



JY Series Transformer Based Industrial Online UPS

Capacity: 1-40KVA (1/1 Phase, 3/1 Phase)

System Introduction

JY Series is a small medium capacity true double conversion online UPS with DSP control. It has 1/1 3/1 phase structures and 1+1 parallel redundant function. Isolated transformer and the international advanced SMD design, which has outstanding stability and high reliability. Isolated transformer effectively suppresses and isolates utility surge voltage and impacts to load devices, which greatly protects load device with good synchronization with UPS systems.



System Features

High Performance Index

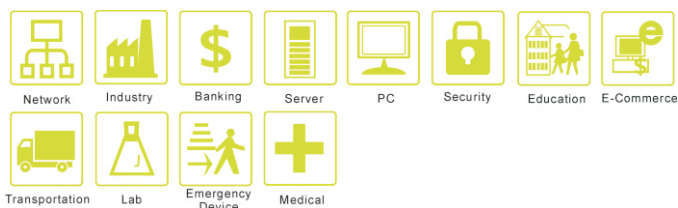
- ♦ Advanced SCR Rectifier and IGBT Inverter Technology. Online Single Phase Input/Output double conversion structure to adapt 220V and 50/60 Hz Mains Grid Supply Systems.
- ♦ Wide Input Range from 160 Vac to 300 Vac and 50/60Hz $\pm 5\%$. High Adaptive Capacity to Mains Grid Supply System and Different kind of Loads. High Overload Ability -- surge current protection technology can carry the sudden impact due to 0% to 100% load immediately without transfer to bypass.
- ♦ Overall Efficiency 85%. 98% under ECO Mode.
- ♦ Full-Digitized Non-master slave parallel redundancy technology.
- ♦ Friendly and Intuitive User Interface. Large Color Dot-matrix LCD+LED Screen with multi-functional keyboard to check system parameters, such as fault histories, operational statuses, self-diagnosis periodically discharge settings, etc.

Safe and Reliable

- ♦ MCU control to operate all power conversion sessions during the operations, which has higher system reliability than traditional UPS systems.
- ♦ Output Isolated Transformer Built-in. It can reduce impacts and interferences from Load Harmonic Wave Current.
- ♦ 90% of system components are from international brands. All devices has been aged and fully tested for at least 24 hours before leaving the factory.

Compatible applications/loads

JY series is designed for small and medium important equipment systems, such as small and medium commercial network equipment, small data center, important medical equipment, manufacturing process control system and communication equipment.



Feature Introduction

Advanced technology to ensure the high reliability

Digital control technology

It adopts latest CPU+CPLD Modulation control technology design, which could achieve the digital operating control in UPS inner modules and ensure the high intelligent. The digital technology makes the system response speed faster as detection and protection, which also make the data bus AD(Analog signals and digital signals)exchange more precise, the dynamic and static index reach the optimal level. All this could enhance JY high reliability and availability.

SPWM and double conversion design

JY Series converts the input AC power to DC power by digital control rectifier/charger(3in1out), which the DC power ripple is extremely delicate. It adopts the inverter with SPWM (Switching Pulse Width Modulation) technology, which could convert the DC power to a standard pure sine wave AC power, and supply stable and reliable output to loads by static switch. Thus, JY adopts online high reliable and double conversion design. Thus, online double conversion system is the current main system, and it is also mature with high reliability and stability, which has the best structure compatible to electricity net and loads.

Adopt new generation electric components

Adopt the new generation electric components—the fourth IGBT electric components, it has more current density, less consumption, which can enhance the stability and reliability. The advanced generation IGBT features: ① Good high speed switch characteristics; ② High voltage and current characteristics; ③ High efficiency(low consumption and heat); ④ Driving circuit miniaturization; ⑤ High reliability

System redundant parallel operating mode

10-20kva adopts 1+1 redundant parallel mode, and the loads do current sharing in parallel operation inside system power. The circulation imbalance is less than 3%, which could enhance the system reliability and capacity expansion. Every single UPS can be the logical main UPS in JY Parallel UPS, and other UPS can obtain all control parameters. If single UPS get failure, it will automatically remove the failure unit from the parallel system fast and reliably, which could ensure the system supply power to loads continuously. The load will be allocated another UPS automatically, if the logical main UPS get failure, another UPS will become a replacement logical. Every UPS get itself independent bypass, with no need to add a public bypass cabinet, which eliminate the single point failure.

High redundancy

JY UPS inverter power get high redundancy, which can withstand the peak current from non-linear loads, with minor distortion and crest ratio up to 3:1. The UPS can directly start with the loads. JY UPS adopt output power factor automatic adjustment technology, which can get the different loads power factor to different loads, and $PF = 0.6 \sim 1.0$ can automatically adjust UPS output power factor, which could make loads and UPS inverter compatible and achieve the optimal operating status. JY UPS output transformer inverter can improve the power factor with excellent effect for computer rectifier loads. It can improve the <0.6 power factor to 0.8.

Unique Surge protection technology

JY UPS meets the strictest loads requirements, which adopts the unique crest current protection technology design for different loads, such as non linear sensitive, capacitive loads sudden change. It make UPS get the highest ability to anti cold load impact, and will not transfer to bypass or get itself protect from the cold load start up transient impact.

Wide input voltage and frequency range

JY UPS is designed with high reliable rectifier which could suit for the poor application environment. The input voltage for single phase can be 160Vac~300Vac, and three phase 286Vac~470Vac, the input frequency range can be 50 Hz \pm 5%. Even in the tough environment, UPS can work normally, which can greatly reduce the consumption.

Dynamic response

JY UPS inverter adopts the unique new type current detection solution, In addition to the average current protection, it add the sensitive peak current detection and protection circuit, which could effectively suppress and protect from non-linear loads current,transient surge current, cold load transient impact current and output short circuit etc. It can reach high level for the output voltage static stability and dynamic response.

Generator compatibility

JY UPS have good compatibility to all generators, which get the wide input voltage and frequency. The input reactor can improve the unstable power from generator. With the static switch adopt the strict conversion control technology, it ensures the JY UPS work with generator in stable and reliable condition.

Perfect Lightning/Surge protection function

To protect the lightning or over voltage damage to device, JY UPS is designed with modern over voltage protection function, which equipped with GDT and MOV lightning protection circuit. The over voltage protection is sensitive, it can reach D level lightning protection standards(C level optional)



Specifications

Capacity	1KVA/0.8KW	2KVA/1.6KW	3KVA/2.4KW	6KVA/4.8KW	10KVA/8KW	15KVA/12KW
Host Machine Specification						
UPS Structure	Online Double Conversion					
Appearance	Low Frequency with Output Isolated Transformer					
Overall Efficiency (AC-AC)	> 85%					
Noise (In 2 meters)	< 50dB					
Working Temp	-10-40℃					
Storage Temp	-25~60℃ (Without Batteries)					
Humidity	<95%Non-Condensing					
Safety Standard	IEC62040					
Parallel Redundancy	Available					
Protections	Overload, Short-Circuit, Over Temp., Utility Power Voltage High/low, BAT Voltage High/low					
DC Start	Available					
Generator Compatibility	Available					
Display	LCD Display (Multi-Language with all kinds of messages) +LED Indicators					
Mute	Auto					
Cabinet Standard	IP20					
Cooling System	Intelligent Speed Control Cooling Fan					
Elevation	<1000M, Without Derated					
Rectifier Specification						
Input Voltage	220/200/230/240Vac,single phase					
Input Voltage Range	80-280Vac (Derated at Utility Volt at 80Vac)			160-280Vac		
Input Frequency Range	50Hz±5%					
Soft-Start	>20 Seconds					
Output Specification						
Output Voltage	220/200/230/240Vac					
Output PF	0.8					
Output Voltage Regulation	220Vac±1% (Static Load) , 220Vac±2% (50~0% Sudden Change)					
Output Freq	50Hz±0.1% (BAT Mode)					
Distortion	<1% (Linear Full Load) , <3% (Non-Linear Full Load)					
Frequency Tracking Range	46-54Hz					
Output Waveform	Pure Sine Wave					
Overload	> 125%: More than 1 Min ; > 150%: More than 300ms			> 125%: More than 10 Mins ; > 150%: More than 1 Min		
Noise Suppression	EMI/RFI Wave Filter					
Crest Ratio	3 : 1					
Short-Circuit	Circuit Auto Protection, Output Voltage/Current to 0					
Output Abnormal	INV Output Auto-Locked Protection					
Bypass Specification						
Static Bypass Transfer Time	0ms					
Static Bypass Range	220Vac (-15~+15%)					
Frequency Range	±1Hz, ±2Hz, ±3Hz Selectable					
Bypass -> INV Transfer Time	2ms					
Frequency Tracking Speed	0.5-2hz/s					
Manual Maintenance Bypass	None				Available	
Alarm Specification						
Alarm	Utility Power Fault, BAT Voltage Low, Overload,PS Fault					
Mute	Auto					
Battery Specification						
Type	Sealed Lead Acid Maintenance Free					
Std. Model Rated Volts/Units	48Vdc /4 Units	96Vdc /8 Units	96Vdc /8 Units	192Vdc /16 Units	192Vdc /16 Units	192Vdc /16 Units
Std. Model Charging Current	1A	1A	1A	1A	1A	1A
Ext. Model Charging Current	Std. 5A/10A Opt.	Std. 5A/10A Opt.	Std. 5A/10A Opt.	Std. 5A/10A Opt.	Std. 5A/10A Opt.	Std. 5A/10A Opt.
BAT Low	Shutdown Protection					
Communication Specification						
Communication Port	Rs232 (Std.) ; /SNMP/RS485/ Dry Contact (Optional Accessory)					
Remote Software	Multi-functional Monitoring System, Online and BAT Mode Status, BAT Fault, Remote Control					
Physical Parameters						
Std. Size mm(W×D×H)	230×625×565	230×625×565	230×625×565	230×625×640	_____	_____
Ext. Size mm(W×D×H)	230×525×390	230×525×390	230×525×390	230×625×560	310×675×850	310×675×850
RM. Size mm(W×D×H)	430×540×178/3U			430×540×266/6U		
Std. Net Weight Kg	45	60	61	108	_____	_____
Ext. Net Weight Kg	28	31	32	79	112	131
RM. Net Weight Kg	_____	31	32	79	_____	_____

Note: Specification are subject to change without further notice.

Specifications

Capacity	10KVA/8KW	15KVA/12KW	20KVA/16KW	30KVA/24KW	40KVA/32KW
Host Machine Specification					
UPS Structure	Online Double Conversion				
Appearance	Low Frequency with Output Isolated Transformer				
Overall Efficiency (AC-AC)	> 85%				
Noise (In 2 meters)	< 50dB				
Working Temp	-10-40℃				
Storage Temp	-25~60℃ (Without Batteries)				
Humidity	<95%Non-Condensing				
Safety Standard	IEC62040				
Parallel Redundancy	Available				
Protections	Overload, Short-Circuit, Over Temp., Utility Power Voltage High/low, BAT Voltage High/low				
DC Start	Available				
Generator Compatibility	Available				
Display	LCD Display (Multi-Language with all kinds of messages) +LED Indicators				
Mute	Auto				
Cabinet Standard	IP20				
Cooling System	Intelligent Speed Control Cooling Fan				
Elevation	< 1000M , Without Derated				
Rectifier Specification					
Input Voltage	380Vac+N+W 3 Phase				
Input Voltage Range	285 ~ 475Vac				
Input Frequency Range	50Hz±5%				
Soft-Start	> 20 Seconds				
Output Specification					
Output Voltage	220Vac Single Phase				
Output PF	0.8				
Output Voltage Regulation	220Vac±1% (Static Load) , 220Vac±2%(50~0% Sudden Change)				
Output Freq	50Hz±0.1% (BAT Mode)				
Distortion	<1% (Linear Full Load) , <3% (Non-Linear Full Load)				
Frequency Tracking Range	46-54Hz				
Output Waveform	Pure Sine Wave				
Overload	> 125%: More than 10 Min; > 150%: More than 300ms				
Noise Suppression	EMI/RFI Wave Filter				
Crest Ratio	3 : 1				
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Bypass Specification					
Static Bypass Transfer Time	0ms				
Static Bypass Range	220Vac (-15~+15%)				
Frequency Range	±1Hz, ±2Hz, ±3Hz Selectable				
Bypass -> INV Transfer Time	2ms				
Frequency Tracking Speed	0.5-2hz/s				
Manual Maintenance Bypass	Available				
Alarm Specification					
Alarm	Utility Power Fault, BAT Voltage Low, Overload,PS Fault				
Mute	Auto				
Battery Specification					
Type	Sealed Lead Acid Maintenance Free				
Rated Volts/Units	360Vdc/30 Units				
Ext. Model Charging Current	Std. 10A, Adjustable to 20A				
BAT Low	Shutdown Protection				
Communication Specification					
Communication Port	Rs232 (Std.) ; /SNMP/RS485/ Dry Contact (Optional Accessory)				
Remote Software	Multi-functional Monitoring System, Online and BAT Mode Status, BAT Fault, Remote Control				
Physical Parameters					
Ext. Size mm(W×D×H)	310×675×850			430×985×1030	
Ext. Net Weight Kg	151	162	175	295	330

Note:Specification are subject to change without further notice.

