



# CLEANSOURCE® XT SMS UPS

## Single Modular Systems

### 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.



### Total Cost of Ownership

Up to 40% TCO savings through 98% energy efficiency, lower installation costs and permanent storage.



### Reliability

Most reliable energy storage system on the market and proven to be 12 times less likely to fail over battery based applications.



### Sustainability

Over 40% less carbon emissions over 15 years to help you achieve your sustainability goals.

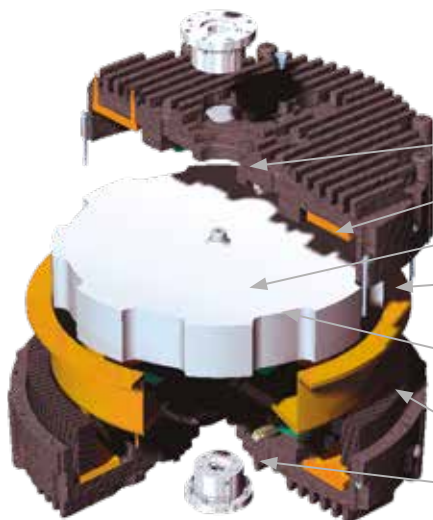
### Flywheel Technology

- Stores 6.2 MJ of energy
- Up to 2 minutes of runtime (load dependent)

- Wide ambient temperature range – 0°C – 40°C
- High density, high efficiency design

### Key benefits and features

- Extended ride-through
- 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 (optional)
- 20-year design life



Mechanical Replaceable Bearing

Field Coil

Flywheel Motor/Generator Rotor

Air-Gap Armature

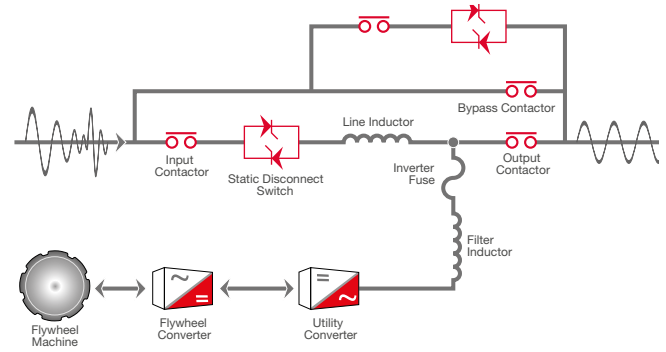
No Permanent Magnets Enables High Tip-Speed and High Output Power

Smooth Back-Iron  
No Slots and Low Loss

Field-Replaceable Bearing Cartridge

## Parallel Online Architecture

The CLEANSOURCE® UPS 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.



## Product Specifications Model XT250

RATING	
Maximum kVA	275
Maximum kW	250
INPUT	
Voltage <sup>1</sup>	480 VAC 3-phase, 3-wire plus ground
Voltage Range	+10% / -15% (programmable)
Frequency	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 Load <sup>2</sup>	<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 Backfeed 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 <sup>2</sup>	<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. 10 min 5 min 1 min 10s Imd. 105% <110% <125% <150% <200% >200%
UPS Efficiency <sup>3</sup>	98%

ENERGY STORAGE	
Type	Integrated Steel Flywheel spinning at 10,000 RPM
Flywheel Runtime (% Load)	100% 75% 50% 25% 24.5s 32s 47s 84s
Flywheel Recharge Time	< 3 min (nominal) at 65 kW

GENERAL	
Input Source	Single or Dual
Parallel Capability	Yes, up to 8 systems
Internal Static Bypass	Included
Control Panel	10-inch Color Touchscreen Graphical Display
Withstand Capability <sup>4</sup>	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 <sup>4</sup>	Up to 3,000 ft (914m) 1.2 C derating for every 1000ft above 3000ft
Emissions and Immunity	FCC Class A, Subpart J of Part 15/ EN 62040-2
Heat Rejection- Online	6.35 kW / 21,689 BTU/hr

PHYSICAL DATA	
Height	1,981 mm
Width	1,488 mm
Depth	865 mm
Weight	2,086 kg
Cable Entry	Top or Bottom

SAFETY	
UL/cUL 1778 and CAN/CSA 22.2 No.107.1 Listed	

<sup>1</sup> From grounded WYE source, 4 wire optional

<sup>2</sup> EN 62040-3

<sup>3</sup> Energy storage offline

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



[www.activepower.com](http://www.activepower.com)

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