



CLEANSOURCE® XT SMS SINGLE MODULE SYSTEM UPS

225kW | 380/400/415V
FLYWHEEL TECHNOLOGY



CLEANSOURCE® XT SMS

SINGLE MODULE SYSTEM UPS

Overview

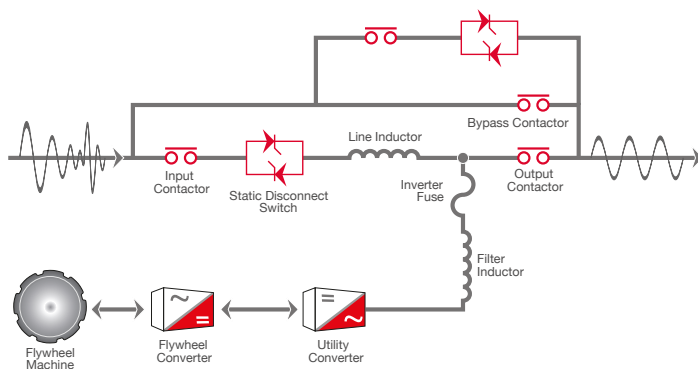
Active Power's Single Module System Flywheel UPS is the perfect combination of total cost of ownership, reliability and sustainability for any mission critical application.

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

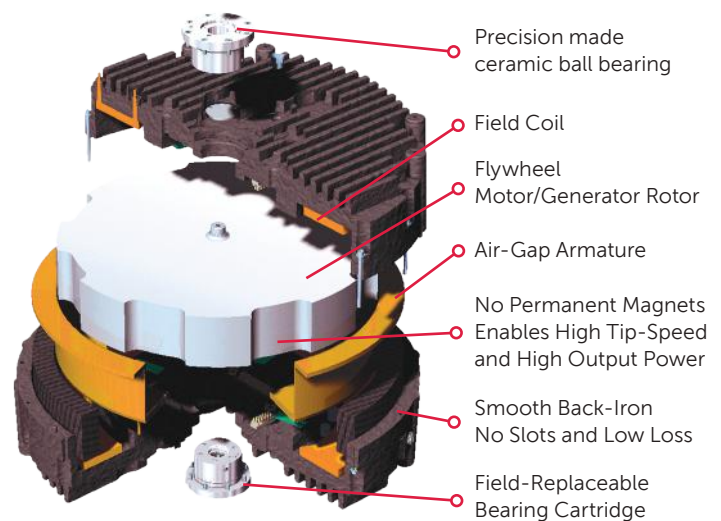
Parallel Online Architecture

The CLEANSOURCE® XT SMS UPS 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 0°C TO 40°C
- ▶ 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
- COLOUR 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
- GENSTART OPTION

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

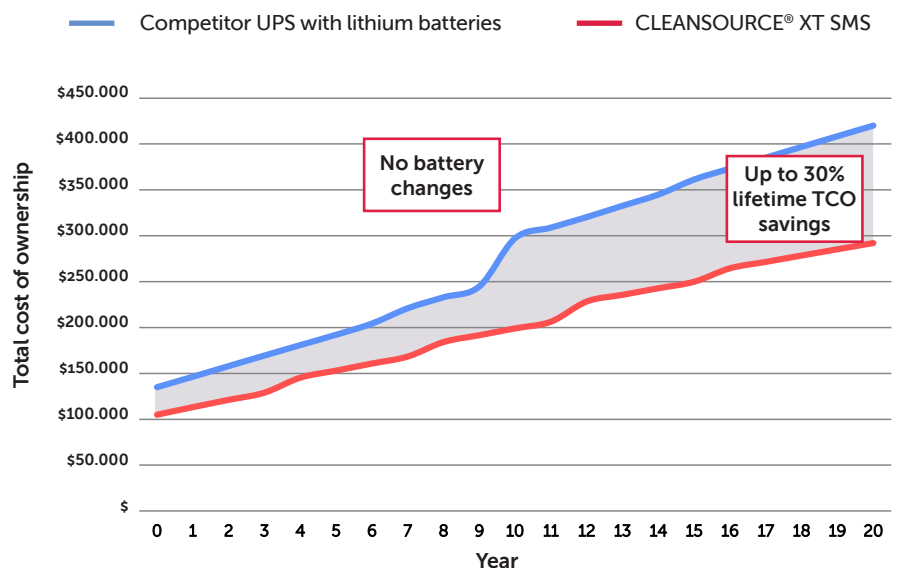
No need for dedicated cooling for batteries

► LOWER MAINTENANCE REQUIREMENTS

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

► NO BATTERY CHANGES

Integrated flywheel with 20-year life.



225kW | 380/400/415V

PRODUCT SPECIFICATIONS

RATING			
Maximum kVA		250	
Maximum kW		225	
INPUT			
Voltage ¹		380/400/415V VAC 3-phase, 4-wire plus ground	
Voltage Range ²		+10% / -15% at 400/415V (programmable)	
Frequency		50/60Hz +/- 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 ³	<5% at 100% load	
Current – Nominal (380 VAC)		355A	
Current – Nominal (400 VAC)		337A	
Current – Nominal (415 VAC)		325A	
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		380/400/415 VAC 3-phase, 4-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		50/60Hz (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 (380 VAC)		380A	
Current – Nominal (400 VAC)		361A	
Current – Nominal (415 VAC)		348A	
Overload Capability-Mains Operation		Cont:	105%
		10 min:	<110%
		5 min:	<125%
		1 min:	<150%
		10s:	<200%
		Immediate:	>200%
UPS Efficiency ⁴		98%	

ENERGY STORAGE		
Type	Integrated Steel Flywheel spinning at 10,000RPM	
Flywheel Run Time (% Load)	100%:	27s
	75%:	36s
	50%:	52s
	25%:	94s
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 Colour Touch Screen Graphical Display	
Withstand Capability ⁵	65kA	
Remote Monitoring	Yes (optional)	
External Customer Contacts	8 Input and 8 Outputs (programmable)	
ENVIRONMENTAL		
Audible Noise	<75 dBA at 1 metre	
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 (304m) above 3,000ft (914m)	
Emissions and Immunity	EN 62040-2	
Heat Rejection – Online	5.84kW/19,946BTU/hr	
PHYSICAL DATA		
Height	78.0in/1,981mm	
Width	58.6in/1,488mm	
Depth	34.1in/865mm	
Weight	4,799.4lbs/2,177kg	
Cable Entry	Top or Bottom	
SAFETY		
EN 62040-1		

¹ From grounded WYE source

² +/-10% at 380VAC

³ EN 62040-3

⁴ Energy storage offline

⁵ Design per UL891 (w/o maint. bypass)



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