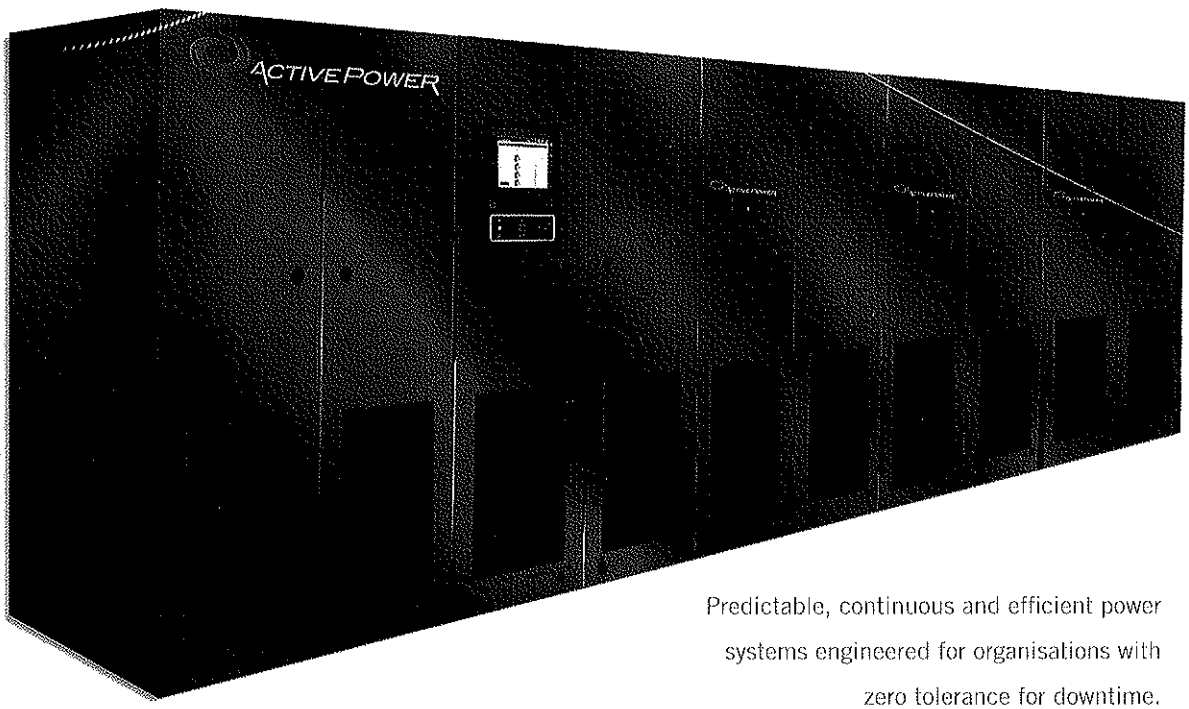
DRIVEN BY MOTION

ACTIVE POWER®

CLEANSOURCE® UPS
MULTI-MODULE SYSTEMS



intelligently EFFICIENT

inherently RELIABLE

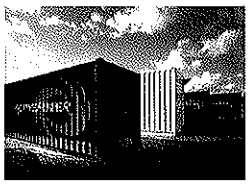
economically GREEN

Predictable, continuous and efficient power systems engineered for organisations with zero tolerance for downtime.

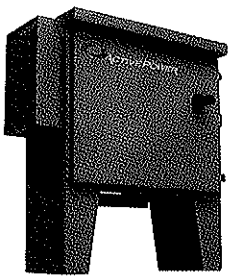
ACTIVE POWER CLEANSOURCE®

SYSTEMS & COMPONENTS

Turnkey Systems



You can rely on Active Power for a complete critical power protection system, including a UPS designed and built to your specifications with switchgear incorporated into a streamlined, space-saving package. The switchgear is connected internally to the UPS, providing an attractive, space-efficient solution.

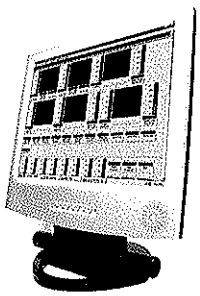


GenSTART™

We can help you source and integrate any critical power system component from engine systems to switchgear and everything in between, including Active Power's GenSTART starting module.

SERVICE & MONITORING

Active Power provides expert assessment, implementation, maintenance and support during every phase of your critical power system deployment and operation. PowerService plans, ranging from basic recommended scheduled maintenance and support to priority dispatch and on-site parts, provide complete lifecycle support for your Active Power solution.



Active Power also provides a variety of system visibility and management tools to improve your awareness of power-related events and ultimately increase your power system reliability.

Active Power's proprietary CleanSource View™ (CSView) monitoring and control software enables real-time system visibility from virtually anywhere.

intelligently EFFICIENT

COMPACT FOOTPRINT

Active Power systems protect up to twice the power in half the space. The flywheel takes up less than half the footprint of a legacy battery-based system leaving additional room for revenue-generating equipment.

LOWER TOTAL COST OF OWNERSHIP

Up to 98% efficiency and simple and predictable operation - only available in flywheel energy storage systems - provides for a low maintenance schedule. You get a life-cycle cost without expensive surprises.

inherently RELIABLE

FIELD PROVEN

With more than 2,600 flywheels operating in systems deployed on six continents in some of the world's harshest conditions, CleanSource UPS has been proven over and over again.

FAULT TOLERANT UPS

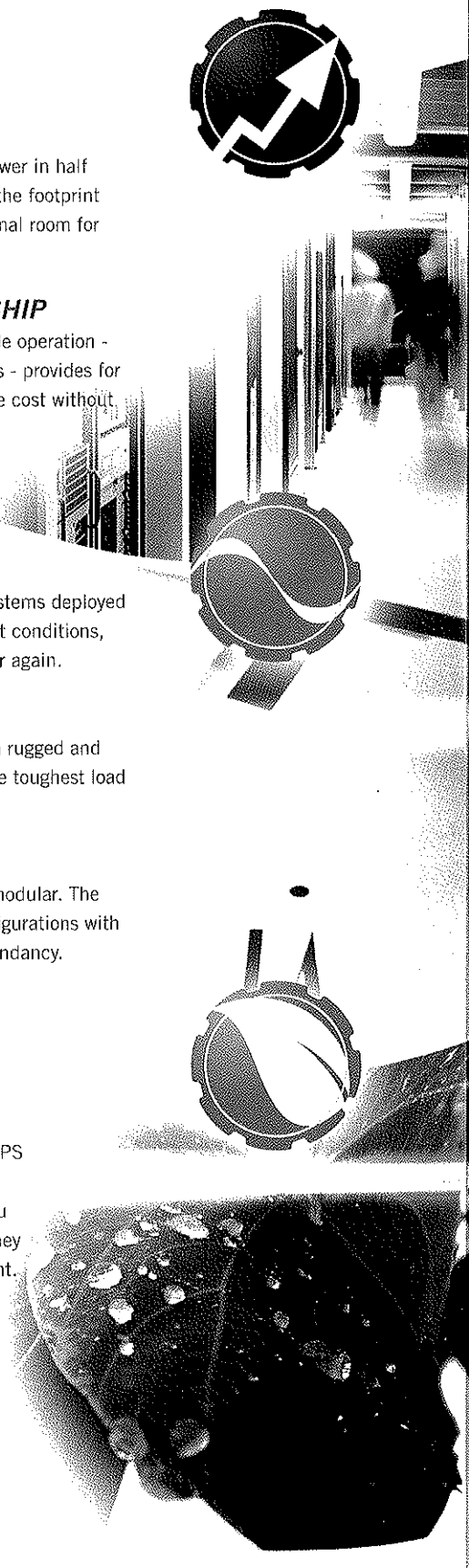
The IGBT based UPS architecture provides for a rugged and highly fault tolerant system that stands up to the toughest load and utility grid conditions.

MODULAR AND REDUNDANT

CleanSource UPS is inherently redundant and modular. The systems are expandable to multi-megawatt configurations with paralleling for either capacity or integrated redundancy.

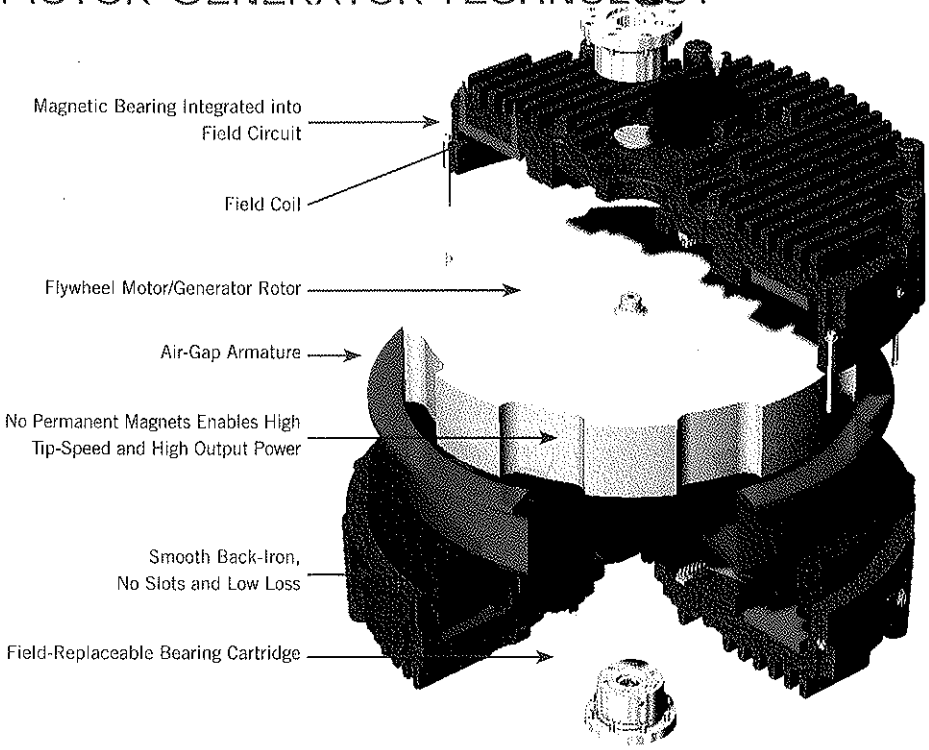
economically GREEN

CleanSource UPS is the most energy efficient UPS in the world - both environmentally friendly and delivered to your economic advantage. When you lose less energy you use less energy, saving money on power bills and reducing your carbon footprint.

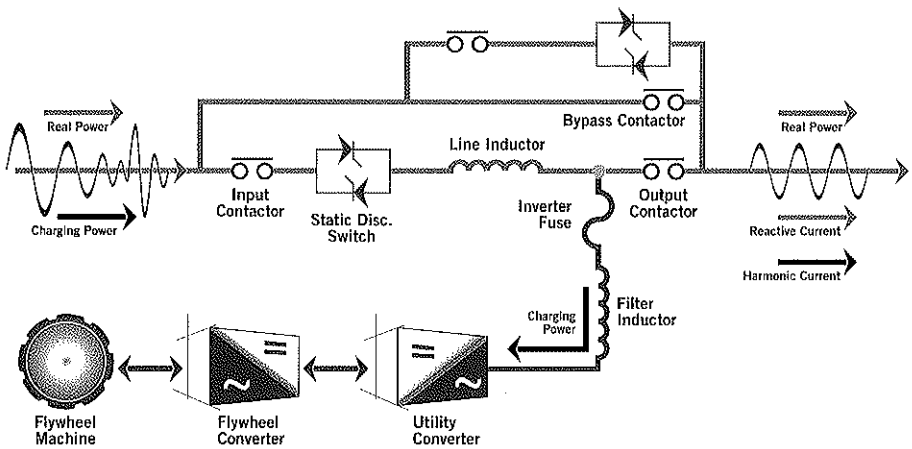


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CleanSource Flywheel Motor-Generator Technology



Parallel Online Architecture



Factory Installed Equipment

Standard

- CSView™ – advanced real-time monitoring
- 10" full color touch-screen operator interface
- IGBT-based UPS technology
- Superior power conditioning
- Flywheel energy storage
- High-speed voltage regulation
- High overload capacity
- Static bypass circuit
- Redundant cooling fans
- Redundant control power
- Power factor correction
- Intelligent self-diagnostics
- Serial connections
- Back-feed protection
- Harmonic Cancellation

Optional

- Remote SNMP/MODBUS monitoring capability
- Remote status panel
- Seismic provisions
- Separate bypass input
- Redundant flywheel and UPS
- External synchronisation input
- GenSTART™ Generator Start Power
- Field expandable

System Features

- *Rugged, on-line & fault-tolerant UPS*
- *Most efficient UPS architecture*
- *Handles multi-load characteristics*
- *Cost-effective lifecycle cost*
- *Modular, scalable and redundant architecture*
- *Field expandable*
- *Predictable flywheel energy storage*
- *20-year design life*
- *Low service and maintenance*
- *Smallest available footprint*
- *Rapid recharge time*
- *Predictive failure analysis*
- *Wide operating temperature range*
- *10" color LCD touch-screen display*
- *Remote and local monitoring*
- *Fault compartmentalization*
- *Simple and cost-effective installation*
- *Field-proven reliability*
- *No hazardous waste material*

Standard Ride-Through Times

100%	15 seconds
75%	20 seconds
50%	30 seconds
25%	56 seconds

CleanSource® UPS Product Line

Multi-Module Systems 500 G-Frame: Modular and expandable UPS optimized for applications up to 500 kVA. Features internal maintenance bypass panel for maximum space and cost efficiency.

Multi-Module Systems 1000 Z-Frame: Modular and expandable UPS supporting up to 1000 kVA in a single system. Full paralleling support for larger applications.

MODEL	UPS 250iG	UPS 500iG	UPS 250iZ	UPS 500iZ	UPS 750iZ	UPS 1000iZ
RATING						
Maximum kVA	250	500	250	500	750	1000
Maximum kW	225	450	225	450	675	900
INPUT						
Voltage	380/400/415 VAC 3-phase, 4-wire plus ground (from grounded wye source)		380/400/415 VAC 3-phase, 4-wire plus ground (from grounded wye source)			
Voltage Range	+10% / -15% (programmable) +/- 10% at 380 VAC		+10% / -15% (programmable) +/- 10% at 380 VAC			
Frequency[1]	50 Hz +/- 10% maximum (programmable) +/- 3% (default)		50 Hz +/- 10% maximum (programmable) +/- 3% (default)			
Power Factor	0.99 at rated load and nominal voltage		0.99 at rated load and nominal voltage			
Harmonic Current Distortion						
Linear Load	<3% at 100% load		<3% at 100% load			
Non-Linear Load[2]	<8% at 100% load		<8% at 100% load			
Current - Nominal (380 VAC)	358	709	355	709	1,064	1,419
Current - Nominal (400 VAC)	340	674	337	674	1,011	1,348
Current - Nominal (415 VAC)	328	650	325	650	974	1,299
Current - Max. Continuous	400	800	400	800	1,200	1,600
Current - Max. Non-Continuous	420	840	420	840	1,260	1,680
Surge Withstand	Meets IEEE 587/ANSI C62.41		Meets IEEE 587/ANSI C62.41			
Walk-In	1 to 15 seconds (programmable)		1 to 15 seconds (programmable)			
OUTPUT						
Voltage	380/400/415 VAC 3-phase, 4-wire plus ground		380/400/415 VAC 3-phase, 4-wire plus ground			
Voltage regulation						
Steady state	+/-1% for +/-10% input		+/-1% for +/-10% input			
Flywheel mode	+/-1% steady state		+/-1% steady state			
Transient	+/-1% within 50 mSec for 100% load step		+/-1% within 50 mSec for 100% load step			
Voltage distortion	<3% linear loads and <5% for 100% non-linear loads		<3% linear loads and <5% for 100% non-linear loads			
Frequency	50Hz (mains synchronised) (normal operation +/- 0.2% free running)		50Hz (mains synchronised) (normal operation +/- 0.2% free running)			
Slew Rate	Adjustable from 0.2Hz/second to 3.0Hz/second		Adjustable from 0.2Hz/second to 3.0Hz/second			
Current - Nominal (380 VAC)	380	761	380	761	1,141	1,521
Current - Nominal (400 VAC)	361	723	361	723	1,084	1,445
Current - Nominal (415 VAC)	348	696	348	696	1,045	1,393
Overload Capability-Mains Operation	Continuous: Up to 105% / 10 Min: 125% / 2 Min: 150% / 30 Sec: 200% / 10 mSec: >200%		Continuous: Up to 105% / 10 Min: 125% / 2 Min: 150% / 30 Sec: 200% / 10 mSec: >200%			
UPS Efficiency[4]	97%	98%	97%	98%		
Environmental						
Audible Noise	<72 dBA at 1m		<72 dBA at 1 meter		<75 dBA at 1m	
Temperature						
Operating	0 to 40° C		0 to 40° C			
Storage	-25 to 70° C		-25 to 70° C			
Humidity	5% to 95% (non-condensing)		5% to 95% (non-condensing)			
Altitude[3]	Up to 1,000 metre		Up to 1,000 metre			
Emissions and Immunity	EN 62040-2		EN 62040-2			
Maximum Heat Rejection[5]						
kW	5.8	11.7	5.8	11.7	17.5	23.4
BTU/Hr	19,946	39,893	19,946	39,893	59,839	79,786
PHYSICAL DATA						
Height (w/o wireway or DC bus)	1,981 mm	1,981 mm	1,981 mm	1,981 mm	1,981 mm	1,981 mm
Width	3,226 mm	4,318 mm	3,226 mm	4,318 mm	5,410 mm	6,502 mm
Depth	865 mm	865 mm	865 mm	865 mm	865 mm	865 mm
Weight	3,164 kg	5,205 kg	3,365 kg	5,435 kg	7,475kg	9,520 kg
Cable Entry	Top or Bottom		Top or Bottom			
Safety	EN 62040-1-1		EN 62040-1-1			

[1] 60Hz Available
[2] EN 62040-3
[3] Derate operating temperature for higher elevations
[4] DC energy storage offline
[5] DC energy storage online

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