

Compac Series Compac Rack Systems



24VDC @ 800 AMP SYSTEM

Bottom of frame open for user installed equipment.



48VDC @ 400 AMP SYSTEM

5 battery trays for 100 to 150 Ah battery reserve strings.



48VDC @ 1200 AMP SYSTEM

Rear connection point for external battery strings.

Description

Compac power plants are modular systems designed for applications requiring 50 to 1200 amps. An almost limitless combination of rectifiers, breaker panels, and battery shelves is available. Stand-alone configurations with up to 750 Ah of battery backup are available. Each rack can hold up to 24 rectifiers or a maximum of five battery trays. Systems can be ordered with ultimate capacity for future addition of rectifiers and batteries.

Standard features include timer-controlled equalize and battery test functions, current and voltage display meters, LED's for local alarm indications, user-programmable alarm set points, and a full complement of form "C" alarm contacts for remote monitoring. Optional features include low voltage disconnect, complete battery systems, and battery temperature compensation.

The Compac systems distribution architecture can be designed for load shedding during power outages, allowing the critical loads to stay up longer on battery power by eliminating the non-critical equipment loads earlier in the discharge cycle.

Features

- ▶ Modular systems from 50 to 1200 amps.
- ▶ 24 or 48V outputs.
- ▶ 180-264 VAC single or three-phase inputs.
- ▶ Rack widths of 19" or 23".
- ▶ Hot-swappable rectifiers.
- ▶ Small footprint for where real estate is at a premium.
- ▶ Scalable N+1 redundancy with current sharing.
- ▶ Power Factor Correction (PFC).
- ▶ Extensive monitoring capabilities.
- ▶ Options include integrated battery systems and extensive breaker and fuse layouts.
- ▶ A single seven foot rack can provide distribution, 400 amps of rectifiers, and 750Ah of batteries.
- ▶ International Standards.



LOW VOLTAGE DISCONNECT

An optional low voltage disconnect provides protection against deep discharge of the batteries by disconnecting the battery from the load at a user-specified cut-out voltage. Reconnection of the battery is automatic upon return of AC to the rectifier. A front panel mounted Emergency Power Off (EPO) switch is provided for emergency or service disconnection of the batteries. Remote contacts for the EPO switch are provided to enable the installer to place a remote switch at a more convenient location, as many city fire codes require.

BREAKER PANELS

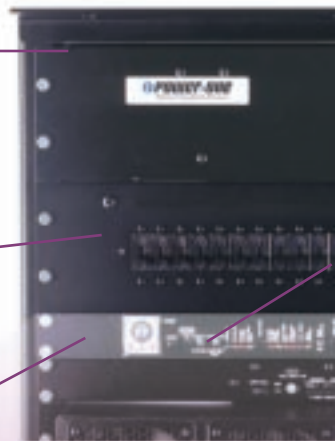
Breaker panel options include:

- ▶ Twenty positions for 5 to 100 amp breakers.
- ▶ Two positions for 125 to 250 amp breakers.
- ▶ A single position 450 amp or 525 amp breaker.

DIGITAL METER, ALARM, AND CONTROL PANEL

The Digital Meter, Alarm, and Control (DMAC) panel monitors system bus voltage and load current, and provides a variety of alarm and control functions. DMAC features include:

- ▶ Single point system voltage adjust.
- ▶ Programmable timer for battery test or equalization.
- ▶ Front panel LED's for alarms as designated below.
- ▶ User-adjustable set points for under/over voltage and low voltage disconnect.
- ▶ Digital meters and test points monitor plant voltage and current.



- Equalize and battery test timer
- Timer reset button
- System voltage adjust pot
- Normal/Bypass, and Equalize/Battery test switches
- Equalize, OV/UV alarm and battery test LED's
- Equalize, undervoltage and overvoltage alarm setting adjust pots
- Major alarm, minor alarm, rectifier fail, breaker alarm, and LVD open LED's
- System voltage test points
- Digital Voltmeter
- Digital Ammeter
- System amperage test points

Compac Series Compac Rack Systems



DMAC BATTERY TEST AND EQUALIZATION

Battery testing is performed by setting the desired length of time and activating the test cycle. During the test cycle, the controller automatically decreases the rectifier voltage in order to transfer the load onto the batteries. Measurement of battery voltage and current may be taken to determine health of the battery string. The system will automatically return to normal rectifier float voltage when the test is completed.

Battery equalization is performed by setting the desired length of time and activating the equalization cycle. During the cycle, the controller automatically increases the rectifier voltage to the user-programmable level in order to equalize the battery voltage.

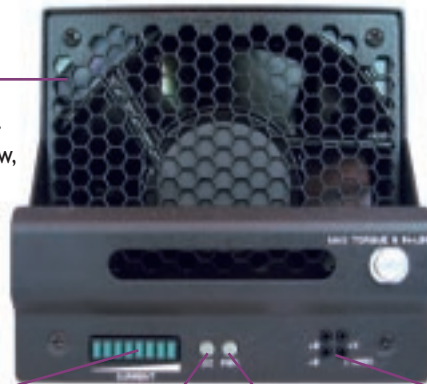
TEMPERATURE COMPENSATION

The temperature compensation panel works in conjunction with the DMAC controller. Temperature compensation automatically adjusts the float voltage according to the ambient temperature. Alarms include temperature delta, which indicates battery thermal runaway and sensor failure. In the event of sensor or panel failure, the compensation defaults to the normal float voltage set by the controller.

COMPAC SERIES RECTIFIERS

- ▶ High power density allows for more room for other system components.
- ▶ Near unity power factor eliminates excessive input harmonic current draw, which minimizes cable and fuse/circuit breaker input sizing.
- ▶ Hot-swappable, true plug-and-play. No adjustments required.

See the Compac Rectifier data sheet for further information.



LED Bargraph Display
of Output Current

DC-OK

AC-OK

Rectifier Measurement
Test Points

Compac Series Compac Rack Systems

TECHNICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS:

Input Voltage	180-264 VAC, single or three-phase, 50-60 Hz
Input Current	15 amp per rectifier at full load, 30 amp peak
Input Breaker Rating	40 amp per rectifier
Input Wire Size	8 AWG maximum
DC Bus Rating	800 or 1200 amp options
Maximum Current Rating per Breaker Panel	400 amps
Low Voltage Disconnect (LVD):	
Contactor Rating	800 or 1200 amp options
Disconnect Voltage	User adjustable, factory set @ 21V for 24V systems, 42V for 48V systems
LVD Disconnect Range	34 to 51VDC for 48V systems, 18 to 26VDC for 24V systems
Reconnect Voltage	Approx. 6.5V above disconnect voltage (4.7V for 24V systems)
DMAC Controller:	
Digital Meters	3.5 digits, $\pm 2\%$ accuracy
UV/OV Adjustment	22V/29V for 24VDC $\pm 1.5V$ 44V/58V for 48VDC $\pm 1.5V$
Equalization & Battery Test Timer Range	0.5 seconds to 130 hours
Current Measurement DC Shunt	1200A:50mA
Rectifier:	See Compac Rectifier data sheet
Battery Trays Option:	
Optional Battery Fuses	Fuses rated at 225 amps
Connection	Cabling provided, includes Anderson Quick-Disconnect connectors.

MECHANICAL SPECIFICATIONS:

Width	19" or 23"
Battery Tray Depth	21", 25" or 29"
Floor Mounting	Mounting holes provided, pattern varies with configuration, contact factory
Color	Texture Black Gloss (Shelf & Rectifiers)

ENVIRONMENTAL:

Temperature Range	0- 50°C operating, -50 to +85°C storage
Humidity	10-90% RH, operating, 5-95% storage, non-condensing
Temperature Coefficient	$\pm 0.0008\%/^{\circ}\text{C}$ from 0-50°C after one hour warm-up
Altitude Range	13,000 ft., derate 7°C/1000 ft. above 8,000 ft.
Heat Dissipation /BTU per Hour per Rectifier	1,255 BTU's per hour at full load

Note: All specifications are subject to change without notification.