HELIOS
POWER SOLUTIONS

SPST Series Linked 3-Phase AC Power Supply System

High Efficiency **High Precision** **High Stability**

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SPST Series Linked 3-Phase AC Power Supply System

(9U)1800W~4500W

(17U)6000W

(17U)9000W~15000W

Output			Model	Size	Standard Interface	Optional Information	Certificates
Voltage	Power	Output Mode					
150V/300V	1800W	Single/Three Phase	SPST300VAC1800W-2-9	9U❶	RS232/RS485/USB	(1)	CE
150V/300V	3000W	Single/Three Phase	SPST300VAC3000W-2-9	9U❶	RS232/RS485/USB	(1)	CE
150V/300V	4500W	Single/Three Phase	SPST300VAC4500W-2-9	9U❶	RS232/RS485/USB	(1)	CE
150V/300V	6000W	Single/Three Phase	SPST300VAC6000W-3-17	17U❷	RS232/RS485/USB/LAN	(2)	CE
150V/300V	9000W	Single/Three Phase	SPST300VAC9000W-4-17	17U❸	RS232/RS485/USB/LAN	(2)	CE
150V/300V	12000W	Single/Three Phase	SPST300VAC12000W-4-17	17U❸	RS232/RS485/USB/LAN	(2)	CE
150V/300V	15000W	Single/Three Phase	SPST300VAC15000W-4-17	17U❸	RS232/RS485/USB/LAN	(2)	CE

*This formula is the standard cabinet for SP-300 series 2U/3U/4U model. It is available to select cabinet with different specification according to exact situation. Detail please consults our area manager.

The output of the three phase power supply can be connected in two ways, including Wye connection and Delta connection. In the Delta connection mode, the output voltage can reach 520V.

Dimensions & Weight

❶ 540.0x400.0x640.0 mm & 88.7kg

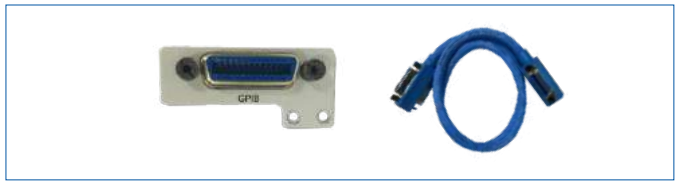
❷ 560.0x754.0x700.0 mm & 134kg

❸ 560.0x754.0x700.0mm & 157kg

Optional Information

(1) LAN & GPIB interface card & cables

(2) GPIB interface card & cable



产品主要特点

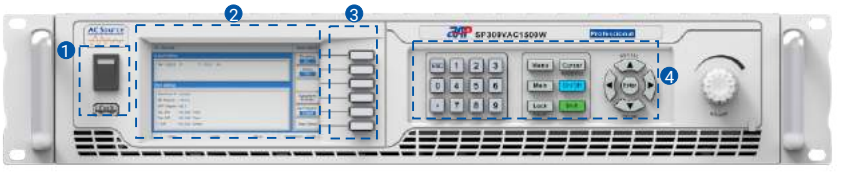
- Large touch color screen, possess complete functions and easy to operate.
- AC+DC mixed or independent output mode for voltage DC offset simulation.
- Capable of setting output slope/phase angle, 0~359.9°.
- Output frequency 15~1000Hz, capable of setting output slope of voltage and frequency.
- High output crest factor could satisfy surge tests requirements.
- Multiple current measuring level selection. Increase measurement accuracy.
- Standard USB data interface, support CSV file waveform import.
- OCP/OVP/OPP/OTP/Short circuit protection.
- Built-in power meter, which is capable of measuring 15 electrical parameters per phase, including voltage, current, power, etc.
- With reverse current protection to avoid current flowing backward.
- Capable of setting voltage and current output restriction, support for constant current output mode.

Panel Introduction

0.6 - 1.5kVA

1. Power Switch (Up), USB Interface (Down)
2. Color Touch Screen
3. Multifunctional Keys
4. Numeric and Functional Keys

■ Front Panel Introduction



2 - 5kVA

1. Power Switch (Up), USB Interface (Down)
2. Color Touch Screen
3. Multifunctional Keys
4. Numeric and Functional Keys

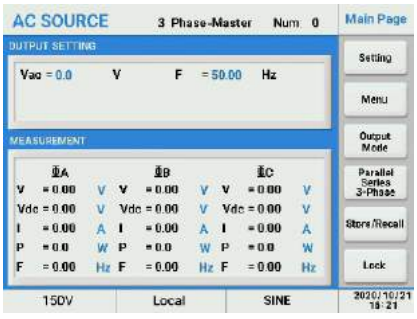
■ Front Panel Introduction

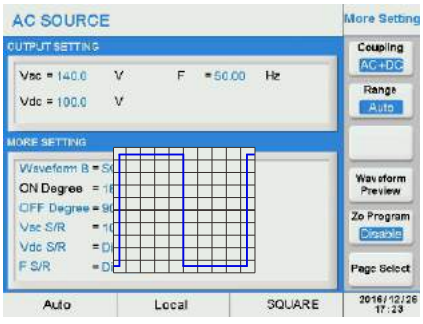
SPST Series Linked 3-Phase AC Power Supply System

Function Introduction

Graphical User Interface

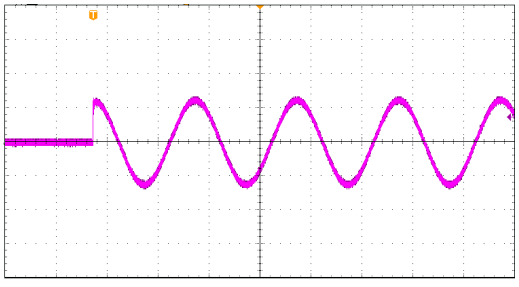
The large color touch screen provides simple and fast oper ation for customers, real-time update of display output data and power status, and graphical display makes it more intuitive.





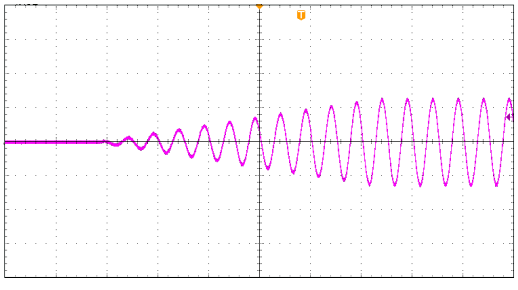
Settable ON/OFF Phase Angle of Output Waveform

This series of AC power supply can set the ON phase and OFF phase of sinusoidal output waveform, suitable for the output test of switching power supply. Set the ON angle to 90 degrees for surge current testing, the power supply will show the measured value of surge current. Users can set when start to measure the surge current and the duration of the measurement.



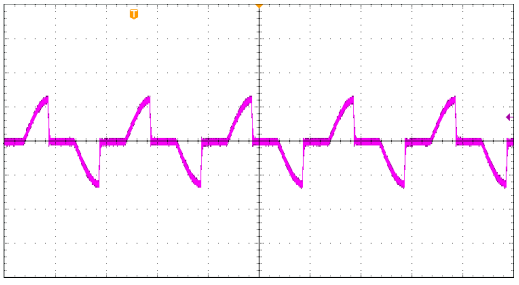
Slew Rate Setting For Voltage and Frequency

This series AC power supply let users set the slew rate of voltage and frequency, in such application in order to reduce the inrush current during motor or compressor startup.



Triac Dimmer Function

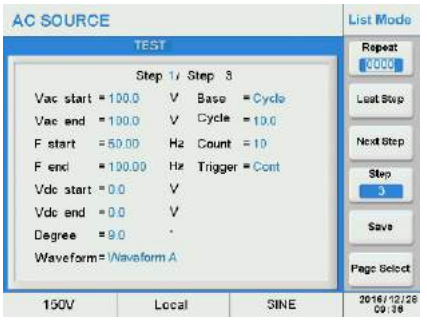
This series AC power supply built-in triac dimmer function, which is used to do dimming and speed regulating test for lamp or electric motor to ensure the products work well both in R&D and production testing.

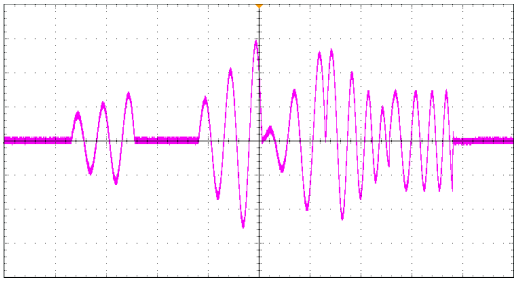


Power Line Disturbance Simulation

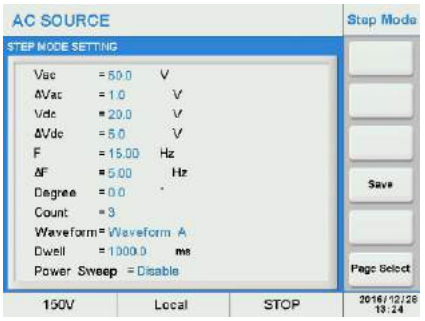
This series AC power supply provides powerful function to simulate all kinds of power line disturbance conditions such as cycle dropout, transient spike, brown out and etc. This feature make this series AC power supply ideal for R&D labs, universities and certification labs.

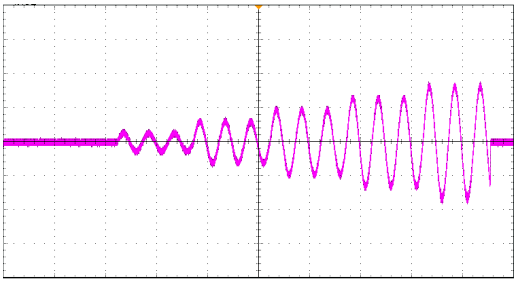
LIST Mode





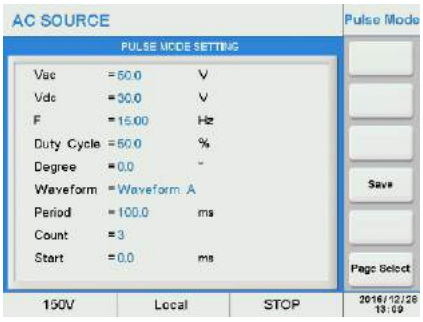
STEP Mode

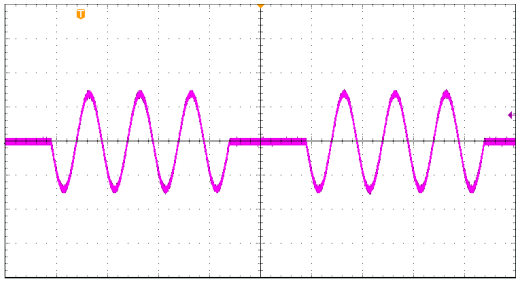




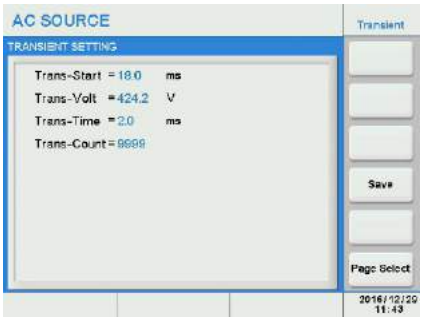
SPST Series Linked 3-Phase AC Power Supply System

PULSE Mode

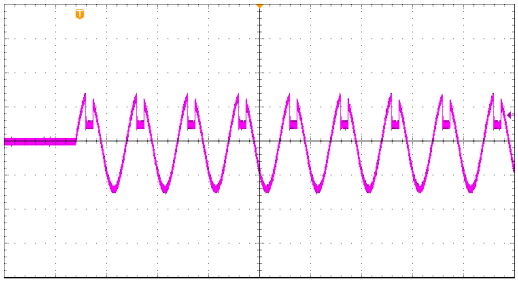




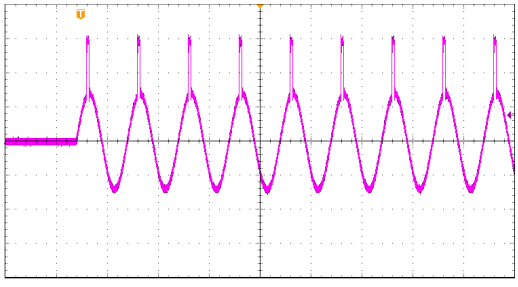
Voltage Sags/Voltage Spikes



Voltage Sags

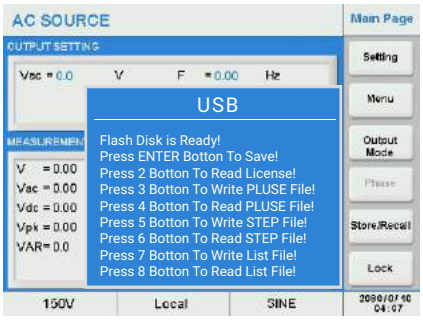


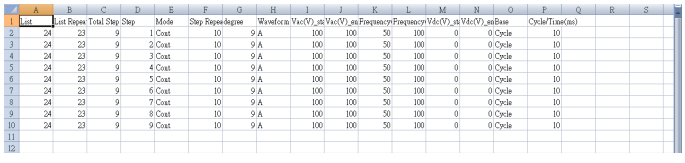
Voltage Spikes



File Save and Recall Via The USB Interface

The user can save the screenshot via the USB interface in the front panel. The user can import a CSV file via the USB interface to generate waveform output.

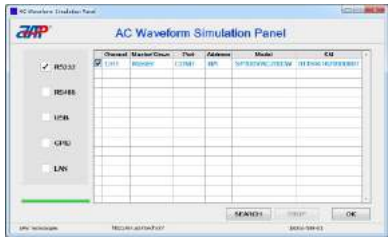




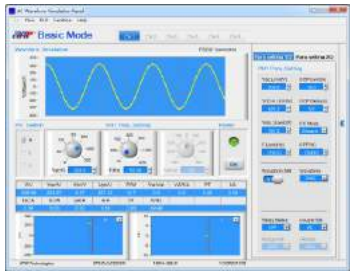
Monitoring Software

AC Waveform Simulation Panel is a graphical user interface that provides extraordinary capabilities and convenience by delivering control of the unit remotely, which covers all functions of panel operation.

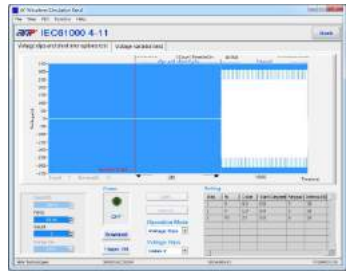
Login Interface



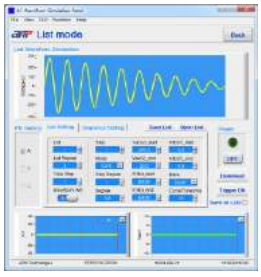
Basic mode(Main interface)



IEC61000 4-11 interface

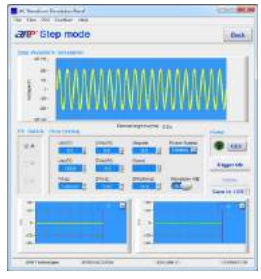


List mode interface

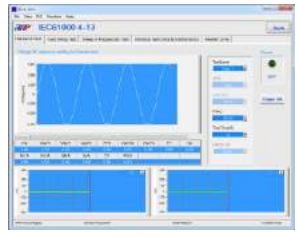


Pulse mode interface

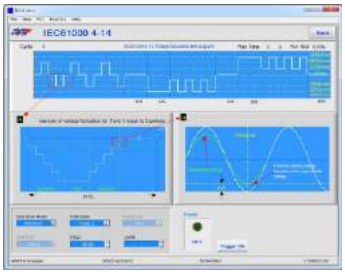
Step mode interface



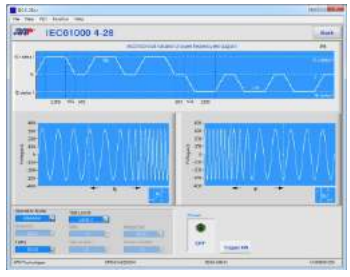
IEC61000 4-13 interface



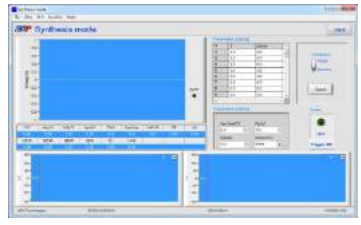
IEC61000 4-14 interface



IEC61000 4-28 interface

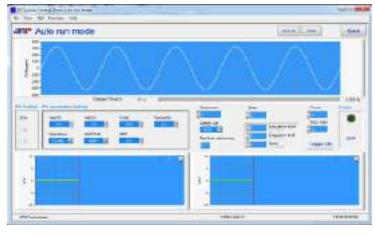


Synthesis mode interface

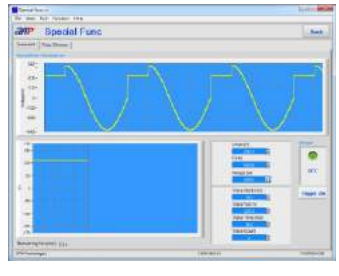


Harmonics Measure mode interface

Auto run mode interface



Special Func interface



SPST Series Linked 3-Phase AC Power Supply System

MODEL		SPST300VAC1800W-2-9	SPST300VAC3000W-2-9	SPST300VAC4500W-2-9
Input				
Voltage		90~265VAC	90~265VAC	100~265VAC
Frequency		47~63Hz		
Phase		3 Phase, 4Wire+Groud/Y Connect		
Max.Current		30A	45A	57A
Power Factor at 220VAC Input,Full Load		≥ 0.96 Active PFC	≥ 0.98 Active PFC	≥ 0.98 Active PFC
Efficiency		>81% (Peak) >80% at 220VAC,50Hz input/220VAC,50Hz output,Full Load	>85.5% (Peak) >85% at 220VAC,50Hz input/220VAC,50Hz output,Full Load	>87.5% (Peak) >87% at 220VAC,50Hz input/220VAC,50Hz output, Full Load
3-Phase Output Mode(Per Phase)				
AC Power(Total)		1800VA	3000VA	4500VA
AC Power(Per Phase)		600VA	1000VA	1500VA
Max.Current (r.m.s)	0~150V(L)	5.6A	9.2A	13.8A
	0~300V(H)	2.8A	4.6A	6.9A
Max.Current (Peak)	0~150V(L)	32.4A	55.2A	82.8A
	0~300V(H)	16.2A	27.6A	41.4A
1-Phase Output Mode				
AC Power(Total)[1]		1620VA	2700VA	4050VA
Max.Current (r.m.s)	0~150V(L)	15.12A	24.84A	37.26A
	0~300V(H)	7.56A	12.42A	18.62A
Max.Current (Peak)	0~150V(L)	87.48A	149A	223.56A
	0~300V(H)	43.47A	74.52A	111.78A
DC Power (Per Phase)		1620W	2700W	4050W
Max.Current (Total)		L 10.69A	L 17.55A	L 26.35A
		H 5.1A	H 8.9A	H 13.18A
3-Phase Output Mode(Per Phase)				
Total Harmonic Distortion (THD)		<0.5% (Resistive Load) at 15.0~70.0Hz and output voltage within the 80~140VAC at Low Range or the 160~280VAC at High Range; <1% (Resistive Load) at 70.1~500Hz and output voltage within the 80~140VAC at Low Range or the 160~280VAC at High Range; <1% (Resistive Load) at 501~1000Hz and output voltage within the 100~140VACat Low Range or the 160~280VAC at High Rang;		
Crest Factor(CF)		≤6		
Load Regulation		±0.2%F.S. (Resistive Load) at 15~100Hz ±0.5%F.S. (Resistive Load) at >100Hz		
Line Regulation		± 0.1V		
Voltage(AC) (L-N)	Range	0~300VAC, 150V/300V/Auto Mode		
	Resolution	0.1V		
	Accuracy	0.2% of setting +0.4%F.S at Voltage>3V		
Phase Angle (Starting /Ending)	Range	0~359.9°		
	Resolution	0.1°		
	Accuracy	± 1° @45~65Hz		
Voltage(DC)	Range	0~424VDC		
	Resolution	0.1V		
	Accuracy	0.3% of setting +0.4%F.S at Voltage>3V		
	DC Power	600W	1000W	1500W
	Max.Current	L 3.96A	L 6.5A	L 9.76A
		H 1.89A	H 3.3A	H 4.88A
	Ripple&Noise(Peak)	L <700mVrms @Bandwidth 20Hz to 1MHz	H <1100mVrms @Bandwidth 20Hz to 1MHz	
	Ripple&Noise(r.m.s)	<4000mVp-p @Bandwidth 20Hz to 1MHz		
Current OC Fold Mode	Resolution	0.01A		
	Accuracy	0.5% of setting +1.0%F.S.		
	Response Time	<1400ms		
Frequency	Range	15~1000Hz		
	Resolution	0.1Hz(15.0~99.9Hz),1Hz(100~1000Hz)		
	Accuracy	0.03% of setting		
Programmable Output Impedance		Not Support		
Harmonic & Interharmonics Simulation		Not Support		
Power Meter Function(Per Phase)				
Voltage	Range	AC 0~300VAC		
		DC 0~424VDC		
	Resolution	0.1V		
	Accuracy	0.2% of setting +0.4%F.S. (Peak: 0.6% of setting +1%F.S.)		

MODEL		SPST300VAC1800W-2-9	SPST300VAC3000W-2-9	SPST300VAC4500W-2-9
Frequency	Range	15~1000Hz		
	Resolution	0.1Hz(15.0~99.9Hz),1Hz(100~1000Hz)		
	Accuracy	0.1% of setting		
Current[2] (r.m.s)	Range	H 0.15A~5.6A	H 0.3A~9.2A	H 0.3A~13.8A
		L 0.1A~3A	L 0.1A~3A	L 0.1A~3A
	Resolution	0.01A		
	Accuracy	0.4%+1.0%F.S.		
Current[2] (Peak)	Range	0A~32.4A	0A~55.2A	0A~82.8A
	Resolution	0.01A		
	Accuracy	0.4%+1.5%F.S.		
Power	Range	0~612W	0~1020W	0~1530W
	Resolution	0.1W		
	Accuracy	0.4% of setting +0.3%F.S. at PF>0.2, Voltage >5V		
Power Apparent(VA)	Range	0~612VA	0~1020VA	0~1530VA
	Resolution	0.1VA		
	Accuracy	Voltage*Irms, Calculated value		
Power Resistive (VAR)	Range	0~612VAR	0~1020VAR	0~1530VAR
	Resolution	0.1VAR		
	Accuracy	$\sqrt{(VA)^2-(W)^2}$, Calculated value		
Power Factor (PF)	Range	0.00~1.00		
	Resolution	0.01		
	Accuracy	W/VA, Calculated value		
Harmonic	Range	Not Support		
Extra Function				
Slew Rate	Range	AC Voltage 0.001~1200.000V/ms and Disable		
		DC Voltage 0.001~1000.000V/ms and Disable		
		Frequency 0.001~1600.000Hz/ms and Disable		
Remote Sense	Range	5V(rms), Max. Total power less than rated power		
Calibration		Firmware-based calibration through the digital interface or front panel display		
Test Function		Not Support		
Graphic Display		4.3" Color touch LCD		
Operation Key Feature		Soft key, Numberic key, Rotary Knob, USB port for transfer and upgrading firmware		
Rack mount Handles		Yes		
FAN		Temperature Control		
Protection Circuits		OCP, OVP, OPP, OTP, RCP, PRI_UVP, PRI_OVP, PRI_OTP, PRI_OCP, USB_OCP		
Interface		USB, RS485, RS232, LAN(Option); GPIB(Option)		
Environmental				
Operating Temperature		0°C~40°C		
Storage Temperature		-40°C~85°C		
Altitude		2000m		
Relative Humidity		5%~95%, non-condensing		
Temperature Coefficient		100ppm/°C at Voltage, 300ppm/°C at Current,100ppm/°C at Frequency		
Mechanical				
Dimensions(WxHxD)		540.0x400.0x640.0 mm		
Package Dimensions (WxHxD)		660.0x710.0x760.0 mm		
Unit Weight		88.7kg		
Shipping Weight		108.7kg		
Regulatory Compliance				
CE Mark		Installation Overvoltage Category II;Class II equipment;indoor use only.		

[1] In single phase mode, the current shall be reduced to 90% for the consideration of current sharing.

[2] The tolerance will change slightly in high frequency condition;

All specifications are subject to change without notice.

SPST Series Linked 3-Phase AC Power Supply System

MODEL		SPST300VAC6000W-3-17	SPST300VAC9000W-4-17	SPST300VAC12000W-4-17	SPST300VAC15000W-4-17
Input					
Voltage		190~265VAC			
Frequency		47~63Hz			
Phase		3 Phase, 4Wire+Groud/Y Connect			
Max.Current		42A	60A	75A	90A
Power Factor at 220VAC Input,Full Load		≥ 0.99 Active PFC	≥ 0.98 Active PFC	≥ 0.99 Active PFC	≥ 0.99 Active PFC
Efficiency		>87% (Peak) >86% at 220VAC,50Hz input/230VAC,50Hz output, Full Load	>86% (Peak) >85% at 220VAC,50Hz input/230VAC,50Hz output, Full Load	>87% (Peak) >86% at 220VAC,50Hz input/230VAC,50Hz output, Full Load	>87% (Peak) >86% at 220VAC,50Hz input/230VAC,50Hz output, Full Load
3-Phase Output Mode(Per Phase)					
AC Power(Total)		6000VA	9000VA	12000VA	15000VA
AC Power(Per Phase)		2000VA	3000VA	4000VA	5000VA
Max.Current (r.m.s)	0~150V(L)	16A	27.6A	32A	46A
	0~300V(H)	8A	13.8A	16A	23A
Max.Current (Peak)	0~150V(L)	80A	165.6A	160A	184A
	0~300V(H)	40A	82.8A	80A	92A
1-Phase Output Mode					
AC Power(Total)[1]		5400VA	8100VA	10800VA	13500VA
Max.Current (r.m.s)	0~150V(L)	43.2A	74.52A	86.4A	124.2A
	0~300V(H)	21.6A	37.26A	43.2A	62.1A
Max.Current (Peak)	0~150V(L)	216A	447.12A	432A	496.8A
	0~300V(H)	108A	223.56A	216A	248.4A
DC Power (Per Phase)		5400W	8100W	10800W	13500W
Max.Current (Total)		L 30.51A	L 52.92A	L 61A	L 88A
		H 15.26A	H 26.46A	H 30.51A	H 44A
3-Phase Output Mode(Per Phase)					
Total Harmonic Distortion (THD)		<0.5% (Resistive Load) at 15.0~70.0Hz and output voltage within the 80~140VAC at Low Range or the 160~280VAC at High Range; <1% (Resistive Load) at 70.1~500Hz and output voltage within the 80~140VAC at Low Range or the 160~280VAC at High Range; <1% (Resistive Load) at 501~1000Hz and output voltage within the 100~140VACat Low Range or the 160~280VAC at High Rang;			
Crest Factor(CF)		≤5	≤6	≤5	≤4
Load Regulation		±0.2%F.S. (Resistive Load) at 15~100Hz ±0.5%F.S. (Resistive Load) at >100Hz			
Line Regulation		± 0.1V			
Voltage(AC) (L-N)	Range	0~300VAC, 150V/300V/Auto Mode			
	Resolution	0.1V			
	Accuracy	0.2% of setting +0.4%F.S at Voltage>3V			
Phase Angle (Starting /Ending)	Range	0~359.9°			
	Resolution	0.1°			
	Accuracy	± 1° @45~65Hz			
Voltage(DC)	Range	0~424VDC			
	Resolution	0.1V			
	Accuracy	0.3% of setting +0.4%F.S at Voltage>3V			
	DC Power	2000W	3000W	4000W	5000W
	Max.Current	L 11.3A	L 19.6A	L 22.6A	L 32.6A
		H 5.65A	H 9.8A	H 11.3A	H 16.3A
	Ripple&Noise (Peak)	L <700mVrms @Bandwidth 20Hz to 1MHz		H <1100mVrms @Bandwidth 20Hz to 1MHz	
	Ripple&Noise (r.m.s)	<4000mVp-p @Bandwidth 20Hz to 1MHz			
Current CC Fold Mode	Resolution	0.01A			
	Accuracy	2.0% of setting +1.0%F.S.			
	Response Time	<1400ms			
Frequency	Range	15~1000Hz			
	Resolution	0.1Hz(15.0~99.9Hz),1Hz(100~1000Hz)			
	Accuracy	0.03% of setting			
Programmable Output Impedance		Not Support			
Harmonic & Interharmonics Simulation		Not Support			
Power Meter Function(Per Phase)					
Voltage	Range	AC 0~300VAC			
		DC 0~424VDC			
	Resolution	0.1V			
	Accuracy	0.2% of setting +0.4%F.S. (Peak: 0.6% of setting +1%F.S.)			

SPST Series Linked 3-Phase AC Power Supply System

MODEL		SPST300VAC6000W-3-17	SPST300VAC9000W-4-17	SPST300VAC12000W-4-17	SPST300VAC15000W-4-17
Frequency	Range	15~1000Hz			
	Resolution	0.1Hz(15.0~99.9Hz),1Hz(100~1000Hz)			
	Accuracy	0.1% of setting			
Current[2] (r.m.s)	Range	H 0.15A~20A	H 0.3A~27.6A	H 0.3A~32A	H 0.3A~46A
		M -	M 0.2A~20A	M 0.2A~20A	M 0.2A~20A
		L 0.1A~5A	L 0.1A~5A	L 0.1A~5A	L 0.1A~5A
		mA 0.02A~1.5A	mA 0.02A~1.5A	mA 0.02A~1.5A	mA 0.02A~1.5A
	Resolution	0.01A			
	Accuracy	0.4%+1.0%F.S.			
Current[2] (Peak)	Range	0A~81.5A	0A~168.6A	0A~163A	0A~188A
	Resolution	0.01A			
	Accuracy	0.4%+1.5%F.S.			
Power	Range	0~2040W	0~3060W	0~4080W	0~5100W
	Resolution	0.1W			
	Accuracy	0.4% of setting +0.3%F.S. at PF>0.2, Voltage >5V			
Power Apparent(VA)	Range	0~2040VA	0~3060VA	0~4080VA	0~5100VA
	Resolution	0.1VA			
	Accuracy	Voltage*Irms, Calculated value			
Power Resistive (VAR)	Range	0~2040VAR	0~3060VAR	0~4080VAR	0~5100VAR
	Resolution	0.1VAR			
	Accuracy	$\sqrt{(VA)^2-(W)^2}$, Calculated value			
Power Factor (PF)	Range	0.00~1.00			
	Resolution	0.01			
	Accuracy	W/VA, Calculated value			
Harmonic	Range	Not Support			
Extra Function					
Slew Rate	Range	AC Voltage 0.001~1200.000V/ms and Disable			
		DC Voltage 0.001~1000.000V/ms and Disable			
		Frequency 0.001~1600.000Hz/ms and Disable			
Remote Sense	Range	5V(rms), Max. Total power less than rated power			
Calibration		Firmware-based calibration through the digital interface or front panel display			
Test Function		Not Support			
Graphic Display		5.6" Color touch LCD			
Operation Key Feature		Soft key, Numberic key, Rotary Knob, USB port for transfer and upgrading firmware			
Rack mount Handles		Yes			
FAN		Temperature Control			
Protection Circuits		OCP, OVP, OPP, OTP, RCP, PRI_UVP, PRI_OVP, PRI_OTP, PRI_OCP, USB_OCP			
Interface		USB, RS485, RS232, LAN(Standard); GPIB(Option)			
Environmental					
Operating Temperature		0°C~40°C			
Storage Temperature		-40°C~85°C			
Altitude		2000m			
Relative Humidity		5%~95%, non-condensing			
Temperature Coefficient		100ppm/°C at Voltage, 300ppm/°C at Current,100ppm/°C at Frequency			
Mechanical					
Dimensions(WxHxD)		560.0x754.0x700.0 mm			
Package Dimensions (WxHxD)		680.0x1146.0x820.0 mm			
Unit Weight		134.0kg	157.0kg	157.0kg	157.0kg
Shipping Weight		173.0kg	195.0kg	195.0kg	195.0kg
Regulatory Compliance					
CE Mark		Installation Overvoltage Category II;Class II equipment;indoor use only.			

[1] In single phase mode, the current shall be reduced to 90% for the consideration of current sharing.

[2] The tolerance will change slightly in high frequency condition;

All specifications are subject to change without notice.