



A Division of Piller Power Systems Inc.



CLEANSOURCE® HD625 UPS



40%

TCO Savings



12x

Less Likely
to Fail



9x

Less Carbon
Emissions

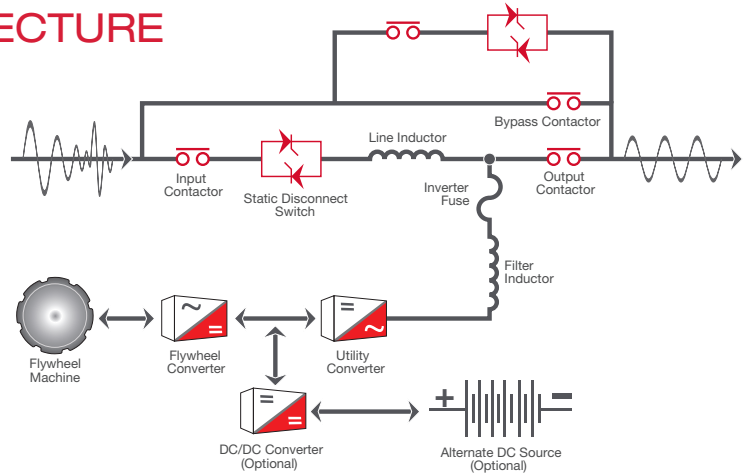
CLEANSOURCE® HD625 UPS

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.

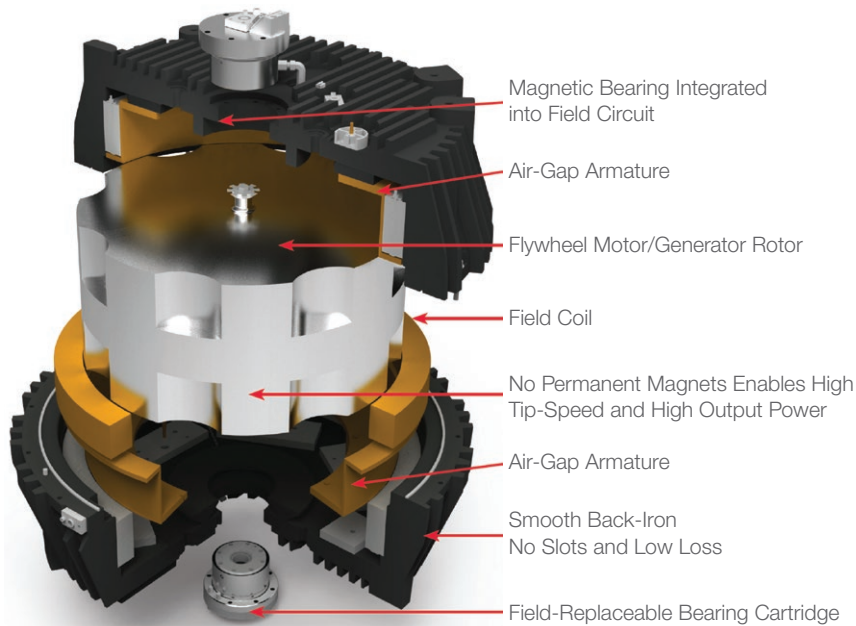
PARALLEL ONLINE ARCHITECTURE

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

EXTENDED RUNTIME

For applications requiring additional power backup time before switching over to a generator source, CleanSource® HD625 can be configured with an Extended Runtime option. This system is composed of Flywheel and standard Valve Regulated Lead Acid (VRLA) Batteries supporting up to 15min of additional runtime. The flywheel is able to eliminate short duration battery discharges, a primary factor in battery degradation.

SERVICE & MAINTENANCE

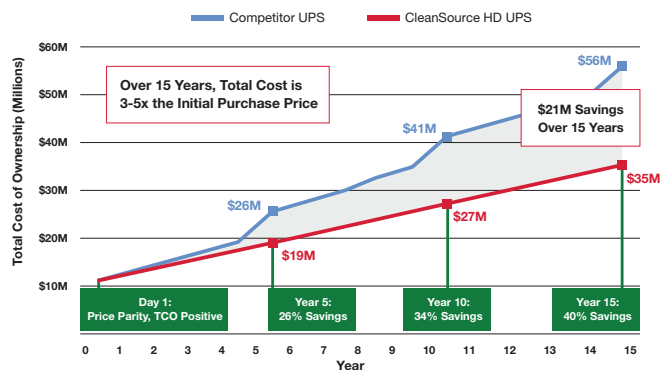
Active Power has designed the CleanSource® HD625 with ease of maintenance in mind to ensure your critical power infrastructure operates with the utmost reliability. CleanSource® HD625 requires only simple and non-invasive annual maintenance and a bearing change every third year. This streamlined maintenance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

AN UNMATCHED COMBINATION

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
- 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



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.



ACTIVE POWER CLEANSOURCE® HD625 UPS

RATING	
Maximum kVA	625
Maximum kW	625

INPUT	
Voltage ¹	380/400/415 VAC 3-phase, 4-wire plus ground
Voltage Range ²	+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 ³	<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 ³	<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 ⁴	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
Extended Runtime Option	Up to 15 min with VRLA Batteries

GENERAL	
Parallel Capability	Yes, up to 7 systems
Internal Static Bypass	Included
Control Panel	10-inch Color Touchscreen Graphical Display
Withstand Capability ⁵	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 ⁴	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	
Extended Runtime Cabinet	

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	

¹ From grounded wye source

² +/-10% at 380VAC

³ EN 62040-3

⁴ DC energy storage offline

⁵ Design per UL891



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