

## SAGEON™ POWER SYSTEMS

The New Genius in Power Solutions



The Sageon™ Power System is intelligent power. Sageon, the latest development in power systems, is simple to operate yet genius in delivering enhanced, built-in intelligence to minimize manual adjustments and measurements, while providing information to manage power.

Capable of delivering up to 2,600 Amps of power for +24 volt systems and up to 1,300 Amps for -48 volt systems, including up to 120 distribution breakers, all is a single 7 ft bay, Sageon accommodates your changing power needs. Sageon's basic components of smart rectifiers, controller and flexible distribution enable these systems to be easily sized. Available in multiple rack heights, the Sageon family of power system products is designed to fit in virtually any application that demands stable, reliable, and easily expandable DC power.

### FEATURES AND BENEFITS

#### High Density

Compact design with rectifiers at 9 watts per cubic inch, minimizing floor space necessary for installation

#### Front Accessible

Installation, repairs, and maintenance are made easier, saving time and money

#### Modular Design

Expandable, scalable, and flexible for changing power needs

#### Remote Access

Remotely monitor and control the complete power systems, reducing trips to the site

#### Battery Testing

Automatic or on-demand battery testing, insuring batteries are functioning properly

## DISTRIBUTION

Sageon is scalable, flexible, accessible and configurable. The power system you buy from C&D Technologies today will support your needs as you grow and expand. The Sageon Power System's distribution is scalable and upgradeable, enabling build out in five rack unit increments (5RU). Being able to upgrade and add-on as needed saves on infrastructure build-out cost, and doing this while the system is hot means you won't have to bring in an alternative power source during the upgrade.

The Sageon Power Systems accommodate AM1 and GJI breakers, or TPS, and GMT fuses – mix and match these components into almost any combination. One distribution section (5RU) is capable of 40 AM1 positions, and Sageon accommodates up to a total of three distribution sections. The Sageon's unique design includes an internal ground return bus, back-to-back or individual landings, and an option for an individual ground return landing.

100% front access. Regardless of what needs to be done to Sageon, whether maintenance or expansion, the front accessibility makes it easy.

## MONITORING & CONTROL

Sageon is control. The Sageon Power System has a single point of adjustment for multiple bays of rectifiers, controlling up to 225 rectifiers and four strings of batteries. The controller contains a large easy to read, two-line by 16-character backlit vacuum florescent display, and allows users to view and adjust plant operating parameters and alarms. With Sageon monitoring can be done via a local computer interface and remotely by modem or Ethernet, eliminating the need to take manual measurements. (Refer to 10-713 for further specification information.)

## BATTERY STRINGS

Sageon is a complete system. The Sageon Power System comes standard with internal battery string termination for up to four battery strings and accommodates C&D Technologies' batteries and those of other manufacturers, to enable build out of current systems integrated with Sageon's exceptional features. Safe, periodic battery discharge testing provides early detection of a potential battery problem, resulting in increased uptime. C&D incorporated automated user definable testing, monitoring for up to four strings, and load testing into Sageon to predict and prevent battery failure.

## RECTIFIERS

Sageon is reliability. Every piece of the Sageon Power System was designed with intelligence and the rectifiers are no exception. These units are self-protecting to avoid thermal overload and are auto load sharing with self-diagnostics reported through the controller. Should the controller happen to fail, Sageon's rectifiers operate without it to ensure continuous reliability.

The Sageon Power System was designed with expandability in mind. Sageon's unique frame does not have power shelves. Each rectifier attaches directly into the system via rectifier mounting brackets to allow expansion without the cost of purchasing additional rectifier shelves. (Refer to 10-711 and 10-712 for further specification information.)

## DC TO DC CONVERTERS

Sageon is powerful. Modular DC to DC converters are integral to the design of Sageon, providing scalable, cost effective -48V in 24V systems. The -48V distribution is built into the standard distribution design, resulting in a clean, easy to deploy system. 10 AM1 positions are available for the converter distribution.

## CABINET

Sageon is strength. The standard 24 in (610 mm) cabinet supports installation of user equipment along with Sageon Power System. Designed to NEBS standards, the Sageon Power System performs in adverse conditions to ensure system dependability.

Complete with front accessibility and locking front door, the Sageon Power System's performance will not be compromised.

## BATTERY TESTING

The Sageon Power System incorporates nearly 100 years of C&D battery knowledge. This expertise is embedded in the SageView™ software and is only a keystroke away. This added insight lets the user quickly gauge the overall health of the power system.

Battery discharge tests can be run with no external equipment and no disruption to the wiring or configuration of the power system, resulting in greater power security at a reduced cost.

Battery Discharge Test Setup Screen

The screenshot shows a software window titled "Edit Discharge Test Parameters" with the following fields and values:

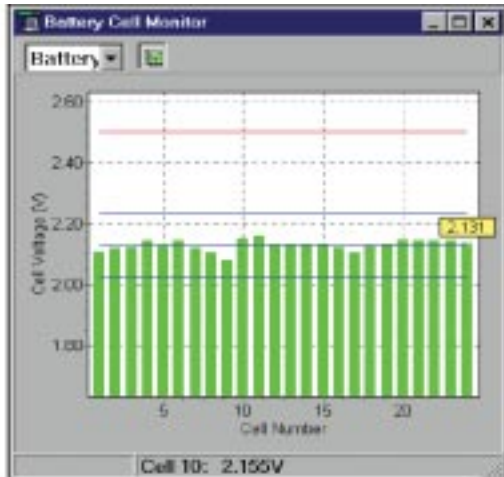
Period (days)	1	Duration (hh:mm)	03:00
Test Time (hh:mm)	02:00	<input type="checkbox"/> Current = Load	
Test Current (A)	40	End Charge (Ah)	300
End Voltage (V)	44.00		

At the bottom of the window are "OK" and "Cancel" buttons.

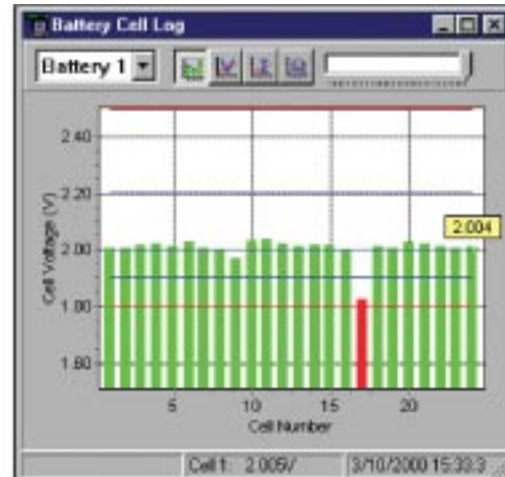
## OPTIONAL BATTERY MONITORING

The Sageon Power System monitors and records battery information at the individual cell level. The Sageon Power Systems provide access to this data locally and remotely allowing operators and technicians to easily troubleshoot and solve problems. The availability of both real time and historical data facilitates rapid assessment of power availability and reliability. With the individual cell data, trouble spots can be isolated to individual cells resulting in faster change outs and increased up time.

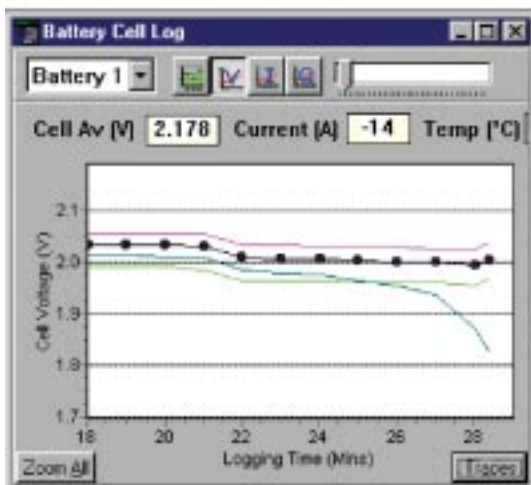
**Real Time Battery Monitoring**



**Historical Battery Data**



**Historical Data - Voltage vs. Time**



**Tabular Data**

Cell	Voltage (V)	% Change
Current	0 A	
Cell 1	2.110	-1%
Cell 2	2.120	-1%
Cell 3	2.125	+0%
Cell 4	2.145	+1%
Cell 5	2.130	+0%
Cell 6	2.145	+1%
Cell 7	2.120	-1%
Cell 8	2.105	-1%
Cell 9	2.075	-3%
Cell 10	2.155	+1%
Cell 11	2.155	+1%
Cell 12	2.135	+0%
Cell 13	2.135	+0%
Cell 14	2.135	+0%

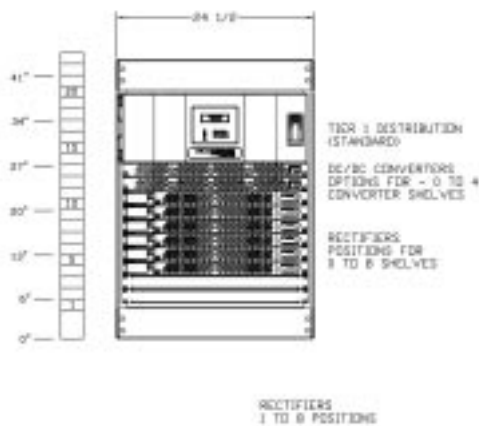
## ENVIRONMENTAL SPECIFICATIONS

Normal Operating Temperature	-13F (-25C) to 122F (50C)
Extended Operating Temperature	-13F (-25C) to 158F (70C)
Storage Temperature	-40F (-40C) to 158F (70C)
Humidity	0 to 95% non-condensing
Altitude	10,000 ft (3,000 m)
Heat Dissipation	31,000 BTU/Hr. maximum at 1,800A, 30VDC
Cooling	Forced air, front to back, auto-regulating
Seismic	UBC seismic zone 4 with optional welded steel frame (no bracing required)
Acoustic Noise	< 45db (80% load, 25degC); < 55db (100% load, 50degC) (A weighted)

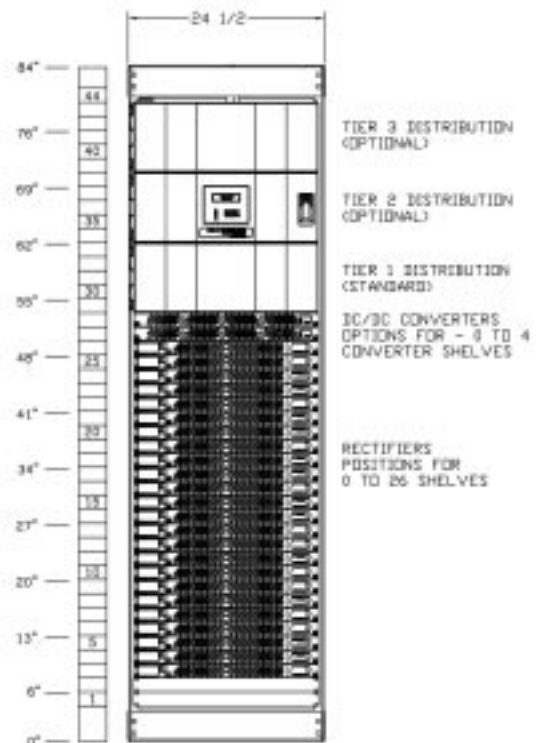
## PHYSICAL SPECIFICATIONS

	3 ft (914 mm)	7 ft (2134 mm)
Height	34 in (864 mm)	84 in (2134 mm)
Width	24 in (610 mm)	24 in (610 mm)
Depth	24 in (610 mm)	24 in (610 mm)
Weight	350 lb (159 kg)	575 lb (261 kg)

### 3 ft Sageon Power System



### 7 ft Sageon Power System



**C&D TECHNOLOGIES, INC.**

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