

High Efficiency
High Precision
High Stability



BR-E-P-PPS(AC&DC)-1707 A

PROGRAMMABLE AC&DC POWER SOURCE

High Efficiency

High Precision

High Stability



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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".

Contents

Programmable DC Power Source

Product Features & Introduction	03 / 04
Product Application Field	05 / 06
SP Series 20VDC	07 / 08
SP Series 32VDC	09 / 10
SP Series 40VDC	11 / 12
SP Series 60VDC	13 / 14
SP Series 75VDC	15 / 16
SP Series 80VDC/120VDC	17 / 18
SP Series 150VDC	19 / 20
SP Series 200VDC	21 / 22
SP Series 600VDC	23 / 24
LP Series 75VDC/100VDC	25 / 26
Front & Back Panel Introduction	27 / 28
Product Outline Dimension / Power Supply Monitoring Software	29 / 30
Application Case	31 / 34
Power Supply Selection	35 / 38

Programmable AC Power Source

Icon Introduction & Product Overview	37 / 38
Basic Functions	39 / 40
Advanced Functions	41 / 42
Specification (2kW-3kW)	43 / 46
Specification (4kW-5kW)	47 / 50
Panel and Selection List	51 / 52
Installation Guide for Optional Accessories	53 / 54
Dimensional Drawing / Marketing Service Network	55 / 56

APM 24^{Hours}
Continuing Services



Programmable **DC** Power Source

SP

LP



High Efficiency High Precision High Stability



Product Features

Product Features of SP Series

High Efficiency--Up to 1.6kW/1U output power, 4kW/2U output power with up to 92% efficiency.

High Precision--Up to 0.05% voltage accuracy , up to 0.1% current accuracy and up to 100ms no load voltage drop time and 10ms full load voltage drop time.

























High Stability--Continuable and stable working with temp. 0 to 40°C in full load voltage for a long time, and has passed ROHS, CSA, UL, CE and FCC approval.

- Accurate voltage and current measurement capability
- Constant Power and wide range of voltage and current output
- Master/Slave parallel and series operation mode for up to 10 units
- Built-in standard automobile electrical test curve with 2U type products
- Support RS232/RS485/LAN/USB/GPIB ports
- OVP/OCP/OPP/OTP/SCP

Product Features of LP Series

- Low ripple and low noise
- With 0.01% load regulation to ensure the stable power output when load changes
- High resolution and accuracy(1mV/0.05mA)
- Built-in high-accuracy 5 1/2 digit DC voltmeter(DVM)
- Built-in RS232 communication ports and use SCPI standart protocol communication
- OVP/OCP/OPP/OTP/SCP

Product Icon Introduction

 Master/Slave operation mode for up to 4 units	 Optional GPIB interface	 UL certified
 Master/Slave operation mode for up to 10 units	 Over voltage protection	 FCC certified
 Function of editing List waveform	 Over current protection	 CSA certified
 Built-in automobile electronic standard test waveform	 Over power protection	 "STORE"can store 10 sets data (fast recall after store)
 Standard RS232 interface	 CC to CV protection	 Use SCPI commands, convenient for quick system integration
 Standard LAN interface	 CV to CC protection	 Function of editing waveform sequence
 Standard RS485 interface	 CE certified	 Support Short Mode, used for cable and circuit breaker test etc.
 Standard USB interface	 ROHS certified	 The warranty period is 2 years

Product Quick Seletion List

DC SP Series

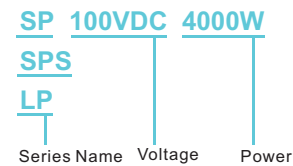
Item	Output Voltage	1U					2U			
		600W	1000W	1200W	1500W	1600W	1000W	2000W	3000W	4000W
1	20VDC	60A	60A	60A	*	*	—	—	—	—
2	32VDC	50A	50A	50A	*	50A	*	*	120A	*
3	40VDC	40A	40A	40A	*	40A	120A	120A	120A	120A
4	60VDC	25A	25A	25A	25A	*	*	*	*	*
5	75VDC	20A	20A	20A	20A	*	50A	50A	50A	60A
6	80VDC	*	*	*	*	*	*	60A	60A	*
7	120VDC	*	*	*	*	*	40A	40A	40A	40A
8	150VDC	10A	10A	10A	10A	*	30A	30A	30A	30A
9	200VDC	8A	8A	8A	8A	*	24A	24A	24A	24A
10	600VDC	*	*	*	*	*	10A	10A	10A	10A

Remark: — Accept advance order * Not available

DC LP Series

Item	Output Voltage	3U	
		150W	300W
1	75VDC	—	2A*2
2	100VDC	1.5A*1	1.5A*2

Product Model Naming Method



※ Please refer to Product Quick Seletion List



Product Application Field



A. Automobile Sector
 Used for automobile electronics product testing, and simulation of the voltage waveform of automobile under different conditions.



B. Household Field C. Communication Sector D. LED Sector

- Used for household products test.
- Used for the tests of communication power supply and electronic devices.
- Used for burn-in test of LEDdriver and LED products.



E. Automatic Testing Sector
 Can be integrated in automatic testing system to test electricity parameters, and to supply power to the products under testing.



F. Medical Field
 Used for medical device testing or it being integrated in medical equipment.



G. Aerospace Sector
 Used for aviation electronic products testing and power supply.



H. Scientific Research Sector
 Used in scientific research units, colleges & universities, and certification institutions for laboratory testing and power supply.



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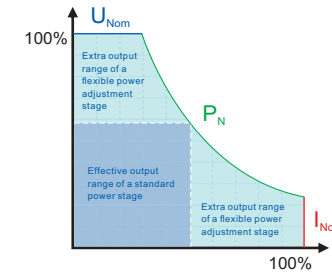
20VDC-1U

Model	SP20VDC600W	SP20VDC1000W	SP20VDC1200W
Input Voltage/ Frequency	90~265VAC,47~63Hz		
Power Factor	>0.98		
Output Voltage Range	0~20V		
Output Current Range	0~60A		
Output Power	0~600W	0~1000W	0~1200W
Line Voltage Regulation	0.005%+1mV		
Line Current Regulation	4mA		
Voltage Load Regulation	10mV		
Current Load Regulation	60mA		
Voltage Display Resolution	0.1mV		
Current Display Resolution	0.2mA		
Voltage Setting/ Measurement Accuracy	0.05%+15mV		
Current Setting/ Measurement Accuracy	0.1%+60mA		
Voltage Ripple ₍₁₎	40mVp-p/6mVrms		
Current Ripple ₍₁₎	60mA(Full Range),20mA(TYP Value)		
Voltage Temperature Coefficient ₍₂₎	100ppm/°C		
Current Temperature Coefficient ₍₂₎	150ppm/°C		
Remote Compensation	4V Max		
Load Transient Response Time	≤2ms		
Command Response Time	50ms		
Efficiency(Full Load)	82.5%	83%	84%
Weight	9.2kg		
Dimensions(W*H*D)	483.0*44.0*531.0 mm		
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)		
Communication Modes	RS232/RS485/USB/LAN		

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



Typical Application of This Power Supply

20V programmable DC power supply could be widely used for charging 12V battery system. For lead-acid battery, charging current could be 20% of its battery capacity, for li-ion battery, charging current could be 70% of its battery capacity. After charging current is confirmed, you can further choose and confirm the power supply model. At present, battery widely adopts 3-stage charging algorithm, the power supply supports switch over between CC (Constant Current) mode and CV (Constant Voltage) mode, the mode could be set flexibly according to the display of power supply's voltage to choose to enter quick charge phase, equalized charge phase or floating charge phase.



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32VDC-1U

Model	SP32VDC600W	SP32VDC1000W	SP32VDC1200W	SP32VDC1600W
Input Voltage/ Frequency	90~265VAC,47~63Hz			
Power Factor	>0.98			
Output Voltage Range	0~32V			
Output Current Range	0~50A			
Output Power	0~600W	0~1000W	0~1200W	0~1600W
Line Voltage Regulation	0.005%+1mV			
Line Current Regulation	4mA			
Voltage Load Regulation	10mV			
Current Load Regulation	50mA			
Voltage Display Resolution	0.1mV			
Current Display Resolution	0.2mA			
Voltage Setting/ Measurement Accuracy	0.05%+15mV			
Current Setting/ Measurement Accuracy	0.1%+50mA			
Voltage Ripple ^[1]	40mVp-p/6mVrms			
Current Ripple ^[1]	50mA(Full Range),20mA(TYP Value)			
Voltage Temperature Coefficient ^[2]	100ppm/°C			
Current Temperature Coefficient ^[2]	150ppm/°C			
Remote Compensation	4V Max			
Load Transient Response Time	≤2ms			
Command Response Time	50ms			
Efficiency(Full Load)	86%	89%	89%	89%
Weight	9.2kg			
Dimensions(W*H*D)	483.0*44.0*531.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN			



32VDC-2U

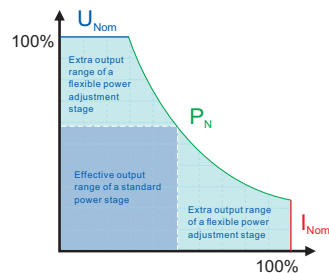
Model	SP32VDC3000W
Input Voltage/ Frequency	190~265VAC,47~63Hz
Power Factor	>0.98
Output Voltage Range	0~32V
Output Current Range	0~120A
Output Power	0~3000W
Line Voltage Regulation	0.01%+8mV
Line Current Regulation	30mA
Voltage Load Regulation	15mV
Current Load Regulation	120mA
Voltage Display Resolution	0.1mV
Current Display Resolution	1mA
Voltage Setting/ Measurement Accuracy	0.05%+15mV
Current Setting/ Measurement Accuracy	0.1%+120mA
Voltage Ripple ^[1]	40mVp-p/6mVrms
Current Ripple ^[1]	150mA(Full Range),20mA(TYP Value)
Voltage Temperature Coefficient ^[2]	100ppm/°C
Current Temperature Coefficient ^[2]	150ppm/°C
Remote Compensation	4V Max
Load Transient Response Time	≤2ms
Command Response Time	50ms
Efficiency(Full Load)	86%
Weight	14.7kg
Dimensions(W*H*D)	483.0*87.0*626.0 mm
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



Typical Application of This Power Supply

32V programmable DC power supply is applicable to electrical equipment testing sector. To choose this type of power supply, you may take below aspects into consideration:

1. High precision voltage output, up to 0.05% voltage accuracy, connect to remote compensation cable in realistic application, to make load voltage is the set voltage.
2. Wide range of current, in general, restarting inductive load need current that is much higher than to maintain it operate normally (approximately 3-7 times).
3. Convenient for power extension, considering user's sustainable requirement, the power supply could extend voltage, current and power flexibly, master-slave control and current-sharing function could realize above requirement perfectly.

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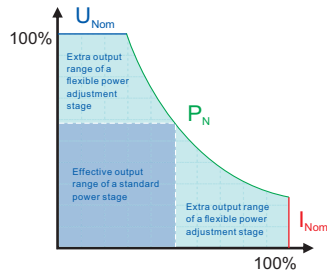
40VDC-1U

Model	SP40VDC600W	SP40VDC1000W	SP40VDC1200W	SP40VDC1600W
Input Voltage/ Frequency	90~265VAC,47~63Hz			
Power Factor	>0.98			
Output Voltage Range	0~40V			
Output Current Range	0~40A			
Output Power	0~600W	0~1000W	0~1200W	0~1600W
Line Voltage Regulation	0.005%+1mV			
Line Current Regulation	4mA			
Voltage Load Regulation	10mV			
Current Load Regulation	40mA			
Voltage Display Resolution	0.1mV			
Current Display Resolution	0.2mA			
Voltage Setting/ Measurement Accuracy	0.05%+15mV			
Current Setting/ Measurement Accuracy	0.1%+40mA			
Voltage Ripple ₍₁₎	40mVp-p/6mVrms			
Current Ripple ₍₁₎	40mA(Full Range),20mA(TYP Value)			
Voltage Temperature Coefficient ₍₂₎	100ppm/°C			
Current Temperature Coefficient ₍₂₎	150ppm/°C			
Remote Compensation	4V Max			
Load Transient Response Time	≤2ms			
Command Response Time	50ms			
Efficiency(Full Load)	87%	89%	89%	90%
Weight	9.2kg			
Dimensions(W*H*D)	483.0*44.0*531.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



40VDC-2U

Model	SPS40VDC1000W	SP40VDC2000W	SP40VDC3000W	SP40VDC4000W
Input Voltage/ Frequency	90~265VAC,47~63Hz	190~265VAC,47~63Hz		
Power Factor	>0.98			
Output Voltage Range	0~40V			
Output Current Range	0~120A			
Output Power	0~1000W	0~2000W	0~3000W	0~4000W
Line Voltage Regulation	0.02%+8mV	0.01%+8mV		
Line Current Regulation	30mA			
Voltage Load Regulation	15mV			
Current Load Regulation	120mA			
Voltage Display Resolution	0.1mV			
Current Display Resolution	1mA			
Voltage Setting/ Measurement Accuracy	0.05%+15mV			
Current Setting/ Measurement Accuracy	0.1%+120mA			
Voltage Ripple ₍₁₎	40mVp-p/6mVrms			
Current Ripple ₍₁₎	150mA(Full Range),20mA(TYP Value)			
Voltage Temperature Coefficient ₍₂₎	100ppm/°C			
Current Temperature Coefficient ₍₂₎	150ppm/°C			
Remote Compensation	4V Max			
Load Transient Response Time	≤2ms			
Command Response Time	50ms			
Efficiency(Full Load)	87%	88%	88%	91%
Weight	14.7kg			
Dimensions(W*H*D)	483.0*87.0*626.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

Typical Application of This Power Supply

40V programmable DC power supply is applicable to electrical equipment testing sector. To protect user's devices and the power supply itself, protection functions of OVP, OCP, OPP etc. could be started according to the requirement, SCP function defaults to OFF. Testing the current-carrying capability of cable or circuit breaker, to some degree, means to set power supply to short circuit mode, if power supply send out alarm constantly, normal test will not be realized, therefore, SHORT MODE is added in the menu for this application, set the SHORT MODE to OFF when testing cable or circuit breaker, then the test could be proceeded smoothly.

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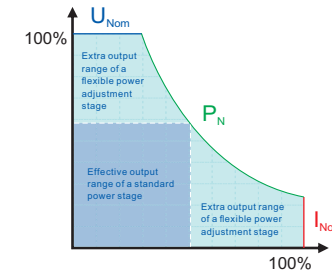
60VDC-1U

Model	SP60VDC600W	SP60VDC1000W	SP60VDC1200W	SP60VDC1500W
Input Voltage/ Frequency	90~265VAC,47~63Hz			
Power Factor	>0.98			
Output Voltage Range	0~60V			
Output Current Range	0~25A			
Output Power	0~600W	0~1000W	0~1200W	0~1500W
Line Voltage Regulation	0.005%+1mV			
Line Current Regulation	4mA			
Voltage Load Regulation	10mV			
Current Load Regulation	25mA			
Voltage Display Resolution	0.1mV			
Current Display Resolution	0.2mA			
Voltage Setting/ Measurement Accuracy	0.05%+15mV			
Current Setting/ Measurement Accuracy	0.1%+25mA			
Voltage Ripple ₍₁₎	40mVp-p/6mVrms			
Current Ripple ₍₁₎	25mA(Full Range),10mA(TYP Value)			
Voltage Temperature Coefficient ₍₂₎	100ppm/°C			
Current Temperature Coefficient ₍₂₎	150ppm/°C			
Remote Compensation	4V Max			
Load Transient Response Time	≤2ms			
Command Response Time	50ms			
Efficiency(Full Load)	88%	89%	90%	91%
Weight	8.9kg			
Dimensions(W*H*D)	483.0*44.0*531.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



Typical Application of This Power Supply

60V programmable DC power supply could be widely used for charging 48V battery system. For lead-acid battery, charging current could be 20% of its battery capacity, for li-ion battery, charging current could be 70% of its battery capacity. After charging current is confirmed, you can further choose and confirm the power supply model. At present, battery widely adopts 3-stage charging algorithm, the power supply supports switch over between CC (Constant Current) mode and CV (Constant Voltage) mode, the mode could be set flexibly according to the display of power supply's voltage to choose to enter quick charge phase, equalized charge phase or floating charge phase.



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75VDC-1U

Model	SP75VDC600W	SP75VDC1000W	SP75VDC1200W	SP75VDC1500W
Input Voltage/ Frequency	90~265VAC,47~63Hz			
Power Factor	>0.98			
Output Voltage Range	0~75V			
Output Current Range	0~20A			
Output Power	0~600W	0~1000W	0~1200W	0~1500W
Line Voltage Regulation	0.005%+1mV			
Line Current Regulation	4mA			
Voltage Load Regulation	10mV			
Current Load Regulation	20mA			
Voltage Display Resolution	0.1mV			
Current Display Resolution	0.2mA			
Voltage Setting/ Measurement Accuracy	0.05%+15mV			
Current Setting/ Measurement Accuracy	0.1%+20mA			
Voltage Ripple ^[1]	40mVp-p/6mVrms			
Current Ripple ^[1]	20mA(Full Range),10mA(TYP Value)			
Voltage Temperature Coefficient ^[2]	100ppm/°C			
Current Temperature Coefficient ^[2]	150ppm/°C			
Remote Compensation	4V Max			
Load Transient Response Time	≤2ms			
Command Response Time	50ms			
Efficiency(Full Load)	88%	89%	90%	91%
Weight	8.9kg			
Dimensions(W*H*D)	483.0*44.0*531.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN			



75VDC-2U

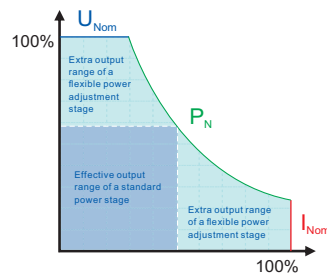
Model	SPS75VDC1000W	SP75VDC2000W	SP75VDC3000W	SP75VDC4000W
Input Voltage/ Frequency	90~265VAC,47~63Hz	190~265VAC,47~63Hz		
Power Factor	>0.98			
Output Voltage Range	0~75V			
Output Current Range	0~50A			
Output Power	0~1000W	0~2000W	0~3000W	0~4000W
Line Voltage Regulation	0.02%+8mV	0.01%+8mV		
Line Current Regulation	30mA			
Voltage Load Regulation	15mV			
Current Load Regulation	50mA	50mA	50mA	60mA
Voltage Display Resolution	0.1mV			
Current Display Resolution	0.1mA			
Voltage Setting/ Measurement Accuracy	0.05%+15mV			
Current Setting/ Measurement Accuracy	0.1%+50mA	0.1%+50mA	0.1%+50mA	0.1%+60mA
Voltage Ripple ^[1]	40mVp-p/6mVrms			40mVp-p/8mVrms
Current Ripple ^[1]	50mA(Full Range),10mA(TYP Value)			60mA(Full Range),10mA(TYP Value)
Voltage Temperature Coefficient ^[2]	100ppm/°C			
Current Temperature Coefficient ^[2]	150ppm/°C			
Remote Compensation	5V Max	4V Max	4V Max	5V Max
Load Transient Response Time	≤2ms			
Command Response Time	50ms			
Efficiency(Full Load)	88%	88%	91%	91%
Weight	13.2kg			
Dimensions(W*H*D)	483.0*87.0*581.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



Typical Application of This Power Supply

75V programmable DC power supply is applicable to activation of some electronic devices in military field. The application requires the power supply take time as standard, under CC (constant current) mode, adjust power setting of current-limiting to activate these electronic devices. When using this function, List function is applicable to edit parameters that is needed for test, if power supply is integrated in the system, SCPI instruct can be used to control it remotely. Both operations could content client very well.

- UL
- LAN
- RS232
- RS485
- USB
- OVP
- OCV
- OPP
- CC
- CV
- CE
- UL
- FC
- RoHS
- 10 STORE
- SCPI
- MS
- 2

- UL
- LAN
- RS232
- RS485
- USB
- OVP
- OCV
- OPP
- CC
- CV
- CE
- UL
- FC
- RoHS
- 10 STORE
- SCPI
- MS
- GPIB
- SHORT
- 2



80VDC-2U

Model	SP80VDC2000W	SP80VDC3000W
Input Voltage/ Frequency	190~265VAC,47~63Hz	
Power Factor	>0.98	
Output Voltage Range	0~80V	
Output Current Range	0~60A	
Output Power	0~2000W	0~3000W
Line Voltage Regulation	0.01%+8mV	
Line Current Regulation	30mA	
Voltage Load Regulation	15mV	
Current Load Regulation	60mA	
Voltage Display Resolution	0.1mV	
Current Display Resolution	0.1mA	
Voltage Setting/ Measurement Accuracy	0.05%+15mV	
Current Setting/ Measurement Accuracy	0.1%+60mA	
Voltage Ripple ^[1]	40mVp-p/6mVrms	
Current Ripple ^[1]	50mA(Full Range),10mA(TYP Value)	
Voltage Temperature Coefficient ^[2]	100ppm/°C	
Current Temperature Coefficient ^[2]	150ppm/°C	
Remote Compensation	4V Max	
Load Transient Response Time	≤2ms	
Command Response Time	50ms	
Efficiency(Full Load)	89%	91%
Weight	13.2kg	
Dimensions(W*H*D)	483.0*87.0*581.0 mm	
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)	
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)	



120VDC-2U

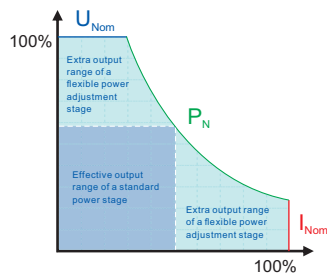
Model	SPS120VDC1000W	SP120VDC2000W	SP120VDC3000W	SP120VDC4000W
Input Voltage/ Frequency	90~265VAC,47~63Hz	190~265VAC,47~63Hz		
Power Factor	>0.98			
Output Voltage Range	0~120V			
Output Current Range	0~40A			
Output Power	0~1000W	0~2000W	0~3000W	0~4000W
Line Voltage Regulation	0.02%+8mV			
Line Current Regulation	40mA	30mA		
Voltage Load Regulation	15mV			
Current Load Regulation	40mA			
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting/ Measurement Accuracy	0.1%+15mV			
Current Setting/ Measurement Accuracy	0.1%+40mA			
Voltage Ripple ^[1]	80mVp-p/15mVrms			
Current Ripple ^[1]	60mA(Full Range),10mA(TYP Value)			
Voltage Temperature Coefficient ^[2]	100ppm/°C			
Current Temperature Coefficient ^[2]	150ppm/°C			
Remote Compensation	5V Max			
Load Transient Response Time	≤2ms	≤3ms	≤2ms	≤2ms
Command Response Time	50ms			
Efficiency(Full Load)	88%	89%	91%	92%
Weight	13.2kg			
Dimensions(W*H*D)	483.0*87.0*581.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



Typical Application of This Power Supply

80V programmable DC power supply is applicable to automobile electronics product testing sector. Built-in 12V DIN40839 automobile starting voltage waveform, be able to simulate automobile engine electronic performance test; Meanwhile, built-in 12V ISO-16750-2 engine start test waveform enable simulation of voltage drop test waveform and restoration function test waveform of automobile electronic. This function save the tedious editing process before test, test engineer could adjust the set parameter of waveform so as to realize the output of waveform under different test level.

120V programmable DC power supply is widely used in automatic testing sector. The average conversion efficiency of 120VDC programmable power supply is 90%, its load regulation is low, which ensure stable output when the load is changing constantly; Standard RS232/RS485/USB/LAN interface and GPIB is optional, which not only provide more flexibility but also have your test system adapt future requirement; Meanwhile, the power supply supports standard SCPI communication interface, which is convenient for user's secondary development.

- LAN
- RS232
- RS485
- OVP
- OCV
- OPP
- CC
- CV
- CE
- UL
- FC
- RoHS
- 10 STORE
- SCPI
- MS
- GPIB
- SHORT
- 2

- LAN
- RS232
- RS485
- OVP
- OCV
- OPP
- CC
- CV
- CE
- UL
- FC
- RoHS
- 10 STORE
- SCPI
- MS
- GPIB
- SHORT
- 2

- LAN
- RS232
- RS485
- OVP
- OCP
- OPP
- CV
- CC
- CE
- UL
- FC
- RoHS
- 10 STORE
- SCPI
- MS
- GPIB
- 2



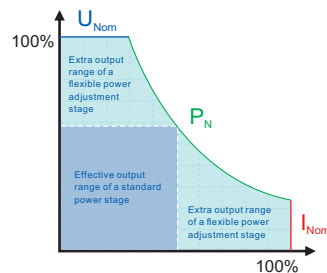
150VDC-1U

Model	SP150VDC600W	SP150VDC1000W	SP150VDC1200W	SP150VDC1500W
Input Voltage/ Frequency	90~265VAC,47~63Hz			
Power Factor	>0.98			
Output Voltage Range	0~150V			
Output Current Range	0~10A			
Output Power	0~600W	0~1000W	0~1200W	0~1500W
Line Voltage Regulation	0.02%+8mV			
Line Current Regulation	10mA			
Voltage Load Regulation	15mV			
Current Load Regulation	10mA			
Voltage Display Resolution	1mV			
Current Display Resolution	0.2mA			
Voltage Setting/ Measurement Accuracy	0.1%+15mV			
Current Setting/ Measurement Accuracy	0.1%+10mA			
Voltage Ripple ^[1]	120mVp-p/40mVrms			
Current Ripple ^[1]	40mA (Full Range), 10mA (TYP Value)			
Voltage Temperature Coefficient ^[2]	100ppm/°C			
Current Temperature Coefficient ^[2]	150ppm/°C			
Remote Compensation	4V Max			
Load Transient Response Time	≤2ms			
Command Response Time	50ms			
Efficiency(Full Load)	88%	89%	89%	90%
Weight	9.3kg			
Dimensions(W*H*D)	483.0*44.0*531.0 mm			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



150VDC-2U

Model	SPS150VDC1000W	SP150VDC2000W	SP150VDC3000W	SP150VDC4000W
Input Voltage/ Frequency	90~265VAC,47~63Hz	190~265VAC,47~63Hz		
Power Factor	>0.98			
Output Voltage Range	0~150V			
Output Current Range	0~30A			
Output Power	0~1000W	0~2000W	0~3000W	0~4000W
Line Voltage Regulation	0.02%+8mV			
Line Current Regulation	30mA			
Voltage Load Regulation	15mV			
Current Load Regulation	30mA			
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting/ Measurement Accuracy	0.1%+15mV			
Current Setting/ Measurement Accuracy	0.1%+30mA			
Voltage Ripple ^[1]	80mVp-p/15mVrms			
Current Ripple ^[1]	60mA (Full Range), 10mA (TYP Value)			
Voltage Temperature Coefficient ^[2]	100ppm/°C			
Current Temperature Coefficient ^[2]	150ppm/°C			
Remote Compensation	5V Max			
Load Transient Response Time	≤2ms	≤3ms	≤2.5ms	≤2.5ms
Command Response Time	50ms			
Efficiency(Full Load)	88%	90%	92%	93%
Weight	13.2kg			
Dimensions(W*H*D)	483.0*87.0*581.0 mm			
Operating Environment	Temperature 0~40°C, Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

Typical Application of This Power Supply

150V programmable DC power supply is widely used in automatic testing sector. The average conversion efficiency of 150VDC programmable power supply is 90%, its load regulation is low, which ensure stable output when the load is changing constantly; Standard RS232/RS485/USB/LAN interface and GPIB is optional, which not only provide more flexibility but also have your test system adapt future requirement; Meanwhile, the power supply support standard SCPI communication interface, which is convenient for user's secondary development.

- LAN
- RS232
- RS485
- OVP
- OCP
- OPP
- CV
- CC
- CE
- UL
- FC
- RoHS
- 10 STORE
- SCPI
- MS
- GPIB
- SHORT
- 2

- LAN
- RS232
- RS485
- OVP
- OC
- OPP
- CV
- CC
- UL
- FC
- RoHS
- 10 STORE
- SCPI
- MS
- GPIB
- 2



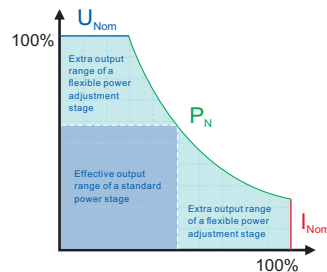
200VDC-1U

Model	SP200VDC600W	SP200VDC1000W	SP200VDC1200W	SP200VDC1500W
Input Voltage/ Frequency	90~265VAC,47~63Hz			
Power Factor	>0.98			
Output Voltage Range	0~200V			
Output Current Range	0~8A			
Output Power	0~600W	0~1000W	0~1200W	0~1500W
Line Voltage Regulation	0.02%+8mV			
Line Current Regulation	30mA			
Voltage Load Regulation	15mV			
Current Load Regulation	8mA			
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting/ Measurement Accuracy	0.1%+15mV			
Current Setting/ Measurement Accuracy	0.1%+8mA			
Voltage Ripple ₍₁₎	120mVp-p/40mVrms			
Current Ripple ₍₁₎	40mA(Full Range),10mA(TYP Value)			
Voltage Temperature Coefficient ₍₂₎	100ppm/°C			
Current Temperature Coefficient ₍₂₎	150ppm/°C			
Remote Compensation	4V Max			
Load Transient Response Time	≤3ms			
Command Response Time	50ms			
Efficiency(Full Load)	87%	87%	90%	91%
Weight	9.3kg			
Dimensions(W*H*D)	483.0*44.0*531.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



200VDC-2U

Model	SPS200VDC1000W	SP200VDC2000W	SP200VDC3000W	SP200VDC4000W
Input Voltage/ Frequency	90~265VAC,47~63Hz	190~265VAC,47~63Hz		
Power Factor	>0.98			
Output Voltage Range	0~200V			
Output Current Range	0~24A			
Output Power	0~1000W	0~2000W	0~3000W	0~4000W
Line Voltage Regulation	0.02%+8mV			
Line Current Regulation	30mA			
Voltage Load Regulation	15mV			25mV
Current Load Regulation	24mA			
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting/ Measurement Accuracy	0.1%+15mV			
Current Setting/ Measurement Accuracy	0.1%+24mA			
Voltage Ripple ₍₁₎	150mVp-p/30mVrms			
Current Ripple ₍₁₎	50mA(Full Range),20mA(TYP Value)			
Voltage Temperature Coefficient ₍₂₎	100ppm/°C			
Current Temperature Coefficient ₍₂₎	150ppm/°C			
Remote Compensation	5V Max			
Load Transient Response Time	≤2ms	≤3ms	≤3ms	≤3ms
Command Response Time	50ms			
Efficiency(Full Load)	88%	90%	91%	92%
Weight	13.2kg			
Dimensions(W*H*D)	483.0*87.0*581.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

Typical Application of This Power Supply

200V programmable DC power supply is widely used in automatic testing sector. The average conversion efficiency of 200VDC programmable power supply is 90%, its load regulation is low, which ensure stable output when the load is changing constantly; Standard RS232/RS485/USB/LAN interface and GPIB is optional, which not only provide more flexibility but also have your test system adapt future requirement; Meanwhile, the power supply support standard SCPI communication interface, which is convenient for user's secondary development.

- LAN
- RS232
- RS485
- OVP
- OC
- OPP
- CV
- CC
- UL
- FC
- RoHS
- 10 STORE
- SCPI
- MS
- GPIB
- SHORT
- 2



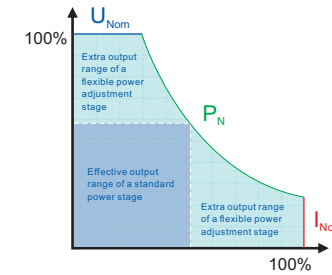
600VDC-2U

Model	SPS600VDC1000W	SP600VDC2000W	SP600VDC3000W	SP600VDC4000W
Input Voltage/ Frequency	90~265VAC,47~63Hz	190~265VAC,47~63Hz		
Power Factor	>0.98			
Output Voltage Range	0~600V			
Output Current Range	0~10A			
Output Power	0~1000W	0~2000W	0~3000W	0~4000W
Line Voltage Regulation	0.01%+30mV			
Line Current Regulation	15mA			
Voltage Load Regulation	30mV			
Current Load Regulation	10mA			
Voltage Display Resolution	1mV			
Current Display Resolution	0.1mA			
Voltage Setting/ Measurement Accuracy	0.1%+150mV			
Current Setting/ Measurement Accuracy	0.1%+10mA			
Voltage Ripple ₍₁₎	350mVp-p/40mVrms			
Current Ripple ₍₁₎	25mA(Full Range),10mA(TYP Value)			
Voltage Temperature Coefficient ₍₂₎	100ppm/°C			
Current Temperature Coefficient ₍₂₎	150ppm/°C			
Remote Compensation	5V Max			
Load Transient Response Time	<3ms			
Command Response Time	50ms			
Efficiency(Full Load)	86%	90%	91%	92%
Weight	14.7kg			
Dimensions(W*H*D)	483.0*87.0*626.0 mm			
Operating Environment	Temperature 0~40°C,Relative Humidity 10%~90%(no condensation)			
Communication Modes	RS232/RS485/USB/LAN(Standard), GPIB(Optional)			

[1] Test Condition: Voltage ripple, CV (Constant Voltage) mode-rated output voltage (Vp-p @ 20MHz, Vrms@1.25MHz); Current ripple: CC (Constant Current) mode (Arms @1.25MHz) Current ripple typical value standard: test under full load of rated voltage, at the same time, for full load of the full range voltage, the effective value of the current ripple is among the full range voltage standard.
 [2] Test Condition: Ambient temperature is among 0~40°C.

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.



Typical Application of This Power Supply

600V programmable DC power supply is widely used in automatic testing sector. The average conversion efficiency of 600VDC programmable power supply is 90%, its load regulation is low, which ensure stable output when the load is changing constantly; Standard RS232/RS485/USB/LAN interface and GPIB is optional, which not only provide more flexibility but also have your test system adapt future requirement; Meanwhile, the power supply support standard SCPI communication interface, which is convenient for user's secondary development.





LP75VDC



LP100VDC



Model	LP75VDC300W
Input Voltage Range	220VAC ±10%/110VAC±10%
Input Frequency Range	47~63Hz
Output Channels	2
Rated Input Power	Approx.550VA
Rated Output Voltage	0~75V
Rated Output Current	0~2A
Voltage Load Regulation	<0.02%+10mV
Current Load Regulation	<0.02%+4mA
Voltage Setting Resolution	1mV
Current Setting Resolution	0.05mA
Voltage Readback Resolution	0.1mV
Current Readback Resolution	0.01mA
Voltage Setting Accuracy	0.01%+12mV
Current Setting Accuracy	0.05%+2mA
Voltage Readback Accuracy	0.02%+12mV
Current Readback Accuracy	0.05%+5mA
Voltmeter Accuracy	0~75V Accuracy:0.02%+10mV
Voltage Ripple & Noise	70mVp-p/5mVrms
Current Ripple & Noise	1mA
Temperature Coefficient	300ppm/°C
Storage Temperature	-20~70°C
Working Condition	0~50°C 0~95%RH
Cooling Mode	Forced air cooling
Weight	19.2kg
Dimensions (W*H*D)	482.0*133.0*477.0 mm



Model	LP100VDC150W	LP100VDC300W
Input Voltage Range	220VAC ±10%/110VAC±10%	
Input Frequency Range	47~63Hz	
Output Channels	1	2
Rated Input Power	Approx.270VA	Approx.550VA
Rated Output Voltage	0~100V	
Rated Output Current	0~1.5A	
Voltage Load Regulation	<0.02%+10mV	
Current Load Regulation	<0.02%+4mA	
Voltage Setting Resolution	1mV	
Current Setting Resolution	0.05mA	
Voltage Readback Resolution	0.1mV	
Current Readback Resolution	0.01mA	
Voltage Setting Accuracy	0.01%+12mV	
Current Setting Accuracy	0.05%+2mA	
Voltage Readback Accuracy	0.02%+12mV	
Current Readback Accuracy	0.05%+5mA	
Voltmeter Accuracy	0~100V Accuracy:0.02%+10mV	
Voltage Ripple & Noise	70mVp-p/5mVrms	
Current Ripple & Noise	1mA	
Temperature Coefficient	300ppm/°C	
Storage Temperature	-20~70°C	
Working Condition	0~50°C 0~95%RH	
Cooling Mode	Forced air cooling	
Weight	12.2kg	19.2kg
Dimensions (W*H*D)	482.0*133.0*477.0 mm	

Product Features

- * Low ripple and noise
- * High resolution and accuracy (1mV/0.01mA)
- * Built-in high-accuracy 5 1/2 digit DC voltmeter
- * Support for high-accuracy & dynamic programming output
- * High brightness vacuum fluorescent display (VFD), four rows of 8-channel simultaneous data output
- * Duel-channel output can be connected in series or parallel to achieve single channel output (External wiring is required)
- * Operating temperature is up to 50°C
- * Smart cooling system: the fan will automatically turned on/off according to temperature
- * Support for externally triggered input and output (Optional)
- * Start Up self diagnosis, and standard equipment rack design
- * Use SCPI standard communication protocol
- * Built-in RS232 communication interface (port)



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
	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

LP Series Front Panel Introduction



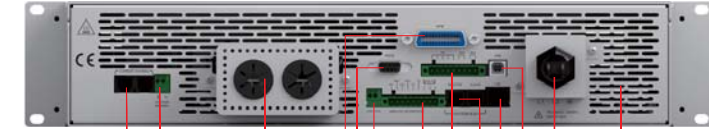
The left part of the panel is vacuum fluorescent display (VFD) and the right part is power switch. VFD can display the current operation status of the power supply.

When turn on the power supply, VFD displays double channels, there are four lines data which display value of two output channel (channel 1 & channel 2). The first line displays the actual output voltage, current (Iout) and power status (CC/CV). The second line displays voltage value (Vmeas) tested by voltmeter and voltage output set value. The third line displays actual output voltage, current (Iout) and power status (CC/CV) of Channel 2. The fourth line displays voltage value (Vmeas) tested by voltmeter and voltage output set value.

SP Series Back Panel Introduction



1U Power supply Back Panel



2U Power supply Back Panel

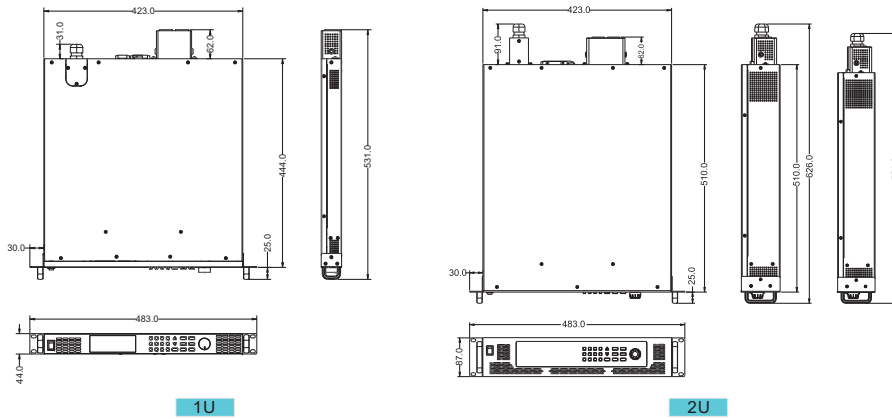
- ① AVG1/AVG2 Connector, used for connecting between units to enable current sharing.
- ② Voltage Remote Supporting Connector (VOLTAGE SENSING): Used to support wire voltage drops.
- ③ DC output terminal: Left (-), Right (+).
- ④ GPIB Communication connector.
- ⑤ RS-232 Communication connector.
- ⑥ DVM Connector.
- ⑦ ANALOG INTERFACE signal connection terminal.
- ⑧ RS-485 Communication connector.
- ⑨ SYSTEM BUS control, used for transmission of master and slaves.
- ⑩ LAN Communication Interface.
- ⑪ USB Communication Interface.
- ⑫ AC Power Connection terminal.
- ⑬ The fan duct outlet.

LP Series Back Panel Introduction



- ① AC Socket (with a built-in fuse)
- ② Input Switch (AC 110V, 60Hz/ AC 220V, 50Hz)
- ③ Output Terminal
- ④ The fan duct outlet
- ⑤ RS-232 Communication Port
- ⑥ Measuring Port & Remote Trigger Port (Optional)

SP Series Outline Dimension Drawing (unit: mm)



Remark: Dimension of 20VDC, 30VDC, 40VDC 2U products: 483.0*87.0*626.0 mm
 Dimension of 75VDC, 80VDC, 120VDC, 150VDC, 200VDC 2U products: 483.0*87.0*626.0 mm

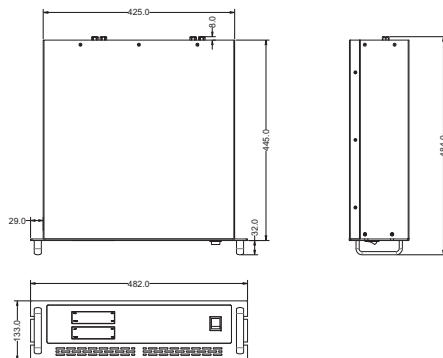
Power Supply Monitoring Software

▶ Power River Controller/ DC Power Control Panel (SP Series)

Power River Controller/ DC Power Control Panel are self-developed supervisory software on programmable DC power from APM Technologies that are applicable for 1U/2U SP series power. This monitoring software nearly covers all the functions of front panel operation, thus enable the user to remotely monitor the device on a PC in an efficient & convenient way. Base on the PC's external power connection condition, switchover to the Single Mode interface, Master/Slave interface, and Multi Mode interface can be performed easily. APM Technologies' programmable DC power supply is equipped with a variety of common communication interface such as the USB/LAN/RS485/RS232 in order to provide more options based on customer actual requirements.



LP Series Outline Dimension Drawing (unit: mm)



▶ LPRPE (LP Series)



1. Monitoring can be achieved through system setting of the corresponding COM interface.
2. Voltage and current values can be configured through the soft keyboard and rotary knob.
3. User customizable common voltage and current values.
4. Power supply voltage can be scanned.
5. Self-inspection on the output accuracy of voltage and current values.

Application Case

Automobile Electronic Products Impulse Testing

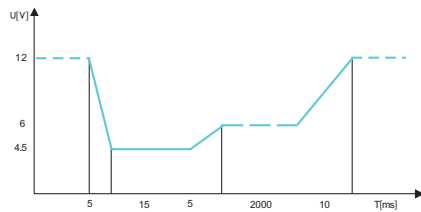
One of the leading automotive electronics product manufactures has used APM Technologies' SP series programmable DC power supply to perform impulse testing on their electronics products to verify the reliability and stability.

Our products can meet clients' requirement and complete products' function test solution very well.

Programmable power supply developed by APM Technologies contains frequently used test waveform which complies with standards of Automobile Electronic Field. This function save the tedious editing process before test, test engineer could adjust the set parameter of waveform so as to output waveforms under different test level.

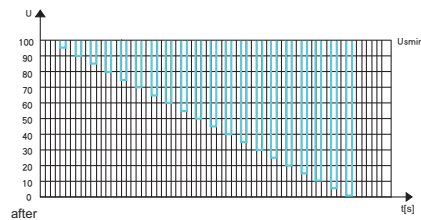


This test waveform is strict in voltage increasing and decreasing of Power, APM Technologies can totally meet the requirement since they got the related item patents.



Standard: DIN40839

Test Item: Automobile Electronic Engine Start Test



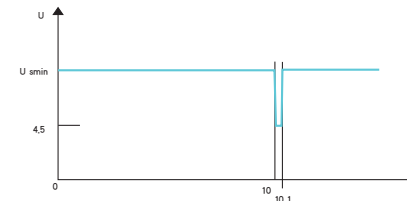
Standard: ISO16750-2

Test Item: Automobile Electronic Restoration Function Test

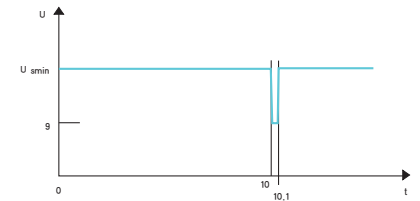
This test waveform is used for simulating the impact of Electronics when the fuses of Automobile circuit break, the voltages of other circuits drop instantaneously.

Standard: ISO16750-2

Test Item: Instantaneous Interrupt Test

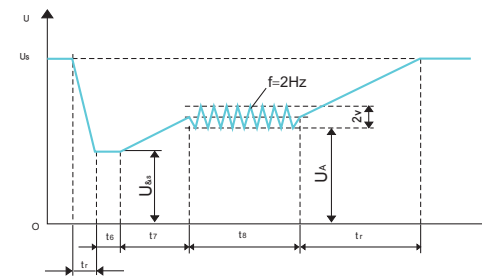


12V System



24V System

This test waveform is similar to that of DIN40839 Standard, the mid-part add waveform component test, which more truly simulates the Engine Start Test.



Standard: ISO16750-2

Test Item: Automobile Electronic Engine Start Test

Test Systems

- Audio amplifier test system
- Ballast and LED driving power burn-in test system
- Cash register main panel test system
- Transducer control panel and driver board test system
- LED driving power function system
- Electronic welding machine control board and power strip function test system

1. UPS Power Supply Test System



2. Power Supply Test System

- Adapter
- PC Power Supply
- Charger
- Power Inverter
- LED Power Supply
- Communication Power Supply



SP60VDC1000W type is used for DC-DC charger/ module test system, the whole system needs DC power supply, electronic load, dynamometer, and oscilloscope etc., connect to IPC (Industrial Personal Computer) through communication interfaces, apply monitoring software to realize automatic testing; In the system, programmable power supply developed by APM Technologies provides DC power to DC-DC charger and module under testing, various data could be tested only after power is supplied, meanwhile, the input & output voltage and current of DC-DC charger/ module could be tested precisely; At the same time, transient voltage, rise & fall waveform, current measurement under rated voltage mode etc. could be tested.

SP75VDC1500W type is used for adapter test system, the whole system needs DC power supply, electronic load, dynamometer, and oscilloscope etc., connect to IPC (Industrial Personal Computer) through communication interfaces, apply monitoring software to realize automatic testing; In the system, programmable power supply developed by APM Technologies could test the output voltage and current of adapter precisely; At the same time, transient voltage, rise & fall waveform, current measurement under rated voltage mode etc. could be tested.

3. PCBA Test

Use SP75VDC1500W type to test electrical parameter between each point in the PCB-board through test fixture and coordinate with software operation. Clients use this type for production line test, six sets output: 5V / 0.5A, 10.7V / 0.5A, 28V / 6A, 30V / 0.5A, 36V / 6A, 48V / 15A are needed and rapid switchover of required voltage & current is requested to improve the production line efficiency and facilitate operator's usage. For this, programmable power supply developed by APM Technologies provides fast call function, which enable operator to output a set of required voltage & current with one key.



4. DC Fan Test System

Use SP32VDC1000W type for DC fan test system; Programmable power supply developed by APM Technologies provides power to DC fan under testing.



5. Multimedia Test System





Programmable AC Power Source

Advanced

Professional



Selection List

OUTPUT	3U	4U		
	2000W	3000W	4000W	5000W
150VAC	16A	27.6A	32A	46A
300VAC	8A	13.8A	16A	23A

High Efficiency High Precision High Stability



Icon Introduction

Protection Functions	OCP Over Current Protection	OVP Over Voltage Protection	OPP Over Power Protection	Over Temperature Protection	Reverse Current Protection	SHORT Short Circuit Protection
Communication Interfaces	RS232	RS485	USB	LAN	GPIB	
Certification Mark	CE Certified	cUL Certified	ROHS certified	Warranty Period	1 The warranty period is 2 years	

Application Field

Programmable AC power source developed by APM Technologies is multifunctional power supply device which is not only able to output DC, AC and DC+AC but also capable of measuring electrical parameters precisely. 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.



Main Characteristics

- High power density, up to 5kVA/4U output power
- High speed DSP+CPLD control, high frequency PWM technology, active PFC design, up to 85% conversion efficiency
- 5.6" large touch color screen, possess complete functions and easy to operate. Support for USB data import/export and screen snap from front panel
- AC+DC mixed or independent output mode for voltage DC offset simulation
- Voltage range: 0-150V/0-300V/Auto
- Capable of setting voltage and current output restriction, support for constant current output mode
- Capable of setting output slope of voltage and frequency
- Capable of setting ON/OFF phase angle
- Support for LIST/PLUSE/STEP mode, simple time setting and circulation setting, which is suitable for power line disturbance simulation test
- Built-in test object power sweeping function
- Standard RS232/RS485/USB/LAN communication interface (GPIB optional)

Function Introduction

- Support extra wide frequency adjustment, DC/15Hz-1000Hz for Advanced Version products and DC/15Hz-1200Hz for Professional Version products
- High output current crest factor (5~6)
- Built-in Transient mode
- Built-in power meter, which is capable of measuring 15 electrical parameters, including voltage, current, frequency, etc
- Built-in Dimmer function
- With reverse current protection to avoid current flowing backward
- Support mA current measurement function
- Support for IEC61000-4-11 voltage dip, short time interrupt and voltage variation simulation function
- Professional Version product is comply with the IEC61000-3-2, IEC61000-3-3 standard requirement of output impedance test
- Professional Version product supports IEC61000-4-14 (voltage irregular variation) and IEC61000-4-28 (power frequency change immunity simulation function) simultaneously
- Professional Version product supports harmonics/ inter-harmonics generate simulation and measuring function
- Support up to 2 units in series, 4 units in parallel and 3 units combined to 3-phase power output (optional)
- Synchronous signal output (3 channels), analog input (6 channels), waveform amplification function (1 channel), convenient for remote control and PLC system integration (optional)

Functions & Differences

Functional description	Advanced Version	Professional Version
Output frequency range	15-1000Hz	15-1200Hz
Built in IEC standard	IEC61000-4-11	IEC61000-4-11 IEC61000-4-13 IEC61000-4-14 IEC61000-4-28 IEC61000-3-2 IEC61000-3-3
Harmonics/inter-harmonics generate simulation and measuring function	X	✓
Output impedance function	X	✓
Dimmer function	✓	✓
Max power point sweeping function	✓	✓
Transient mode	✓	✓
USB data load/upload and screen snap	✓	✓
CC mode	✓	✓
Capable of setting output slope of voltage and frequency	✓	✓
Capable of setting ON/OFF phase angle	✓	✓
Test mode	✓	✓
Output Simulation Sequence and power line Disturbance Simulation	Support LIST/PLUSE/STEP mode	
Amplifier Function	Support (Optional)	
External control function	Support (Optional)	
GPIB communication	Support (Optional)	

Basic Functions

High Speed DSP+CPLD Control Platform

Adopts current high-end power supply DSP+CPLD control technology to strengthen inner data and logic operation ability. The product is of faster control and more stable operation. Enable user to quick set and read various waveform, generate harmonics analysis, support remote update.



DSP+CPLD

Integrated Multifunctional Power Meter

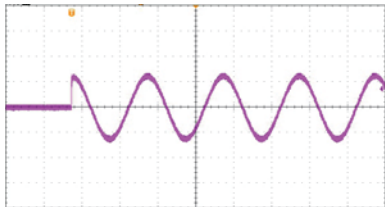
This series contains a high-precision power meter, the real-time data could be checked precisely and quickly during test, the situation of the test object could be grasped easily, there is no need to connect extra complex circuit and power meter to save test time and equipment cost. It can measure 15 parameters in the figure and the parameters can be self-defined in sequence.



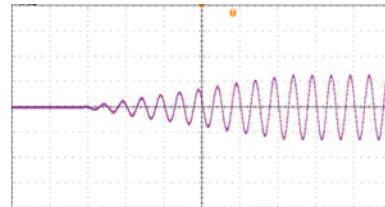
Main Interface of Display Panel

Adjustable Phase Angle/Slope

User could set the start and stop phase angle ranged from 0-359.9°, which is applicable to verification test of ON/OFF inrush current testing. User can set the rise & fall slope of voltage and frequency to make the voltage change slowly, which is applicable to start inductive or capacitive load with large capacity to avoid circuit break caused by protection that triggered by high current when instantaneously start the device.



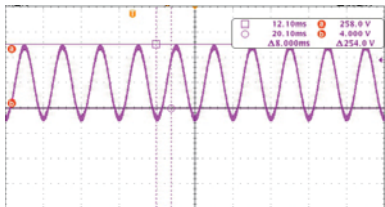
Adjustable Phase Angle



Adjustable Slope

AC/DC Output

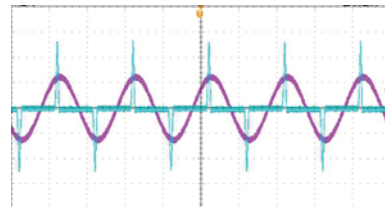
Capable of setting AC or DC output, as well as setting mixed AC&DC output mode, when no strict demand on output ripple, it can be used as DC power supply. Meanwhile, in some special application, DC output could achieve real-time positive and negative reversal.



AC/DC Output

High Output Current Crest Factor

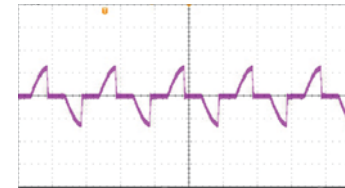
The surge current could reach 5-6 times of the rated current, especially suitable for inrush current testing, which could meet the requirement of load whose start current is high without adding high-capacity power supply (electrical machine, compressor and capacitive load).



High Output Current Crest Factor

Dimmer Function

Support Dimmer function, which is applicable to conduct speed regulating or dimming verification test for electric motor, lamp and other products, it is applicable to production test as well, capable of simulating the user's real application scenarios to make it easier to find out the quality issue of the products.



Dimmer Function

Sweep Mode

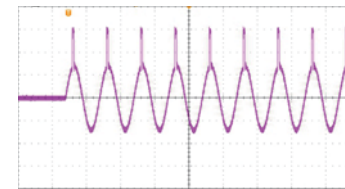
Support max power point sweep mode, which is applicable to find out the max power point of the device under test under various voltage and frequency. It could control voltage and frequency change according to stepping ladder through setting the start/end voltage value, stepping voltage, start/end frequency, stepping frequency and time of each step. Voltage, frequency and other data at max power will be displayed on the screen after testing.



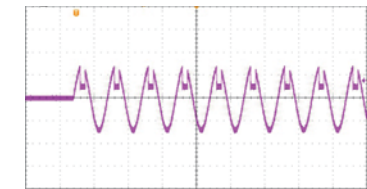
Max power point sweeping

Transient mode

Transient mode simulates the impact on the device under test when turn on or turn off transient high power capacity load in power grid.



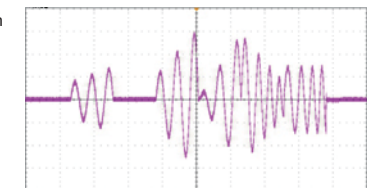
Voltage Spikes



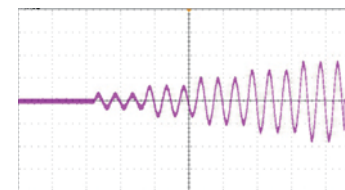
Voltage Sags

Output Simulation Sequence and Disturbance Simulation

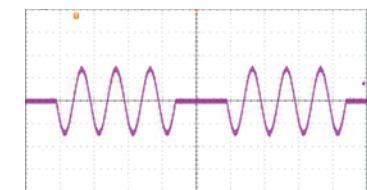
Provide powerful function to simulate power line disturbance. Apply LIST mode to change output by recalling inner sequence file; Apply STEP mode to change output value; Apply PULSE mode to program special impulse voltage waveform. Functions above are convenient for user to apply in test condition such as cycle dropout, transient spike and brown out, etc.



LIST Mode



STEP Mode

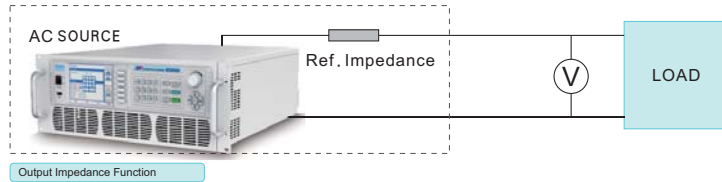


PULSE Mode

Advanced Functions

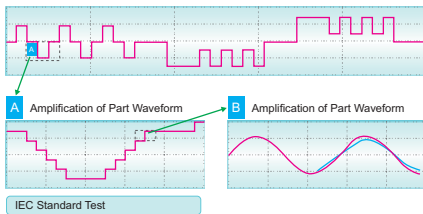
Output Impedance (Applicable to Professional Version)

The default output impedance of programmable AC power source is very low, while in some application, user needs special output impedance. This series is equipped with output impedance function through front panel or monitoring software and set output resistance and inductance to simulate the special application of the impedance.



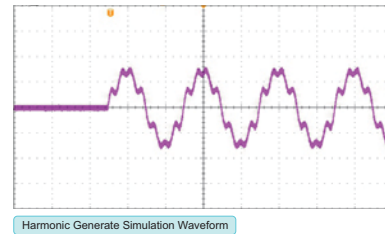
IEC Standard Test (Applicable to Professional Version)

With built-in IEC standard test function, it is applicable to immunity test of power electronics products under abnormal condition. Standards below are contained and could be recalled directly. Standards: IEC61000-3-3 (test output impedance), IEC61000-3-2 (low output impedance), IEC61000-4-11 (voltage dip, Short interruption and voltage variations immunity test), IEC61000-4-14 (voltage fluctuation immunity test), IEC61000-4-28 (Variation of power frequency, immunity test), IEC61000-4-13 (harmonics/ Inter-harmonics low frequency immunity test).



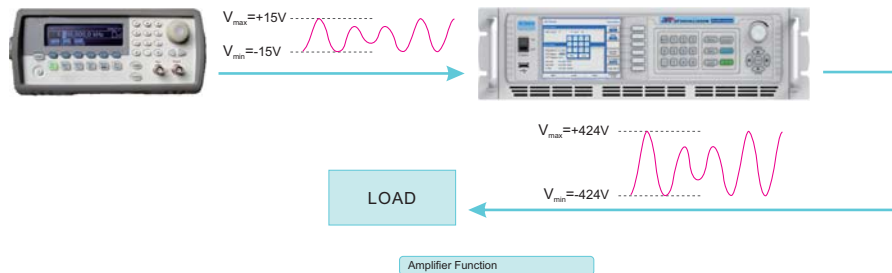
Harmonics/Inter-harmonics Generate Simulation and Measurement (Applicable to Professional Version)

Support waveform synthesis edition, up to 40 orders of harmonics components based on 50Hz or 60Hz fundamental. The value and angle of each order could be set through front panel or monitoring software. Meanwhile, it supports inter-harmonics synthesis edition. On the basis of original voltage output, add another voltage component whose frequency is changeable, which is applicable to some interference simulation test. THD(total harmonic distortion) and harmonics value(2-40 orders) are displayed on the screen and monitoring software.



Amplifier Function (Remote I/O & Parallel, Multiphase Link Card Optional)

User can set the output through simulation signal of external devices, Amplifier mode and Level mode could be applied flexibly. Programmable AC power source could realize real time output by tail after signal waveform, which is applicable to industry sector.



External control also contains synchronization signal output (3 channels) and analog input (6 channels) (Remote I/O & Parallel, Multiphase Link Card Optional)

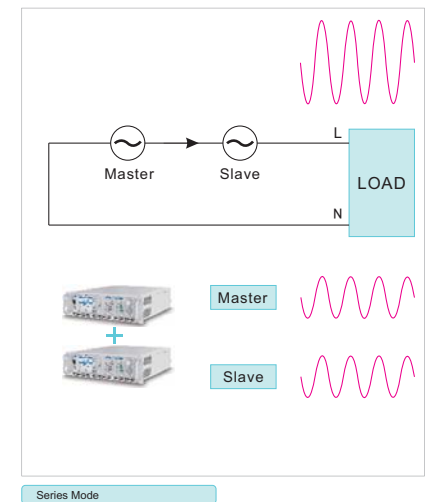
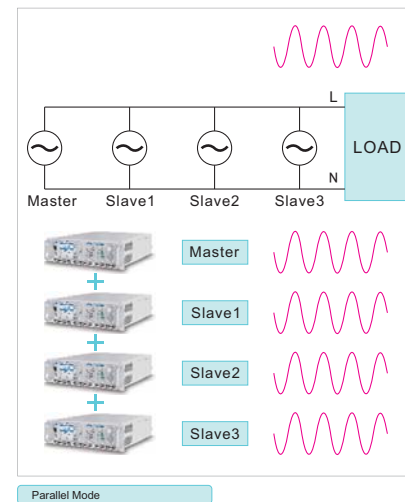
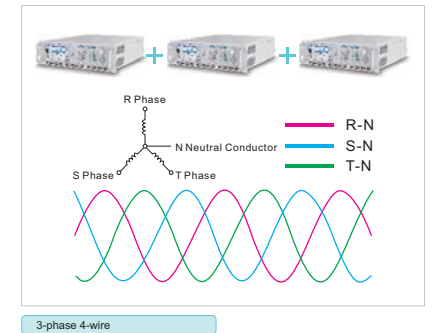
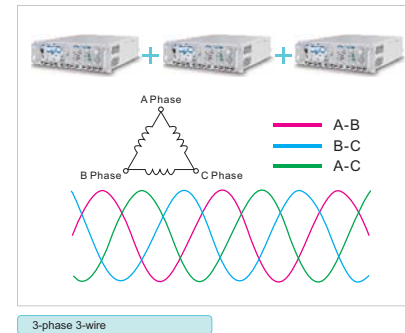
Programmable AC power source could provide analog input under test simulation of PASS, FAIL and RUN status and user can control ON/OFF externally, force to shutdown, reset and upload 7 sets of stored parameters.

3-Phase Operation and Parallel Mode(Remote I/O & Parallel, Multiphase Link Card Optional)

When 3-phase AC power source is needed, user can apply three units of programmable AC power source combining with parallel cable to compose 3-phase AC system. User can set the master-slave relation under 3-PHASE MODE. Exchange data with CAN communication through synchronizing signal, which is applicable to 3-phase operation or test conditions of 3-phase unbalance and phase-deficient operation, etc.

User can apply up to 4 units of same model power source in parallel operation.

When output voltage is higher than 300V, up to two units of same model power source could be applied in series operation, the max voltage is up to 600V.



SP300VAC2000W-3000W



Specification

MODEL	SP300VAC2000W Advanced	SP300VAC2000W Professional	SP300VAC3000W Advanced	SP300VAC3000W Professional
INPUT				
Voltage	190~265VAC			
Frequency	47~63Hz			
Phase	1 Phase, 2Wire+Ground			
Max. Current	14A		20A	
Power Factor at 220VAC Input , Full Load	≥0.99 Active PFC			
Efficiency	>87% (Peak) >86% at 220VAC,50Hz input/220VAC,50Hz output,Full Load		>86% (Peak) >85% at 220VAC,50Hz input/220VAC,50Hz output,Full Load	
OUTPUT				
AC Power	2000VA		3000VA	
Max. Current (r.m.s)	0~150V(L)	16A	27.6A	
	0~300V(H)	8A	13.8A	
Max. Current (Peak)	0~150V(L)	80A	165.6A	
	0~300V(H)	40A	82.8A	
Phase	1 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 100~140VAC at Low Range or the 160~280VAC at High Range <2% (Resistive Load) at 1001~1200Hz and output voltage within the 100~140VAC at Low Range or the 160~280VAC at High Range Note: 1001~1200Hz only available to Professional Version Models			
Crest Factor(CF)	≤5		≤6	
Load Regulation	±0.1%F.S. (Resistive Load) at 15~70Hz ±0.5%F.S. (Resistive Load) at 70.1~1200Hz Note: 1001~1200Hz only available to Professional Version Models			
Line Regulation	±0.1V			
Voltage(AC)	Range	0~300VAC, 150V/300V/Auto Mode		
	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		



Specification

MODEL	SP300VAC2000W Advanced	SP300VAC2000W Professional	SP300VAC3000W Advanced	SP300VAC3000W Professional	
Voltage(DC)	Range	0~424VDC			
	Resolution	0.1V			
	Accuracy	0.2% of setting +0.2%F.S.			
	Max.Power	2000W		3000W	
	Max.Current (L/H Range)	L	11.3A		L 19.6A
		H	5.65A		H 9.8A
	Ripple & Noise(r.m.s) Ripple & Noise(Peak) Rise time drop time	L <700mVrms @Bandwidth 20Hz to 1MHz <4000mVp-p @Bandwidth 20Hz to 1MHz		H <1100mVrms @Bandwidth 20Hz to 1MHz	
Current OC Fold Mode	Resolution	0.01A			
	Accuracy	0.5% of setting +1.0%F.S.			
	Response Time	<1400ms			
Frequency	Range	15~1000Hz Full Range ADJ	15~1200Hz Full Range ADJ	15~1000Hz Full Range ADJ	15~1200Hz Full Range ADJ
	Resolution	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz, 5Hz at 1001~1200Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz, 5Hz at 1001~1200Hz
	Accuracy	0.03% of setting			
Programmable Output Impedance	Range	Not Support	0Ω +200μH~1Ω +1mH	Not Support	0Ω +200μH~1Ω +1mH
	Harmonic & Inter-harmonics Simulation	Range	Not Support	2400Hz	Not Support
MEASUREMENT					
Voltage	Range	AC 0~300VAC DC 0~424VDC			
	Resolution	0.1V			
	Accuracy	0.2% of setting +0.2%F.S.			
Frequency	Range	15~1000Hz	15~1200Hz	15~1000Hz	15~1200Hz
	Resolution	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz, 5Hz at 1001~1200Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz, 5Hz at 1001~1200Hz
	Accuracy	0.1% of setting			
Current* (r.m.s)	Range	H 0.15A~20A		H 0.3A~27.6A	
		M -		M 0.2A~20A	
		L 0.1A~5A		L 0.1A~5A	
		mA 0.02A~1.5A		mA 0.02A~1.5A	
	Resolution	0.01A			
	Accuracy	H/M 0.4%+1.0%F.S.		H/M 0.4%+0.6%F.S.	
L/mA 0.4%+1.0%F.S.		L/mA 0.4%+1.0%F.S.			

- OC
- OVP
- OPP
- TC
- SC
- SHORT
- RS232
- RS485
- LAN
- GPIB
- CE
- RoHS
- REPS
- I

SP300VAC2000W-3000W



Specification

MODEL	SP300VAC2000W Advanced	SP300VAC2000W Professional	SP300VAC3000W Advanced	SP300VAC3000W Professional	
Current* (Peak)	Range	0A~81.5A		0A~168.6A	
	Resolution	0.01A			
	Accuracy	H/M 0.4%+1.5%F.S. L/mA 0.4%+1.2%F.S.		H/M 0.4%+1.5%F.S.	
Power	Range	0~2040W		0~3060W	
	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	
	Resolution	0.1VA			
	Accuracy	Voltage±1rms, Calculated value			
Power Resistive (VAR)	Range	0~2040VAR		0~3060VAR	
	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	2~40 orders	Not Support	2~40 orders
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			
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 display				
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				



Specification

MODEL	SP300VAC2000W Advanced	SP300VAC2000W Professional	SP300VAC3000W Advanced	SP300VAC3000W Professional
Rack mount Handles	Yes			
FAN	Temperature Control			
Protection Circuits	OCP, OVP, OPP, OTP, RCP, PRI_LVUP, PRI_OVP, PRI_OTP, PRI_OCP, USB_OCP			
Interface	USB, RS485, RS232, LAN(Standard); GPIB(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			
ENVIRONMENTAL				
Operating Temperature	0°C to 40°C			
Storage Temperature	-40°C to 85°C			
Noise	73dBA(Max fan speed)			
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)	483.0*133.0*520.0 mm/19.0*5.2*20.5 inch		483.0*177.0*520.0 mm/19.0*7.0*20.5 inch	
Package Dimensions (W*H*D)	597.0*276.0*694.0 mm/23.5*10.9*27.3 inch		597.0*321.0*694.0 mm/23.5*12.6*27.3 inch	
Unit Net Weight	21.4kg/47.2lbs		29.0kg/63.9lbs	
Accessories Weight	0.4kg/0.9lbs		0.4kg/0.9lbs	
Net Weight	24.4kg/53.8lbs		32.0kg/70.5lbs	
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			

* Note:The tolerance will change slightly in high frequency condition.



SP300VAC4000W-5000W



Specification

MODEL	SP300VAC4000W Advanced	SP300VAC4000W Professional	SP300VAC5000W Advanced	SP300VAC5000W Professional
INPUT				
Voltage	190~265VAC			
Frequency	47~63Hz			
Phase	1 Phase, 2Wire+Ground			
Max. Current	25A		30A	
Power Factor at 220VAC Input, Full Load	≥0.99 Active PFC			
Efficiency	>87% (Peak) >86% at 220VAC, 50Hz input/220VAC, 50Hz output, Full Load			
OUTPUT				
AC Power	4000VA		5000VA	
Max. Current (r.m.s)	0~150V(L)	32A	46A	
	0~300V(H)	16A	23A	
Max. Current (Peak)	0~150V(L)	160A	184A	
	0~300V(H)	80A	92A	
Phase	1 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 100~140VAC at Low Range or the 160~280VAC at High Range <2% (Resistive Load) at 1001~1200Hz and output voltage within the 100~140VAC at Low Range or the 160~280VAC at High Range Note: 1001~1200Hz only available to Professional Version Models			
Crest Factor(CF)	≤5		≤4	
Load Regulation	±0.1%F.S. (Resistive Load) at 15~70Hz ±0.5%F.S. (Resistive Load) at 70.1~1200Hz Note: 1001~1200Hz only available to Professional Version Models			
Line Regulation	±0.1V			
Voltage(AC)	Range	0~300VAC, 150V/300V/Auto Mode		
	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		



Specification

MODEL	SP300VAC4000W Advanced	SP300VAC4000W Professional	SP300VAC5000W Advanced	SP300VAC5000W Professional	
Voltage(DC)	Range	0~424VDC			
	Resolution	0.1V			
	Accuracy	0.2% of setting +0.2%F.S.			
	Max. Power	4000W		5000W	
	Max. Current (L/H Range)	L	22.6A		L 32.6A
		H	11.3A		H 16.3A
	Ripple & Noise(r.m.s) Ripple & Noise(Peak) Rise time drop time	L <700mVrms @Bandwidth 20Hz to 1MHz H <1100mVrms @Bandwidth 20Hz to 1MHz <4000mVp-p @Bandwidth 20Hz to 1MHz <180us			
Current OC Fold Mode	Resolution	0.01A			
	Accuracy	0.5% of setting +1.0%F.S.			
	Response Time	<1400ms			
Frequency	Range	15~1000Hz Full Range ADJ	15~1200Hz Full Range ADJ	15~1000Hz Full Range ADJ	15~1200Hz Full Range ADJ
	Resolution	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz, 5Hz at 1001~1200Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz, 5Hz at 1001~1200Hz
	Accuracy	0.03% of setting			
	Programmable Output Impedance	Range	Not Support	0Ω +200μH~1Ω +1mH	Not Support
Harmonic & Inter-harmonics Simulation	Range	Not Support	2400Hz	Not Support	2400Hz
	MEASUREMENT				
Voltage	Range	AC 0~300VAC DC 0~424VDC			
	Resolution	0.1V			
	Accuracy	0.2% of setting +0.2%F.S.			
Frequency	Range	15~1000Hz	15~1200Hz	15~1000Hz	15~1200Hz
	Resolution	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz, 5Hz at 1001~1200Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz	0.1Hz at 15.0~99.9Hz, 1Hz at 100~1000Hz, 5Hz at 1001~1200Hz
	Accuracy	0.1% of setting			
	Current* (r.m.s)	Range	H	0.3A~32A	
M			0.2A~20A		M 0.2A~20A
L			0.1A~5A		L 0.1A~5A
mA			0.02A~1.5A		mA 0.02A~1.5A
Resolution		0.01A			
Accuracy		H/M 0.4%+0.6%F.S. L/mA 0.4%+1.0%F.S.			



SP300VAC4000W-5000W



Specification

MODEL		SP300VAC4000W Advanced	SP300VAC4000W Professional	SP300VAC5000W Advanced	SP300VAC5000W Professional
Current* (Peak)	Range	0.05A~163A		0.05A~188A	
	Resolution	0.01A			
	Accuracy	H/M 0.4%+1.0%F.S. L/mA 0.4%+1.5%F.S.			
Power	Range	0~4080W		0~5100W	
	Resolution	0.1W			
	Accuracy	0.4% of setting +0.6%F.S. at PF>0.2, Voltage >5V			
Power Apparent (VA)	Range	0~4080VA		0~5100VA	
	Resolution	0.1VA			
	Accuracy	Voltage±1rms, Calculated value			
Power Resistive (VAR)	Range	0~4080VAR		0~5100VAR	
	Resolution	0.1VAR			
	Accuracy	$\sqrt{(VA)^2 - (W)^2}$, Calculated value			
Power Factor (PF)	Range	0.00-1.00			
	Resolution	0.01			
	Accuracy	W/VA, Calculated value			
Harmonic	Range	Not Support	2~40 orders	Not Support	2~40 orders
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			
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 display				
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				



Specification

MODEL		SP300VAC4000W Advanced	SP300VAC4000W Professional	SP300VAC5000W Advanced	SP300VAC5000W Professional
Rack mount Handles	Yes				
FAN	Temperature Control				
Protection Circuits	OCP, OVP, OPP, OTP, RCP, PRI_LVUP, PRI_OVP, PRI_OTP, PRI_OCP, USB_OCP				
Interface	USB, RS485, RS232, LAN(Standard); GPIB(Option)				
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				
ENVIRONMENTAL					
Operating Temperature	0°C to 40°C				
Storage Temperature	-40°C to 85°C				
Noise	73dBA(Max fan speed)				
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)	483.0*177.0*520.0 mm/19.0*7.0*20.5 inch				
Package Dimensions (W*H*D)	597.0*321.0*694.0 mm/23.5*12.6*27.3 inch				
Unit Net Weight	28.8kg/63.5lbs				
Accessories Weight	0.4kg/0.9lbs				
Net Weight	31.8kg/70.1lbs				
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				

* Note:The tolerance will change slightly in high frequency condition.

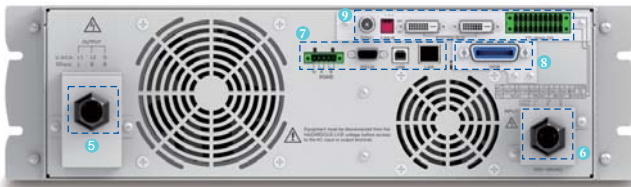


Panel Introduction

Front Panel Interface



Back Panel Communication Interface and Input / Output Interface



Panel Introduction

- Power Switch(Up)
USB Storage Slot(Down)
- Color Touch Screen
- Multifunctional Keys
- Numeric and Functional Keys
- Output Terminal
- AC Input Terminal
- RS485/RS232/USB/LAN
Communication Interface
- GPIB Communication Interface
(Optional)
- Remote I/O & Parallel, Multiphase
Link Card (Optional)

Monitoring Software

Monitoring software is capable of controlling all functions of programmable AC power source. The operation interface adopts guided design, which is open-and-shut. The system interface with right push design for hidden icons makes the operation screen more delicate without occupation of spare desk space.



Login interface

Basic mode

List mode

Pulse mode

Step mode

IEC61000-4-11 :

Voltage dips and short interruptions test

Voltage variation test

Installation Guide for Optional Accessories

Information of Optional Accessories			
APM Code	Weight	Software/Available Cards	Cable Wires Accessories
List 201	0.29kg	GPIB Interface Card	Contain 1PCS GPIB IEE-488 Cable Wire 1M
List 202	0.43kg	Remote I/O&Parallel, Multiphase Link Card	Contain 1PCS BNC Cable Wire 1M Contain 1PCS DVI Cable Wire 1M

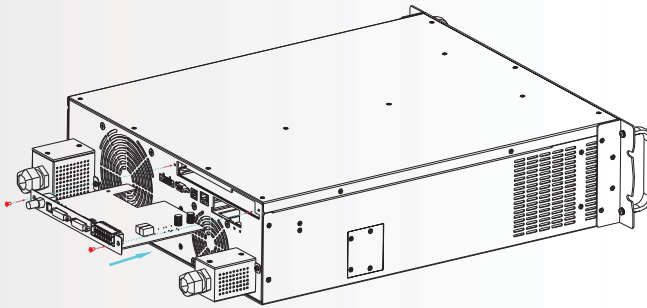
Installation of GPIB Interface Card and Remote I/O & Parallel, Multiphase Link Card

Applicable Model

SP300VAC2000W

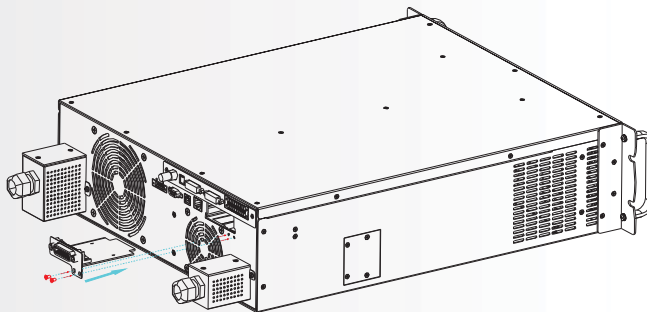
Step1:

Install Remote I/O & Parallel, Multiphase Link Card, then tighten the screws.



Step2:

Install GPIB Interface Card, then tighten the screws.



Installation of GPIB Interface Card and Remote I/O & Parallel, Multiphase Link Card

Applicable Model

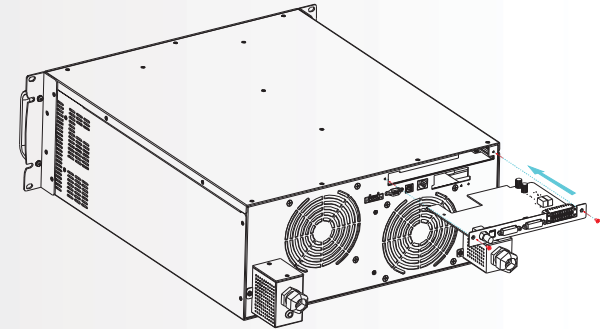
SP300VAC3000W

SP300VAC4000W

SP300VAC5000W

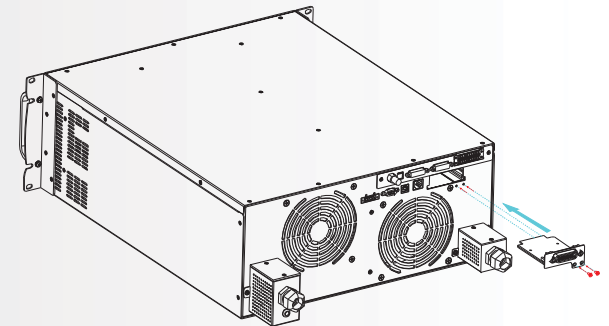
Step1:

Install Remote I/O & Parallel, Multiphase Link Card, then tighten the screws.

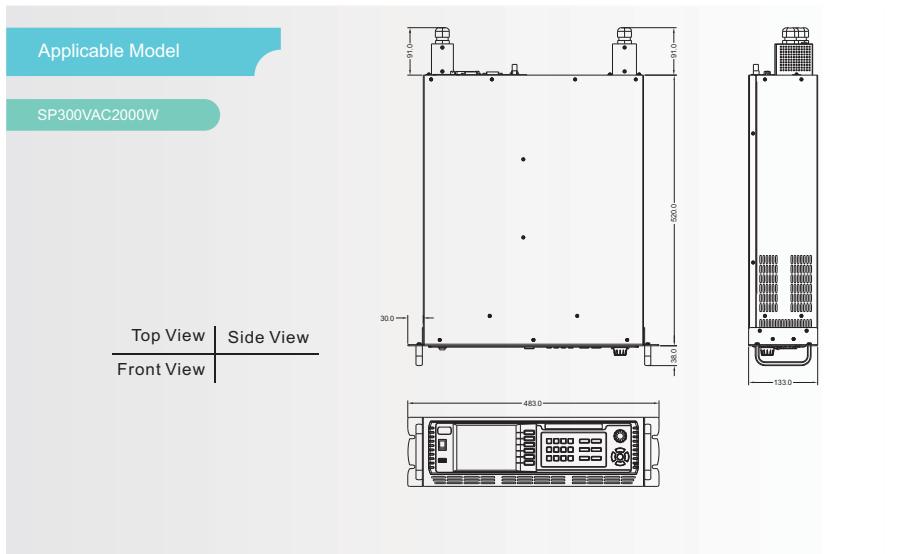
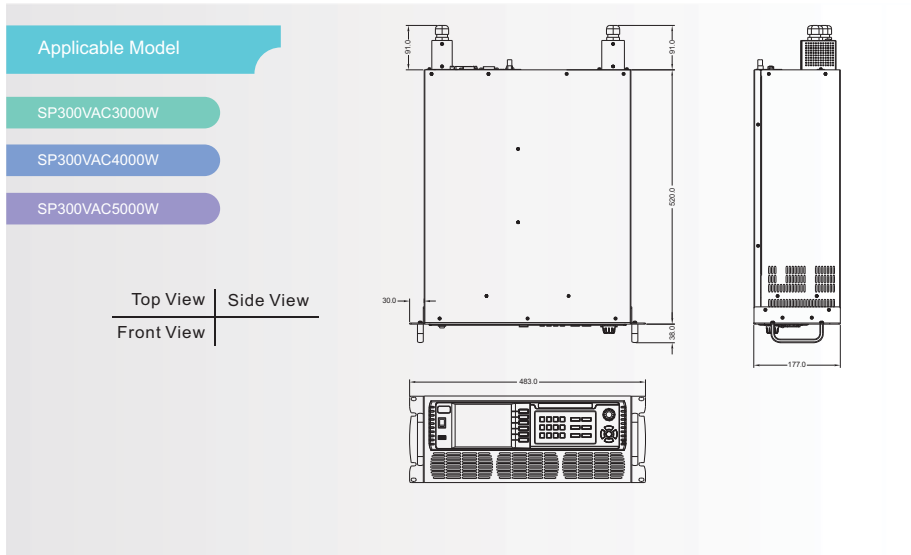


Step2:

Install GPIB Interface Card, then tighten the screws.



Dimensional Drawing (Unit: mm)



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