



# ACTIVE POWER<sup>®</sup>

## CLEANSOURCE<sup>®</sup> HD625 UPS



**40%**  
TCO Savings



**12x**  
Less Likely  
to Fail



**9x**  
Less Carbon  
Emissions

50Hz | 625 kW | 380/400/415V | Flywheel Technology

# CLEANSOURCE® HD625 UPS

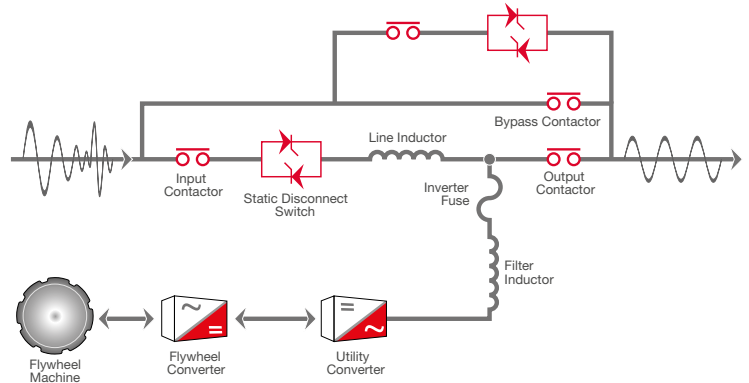
## Overview

Active Power's CleanSource® HD625 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.

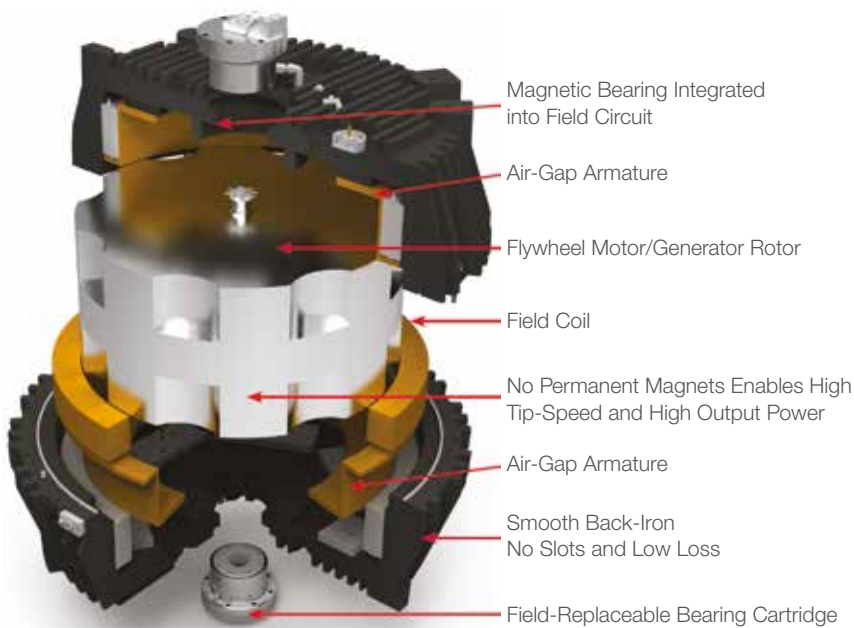
## Parallel Online Architecture

The CleanSource® HD625 is rated at 625 kVA / 625 kW. Up to 7 UPS systems can be paralleled for redundancy or capacity, supporting over 4.3 MW of backup 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® HD625 UPS is able to protect against all 9 IEEE power disturbances, such as voltage fluctuations, harmonics and complete power outage.



## Flywheel Technology



Stores 10.5 MJ of energy • Up to 1 minute of runtime (load dependent)  
Wide ambient temperature range – 0°C – 40°C • 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

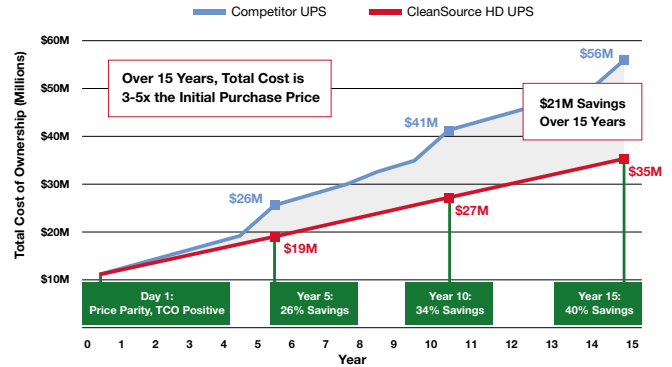
## Service & Maintenance

Active Power has designed the CleanSource® HD625 with ease of maintenance in mind to ensure your critical power infrastructure operates with the utmost reliability. CleanSource® HD625 requires only simple and non-invasive annual maintenance and a bearing change every third year. This streamlined maintenance schedule both restores your UPS to factory-like condition and reduces downtime during its operating life, improving the availability of your operation.

# 40% TCO Savings

CleanSource® HD625 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 to you from day 1 of operation.

- Superior energy efficiency – over 96% efficient at 40% load
- Lower maintenance requirements – routine annual check-up and bearing change every third year
- Reduced cooling needs – no need for dedicated cooling
- No battery changes – integrated flywheel with 20 year life



# 12x Less Likely to Fail

Proven to be 12 times less likely to fail than a battery based system, the integrated flywheel energy storage of the CleanSource® HD625 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.

“With a dynamic electromechanical system like CleanSource® HD, demand failures are highly unlikely. With the flywheel spinning, any changed affecting system health are detected and repairable prior to an outage occurring. Conversely, a battery based system is an electrochemical process and exhibits non-detectable failures even with monitoring and routine maintenance.”

Steve Fairfax | President, MTechnology, Inc.

# 9x Less Carbon Emissions

CleanSource® HD625 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 the product. In comparison to lead-acid batteries, flywheels last up to 20 years, are not toxic, take up 50% less space and require less maintenance.



## Product Specifications CLEANSOURCE® HD625 UPS

RATING	
Maximum kVA	625
Maximum kW	625

INPUT	
Voltage <sup>1</sup>	380/400/415 VAC 3-phase, 4-wire plus ground
Voltage Range <sup>2</sup>	+10% / -15% at 400/415V (programmable)
Frequency	50 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>3</sup>	<5% at 100% load
Current - Nominal (380 VAC)	990A
Current - Nominal (400 VAC)	940A
Current - Nominal (415 VAC)	906A
Current - Maximum	1200A
Surge Withstand	Meets IEEE 587/ANSI C62.41
Walk-In	1 to 15 seconds (programmable)
Internal Backfeed 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 <sup>3</sup>	<1% linear loads and <5% for 100% non-linear loads
Inverter	PWM with IGBT switching
Frequency	50Hz (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)	951A
Current - Nominal (400 VAC)	903A
Current - Nominal (415 VAC)	871A
Overload Capability-Mains Operation	Cont. 10 min 5 min 1 min 10s Immediate 105% <110% <125% <150% <200% >200%
UPS Efficiency <sup>4</sup>	96.5% @ 50% load – up to 98% @ 100% load

ENERGY STORAGE	
Type	Integrated Steel Flywheel spinning at 7,700 RPM
Flywheel Runtime (% Load)	100% 75% 50% 25% 16s 21s 31s 58s
Flywheel Recharge Time	< 2 min (nominal) at 175kW 3 min (programmable) at 100kW

<sup>1</sup> From grounded wye source

<sup>2</sup> +/-10% at 380VAC

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

<sup>4</sup> DC energy storage offline

<sup>5</sup> Design per UL891

GENERAL	
Parallel Capability	Yes, up to 7 systems
Internal Static Bypass	Included
Control Panel	10-inch Color Touchscreen Graphical Display
Withstand Capability <sup>5</sup>	65kA
Remote Monitoring	Yes (optional)
External Customer Contacts	8 Input and 8 Outputs (programmable)

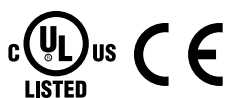
ENVIRONMENTAL	
Audible Noise	<83 dBA at 1 meter
Temperature	
Operating	0°C to 40°C
Storage	-25°C to 70°C
Humidity	5% to 95% (non-condensing)
Altitude <sup>4</sup>	Up to 1,000m 1.2°C derating for every 300m above 1000m
Emissions and Immunity	EN 62040-2
Heat Rejection- Online	19.78kW / 67,522 BTU/hr

PHYSICAL DATA	
Height	2,032 mm
Width	3,353 mm
Depth	991 mm
Weight	5,769 kg
Cable Entry	Top or Bottom

SAFETY	
EN 62040-1-1	

ADDITIONAL OPTIONS	
3-wire Input	
Dual Input	
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	



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

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