

# Power Systems & Controls

## Series XC -- Hybrid Rotary UPS



The Series XC Hybrid UPS combines the best features of rotary and static power systems into the ultimate in power protection. The Series XC provides from 250 to 2000 kVA of

clean, conditioned, uninterruptible power for critical loads such as data centers, emergency facilities, and industrial enterprises. The Series XC's motor-generator set absorbs load harmonics and produces a pure sine-wave output, ideal for any critical load. The Series XC's modular

construction and functional groupings within the cabinets conserve space and enhance maintenance accessibility. The superior reliability of the Series XC significantly reduces the cost of ownership and eliminates costly power disturbances. By operating the rectifier/charger and inverter in series as the primary power path, the Series XC UPS is continuously testing its most critical components under actual operating conditions 24 x 7. There is no delay, no transients, no question when the utility source fails; transfer to battery and the alternate AC source is seamless. The reliability of those components to perform in a power outage is constantly being verified.

### Standard Equipment Features

- Intelligent Programmable Logic Control (PLC)
- M-G status--Bearings/Windings
- Synchronous Motor
- Synchronous Generator
- Fully automated mode selection--Full UPS, Rotating Filter Power Conditioner, System bypass
- Synchronized mode initiated without load disruption
- Four line digital alphanumeric display or touch screen interface
- Silver-plated copper bus
- M-G output filter more reliable than LC filter
- Inherent by the M-G, protection against lightning & eliminates EMI
- Low maintenance, long life design
- No air conditioning required
- Audible fault alarm and lights
- System breakers electrically operated
- Superior motor starting capability
- Input THD filter meets IEEE 519
- Overload protection
- Two Stage Input current limit and battery current limit for maintenance-free battery
- Direct battery-inverter connection for seamless transition to battery power
- Clear faults in the load without bypass

### Optional Features

- Split input/output voltage
- Sound attenuation to 75 decibels
- Back-up diesel generator with transfer switch (ATS)
- Remote monitor (Status)
- Remote touch screen (Standard & Fiber)
- Parallel capability
- "Ring Bus" configuration to 10MVA
- "Turn-key" Installation
- Maintenance bypass
- Remote communications

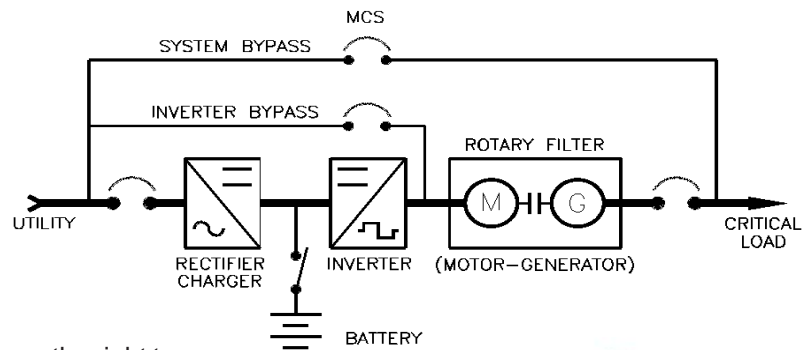
# System Specifications

\*Note: System performance shown is typical and is dependent upon M-G sizing, options desired, and loading of the system.

INPUT		OUTPUT	
Nominal Voltage Available		Nominal Voltage Available	
➤ @ 60 Hz	208, 240, 480, 600	➤ @ 60 Hz	208, 240, 480, 600
➤ @ 50 Hz	380, 415	➤ @ 50 Hz	380, 415
➤ Phase	3 Phase 4 Wire + Ground	➤ Phase	3 Phase 4 Wire + Ground
➤ Frequency Tolerance	59.5 Hz to 60.5 Hz	➤ Frequency Regulation	± 0.8%
➤ Magnitude Tolerance		➤ Adjustment	± 10%
➤ Continuous	+10%, -10%	➤ Regulation	
➤ Transient	1500v for 1 ms	➤ Transients	50% Block Load +/-8%
		➤ Recovery Time	0.5 within 0.5 seconds
➤ Starting Inrush	0.5 x input kVa	➤ Steady State	+/-0.5% Δ 72° F
Battery		THD (Total Harmonic Distortion)	
➤ Type	Sealed, low maintenance, others optional	➤ Single	3% Max
➤ Number of Cells	240 nominally	➤ Total	5% Max
➤ Float Voltage	2.25 Volts/Cell + 0.05 Volts/Cell	Phase Separation	
➤ Equalize	1.06 x Float Voltage	➤ Balanced Load	120° +/- 1°
		➤ 25% Unbalance	120° +/- 3°
		Overload Capacity	
		➤ 100% Rating	Continuous
		➤ 110%	2 Hours
		➤ 125%	10 Minutes
		➤ 150%	2 Minutes
		➤ Power Factor	0.8
<b>ENVIRONMENT</b>			
		➤ Temperature	32° to 104° F (0° to 40° C)
		➤ Altitude	( 0 to 1000 meters ) 0 to 3300 FT
		➤ Humidity	0 to 95% non-condensing
		➤ Noise Level	( 1.5 meters ) 5 FT
		➤ Console	65 dBA
		➤ Open MG	90 dBA
		➤ Enclosed MG	75 dBA

SERIES XC CONSOLE DIMENSIONS & WEIGHTS				
KVA/KW	H (CM)	W (CM)	D (CM)	W (KGS)
250/200	76 (193)	120 (305)	40 (102)	3500 (1588)
313/250	76 (193)	120 (305)	40 (102)	3500 (1588)
375/300	76 (193)	132 (335)	40 (102)	4800 (2177)
438/350	76 (193)	132 (335)	40 (102)	4800 (2177)
500/400	76 (193)	132 (335)	40 (102)	4800 (2177)
625/500	76 (193)	132 (335)	40 (102)	4800 (2177)
750/600	76 (193)	132 (335)	40 (102)	4800 (2177)
875/700	76 (193)	192 (488)	40 (102)	7130 (3234)
1000/800	76 (193)	192 (488)	40 (102)	7130 (3234)
1250/1000	76 (193)	192 (488)	40 (102)	7130 (3234)
1400/1120	76 (193)	192 (488)	40 (102)	9030 (4095)
1500/1200	76 (193)	192 (488)	40 (102)	9030 (4095)
Motor - Generator Dimensions dependent upon Horizontal or Vertical Configuration				
Battery Cabinet Dimensions = Consult Factory				



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**& CONTROLS**  
**THE POWER IS ON!**