ATTEN 安泰信

User Manual of APS22-5A Maintenance Power Supply

SHENZHEN ATTEN TECHNOLOGY CO., LTD

Thank you for choosing our product. Please read this manual carefully before using this product.

Copyright Information

The design of this product (including internal software) and its accessories is protected by national laws. Any infringement of our rights shall be subject to the legal sanctions. When using this product, the user shall consciously abide by the national laws.

Common Symbol Description

Thank you for use our product. Please read this manual carefully and pay attention to the relevant warnings and notices mentioned in the manual before using this product.

⚠ Warning	Noncompliance may cause death or serious injury to the user.
⚠ Notice	Noncompliance may cause injury to the user or substantial damage to the object.

User Prerequisites

We request that the user should have common sense of life and the basic electrical operating knowledge before using this product. The minor shall use this product under the guidance of professionals or guardians.

[Notice]: To avoid damaging the machine and keep the operating environment safe, please read this manual carefully and keep it properly for future reference before using this product.

Safety Precautions

The user shall follow the following basic precautions to avoid electric shock or personal injury or fire and other hazards when using this product.

To ensure personal safety, the user shall use the parts and accessories recognized or recommended by ATTEN, otherwise it will cause serious consequence!

⚠ Warning

- Do not use this product near inflammables.
- Before use, please ensure that the power line is earthed reliably to avoid electric shock.
- Do not use this product if the user is not under the guidance of relevant personnel, inexperienced or has poor knowledge preparation.
- Do not use this product in the humid environment or operate this product with wet hands to prevent electric shock.
- Do not change this product and its accessories without permission.
- Please replace the product components with ATTEN original components.
- Be sure to turn off the power switch when the user temporarily needs not to use or stops using this product.
- There is high voltage in the product. Do not disassemble the product without permission from professionals.

⚠ Notice

- Avoid using this power supply in the environment above 40℃. Reserve enough space for heat emission holes on the rear panel to dissipate heat.
- Confirm whether the current and voltage as well as the specification of power line meet the requirements.
- Before the device is connected to the power supply, please turn off the power switch.
- Do not refit this product and its accessories, which will cause the loss of warranty qualification and the damage to the product.
- Do not place heavy objects on the device.
- Do not violently knock this product and its accessories in use, which will damage the product.

Disclaimer

The company shall not be responsible for any personal injury or property loss caused by user's failure to follow relevant instructions, natural disasters and other force majeure, or individual behaviors and other non-quality problems in the use process of this product.

This manual is sorted, compiled and issued by SHENZHEN ATTEN TECHNOLOGY CO., LTD according to the latest product characteristics. The company will make the subsequent changes to product and manual without prior notice.

Product Introduction

APS series power supply is designed for the needs of electronic training schools, communication maintenance technicians and related engineering research and development personnel. The current best-stability series voltage stabilization scheme is adopted for this product, and the digital MCU chip is used for control. With very high stability and low ripple, simple operation and control, and complete protection functions, it provide the user with convenient and reliable high quality power supply.

Product Specification

Power input: refer to the voltage identification at the tail of the product (other input voltage can be customized).

Rated value/dimensions/weight:

Model	Voltage Regulation Range	Current Regulation Range	Input Power	Weight
APS22-5A	0-22V	0-0.5A/0-5A	220VA	3.6Kg
Dimensions：(L) 215mm *(W) 88mm * (H)150mm				

Protection function:
over-voltage protection/over-current protection (cut-off type, delayed opening) overheat protection.

Other functions:
Lock function, voltage coarse and fine adjustment, alarm function, 0.5A/5A current switch. Pointer meter, support USB fast charge, current display, 9V isolated output.

Cooling method: temperature-controlled fan, forced air cooling

Operating environment: 0℃~40℃, <80% relative humidity (indoor use)

Storage temperature and humidity: -10℃~70℃, <70% relative humidity.

Packing list: host*1pcs , power line*1pcs, user manual*1pcs, output line*1pcs

Technical Parameters

CV/CC mode:

Output voltage range: 0 to rated voltage can be adjusted continuously

Power supply variation rate: CV≤ 0.01%+3mV CC≤ 0.1%+3mA

Load change rate: CV≤ 0.01%+4mV (rated current≤ 3A) CC≤ 0.01%+3mA

Recovery time: ≤120μs (50% load change, minimum load 0.5A).
Ripple and noise: CV≤0.5mVrms CC≤1mArms
Set resolution: CV≤3mV CC≤1mA

Read-back display:

Display: dual 3-digit white LCD display with blue background (main voltage and USB current display)
Accuracy: LCD meter ±(0.1% reading + 2 digits) current pointer meter CLASS-2.5

USB interface parameters (support QC3.0 fast charge):

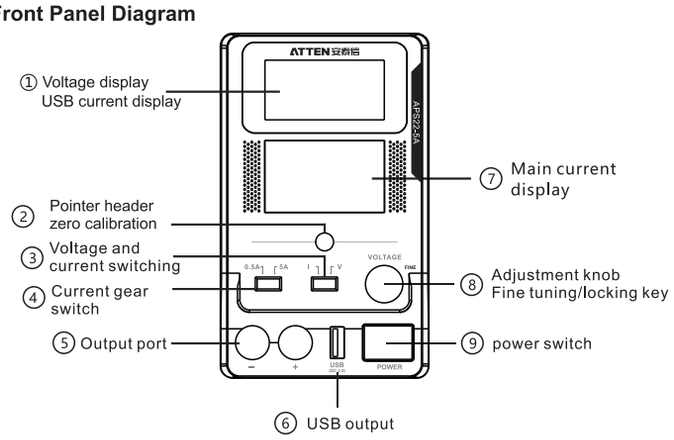
Voltage: Default 5V output (±5% accuracy), automatically adjusted by the fast charging device in fast charging mode
Current: 3A maximum (overcurrent protection, cut-off output)

DC interface parameters (tail):

Voltage: fixed 9V output (±5% accuracy), positive and negative inside and outside, isolated from other outputs
Current: 200mA maximum

Product Panel Diagram

Front Panel Diagram



Operating Instructions

1. Precautions before use

AC power input: AC power input shall be within the range of rated voltage ±10% 50/60hz.

⚠ Warning: the protective conductor of the power line must be earthed to avoid electric shock.

Instrument installation: Avoid using this power supply in the environment above 40℃. Reserve enough space for heat emission holes on the rear panel to dissipate heat.

⚠ Notice: To avoid damage to the instrument, do not operate it in the environment above 40℃.

2. Output voltage regulation

1. Turn on the power switch to make the product work normally.
2. Pull the voltage and current switch to the "V" position and adjust the knob to the right to increase the output voltage value.
3. Adjust the knob to the left to decrease the output voltage value.
4. Press the adjustment knob forward to change the fine adjustment and coarse adjustment status.
5. In the fine adjustment state, it is adjusted in steps of about 3mV, and in the coarse adjustment state, it is adjusted in steps of about 0.15V.

3. Output current regulation

1. When the current gear switch is switched to 0.5A gear, the host can provide a maximum output current of 0.6A. When the actual output current exceeds about 0.6A, the power supply will automatically overrange protection. At this time, the power supply will temporarily shut down the output for about 2S and A buzzer alarm is performed to prompt the user to switch gears.
2. When the current gear switch is switched to 5A gear, the host can provide a maximum current output capacity of about 5.7A. When the output current exceeds the set current value, the power supply will automatically switch to constant current output.
3. Pull the voltage and current switch to the "I" position. At this time, you can adjust the knob to change the output current setting value. Pressing the knob forward can also change the fine adjustment and coarse adjustment status.

Note: When the power supply is in a constant voltage state, the set value of the current cannot be displayed. In this case, short-circuit the output terminal and the power supply will enter the constant current state. At this time, the ammeter displays the current set current value.

4. Fine-tune coarse setting

1. In the state of voltage adjustment or current adjustment, press the knob forward, then you can switch between coarse adjustment and fine adjustment. When the alarm function is turned on, press the knob. When the buzzer sounds once, it is in the coarse adjustment state. When the buzzer sounds twice, it is in fine adjustment state.

5. Parameter lock operation

1. Under normal working conditions, long press the knob button for about 3S to lock the voltage and current parameters.
2. In the locked state, the lock icon is displayed on the LCD screen, and the adjustment knob is invalid at this time.
3. Press and hold the knob button again for about 3S to release the parameter lock. At this time, the voltage or current can be adjusted normally.

6. Sound on and off

1. Turn on the power switch while holding down the knob button to turn off or turn on the alarm function.
2. When the alarm function is turned off, when the current exceeds the range alarm, the alarm sound will also be heard.

7. Use of USB interface

1. In non-fast charging mode, the output voltage is 5V, and the maximum current is 3A. When the current exceeds about 3.1A, the USB will enter the overcurrent protection. At this time, the USB current display area will display "OCP". At this time, the voltage output of the USB interface will be turned off. If you want to restore the output, you need to restart the power supply.
2. In the fast charging mode (requires the support of the device), the power supply will automatically adjust the output voltage of the USB according to the connected device, and also provide a maximum rated current output of 3A. When the current range is exceeded, the output of the USB port will also be turned off. To enter the protection state.
3. The negative pole of the output of the USB interface and the negative pole of the main output are in the common ground state. When the two outputs are connected to the same device at the same time, you should pay attention to the problem of the common ground.

8. Use of DC output 9V interface

1. The DC 9V interface is located on the back of the power supply product. The polarity is internal positive and external negative, providing a maximum current output of 200mA. This interface is an independent isolated output interface.
2. The intention of this 9V output interface design is mainly to replace the traditional 9V battery to power the multimeter.

This operation requires the user to have certain electronic technology and hands-on capabilities. Special care must be taken when modifying the power supply of the multimeter.

Product Warranty

- The company will provide a warranty period of two years for the user since the date of sale. The company will provide free maintenance service for the faults caused by quality problems in the normal use within the warranty period.
- The company will provide the product beyond the warranty period with lifelong maintenance service.
- The company will only provide the limited warranty service for the damage caused by the user's improper use or arbitrary change to product components.
- In case of product failure, please send the product to the designated maintenance point for maintenance. Unauthorized maintenance points and personnel shall not maintain the product.

After-sales Service

After-sales service hotline: (+86)0755-23408704
For more contact information, visit the official website www.atten.com.cn.

After-sales Information

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