



The Supercapacitor UPS Supergreen Energy Storage



New Product Info Supercapacitor UPS

Marathon Power is pleased to announce our first battery-less Uninterruptible Power System. It is a state-of-the-art, double-conversion "UPS" that uses Supercapacitor technology for energy storage instead of conventional batteries.

The system is designed to provide short term power to sensitive loads that need to ride-through voltage sags and momentary power outages or during the startup of a generator. Since most power interruptions (87%) last less than 1 second according to the Electric Power Research Institute, there is seldom a need for long-term storage technology such as batteries. It is targeted specifically at applications sensitive to power disturbances lasting from a few cycles to around one minute.

This most 'Green' of all UPS technologies offers numerous advantages over conventional UPS's and other energy storage technologies such as flywheels and fuel cells. There is no battery replacement, system maintenance, hazard waste disposal or component recycling.

The system consists of 2 parts – the UPS Electronics module and the Energy Storage module.

The Electronics module is configured as a true-online, double conversion UPS. This topology is ideal for critical applications where the best level of power protection is required. Connected equipment is not only immune to the slightest power fluctuations, but also other power anomalies such as surges, harmonics and frequency variations.

Features include a wide input voltage range, tight output voltage regulation and very low harmonic distortion. An integral automatic bypass switch ensures that power to the load is not interrupted in the event of a system fault.

The Energy Storage module is a self contained unit that consists of the Supercapacitors and their associated electronics. The module can be charged independently of the system.

System Features & Benefits

- Green, maintenance-free energy storage
- User-friendly, modular component system
- Lighter than other technologies
- Superior power density over batteries
- Highly efficient infrastructure
- Virtually unlimited cycle life
- Relatively short recharge times
- Double conversion, true online topology
- True sine-wave output
- Multi-function LCD display
- Input power factor correction
- Super Capacitor cell balancing circuitry
- SNMP capable (network manageable)
- 50/60Hz frequency auto-sensing
- Overload, short-circuit and fault protection
- Visual indicators & programmable alarms
- AC surge protection and noise filtering
- Industry-leading warranty
- Lower long-term operating costs



The first model in the lineup is a 3000VA, 2100 Watt model at either 120V or 230V and a backup time of 15 seconds at full load and 45 seconds at half load. Recharge time is approximately 2 minutes but can be reduced with a suitable AC source. Other run times are available using additional energy storage modules or different Supercapacitor combinations.

The system features a user-friendly, multifunction LCD control panel that indicates system status and allows parameter adjustments to be made. Communication options include power-monitoring & system management software and Network capability.

A key market is healthcare where critical loads need bridge power during the startup of an emergency generator. Another primary application is in industrial automation where relatively short holdup times will allow a process to continue uninterrupted. An example of this is the semiconductor fabrication industry where manufacturing equipment is required to meet semi F47 ride-through standards.

Preliminary Specifications - 120V Version (also available in 208V / 230V)

Rated Capacity and Power		3 kVA / 2100 W
Input	Voltage and Tolerance	Single phase 120V, 80~160V at 70~100% load 70~160V at 50~70% load, 60~160V at 0~50% load
	Frequency (Auto-sensing)	50Hz or 60Hz +/- 4Hz
	Power Factor	0.97
Output	Voltage and Frequency	Single phase 120V +/- 2%, 50Hz or 60Hz +/-0.5% (Backup mode)
	Transient Response	+/- 3% (100% load variation)
	Waveform and Distortion	Sine wave, THD < 3% at 0-100% linear load
	Overload Capacity	125~150% 30secs, switch to bypass and auto re-transfer; >150% for 200ms
	Crest Ratio	3 : 1
Energy Storage	Capacity and Voltage	UltraCapacitor, 110F, 16V * 5 pieces
	Run-Time	15 seconds at full load, 45 seconds at half load
	Recharge Time	Approx. 2 minutes (Input current dependent)
	Life Cycle	Approximately 500,000 charge / discharge cycles
Bypass	Automatic	Upon overload and UPS failure
	Voltage Range	88V ~ 127V +/-20V (adjustable via LCD panel)
Transfer Time	To and From Inverter	0 ms for AC fail; 2.5 ms typical to bypass
Audible Alarms	Backup Mode	4 second (adjustable), 1 second beep when capacity low
	Overload	Beep twice per second
	Fault	Continuous beep tone
Indicator	LCD	UPS status, I/P & O/P information, % Load, Event history
Communication	Serial Port	RS-232 Interface; Optional power monitoring software
	SNMP Intelligent Slot	Network card with SNMP Manager and Web browser
Environment	Temperature	0-40 degrees C; 32-104 degrees F
	Relative Humidity	0-95% non-condensing
	Acoustic Noise (at 1 meter)	< 50 dBA
Physical	Electronics Module Weight	23 lbs / 10.5 kgs
	Energy Module Weight	70 lbs / 32 kgs
	Dimensions	17" x 3.3" x 18.3" / 440 x 88 x 465 mm (Electronics Module)

Contact and Feedback Information

Please contact us for additional information or to discuss your application requirements. We welcome feedback about your specific OEM needs.



120V 230V



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