



CLEANSOURCE® XT SMS UPS SINGLE MODULAR UPS

60Hz | 250kW | 480V
FLYWHEEL TECHNOLOGY



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SINGLE MODULAR UPS

Overview

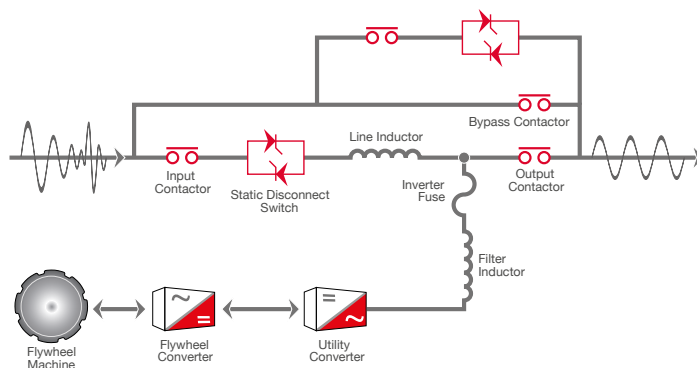
Active Power's Single Module System Flywheel UPS is the perfect combination of total cost of ownership, reliability and sustainability for any mission critical application.

Designed with highly predictable, battery-free energy storage, the Single Module System offers unmatched total cost of ownership for high availability organizations.

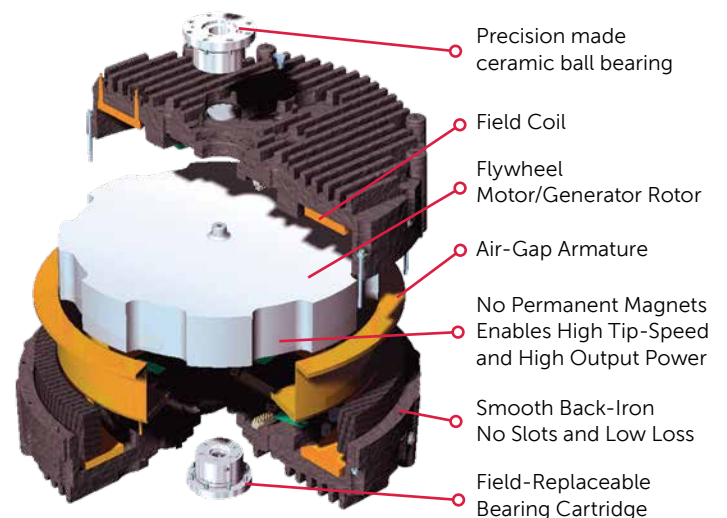
Parallel Online Architecture

The CLEANSOURCE® XT SMS is based on Active Power's Parallel Online Architecture which provides excellent isolation between input and output, while delivering Class 1 voltage regulation and dynamically cancelling effects of non-linear load harmonics.

This topology continuously provides online power protection to your data center, creating a clean sinusoidal output waveform and protecting critical operations against all nine IEEE power disturbances in a power dense, reliable, and energy-efficient package.



FLYWHEEL TECHNOLOGY



- ▶ STORES 6.2 MJ OF ENERGY
- ▶ UP TO 2 MINS. OF RUN-TIME (LOAD DEPENDENT)
- ▶ WIDE OPERATING TEMPERATURE RANGE FROM 32°F TO 104°F
- ▶ HIGH DENSITY, HIGH EFFICIENCY DESIGN

KEY BENEFITS AND FEATURES

- UP TO 98% EFFICIENT
- HALF THE SPACE OF LEGACY BATTERY-BASED UPS
- PARALLEL UP TO 8 SYSTEMS
- REDUNDANT FANS AND CONTROL POWER UNITS
- LOWER INSTALLATION COSTS
- LESS HEAT REJECTION
- LOWER COOLING REQUIREMENTS
- LOWER MAINTENANCE AND SERVICE
- COST-EFFECTIVE INSTALLATION
- COLOR LCD TOUCH SCREEN DISPLAY
- REMOTE MONITORING CAPABILITY
- BUILT-IN POWER FACTOR CORRECTION
- GENERATOR COMPATIBILITY
- DUAL INPUT (OPTIONAL)
- INTEGRATED MAINTENANCE BYPASS OPTION
- SEISMIC PROVISIONS – CONSULT FACTORY
- 20-YEAR DESIGN LIFE

40%

TCO SAVINGS

PERMANENT ENERGY STORAGE
UP TO 98% ENERGY-EFFICIENT
LESS EXPENSIVE TO INSTALL
AND COMMISSION

12x

LESS LIKELY TO FAIL

MOST RELIABLE ENERGY STORAGE SYSTEM
MINIMIZE RISK AND DISRUPTION FROM MAINTENANCE AND REPLACEMENT

9x

LESS CARBON EMISSIONS

OVER 40% LESS CARBON EMISSIONS OVER 20 YEARS TO HELP YOU ACHIEVE YOUR SUSTAINABILITY GOALS

CLEANSOURCE® XT SMS combines a competitive initial cost with lower ongoing operational expense – up to 40% lower than traditional UPS over 20 years. The result is a dramatic TCO benefit for your application, with net savings.

► SUPERIOR ENERGY EFFICIENCY

Over 96% efficient at 40% load.

► REDUCED COOLING NEEDS

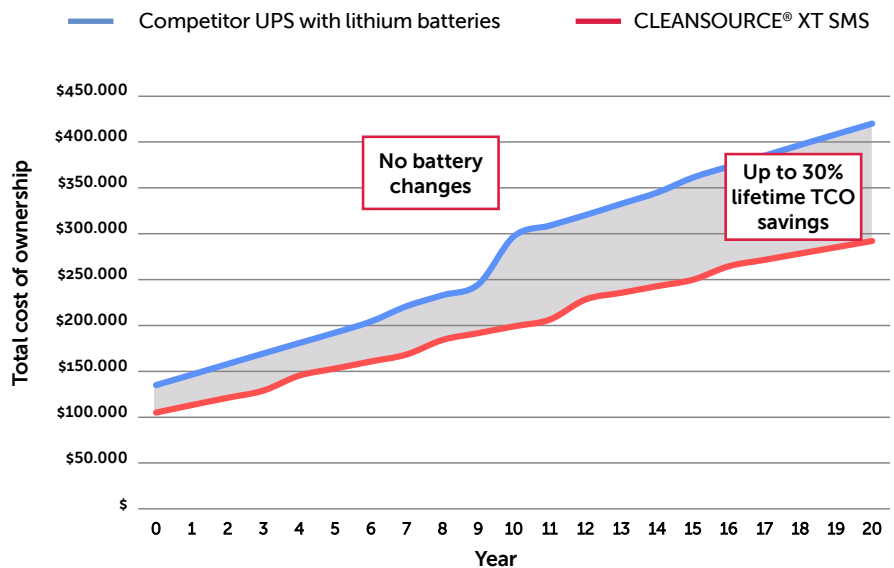
No need for dedicated cooling for batteries

► LOWER MAINTENANCE REQUIREMENTS

Routine annual check-up and bearing change every third year.

► NO BATTERY CHANGES

Integrated flywheel with 20-year life.



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PRODUCT SPECIFICATIONS

RATING		
Maximum kVA		275
Maximum kW		250
INPUT		
Voltage ¹	480 VAC 3-phase, 3-wire plus ground	
Voltage Range	+10% / -15% (programmable)	
Frequency ²	60 Hz +/- 10% maximum (programmable) +/- 3% (default)	
Power Factor	0.99 at rated load and nominal voltage	
Harmonic Current Distortion	Linear load	<2% at 100% load
	Non-linear	<8% at 100% load
Current – Nominal (480 VAC)	312A	
Current – Max. Continuous	400A	
Current – Max. Non Continuous	420A	
Surge Withstand	Meets IEEE 587/ANSI C62.41	
Walk-in	1 to 15 seconds (programmable)	
Internal Back Feed Protection	Yes	
OUTPUT		
Voltage	480 VAC 3-phase, 3-wire plus ground	
Voltage Regulation	Steady State	+/-1% for +/-10% input
	Flywheel Mode	+/-1% steady state
	Transient	+/-1% within 50 mSec for 100% load step
Voltage Distortion ³	<1% linear loads and <5% for 100% non-linear loads	
Inverter	PWM with IGBT switching	
Frequency	60Hz (mains synchronized) (normal operation +/- 0.2% free running)	
Load Power Factor Range	0.7 lagging / 0.9 leading without derating	
Slew Rate	Adjustable from 0.2Hz/second to 3.0Hz/second	
Current – Nominal (480 VAC)	331A	
Overload Capability-Mains Operation	Cont:	105%
	10 min:	<110%
	5 min:	<125%
	1 min:	<150%
	10s:	<200%
Immediate:	>200%	
UPS Efficiency ³	98%	

ENERGY STORAGE		
Type	Integrated Steel Flywheel spinning at 10,000RPM	
Flywheel Run Time (% Load)	100%:	24.5s
	75%:	32s
	50%:	47s
	25%:	84s
Flywheel Recharge Time	<3 min (nominal) at 65kW	
GENERAL DATA		
Source Input	Single or Dual	
Parallel Capability	Yes, up to 8 systems	
Internal Static Bypass	Included	
Display	10-inch Color Touch Screen Graphical Display	
Withstand Capability ⁴	65kA	
Remote Monitoring	Yes (optional)	
External Customer Contacts	8 Input and 8 Outputs (programmable)	
ENVIRONMENTAL		
Audible Noise	<70 dBA at 1 meter	
Temperature	Operating	32 to 104° F (0 to 40°C)
	Storage	-13 to 158° F (-25 to 70°C)
Humidity	5% to 95% (non-condensing)	
Altitude	Up to 3,000ft (914m) 1.2°C derating for every 1,000ft above 3,000ft	
Emissions and Immunity	FCC Class A, Subpart J of Part 15/ EN 62040-2	
PHYSICAL DATA		
Height	78.0in/1,981mm	
Width	58.6in/1,488mm	
Depth	34.1in/865mm	
Weight	4,598.8lbs/2,086kg	
Cable Entry	Top or Bottom	
SAFETY		
UL/cUL 1778 and CAN/CSA 22.2 No.107.1 Listed		

¹ From grounded WYE source, 4 wire optional

² 50Hz available

³ Energy storage offline

⁴ Design per UL891 (w/o maint. bypass)



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