



MARATHON  
POWER



## Supercapacitor UPS

Green Energy Storage

### Product Info

Marathon Power's first battery-less Uninterruptible Power System 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 backup to sensitive loads in applications that either need to ride-through voltage sags and momentary power outages or simply bridge the startup of a generator. Since most power interruptions (87%) last no more 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 that are sensitive to power disturbances that last 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 the most 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 spikes, surges, sags, swells, harmonics and frequency variations.

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.

### 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)

There is a 1000VA/700W and a 3000VA/2100W model available in either 120V or 208V/230V which provide a backup time of 15 seconds at full load and 40 seconds at half load. Recharge time is approx. 2 minutes but can be reduced with a suitable AC source. Other run times are available using additional energy module or different Supercapacitor combinations. The system features a multifunction LCD control panel that indicates system status and allows parameter adjustments to be made. Communication options include power-monitoring & system management software and Ethernet 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 equipment is required to meet semi F47 standards.

#### Specifications - 120V Versions (also available in 208V / 230V)

Rated Capacity and Power		1kVA / 700W	3kVA / 2100W
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% (Battery 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, 58F, 16V	
	Run-Time	15 seconds at full load, 40 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 ~ 126V +/- 10V (adjustable via LCD panel)	
Transfer Time	To and From Inverter	0 ms for AC fail; 2.5 ms typical to bypass	
Audible Alarms	Battery 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 1M)	< 50 dBA	
Physical	Electronics Module Weight	23 lbs / 10.5 kgs	23 lbs / 10.5 kgs
	Energy Module Weight	34 lbs. / 15.4 kgs	70 lbs / 32 kgs
	Electronics Module Dims	17" x 3.3" x 18.3" / 440 x 88 x 465 mm	17" x 3.3" x 18.3" / 440 x 88 x 465 mm
	Energy Module Dims	17" x 3.3" x 18.3" / 440 x 88 x 465 mm	17" x 6.6" x 18.3" / 440 x 176 x 465 mm

#### Part Numbers

##### UPS Modules

ARTE-1000-01  
ARTE-1000-02  
ARTE-1000-H1  
ARTE-1000-H2  
ARTE-3000-01  
ARTE-3000-02  
ARTE-3000-H1  
ARTE-3000-H2

##### Energy Storage Modules

ACPR-0458-36-120  
ACPR-0458-36-220  
ACPR-1058-96-120  
ACPR-1058-96-220



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