



## **CLEANSOURCE® XT MMS UPS MODULAR UPS SYSTEMS**

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50Hz | 380/400/415V | FLYWHEEL TECHNOLOGY

G-SERIES 225kW TO 450kW | Z-SERIES 225kW TO 1800kW



# CLEANSOURCE® XT MMS MODULAR UPS SYSTEMS

## Overview

CLEANSOURCE® XT MMS Modular UPS System offers a wide range of modular and redundant back-up 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.

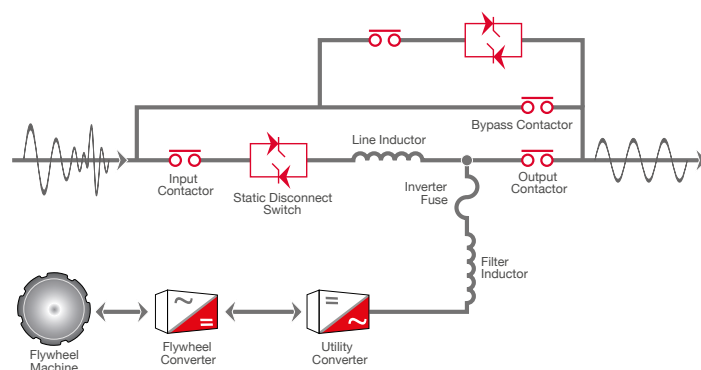
This field-proven technology is based on a highly fault tolerant IGBT architecture designed to protect all critical loads, such as data centers, industrial processes and health care applications. Stored energy will provide ride-through up to 2 minutes depending upon configuration, making the CLEANSOURCE® XT MMS a clear alternative to modular static UPS systems reliant on battery storage.

The CLEANSOURCE® 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.

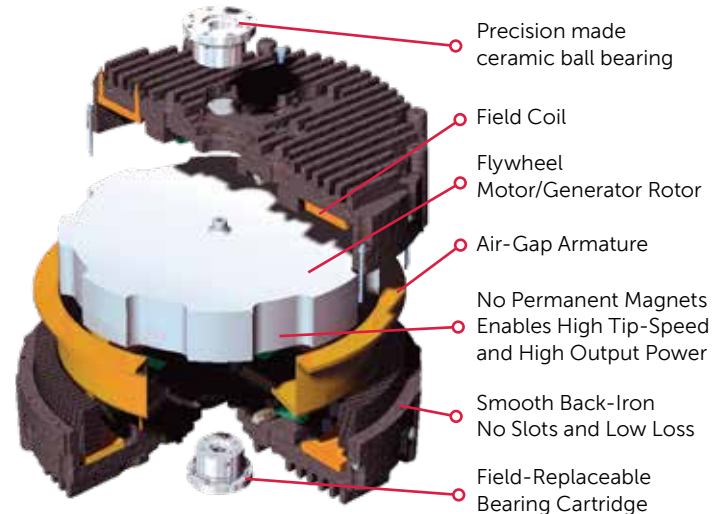
## Parallel Online Architecture

The CLEANSOURCE® XT MMS 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.



## FLYWHEEL TECHNOLOGY



- ▶ STORES 6.2 MJ OF ENERGY
- ▶ UP TO 2 MINS. OF RUN-TIME (LOAD DEPENDENT)
- ▶ WIDE 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
- ⦿ FIELD EXPANDABLE
- ⦿ REDUNDANT FANS AND CONTROL POWER UNITS
- ⦿ LOWER COOLING REQUIREMENTS
- ⦿ LOWER MAINTENANCE AND SERVICE
- ⦿ COST-EFFECTIVE INSTALLATION
- ⦿ COLOUR 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



# PRODUCT SPECIFICATIONS

MODEL	XT 225 G	XT 450 G	XT 225 G	XT 450 Z	XT 675 Z	XT 900 Z		
<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 <sup>2</sup>	+10% / -15% (programmable)							
Frequency	50/60 Hz +/- 10% maximum (programmable) +/- 3% (default)							
Power Factor	0.99 at rated load and nominal voltage							
Harmonic Current	Linear load	<2% at 100% load						
Distortion	Non-linear <sup>3</sup>	<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>3</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 (380 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. 105%	10 min <110%	5 min <125%	1 min <150%	10s <200%	lmd. >200%
Efficiency – Energy Storage Online	97%							
<b>ENERGY STORAGE</b>								
Type	Integrated Steel Flywheel spinning at 10,000RPM							
Flywheel Run Time (% Load)			100% 27s	75% 36s	50% 52s	25% 94s		
Flywheel Recharge Time <sup>4</sup>	< 3 min (nominal) at 65kW							
<b>GENERAL</b>								
Internal Maintenance Bypass Panel	Yes (optional)			No (external only)				
N+1 Redundant Module	Yes (optional)							
OSHPD Seismic Rated	Consult factory							
<b>ENVIRONMENTAL</b>								
Audible Noise	<80 dBA at 1 metre							
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 3,000ft (914m)/ 1.2°C derating for every 1,000ft (304m) above 3,000ft (914m)							
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	127.0in/3,226mm	170in/4,318mm	127.0 in / 3,226 mm	170 in / 4,318 mm	213.0 in / 5,410 mm	156.0 in / 6,502 mm		
Depth	34.0in/865mm	34.0in/865mm	34.0in/865mm	34.0in/865mm	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 / 9,185 kg		
Cable Entry	Top or Bottom							
Safety	EN 62040-1							

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

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

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

<sup>4</sup> kW recharge value is per flywheel.



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