



# ACTIVE POWER

## CLEANSOURCE® XT MMS 380/400/415V - 50/60Hz Modular UPS Systems



**40%**  
TCO Savings



**12x**  
Less Likely  
to Fail



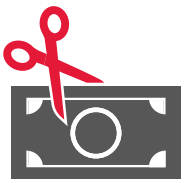
**9x**  
Less Carbon  
Emissions

# CLEANSOURCE® XT MMS

## Modular UPS Systems

### Overview

CLEANSOURCE® XT Modular UPS System offers a wide range of modular and redundant backup power systems from 225kW to 1800kW. The built-in flywheel energy storage takes up less than half the footprint of battery based systems, delivers efficiency up to 98% and lowers total cost of ownership by up to 40% over the life of the product. This field proven technology is based on a highly fault tolerant IGBT architecture designed to protect all critical loads, such as data centers, industrial processes and healthcare applications. Stored energy will provide ride-through up to 2 minutes depending upon configuration, making the CLEANOURCE® XT MMS a clear alternative to modular static UPS systems reliant on battery storage. The XT MMS modular UPS system has more than enough energy storage for diesel starting and synchronization, even when paralleling generating sets. Elimination of batteries saves space and weight, reduces site testing and maintenance and removes the need for routine replacement after a few years of service life.



**40%**  
TCO Savings

- Permanent energy storage
- Up to 98% energy efficient
- Less expensive to install and commission



**12x**  
Less Likely to Fail

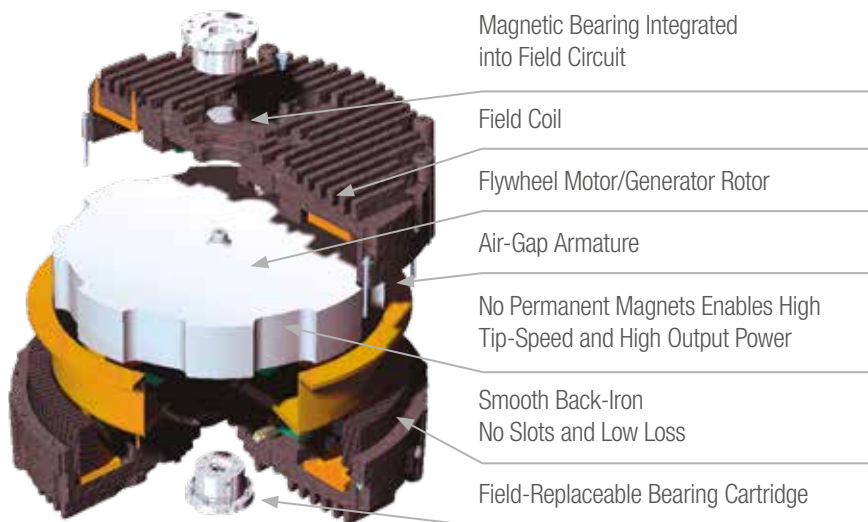
- Most reliable energy storage system
- Minimize risk and disruption from maintenance and replacement



**9x**  
Less Carbon Emissions

- 90% less carbon used in UPS manufacture
- Over 40% less carbon emitted over 15 years

### Flywheel Technology

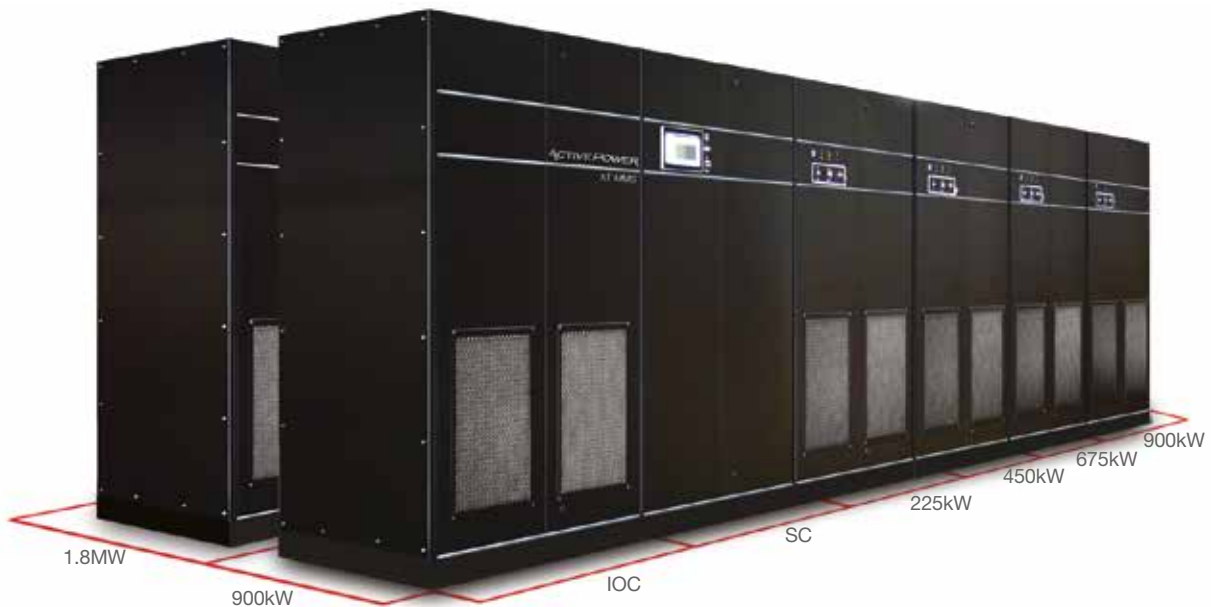
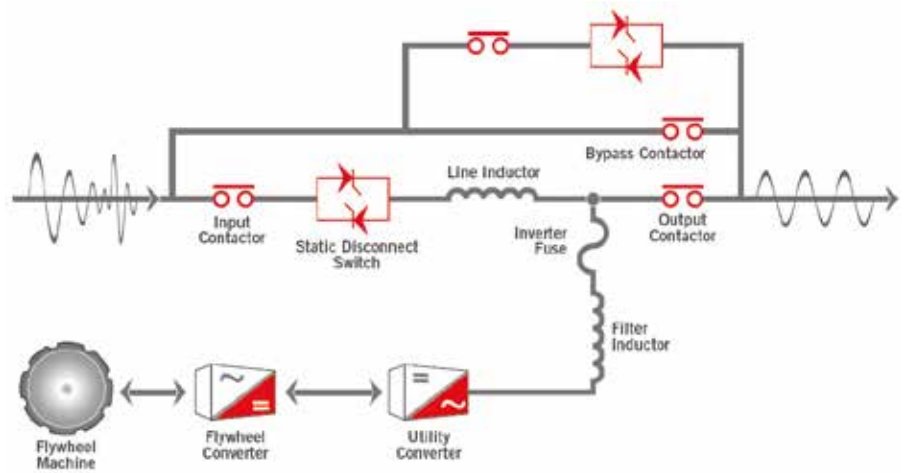


### Key Benefits and Features

- Extended Ride-through up to 2 minutes
- Up to 98% efficient
- Half the space of legacy battery based UPS
- Field expandable
- Redundant fans and control power units
- Lower cooling requirements
- Lower maintenance and service
- Cost-effective installation
- Color LCD touch-screen display
- Remote monitoring
- Built-in power factor correction
- Generator compatibility
- Dual input and integrated maintenance bypass option
- Seismic provisions – consult factory
- 20-year design life
- 225kW building blocks expandable to 1.8MW

## Parallel Online Architecture

The CLEANSOURCE® XT Modular UPS 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 operation, 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.



## Modular & Scalable Architecture

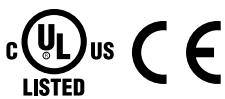
CLEANSOURCE® XT MMS G and Z series UPS systems are modular and capable of multiple redundancy levels (N+1, N+2,...). Customers may readily expand their systems in line with their own growth needs by adding further modules over time. Each system consists of an input/output cabinet (IOC), a system cabinet (SC) and the ability to connect up to four 225kW modules with built in wireway. In total, 8 modules can operate in a single system, providing up to 1800kW of high efficiency, batteryfree UPS power.

- CLEANSOURCE® XT MMS G Series UPS can be configured up to 450kW N+1
- CLEANSOURCE® XT MMS Z Series UPS can be configured up to 1800kW

CleanSource XT MMS Product Line: XT G-Series (225-450kW) and XT Z-Series (225-1800kW)

MODEL	XT225iG	XT450iG	XT225iZ	XT450iZ	XT675iZ	XT900iZ
<b>RATING</b>						
Maximum kVA	250	500	250	500	750	1000
Maximum kW	225	450	225	450	675	900
<b>INPUT</b>						
Voltage <sup>1</sup>	380/400/415 VAC 3-phase, 4-wire plus ground					
Voltage Range	+10% / -15% (programmable)					
Frequency	50/60 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	<8% at 100% load				
Current - Nominal (380 VAC)	356A	712A	356A	712A	1068A	1423A
Current - Nominal (400 VAC)	338A	676A	338A	676A	1014A	1352A
Current - Nominal (415 VAC)	326A	652A	326A	652A	978A	1303A
Current - Max. Continuous	400A	800A	400A	800A	1200A	1600A
Current - Max. Non-Continuous	420A	840A	420A	840A	1260A	1680A
Surge Withstand	Meets IEEE 587/ANSI C62.41					
Walk-In	1 to 15 seconds (programmable)					
<b>OUTPUT</b>						
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>2</sup>	<1% linear loads and <5% for 100% non-linear loads					
Frequency	50/60Hz (mains synchronized) (normal operation +/- 0.2% free running)					
Slew Rate	Adjustable from 0.2Hz/second to 3.0Hz/second					
Current - Nominal (480 VAC)	380A	760A	380A	760A	1140A	1519A
Current - Nominal (400 VAC)	361A	722A	361A	722A	1083A	1443A
Current - Nominal (415 VAC)	348A	696A	348A	696A	1043A	1391A
Overload Capability-Mains Operation	Cont. 10 min 5 min 1 min 10s 1md. 105% <110% <125% <150% <200% >200%					
UPS Efficiency - Online	97%					
<b>ENERGY STORAGE</b>						
Type	Integrated Steel Flywheel spinning at 10,000 RPM					
Flywheel Runtime (% Load)	100% 75% 50% 25% 27s 36s 52s 94s					
Flywheel Recharge Time <sup>3</sup>	< 3 min (nominal) at 65 kW					
<b>GENERAL</b>						
Internal Maintenance Bypass Panel	Yes (optional)			No (external only)		
N+1 Redundant Module	Yes (optional)			Yes (optional)		
QSHPD Seismic Rated	Consult factory			Consult factory		
<b>ENVIRONMENTAL</b>						
Audible Noise	<80 dBA at 1 meter					
Operating Temperature	32 to 104°F (0 to 40°C)					
Storage Temperature	-13 to 158°F (-25 to 70°C)					
Humidity	5% to 95% (non-condensing)					
Altitude	Up to 3,000 feet (914m) / 1.2 C derating for every 1000ft above 3000ft					
Emissions and Immunity	FCC Clas A, EN 62040-2					
Heat Rejection - Online	6.9kW / 23,558BTU/Hr	13.9kW / 47,457BTU/Hr	6.9kW / 23,558BTU/Hr	13.9kW / 47,457BTU/Hr	20.8kW / 71,014BTU/Hr	27.8kW / 94,913BTU/Hr
<b>PHYSICAL DATA</b>						
Height	78.0in / 1,981mm Excl. Wireway. 96.0in / 2,438mm Inc. Wireway					
Width	127.0 in / 3,226 mm	170.0 in / 4,318 mm	127.0 in / 3,226 mm	170 in / 4,318 mm	213.0 in / 5,410 mm	156.0 in / 6,502 mm
Depth	34.0 in / 865 mm	34.0 in / 865 mm	34.0 in / 865 mm	34.0 in / 865 mm	34.0 in / 865 mm	34.0 in / 865 mm
Weight	6,375lbs / 2,892 kg	10,875 lbs / 4,933 kg	6,750 lbs / 3,063 kg	11,250 lbs / 5,103 kg	15,750 lbs / 7,144 kg	20,250 lbs / 9185 kg
Cable Entry	Top or Bottom					
Safety	EN 62040-1					

<sup>1</sup> From grounded WYE source.  
<sup>2</sup> EN 62040-3.  
<sup>3</sup> kW recharge value is per flywheel  
<sup>4</sup> +/-10% AT 380 VAC



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

