



CM SERIES INTELLIGENT MODULAR UPS



**120KVA-500KVA
UPS**

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CM SERIES INTELLIGENT MODULAR UPS

- This series modular UPS is a green environmental protection, high efficiency and energy saving, high reliability of UPS which specially developed by CSMD, the system adopt the most advanced technology in the field of power electronics and automatic control, with its 10 patents, realize the modular design, support online hot-swap function, make the investment planning implementation on demand, dynamic growth, not only reduce the initial acquisition cost, but also meet the late on- demand expansion of equipment, widely used in government, education, finance, securities, taxation, telecommunications, transportation, medical, server room, data center, etc. (add: outside view)



**WHY CHOOSE US?
WHAT CAN WE DO FOR YOU?
WHAT DO WE OFFER?**

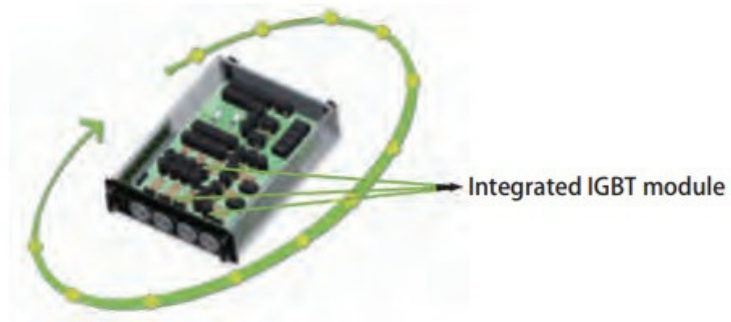


CM Series Intelligent Modular UPS

CM SERIES INTELLIGENT MODULAR UPS

World-leading IGBT Integrated Module Technology

- Power convert unit, adopt integrated IGBT template, system's reliability is greatly improved compared to discrete devices, consistency of manufacturing processes is ensured, thus the quality of the product is greatly improved.



Composition Module



CM SERIES INTELLIGENT MODULAR UPS

• Comparison Between Tower UPS and Modular UPS

	Detail	Tower UPS	Modular UPS
Equipment	UPS Host	The machine designer redundant power, cost of medium	Small module weaver redundant power, cost of medium
	Battery	Very few claims that can be shared, configuration is higher	Low cost of part can share, flexible configuration
	Investment Evaluation	★★★★	★★★★★
Installation and Transportation	Size and Weight	Big, leasing, the high cost of bearing parts	Small
	Handling	Sometimes you need to change room construction, the high cost	Ark, points module can transport
	Dilatation	The basic equal to demolish rebuild, the high cost	Easy expansion, investment by installments
	Investment Evaluation	★★★	★★★★★
Operating	Efficiency	85% ~ 94%	94% ~ 96%
	Investment Evaluation	★★★	★★★★★
Maintenance	Maintenance	Need dismantle the cable and the internal structure, the high cost of maintenance; class module type removable modules maintenance.	Power module online hot-swap replacement, low maintenance cost
	Investment Evaluation	★★★	★★★★★
Overall Investment Evaluation		★★★☆☆	★★★★★☆☆

• Comparison Between Tower UPS And Modular UPS Reliability

	Detail	Tower UPS	Modular UPS
Parallel Network Reliability	Hardware Design	Power controller integrated weaver control	Power controller + parallel controller
	Logic Design	master-slave competition redundancy, complex logic	Master-slave competition
	Communication	Single CAN or double CAN	Single CAN or double CAN
	Reliability Evaluation	★★★★	★★★★★
Power Unit Reliability	Voltage Loop	Independent control	Independent control
	Electric Current Loop	Analog / Digital control	All-digital control
	Device Level Reliability	Less redundant	Part of the redundancy
	Reliability Evaluation	★★★	★★★★★
Bypass Unit Reliability	Parallel Bypass	Dispersible bypass	Rack weaver: concentrated bypass Frame between the weaver: scattered bypass
	Reliability Evaluation	★★★★	★★★★★
Power Unit Failure Influence	Range	Bad one unit is missing, the whole system power loss	Bad a module affects only a single module, small power loss
	Reliability Evaluation	★★★★	★★★★★
Overall Reliability Evaluation		★★★☆☆	★★★★★☆☆

CM SERIES INTELLIGENT MODULAR UPS

Energy-Saving Environment Protection

CM Series Modular UPS input power factor is above 0.99, reduce the line loss, improve the utilization rate of power supply, high efficiency of the machine reduce the loss, save electricity, implement green energy saving; meanwhile the total harmonic $<3\%$ the grid harmonic interference reduce to a minimum, effectively reduce the network load and power loss is the ideal environmental protection type efficient UPS.

Easy to use, Easy maintenance

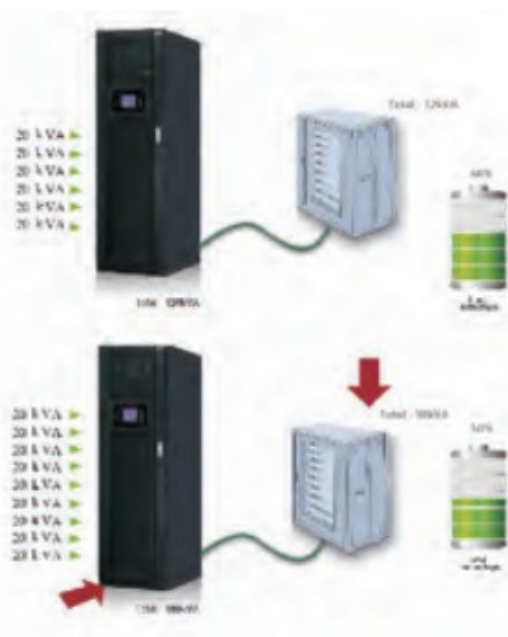
- CM Series Modular UPS adopt large Touch Screen, LCD+LED Display, friendly man-machine interface, use very convenient; the whole system is composed of each module, support hot-swap function, easy to later expansion for users, which can realize the online replacement, online maintenance, reduce the difficulty of maintenance, reduce the maintenance time.

Capability Flexible Configuration

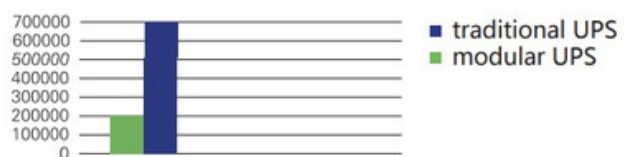
- CM Series Modular UPS System adopt the modular design, online hot-swap support function, realize the online expansion, meet user later load increases the UPS equipment on the premise of ensuring high reliability, investment planning and implementation of demand, dynamic growth.

Supervisory Module

- Support Multiple Dry Contact Output;
- System Data acquisition completed by 32-bit DSP Processor;
- The working state of the machine for display, alarm and communications;
- Monitoring unit can provide RS232 and RS485 communication interface;
- Optional SNMP Network Adapter for Remote Network Monitoring;
- Operating interface using multiple key navigation form, make the operation.



Redundant High Reliability



CM SERIES INTELLIGENT MODULAR UPS

Parallel Technology

- CM Series Intelligent Modular UPS adopt one more mature parallel technique of synchronous “hot”, when two UPS when performing parallel operation, no need to get each other’s real-time parameters such as output power, phase, voltage, current, output, can achieve synchronization and divide the load current, output stability and high reliability.

Features

- Two UPS independent work, no subordination;
- Two UPS parallel, system capacity can reach 900KVA;
- Don’t need to signal the communication cable between two UPS, reduce the failure rate;
- When two UPS work bypass at the same time, can provide greater fault clearance ability;
- When a UPS failure occurs, another UPS charge to the failure UPS, ensure the full charge of the battery, ensure the grid after abnormal into battery backup time, realize the reliable UPS.

Power Module

- Power module adopt integrated encapsulation IGBT module rather than discrete device, relative to the separation of IGBT device, integrated encapsulation IGBT module has more current carrying capacity, less power consumption, effectively improve the efficiency and reliability of power module, the consistency of the manufacturing process at the same time greatly improving the product quality. Using discrete device for the design of power module, need multiple parallel IGBT device, at the same time to deal with the fly-wheel diode design and process problems to the system’s reliability and consistency of the production process are great risk; and integrated encapsulation of IGBT module has great electric current breaking capacity, without parallel can satisfy the demand of the power module, integrated packaging through the use of IGBT module, X7 series of modular products in the implementation of high efficiency, low power consumption at the same time, to ensure the high reliability of power module and system.

Features

- Each module can work independently;
- Each module are independent of the charging systems;
- Each module through the LED display the running state;
- Each module structure with high density compact design, save space.
- Each module are independent of Double DSP Digital Intelligent Controller;
- Each module adopts Double Conversion Design Online, ensure high quality output power;
- Each module can be online hot plug, easy maintenance, easy to use online;
- Free to choose the number of power module according to the need, support online capacity and save investment.

CM SERIES INTELLIGENT MODULAR UPS

CM Series High Power Modular UPS



- CM Series Intelligent Modular UPS was to meet Government, Education, Finance, Security, Taxation, Telecommunications, Transportation and other industries in the Power Modular UPS and tailored to the need of a series of products, Single Cabinet System can choose 1~10 sets of power module, the biggest can support to the 300KVA capacity; intelligent modular UPS in reducing main tenancy costs at the same time can provide higher efficiency, more flexible maneuverability, and better stability and reliability.

Smart Series Low Power Modular UPS



- CM SMART Series Intelligent Modular UPS is to meet the Government, Education, Finance, Security, Taxation, Telecommunication, Transportation and other industries of small and medium-sized power modular UPS and tailored to the needs of series of products, single cabinet system can choose 1~6 sets of power module, the biggest can support to the 180KVA capacity; CM SMART Series Intelligent Modular UPS in reducing maintenance costs at the same time can provide higher efficiency , more flexible maneuverability, and better stability and reliability.
- Single Cabinet System capacity with 60KVA, 90KVA, 120KVA, 150KVA, 180KVA power module has 10KVA, 15KVA, 20KVA, 25KVA, 30KVA five power, user can according to the size of the load, select the appropriate power module and quantity, optimal capacity matching

CM SERIES INTELLIGENT MODULAR UPS

CM Series High Power Modular UPS

- Green energy-saving power supply;
- The adaptive synchronization control technology;
- Online hot plug expansion;
- Excellent generator match performance;
- Support parallel sharing function of battery pack;
- Industry system the most perfect protection function;
- Perfect remote network management solution;
- All circuit boards are adopted three proofing process;
- Redundant intelligent speed fan, low noise, energy conservation;
- Can be close to other equipment installation, save floor space;
- Can begin battery DC (cold boot), convenient operation;
- Large screen touch screen man-machine interface, rich information;
- Fully digital modules in parallel technology, excellent circulation index;
- All the positive maintenance, support way up and down into the line, convenient user terminal;
- Super grid adaptability and load adaptability and strong load capacity;
- Rectifier, inverter, charge and discharge all realize DSP digital control;
- High density compact design, on the premise of guarantee high reliability, save space.
- Independent charging system, powerful ability of charging, intelligent complete battery management plan; System cabinet internal integrated distribution system, installation is convenient and save the user's investment;
- Adopt module integrated IGBT packages, greatly improve the reliability of the power module and system; Dual DSP controller of power module, power module independent control, no single point of failure risk; UPS system modular design, $N + X$ redundant reliability, long MTBF.

CM SERIES INTELLIGENT MODULAR UPS

• TECHNICAL DATA

Smart Modular UPS - Low Power

Model	System	CM-120/20	CM-150/25	CM-180/30
	Power Module	HM20	HM25	HM30
Capacity	System Power	120kVA	150kVA	180kVA
Main Line	Connection	Three-phase five-wire system		
	Rated Voltage	380/400/415VAC		
	Voltage Range	-40% TO +30%		
	Rated Frequency	50/60Hz		
	Frequency Range	40~70Hz		
	Current Harmonic Wave Distortion	THDI<3%		
	Input Power Factor	>0.99		
Bypass	Rated Voltage	380/400/415VAC		
	Voltage Range	20% to +15% (other value out of this range can be set)		
	Rated Frequency	50/60Hz		
	Frequency Range	±1Hz, ±3Hz, ±5Hz		
Battery	Battery Cells	40 batteries (32-44 optional)		
Output	Connection Method	Three-phase five-wire system		
	Rated Voltage	380/400/415VAC		
	Rated Frequency	50/60Hz		
	Voltage Accuracy	±1%		
	Frequency Accuracy	50/60Hz ± 0.01Hz		
	Voltage Harmonic Wave Distortion	<1% (Linear Load); <3% (Non-Linear Load)		
	Range of Frequency Synchro	±3Hz, ±0.5Hz to ±5Hz (other value out of this range can be set)		
	Peak Value	≥3:1		
	Three Phase Accuracy	<0.5°		
	Power Factor	1.0		
	Overload Capability	110%, switch to bypass after 3 hours; 125%, switch to bypass after 30 minutes; 150%, switch to bypass after 5 minutes		
Efficiency	City Electricity Mode	≥96%		
	Battery Mode	≥96%		
	ECO Mode	≥98%		
Machine System	Wire Connection Method	Support up and down connection		
	Protection Level	IP20/IP21 (Optional)		
	Panel Display	LCD+LED, super big colorful touch screen		
	Communication Interface	RS232, RS485, SNMP, EPO, generator interface		
Operation Environment	Running Temp	-10°C~40°C		
	Storage Temp	-25°C~70°C		
	Relative Humidity	0~95% (with no condensation)		
	Noise (dB)	<55dB	<65dB	
Weight (KG)	Cabinet	150	180	
	Power Module	22	32	16
Size (WxDxH) mm	Cabinet	600x900x1600		
	Power Module	440x590x134	460x790x134	

CM SERIES INTELLIGENT MODULAR UPS

• TECHNICAL DATA

Smart Modular UPS - High Power

Model	System	CM-200/20	CM-250/250	CM-300/30	CM-500/50
	Power Module	HM20	HM25	HM30	HM50
Capacity	System Power	200kVA	250kVA	300kVA	500kVA
Main Line	Connection	Three-phase five-wire system			
	Rated Voltage	380/400/415VAC			
	Voltage Range	-40% TO +30%			
	Rated Frequency	50/60Hz			
	Frequency Range	40~70Hz			
	Current Harmonic Wave Distortion	THDI<3%			
	Input Power Factor	>0.99			
Bypass	Rated Voltage	380/400/415VAC			
	Voltage Range	20% to +15% (other value out of this range can be set)			
	Rated Frequency	50/60Hz			
	Frequency Range	±1Hz, ±3Hz, ±5Hz			
Battery	Battery Cells	40 batteries (32-44 optional)			
Output	Connection Method	Three-phase five-wire system			
	Rated Voltage	380/400/415VAC			
	Rated Frequency	50/60Hz			
	Voltage Accuracy	±1%			
	Frequency Accuracy	50/60Hz ± 0.01Hz			
	Voltage Harmonic Wave Distortion	<1% (Linear Load); <3% (Non-Linear Load)			
	Range of Frequency Synchro	±3Hz, ±0.5Hz to ±5Hz (other value out of this range can be set)			
	Peak Value	≥3:1			
	Three Phase Accuracy	<0.5°			
	Power Factor	1.0			
	Overload Capability	110%, switch to bypass after 3 hours; 125%, switch to bypass after 30 minutes; 150%, switch to bypass after 5 minutes			
Efficiency	City Electricity Mode	≥96%			
	Battery Mode	≥96%			
	ECO Mode	≥98%			
Machine System	Wire Connection Method	Support up and down connection			
	Protection Level	IP20/IP21 (Optional)			
	Panel Display	LCD+LED, super big colorful touch screen			
	Communication Interface	RS232, RS485, SNMP, EPO, generator interface			
Operation Environment	Running Temp	-10°C~40°C			
	Storage Temp	-25°C~70°C			
	Relative Humidity	0~95% (with no condensation)			
	Noise (dB)	<55dB	<65dB		
Weight (KG)	Cabinet	180	245		470
	Power Module	22	32	36	45
Size (WxDxH) mm	Cabinet	600x900x2000	600x1100x2000		1300x1100x2000
	Power Module	440x590x134	460x790x134		510x700x178