







Modular design with N+X redundancy, online hot-swappable.

Green and energy saving UPS: AC/AC efficiency>96%, input power factor>0.99 while input THDi <3%.

Full DSP control for high stability, reliability and safety and integrated IGBT module with improved performance and reduced size.

Self-Aging mode for full load test with less than 10% of the total power capacity needed.

Optimized battery management for intelligent control of charging and discharging process, effectively improving battery life.

Battery cold start, UPS can be powered on from the battery without

Automatic recording of critical events for easy fault diagnosis and trouble shooting.

Lifecycle Monitoring of critical components, such as fans and capacitors, settable alarm for service period.

Programmable dry contacts, the function of each port can be defined by users.

Compact design: upto 600kVA in one cabinet, footprint less than 1.45m², saving valuable room space

High scalability: The system can be configured from 30kVA to 600kVA in one single cabinet, 4 units in parallel for a capacity up to 2400kVA

High efficiency: Advanced 3-level technology guarantees high efficiency operating in double conversion mode up to 96%

Intelligent charging management: The system intelligently control the whole process of the charging and discharging, effectively improve the life time of the battery.

High power density: High power density of upto 600KVA in one single cabinet with 30KVA power module with only 3U height and 50kVA power module in 4 U height, easy for capacity expansion Friendly HMI: 10.4" touch color LCD with graphic display, independent LCD for each power module (30 KVA and 50 KVA Modules) Smart sleep function: System can intelligently shutdown some power modules to increase total load rate, achieving higher effi-

Multi communication interface: Provide RS232, RS485, USB, SNMP, AS400 and programmable dry contacts with software NetAgent. Compatible with Virtualisation platform









ciency









MOD5T SERIES MODULAR UPS

The Mod5T UPS is a truly modular and hot swappable system designed and developed with the most advanced technology to have the best in class performance and reliability.

Designed with hot swappable power modules, system level static bypass module and with inbuilt manual bypass switch with special attention to avoid single point of failures in the system. Each module has its own controller which eliminates the need of a common controller.

The Mod5T series modular UPS provides the most compact footprint of less than 2m with maximum capacity of 2400kVA.

Mod5T series is considered to be the best power protection solution for large data centers, as well as for sensitive electronics.





CENTRALISED + MODULE LEVEL LCD DISPLAY

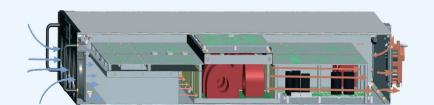
Besides each Modular Frame having a large 10" comprehensive graphical colour touchscren LCD display on the main control panel, there is an Independent LCD for Each Power Module

Each power module has an independent LCD, gives users' direct overview of status, data and alarms in real time.

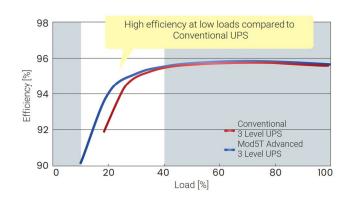
ISOLATED AIRFLOW

The dedicated and redundant hot-swappable power modules has an unique hardware design. In this design, the PCB boards and heat-sinks are in two completely different sections, which allows the UPS to run in dusty environments, significantly improving its stability and environmental adaptability.

- Cooling air flows in the lower layer, keeping the upper PCB free of dust
- One air flow channel ensures fans redundancy. Power module can run normally even if one fan fails.



EFFICIENCY CHART



ENERGY EFFICIENT UPS SYSTEM

The Mod5T is an online double conversion UPS fully meeting the requirements of IEC62040-3.

The Eco mode operation of Mod5T UPS guarantees an overall AC-AC efficiency of 99%. The online double conversion mode of operation has an overall efficiency of upto 96%, offering one of the highest efficiency for Modular UPS systems.

ENERGY EFFICIENT UPS SYSTEM

The Mod5T UPS also has an advanced energy saver mode of active hibernation which allows the unused UPS modules to go into sleep mode to improve the efficiency of the UPS at light load conditions.

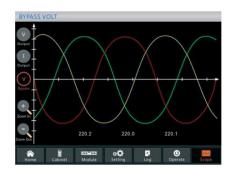


45.0 / 40.0 / 45.0

INTUITIVE AND USER FRIENDLY DISPLAY

- The Mod5T UPS Provides graphical and text based information of alarms, status data, instructions that users can have more friendly and safer operation.
- Easy to Install: The power modules of Mod5T UPS are designed with auto configuration function. Once the module is inserted into the slot, the module switches on automatically without any manual intervention. Mod5T UPS is suitable for both top and bottom cable entry without the need for additional cable entry cabinet.

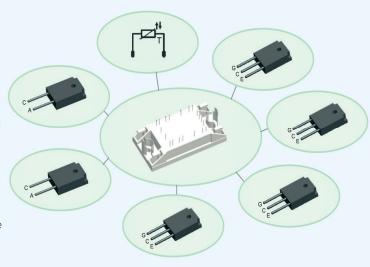




UNIQUE DESIGN FOR HIGH RELIABILITY

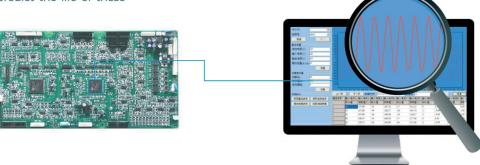
Instead of discrete IGBT and SCR components, Mod5T series UPS uses modular IGBT and SCR in Rectifier and Inverter, bringing in extremely high reliability.

- Cooling air flows in the lower layer, keeping the upper PCB free of dust
- One air flow channel ensures fans redundancy, even one fan fails, power module can run normally
- All components in one module, less fault points, higher reliability
- All components integrated as one modular design, smaller dis parity
- Less space needed, UPS with compact design and higher power design
- Integrated inner thermal sensors display IGBT inner temperature directly



INTUITIVE AND USER FRIENDLY DISPLAY

- The Mod5T UPS has been designed with special software programming which allows the system to record and store the output waveforms in the event of failure. This allows for easy troubleshooting of the causes of the failures and to avoid similar faults in the future.
- Life cycle monitoring of critical components like fan, capactiors,battery helps the UPS to predict the life of these components.





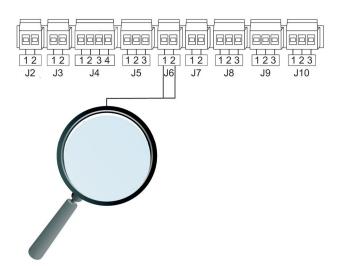
COMREHENSIVE MONITORING MANAGEMENT

- In each power module, information of critical components is monitored and displayed in real time, giving customers a view of inner status of the system and providing reminder information for maintenance.
- Maintenance reminder, running time of capacitors and fans displayed and recorded
- Comprehensive temperature monitoring for thermal abnormal detection
- Intelligent battery charger for long battery life



Hot swappable power module and bypass & monitoring module Bypass & Monitoring module Additional charging module, extra charging current 50A×N for long time back up application

Power module



PROGRAMMABLE DRY CONTACTS

Programmable dry contacts are available in all MOD5T RM and ARENA series UPS.

Customers can easily expand or modify the definition of each port.

Abundant options with three inputs and four outputs, all programmable

Easy setting, just pull the drop-down menu and set Compatible with all the Mod5T and ARENA Series UPS



HIGH DENSITY, MODULAR, SCALABLE ARCHITECTURE

High power density, footprint for 300 kVA is 0.66m^2 , power density 409kW/m^2 , saving valuable data center space Scalable from 30 kVA to 2400 kVA, max 80 power modules in parallel

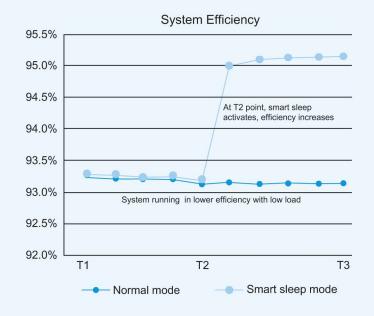




Modularity and Scalability

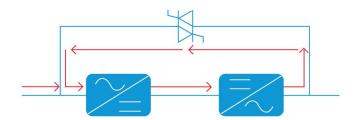
The widest range of configurations for medium-sized power solutions. Vertical scalability up to 180 KVA/300KVA/600 KVA per cabinet through wide range of configurations in cabinets of 6, 10, or 20 modules, enabling configurations from 180 KVA to 600 KVA in a single cabinet.

Horizontal scalability up to 2400 KVA per system by using cabinets in parallel with configurations from 4×180 KVA (720 KVA) to 4×600 KVA (2400 KVA). More power and flexibility for medium-sized facilities with the need for growth or high power.



SMART SLEEP

- Smart Sleep function can intelligently make some power modules go to sleep when load is relatively low, improving the efficiency of the remaining power modules and saving customers on power and cooling costs.
- Improving efficiency, reducing power and cooling costs
- Easy setting with just two steps. Customers can select sleep mode and rotation period
- Power modules working in rotation, prolong the life time



SELF AGING - EASY LOAD TEST

- Self-aging is an advanced function applied in all three phase UPS where the System can perform a full load test without the connection of a load bank, processing power in a re-circulating fashion, using its own rectifiers and inverters as an internal load bank, generating significant savings in cost, time, coordination and power.
- Self-aging function can test UPS under different loading situation without load bank, saving more than 90% of energy.
- Can Simulate different load conditions without connecting to any real load, saving 90% of energy



TECHNICAL SPECIFICATIONS - MOD5T SERIES UPS

Model	MOD5T600/30X MOD5T400/20X	MOD5T500/50X MOD5T400/40X MOD5T300/30X MOD5T200/20X	MOD5T300/50X MOD5T240/40X MOD5T180/30X MOD5T120/20X	MOD5T200/50X MOD5T160/40X MOD5T120/30X MOD5T80/20X		
UPS Capacity (max)	600 KVA/600 KW 400 KVA/400 KW	500 KVA/500 KW 400 KVA/400 KW 300 KVA/300 KW 200 KVA/200 KW	300 KVA/300 KW 240 KVA/240 KW 180 KVA/180 KW 120 KVA/120 KW	200 KVA/200 KW 160 KVA/160 KW 120 KVA/120 KW 80 KVA/80 KW		
Max no of modules	20	10	06	04		
Grid System	3 Phases + Neutral + Gro	ound				
Parallel Capability	Upto 04 UPS Frames in	Parallel Redundant Confi	guration (Horizontal Expa	nsion)		
INPUT						
Nominal Voltage	380VAC/ 400VAC/415VA					
Input Voltage Range	304~478Vac (Line-Line),full load; 220V~304Vac (Line-Line), load dependent					
Input Frequency Range	40Hz~70Hz (compatib	le with generators)				
Input PF & THDi	> 0.99 pf and <3% THDi	@100% load				
BYPASS						
Rated Bypass Voltage		380/400/415VAC (Line-Line)				
Rated Frequency	50/60Hz					
Bypass Overload	110% Long term operati	on; 110%~125% for 5min; 12	5%~150% for 1min;			
OUTPUT	, .					
Rated Voltage	380/400/415VAC (Line-L	ine)				
Output AC Voltage Regulation (Static)	± 1%					
Output AC Voltage Regulation (Dynamic)	± 2% (step-load change 0-100%) and recovery to steady state within 1 Cycle (<20 msec)					
Rated Frequency	50/60Hz 50 Hz ± 0.05 Hz with Slew Rate of < 1Hz/sec (Free Run); 46-54Hz (Synchronized);					
Output Frequency Range		w Rate of < 1Hz/sec (Free	Run); 46-54Hz (Synchroniz	zed);		
Output Power Factor	1		150/511500 (0.7			
Output Voltage THDu	<1% (linear load); <4% (non-linear load) according to IEC/EN62040-3					
Current Crest Ratio	3:1 (min.)					
Overload	110%, 60min; 125%,10min; 150%,1min; >150%,200ms					
Efficiency BATTERY	AC-AC: ≥96%; ECO Mod	de Operation>99%				
Battery Rate Voltage	±240VDC standard; ±192	2 V/DC to +264 V/DC				
Battery Number	40pcs (Settable: even n					
Battery Cold Start	Standard	umber morn 32 to 44)				
Battery Cold Start		rent equivalent to 10% o	f Battery AH rating: up t	o 20% of Output activ		
Charging Current	Standard Charging current equivalent to 10% of Battery AH rating; up to 20% of Output active power					
Battery Charger Type	Constant Voltage - Constant Current Solid State charger					
Smart Charging Module	Additional 50 Amps rack-mounted current charging module with Modular and hot-swappablesign, (3U) to provide additional battery charging current for larger battery bank (extended bacup time)					
Typical Recharging Time	6~10 hours recover to 90	0% capacity				
PROTECTION		5				
Protection	Battery Over Voltage/Under Voltage, Output AC Over/Under Voltage, Input Over/Under Voltage Bypass abnormal Output Overload, Short Circuit, Over Temperature, Battery Deep Discharge, IP2 (IP 21 optional), Breakers (Input, Bypass, Output)					
Reliability	MTBF ≥100,000 hours; [OC bus capacitors ≥5 years	' life-cycle.			
Self-Diagnosis	UPS carries out self-test of Rectifier, Charger, Batteries & Inverter sections during start-up.					
Cold Start	UPS can start up On Batteries without AC Supply (Mains)					
Auto-Restart	UPS can automatically start after restoration of AC power following shutdown due to low batter (end of discharge) condition due to failure of the AC input power for an extended period					
USER INTERFACE						
LCD Display	Graphical Colour 10" touch screen LCD Screen for Comprehensive display of UPS status Measurements, Settings and Fault conditions					
Measurements (On LCD)	Input: Voltage & Frequency, Bypass: Voltage & Frequency, Output: Voltage & frequency, Batter Remaining time, Battery Level Indicator, Load Level Indicator, Battery Status/Test-Result, Syster Date/Time Setting, Current Time, Individual Power Module status, UPS and Module Identificatio (with Serial No.), Temperature, Charging current, Current & Historical Events, Output Breake On/Off, Output kVA, kW, Active power (KW), reactive power (KVAR), Output current, Batter voltage [positive and negative], Battery currents [positive and negative], DC bus voltages [positive and negative], Fan operating time, Operating time of DC capacitors, Inlet air temperature, Outpu air temperature, Rectifier IGBT temperatures, Inverter IGBT temperature					
Fault Indication (On LCD)	Main Input Fault, Power Module General Fault, Battery Fault, Bypass Static Switch Fault, Paralle Fault, System General Fault, Over Load Fault, Over Temperature, CAN Fault, Line SCR Fail, Bypass Temperature Fault, Bypass SCR Fault, Battery Open, Battery voltage High, Module Un-Lock, Far Lock, Line Phase Error, Bypass Phase Error, Redundancy Fail, Parallel System Configuration Error End of Life alert for Batteries, DC capacitors, Cooling Fans					



TECHNICAL SPECIFICATIONS - MOD5T SERIES UPS



Event Logs	≥ 500 event logs	≥ 500 event logs					
Indicators /Alarm	UPS On/Off/Mains/Bati Low, Shutdown	UPS On/Off/Mains/Battery/Bypass, Mimic display, Short Circuit/DC Fault(trip), Overload, Battery					
Bypass	Automatic & Bi-directic	Automatic & Bi-directional static by- pass (In-built) and Maintenance Bypass					
REPO	Remote Emergency Po	Remote Emergency Power OFF to shutdown UPS when emergency situation happens.					
IP Class	IP 20	IP 20					
MANAGEMENT							
Interface	RS232,RS485, Programi	RS232,RS485, Programmable Dry Contact, USB					
SNMP	Power management f Monitoring	Power management from SNMP manager and web browser, ModBus, AS 400, Environmen Monitoring					
Option	SNMP Card, Parallel kit	SNMP Card, Parallel kit, SPD, LBS, Dust filter, Expansion dry contact card					
ENVIRONMENT							
Temperature	Operation: 0 - 40 °C Sto	Operation: 0 - 40 °C Storage: -40 - 70 °C					
Relative Humidity	0 95% Non-condensing	0 95% Non-condensing					
Altitude	<1000m. Within 1000m	<1000m. Within 1000m to 2000m, power derate 1% for every 100m.					
Operation Temperature	0 ~ 40 °C	0 ~ 40 ℃					
Relative Humidity	0 \sim 95% (Non condens	$0\sim95\%$ (Non condensing)					
Noise (1 meter)	72dB @ 100% load, 68dB @ 45% load	72dB @ 100% load, 65dB @ 100% load,					
Altitude		Upto 1000m (3300 feet) without derating					
PHYSICAL							
Module Dimension W*D*H (mm) & Module Weight (kg)		510*700*178 (50/40 KW) 35 Kgs		460*790*134 (30/20 KW) 28 Kgs			
Cabinet Dimension W*D*H (mm)	2000*1050*2000 (30x module)	1300*1100*2000 (50x module) 600*1100*2000 (30x module)	650*1095*2000 (50x module) 600*1100*1600 (30x module)	650*960*1600 (50x module) 600*1100*1600 (30x module)			
Cabinet Weigh (kg)	660 (30x module)	450 (50x module) 242 (30x module)	220 (50x module) 178 (30x Module)	170 (50x module) 165 (30x Module)			
STANDARDS							
Certifications		ISO 9001, ISO 14001, ISO 45001, ISO 50001, CE, RoHS					
Safety		IEC 62040-1					
EMC		IEC 62040-2					
Performance		IEC 62040-3					

POWER MANAGEMENT & COMMUNICATION OPTIONS

NetAgent - UPS Management Software

NetAgent is an advanced UPS management software that is designed for users to remotely monitor and manage multiple UPS units in a networked environment, either by LAN or INTERNET. The software is able to protect your important data by executing a safety OS shutdown during power failure. Better yet, this software gives users the ability to store programming data and also scheduled a UPS shutdown when necessary:

- Allows control and monitoring of multiple UPSs via LAN and INTERNET
- User-friendly power analysis graphs
- Real-time dynamic graphs of UPS data
- Safety OS shutdown to prevent data losses during power failure
- Warning notications via audible alarm, broadcast, mobile messenger, and e-mail
- Scheduled UPS on/off, battery test, programmable outlet control, and audible alarm control
- Password security protection and remote access management













DATACENTRES



INDUSTRIAL







SMART EDUCATION



TELECOM



MEDIA



AVIATION



FINANCE





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