MT Plus Series 300KVA modular UPS

(20-25-30KVA module)

1. Overview

MT Plus series is a modular 3/3 UPS power system, the product adopts modular design and N + X parallel redundancy technology, the product capacity covers 300KW of each power section, convenient for users to make flexible configuration and gradual investment. This series of UPS can almost completely solve all the power supply problems, such as power failure, mains high voltage, mains low voltage, voltage instantaneous drop, amplitude reduction oscillation, high voltage pulse, voltage fluctuation, surge voltage, harmonic distortion, clutter interference, frequency fluctuation and other power supply problems.

MT Plus series adopts the full digital control technology of dual DSP chip, modular array redundancy in parallel, can be 4 cabinets in parallel. And the input harmonic distortion THDI 3%, the whole machine efficiency AC~AC reaches 96%, it can be said that MT series products are a high reliable, high efficiency green power supply. At the same time, it has a strong remote monitoring and communication interface, which is very suitable for medium and large data centers, precision equipment, telecommunications industry use.

The MT Plus series covers a wide range, from computer devices to communication systems and automatic devices.

2. Function and Characteristic

◆ 3/3 system UPS

MT Plus series UPS is a high-power 3/3 UPS power system, the output can be connected to 100% unbalanced load, when the output is connected to the unbalanced load, the input current three-phase equilibrium, can balance the load of the three-phase power grid.

◆ digital control

Each part of the MT Plus series architecture adopts digital control, its performance indicators are very excellent, high system stability, self-protection and fault diagnosis ability, but also to avoid the risk of analog device failure, making the control system more stable and reliable.

◆ 19-inch standard cabinet

MT Plus series UPS power system uses 19 inch standard cabinet appearance, beautiful and generous, can perfectly match the room application environment, save the area of the room area.

◆ modular design

The MT Plus series UPS adopts a modular design with a module capacity of 20-25-30kW. The UPS system consists of 1 to 10 UPS modules in parallel with a maximum power of 300kW. Users can flexibly increase the number of UPS modules according to the gradual input of the load. Hot plug technology is adopted between the module and the cabinet, and the UPS module can be added and pulled out online to achieve "zero" maintenance time.

◆ high power density design

The height of the MT Plus series UPS single module is 86mm / 2U.

◆ N + X parallel redundancy

MT Plus series UPS adopts N + X parallel redundancy design, users can configure different degrees of redundancy according to the importance of load, when the number of redundant modules reaches more than two, the availability of UPS system reaches 99.999%, MTBF (average fault-free time) is more than 250,000 hours, can fully meet the high reliability requirements of key loads on the power supply system. The LCD can set the redundancy quantity of the UPS. When the load exceeds the redundancy setting, the UPS can alarm in time.

◆ parallel redundancy setting of elasticity

MT Plus series UPS can set the number of redundant UPS modules, UPS can provide maximum output. When the load exceeds the redundancy setting, the UPS works correctly and can warn accordingly, as long as the load does not exceed the total capacity of the module.

◆ control system in parallel redundancy

The MT Plus series UPS control mode is decentralized control and centralized management. Each module is independently controlled and operated by the centralized control unit. The centralized control unit is redundant and parallel. One of the failures does not affect the operation of the whole machine.

◆ optimized distribution sink cabinet

MT Plus series UPS improves the system layout of modular UPS, innovatively introduces the concept of distribution confluence, and ensures the security of parallel system.

◆ centralized bypass

MT Plus series modular UPS adopts centralized bypass power supply to improve the power supply capacity of bypass power supply.

◆ parallel machine shares the battery

The UPS module of MT Plus series UPS working in parallel can share the battery. The number of batteries is

not limited by the number of parallel machines, which greatly reduces the number of battery configurations. Users can configure the battery completely according to the backup time.

◆ external battery quantity optional (30-50 sections optional)

The number of external batteries working in MT Plus series UPS can be selected according to user needs: 30 / 32 / 34 / 36 / 38 / 40 / 42 / 44 / 46 / 48 / 50.

◆ charging current can be set

The MT Plus series UPS can set the user-configured battery capacity through the panel LCD to automatically allocate a reasonable charging current. The size of the charging current can also be set through the LCD of the panel to set the appropriate charging current required by the user. Constant voltage charging mode, constant current charging mode and floating charging mode can automatically smooth switching.

◆ intelligent charging mode

MT Plus series UPS adopts advanced two-stage three-stage charging method, the first stage high current constant current charge, fast recharge about 90%; the second phase constant voltage charging, can activate the battery characteristics and fully fill the battery; the third stage floating charging mode. This can well combine the goal of fast charging and extended battery life, saving user battery investment.

◆ system has a super-large LCD touch-screen display

MT Plus series UPS uses super large LCD touch screen display, Chinese and English dual languages for choice, providing rich UPS status information, warning information, fault information, etc. With the menu-style display mode, users can operate the LCD very intuitively.

◆ single-module LED display

The MT Plus series UPS single module uses the LED display, and the user can understand the working status of the module through the module LED lamp.

◆ intelligent monitoring function

When MT Plus series UPS has SNMP card, remote monitoring of UPS.

◆ small and medium power distribution systems can be constructed

This series of UPS provides a wealth of options, users can choose to install the isolation transformer, distribution panel, SNMP card, relay dry contact card and other accessories to form a small and medium-sized distribution system.

◆ easy to maintain

MT Plus series UPS provides maintenance bypass function, when an emergency occurs, can switch to maintenance bypass power supply, maintenance personnel can safely and online maintenance.

◆ downtime and maintenance time is short

If the number of faulty UPS modules is less than or equal to the number of redundant UPS modules, the faulty UPS modules can be replaced online without affecting the operation of other modules, and the shutdown time is zero; If the number of faulty UPS modules is greater than the number of redundant UPS modules, the shutdown time will not exceed 5 minutes by replacing UPS modules.

◆ centralized monitoring module

The MT Plus series provides a centralized monitoring module with a hot plug function, and the system can work normally when the monitoring module is pulled out.

◆EPO function

An emergency shutdown (EPO) button is embedded in the panel of MT Plus series monitoring unit for emergency shutdown by pressing EPO button in emergency; EPO button is protected and covered with transparent outer cover to avoid mis-operation; and has remote emergency shutdown (REPO) function.

3. Rich options

Various options: redundant cabinet card and communication cable, SNMP network adapter, etc.

4. Suitable for the load category

This series of products design application environment is medium and large key equipment system. Such as: medium and large data processing centers, key medical equipment, manufacturing control systems and telecommunications equipment industries Data center, communication room, network management center, financial center, securities trading, settlement center, bank data center, large theater, sports venues, traffic control center, highway, railway tunnel lighting and monitoring center, port, wharf information center, semiconductor production line, enterprise automatic production line and its control system, etc.

5. Technical parameters

5.1 30K module 90-300KVA

model		MT900L33	MT1500L33	MT1800L33	MT3000L33
Specified and capacity	Cabinet (VA / W)	30k-90k /	30k-150k /	30k-180k /	30k-300k /
	Module (VA / W)	30kva / 30kw			
	Maximum number of modules	3	5	6	10
INPUT					
main road import	Rated input voltage (Vac)	380/400/415			
	Input voltage range (Vac)	138～485Vac			
	Terminal system	3 Phase 4 Wires and Ground			
	Input frequency range (Hz)	40-70			

	Input power factor	≥0.99			
	Input current harmonics (THDi)	⩽3% (100% linear load)			
bypass input	Rated input voltage (Vac)	380/400/415			
	Input voltage range (Vac)	220 Max: 25% (optional + 10%, + 15%, + 20%) 230 Limit: 20% (optional + 10%, + 15%) 240 Upper Limit: 15% (optional + 10%) Lower Limit: -45% (Optional-10%, -20%, -30%)			
	Terminal system	3 Phase 4 Wires and Ground			
	Bypass synchronization tracking range (Hz)	±10%			
Bypass irrigation		support			
Generator access		support			
OUTPUT					
Voltage (Vac)		380/400/415			
power factor		1.0			
frequency (Hz)	Utility Mode	±1%,±2%,±4%,±5%,±10% of the rated frequency(optional)			
	Battery mode	（50/60±0.1%）Hz			
wave form		Pure sine wave			
Current peak ratio		3:1			
Output voltage harmonics (THDV)		⩽2% (100% linear load); ⩽5% (100% non-linear load)			
Switch time (ms)		0			
overall efficiency (%)		96%			
overload capacity		≤ 110%, to bypass after 60min; ≤ 125%,to bypass after 10min; ≤ 150%,to bypass after 1min			
BATTERY					
Charging current (A)	cabinet	Maximum 30A	Maximum 50A	Maximum 60A	Maximum 100A
	module	Maximum 10A			
Battery voltage		±180V/192V/±204V/±216V/±228V/±240/±252/±264/±276/±288/±300Vdc(30/32/34/36/38/40/42/44/46/48/50pcs optional)			
ENVIRONMENT					
working temperature		0℃～40℃			
Storage temperature		-25℃ ~55℃ (without battery)			
Humidity range		0~95% (Non-condensation exposure)			
Work altitude		<1500m (use over 1500m is reduced as per GB / T 3859.2)			
Noise (dB) (distance of 1 m)		<65dB			
Other functions					
Warning function		Overload, abnormal mains, UPS failure, battery undervoltage and other alarm functions			
Defensive function		Short circuit, overload, over temperature, battery undervoltage, output over undervoltage, fan fault alarm, lightning protection, bypass back irrigation			
Communication function		RS232, RS485,2 Intelligent Slot (smart card slots), dry contacts			

mechanical properties					
size （W×D×H ） (mm)	UPS cabinet	600×850×1350		600×850×1550	600×850×2000
	module	440×620×86			
net weight (kg)	UPS cabinet	160	170	195	275
	module	21			
standards		EN62040-1, EN62040-2			

Note: "L" in the model specification represents "long-delay model, and" 33 "represents" three-phase input / three-phase output model, This specification is for reference only and changes without notice.

5.2 20K module 60-200KVA

model		MT900L33	MT1000L33	MT1200L33	MT2000L33
specified capacity	Cabinet (VA / W)	20k-90k / 20k-90k	20k-100k / 20k-100k	20k-120k / 20k-120k	20k-200k / 20k-200k
	Module (VA / W)	20k / 20k			
	Maximum number of modules	3	5	6	10
input					
main road import	Rated input voltage (Vac)	380/400/415			
	Input voltage range (Vac)	138～485Vac			
	Terminal system	3 Phase 4 Wires and Ground			
	Input frequency range (Hz)	40-70			
	Input power factor	≥0.99			
	Input current harmonics (THDi)	≤3% (100% linear load)			
bypass import	Rated input voltage (Vac)	380/400/415			
	Input voltage range (Vac)	220 Max: 25% (optional + 10%, + 15%, + 20%) 230 Limit: 20% (optional + 10%, + 15%) 240 Upper Limit: 15% (optional + 10%) Lower Limit: -45% (Optional-10%, -20%, -30%)			
	Terminal system	3 Phase 4 Wires and Ground			
	Bypass synchronization tracking range (Hz)	±10%			
Bypass irrigation		support			
Generator access		support			
Output					
Voltage (Vac)		380/400/415±1%			
power factor		1.0			

frequency (Hz)	City electricity mode	± 1% / ± 2% / ± 4% / ± 5% / ± 10% is available for setting			
	Battery mode	（50/60±0.1%）Hz			
wave form		Pure sine wave			
Current peak ratio		3:1			
Output voltage harmonics (THDV)		≤2% (100% linear load); ≤5% (100% non-linear load)			
Switch time (ms)		0			
overall efficiency (%)		96%			
overload capacity		≤ 110%, to bypass after 60min; ≤ 125%,to bypass after 10min; ≤ 150%,to bypass after 1min			
battery					
Charging current (A)	cabinet	Maximum 30A	Maximum 50A	Maximum 60A	Maximum 100A
	module	Maximum 10A			
battery voltage		±180V/192V/±204V/±216V/±228V/±240/±252/±264/±276/±288/±300Vdc(30/32/34/36/38/40/42/44/46/48/50pcs optional)			
environment					
working temperature		0℃～40℃			
Storage temperature		-25℃ ~55℃ (without battery)			
Humidity range		0~95% (Non-condensation exposure)			
Work altitude		<1500m (use over 1500m is reduced as per GB / T 3859.2)			
Noise (dB) (distance of 1 m)		<65dB			
Other functions					
Warning function		Overload, abnormal mains, UPS failure, battery undervoltage and other alarm functions			
Protection		Short circuit, overload, over temperature, battery undervoltage, output over undervoltage, fan fault alarm, lightning protection, bypass back irrigation			
Communication function		RS232, RS485,2 Intelligent Slot (smart card slots), dry contacts			
mechanical properties					
size （W×D×H ） (mm)	UPS cabinet	600×850×1350		600×850×1550	600×850×2000
	module	440×620×86			
net weight (kg)	UPS cabinet	160	170	170	275
	module	21			
standards		EN62040-1, EN62040-2			

Note: "L" in the model specification represents "long-delay model, and" 33 "represents" three-phase input / three-phase output model.

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