Product Manual

Inverter

This series of sine wave inverter power supplies provide practical needs for power systems and post and telecommunications indu stries.。Taking into account the size of the installation space, the need for automation and networking of inverter power management in the IT era, and the impact of noise on the staff in the office or computer room, the inverter power supply is specially designed and produced.。This series of inverter power supplies adopt advanced SPWM and CPU control technology, with precise control, isolation of input and output, safety, efficiency, and reliability.This series of products are not only small in size, light in weight, beautiful in appearance, easy to install and maintain, simple to operate, low noise, low back noise, no pollution, but also have real-time data collection and remote communication functions, and implement network management and remote communication for the majority of system users Monitoring provides convenience.

This inverter power supply is not only suitable for the power system and communication industry, but also for other occasions that require high power supply quality. It is an ideal power supply choice for office automation.

Intelligent dedicated inverter power supply

Using intelligent microcomputer CPU control technology, the control circuit is simple and reliable, and quickly responds to changes in the external environment;

Adopt SPWM pulse width modulation technology

The output is stable frequency and voltage stabilization, filtering out noise, low distortion and pure sine wave;

Advanced anti-injection noise suppression technology

It does not interfere with other communication equipment sharing the DC screen, and the AC input terminal adopts multiple filtering.

Inverter power supply is divided into mains supply type and battery main supply type (choose any one)

Mains-powered inverter power supply is in the mains output when there is mains power, and automatically switches to the inverter output when the mains input fails; the battery-powered main-powered inverter power is in the inverter output when there is mains power. When the DC input fails, it will automatically switch to the mains output;

Perfect design

It is allowed to cut off the DC in the power-on state and automatically switch to the mains bypass, without affecting the power supply of the load, and it is convenient to maintain and replace the battery.

48-6U

48-2U

48-3U

Technical parameter

Model		1KVA	2KVA	3KVA	4KVA	5KVA	6KVA	12KVA	15KVA	18KVA
AC input	Rated voltage	230Vac						230Vac/400Vac		
	Phase	L+N+G						L+N+G/Three phase+N+G		
	Voltage	230Vac±20%						230Vac/400Vac±20%		
	Frequency	50Hz±10%								
	Power factor	≥0.98								
DC input	Rated voltage	24Vdc		24/48Vdc	48Vdc					
	Upper limit voltage	Shutdown voltage32.0V±2%			Shutdown voltage62.0V±2%					
		Recovery voltage30.0V±2%			Recovery voltage58.0V±2%					
	Lower limit voltage	Shutdown voltage20.0V±2%			>50% load, shutdown voltage 38.4V±2%; <20% load, shutdown voltage 42V±2%					
		Recovery voltage24.8V±2%			Recovery voltage42.4V±2%					
AC output	Rated voltage	(220Vac/230Vac/240Vac)±1% 可选						230Vac/400Vac±1% 可选		
	Frequency	50Hz±0.5%								
	Power factor	0.8								
	Effectiveness	≥93%								
	Total harmonic distortion	Linear load≤3%; Non-linear load≤5%								
	Output waveform	Sine wave								
	Switching time	≤10ms								
	Protective function	High and low voltage input, overload, over temperature, soft start protection, etc.								
	Overload	110%, 60s; 120% , 30s;								
System indicators	Display	LED+LCD								
	Computer communication interface	RS232、RS485								
	storage temperature	-25℃~+55℃								
	Operating temperature	0~45℃								
	Protection level	IP20								
	Relative humidity	5%~95% No condensation								
	Height	≤2000m, Without derating								
	Noise	≤40DB@1m						≤50DB@1m		
	Inlet method	Back in line		Front/rear incoming line	Forward line			Back in line		
Mechanical index	Host	88*482*350mm (2U)		88*482*350 (382) mm (2U)		133*482*375mm (3U)		266*482*450mm (6U)	400*482*450mm (9U)	
Description		This information is subject to change without notice. Subject to the actual product. Thank you!								

Power high frequency inverter

This series of inverter power supply is a double-conversion on-line, single-phase input, single-phase output uninterruptible power supply equipment. The product has high efficiency and high reliability, and provides reliable and high-quality AC power for your equipment.

This series of on-line inverter power supplies are small in size and convenient for customers to use. They are especially suitable for basic equipment for users of electric power, telecommunications, mobile, China Unicom, and railways.

Sine wave output

Regardless of in the mains inverter mode or the battery inverter mode, it can output pure sine wave power to provide the best power guarantee for the user's load equipment.

Zero conversion time

When the mains power fails or is restored, there is no conversion time for the on-line inverter power supply to switch between the mains inverter mode and the battery inverter mode, which effectively guarantees the reliability of load operation.

Input L, N line detection function

In order to avoid the reverse connection of the mains input L and N lines of the online inverter power supply, the machine has a detection function for the L and N lines reverse connection.

Input power factor correction function

The online inverter power supply is equipped with a PFC input power factor correction circuit. Under full load, the input power factor can reach more than 0.99, so that the user's grid environment will not be polluted.

High reliability

At the same time, multiple protection technologies such as short circuit, overload, overheating, input and output overvoltage and undervoltage make the operation of the online inverter more reliable and safer.

Main features

- ◆ Wide input voltage range, high voltage regulation accuracy, strong environmental adaptability;
- ◆ Adopting special microprocessor control, digital technology, leading the world;
- ◆ Pure sine wave output, excellent electrical performance indicators;
- ◆ Arbitrarily choose bypass priority or inverter priority;
- ◆The input and output are electrically isolated, which can withstand the surge impact of the computer load;
- ◆ High efficiency inverter, low no-load loss;
- ◆ In the absence of DC, AC can be switched on;
- ◆ Fully automated maintenance, suitable for unattended machine stations.
- ◆ With input over voltage, under voltage, reverse connection protection; output overload, short circuit protection; mains bypass high and low voltage protection;
- ◆ LED+LCD liquid crystal display, friendly man-machine interface, intuitive and convenient, can display the working status, load status, environmental status and parameters of the inverter at any time;

Technical parameter

Model		3KVA	5KVA	6KVA	8KVA	10KVA
AC input	Rated voltage	220Vac				
	Phase	L+N+G				
	Voltage	220Vac±20%				
	Frequency	50Hz±10%				
	Power factor	≥0.98				
DC input	Rated voltage	110Vdc/220Vdc				
	Input voltage range	(82～132) Vdc/ (165～290) Vdc±2%				
AC output	Rated voltage	220Vac±1%				
	Frequency	50Hz±0.5%				
	Power factor	0.8				
	Effectiveness	≥90%				
	Total harmonic distortion	Linear load≤3%; Non-linear load≤5%				
	Output waveform	Sine wave				
	Switching time	≤ 10ms				
	Protective function	High and low voltage input, overload, over temperature, soft start protection, etc.				
	Overload	125% 10min; 150% 10sec				
System indicators	Display	LED+LCD				
	Computer communication interface	RS232、RS485				
	storage temperature	-25℃～+55℃				
	Operating temperature	0～45℃				
	Protection level	IP20				
	Relative humidity	5%～95% No condensation				
	Height	≤2000m, Without derating				
	Noise	≤40DB@1m				
	Inlet method	Back in line				
Mechanical index	Host	88*482*350mm (2U)		177*482*350mm (4U)		
Description		This information is subject to change without notice. Subject to the actual product. Thank you!				

Photovoltaic off-grid inverter (small power)

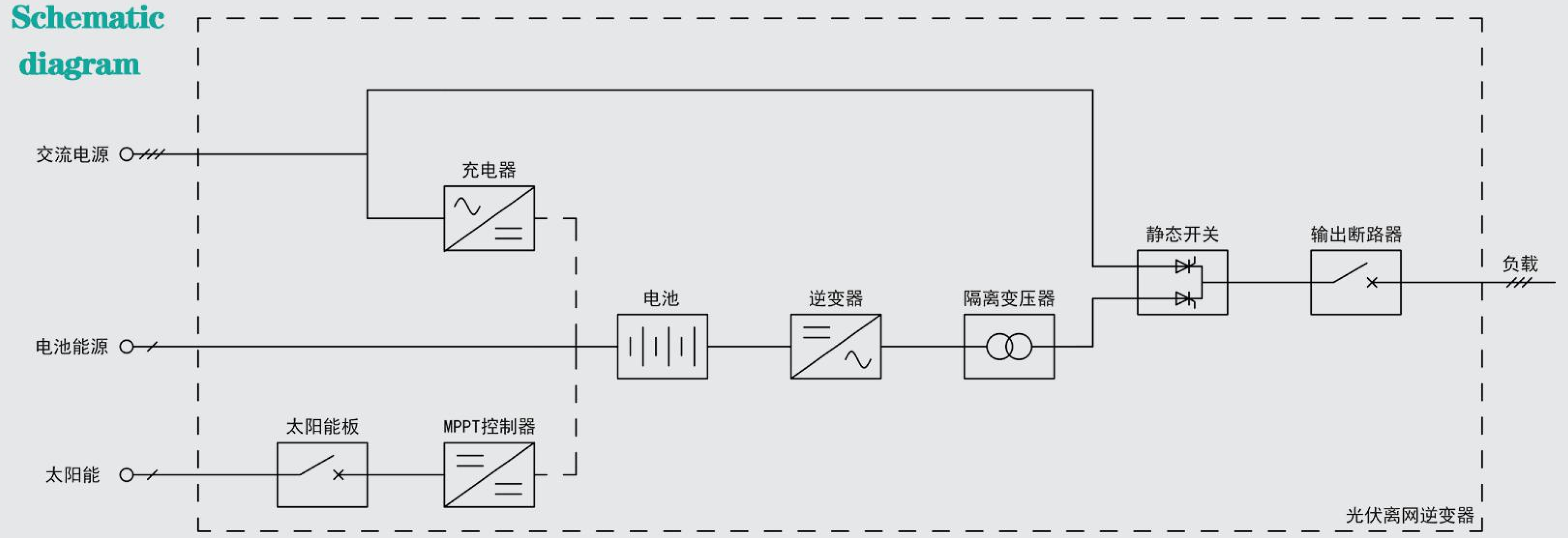
Integrated power supply system for smart substation/digital station

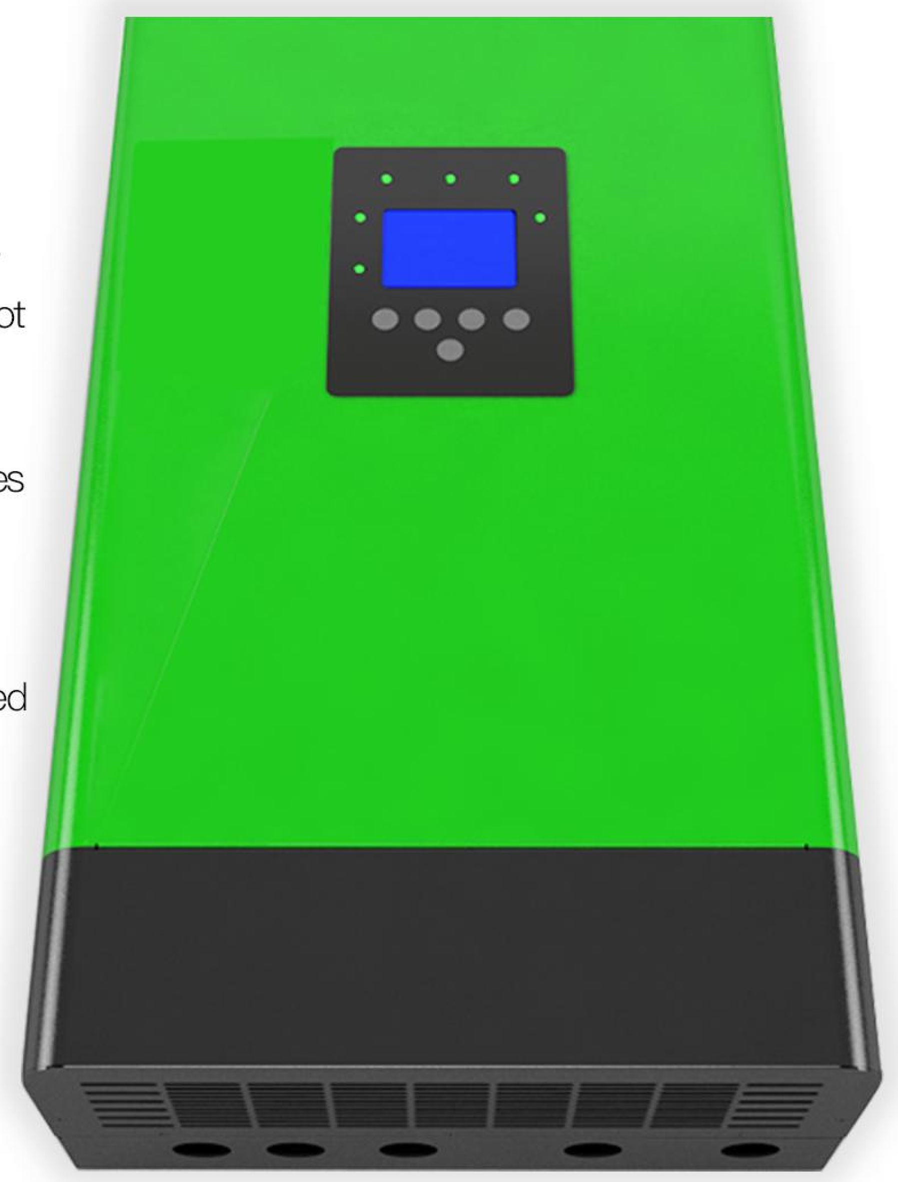
Power AC and DC integrated power supply equipment (hereinafter referred to as AC-DC integrated power supply) is a combination of station AC power system (GZZ), DC power system (GZDW), power AC uninterruptible power supply (UPS) and power inverter power system (INV), the communication direct current conversion power supply (DC/DC) system is based on integrated design, monitoring, production, and debugging, and realizes the integration, intelligence, network and safety of station power supply. The traditional station-use power supply is decentralized design, different equipment is provided by different suppliers, communication protocols are generally incompatible, and the degree of automation is low. Because there is no unified monitoring equipment to manage the entire station power supply, coefficient data sharing cannot be realized, and reliability and economy are poor. The AC-DC integrated system has changed the problems of the above-mentioned traditional station power supply, realized the sharing of station power information, and fully met the current unmanned substation and digital substation station power requirements.

Features

Flexible collocation of station power supply in the system: DC power supply can be combined with AC power supply, inverter power supply, and communication power supply to form a station.power supply system according to different site use. It can realize the management of station power supply system: unified specification of AC power supply, inverter power supply, DC power supply, communication power supply, data sharing, and connection with the background integrated system through the integrated monitoring module, which can realize the power system management and coordination linkage.Optimize battery configuration and reduce the number of screens: cancel the communication battery pack and charging equipment, use the DC/DC converter to directly hang on the DC bus instead, you can cancel the UPS and use the inverter to directly hang on the DC bus instead, avoiding the UPS battery and communication. The power storage battery is not well maintained, damage cannot be found in time, and the number of screens is reduced.The dual monitoring module configuration ensures that the station power supply is safer and more reliable: this system is not only equipped with FN-PSM integrated monitoring module, four remotes can be realized locally and remotely,and each system has an independent monitoring module, which can be Operate separately. The system is networked and intelligent; AC power supply, DC power supply, U PS power supply, DC/DC48V communication power supply, monitoring remote control, communication and other data are connected to the integrated system through the integrated monitoring system to achieve local and remote control of station power. Operation mode setting, event recording output view and various parameter setting, information platform sharing, realizing network intelligence.

Schematic diagram





technical parameter

Model		1KW	2KW	3KW	4KW	5KW	6KW
AC input	Phase	L+N+G					
	Voltage	165Vac～275Vac					
	Frequency	50Hz/60Hz±5%					
	Recharging current	Standard 10-30A (adjustable)					
DC voltage		12Vdc	24Vdc	24/48Vdc	48Vdc	48Vdc	48Vdc
AC output	Phase	L+N+G					
	Voltage	230Vac					
	Frequency	50Hz/60Hz±5%					
	Power factor	1					
	Output waveform	Sine wave					
	Switching time	< 5 ms					
	Protection	Overload, short circuit, etc.					
	Overload	<120% 30 sec ,>120% 1 sec closed					
MPPT	PV input voltage	(36～150) Vdc					
	Output current	30A/60A					
	Nominal PV voltage	72Vdc					
	Maximum PV array voltage	160Vdc					
	Maximum PV array power	8000W/12V；1600W/24V；2400W/36V；3200W/48V					
	Maximum current charging current	30A/60A					
System indicators	Display	LED+LCD		(LED+LCD) / (LED+Touch color screen)			
	Storage temperature	-25℃～+55℃					
	Operating temperature	0～45℃					
	Protection level	IP20					
	Relative humidity	5%～95% No condensation					
	Height	≤2000m, Without derating					
	Quality Standard	ISO 9001:2015					
	Size H*W*D (mm)	425*290*160		550*330*180			
	Weight (Kg)	25	30	40	45	50	55
Description		This information is subject to change without notice. Subject to the actual product. Thank you!					

Power dedicated UPS power supply

This series of power dedicated UPS is composed of main cabinet, bypass regulator cabinet, and feeder cabinet. It is a power product designed for power plants, substations, and power distribution in response to the development needs of China's power. It has double conversion on-line, zero conversion Function, mainly used for power telecontrol, DCS system, power carrier, power monitoring, etc.
When the mains power is normal, the single-time 220V (or three-phase 380V) is isolated, rectified and filtered, and then provides a given power supply to the load through the inverter; if the AC grid input is abnormal or the power is cut off, the DC screen of t he power series Inverting diode power supply. When the DC panel is undervoltage or power failure, the static and off switch to bypass power supply; when the mains power returns to normal, it automatically switches to the mains inverter power supply. If the inverter is overloaded or faulty, it will switch to bypass power supply and a warning signal will be issued at the same time. It is widely used in power plants, substations, power distribution stations, etc.

Rectifier

Single-phase/three-phase AC mains power is sent to the input of the rectifier through a matching isolation transformer. When the mains voltage is within ±20% and the load changes within the range of 100%, the rectifier output DC voltage is stable within ±1%.

Inverter

Using SPWN technology, the DC voltage is converted into a standard sine wave AC voltage through the IGBT module inverter, which can minimize distortion and reduce the size of the filter, so that excellent dynamic characteristics can be achieved when the load changes.

Straight

In the event of a mains undervoltage or failure, the DC screen connected to the DC terminal will automatically supply power without interruption. A signal will be given when the DC screen is discharged. If the discharge reaches the limit voltage, the system will switch to backup power operation. When approaching the termination discharge voltage, the system will give a warning signal.

Mains/Backup

When using a dual-channel AC model (mains power supply, the other group is backup power), when the mains power is abnormal or fails, it will be switched to the backup power supply. When both AC inputs fail, i t will switch to the DC screen for power supply.

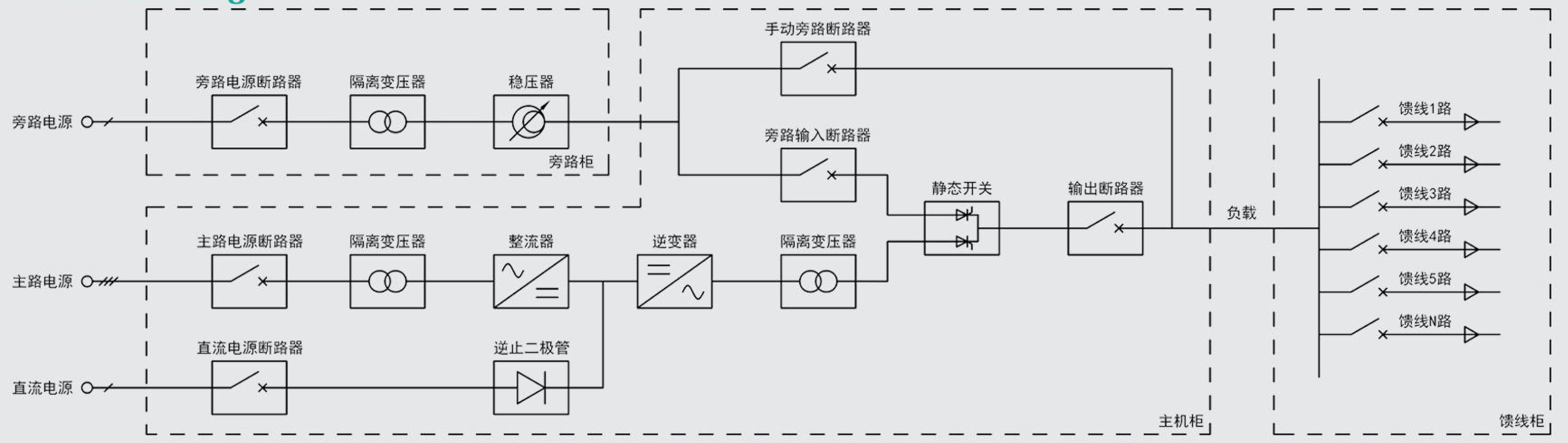
Static switch

The static switch can continuously realize the switching function between bypass and inverter, and the switching can be completed automatically or manually.

Intelligent monitoring

The working status and data of the UPS are transmitted to the DCS system in real time through RS232, RS485, passive contacts, and power transmission signals to r ealize intelligent monitoring.

Schematic diagram



Main performance characteristics

- ■Adopt full digital control technology
- ■Passive contact and RS232/485 monitoring
- ■Digital control static and close zero switching
- ■The sixth-generation low-dropout IGBT drive inverter
- ■The DC screen is completely isolated from the mains
- ■With multiple protection functions such as overvoltage, undervoltage, overcurrent, short circuit, etc.
- ■Large-screen LCD Chinese and English operation monitoring interface. Intuitive mechanical meter head instructions
- ■There are 256 long event records, which is convenient for users to analyze and manage the power supply status
- ■Intelligent detection and monitoring function
- ■Input and output fully isolated
- ■Adopt electric standard screen cabinet design

Technical parameter

Model		3KVA	5KVA	6KVA	8KVA	10KVA	20KVA	30KVA	40KVA	50KVA	60KVA	80KVA
AC input	Rated voltage	220Vac/380Vac					380Vac					
	Phase	L+N+G/Three phase+N+G					Three phase+N+G					
	Voltage	220Vac/380Vac±20%					380Vac±20%					
	Frequency	50Hz±10%										
	Isolation transformer	Standard										
DC input	Rated voltage	110Vdc/220Vdc								220Vdc		
	Battery voltage range	(88∽143) Vdc/ (176∽275) Vdc (Adjustable)								(176∽275) Vdc (Adjustable)		
	Charging function	Optional (default factory machine without charging function)										
	DC cold start	YES										
Bypass input	Phase	L+N+G/Three phase+N+G										
	Voltage	220Vac/380Vac±20%										
	frequency	50Hz±10%										
	Isolation transformer	50Hz±10%										
	Stabilizer	Optional (the default factory machine does not carry)										
AC output	Rated voltage	220Vac			220Vac/380Vac							
	Phase	L+N+G			L+N+G/Three phase+N+G							
	Voltage	220Vac±1%			220Vac/380Vac±1%							
	frequency	50Hz±0.5%										
	Power factor	0.8										
	Switching time	≤4ms										
	Isolation transformer	Standard										
	Output waveform	Sine wave										
	Total harmonic distortion	Linear load≤3%; Non-linear load≤5%										
	Dynamic load voltage transient	±5% (decreased from 0～100%)										
	Instant recovery time	<10 ms (±5%)										
	overload	125% 10min ,150% 1min ,>150% 200ms										
System indicators	display	LED+LCD					LED+Color touch screen					
	Computer communication interface	Standard RS485 interface (support Modbus protocol); dry contact										
	storage temperature	-25℃～+55℃										
	Operating temperature	0～45℃										
	Protection level	IP20										
	Relative humidity	5%∽95% No condensation										
	height	≤2000m, Without derating										
	noise	≤55DB@1m								≤65DB@1m		
Mechanical index	Power host	4U	7U				10U			无		
	Power group screen	800*600 (800) *2260								800*800*2260		
Description		This information is subject to change without notice. Subject to the actual product. Thank you!										

UPS uninterruptible power supply

This series of UPS is a double-conversion pure digital uninterruptible power supply system with output isolation transformer. It is designed with advanced IGBT sinusoidal pulse width modulation technology. It has low heat loss, low noise, small size and long life. It can be used in n+1 display. As a stable, clean, uninterrupted power supply for various computer rooms, its application fields are telecommunications systems, financial systems, satellite systems, network systems, medical systems, monitoring security systems, factory automation control systems, etc.

High quality

This series of UPS is an online double conversion (VF1) UPS, which can filter and stabilize the sinusoidal output voltage. This special input and output filter can effectively resist any interference to the power supply and ensure high-quality power supply.

High reliability

The built-in parameters are digitally controlled by a microprocessor, which can effectively improve reliability and optimize operation. Reducing the number of electronic components can correspondingly reduce system failures. The use of digital control equipment can greatly improve its reliability.

High efficiency and low cost

This series of UPS is required by users and can be operated in energy-saving mode with an efficiency of up to 98%. In energy-saving mode, the mains is the priority power source. When the mains exceeds the preset value, the load is switched to the inverter. The earth reduces energy waste and reduces costs.

Suitable for industrial loads

This series of UPS has the characteristics of strong overload capacity, high output isolation, and low current harmonic distortion, making it the best choice for industrial applications. This series of UPS is charged with high current and is suitable for large battery packs. According to the battery manufacturer's recommendations, it can be charged within 10 hours.

Humanized operation interface

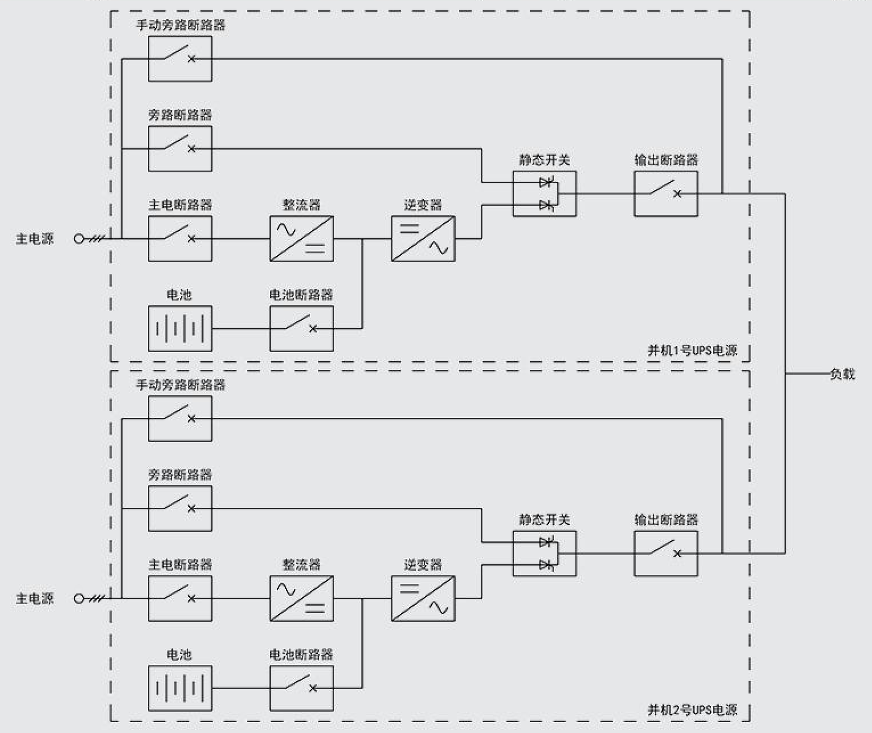
This system UPS adopts analog panel for operation. It is simple and novel. The analog panel can provide the most important parameters, such as: status and warning, control command, input, output, battery data (power, current, voltage, frequency and temperature) and others Set up.

This series of diagnostic systems include up to 128 different alarms or messages, which can provide accurate and detailed information on any possible failures.

Flexible operation

This series of UPS is an online double-conversion uninterruptible power supply that can operate in an online interactive mode. In addition, the maximum expansion of n+1 display is 32,000 kilowatts, which is 8 units in parallel.

Parallel schematic diagram



Maximum battery protection

The optimized battery management achieves the purpose of maximizing the protection of the battery, including: ☆Regular battery inspection ☆Prevent deep discharge ☆Charging temperature compensation

Optimize personal protection

This series of UPS feedback protection equipment can prevent the voltage feedback of the upstream power distribution board, and ensure the safe front installation of the maintenance personnel, which is convenient and quick. All power cords and electronic components (including components with built-in battery configuration) of this series of UPS can be installed from the front, reducing i nstallation costs.

Advanced monitoring software

This series can display the most important information (including input, output voltage, current load) in the form of graphs, and can also provide information for fault diagnosis in the event of a power failure. When encountering a large-scale power failure, it can automatically shut down all operating systems. In addition, through network management, it can be used in local or wide area networks.

Technical parameter

Model		10KVA	20KVA	30KVA	40KVA	60KVA	80KVA	100KVA	120KVA	160KVA	200KVA	250KVA	300KVA
Working method and principle		Double conversion on-line power supply static bypass and off (uninterrupted switching), output power is completely isolated											
AC input	Phase	Three phase+N+G											
	Voltage	380Vac±20%											
	frequency	50Hz/60Hz±10%											
	Input power factor	0.95 (12 pulse rectification)											
	Soft start	0～100% 5sec											
Bypass input	Phase	Three phase+N+G											
	Voltage	380Vac±15%											
	frequency	50Hz±5%											
	Inverter/bypass conversion time	≤4ms											
DC system	DC voltage	Standard 32 12Vdc (384Vdc); adjustable											
	Float voltage	Standard 432Vdc adjustable											
	Cutoff voltage	Standard 336Vdc (adjustable)											
	recharging current	Standard 10-25A (adjustable)											
AC output	Phase	Three phase+N+G											
	Voltage	380Vac±l% (Steady state load)											
	frequency	50Hz/60Hz±5% (Mains) ; 50Hz/60Hz±0.05% (Battery powered)											
	Power factor	0.8 (Hysteresis)											
	Output waveform	Sine wave											
	Total harmonic distortion	Linear load≤3%; Non-linear load≤5%											
	Dynamic load voltage transient	±5% (decreased from 0～100%)											
	Instant recovery time	<10 ms (±5%)											
	Unbalanced voltage	<±3% ; <±1% (Balanced load voltage)											
	overload	125% lOmin ,150% lmin ,>150% 200ms											
System indicators	Work efficiency	>99%, ECOEconomic model											
	Computer communication interface	RS232/RS485											
	storage temperature	-25℃～+55℃											
	Operating temperature	0～45℃											
	Protection level	IP20											
	Relative humidity	5%～95% No condensation											
	height	≤2000m, Without derating											
	noise	≤50DB			≤55DB	≤63DB			≤65DB		≤68DB		
	Quality Standard	ISO 9001:2015											
Description		This information is subject to change without notice. Subject to the actual product. Thank you!											

Charger

◊ Metal shell charger with reverse connection protection;
◊ MTBF (standard ambient temperature, load requirements) N20000 hours;
◊ Contains functions such as pre–charging and full shutdown;
◊ Overvoltage protection;
◊ Over temperature protection;
◊ Current limit protection;
◊ Short circuit protection;
◊ Reverse connection protection;

Model	DCC600W	DCC1200W	DCC3000W
Maximum output	56.4/57.2/58. 6/71.4/84Vdc±0. 2		
Output current	10A±5%	20A±5%	50A±5%
Maximum output	600W	1200W	3000W
Input voltage range	180～260Vac		
Humidity	5%～95%		
Altitude	≤3000m		
Rated input voltage	220Vac		
Input voltage	50/60Hz		
Effectiveness	92%		
Certification	CE、 RoHs		
Storage temperature	–25℃～+55℃		
Vibration test	20Hz～500Hz,Acceleration 0.49 10Hz～60Hz,Amplitude 0.38		
Thermal shock	–35℃～75℃, 3 minutes to heat up 2. 5 hours constant pressure, 200 cycles		
Drop test	BS EN60068–2–32:1993 Test ED: Free Fall Appendix B		
Material	Metal		
Size W*L*H (mm)	482（275）*185*88（2U)		
Net weight (Kg)	2.3	3.8	4.5
Description	This information is subject to change without notice. Subject to the actual product. Thank you!		

Controller

◇Using advanced double–peak or multi–peak tracking technology, when the solar panel is shaded or part of the panel fails, causing multiple peaks on the I–U curve, the controller can still accurately track the maximum power point;
◇The combination of multiple tracking algorithms can achieve precise tracking of the target. Obtain the best working point of the I–U curve in a very short time;
◇The optimal WPPT tracking efficiency of the product can reach 99–n;
◇Advanced digital power technology improves the energy conversion efficiency of the circuit up to 9%;
◇Different charging options, including gel batteries, sealed batteries, open batteries, customized batteries, etc. Check
◇Support automatic identification of battery voltage.

Model	MPPT–40	MPPT–60
System voltage	12V/24V/48V/ automatic	
Load loss	0.7W～1.2W	
battery voltage	9V～70V	
Maximum solar input	160V(25℃),145V(–25℃)	
Maximum power point	Battery voltage +2V～120V	
Rated charging current	40A	60A
Rated overload current	10A	20A
Maximum capacitive load	I0000uF	
Maximum input power of photovoltaic system	800W/12V;1600W/24V;3200W/48V	
Conversion efficiency	96%	
MPPT tracking efficiency	>98%	
Temperature	–3mv/℃/2V(default)	
Operating temperature	–10℃～+50℃	
Waterproof level	IP32	
Weight	3.8kg	
Communication method	RS485	
Altitude	<2000m	
Mechanical size (W*H*D	165*247*95mm	180*295*95mm
Description	This information is subject to change without notice. Subject to the actual product. Thank you!	