Output current gradually increases after rectifier is switched on

Remote On/Off: Rectifier on/off operation can be remotely controlled

Remote Emergency Shutdown: Input circuit breaker on rectifier module can be tripped open from a remote location

Environmental

Operating Temperature: -30°C to $+60^{\circ}\text{C}$ (-22°F to $+140^{\circ}\text{F}$)

Storage Temperature: -40°C to $+85^{\circ}\text{C}$ (-40°F to $+185^{\circ}\text{F}$)

Humidity: 0-95% relative humidity

Altitude: The maximum operating ambient temperature should be derated by 10°C (50°F) at 10,000' (3,048m) above sea level. For elevations between 10,000' (3,048m) and sea level, derate the maximum operating temperature linearly.

Heat Dissipation: 2172 Btu/hr, fan cooled front to rear

EMI/RFI Suppression: Conforms to FCC Rules Part 15, Subpart B for Class A computing devices

Audible Noise: 5' (1.52m) from any vertical surface does not exceed 65dBA

Physical Characteristics

Mounting: Plug-in installation into three-position Lorain Model A300CAB Rectifier Shelf

Dimensions:

Height: 12.19" (30.96cm)

Width: 6.25" (15.88cm)

Depth: 14.75" (37.47cm)

Weight: 37 lbs. (16.78kgs)

**Model A100B25
100 amp Rectifier
Module**



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