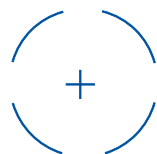


Product Brochure



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



Company Profile

APM Technologies (Dongguan) Co., Ltd. is a high-tech enterprise specialized in the research & development (R&D), production and distribution of marine smart system (MSS), PV solar inverter, programmable power supply, automated testing system and automated manufacturing equipment. Our company has complete systems in product planning, research & development, laboratory experiment, testing and quality control. In addition, we have passed the ISO 9001 standard certifications.

APM Technologies' R&D team consists of more than 100 personnel encompassing Ph.D. and master degree holders as well as senior experts in the related industries. By collaborating with a number of domestic and international research teams and maintaining a long term strategic cooperation with leading colleges and universities, our company can ensure products and services are leading the industry. Through applying our professional techniques and technologies to continually innovate and break through, so far APM Technologies has applied for a number of invention patents and already obtained a number of utility patents, design patents, software copyrights and other related patents. Our products have passed ROHS, CE, CSA, UL, FCC.

APM Technologies as one of the prime leaders in programmable power supply, from the beginning to the present, and from the past to the future, has always upheld the company spirit of "Constant Pursuit of Excellence" so as to provide our customers with the "24 Hours a Day of Continuing Services".



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AC Power Supply

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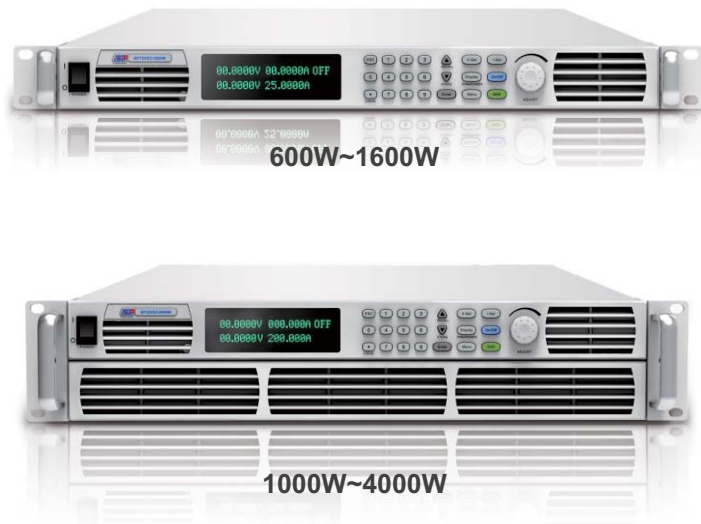


Test system

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Wide-range Programmable DC Power Supply

APM provides stable DC output and wider range voltage and current. For single unit, current range could reach to 200A. Voltage range could reach to 800V. One unit programmable power supplier could substitute several rectangular power. It could output multiple voltage and current group, set timed output time, provide OVP、OCP、OPP via front panel or PC. It supports list file function with built-in automotive electronics test waveform. Standard interfaces include RS232、RS485、USB、LAN. GPIB is optional. It could apply in various fields.



Features

- Low ripple and noise
- High accuracy and high resolution
- CC and CV working mode switch freely
- Support LIST/SEQUENCE file editing
- OVP/OCP/OPP/OTP/SCP
- Remote compensation
- With external analog control input interface
- Standard USB/LAN/RS485/RS232 communication interface
- Master/Slave parallel and series operation mode for up to 10 units

Model	Voltage	Current	Power
SP20VDC600W	20V	60A	600W
SP32VDC600W	32V	50A	600W
SP40VDC600W	40V	40A	600W
SP75VDC600W	75V	25A	600W
SP150VDC600W	150V	10A	600W
SP200VDC600W	200V	8A	600W
SP20VDC1000W	20V	60A	1000W
SP32VDC1000W	32V	50A	1000W
SP40VDC1000W	40V	40A	1000W
SP75VDC1000W	75V	25A	1000W
SP150VDC1000W	150V	10A	1000W
SP200VDC1000W	200V	8A	1000W
SP20VDC1200W	20V	60A	1200W
SP32VDC1200W	32V	50A	1200W
SP40VDC1200W	40V	40A	1200W
SP75VDC1200W	75V	25A	1200W
SP150VDC1200W	150V	10A	1200W
SP200VDC1200W	200V	8A	1200W
SP75VDC1500W	75V	25A	1500W
SP150VDC1500W	150V	10A	1500W
SP200VDC1500W	200V	8A	1500W
SP32VDC1600W	32V	50A	1600W
SP40VDC1600W	40V	40A	1600W
SPS32VDC1000W	32V	200A	1000W
SPS40VDC1000W	40V	120A	1000W
SPS80VDC1000W	80V	60A	1000W
SPS120VDC1000W	120V	40A	1000W
SPS150VDC1000W	150V	30A	1000W
SPS200VDC1000W	200V	24A	1000W
SPS600VDC1000W	600V	10A	1000W
SPS800VDC1000W	800V	7.5A	1000W
SP32VDC2000W	32V	200A	2000W
SP40VDC2000W	40V	120A	2000W
SP80VDC2000W	80V	60A	2000W
SP120VDC2000W	120V	40A	2000W
SP150VDC2000W	150V	30A	2000W
SP200VDC2000W	200V	24A	2000W
SP600VDC2000W	600V	10A	2000W
SP800VDC2000W	800V	7.5A	2000W
SP32VDC3000W	32V	200A	3000W
SP40VDC3000W	40V	120A	3000W
SP80VDC3000W	80V	60A	3000W
SP120VDC3000W	120V	40A	3000W
SP150VDC3000W	150V	30A	3000W
SP200VDC3000W	200V	24A	3000W
SP600VDC3000W	600V	10A	3000W
SP800VDC3000W	800V	7.5A	3000W
SP32VDC4000W	32V	200A	4000W
SP40VDC4000W	40V	120A	4000W
SP75VDC4000W	75V	60A	4000W
SP120VDC4000W	120V	40A	4000W
SP150VDC4000W	150V	30A	4000W
SP200VDC4000W	200V	24A	4000W
SP600VDC4000W	600V	10A	4000W
SP800VDC4000W	800V	7.5A	4000W

Optional Information

GPIB communication card & cables



Three-core input cable (Input voltage range 176-265V, only supported on 1U height units)



SP Series Front Panel Introduction

1U Power Supply Front Panel



2U Power Supply Front Panel



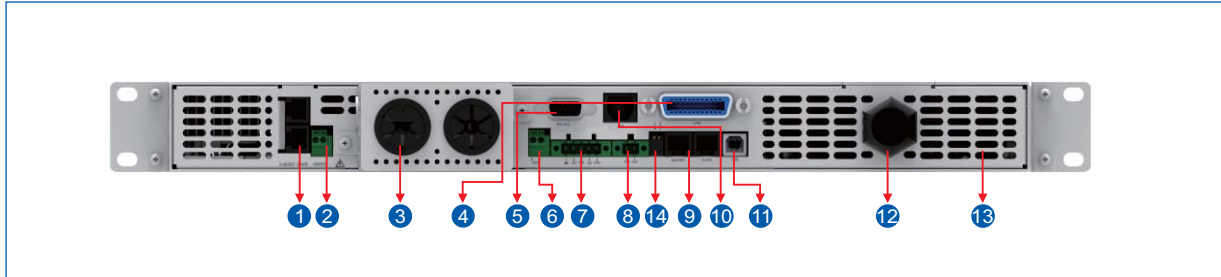
Key	Introduction
	Numeric Key
	Decimal Point
	Escape
	UP, used for choose menu or increase set value in menu operation
	DOWN, used for choose menu or decrease set value in menu operation
	Enter
	Set power supply's output voltage value
	Set power supply's output current-limiting value

Key	Introduction
	Press it to back to the main interface quickly
	Control ON/OFF of power supply
	Menu
	Work with functional keys to realize multifunction
LOCAL	Panel operation
RECALL	Recall stored setting value of power supply from internal storage
STORE	Store current settings of power supply to storage location
DVM/POWER	Display DVM value and power value

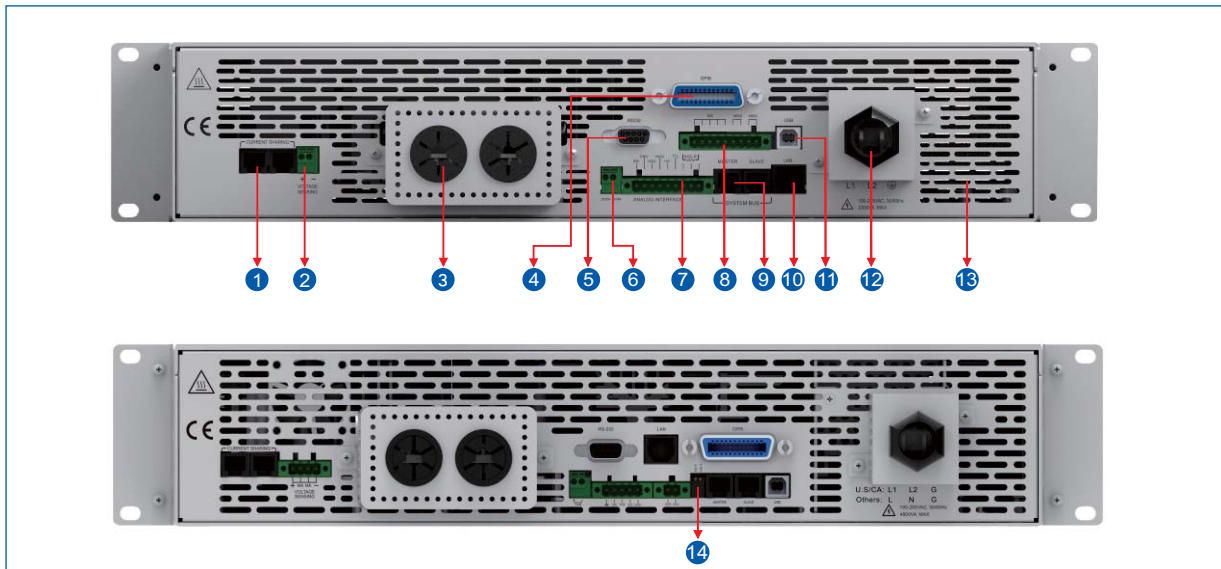
Wide-range Programmable DC Power Supply

SP Series Back Panel Introduction

1U Power Supply Back Panel



2U Power Supply Back Panel

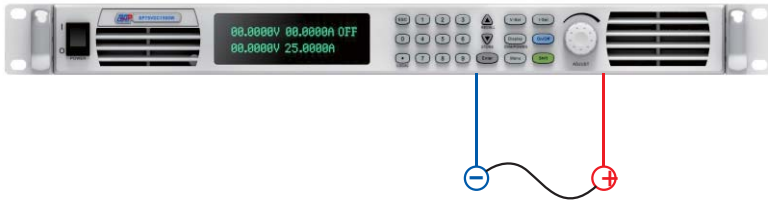


- ❶ AVG1/AVG2 Connector, used for connecting between units to enable current sharing.
- ❷ Voltage Remote Supporting Connector (VOLTAGE SENSING): Used to support wire voltage drops.
- ❸ DC output terminal: Left (-), Right (+).
- ❹ GPIB Communication connector.
- ❺ RS-232 Communication connector.
- ❻ DVM Connector.
- ❼ ANALOG INTERFACE signal connection terminal.
- ❽ RS-485 Communication connector.
- ❾ SYSTEM BUS control, used for transmission of master and slaves.
- ❿ LAN Communication Interface.
- ⓫ USB Communication Interface.
- ⓬ AC Power Connection terminal.
- ⓭ The fan duct outlet.
- ⓮ Termination resistor for Rs485 and CAN Communication.

Note: There is a slight difference between these two kinds of rear panels of 2U units.

Ultra-low Voltage Mode

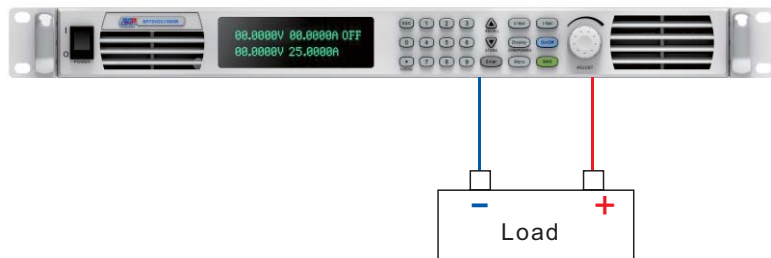
This function is applicable to cable/fuse current carrying capacity test, when activated, the power supply will shutdown the short circuit protection function and maintain ultra- low voltage to output rated current.



ADVANCED FUNC
SHORT MODE = 

Timer Control function

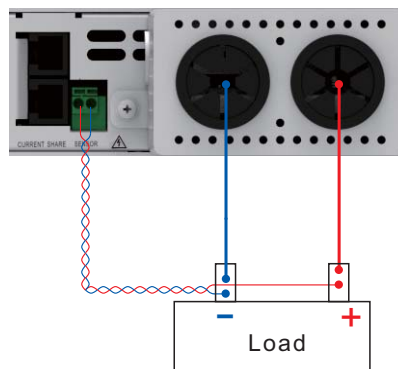
This function is applicable to unattended occasions, activate the timer and the output, the screen will show the countdown of the timer. Once it reaches down to zero, the supply will turn off the output automatically. And the full protection of the power supply will make sure the safe usage of this function.



TIMER=00:05:00
00.0000V 000.000A OFF
12.0000V 009.000A

Remote Compensation Function

This function is applicable to compensate the voltage drop on the load line in order to improve the accuracy of test. In practical applications, even if the voltage drop is negligible, it is best to connect the remote compensation cable to the output terminal. When using the remote compensation functionality, please disconnect the S+, S- from the power supply's output terminal, and connect them to both ends of the DUT. Maximum compensation voltage is up to 5V. The output power need be lower than 1.05% of the rated power after compensation.

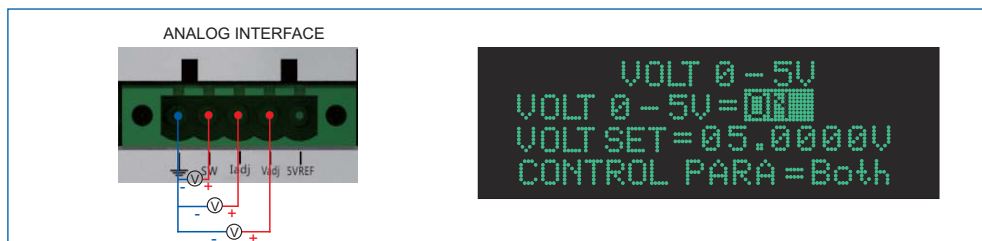


Wide-range Programmable DC Power Supply

External Control Function

This series power supply can offer external voltage/ potentiometers control output, can be controlled by external voltage(0~5V) or external potentiometers(5~10K) in order to remotely adjust the power supply voltage and current regulation settings and the output status of the power supply.

External Voltage Control



External Potentiometer Control

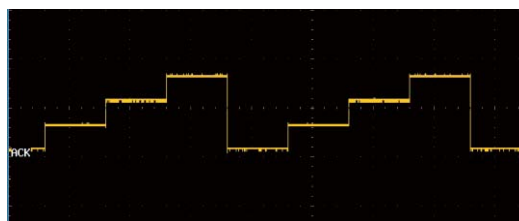
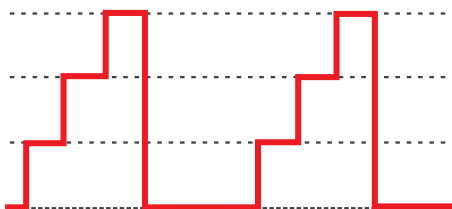


LIST Waveform Editing Function

This series power supply supports 3 kinds of LIST file editing format in order to meet the output elements of different test requirements. The minimum resolution of time setting is 1ms.

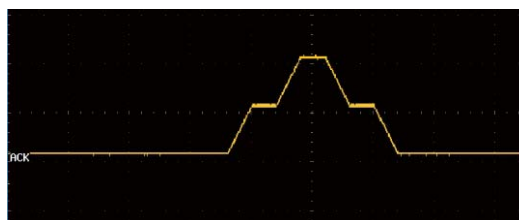
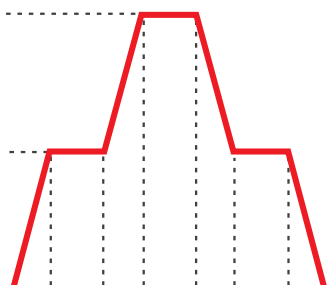
Impulse File Format

Sets the trend of the output voltage over time and its duration. Set the mode of the output waveform execution as required, LOOP, CONT, STEP.



Slope File Format

Support to set the slope of output voltage, achieve to slowly increase and drop of the output voltage. Set the mode of the output waveform execution as required, LOOP, CONT, STEP.



SEQUENCE Waveform Editing function

This function is an upgrade version of the LIST file editing. Its every step is a complete LIST file. It can combine several LIST file and output, meanwhile, it can set the number of repetitions per LIST file and number of executions of the entire SEQUENCE file.



Measure Average Function

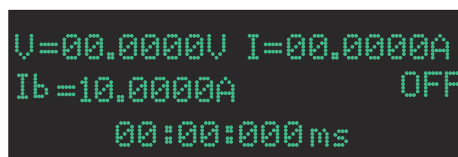
Under this mode, if the DUT has a sharp change in voltage and current, the averaging times can be adjusted to be FAST, MEDIUM or SLOW to make the displayed value more stable.



Current Counting Function

This function offers testing of the cutoff time of a breaker or a fuse.

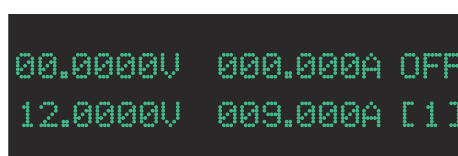
Starts timing when the current reaches the circuit breaker or fuse's fusing current I_b , stops timing when disconnected, the timing resolution is up to 200ms.



Quick Recall Function

Support to recall the stored parameters directly by the numeric keys on the front panel.

Firstly, user stores the frequently used data in the power supply's memory, press the numeric key directly after entering the quick recall mode, can quick recall the datas which are stored in 【1】 ~ 【9】

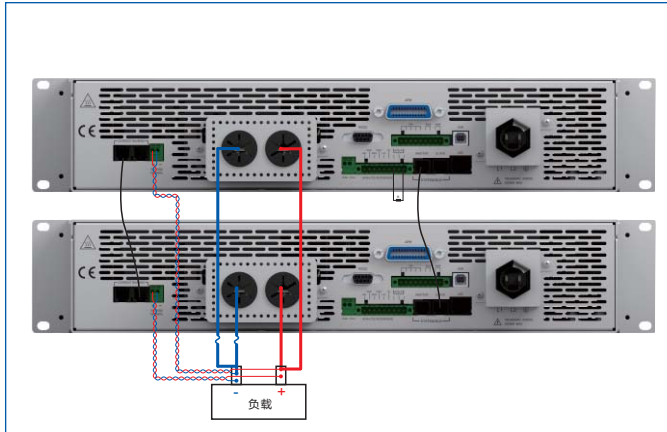


Wide-range Programmable DC Power Supply

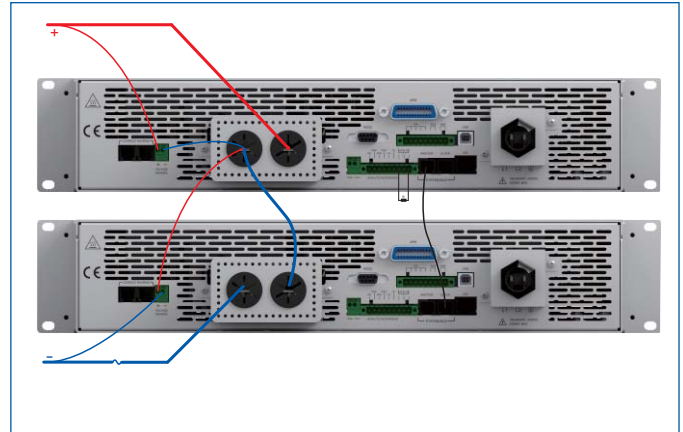
Master/Slave Mode

This series power supply support Master/Slave parallel and series operation mode for up to 10 units, extended power up to 40kW. The current sharing function in parallel mode realizes the equalization of the power supplies in the system, thereby ensuring the extended power without affecting the performance index of the power supply. CAN parallel mode realizes the same dynamic response of the system as single unit, realizing high-speed and non-delayed synchronous response of master and slave.

Parallel Connection

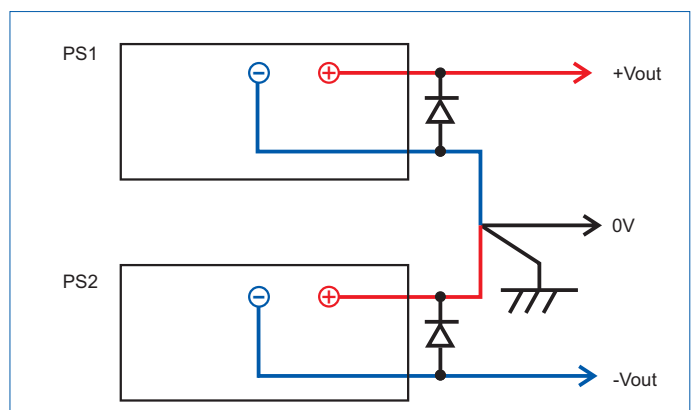
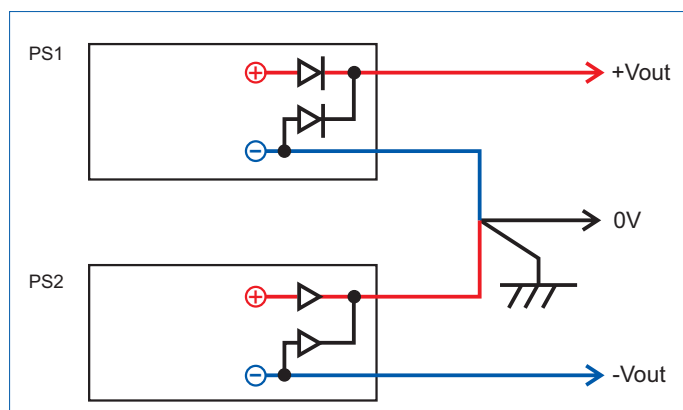
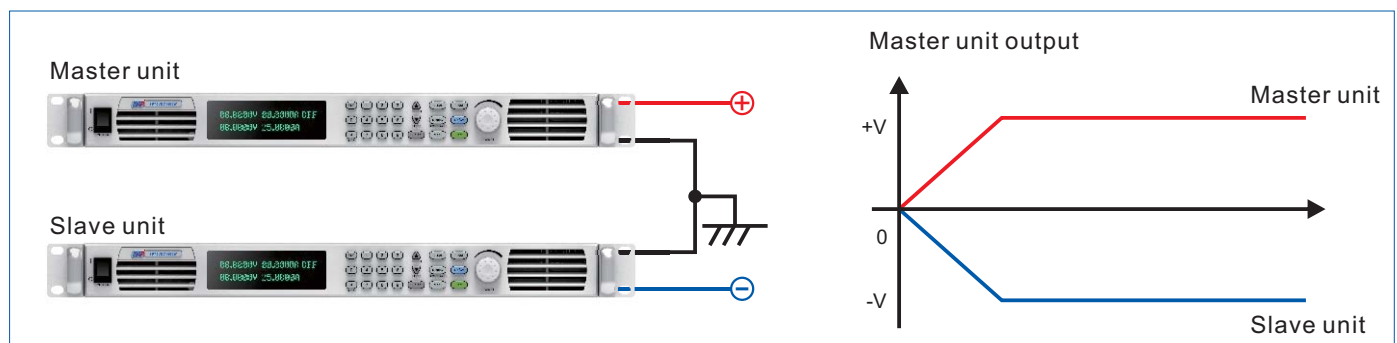


Series Connection



Positive / Negative Voltage Output Mode

This mode which enables both positive and negative outputs simultaneously in master slave operation.



The power supply below 200A has been connected with anti reverse diode, so the external diode isn't needed in the actual connection, and the 200A power supply needs to connect the diode.

Built-in Standard Automobile Electric Test Waveform

It can be used to simulate the transient interference of power supply which may often be encountered in the process of automobile startup and operation. In accordance with industry standards, this series power supply has built-in voltage curves under the DIN40839 and ISO 16750-2 standards for 12V and 24V test grades. User can call the voltage curve directly for testing or edit as desired.

No.	Standard	Test item name	Waveform	List/Sequence File Name(Built-in)
1	ISO16750-2	Automobile Start Transient Voltage Drop		List 3-2 (12V Voltage Grade) List 3-7 (24V Voltage Grade)
2	ISO16750-2	Automobile Electronic Restoration Function Test		Sequence1 (includes List 3-3 and List 3-4, for 12V system) Sequence 2 (includes List 3-8 and List 3-9, for 24V system)
3	ISO16750-2	Automobile Electronic Engine Start Test		List 3-5
4	DIN40839	Automobile Electronic Engine Start Test		List 3-1

Anti reverse irrigation/Power Sink Function

This series power supply has protection against reverse irrigation, so as to cut off the current of DUT in a certain test condition to the direction of power supply, and prevent the damage to the power supply hardware circuit from DUT.



Meanwhile, this series power supply comes standard with short circuit copper sheet, When the test requires the power supply to absorb the spike generated by DUT to ensure the safety of the operation, the short-circuit copper piece can be connected, and the energy is absorbed by the output capacitor inside the power supply and other circuits.



Note: Please consult your sales representative to get detailed information about anti reverse irrigation protection for power supply models above 200A.

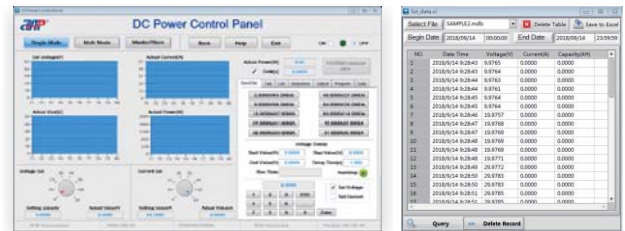
Wide-range Programmable DC Power Supply

Monitoring Software

All power supplies come standard with graphical monitoring software, which supports all communication interfaces and covers almost all functions of the power supply front panel operation. In the communication selection interface, users can select the communication interface and search for the connected power supply according to the actual connection.



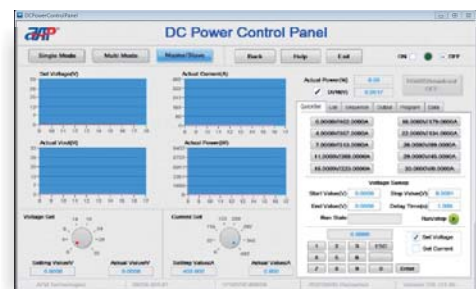
When the communication port has only one power supply connection, it enters the Single Mode interface. Includes the basic settings of voltage and current and measurement function, and List waveform editing/ saved test data function.



When the communication port has more than one power supply connection, it enters the Multi Mode interface. Supports switching control or display current power supply's settings.



When the communication port connects the power supply that is the Master unit, it enters Master/Slave interface. The Master/Slave interface only maintains communication with the Master unit, and the parameters are synchronously written to the slaves.



WebSever Function

Use can control the power supply on a computer using a web browser. No need to install the monitoring software, just open web browser and input IP address to control the unit, which can meet basic setting and monitoring requirements.



Wide-range Programmable DC Power Supply

600W in 1U

Model	SP20VDC600W	SP32VDC600W	SP40VDC600W	SP75VDC600W	SP150VDC600W	SP200VDC600W
INPUT						
Input Voltage	90~265VAC					
Input Frequency	47~63Hz					
Power Factor	>0.98					
OUTPUT						
Output Voltage Range	0~20V	0~32V	0~40V	0~75V	0~150V	0~200V
Output Current Range	0~60A	0~50A	0~40A	0~25A	0~10A	0~8A
Output Power Range	0~600W					
Voltage Load Regulation	10mV	10mV	10mV	10mV	15mV	15mV
Current Load Regulation	60mA	50mA	40mA	25mA	10mA	8mA
Voltage Display Resolution	0.1mV	0.1mV	0.1mV	0.1mV	1mV	1mV
Current Display Resolution	0.2mA	0.2mA	0.2mA	0.2mA	0.2mA	0.1mA
Voltage Setting Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Setting Accuracy	0.1%+60mA	0.1%+50mA	0.1%+40mA	0.1%+25mA	0.1%+10mA	0.1%+8mA
Voltage Measurement Accuracy ^[2]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+60mA	0.1%+50mA	0.1%+40mA	0.1%+25mA	0.1%+10mA	0.1%+8mA
Voltage Ripple ^[2]	40mVp-p 6mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	120mVp-p 40mVrms	120mVp-p 40mVrms
Current Ripple ^[3]	60mA (Full Range) 20mA (TYP Value)	50mA (Full Range) 20mA (TYP Value)	40mA (Full Range) 20mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)	40mA (Full Range) 10mA (TYP Value)	40mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.005%+1mV	0.005%+1mV	0.005%+1mV	0.005%+1mV	0.02%+8mV	0.02%+8mV
Line Regulation(Current)	4mA	4mA	4mA	4mA	10mA	30mA
Voltage Temperature Coefficient ^[4]	100ppm/°C					
Current Temperature Coefficient ^[4]	150ppm/°C					
Remote Compensation	4V MAX					
Response (Voltage Increase)	≤10ms	≤12ms	≤10ms	≤10ms	≤25ms	≤30ms
Response (Voltage Drop)	≤150ms (no load) ≤20ms (full load)	≤150ms (no load) ≤20ms (full load)	≤150ms (no load) ≤20ms (full load)	≤160ms (no load) ≤20ms (full load)	≤400ms (no load) ≤32ms (full load)	≤600ms (no load) ≤30ms (full load)
Load Transient Recovery Time ^[5]	≤2ms	≤2ms	≤2ms	≤2ms	≤3ms	≤3ms
Command Response Time	50ms					
Efficiency (full load)	85%	86%	87%	88%	88%	87%
OTHER						
Protection Function	OVP/OC/OTP/OPP/SCP					
Fold Back Function	Yes					
Net Weight	9.2kg	9.2kg	9.2kg	8.9kg	9.3kg	9.3kg
Dimensions(WxHxD)	483.0x44.0x531.0 mm					
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB					
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.					

[1] %output+offset, when output voltage less than 5V, offset voltage is 30mV.

[2] Vp-p@20MHz, Vrms@1.25MHz.

The 20V/32V/40V/75V models voltage ripple is 50mVp-p/6mVrms @ 1V. For the 600V and 800V models, the voltage ripple from 0~5V is out of the range show above.

[3] Arms@1.25MHz, the TYP Value is measured at the rated output voltage with 100% resistive load, and the measured value at full range of output voltage with 100% resistive load is less than the Full Range value.

[4] 0~40°C.

[5] Time for output voltage to recover within 0.5%(0.75% @800V models) of its rated output for a load change from 10% to 90% of its rated output current. Voltage set point from 10% to 90% of rated output.

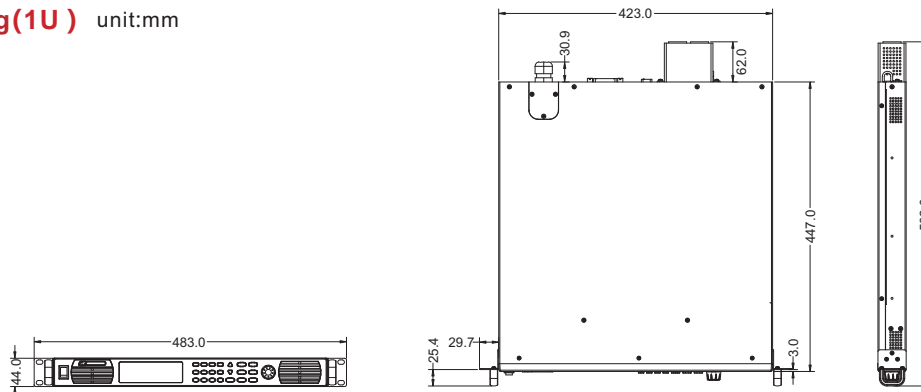
All specifications are subject to change without notice.

Wide-range Programmable DC Power Supply

1000W in 1U

Model	SP20VDC1000W	SP32VDC1000W	SP40VDC1000W	SP75VDC1000W	SP150VDC1000W	SP200VDC1000W
INPUT						
Input Voltage	90~265VAC					
Input Frequency	47~63Hz					
Power Factor	>0.98					
OUTPUT						
Output Voltage Range	0~20V	0~32V	0~40V	0~75V	0~150V	0~200V
Output Current Range	0~60A	0~50A	0~40A	0~25A	0~10A	0~8A
Output Power Range	0~1000W					
Voltage Load Regulation	10mV	10mV	10mV	10mV	15mV	15mV
Current Load Regulation	60mA	50mA	40mA	25mA	10mA	8mA
Voltage Display Resolution	0.1mV	0.1mV	0.1mV	0.1mV	1mV	1mV
Current Display Resolution	0.2mA	0.2mA	0.2mA	0.2mA	0.2mA	0.1mA
Voltage Setting Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Setting Accuracy	0.1%+60mA	0.1%+50mA	0.1%+40mA	0.1%+25mA	0.1%+10mA	0.1%+8mA
Voltage Measurement Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+60mA	0.1%+50mA	0.1%+40mA	0.1%+25mA	0.1%+10mA	0.1%+8mA
Voltage Ripple ^[2]	40mVp-p 6mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	120mVp-p 40mVrms	120mVp-p 40mVrms
Current Ripple ^[3]	60mA (Full Range) 20mA (TYP Value)	50mA (Full Range) 20mA (TYP Value)	40mA (Full Range) 20mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)	40mA (Full Range) 10mA (TYP Value)	40mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.005%+1mV	0.005%+1mV	0.005%+1mV	0.005%+1mV	0.02%+8mV	0.02%+8mV
Line Regulation(Current)	4mA	4mA	4mA	4mA	10mA	30mA
Voltage Temperature Coefficient ^[4]	100ppm/°C					
Current Temperature Coefficient ^[4]	150ppm/°C					
Remote Compensation	4V MAX					
Response (Voltage Increase)	≤10ms	≤12ms	≤10ms	≤10ms	≤25ms	≤30ms
Response (Voltage Drop)	≤150ms (no load) ≤20ms (full load)	≤150ms (no load) ≤15ms (full load)	≤150ms (no load) ≤15ms (full load)	≤160ms (no load) ≤15ms (full load)	≤400ms (no load) ≤25ms (full load)	≤600ms (no load) ≤40ms (full load)
Load Transient Recovery Time ^[5]	≤2ms	≤2ms	≤2ms	≤2ms	≤3ms	≤3ms
Command Response Time	50ms					
Efficiency (full load)	85%	89%	89%	89%	89%	87%
OTHER						
Protection Function	OVP/OC/OTP/OPP/SCP					
Fold Back Function	Yes					
Net Weight	9.2kg	9.2kg	9.2kg	8.9kg	9.3kg	9.3kg
Dimensions(WxHxD)	483.0x44.0x531.0 mm					
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB					
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.					

Dimension Drawing(1U) unit:mm



Wide-range Programmable DC Power Supply

1200W in 1U

Model	SP20VDC1200W	SP32VDC1200W	SP40VDC1200W	SP75VDC1200W	SP150VDC1200W	SP200VDC1200W
INPUT						
Input Voltage	90~265VAC					
Input Frequency	47~63Hz					
Power Factor	>0.98					
OUTPUT						
Output Voltage Range	0~20V	0~32V	0~40V	0~75V	0~150V	0~200V
Output Current Range	0~60A	0~50A	0~40A	0~25A	0~10A	0~8A
Output Power Range	0~1200W					
Voltage Load Regulation	10mV	10mV	10mV	10mV	15mV	15mV
Current Load Regulation	60mA	50mA	40mA	25mA	10mA	8mA
Voltage Display Resolution	0.1mV	0.1mV	0.1mV	0.1mV	1mV	1mV
Current Display Resolution	0.2mA	0.2mA	0.2mA	0.2mA	0.2mA	0.1mA
Voltage Setting Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Setting Accuracy	0.1%+60mA	0.1%+50mA	0.1%+40mA	0.1%+25mA	0.1%+10mA	0.1%+8mA
Voltage Measurement Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+60mA	0.1%+50mA	0.1%+40mA	0.1%+25mA	0.1%+10mA	0.1%+8mA
Voltage Ripple ^[2]	40mVp-p 6mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	120mVp-p 40mVrms	120mVp-p 40mVrms
Current Ripple ^[3]	60mA (Full Range) 20mA (TYP Value)	50mA (Full Range) 20mA (TYP Value)	40mA (Full Range) 20mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)	40mA (Full Range) 10mA (TYP Value)	40mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.005%+1mV	0.005%+1mV	0.005%+1mV	0.005%+1mV	0.02%+8mV	0.02%+8mV
Line Regulation(Current)	4mA	4mA	4mA	4mA	10mA	30mA
Voltage Temperature Coefficient ^[4]	100ppm/°C					
Current Temperature Coefficient ^[4]	150ppm/°C					
Remote Compensation	4V MAX					
Response (Voltage Increase)	≤10ms	≤10ms	≤10ms	≤10ms	≤25ms	≤30ms
Response (Voltage Drop)	≤150ms (no load) ≤12ms (full load)	≤150ms (no load) ≤12ms (full load)	≤150ms (no load) ≤12ms (full load)	≤160ms (no load) ≤12ms (full load)	≤400ms (no load) ≤21ms (full load)	≤600ms (no load) ≤36ms (full load)
Load Transient Recovery Time ^[5]	≤2ms	≤2ms	≤2ms	≤2ms	≤3ms	≤3ms
Command Response Time	50ms					
Efficiency (full load)	84%	84%	89%	90%	89%	90%
OTHER						
Protection Function	OVP/OC/OTP/OPP/SCP					
Fold Back Function	Yes					
Net Weight	9.2kg	9.2kg	9.2kg	8.9kg	9.3kg	9.3kg
Dimensions(WxHxD)	483.0x44.0x531.0 mm					
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB					
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.					

[1] %output+offset, when output voltage less than 5V, offset voltage is 30mV.

[2] Vp-p@20MHz, Vrms@1.25MHz.

The 20V/32V/40V/75V models voltage ripple is 50mVp-p/6mVrms @ 1V. For the 600V and 800V models, the voltage ripple from 0~5V is out of the range show above.

[3] Arms@1.25MHz, the TYP Value is measured at the rated output voltage with 100% resistive load, and the measured value at full range of output voltage with 100% resistive load is less than the Full Range value.

[4] 0~40°C.

[5] Time for output voltage to recover within 0.5%(0.75% @800V models) of its rated output for a load change from 10% to 90% of its rated output current. Voltage set point from 10% to 90% of rated output.

All specifications are subject to change without notice.

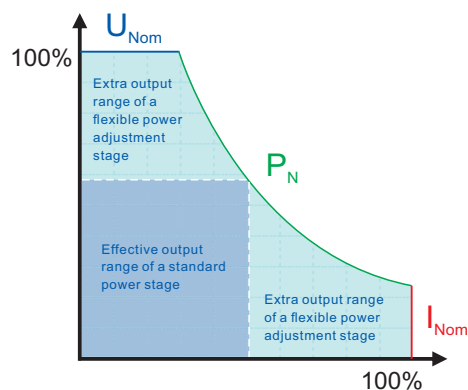
Wide-range Programmable DC Power Supply

1500W in 1U

Model	SP75VDC1500W	SP150VDC1500W	SP200VDC1500W
INPUT			
Input Voltage	90~265VAC		
Input Frequency	47~63Hz		
Power Factor	>0.98		
OUTPUT			
Output Voltage Range	0~75V	0~150V	0~200V
Output Current Range	0~25A	0~10A	0~8A
Output Power Range	0~1500W		
Voltage Load Regulation	10mV	15mV	15mV
Current Load Regulation	25mA	10mA	8mA
Voltage Display Resolution	0.1mV	1mV	1mV
Current Display Resolution	1.5mA	0.2mA	0.1mA
Voltage Setting Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV
Current Setting Accuracy	0.1%+25mA	0.1%+10mA	0.1%+8mA
Voltage Measurement Accuracy ^[1]	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+25mA	0.1%+10mA	0.1%+8mA
Voltage Ripple ^[2]	40mVp-p 6mVrms	120mVp-p 40mVrms	120mVp-p 40mVrms
Current Ripple ^[3]	25mA (Full Range) 10mA (TYP Value)	40mA (Full Range) 10mA (TYP Value)	40mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.005%+2mV	0.02%+8mV	0.02%+8mV
Line Regulation(Current)	4mA	10mA	30mA
Voltage Temperature Coefficient ^[4]	100ppm/°C		
Current Temperature Coefficient ^[4]	150ppm/°C		
Remote Compensation	4V MAX		
Response (Voltage Increase)	≤10ms	≤25ms	≤30ms
Response (Voltage Drop)	≤160ms (no load) ≤10ms (full load)	≤400ms (no load) ≤18ms (full load)	≤600ms (no load) ≤30ms (full load)
Load Transient Recovery Time ^[5]	≤2ms	≤3ms	≤3ms
Command Response Time	50ms		
Efficiency (full load)	91%	90%	91%
OTHER			
Protection Function	OVP/OCP/OTP/OPP/SCP		
Fold Back Function	Yes		
Net Weight	8.9kg	9.3kg	9.3kg
Dimensions(WxHxD)	483.0x44.0x531.0 mm		
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB		
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.		

Constant Power Diagrammatic Drawing and Brief Introduction

Wide range output power supply provides wider voltage and current range, one unit function can replace several traditional rectangular power units so as to save cost and space for user; meanwhile, this series power supply can realize diversified operation through front panel, monitoring software or external control to meet various application requirements of the user.



Wide-range Programmable DC Power Supply

1600W in 1U

Model	SP32VDC1600W	SP40VDC1600W
	INPUT	
Input Voltage	90~265VAC	
Input Frequency	47~63Hz	
Power Factor	>0.98	
	OUTPUT	
Output Voltage Range	0~32V	0~40V
Output Current Range	0~50A	0~40A
Output Power Range	0~1600W	
Voltage Load Regulation	10mV	
Current Load Regulation	50mA	40mA
Voltage Display Resolution	0.1mV	
Current Display Resolution	0.2mA	
Voltage Setting Accuracy ^[1]	0.05%+15mV	
Current Setting Accuracy	0.1%+50mA	0.1%+40mA
Voltage Measurement Accuracy ^[1]	0.05%+15mV	
Current Measurement Accuracy	0.1%+50mA	0.1%+40mA
Voltage Ripple ^[2]	40mVp-p 6mVrms	
Current Ripple ^[3]	50mA (Full Range) 20mA (TYP Value)	40mA (Full Range) 20mA (TYP Value)
Line Regulation(Voltage)	0.005%+1mV	
Line Regulation(Current)	4mA	
Voltage Temperature Coefficient ^[4]	100ppm/°C	
Current Temperature Coefficient ^[4]	150ppm/°C	
Remote Compensation	4V MAX	
Response (Voltage Increase)	≤12ms	≤10ms
Response (Voltage Drop)	≤150ms (no load) ≤10ms (full load)	
Load Transient Recovery Time ^[5]	≤2ms	
Command Response Time	50ms	
Efficiency (full load)	89%	90%
	OTHER	
Protection Function	OVP/OC/OTP/OPP/SCP	
Fold Back Function	Yes	
Net Weight	9.2kg	
Dimensions(WxHxD)	483.0x44.0x531.0 mm	
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB	
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.	

[1] %output+offset, when output voltage less than 5V, offset voltage is 30mV.

[2] Vp-p@20MHz, Vrms@1.25MHz.

The 20V/32V/40V/75V models voltage ripple is 50mVp-p/6mVrms @ 1V. For the 600V and 800V models, the voltage ripple from 0~5V is out of the range show above.

[3] Arms@1.25MHz, the TYP Value is measured at the rated output voltage with 100% resistive load, and the measured value at full range of output voltage with 100% resistive load is less than the Full Range value.

[4] 0~40°C.

[5] Time for output voltage to recover within 0.5%(0.75% @800V models) of its rated output for a load change from 10% to 90% of its rated output current. Voltage set point from 10% to 90% of rated output.

All specifications are subject to change without notice.

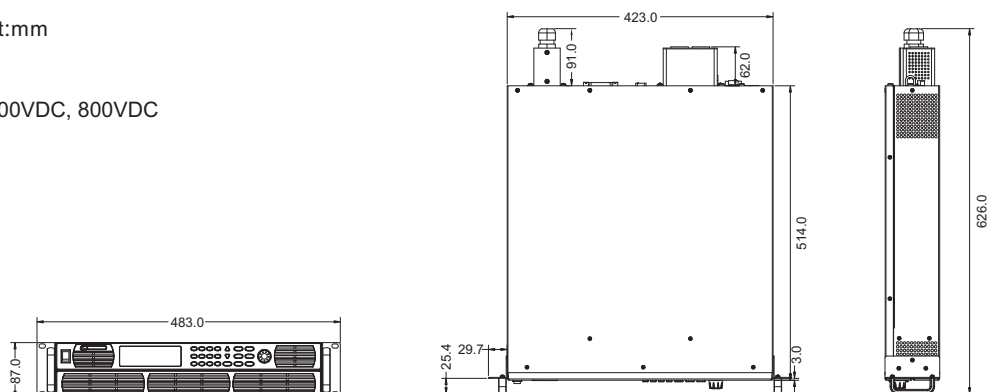
Wide-range Programmable DC Power Supply

1000W in 2U(1)

Model	SPS32VDC1000W	SPS40VDC1000W	SPS80VDC1000W	SPS120VDC1000W
INPUT				
Input Voltage	90~265VAC			
Input Frequency	47~63Hz			
Power Factor	>0.98	>0.98	>0.97	>0.98
OUTPUT				
Output Voltage Range	0~32V	0~40V	0~80V	0~120V
Output Current Range	0~200A	0~120A	0~60A	0~40A
Output Power Range	0~1000W			
Voltage Load Regulation	30mV	15mV	15mV	15mV
Current Load Regulation	200mA	120mA	60mA	40mA
Voltage Display Resolution	0.1mV	0.1mV	0.1mV	1mV
Current Display Resolution	1mA	1mA	0.2mA	0.1mA
Voltage Setting Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Current Setting Accuracy	0.1%+200mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Measurement Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+200mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Ripple ^[2]	60mVp-p 10mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	80mVp-p 15mVrms
Current Ripple ^[3]	400mA (Full Range) 200mA (TYP Value)	150mA (Full Range) 20mA (TYP Value)	50mA (Full Range) 10mA (TYP Value)	60mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.01%+8mV	0.02%+8mV	0.01%+8mV	0.02%+8mV
Line Regulation(Current)	200mA	30mA	30mA	40mA
Voltage Temperature Coefficient ^[4]	100ppm/°C			
Current Temperature Coefficient ^[4]	150ppm/°C			
Remote Compensation	4V MAX	4V MAX	4V MAX	5V MAX
Response (Voltage Increase)	≤20ms (no load) ≤40ms (full load)	≤10ms	≤15ms	≤20ms
Response (Voltage Drop)	≤500ms (no load) ≤45ms (full load)	≤350ms (no load) ≤10ms (full load)	≤450ms (no load) ≤30ms (full load)	≤350ms (no load) ≤21ms (full load)
Load Transient Recovery Time ^[5]	≤2ms			
Command Response Time	50ms			
Efficiency (full load)	85%	87%	89%	88%
OTHER				
Protection Function	OVP/OC/OTP/OPP/SCP			
Fold Back Function	No(customers can purchase other accessories to achieve this function, please consult the salesrepresentative for details)	Yes	Yes	Yes
Net Weight	14.7kg	14.7kg	13.2kg	13.2kg
Dimensions(WxHxD)	483.0x87.0x626.0 mm	483.0x87.0x626.0 mm	483.0x87.0x581.0 mm	483.0x87.0x581.0 mm
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.			

Dimension Drawing(2U) unit:mm

Remark: Dimension of 32VDC, 40VDC, 600VDC, 800VDC
2U products: 483.0*87.0*626.0 mm



Wide-range Programmable DC Power Supply

1000W in 2U(2)

Model	SPS150VDC1000W	SPS200VDC1000W	SPS600VDC1000W	SPS800VDC1000W
INPUT				
Input Voltage	90~265VAC			
Input Frequency	47~63Hz			
Power Factor	>0.98			
OUTPUT				
Output Voltage Range	0~150V	0~200V	0~600V	0~800V
Output Current Range	0~30A	0~24A	0~10A	0~7.5A
Output Power Range	0~1000W			
Voltage Load Regulation	15mV	15mV	30mV	200mV
Current Load Regulation	30mA	24mA	10mA	8mA
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting Accuracy ^[1]	0.1%+15mV	0.1%+15mV	0.05%+150mV	0.05%+200mV
Current Setting Accuracy	0.1%+30mA	0.1%+24mA	0.1%+10mA	0.1%+7.5mA
Voltage Measurement Accuracy ^[1]	0.1%+15mV	0.1%+15mV	0.05%+150mV	0.05%+200mV
Current Measurement Accuracy	0.1%+30mA	0.1%+24mA	0.1%+10mA	0.1%+7.5mA
Voltage Ripple ^[2]	80mVp-p 15mVrms	150mVp-p 30mVrms	350mVp-p 40mVrms	800mVp-p 200mVrms
Current Ripple ^[3]	60mA (Full Range) 10mA (TYP Value)	50mA (Full Range) 20mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.02%+8mV	0.02%+8mV	0.01%+308mV	0.01%+40mV
Line Regulation(Current)	30mA	30mA	15mA	15mA
Voltage Temperature Coefficient ^[4]	100ppm/°C			
Current Temperature Coefficient ^[4]	150ppm/°C			
Remote Compensation	5V MAX			
Response (Voltage Increase)	≤25ms	≤30ms	≤60ms	≤60ms
Response (Voltage Drop)	≤500ms (no load) ≤25ms (full load)	≤500ms (no load) ≤35ms (full load)	≤800ms (no load) ≤110ms (full load)	≤800ms (no load) ≤60ms (full load)
Load Transient Recovery Time ^[5]	≤2ms	≤2ms	≤3ms	≤3ms
Command Response Time	50ms			
Efficiency (full load)	88%	88%	86%	85%
OTHER				
Protection Function	OVP/OC/OTP/OPP/SCP			
Fold Back Function	Yes			
Net Weight	13.2kg	14.7kg	13.2kg	13.2kg
Dimensions(WxHxD)	483.0x87.0x581.0 mm	483.0x87.0x581.0 mm	483.0x87.0x626.0 mm	483.0x87.0x626.0 mm
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.			

[1] %output+offset, when output voltage less than 5V, offset voltage is 30mV.

[2] Vp-p@20MHz, Vrms@1.25MHz.

The 20V/32V/40V/75V models voltage ripple is 50mVp-p/6mVrms @ 1V. For the 600V and 800V models, the voltage ripple from 0~5V is out of the range show above.

[3] Arms@1.25MHz, the TYP Value is measured at the rated output voltage with 100% resistive load, and the measured value at full range of output voltage with 100% resistive load is less than the Full Range value.

[4] 0~40°C.

[5] Time for output voltage to recover within 0.5%(0.75% @800V models) of its rated output for a load change from 10% to 90% of its rated output current. Voltage set point from 10% to 90% of rated output.

All specifications are subject to change without notice.

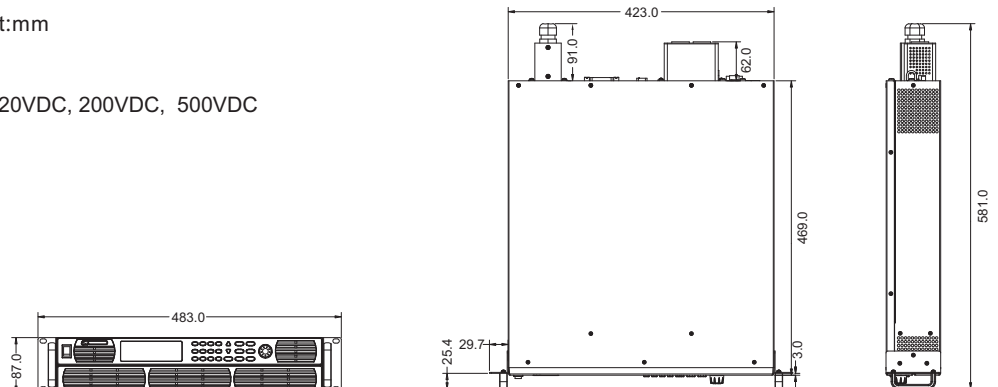
Wide-range Programmable DC Power Supply

2000W in 2U(1)

Model	SP32VDC2000W	SP40VDC2000W	SP80VDC2000W	SP120VDC2000W
INPUT				
Input Voltage	190~265VAC			
Input Frequency	47~63Hz			
Power Factor	>0.98			
OUTPUT				
Output Voltage Range	0~32V	0~40V	0~80V	0~120V
Output Current Range	0~200A	0~120A	0~60A	0~40A
Output Power Range	0~2000W			
Voltage Load Regulation	30mV	15mV	15mV	15mV
Current Load Regulation	200mA	120mA	60mA	40mA
Voltage Display Resolution	0.1mV	0.1mV	0.1mV	1mV
Current Display Resolution	1mA		0.2mA	0.1mA
Voltage Setting Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Current Setting Accuracy	0.1%+200mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Measurement Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+200mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Ripple ^[2]	60mVp-p 10mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	80mVp-p 15mVrms
Current Ripple ^[3]	400mA (Full Range) 200mA (TYP Value)	150mA (Full Range) 20mA (TYP Value)	50mA (Full Range) 10mA (TYP Value)	60mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.01%+8mV	0.01%+8mV	0.01%+8mV	0.02%+8mV
Line Regulation(Current)	200mA	30mA	30mA	30mA
Voltage Temperature Coefficient ^[4]	100ppm/°C			
Current Temperature Coefficient ^[4]	150ppm/°C			
Remote Compensation	4V MAX	4V MAX	4V MAX	5V MAX
Response (Voltage Increase)	≤20ms (no load) ≤30ms (full load)	≤10ms	≤15ms	≤20ms
Response (Voltage Drop)	≤500ms (no load) ≤30ms (full load)	≤350ms (no load) ≤10ms (full load)	≤450ms (no load) ≤30ms (full load)	≤350ms (no load) ≤21ms (full load)
Load Transient Recovery Time ^[5]	≤2ms		≤2ms	≤3ms
Command Response Time	50ms			
Efficiency (full load)	91%	88%	89%	89%
OTHER				
Protection Function	OVP/OC/OTP/OPP/SCP			
Fold Back Function	No(customers can purchase other accessories to achieve this function, please consult the salesrepresentative for details)	Yes	Yes	Yes
Net Weight	14.7kg	14.7kg	13.2kg	13.2kg
Dimensions(WxHxD)	483.0x87.0x626.0 mm	483.0x87.0x626.0 mm	483.0x87.0x581.0 mm	483.0x87.0x581.0 mm
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.			

Dimension Drawing(2U) unit:mm

Remark: Dimension of 75VDC, 80VDC, 120VDC, 200VDC, 500VDC
2U products: 483.0*87.0*581.0 mm



Wide-range Programmable DC Power Supply

2000W in 2U(2)

Model	SP150VDC2000W	SP200VDC2000W	SP600VDC2000W	SP800VDC2000W
INPUT				
Input Voltage	190~265VAC			
Input Frequency	47~63Hz			
Power Factor	>0.98			
OUTPUT				
Output Voltage Range	0~150V	0~200V	0~600V	0~800V
Output Current Range	0~30A	0~24A	0~10A	0~7.5A
Output Power Range	0~2000W			
Voltage Load Regulation	15mV	15mV	30mV	200mV
Current Load Regulation	30mA	24mA	10mA	20mA
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting Accuracy ^[1]	0.1%+15mV	0.1%+15mV	0.05%+150mV	0.05%+200mV
Current Setting Accuracy	0.1%+30mA	0.1%+24mA	0.1%+10mA	0.1%+7.5mA
Voltage Measurement Accuracy ^[2]	0.1%+15mV	0.1%+15mV	0.05%+150mV	0.05%+200mV
Current Measurement Accuracy	0.1%+30mA	0.1%+24mA	0.1%+10mA	0.1%+7.5mA
Voltage Ripple ^[2]	40mVp-p 6mVrms	150mVp-p 30mVrms	350mVp-p 40mVrms	800mVp-p 200mVrms
Current Ripple ^[3]	60mA (Full Range) 10mA (TYP Value)	50mA (Full Range) 20mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.02%+8mV	0.02%+8mV	0.01%+30mV	0.01%+40mV
Line Regulation(Current)	30mA	30mA	15mA	20mA
Voltage Temperature Coefficient ^[4]	100ppm/°C			
Current Temperature Coefficient ^[4]	150ppm/°C			
Remote Compensation	5V MAX			
Response (Voltage Increase)	≤25ms	≤30ms	≤60ms	≤60ms
Response (Voltage Drop)	≤500ms (no load) ≤25ms (full load)	≤500ms (no load) ≤20ms (full load)	≤800ms (no load) ≤90ms (full load)	≤800ms (no load) ≤60ms (full load)
Load Transient Recovery Time ^[5]	≤3ms			
Command Response Time	50ms			
Efficiency (full load)	90%	90%	90%	91%
OTHER				
Protection Function	OVP/OC/OTP/OPP/SCP			
Fold Back Function	Yes			
Net Weight	13.2kg	13.2kg	14.7kg	14.7kg
Dimensions(WxHxD)	483.0x87.0x581.0 mm	483.0x87.0x581.0 mm	483.0x87.0x626.0 mm	483.0x87.0x626.0 mm
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.			

[1] %output+offset, when output voltage less than 5V, offset voltage is 30mV.

[2] Vp-p@20MHz, Vrms@1.25MHz.

The 20V/32V/40V/75V models voltage ripple is 50mVp-p/6mVrms @ 1V. For the 600V and 800V models, the voltage ripple from 0~5V is out of the range show above.

[3] Arms@1.25MHz, the TYP Value is measured at the rated output voltage with 100% resistive load, and the measured value at full range of output voltage with 100% resistive load is less than the Full Range value.

[4] 0~40°C.

[5] Time for output voltage to recover within 0.5%(0.75% @800V models) of its rated output for a load change from 10% to 90% of its rated output current. Voltage set point from 10% to 90% of rated output.

All specifications are subject to change without notice.

Wide-range Programmable DC Power Supply

3000W in 2U(1)

Model	SP32VDC3000W	SP40VDC3000W	SP80VDC3000W	SP120VDC3000W
	INPUT			
Input Voltage	190~265VAC			
Input Frequency	47~63Hz			
Power Factor	>0.98			
	OUTPUT			
Output Voltage Range	0~32V	0~40V	0~80V	0~120V
Output Current Range	0~200A	0~120A	0~60A	0~40A
Output Power Range	0~3000W			
Voltage Load Regulation	30mV	15mV	15mV	15mV
Current Load Regulation	200mA	120mA	60mA	40mA
Voltage Display Resolution	0.1mV	0.1mV	0.1mV	1mV
Current Display Resolution	1mA	1mA	0.2mA	0.1mA
Voltage Setting Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Current Setting Accuracy	0.1%+200mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Measurement Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.05%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+200mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Ripple ^[2]	60mVp-p 10mVrms	40mVp-p 6mVrms	40mVp-p 6mVrms	80mVp-p 15mVrms
Current Ripple ^[3]	400mA (Full Range) 200mA (TYP Value)	150mA (Full Range) 20mA (TYP Value)	50mA (Full Range) 10mA (TYP Value)	60mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.01%+8mV	0.01%+8mV	0.01%+8mV	0.02%+8mV
Line Regulation(Current)	200mA	30mA	30mA	30mA
Voltage Temperature Coefficient ^[4]	100ppm/°C			
Current Temperature Coefficient ^[4]	150ppm/°C			
Remote Compensation	4V MAX	4V MAX	4V MAX	5V MAX
Response (Voltage Increase)	≤20ms (no load) ≤20ms (full load)	≤10ms	≤15ms	≤20ms
Response (Voltage Drop)	≤500ms (no load) ≤25ms (full load)	≤350ms (no load) ≤10ms (full load)	≤450ms (no load) ≤30ms (full load)	≤350ms (no load) ≤21ms (full load)
Load Transient Recovery Time ^[5]	≤2ms			
Command Response Time	50ms			
Efficiency (full load)	91%	88%	91%	91%
	OTHER			
Protection Function	OVP/OCP/OTP/OPP/SCP			
Fold Back Function	No(customers can purchase other accessories to achieve this function, please consult the salesrepresentative for details)	Yes	Yes	Yes
Net Weight	14.7kg	14.7kg	13.2kg	13.2kg
Dimensions(WxHxD)	483.0x87.0x626.0 mm	483.0x87.0x626.0 mm	483.0x87.0x581.0 mm	483.0x87.0x581.0 mm
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.			

Foldback protection

All of this programmable power supply series could provide Foldback protection. After the protection is turned on, the power supply will shut down the output when the output mode is converted. That is, when the power supply enters CV from CC or enters CC from CV, it can protect the tested object.

Wide-range Programmable DC Power Supply

3000W in 2U(2)

Model	SP150VDC3000W	SP200VDC3000W	SP600VDC3000W	SP800VDC3000W
INPUT				
Input Voltage	190~265VAC			
Input Frequency	47~63Hz			
Power Factor	>0.98			
OUTPUT				
Output Voltage Range	0~150V	0~200V	0~600V	0~800V
Output Current Range	0~30A	0~24A	0~10A	0~7.5A
Output Power Range	0~3000W			
Voltage Load Regulation	15mV	15mV	30mV	200mV
Current Load Regulation	30mA	24mA	10mA	20mA
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting Accuracy ^[1]	0.1%+15mV	0.1%+15mV	0.05%+150mV	0.05%+200mV
Current Setting Accuracy	0.1%+30mA	0.1%+24mA	0.1%+10mA	0.1%+7.5mA
Voltage Measurement Accuracy ^[2]	0.1%+15mV	0.1%+15mV	0.05%+150mV	0.05%+200mV
Current Measurement Accuracy	0.1%+30mA	0.1%+24mA	0.1%+10mA	0.1%+7.5mA
Voltage Ripple ^[2]	80mVp-p 15mVrms	150mVp-p 30mVrms	350mVp-p 40mVrms	800mVp-p 200mVrms
Current Ripple ^[3]	60mA (Full Range) 10mA (TYP Value)	50mA (Full Range) 20mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.02%+8mV	0.02%+8mV	0.01%+30mV	0.01%+40mV
Line Regulation(Current)	30mA	30mA	15mA	20mA
Voltage Temperature Coefficient ^[4]	100ppm/°C			
Current Temperature Coefficient ^[4]	150ppm/°C			
Remote Compensation	5V MAX			
Response (Voltage Increase)	≤25ms	≤30ms	≤60ms	≤60ms
Response (Voltage Drop)	≤500ms (no load) ≤25ms (full load)	≤500ms (no load) ≤20ms (full load)	≤800ms (no load) ≤75ms (full load)	≤800ms (no load) ≤60ms (full load)
Load Transient Recovery Time ^[5]	≤2.5ms	≤3ms	≤3ms	≤3ms
Command Response Time	50ms			
Efficiency (full load)	92%	91%	91%	91%
OTHER				
Protection Function	OVP/OC/OTP/OPP/SCP			
Fold Back Function	Yes			
Net Weight	13.2kg	13.2kg	14.7kg	14.7kg
Dimensions(WxHxD)	483.0x87.0x581.0 mm	483.0x87.0x581.0 mm	483.0x87.0x626.0 mm	483.0x87.0x626.0 mm
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.			

[1] %output+offset, when output voltage less than 5V, offset voltage is 30mV.

[2] Vp-p@20MHz, Vrms@1.25MHz.

The 20V/32V/40V/75V models voltage ripple is 50mVp-p/6mVrms @ 1V. For the 600V and 800V models, the voltage ripple from 0~5V is out of the range show above.

[3] Arms@1.25MHz, the TYP Value is measured at the rated output voltage with 100% resistive load, and the measured value at full range of output voltage with 100% resistive load is less than the Full Range value.

[4] 0~40°C.

[5] Time for output voltage to recover within 0.5%(0.75% @800V models) of its rated output for a load change from 10% to 90% of its rated output current. Voltage set point from 10% to 90% of rated output.

All specifications are subject to change without notice.

Wide-range Programmable DC Power Supply

4000W in 2U(1)

Model	SP32VDC4000W	SP40VDC4000W	SP75VDC4000W	SP120VDC4000W
INPUT				
Input Voltage	190~265VAC			
Input Frequency	47~63Hz			
Power Factor	>0.98			
OUTPUT				
Output Voltage Range	0~32V	0~40V	0~75V	0~120V
Output Current Range	0~200A	0~120A	0~60A	0~40A
Output Power Range	0~4000W			
Voltage Load Regulation	30mV	15mV	15mV	15mV
Current Load Regulation	200mA	120mA	60mA	40mA
Voltage Display Resolution	0.1mV	0.1mV	0.1mV	1mV
Current Display Resolution	1mA	1mA	0.1mA	0.1mA
Voltage Setting Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Setting Accuracy	0.1%+200mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Measurement Accuracy ^[1]	0.05%+15mV	0.05%+15mV	0.1%+15mV	0.1%+15mV
Current Measurement Accuracy	0.1%+200mA	0.1%+120mA	0.1%+60mA	0.1%+40mA
Voltage Ripple ^[2]	60mVp-p 10mVrms	40mVp-p 6mVrms	40mVp-p 8mVrms	80mVp-p 15mVrms
Current Ripple ^[3]	400mA (Full Range) 200mA (TYP Value)	150mA (Full Range) 20mA (TYP Value)	60mA (Full Range) 10mA (TYP Value)	60mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.01%+8mV	0.01%+8mV	0.01%+8mV	0.02%+8mV
Line Regulation(Current)	200mA	30mA	30mA	30mA
Voltage Temperature Coefficient ^[4]	100ppm/°C			
Current Temperature Coefficient ^[4]	150ppm/°C			
Remote Compensation	4V MAX	4V MAX	5V MAX	5V MAX
Response (Voltage Increase)	≤20ms (no load) ≤20ms (full load)	≤10ms	≤15ms	≤20ms
Response (Voltage Drop)	≤500ms (no load) ≤20ms (full load)	≤350ms (no load) ≤10ms (full load)	≤450ms (no load) ≤20ms (full load)	≤350ms (no load) ≤21ms (full load)
Load Transient Recovery Time ^[5]	≤2ms			
Command Response Time	50ms			
Efficiency (full load)	91%	91%	91%	92%
OTHER				
Protection Function	OVP/OCPP/OTP/OPP/SCP			
Fold Back Function	No(customers can purchase other accessories to achieve this function, please consult the salesrepresentative for details)	Yes	Yes	Yes
Net Weight	14.7kg	14.7kg	13.2kg	13.2kg
Dimensions(WxHxD)	483.0x87.0x626.0 mm	483.0x87.0x626.0 mm	483.0x87.0x581.0 mm	483.0x87.0x581.0 mm
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB			
Operating Environment	Temperature 0~40℃, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.			

Labview Demo support

of this programmable power supply series supports the SCPI command, and provides customers with the communication Demo of RS232/RS485/USB/LAN and GPIB based on Labview. Users can download it directly from APM website (<http://enpps.apmtech.cn/>) , which is convenient to use and saves the cost of software development.



Wide-range Programmable DC Power Supply

4000W in 2U(2)

Model	SP150VDC4000W	SP200VDC4000W	SP600VDC4000W	SP800VDC4000W
INPUT				
Input Voltage	190~265VAC			
Input Frequency	47~63Hz			
Power Factor	>0.98			
OUTPUT				
Output Voltage Range	0~150V	0~200V	0~600V	0~800V
Output Current Range	0~30A	0~24A	0~10A	0~7.5A
Output Power Range	0~4000W			
Voltage Load Regulation	15mV	25mV	30mV	200mV
Current Load Regulation	30mA	24mA	10mA	20mA
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting Accuracy ^[1]	0.1%+15mV	0.1%+15mV	0.05%+150mV	0.05%+200mV
Current Setting Accuracy	0.1%+30mA	0.1%+24mA	0.1%+10mA	0.1%+7.5mA
Voltage Measurement Accuracy ^[1]	0.1%+15mV	0.1%+15mV	0.05%+150mV	0.05%+200mV
Current Measurement Accuracy	0.1%+30mA	0.1%+24mA	0.1%+10mA	0.1%+7.5mA
Voltage Ripple ^[2]	80mVp-p 15mVrms	150mVp-p 30mVrms	350mVp-p 40mVrms	800mVp-p 200mVrms
Current Ripple ^[3]	60mA (Full Range) 10mA (TYP Value)	50mA (Full Range) 20mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)	25mA (Full Range) 10mA (TYP Value)
Line Regulation(Voltage)	0.02%+8mV	0.02%+8mV	0.01%+30mV	0.01%+40mV
Line Regulation(Current)	30mA	30mA	15mA	20mA
Voltage Temperature Coefficient ^[4]	100ppm/°C			
Current Temperature Coefficient ^[4]	150ppm/°C			
Remote Compensation	5V MAX			
Response (Voltage Increase)	≤25ms	≤30ms	≤60ms	≤60ms
Response (Voltage Drop)	≤500ms (no load) ≤25ms (full load)	≤500ms (no load) ≤20ms (full load)	≤800ms (no load) ≤60ms (full load)	≤800ms (no load) ≤60ms (full load)
Load Transient Recovery Time ^[5]	≤2.5ms	≤3ms	≤3ms	≤3ms
Command Response Time	50ms	50V	200V	250V
Efficiency (full load)	93%	92%	92%	92%
OTHER				
Protection Function	OVP/OC/OTP/OPP/SCP			
Fold Back Function	Yes			
Net Weight	13.2kg	13.2kg	14.7kg	14.7kg
Dimensions(WxHxD)	483.0x87.0x581.0 mm	483.0x87.0x581.0 mm	483.0x87.0x626.0 mm	483.0x87.0x626.0 mm
Communication Modes	1. RS232/RS485/USB/LAN; 2. RS232/RS485/USB/LAN/GPIB			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation); Pollution degree 2, Installation category II, Indoor use.			

[1] %output+offset, when output voltage less than 5V, offset voltage is 30mV.

[2] Vp-p@20MHz, Vrms@1.25MHz.

The 20V/32V/40V/75V models voltage ripple is 50mVp-p/6mVrms @ 1V. For the 600V and 800V models, the voltage ripple from 0~5V is out of the range show above.

[3] Arms@1.25MHz, the TYP Value is measured at the rated output voltage with 100% resistive load, and the measured value at full range of output voltage with 100% resistive load is less than the Full Range value.

[4] 0~40°C.

[5] Time for output voltage to recover within 0.5%(0.75% @800V models) of its rated output for a load change from 10% to 90% of its rated output current. Voltage set point from 10% to 90% of rated output.

All specifications are subject to change without notice.

High Power Programmable DC Power System

APM provides stable DC output. Built-in voltage and current measurement function could provide wider range voltage and current combination. Single unit could cover range from 12KW to 40KW. Power rang could reach to 2000A and voltage range could reach to 1200V. DC source system can fulfill different kinds of DC power applications. Users can set the output voltage, current arbitrarily. Measure all kinds of features and display on VFD. At the meanwhile, power source provide multi standard interface, simplify and accelerate test development.



Features

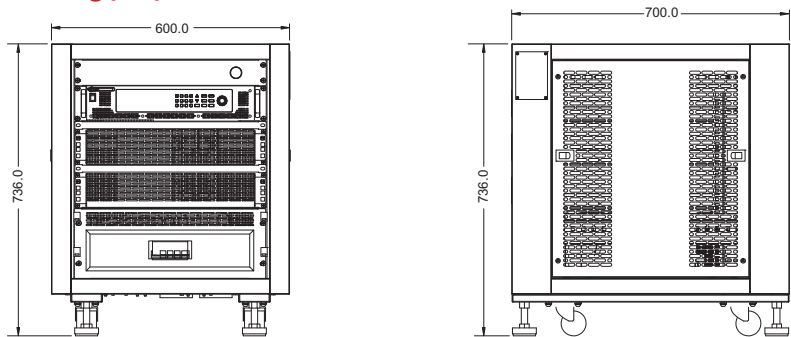
- With accurate voltage and current measurement capability
- Coded knobs, multifunctional keyboard
- Standard RS232/LAN/RS485/USB interface, Optional for GPIB
- Remote sensing to compensate for voltage drop in load leads
- Support CV and CC automatically switch
- Function of editing List waveform
- Use SCPI commands
- CE certified
- OVP/OCP/OPP/OTP/SCP

Model	Voltage	Current	Power
SYS32VDC12000W	32V	600A	12kW
SYS32VDC24000W	32V	1200A	24kW
SYS32VDC40000W	32V	2000A	40kW
SYS40VDC12000W	40V	360A	12kW
SYS40VDC24000W	40V	720A	24kW
SYS40VDC40000W	40V	1200A	40kW
SYS75VDC12000W	75V	180A	12kW
SYS75VDC24000W	75V	360A	24kW
SYS75VDC40000W	75V	600A	40kW
SYS96VDC12000W	96V	200A	12kW
SYS120VDC12000W	120V	120A	12kW
SYS120VDC24000W	120V	240A	24kW
SYS120VDC40000W	120V	400A	40kW
SYS150VDC12000W	150V	90A	12kW
SYS150VDC24000W	150V	180A	24kW
SYS150VDC40000W	150V	300A	40kW
SYS192VDC24000W	192V	200A	24kW
SYS200VDC12000W	200V	72A	12kW
SYS200VDC24000W	200V	144A	24kW
SYS200VDC40000W	200V	240A	40kW
SYS225VDC12000W	225V	60A	12kW
SYS240VDC24000W	240V	120A	24kW
SYS320VDC40000W	320V	200A	40kW
SYS360VDC12000W	360V	40A	12kW
SYS400VDC40000W	400V	120A	40kW
SYS450VDC12000W	450V	30A	12kW
SYS450VDC24000W	450V	60A	24kW
SYS600VDC12000W	600V	30A	12kW
SYS600VDC24000W	600V	60A	24kW
SYS600VDC40000W	600V	100A	40kW
SYS720VDC24000W	720V	40A	24kW
SYS750VDC40000W	750V	60A	40kW
SYS800VDC12000W	800V	22.5A	12kW
SYS800VDC24000W	800V	45A	24kW
SYS800VDC40000W	800V	75A	40kW
SYS900VDC24000W	900V	30A	24kW
SYS1200VDC24000W	1200V	24A	24kW
SYS1200VDC40000W	1200V	40A	40kW

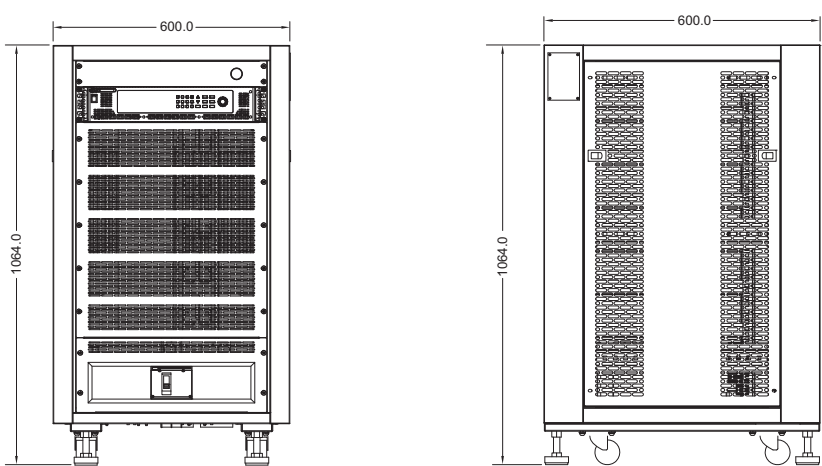
Note: please consult the regional sales for detailed parameters.

Dimension Drawing

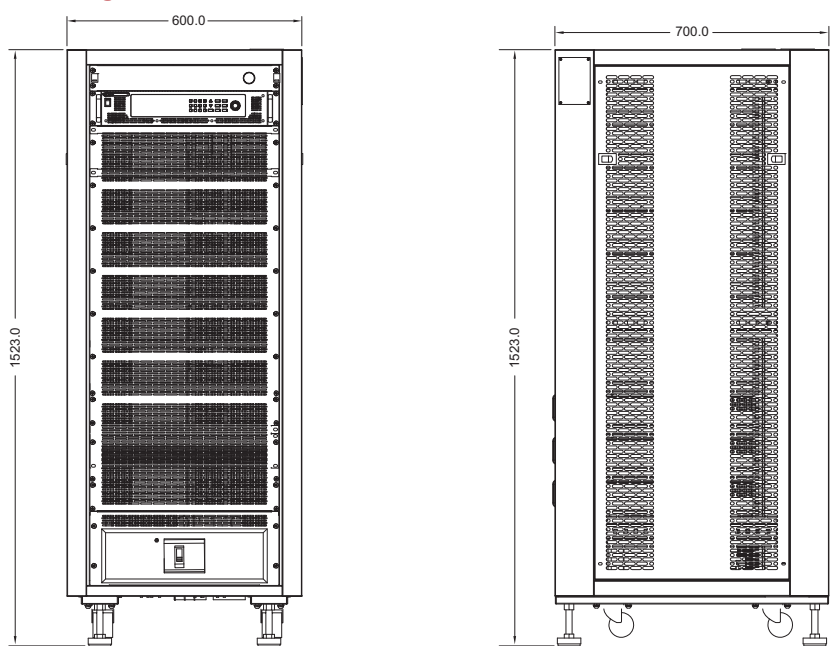
Dimension Drawing(6U) unit:mm



Dimension Drawing(12U) unit:mm

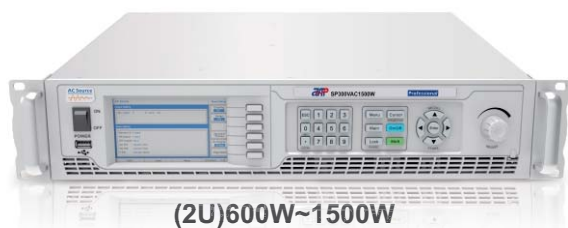


Dimension Drawing(20U) unit:mm



High Performance Programmable AC Source

It is a switching mode single-channel output high-precision programmable AC power source, which adopts high speed DSP+CPLD control, high frequency PWM power technology and active PFC design to realize AC/DC stable output. It is featured with high power density, high reliability and high precision, meanwhile it possesses operation interface of touch screen and keys manually. It is able to analog output normal or abnormal input for electrical device to meet test requirements. Meet the verification of power electronics, motors, lighting, avionics, automotive electronics research and development quality assurance laboratory, as well as the production test verification of factory production line.



(2U)600W~1500W



(3U)2000W



(4U)3000W~5000W

Model	Voltage	Current	Power	Optional Information
SP300VAC600W	150V/300V	5.6A/2.8A	600W	(1) (2) (3)
SP300VAC1000W	150V/300V	9.2A/4.6A	1000W	(1) (2) (3)
SP300VAC1500W	150V/300V	13.8A/6.9A	1500W	(1) (2) (3)
SP300VAC2000W	150V/300V	16A/8A	2000W	(4) (5)
SP300VAC3000W	150V/300V	27.6A/13.8A	3000W	(4) (5)
SP300VAC4000W	150V/300V	32A/16A	4000W	(4) (5)
SP300VAC5000W	150V/300V	46A/23A	5000W	(4) (5)

Features

- Large color touch screen with intuitive interface, easy to operate
- Features AC, DC, AC+DC output modes, AC+DC output mode for voltage DC offset simulation
- Turn on, turn off phase angle control, 0-359.9°
- Output frequency: 15-1200Hz, programmable slew rate setting for changing voltage and frequency
- High output current crest factor which is ideal for inrush current testing
- Built-in power meter function, can real-time measure 15 electrical parameters such as RMS voltage, current, power, apparent power and etc. This series AC source can measure up to 40 orders of the voltage or current harmonics. Support LIST/PULSE/STEP modes to simulate all kinds of power line disturbance conditions
- Triac Dimmer function for dimming/governor simulation function
- Sweep function for efficiency testing and shows voltage and frequency value at max power
- Multiple current range to make current measurement more accurate
- Front panel USB interface supports CSV format to import waveform
- OCP/OVP/OPP/OTP/reverse current protection/short circuit protection
- Programmable voltage and current limit, support CC mode
- Support up to 2 units in series, 4 units in parallel
- Support three phase power output, can simulate three phase unbalanced output
- Support external analog input control and TTL electrical level output
- Two versions to meet the cost performance and different applications

Difference Between Advanced Version and Professional Version

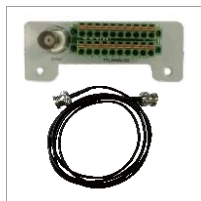
Function description	Advanced Version	Professional Version
Output frequency range	15~1000Hz	15~1200Hz
Built-in IEC standards	IEC 61000-4-11	IEC 61000-4-11; IEC 61000-4-13; IEC 61000-4-14; IEC 61000-4-28
Programmable output impedance	Not supported	Support, meet IEC 61000-3-2/ IEC 61000-3-3 output impedance test requirements
Harmonic/inter-harmonic generation simulation and measurement function	Not supported	Support, the harmonic components can be up to 40 orders

Optional Information

(1) LAN & GPIB interface card & cables



(2) Analog I/O interface card & cable



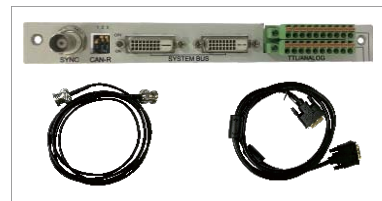
(3) Multiphase link card & cable



(4) GPIB interface card & cable



(5) Analog I/O & multiphase link card & cables



Panel Introduction

0.6 - 1.5kVA

Front Panel Introduction

- 1 Power Switch (Up), USB Interface (Down)
- 2 Color Touch Screen
- 3 Multifunctional Keys
- 4 Numeric and Functional Keys
- 5 Output Terminal
- 6 AC Input Terminal
- 7 RS485/RS232/USB Communication Interface (LAN & GPIB Interface Card is Optional)
- 8 Analog I/O Interface Card (Optional)



Rear Panel Introduction



Note: If the LAN&GPIB communication card is selected, it will replace RS485/RS232/USB to be installed in the same position;
If parallel/multiphase interface card is selected, it will replace remote I/O interface card to be installed in the same position.

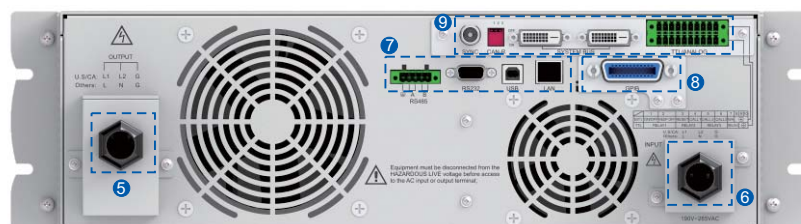
2 - 5kVA

Front Panel Introduction

- 1 Power Switch (Up), USB Interface (Down)
- 2 Color Touch Screen
- 3 Multifunctional Keys
- 4 Numeric and Functional Keys
- 5 Output Terminal
- 6 AC Input Terminal
- 7 RS485/RS232/USB/LAN Communication Interface
- 8 GPIB Communication Interface (optional)
- 9 Analog I/O & multiphase link card (optional)



Rear Panel Introduction

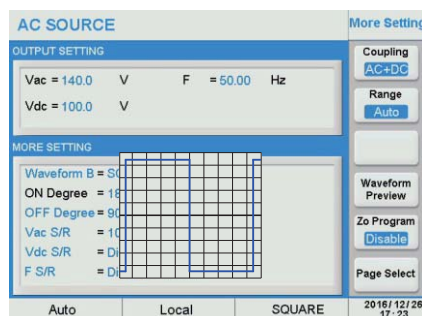
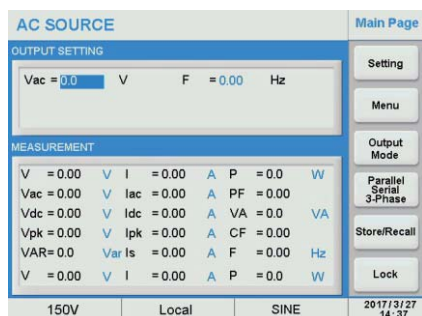


High Performance Programmable AC Source

Function Introduction

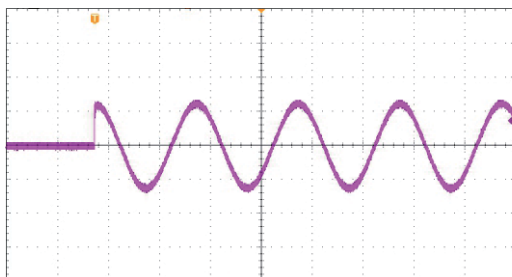
Graphical User Interface

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



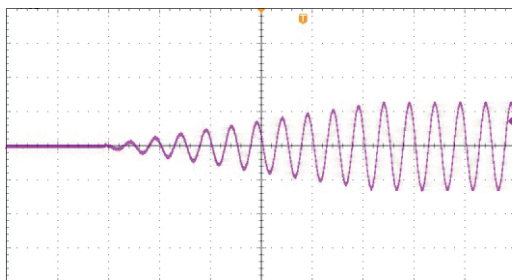
Settable ON/OFF Phase angle of Output Waveform

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.



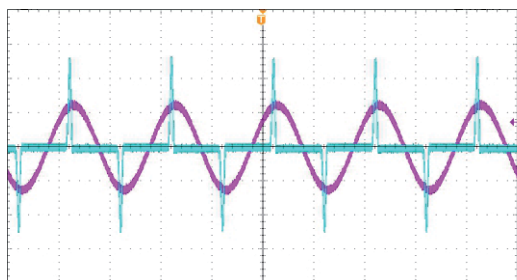
Slew Rate Setting For Voltage and Frequency

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.



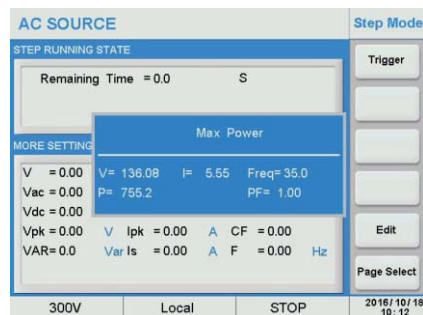
High Output Crest Factor

This series AC power supply deliver up to 5~6 times of peak current from its RMS current, so it is suitable for testing switching power supplies and motor with high inrush current issue.



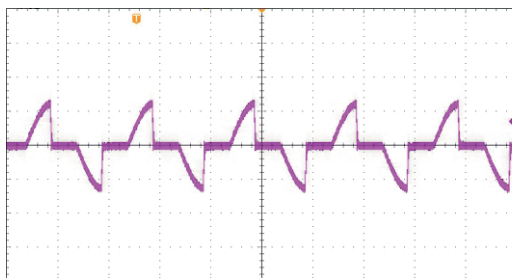
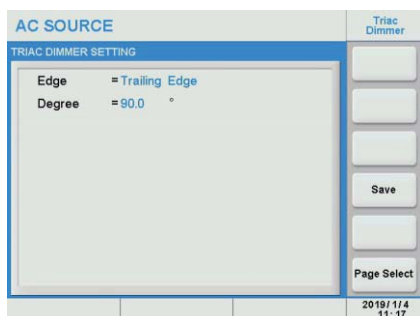
Power Sweep Function

This series AC power supply can test the efficiency of switching power supply and capturing the voltage, current, power and frequency at the maximum power operating point, the measurements will be displayed at the end of the sweep.



Triac Dimmer Function

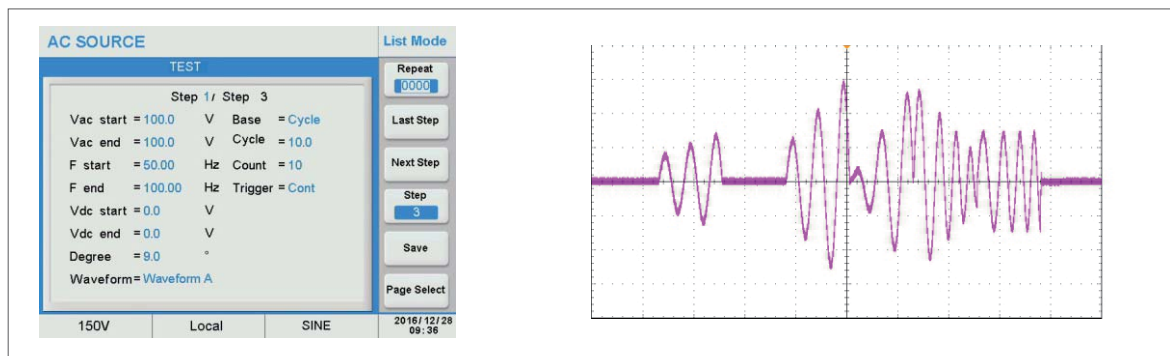
This series AC power supply built-in triac dimmer function, which is used to do dimming and speed regulating test for lamp or electric motor to ensure the products work well both in R&D and production testing.



Power Line Disturbance Simulation

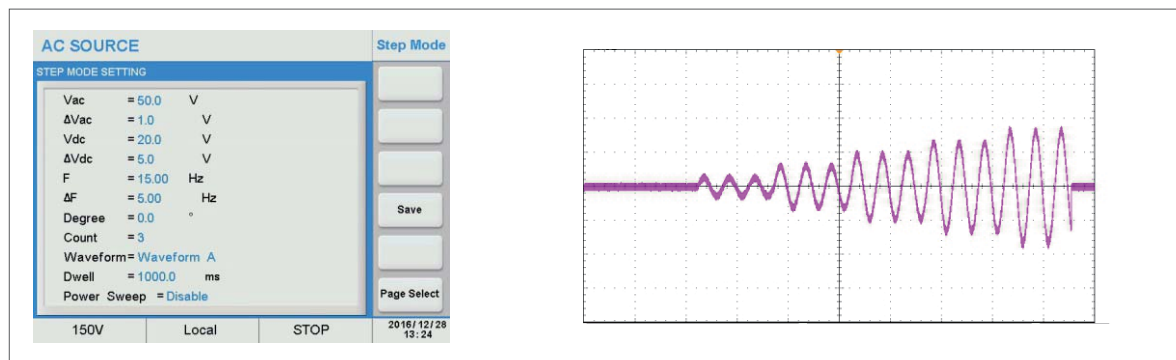
This series AC power supply provides powerful function to simulate all kinds of power line disturbance conditions such as cycle dropout, transient spike, brown out and etc. This feature make this series AC power supply ideal for R&D labs, universities and certification labs.

LIST Mode

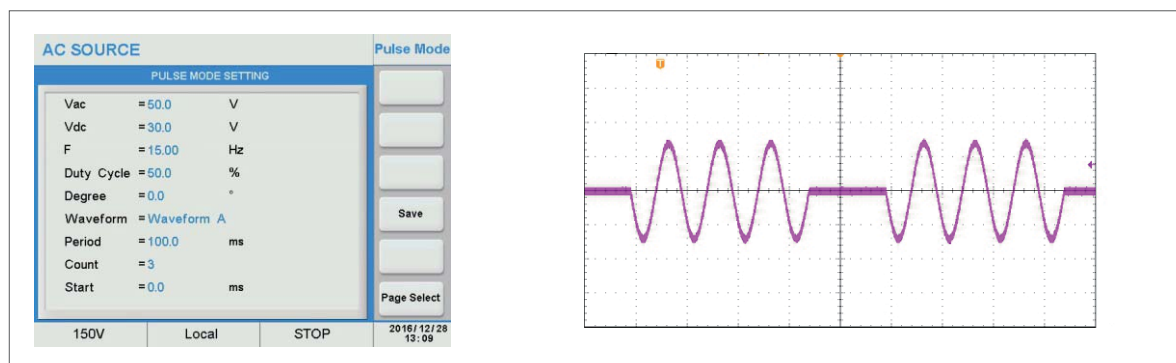


High Performance Programmable AC Source

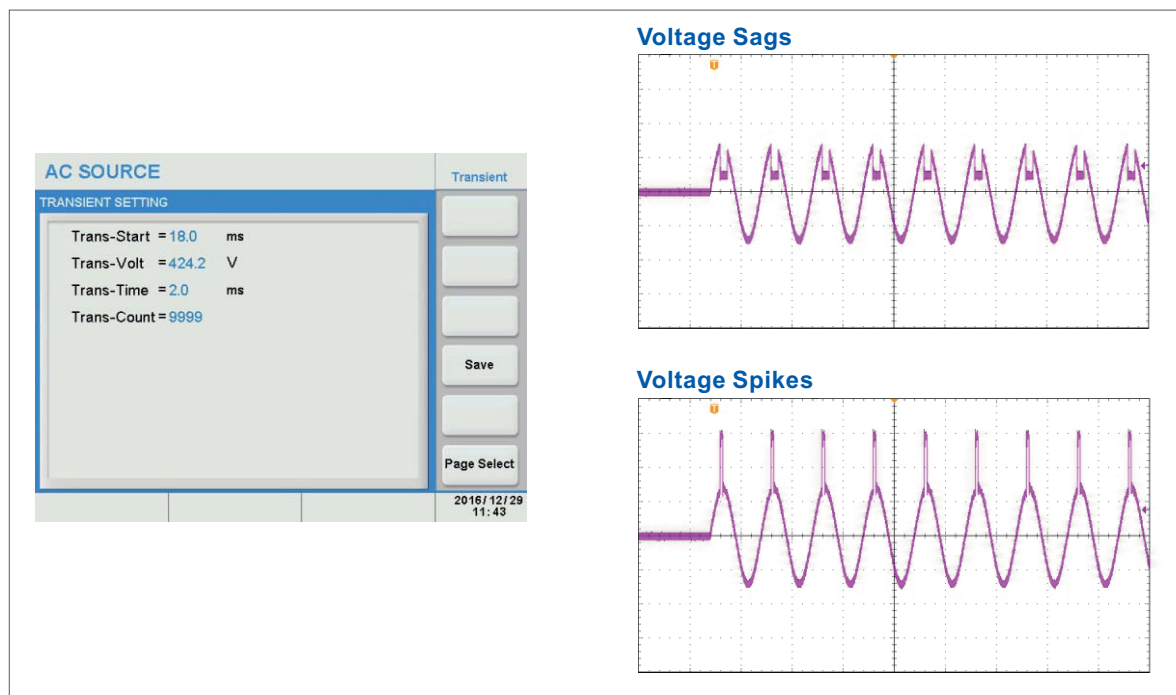
STEP Mode



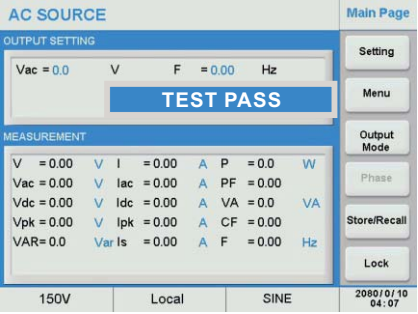
PULSE Mode



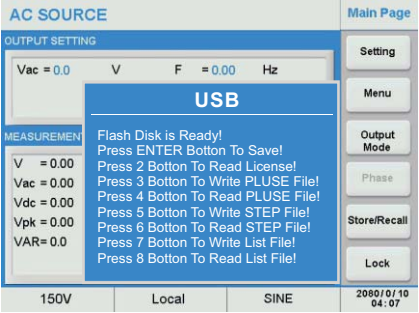
Voltage Sags/Voltage Spikes



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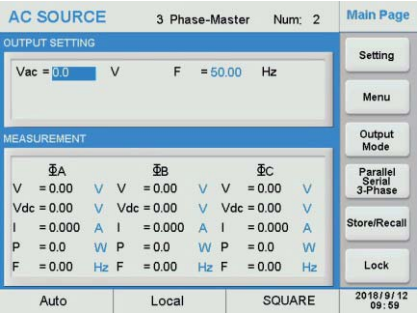
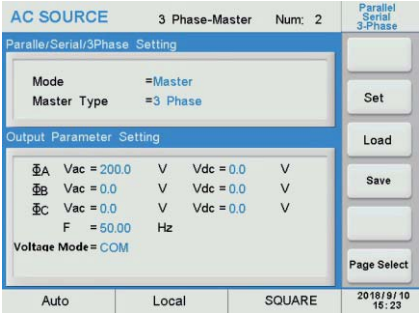


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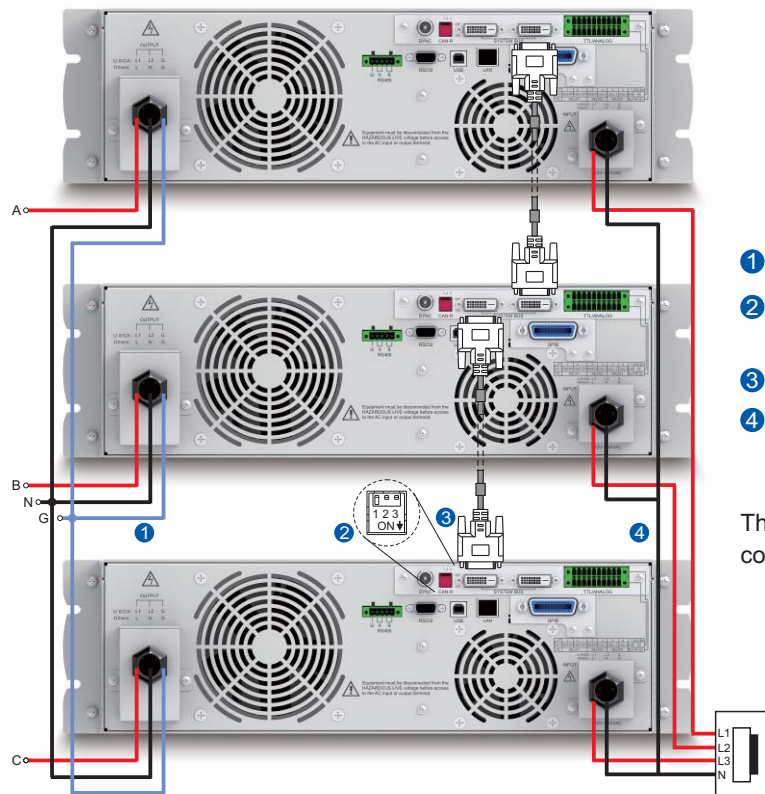
	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Run	Test	Time	Step	Size	Step	Repetitions	Random	Va(V ₀)	ma(Va(V ₀))	Frequency	Frequency	Va(V ₀)	ma(Va(V ₀))	Offset	Cycle/Times	
2	24	23	9	1	1	1	100	100	100	100	100	100	0	0	0	0	
3	24	23	9	2	2	2	100	100	100	100	100	100	0	0	0	0	
4	24	23	9	3	3	3	100	100	100	100	100	100	0	0	0	0	
5	24	23	9	4	4	4	100	100	100	100	100	100	0	0	0	0	
6	24	23	9	5	5	5	100	100	100	100	100	100	0	0	0	0	
7	24	23	9	6	6	6	100	100	100	100	100	100	0	0	0	0	
8	24	23	9	7	7	7	100	100	100	100	100	100	0	0	0	0	
9	24	23	9	8	8	8	100	100	100	100	100	100	0	0	0	0	
10	24	23	9	9	9	9	100	100	100	100	100	100	0	0	0	0	

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High Performance Programmable AC Source

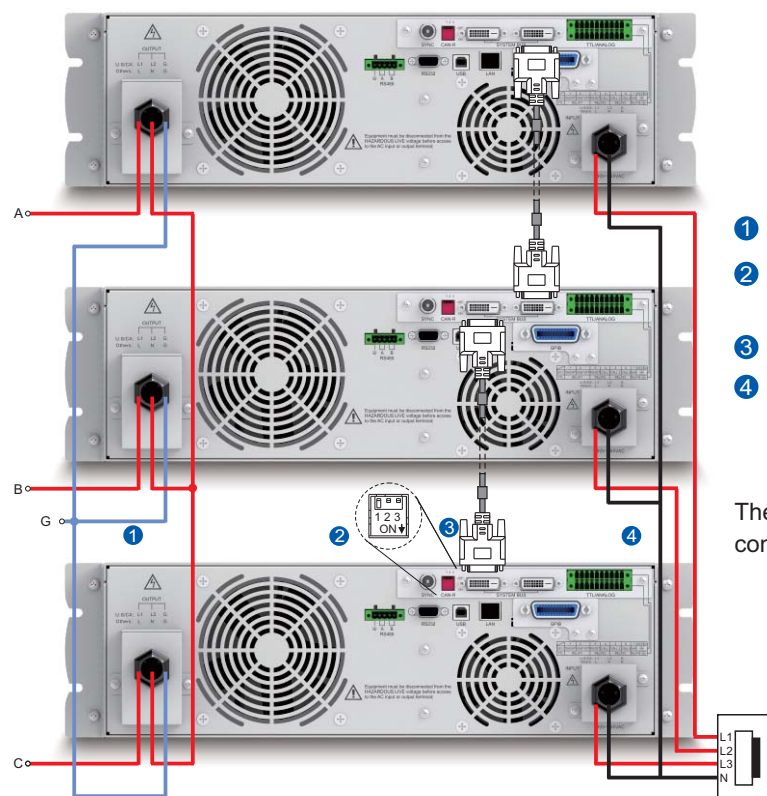
Three-phase five-wire connection (Wye type)



- ① Output connections
- ② Terminal resistance CAN-R, flip Dip switch 1 to ON position (Down)
- ③ System bus communication cable.
- ④ Only support three-phase five-wire connection

The output voltage range of three-phase five-wire (Wye type) connection is 0 ~ 300V.

Three-phase four-wire connection (Delta type)



- ① Output connections
- ② Terminal resistance CAN-R, flip Dip switch 1 to ON position (Down)
- ③ System bus communication cable.
- ④ Only support three-phase five-wire connection

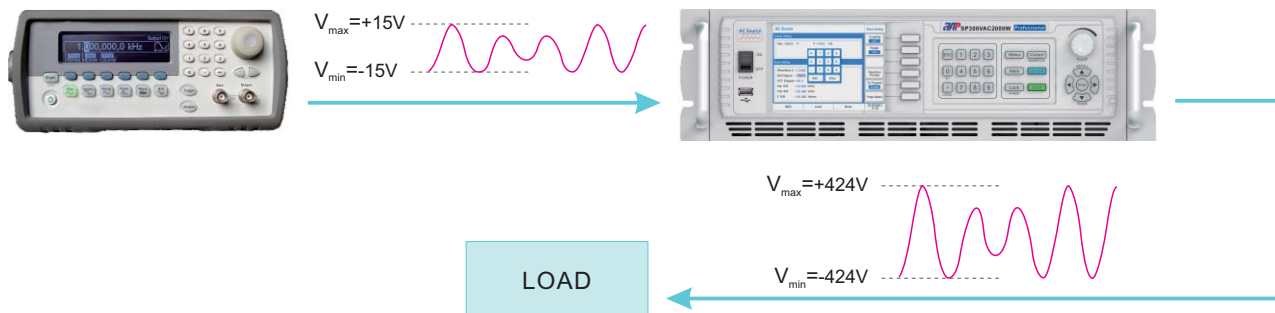
The output voltage range of three-phase four-wire (Delta type) connection is 0 ~ 520V

External Control Function

By selecting Analog I/O card to achieve below function:

1) Amplifier Mode

In Amplifier mode, the power source acts as a power amplifier, taking a low-level analog signal and amplifying it by a fixed amount of gain.



2) External Control Instruction

Pin No.	Reference	Type	Description	Maximum
Pin1	ON/OFF	EXT.V	Control input for output on/off, low level (0~0.5V) disables the output, high level (4.5~5.5V) enables the output	6Vdc
Pin2	KEEP OFF ^[1]	EXT.V	Keep OFF function, low level (0-0.5V) disables the function, high level (4.5-5.5V) enables the function	
Pin3	RESET	EXT.V	High level (4.5 ~ 5.5V) will enable alarm clear function	
Pin4	CALL 1	EXT.V	0=low electrical level (0-0.5V), 1= high electrical level (4.5 ~ 5.5V)	
Pin5	CALL 2	EXT.V	0=low electrical level (0-0.5V), 1= high electrical level (4.5 ~ 5.5V)	
Pin6	CALL 3	EXT.V	0=low electrical level (0-0.5V), 1= high electrical level (4.5 ~ 5.5V)	
Pin7	N/A	EXT.V	Not Used	-
Pin8-10		EXT.V	GND	-

[1] If the KEEP OFF signal keeps high (enable) there will be always no output.

3) TTL Signal Instruction

Pin No.	Reference	Type	Description	Maximum	Electrical Parameters
Pin1-2	RELAY1-PASS	TTL	These two pins will connected internally when the unit passed the test mode	250VAC 3Amp/ 30VDC 3Amp	These pins without positive and negative polarity, do not share the ground net either.
Pin3-4	RELAY2-FAIL	TTL	These two pins will connected internally when the unit failed the test mode		
Pin5-6	RELAY3-RUN	TTL	These two pins will connected internally when the unit is running		
Pin7-8	RELAY4	TTL	Not Used	-	-
Pin9-10		TTL	GND	-	-

High Performance Programmable AC Source

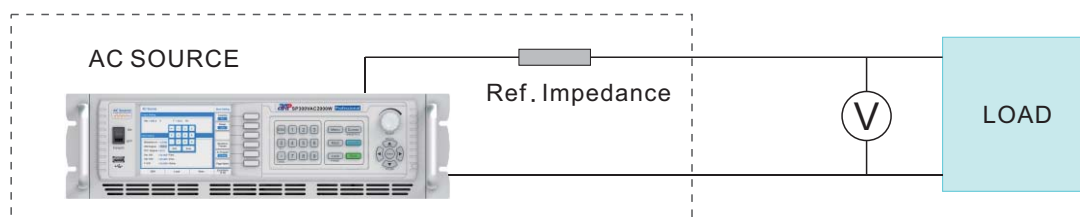
Firmware Upgrade

This series AC power source supports firmware upgrade. The DSP firmware can be upgraded via RS232 communication, the display and remote firmware can be upgraded via the USB interface in the front panel. The upgrade process is very easy to operate. The upgrade feature keeps the latest software function supported by the power supply.

Professional Version Power Supply Function

Programmable Output Impedance Function

The low output impedance and low voltage harmonics of this series power supply make it ideal for IEC61000-3-2 standard testing. A current feedback control circuit makes the output voltage changed with load. This feature is suitable for IEC61000-3-3 Flicker tests. The user can set the resistance and inductance value according to the test requirement.



More Built-in IEC Standard Test Waveforms

Professional version supports more built-in IEC standard test waveforms

IEC 61000-4-11, Testing and measurement techniques-Voltage dips, short interruptions and voltage variations immunity tests (AC, <16A)

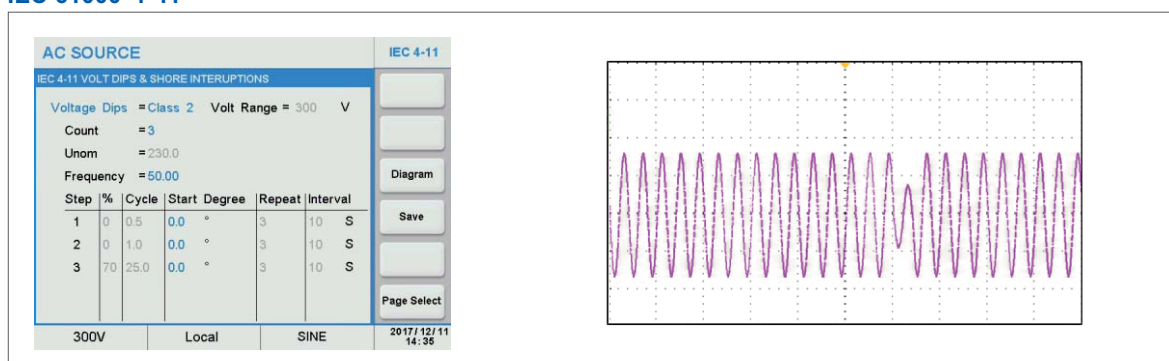
IEC 61000-4-13, Testing and measurement techniques-Harmonics and inter-harmonics including mains signaling at AC power port, low frequency immunity tests

IEC 61000-4-14, Testing and measurement techniques-Voltage fluctuation immunity test

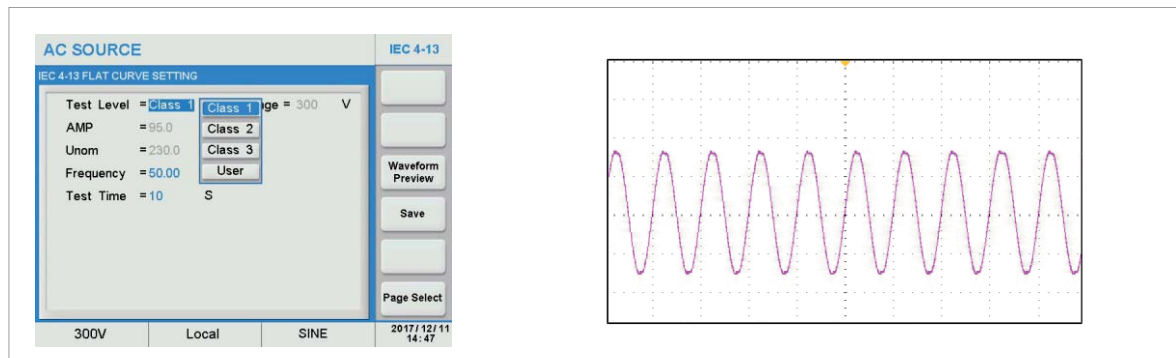
IEC 61000-4-28, Testing and measurement techniques-Variation of power frequency, immunity test for equipment with input current not exceeding 16 A per phase

The above standards can meet the power immunity test for products exported to Europe.

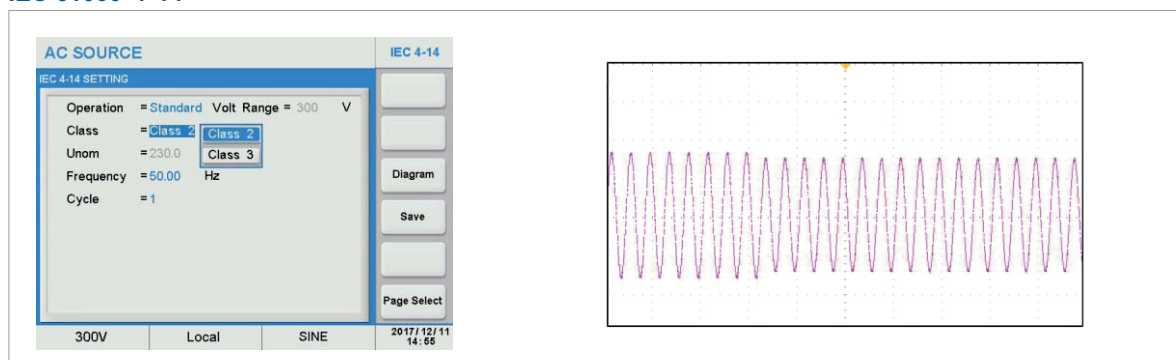
IEC 61000-4-11



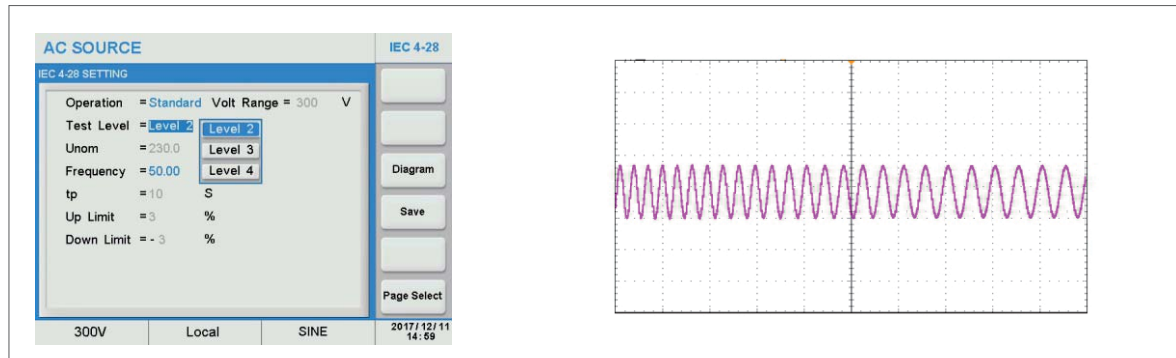
IEC 61000-4-13



IEC 61000-4-14

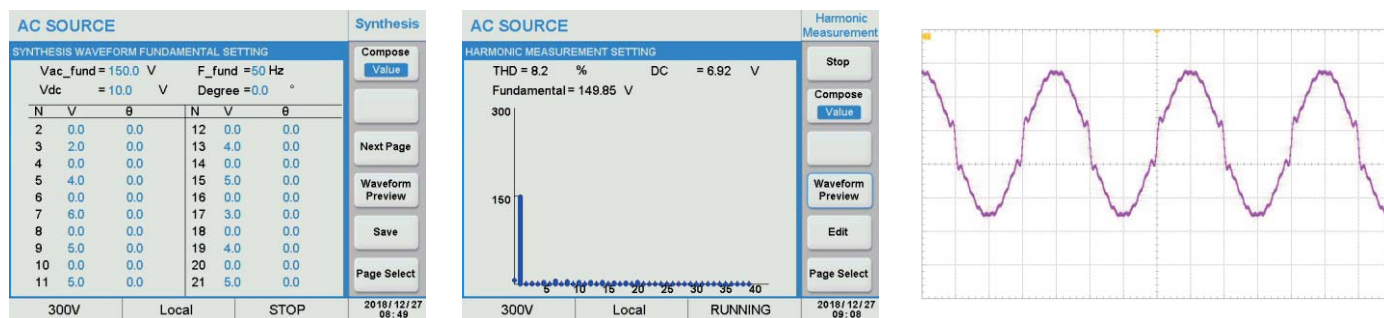


IEC 61000-4-28



Harmonic/inter-harmonic Generation Simulation and Measurement Function

Support creating waveforms made up of a series of harmonics frequencies, amplitudes and phase shifts, up to 40 orders harmonics of 50Hz or 60Hz. The harmonics measurement function measures total harmonic distortion (THD), DC voltage and current and fundamental voltage and current for output settings of 50Hz or 60Hz. The measurement of 2~40 orders can be displayed in absolute values or in percent of the fundamental, the harmonics measurement will be displayed with a graphical representation.

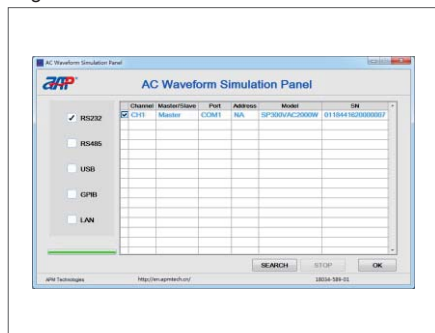


High Performance Programmable AC Source

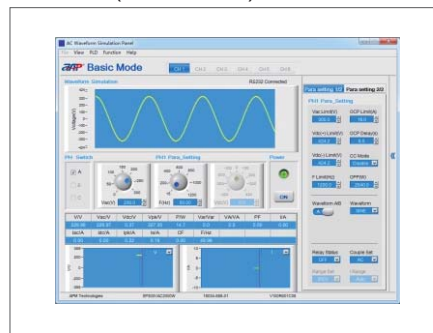
Monitoring Software

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.

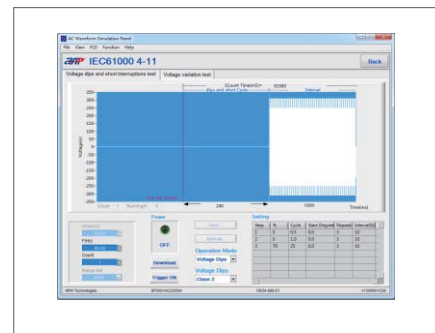
Login Interface



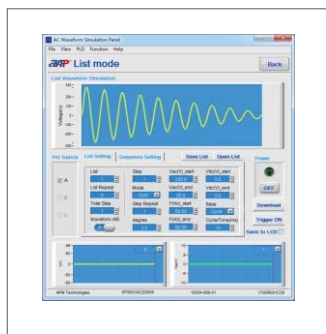
Basic mode(Main interface)



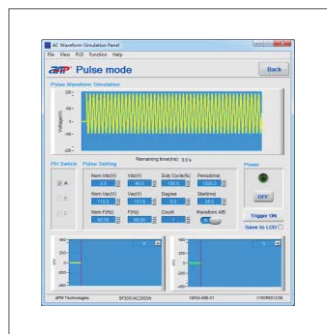
IEC61000 4-11 interface



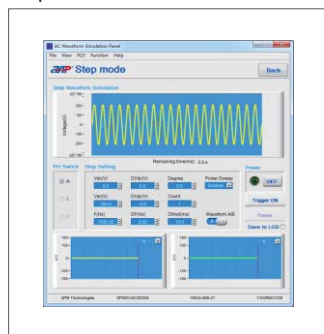
List mode interface



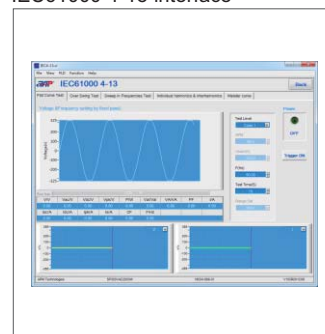
Pulse mode interface



Step mode interface



IEC61000 4-13 interface



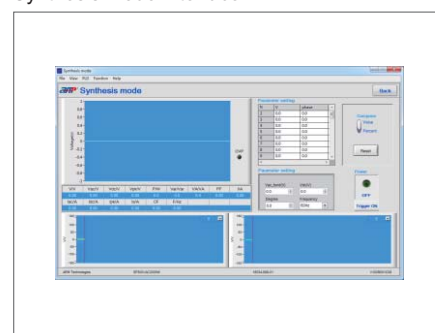
IEC61000 4-14 interface



IEC61000 4-28 interface



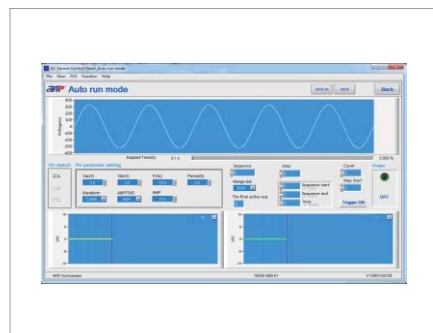
Synthesis mode interface



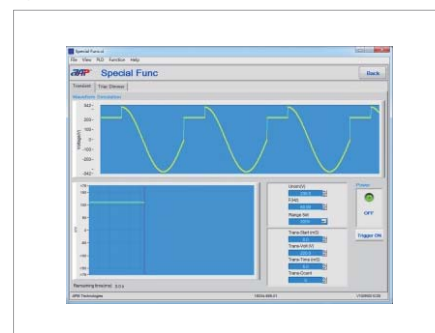
Harmonics Measure mode interface



Auto run mode interface

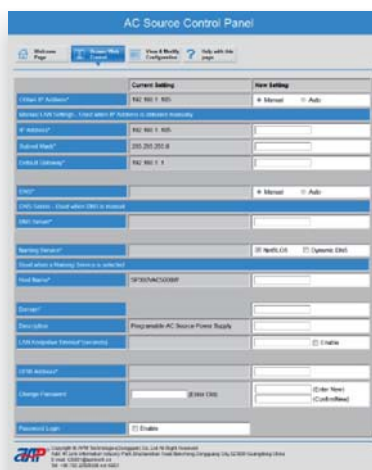


Special Func interface



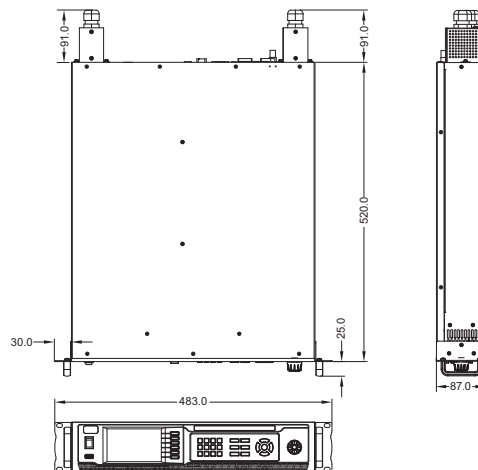
Web Server Function

This series AC power supply provides a built-in web server interface, then the user can configure and monitor the settings from the PC's Web browser.

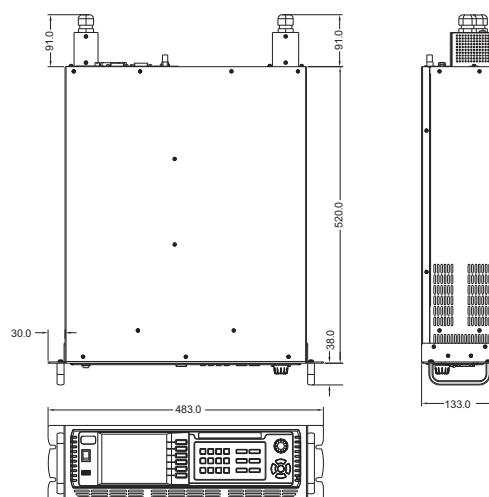


Dimension Drawing

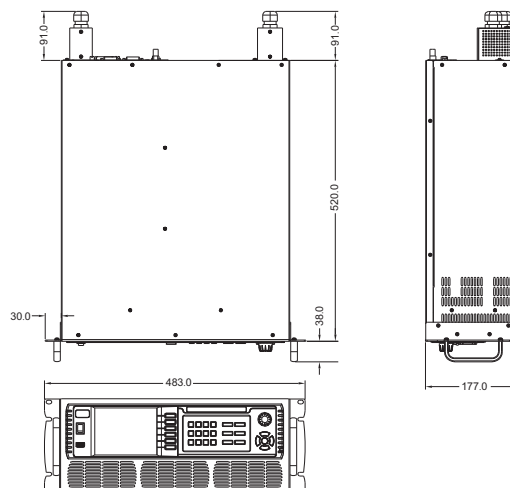
Dimension Drawing(2U) unit:mm



Dimension Drawing(3U) unit:mm



Dimension Drawing(4U) unit:mm



High Performance Programmable AC Source

Model		SP300VAC600W		SP300VAC1000W		SP300VAC1500W	
INPUT							
Voltage		90~265VAC				100~265VAC	
Frequency		47~63Hz				47~63Hz	
Phase		1 Phase, 2Wire+Groud				1 Phase, 2Wire+Groud	
Max. Current		10A		15A		19A	
Power Factor at 220VAC Input,Full Load		≥ 0.91 Active PFC		≥ 0.95 Active PFC		≥ 0.97 Active PFC	
Efficiency		> 82%(Peak) > 80% at 220VAC, 50Hz input/230VAC, 50Hz output, Full Load		> 86%(Peak) > 84% at 220VAC, 50Hz input/230VAC, 50Hz output, Full Load		> 87%(Peak) > 86% at 220VAC, 50Hz input/230VAC, 50Hz output, Full Load	
OUTPUT							
AC Power		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	
Phase		1 Phase					
Total Harmonic Distortion (THD)		<0.5% (Resistive Load) at 15.0~70.0Hz and output voltage within 80~140VAC at Low Range or 160~280VAC at High Range. <1% (Resistive Load) at 70.1~500Hz and output voltage within 80~140VAC at Low Range or 160~280VAC at High Range. <1% (Resistive Load) at 501~1000Hz and output voltage within 100~140VAC at Low Range or 160~280VAC at High Range. <2% (Resistive Load) at 1001~1200Hz and output voltage within 100~140VAC at Low Range or 160~280VAC at High Range. Note: 1001~1200Hz only available to Professional Version Models.					
Crest Factor (CF)		< 6					
Load Regulation		± 0.1%F.S. @15~70Hz (Resistive Load) ± 0.5%F.S. @Others Freq. (Resistive Load)					
Line Regulation		± 0.1V					
Rise/Fall Time (DC)		< 250us					
Voltage (AC)	Range	0~300VAC, 150V/300V/Auto					
	Resolution	0.1V					
	Accuracy	0.2% of setting + 0.2%F.S.					
Phase Angle (Starting / Ending)	Range	0~359.9°					
	Resolution	0.1°					
	Accuracy	± 1°@45~65Hz					
Voltage (DC)	Range	0~424VDC					
	Resolution	0.1V					
	Accuracy	0.2% of setting + 0.2%F.S.					
	Max. Power	600W		1000W		1500W	
	Max. Current (L/H Range)	L 3.96A		L 6.5A		L 9.76A	
		H 1.89A		H 3.3A		H 4.88A	
	Pipple & Noise (r.m.s)	L <700mVrms @Bandwidth 20Hz to 1MHz H <1100mVrms @Bandwidth 20Hz to 1MHz					
Pipple & Noise (Peak)	<4000mVp-p @Bandwidth 20Hz to 1MHz						
Current CC Fold Mode	Resolution	0.01A					
	Accuracy	0.5% of setting + 1.0%F.S.					
	Response Time	<1400ms					
Frequency	Range ⁽¹⁾	15~1200Hz Full Range ADJ					
	Resolution	0.1Hz (15.0~99.9Hz), 1Hz (100~1000Hz), 5Hz (1001~1200Hz)					
	Accuracy	0.03% of setting					
Programmable Output Impedance ⁽²⁾		0Ω+0mH~1Ω+1mH					
Harmonics & Inter-harmonics Simulation ⁽³⁾		2400Hz					
MEASUREMENT							
Voltage	Range	AC 0~300VAC DC 0~424VDC					
	Resolution	0.1V					
	Accuracy	0.2% of setting + 0.2%F.S.					
Frequency	Range ⁽¹⁾	15~1200Hz					
	Resolution	0.1Hz(15.0~99.9Hz), 1Hz(100~1000Hz), 5Hz(1001~1200Hz)					
	Accuracy	0.1% of setting					
Current (r.m.s)	Range	H 0.15A~5.6A		H 0.15A~9.2A		H 0.15A~13.8A	
		M -		M -		M -	
		L 0.1A~3A		L 0.1A~3A		L 0.1A~3A	
		mA -		mA -		mA -	
	Resolution	0.01A					
Current (Peak)	Accuracy	0.4%+1.0%F.S.				H 0.4%+1.0%F.S. L 0.4%+1.5%F.S.	
	Range	0~32.4A		0~55.2A		0~82.8A	
	Resolution	0.01A					
	Accuracy	H 0.4%+1.0%F.S. L 0.4%+1.5%F.S.					

High Performance Programmable AC Source

Model		SP300VAC600W	SP300VAC1000W	SP300VAC1500W
Power	Range	0~600W	0~1000W	0~1500W
	Resolution	0.1W		
	Accuracy	0.4% of setting + 1.0% F.S. at PF>0.2, Voltage>5V		
Power Apparent (VA)	Range	0~612VA	0~1020VA	0~1530VA
	Resolution	0.1VA		
	Accuracy	Voltage*I _{rms} , Calculated value		
Power Resistive (VAR)	Range	0~612VAR	0~1020VAR	0~1530VAR
	Resolution	0.1VAR		
	Accuracy	√(VA) ² -(W) ² , Calculated value		
Power Factor (PF)	Range	0.00~1.00		
	Resolution	0.01		
	Accuracy	W/VA, Calculated value		
Harmonic	Range ^[4]	2~40 orders		
EXTRA FUNCTION				
Remote Sense	Range	5V(rms), Max. Total power less than rated power.		
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		
Transient Generator (only for 15~70Hz)	Range	Trans-Start: 0.0~66.5ms @ 15Hz, Resolution: 0.1ms		
		Trans-Volt: -212V~+212V(L), -424V~+424V(H), Resolution: 0.1V		
		Trans-Time: 0.0~66.5ms @ 15Hz, Resolution: 0.1ms		
		Trans-Count: 0~9999, Constant		
Calibration		Firmware-based calibration through the digital interface or front panel		
Test Function		Yes		
Parallel Output for 1 Phase		Yes, 4 Units Max. (Option: Multiphase Link Card)		
Series Output for 1 Phase		Yes, 2 Units Max. (Option: Multiphase Link Card)		
Link Output for 3 Phase		Yes, (Option: Multiphase Link Card)		
GENERAL				
Graphic Display		4.3" Color touch LCD		
Operation Key Feature		Soft key, Numeric key, Rotary Knob, Support USB disk		
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		Standard USB, RS-485, RS-232, GPIB & LAN is Optional		
REMOTE CONTROL INPUT/OUTPUT SIGNAL CHARACTERISTICS (OPTION)				
Remote Input Signal		Signal input for external trigger for execution of programmed value Signal: ON/OFF, RESET, KEEP OFF, Recall program memory 1 through 7		
Remote Output Signal		Signal output indicating that a test mode is present Signal: PASS, FAIL, TEST-IN-PROCESS		
External Signal Waveform Input		Signal input for output voltage waveform programming by external analog reference via BNC type. Between the sync signal and the output wave will be 0.5ms time difference		
ENVIRONMENT				
Operating Temperature		0°C ~ 40°C		
Storage Temperature		-40°C ~ 85°C		
Fan Noise		73dBA Max.		
Altitude		2000m		
Relative Humidity		5%~95%, non-condensing		
Temperature Coefficient		100ppm/°C at Voltage, 300ppm/°C at Current, 100ppm/°C at Frequency		
MECHANICAL				
Dimensions (W*H*D)		423.0x87.0x520.0 mm		
Package Dimensions (W*H*D)		744.0x241.0x594.0 mm		
Unit Net Weight		15.9kg		
Accessories Weight		0.4kg		
Net Weight		19kg		
REGULATORY COMPLIANCE				
EMC		CE marked for EMC Directive 2014/30/EU/EN61326-1: 2013 Class A for emissions and immunity standard as required for EU CE Mark. FCC Verification of conformity for CFR 47 Part 15 of the FCC Rules.		
Safety		CE marked for LVD Directive 2014/35/EU/EN61010-1-third edition as required for EU CE Mark.		
CE Mark		Installation Overvoltage Category II; Pollution Degree 2; Class II equipment; indoor use only.		
UL Mark		CSA NRTL certified for US and Canada to CAN/CSA-22.2 No.61010-1-12, UL 61010-1 Third Edition.		
Isolation Voltage		3000VAC, input to output; 1500VAC, input to chassis.		
RoHS		Meet to EU Directive 2011/65/EU for restriction of hazardous substances in Electrical and Electronic Equipment.		

[1] Only Professional Version units support 15.00~1200.00Hz.

[2] Only Professional Version units support Programmable Output Impedance function.

[3] Only Professional Version units support Harmonics & Inter-harmonics Simulation function.

[4] Only Professional Version units support Harmonics function.

All specifications are subject to change without notice.

High Performance Programmable AC Source

Model		SP300VAC2000W	SP300VAC3000W	SP300VAC4000W	SP300VAC5000W
		INPUT			
Voltage		190~265VAC			
Frequency		47~63Hz			
Phase		1 Phase, 2Wire+Groud			
Max. Current		14A	20A	25A	30A
Power Factor at 220VAC Input, Full Load		≥ 0.99, ActivePFC	≥ 0.98, ActivePFC	≥ 0.99, ActivePFC	≥ 0.99, ActivePFC
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
		OUTPUT			
AC Power		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
Phase		1 Phase			
Total Harmonic Distortion (THD)		<0.5% (Resistive Load) at 15.0~70.0Hz and output voltage within 80~140VAC at Low Range or 160~280VAC at High Range.			
		<1% (Resistive Load) at 70.1~500Hz and output voltage within 80~140VAC at Low Range or 160~280VAC at High Range.			
		<1% (Resistive Load) at 501~1000Hz and output voltage within 100~140VAC at Low Range or 160~280VAC at High Range.			
		<2% (Resistive Load) at 1001~1200Hz and output voltage within 100~140VAC at Low Range or 160~280VAC at High Range. Note: 1001~1200Hz only available to Professional Version Models.			
Crest Factor (CF)		≤ 5	≤ 6	≤ 5	≤ 4
Load Regulation		± 0.1%F.S. @15~70Hz (Resistive Load) ± 0.5%F.S. @Others Freq. (Resistive Load)			
Line Regulation		± 0.1V			
Rise/Fall Time (DC)		<180us			
Voltage (AC)	Range	0~300VAC, 150V/300V/Auto			
	Resolution	0.1V			
	Accuracy	0.2% of setting + 0.2%F.S.			
Phase Angle (Starting / Ending)	Range	0~359.9°			
	Resolution	0.1°			
	Accuracy	±1°@45~65Hz			
Voltage (DC)	Range	0~424VDC			
	Resolution	0.1V			
	Accuracy	0.2% of setting + 0.2%F.S.			
	Max. Power	2000W	3000W	4000W	5000W
	Max. Current (L/H Range)	L 11.3A H 5.65A	L 19.6A H 9.8A	L 22.6A H 11.3A	L 32.6A H 16.3A
	Pipple & Noise (r.m.s)	L <700mVrms @Bandwidth 20Hz to 1MHz H <1100mVrms @Bandwidth 20Hz to 1MHz			
	Pipple & Noise (Peak)	<4000mVp-p @Bandwidth 20Hz to 1MHz			
Current CC Fold Mode	Resolution	0.01A			
	Accuracy	0.5% of setting + 1.0%F.S.			
	Response Time	<1400ms			
Frequency	Range ^[1]	15~1200Hz Full Range ADJ			
	Resolution	0.1Hz (15.0~99.9Hz), 1Hz (100~1000Hz), 5Hz (1001~1200Hz)			
	Accuracy	0.03% of setting			
Programmable Output Impedance ^[2]		0Ω+0mH~1Ω+1mH			
Harmonics & Inter-harmonics Simulation ^[3]		2400Hz			
MEASUREMENT					
Voltage	Range	AC 0~300VAC DC 0~424VDC			
	Resolution	0.1V			
	Accuracy	0.2% of setting + 0.2%F.S.			
Frequency	Range ^[1]	15~1200Hz			
	Resolution	0.1Hz (15.0~99.9Hz), 1Hz (100~1000Hz), 5Hz (1001~1200Hz)			
	Accuracy	0.1% of setting			
Current (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		H/M 0.4%+1.0%F.S. L/mA 0.4%+1.0%F.S.	H/M 0.4%+0.6%F.S. L/mA 0.4%+1.0%F.S.		
Current(Peak)	Range	0~81.5A	0~168.6A	0.05~163A	0.05~188A
	Resolution	0.01A			
	Accuracy	H/M 0.4%+1.5%F.S. L/mA 0.4%+1.5%F.S.			

High Performance Programmable AC Source

Model		SP300VAC2000W	SP300VAC3000W	SP300VAC4000W	SP300VAC5000W
Power	Range	0~2040W	0~3060W	0~4080W	0~5100W
	Resolution	0.1W			
	Accuracy	0.4% of setting + 1.0% 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 ^[4]	2~40 orders			
EXTRA FUNCTION					
Remote Sense	Range	5V(rms), Max. Total power less than rated power.			
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			
Transient Generator (only for 15~70Hz)	Range	Trans-Start: 0.0~66.5ms @ 15Hz, Resolution: 0.1ms			
		Trans-Volt: -212V~-+212V(L), -424V~-+424V(H), Resolution: 0.1V			
		Trans-Time: 0.0~66.5ms @ 15Hz, Resolution: 0.1ms			
		Trans-Count: 0~9999, Constant			
Calibration		Firmware-based calibration through the digital interface or front panel			
Test Function		Yes			
Parallel Output for 1 Phase		Yes, 4 Units Max. (Option: Remote I/O & Parallel, Multiphase Link Card)			
Series Output for 1 Phase		Yes, 2 Units Max. (Option: Remote I/O & Parallel, Multiphase Link Card)			
Link Output for 3 Phase		Yes, (Option: Remote I/O & Parallel, Multiphase Link Card)			
GENERAL					
Graphic Display		5.6" Color touch LCD			
Operation Key Feature		Soft key, Numeric key, Rotary Knob, Support USB disk			
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		Standard USB, RS-485, RS-232, GPIB & LAN is Optional			
REMOTE CONTROL INPUT/OUTPUT SIGNAL CHARACTERISTICS (OPTION)					
Remote Input Signal		Signal input for external trigger for execution of programmed value Signal: ON/OFF, RESET, KEEP OFF, Recall program memory 1 through 7			
Remote Output Signal		Signal output indicating that a test mode is present Signal: PASS, FAIL, TEST-IN-PROCESS			
External Signal Waveform Input		Signal input for output voltage waveform programming by external analog reference via BNC type. Between the sync signal and the output wave will be 0.5ms time difference			
ENVIRONMENT					
Operating Temperature		0℃ ~ 40℃			
Storage Temperature		-40℃ ~ 85℃			
Fan Noise		73dBA Max.			
Altitude		2000m			
Relative Humidity		5%~95%, non-condensing			
Temperature Coefficient		100ppm/℃ at Voltage, 300ppm/℃ at Current, 100ppm/℃ at Frequency			
MECHANICAL					
Dimensions (W*H*D)		483.0x133.0x520.0 mm	483.0x177.0x520.0 mm		
Package Dimensions (W*H*D)		643.0x278.5x802.0 mm	643.0x323.0x802.0 mm		
Unit Net Weight		21.4kg	29.0kg		
Accessories Weight		0.4kg			
Net Weight		24.4kg	32.0kg		
REGULATORY COMPLIANCE					
EMC		CE marked for EMC Directive 2014/30/EU/EN61326-1: 2013 Class A for emissions and immunity standard as required for EU CE Mark. FCC Verification of conformity for CFR 47 Part 15 of the FCC Rules.			
Safety		CE marked for LVD Directive 2014/35/EU/EN61010-1-third edition as required for EU CE Mark.			
CE Mark		Installation Overvoltage Category II; Pollution Degree 2; Class II equipment; indoor use only.			
UL Mark		CSA NRTL certified for US and Canada to CAN/CSA-22.2 No.61010-1-12, UL 61010-1 Third Edition.			
Isolation Voltage		3000VAC, input to output; 1500VAC, input to chassis.			
RoHS		Meet to EU Directive 2011/65/EU for restriction of hazardous substances in Electrical and Electronic Equipment.			

[1] Only Professional Version units support 15.00~1200.00Hz.

[2] Only Professional Version units support Programmable Output Impedance function.

[3] Only Professional Version units support Harmonics & Inter-harmonics Simulation function.

[4] Only Professional Version units support Harmonics function.

All specifications are subject to change without notice.

3-phase Programmable AC Source

It is a single 3-phase output programmable AC power supply which provides with high power density. With high speed DSP+CPLD control, high frequency PWM technology, active PFC design, It is able to provide not only stable DC/AC output power, but also 3-phase / 1-phase output. It is featured with high power density, high reliability and high precision, meanwhile it possesses operation interface of touch screen and keys manually. It is able to analog output normal or abnormal power input for electrical device to meet test requirements, which is applicable to electric, lighting, aviation sectors, etc. It could be applied to enterprise's production test as well.



Model	Voltage	Power	Output Model	Optional Information
SPS300VAC1800W	150V/300V	1800W	1-Phase/ 3-Phase	(1)
SPS300VAC3000W	150V/300V	3000W	1-Phase/ 3-Phase	(1)
SPS300VAC4500W	150V/300V	4500W	1-Phase/ 3-Phase	(1)
SPS300VAC6000W	150V/300V	6000W	1-Phase/ 3-Phase	(2)
SPS300VAC9000W	150V/300V	9000W	1-Phase/ 3-Phase	(2)
SPS300VAC12000W	150V/300V	12000W	1-Phase/ 3-Phase	(2)
SPS300VAC15000W	150V/300V	15000W	1-Phase/ 3-Phase	(2)

Features

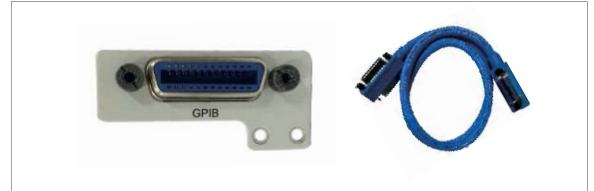
- Large touch color screen, possess complete functions and easy to operate
- AC+DC mixed or independent output mode for voltage DC offset simulation
- Capable of setting output slope/phase angle, 0~359.9°
- Output frequency 15~1000Hz, capable of setting output slope of voltage and frequency
- High output 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

Optional Information

(1) LAN & GPIB interface card & cables

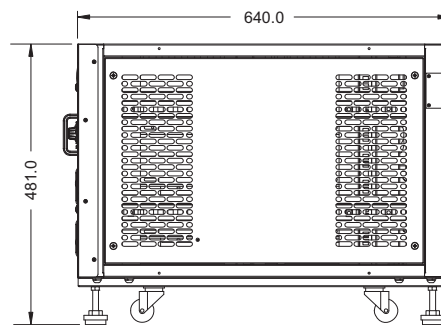
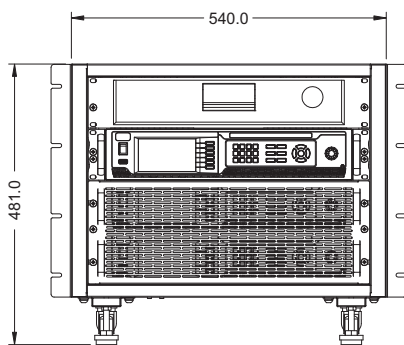


(2) GPIB interface card & cable

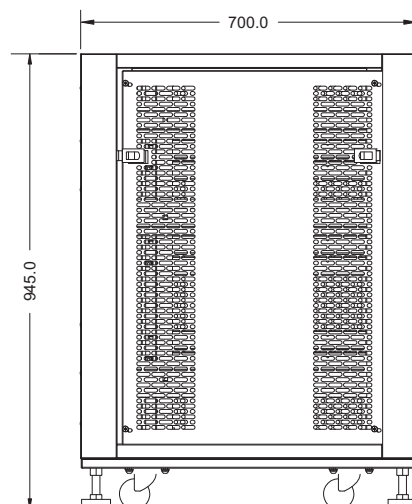
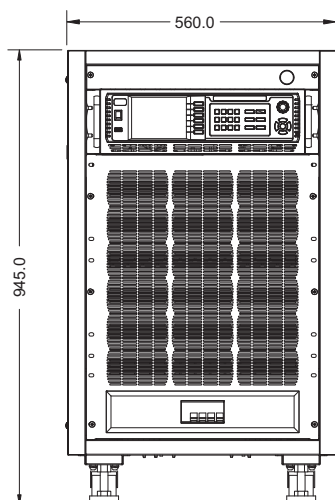


Dimension Drawing

Dimension Drawing(6U) unit:mm



Dimension Drawing(12U) unit:mm



3-phase Programmable AC Source

MODEL		SPS300VAC1800W	SPS300VAC3000W	SPS300VAC4500W
INPUT				
Voltage		90~265VAC	100~265VAC	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	>85.5% (Peak) >85% at 220VAC, 50Hz input/220VAC, 50Hz	>87.5% (Peak) >87% at 220VAC, 50Hz input/220VAC, 50Hz
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]		1800VA	3000VA	4500VA
Max.Current (r.m.s)	0~150V(L)	16.8A	27.6A	41.4A
	0~300V(H)	8.4A	13.8A	20.7A
Max.Current (Peak)	0~150V(L)	97.2A	165.6A	248.4A
	0~300V(H)	48.6A	82.8A	124.2A
DC Power (Per Phase)		1800W	3000W	4500W
Max.Current (Total)	L 11.88A	L 19.5A	L 29.28A	
	H 5.67A	H 9.9A	H 14.64A	
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		
	Range	0~424VDC		
Voltage(DC)	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		

3-phase Programmable AC Source

MODEL		SPS300VAC1800W	SPS300VAC3000W	SPS300VAC4500W
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, Numeric key, Rotary Knob, Support USB disk		
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(Optional); GPIB(Optional)		
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(W*H*D)		540.0*481.0*640.0 mm		
Package Dimensions (W*H*D)		660.0*575.0*800.0 mm		
Unit Net Weight		88.7kg		
Accessories Weight		0.4kg		
Gross Weight		108.7kg		
REGULATORY COMPLIANCE				
CE Mark		Installation Overvltage 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.

3-phase Programmable AC Source

MODEL		SPS300VAC6000W	SPS300VAC9000W	SPS300VAC12000W	SPS300VAC15000W
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		6000VA	9000VA	12000VA	15000VA
Max.Current (r.m.s)	0~150V(L)	48A	82.8A	96A	138A
	0~300V(H)	24A	41.4A	48A	69A
Max.Current (Peak)	0~150V(L)	240A	496.8A	480A	552A
	0~300V(H)	120A	248.4A	240A	276A
DC Power (Per Phase)		6000W	9000W	12000W	15000W
Max.Current (Total)	L 33.9A		L 58.8A	L 67.8A	L 97.8A
	H 16.95A		H 29.4A	H 33.9A	H 48.9A
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			
	Range	0~424VDC			
Voltage(DC)	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			

3-phase Programmable AC Source

MODEL		SPS300VAC6000W		SPS300VAC9000W		SPS300VAC12000W		SPS300VAC15000W					
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*I _{rms} , Calculated value											
Power Resistive (VAR)	Range	0~2040VAR			0~3060VAR			0~4080VAR			0~5100VAR		
	Resolution	0.1VAR											
	Accuracy	$\sqrt{(\text{VA})^2-(\text{W})^2}$, 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, Numeric key, Rotary Knob, Support USB disk											
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(Optional)											
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(W*H*D)		560.0*945.0*700.0 mm											
Package Dimensions (W*H*D)		680.0*1120.0*860.0 mm											
Unit Net Weight		134.0kg			157.0kg			157.0kg			157.0kg		
Accessories Weight		0.4kg											
Gross Weight		173.0kg			195.0kg			195.0kg			195.0kg		
REGULATORY COMPLIANCE													
CE Mark		Installation Overvltage 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.

AT-T1000 Series Inverter Test System

AT-T1000 inverter test system is equipped with optimized standard test items. For photovoltaic inverters, it meets the initial electrical test requirements of EN50530, Sandia Lab, IEEE1547, 1547.1, UL1741, China GB/T 19939, CGC/GF004. Only determine the test conditions and specifications can test with standard items.

The optimized test project covers five kinds of test requirements. The output performance test verifies the output characteristics of the photovoltaic inverter; the test of the input characteristics checks the electrical parameters of the input; the time and transient test the time and transient parameters in the protection action; the protection test items trigger and test the protection circuit. Special test items provide special test methods according to the communication or characteristics of the object to meet the special usage.

► Application

Research and development , factory inspection, type test, production commissioning, laboratory electrical test, identification and testing and other fields of grid-connected inverter.

► System Principle Diagram



Software Interface Diagram



Test Project

Test categorization	Test project
Input characteristic test	Input voltage; input current; input power
Output characteristic test	Output voltage; Output current; Output power; Power factor ; Efficiency (CEC/Europe/Conversion/Max); DC component; Harmonic test
Time and transients	Trip time of overvoltage protection/under voltage protection; trip time of over-frequency protection/under-frequency protection; trip time of anti-island; test time overload protection
Protection function test	Overvoltage protection/under voltage protection; over/under frequency protection; anti-island protection; testing of ground insulation impedance; leakage current protection test;
Communication test	RS-232 write/read; LAN test
Special function	LAN write/read; low power start test; Factory default setting;

AT-T2000 Series Switching Power Supply Test System

AT-T2000 automatic switch power supply test system is suitable for AC/DC or DC/DC power supply, adapter, charger, LED power supply, etc. The system adopts hardware modular embedded framework structure, which can provide a variety of hardware options according to the requirements, to facilitate customer cost control. The system is compatible with various brands/models of programmable AC/DC power supply, DC electronic load, power analyzer, digital oscilloscope, timing/noise analyzer, etc. The system has a test item for the optimization standard of power supply characteristics. Combined with open software architecture, users can edit the test program according to their needs. The system supports multiple objects to be tested at one time, which greatly improves the production and test capacity. Meanwhile, it also supports the test of multiple groups of output switching power supply products, meeting the test requirements of any form of switching power supply. With powerful functions and simple operation, the system can automatically generate test reports, edit statistical analysis and conduct system management to meet the requirements of modern quality control and production testing. At the same time, it also supports Shop Floor process control system to realize remote network monitoring, which is the most ideal integrated performance automatic test system for the production line of switching power supply manufacturers.

► Application

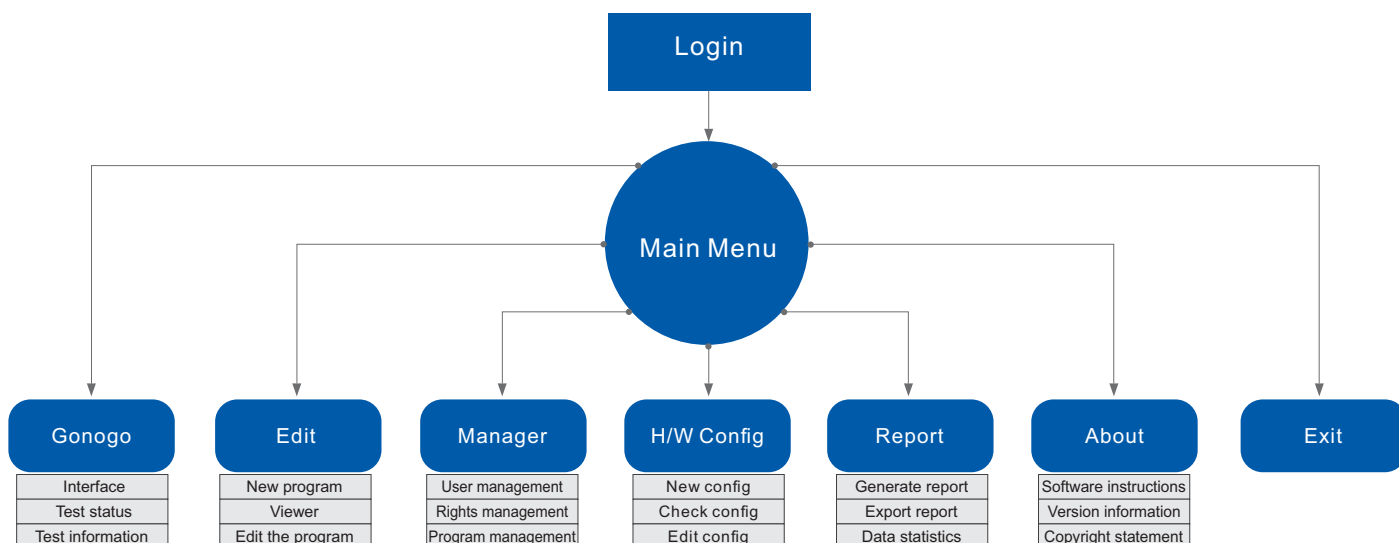
Various switching power supply, adapter, charger, LED power supply, communication power supply, PC power supply, PCBA and finished product testing.

Features

- Standard test item for switching power product characteristic optimization, easy to learn
- Single test, lab verification test or QA test; can support multiple tests in parallel
- Single group output switch power supply product test, meet various power supply test requirements
- The system interface is humanized, easy to operate and learn, which meets the requirements of production line
- Open software editing platform for users to write, modify the test program
- The system architecture is designed to be modular, flexible and easy to maintain and expand



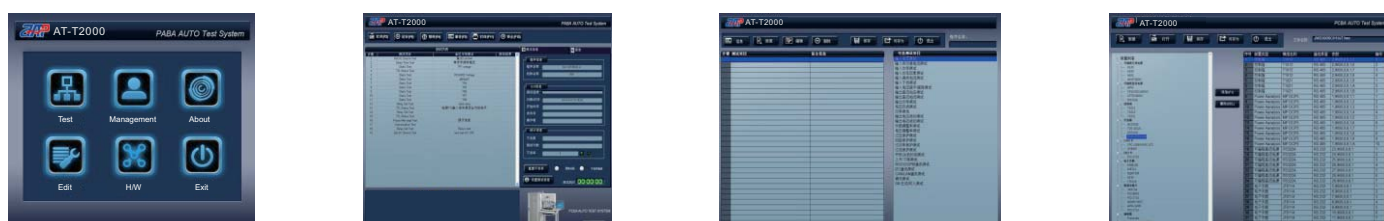
Software Architecture and Specifications



Description of Module Functions (as shown in the figure above)

- Login: Login to the main menu of the software with the correct user name and password
- GO/NOGO(test execution) : the main test interface, test status and results display screen, which can be used for some corresponding operations in the test process, and the test information can be set, such as work order, etc., which will be reflected in the test report
- Edit: add and edit the test program, that is, users select test items according to the required specifications and enter corresponding parameters
- H/W(hardware) : match the test hardware as required, set the information and save it as a file, then select the corresponding hardware configuration for the required test products in combination with the Edit module
- Management: software user management(add, edit or delete); user rights management; test procedures management(release, import or export delete, etc.)
- About: view information about the software, such as version, copyright, etc
- Exit: select to exit from the test software

Software Interface Diagram



Test Project

Test Categorization	Test Project
Input characteristic test	Standby power (energy star); input voltage test; input RMS current test; input power test; input power factor test; input inrush current test; test for AC noise; input voltage rises/falls slowly
Output characteristic test	Output DC voltage test; output DC current test; output DC power test; voltage ripple test; efficiency testing; output voltage fluctuation test; output current fluctuation test; output voltage ripple; load regulation;
Protection function test	Overvoltage protection test; short circuit protection test; overpower protection test; overload protection test;
Sequential testing	Starting time; Rise time; drop time; Shutdown time;
Communication test	Write/read of basic communications, including but not limited to RS232/4S485/USB/LAN/GPIB/CAN
Battery test	Battery charge and discharge time test
Dimming test	Dimming test
Special function	USB D+/D-/DCR test; barcode generation or reading; extended safety electrical comprehensive test

Customer Service Network



APM Technologies' global marketing service network covers not only the major cities of China domestic market, but also the most active economy areas of overseas market, such as in Australia, Europe, America, Asia, Middle East, etc. We offer our valuable customers excellent pre-sales, in-sales and after-sales services.

Service Team

- Set customer service line to provide customers with the 24 hours a day of continuing hotline services.
- Conduct comprehensive system analysis according to customer's requirement and the product's practical application.
- Provide customer with highest cost performance device layout and technical solutions.
- Fast responsive after-sale support and assign after-sale personnel to provide professional service.
- Provide thorough product training service to customer.
- Product provides limited warranty and lifelong track service.
- Provide upgrade and update services to system application software for free.
- Regularly customer satisfactory survey, supervise after-sale service quality.



APM 24^{Hours}
Continuing Services

Company History

2019~

- 2019 Three phase high power DC programmable power supply 36kW/30kW/24kW(6U), 18kW/12kW/6kW(3U);
- DC, AC electronic load, DC e-load: 300W~ 28.8kW; AC e-load: 400W~15kW;

2017~2018

- 2018 600VA/1kVA /1.5kVA AC source, three phase AC system; 6U/12U/20U DC system; ATE test system;
- 2017 600VDC/800VDC DC source; 2kVA-5kVA AC source;

2016

- Launch 600W/800W products of programmable switching power supply
- Launch 2000W/3000W, 80VDC DC sources; 200VDC(1U), 1000W(2U)
- 2016 won the "high-tech enterprise" title

2015

- Launch one-stop ICT+FCT online test system and dispensing system to realize unattended operation;
- Launch 1000W/1200W of programmable switching power supply; launch 20VDC/150VDC/ 200VDC (2U) programmable power supply
- Release the Marine smart system products;

2014

- Launch one-stop ICT+FCT online testing system, with a recovery rate of about 85%;
- Launch 1500W/1600W/2000W/3000W/4000W products of programmable switching power supply
- Board card type electronic load, board card type power meter is included in development, which helps automation test system

2012~2013

- 2013 Launch extended type high speed dispensing machine for Lens; programmable power supply complete parts of product development and experiment, complete the application and reliability testing stage;
- 2012 APM Technology Co.,Ltd established

2010~2011

- 2011 Set up sheet metal workshop, machining workshop, assembly workshop and painting factory in Dongguan; Project development of programmable power supply, marine smart navigation system
- 2010 New products released: High Speed Dispensing Machine, Conformal Coating Machine, ICT and FCT

1989~1999

- 1999 Established factory in Dongguan, China
- 1989 Factory Found in TaiWan



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