



CLEANSOURCE® PLUS SMS

Single Modular UPS 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

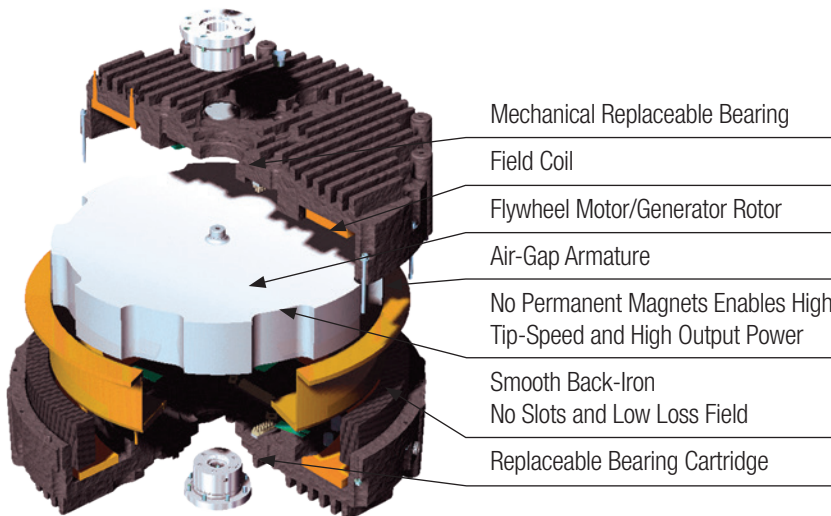
Over 40% less carbon emissions over 15 years to help you achieve your sustainability goals.

Flywheel Technology

- ✓ Stores 6.2 MJ of energy
- ✓ Up to 2 minutes of runtime (load dependent)
- ✓ Wide ambient operating temperature range from 0°C to 40°C
- ✓ High density, high efficiency design

Key benefits and features

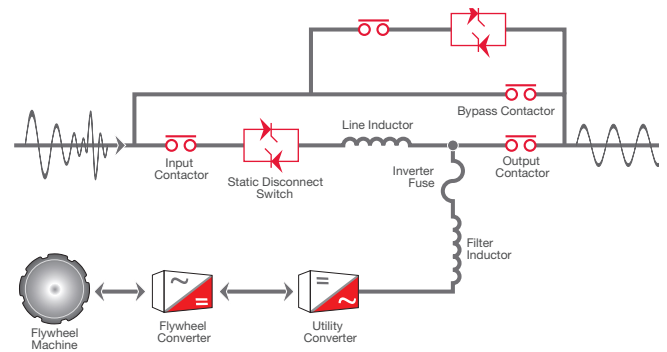
- ✓ Up to 98% efficient
- ✓ Half the space of legacy battery based UPS
- ✓ Parallel up to 8 systems
- ✓ Redundant fans and control power units
- ✓ Lower installation costs
- ✓ Less heat rejection
- ✓ Lower cooling requirements
- ✓ Lower maintenance and service
- ✓ Cost-effective installation
- ✓ Color 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



60Hz | 300 kW | 480V

Parallel Online Architecture

The CLEANSOURCE® PLUS 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 PLUS SMS 300

RATING	
Maximum kVA	333
Maximum kW	300
INPUT	
Voltage ¹	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 ³	<8% at 100% load
Current - Nominal (480 VAC)	372A
Current - Max. Continuous	450A
Current - Max. Non-Continuous	470A
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 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)	400A
Overload Capability-Mains Operation	Cont. 10 min 5 min 1 min 10s lmd. 105% <110% <125% <150% <200% >200%
UPS Load	25% 50% 75% 100%
Efficiency – energy storage online	95.0% 97.3% 98.0% 98.3%

ENERGY STORAGE	
Type	Integrated Steel Flywheel spinning at 10,000 RPM
Flywheel Runtime (% Load)	100% 75% 50% 25% 20s 27s 39s 73s
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
Display	10-inch Color Touchscreen Graphical Display
Withstand Capability ²	65kA
Remote Monitoring	Yes (optional)
External Customer Contacts	8 Input and 8 Outputs (programmable)
Internal Maintenance Bypass	Yes (optional)
ENVIRONMENTAL	
Audible Noise	<75 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 3,000 ft (914m) 1.2 C derating for every 1000ft above 3000ft
Emissions and Immunity	FCC Part 15 Class A, EN 62040-2
Heat Rejection - Online	5.2 kW / 17,754BTU/hr
PHYSICAL DATA	
Height	78.0 in / 1,981 mm
Width	58.6 in / 1,488 mm
Depth	34.1 in / 865 mm
Weight	4598.8 lbs / 2,086 kg
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 Design per UL891

³ EN 62040-3



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