



# 产品快速安装指南

## SP-300系列 单相可编程交流电源

18950-659-00(G)

### 引言

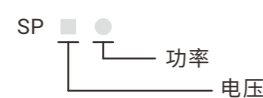
尊敬的用户，非常感谢您使用全天自动化能源科技(东莞)有限公司(以下简称“全天科技”)研制的SP-300系列单相可编程交流电源产品，我们由衷地希望本产品可以满足您的需求。

### 资料下载

为了便于您更好地使用此设备，所有机型对应的相关资料及监控软件请到全天科技官网下载，留待以后随时参阅。

功率 ● 电压 ■	2U 电源			3U 电源	4U 电源		
	600W	1000W	1500W	2000W	3000W	4000W	5000W
150VAC/300VAC	5.6A/2.8A	9.2A/4.6A	13.8A/6.9A	16A/8A	27.6A/13.8A	32A/16A	46A/23A

选型指导



例如 SP300VAC2000W

注: SP是Switching Power的缩写。

SP-300系列单相可编程交流电源根据电源应用领域的特殊性，划分为Advanced Version(高级版本)，以及Professional Version(专业版本)，下表列举两个版本的区别概览以及选配件信息。

序号	功能描述	Advanced Version	Professional Version
1	输出频率范围	15~1000Hz	15~1200Hz
2	内置IEC标准波形	IEC 61000-4-11	内置IEC 61000-4-11, IEC 61000-4-13, IEC 61000-4-14, IEC 61000-4-28, 支持IEC 61000-3-2, IEC 61000-3-3
3	谐波/间谐波生成仿真与测量功能	不支持	标配
4	输出阻抗功能	不支持	标配
5	Remote I/O & Parallel Multiphase Link Card	支持, 需选配	支持, 需选配
6	GPIB 通讯线缆	支持, 需选配	支持, 需选配

### 开箱检查

请您在收到设备的第一时间内对其进行全面检查，如有发现可能导致设备损坏的包装损坏，请立即通知运输公司或与全天科技联系，并提供破损处的照片。

待您打开包装后，请对照此清单检查附件内容，如有任何缺失，请尽快联系您的代理或者全天科技，以便保证您正常的使用。

### 装箱清单

序号	说明	数量	备注
A	SP-300系列单相可编程交流电源	1台	客户选定型号
B	握把	2个	标配
C	输入防护罩	1个	标配
D	输出防护罩	1个	标配
E	固定螺丝组	12颗	固定握把与防护罩
F	RS-232 通讯线缆	1根	标配
G	LAN 通讯线缆 (标准 568A-568B)	1根	标配 <sup>[1]</sup>
H	电源线 <sup>[2]</sup>	1根	标配
I	USB 通讯线缆	1根	标配
J	GPIB 通讯线缆	1根	选配
K	系统总线通讯线缆 (DVI)	1根	选配
L	BNC 线缆	1根	选配
M	产品快速安装指南	1份	标配

[1] LAN 通讯方式对于 2U 机型属于选配项。

[2] 2U机型标配三芯插头电源线(10A); 3U/4U机型标配电源线缆(1.5M)。

### 故障返修

若电源出现故障，请及时联系全天科技或者经销商，提供故障电源的条形码，详细的故障信息或者图片以便及时确认故障原因。如果电源需送修，请用原来的包装材料包装。在未得到全天科技通知前，请勿自行寄回产品。

### 重要说明

#### 使用环境

- 请在温度为0~40℃，相对湿度为5%~95%的实验室或测试车间使用此精密电源。
- 请勿在高温条件下长时间使用电源，如果电源的机壳温度超过40℃，请先暂停使用，待其温度下降至正常温度后再使用，避免温度过高影响其正常使用。
- 请勿在高温条件下长时间使用电源，长时间过温运行会触发过温保护，请采取措施，待其温度下降至正常温度后再使用，避免温度过高影响其正常使用。
- 电源的冷却方式为强制风冷，请勿遮挡电源背后的通风口，保证电源后后面板与墙壁或物体有30cm以上的间距。
- 请勿在含有大量粉尘、震动剧烈、日光直射或有腐蚀性气体的环境下使用电源。

#### 保存

请将本机储存在-40℃~85℃，5%~95%RH无结露的环境中，若长时间不使用，请以原包装或其他类似的包装保存于干燥阴凉处。

#### 维护与清洁

清洁前，必须移除机器的输入电源线，可用毛刷或者纱布轻轻地擦去机器外部的灰尘。当外壳的污渍用毛刷等无法清除时，可用挥发性液体(如去渍油)擦拭机壳，不可用腐蚀性液体以免破坏机壳。前面板LCD可用纱布沾肥皂水或软性清洁剂清洁。机器内部的清洁必须使用低压空气枪将机器内部的灰尘清除，最好送给经销商代为清洁。

#### 电源电压

在接上电源之前，请务必确认电源的输入电压满足其要求，且开关处于OFF状态。



注意!

- 断开输入电源线前不可以断开保护地线，接通输入电源前要先接通保护地线。

#### 保险丝

安装于本机内部的电源保险丝，属于硬件多重保护设计，正常使用时极不易断开，若有熔断现象代表机内其他故障而导致提前保护，建议回厂检修。



警告!

- 不建议使用者自行拆卸机壳更换保险丝，以免误装导致危险!

#### 使用注意事项

- 接通电源前，请确认各直流电源的开关处于OFF状态，且输出端子已做必要防护。
- 交流电源输出前请检查各设定值是否符合输出要求。
- 按IEC 61010标准配置符合电流要求的输入/输出线缆，或者参考如下建议选择线缆进行连接。

建议在输入线端选配断路器，断路器可当作一种紧急断电装置来使用，断开断路器将断开设备的交流输入。

型号	输入侧线径/线号	断路器	型号	输入侧线径/线号	断路器
SP300VAC600W	1.6mm <sup>2</sup> /14 AWG	10A	SP300VAC1000W	2.5mm <sup>2</sup> /12 AWG	16A
SP300VAC1500W	2.5mm <sup>2</sup> /12 AWG	16A	SP300VAC2000W	2.5mm <sup>2</sup> /12 AWG	20A
SP300VAC3000W	2.5mm <sup>2</sup> /12 AWG	25A	SP300VAC4000W	4mm <sup>2</sup> /10 AWG	30A
SP300VAC5000W	4mm <sup>2</sup> /8 AWG	40A			

型号	输出侧线径/线号	型号	输出侧线径/线号
SP300VAC600W	1.6mm <sup>2</sup> /14 AWG	SP300VAC1000W	2.5mm <sup>2</sup> /12 AWG
SP300VAC1500W	2.5mm <sup>2</sup> /12 AWG	SP300VAC2000W	2.5mm <sup>2</sup> /12 AWG
SP300VAC3000W	4mm <sup>2</sup> /10 AWG	SP300VAC4000W	4mm <sup>2</sup> /8 AWG
SP300VAC5000W	6mm <sup>2</sup> /6 AWG		

### 质保期限

- 全天科技SP-300系列单相可编程交流电源产品(以下简称“产品”)的质保期限为1年，或参考相应的销售合同条款执行。
- 质保期限不因产品或部件的更换而延长或重新计算，您仍可在原质保期限内继续享受质保服务。

### Preface

Dear customer, thank you for using SP-300 Series Single-phase Programmable AC Power Supply, a product developed & manufactured by APM Technologies. We sincerely hope that this product will meet your needs.

### Data Download

Please download the corresponding documents and monitoring software of all the models from APM website and keep it for your reference at any time.

Power ● Voltage ■	2U Units			3U Units	4U Units		
	600W	1000W	1500W	2000W	3000W	4000W	5000W
150VAC/300VAC	5.6A/2.8A	9.2A/4.6A	13.8A/6.9A	16A/8A	27.6A/13.8A	32A/16A	46A/23A

Model guide



For example: SP300VAC2000W  
SP stands for Switching Power

SP-300 Series Single-phase Programmable AC Power Supply are divided into Advanced Version and Professional Version according to the characteristic of power sources' application area. The following table lists the difference between the two versions and optional functions.

No.	Descriptions	Advanced Version	Professional Version
1	Output frequency range	15~1000Hz	15~1200Hz
2	Support IEC standard waveform	IEC 61000-4-11	IEC 61000-4-11, IEC 61000-4-13, IEC 61000-4-14, IEC 61000-4-28, IEC 61000-3-2, IEC 61000-3-3
3	Harmonics/Inter-harmonics generate simulation and measuring function	Not support	Support
4	Output impedance function	Not support	Support
5	Remote I/O & Parallel Multiphase Link Card	Support, optional	Support, optional
6	GPIB communication interface	Support, optional	Support, optional

### Unpacking

Once you receive the product, please immediately check if there is any packaging damage that may indicate damage to the product. If you find damage related to product delivery, please immediately notify the transport company. Make sure to take photos documenting the damage to the product, and send them to us so that we can provide you with the best service.

Make sure that you receive the AC power source and the following accessories at the same time, if any is missing, please contact your agent or APM Technologies.

### Packing List

No.	Descriptions	Quantity	Remarks
A	SP-300 Series Single-phase Programmable AC Power Supply	1	As Ordered
B	Rack Mount Brackets	2	Standard
C	Output Terminal Cover Box	1	Standard
D	Input Terminal Cover Box	1	Standard
E	Screws	12	Standard
F	RS-232 Communication Cable	1	Standard
G	LAN Communication Cable (568A-568B)	1	Standard <sup>[1]</sup>
H	Power Cord <sup>[2]</sup>	1	Standard
I	USB Communication Cable	1	Standard
J	GPIB Communication Cable	1	Optional
K	System Bus Communication Cable (DVI)	1	Optional
L	BNC Cable	1	Optional
M	Quick Guide	1	Standard

[1] The LAN communication cable is optional for 2U units.

[2] 2U model is standard with three-pin plug power cable (16A). 3U/4U model is standard with power cable(1.5M).

### Failure Repair

If the power source fails, please contact APM Technologies or its dealer quickly to provide the serial number of the faulty power source, detailed faulty information and pictures in order to identify the cause of the failure. If the power source required to repair, please use the original packing material. Shipment should not be made without prior authorization by APM.

### Important Notes

#### Operating Environments

- These power sources must be used in a clean and dry laboratory or testing environment with an ambient temperature of between 0°C and 40°C and a relative humidity of between 5% and 95%.
- Do not prolong the use of this power source in a high temperature ambient.
- Fans cool the power source by drawing air through the front and exhausting it out the back. Please assure that 30cm space is present at the front and back of the unit for adequate air circulation.
- Do not operate this product in an environment that contains large amounts of dust, is subject to strong shock and vibration, is in intense direct sunlight or contains corrosive gases.

#### Product Storage

Please store this product in an area with a temperature between -40°C and 85°C and with a relative humidity of between 5% and 95% non-condensing. If the product is not in use for a long time, please keep it in the original carton or other similar packaging and store it in a cool & dry place.

### Maintenance and Cleaning

Before cleaning, you must disconnect the input power cord of this power supply. Using a brush or sponge, gently wipe off any dust from the units exterior. To clean the products exterior use only a small amount of non-aqueous cleaning solution such as isopropyl alcohol on a clean cloth. Do not use a corrosive or abrasive cleaning solution to clean this product. The display front panel can be cleaned with gauze damped in soft detergent. Cleaning of dust from the interior of this product must be carried out with a low pressure air gun, and we prefer that such a clean work be performed by an authorized dealer on behalf of the user.

### Power Supply Voltage

Make sure that the AC input voltage is within the product's operating specification before plugging in or connecting to the source, and that the power switch is in the OFF state.


**Caution!**

- The protective safety earth/ground connection must connect first and disconnect after the AC line and neutral wires. All approved AC power connectors are designed to meet this requirement. If the input wires are directly connected to an AC mains circuit assure that the AC source is deactivated prior to making or disconnecting the connection.

### Fuse

The AC mains fuses installed inside the product are designed to protect the input from major failures, and should not fail under normal operating conditions. Therefore, any sign of fuse failure is an indication that other part(s) of the product is damaged. If fuse melting happens, we recommend that the product be sent back to us for repair.


**Warning!**

- No user serviceable components enclosed. Do not disassemble the power's enclosure/case to replace the fuse, as there is a danger of sustaining an electric shock.

### Operation Precautions

- When the unit is first turned on the AC output is in a deactivated state. It can be activated by pressing the output turn on push button on the front panel or by remote control command.
- Before turning on the AC power output, check that all the setting values of the power supply are in accordance with the load requirements.
- It is recommended to select the input/output cables' size according to IEC 61010, or refer to the following suggestion.

It is suggested to connect a external circuit breaker which disconnects all the current carrying conductors from AC input.

Model	Wire Size	Input Breaker	Model	Wire Size	Input Breaker
SP300VAC600W	1.5mm <sup>2</sup> /15 AWG	10A	SP300VAC1000W	2.5mm <sup>2</sup> /12 AWG	16A
SP300VAC1500W	2.5mm <sup>2</sup> /12 AWG	16A	SP300VAC2000W	2.5mm <sup>2</sup> /12 AWG	20A
SP300VAC3000W	2.5mm <sup>2</sup> /12 AWG	25A	SP300VAC4000W	4mm <sup>2</sup> /10 AWG	30A
SP300VAC5000W	4mm <sup>2</sup> /8 AWG	40A			

Model	Load Wires	Model	Load Wires
SP300VAC600W	2.5mm <sup>2</sup> /12 AWG	SP300VAC1000W	2.5mm <sup>2</sup> /12 AWG
SP300VAC1500W	2.5mm <sup>2</sup> /12 AWG	SP300VAC2000W	2.5mm <sup>2</sup> /12 AWG
SP300VAC3000W	4mm <sup>2</sup> /10 AWG	SP300VAC4000W	4mm <sup>2</sup> /8 AWG
SP300VAC5000W	6mm <sup>2</sup> /6 AWG		

### Warranty Period

- The warranty period of APM AC Power Supply is 1 (one) year, or refer to relevant Distributor Agreement terms.
- The warranty period will not be extended or recalculated after a product or component replacement, repaired or replaced products are covered for the remainder of the original warranty period and subject to the conditions outlined in the original warranty.