ACTIVE POWER
DRIVEN BY MOTION

CLEANSOURCE®
HD675 UPS

60Hz | 675kW | 480V
FLYWHEEL TECHNOLOGY

CLEANSOURCE®
HD675 UPS

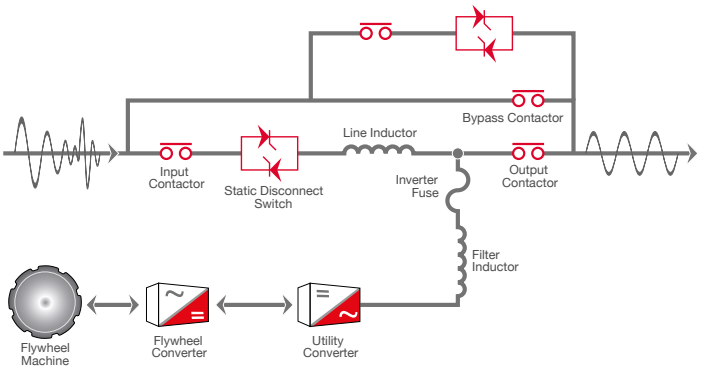
Overview

Active Power's CLEANSOURCE® HD675 delivers 40% TCO savings, is 12 times less likely to fail, and reduces your impact on the environment by 90%.Based on a field-proven design, our flywheel UPS is a perfect fit for today's mission-critical applications in data centers, health care facilities, and industrial and manufacturing sites.

Parallel Online Architecture

The CLEANSOURCE® HD675 is rated at 750kVA/675kW. Up to 7 UPS systems can be paralleled for redundancy or capacity, supporting over 4.725MW of back-up power in a single paralleled system.

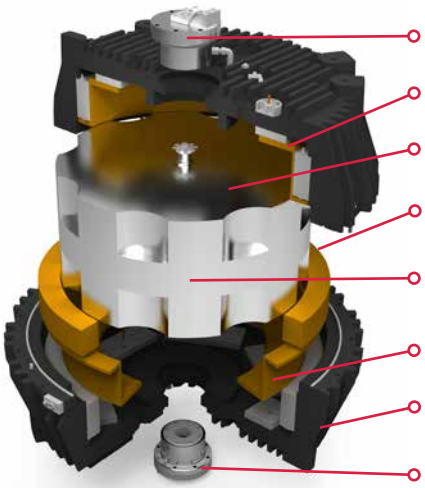
Active Power's Parallel Online Architecture provides excellent isolation between input and output, while delivering a clean sinusoidal waveform to critical loads. CLEANSOURCE® HD675 UPS is able to protect against all 9 IEEE power disturbances, such as voltage fluctuations, harmonics and complete power outage.



Service and Maintenance

Active Power has designed the CLEANSOURCE® HD675 with ease of maintenance in mind to ensure your critical power infrastructure operates with the utmost reliability. CLEANSOURCE® HD675 requires one simple and non-invasive annual maintenance. A streamlined maintenance schedule both restores your UPS to factory-like condition and reduces downtime during its operating life, thereby improving the availability of your operation.

FLYWHEEL TECHNOLOGY



- STORES 10.2 MJ OF ENERGY
- UP TO 1 MINUTE 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
- LOWER INSTALLATION COSTS
- LESS HEAT REJECTION
- LOWER COOLING REQUIREMENTS
- LOWER MAINTENANCE AND SERVICE
- COST-EFFECTIVE INSTALLATION
- GENERATOR COMPATIBILITY
- 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

90% LESS CARBON USED IN UPS MANUFACTURE

OVER 40% LESS CARBON EMITTED OVER 15 YEARS

CLEANSOURCE® HD675 combines a competitive initial cost with lower ongoing operational expense – up to 40% lower than traditional UPS over 15 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

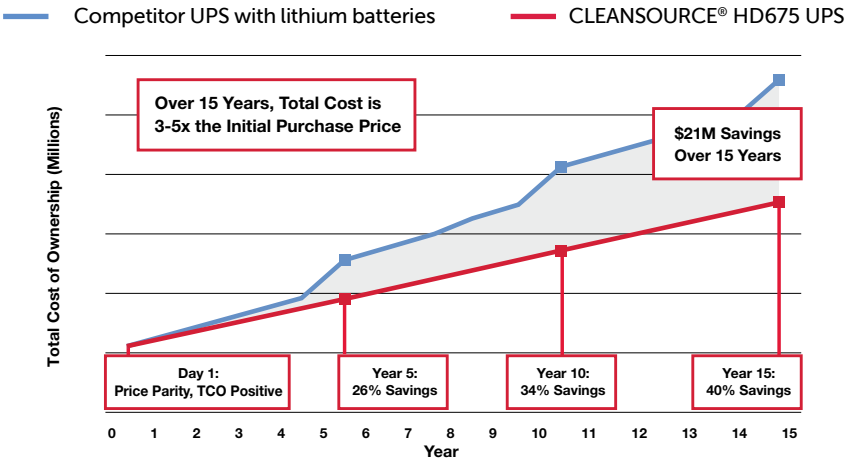
No need for dedicated cooling for batteries

▶ LOWER MAINTENANCE REQUIREMENTS

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

▶ NO BATTERY CHANGES

Integrated flywheel with 20-year life.



Proven to be 12 times less likely to fail than a battery-based system, the integrated flywheel energy storage of the CLEANSOURCE® HD675 UPS makes it inherently reliable, delivering predictable, consistent back-up power. The flywheel is constantly spinning, storing kinetic energy and ready to assume the load in case of a power outage. By contrast, battery failures are the leading cause of UPS load loss and system downtime.

CLEANSOURCE® HD675 UPS is the smart and responsible choice for the environment, saving thousands of tons of carbon from being emitted. The integrated flywheel permanent energy storage uses up to 90% less embedded carbon to manufacture versus lead-acid batteries. CLEANSOURCE® UPS high efficiency and lower cooling requirements contribute to lower power consumption and reducing operational carbon emissions by 40% over the life of the product. In comparison with lead-acid batteries, flywheels last up to 20 years, are not toxic, take up 50% less space and require less maintenance.

60Hz | 675kW | 480V

PRODUCT SPECIFICATIONS

RATING		
Maximum kVA		750
Maximum kW		675
INPUT		
Voltage[3]		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[1]	<5% at 100% load
Current – Nominal (480 VAC)		846A
Current – Maximum		1050A
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[1]		<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)
Slew Rate		Adjustable from 0.2Hz/second to 3.0Hz/second
Current – Nominal (480 VAC)		903A
Overload Capability-Mains Operation	Cont: 10 min: 5 min: 1 min: 10s: Immediate:	105% <110% <125% <150% <200% >200%
UPS Efficiency[2]		96.5% @ 50% load up to 98% @ 100% load
ENERGY STORAGE		
Type		Integrated Steel Flywheel spinning at 7,700RPM
Flywheel Run Time (% Load)	100%: 75%: 50%: 25%:	15s 20s 29s 56s
Flywheel Recharge Time		< 2 min (nominal) at 175kW 3 min (programmable) at 100kW

[1] EN 62040-3
[2] DC energy storage offline
[3] From grounded WYE source
[4] Design per UL891
[5] 100% load (675kW)

GENERAL DATA		
Parallel Capability		Yes, up to 7 systems = 4.725MW
Internal Static Bypass		Included
Control Panel		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		<83dBA at 1 meter
Temperature	Operating	32 to 104°F (0 to 40°C)
Temperature	Storage	-13 to 158°F (-25 to 70°C)
Humidity		5% to 95% (non-condensing)
Altitude[4]		Up to 3,000 feet (914m) / 1.2 C derating for every 1,000ft above 3,000ft
Emissions and Immunity		FCC Class A Sub-Part 15 J of Part 15/N EN 62040-2
Heat Rejection – Online[5]		19.10kW/65,210 BTU/Hr
PHYSICAL DATA		
Height		80in/2,032mm
Width		132.0in/3,353mm
Depth		39in/991mm
Weight		10,971lbs/4,976kg
Cable Entry		Top or Bottom
Safety		UL 1778 Listed. CUL CAN/CSA 22.2 No. 107.1 Listed

ADDITIONAL OPTIONS
4-wire Input
Dual Input
High Resistance Ground (HRG)
Remote SNMP/MODBUS Monitoring
CSView - Real time Monitoring
GenSTART - Generator Start Power
Remote EPO
Floorstand Kit
Remote Status Panel

SYSTEM FEATURES
Online and Fault-Tolerant UPS
Predictable Flywheel Energy Storage
20-year Design Life
Wide Operating Temperature Range
Quick Recharge Time
Low Maintenance and Service
Comprehensive Service and Support
Multi-vendor Generator and Switchgear Compatibility
Simple and Cost Effective Installation
No Hazardous Waste Material
Field Proven Reliability

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