

# AP&T®

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## Product Instruction Manual

Digital display intelligent DC power supply

AP-DY7221



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## Product Description

AP-DY7221 digital display intelligent DC power supply is one of the high-voltage power supply series products for static eliminator produced by Anping Company (AP&T) which is designed for controlling the static electricity on the surface of the target to achieve the purpose of electrostatic safety protection for the discharged object. It is a digital display intelligent DC power supply with alarm function and adjustable output high voltage characteristics which is a dedicated configuration power supply for Anping's DC ion bar products.

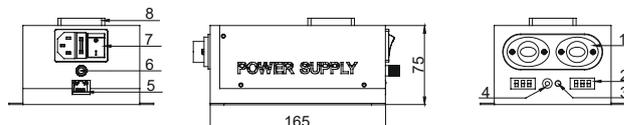
## Product Features

1. High voltage and low current working.
2. Pluggable interface which is easy to operate and install.
3. The fan can dissipate heat and ozone in real time to extend the service life of the power supply.
4. With voltage fault alarm function and the panel digital display shows the equipment working voltage in real time.
5. With short-circuit protection function, it will automatically cut off the power supply when the device is short-circuited.
6. The high-voltage output amplitude, frequency, and duty ratio can be adjusted by the remote control according to the charged status of the objects to be eliminated on site which has a wide range of applications.
7. The power supply with communication function can be monitored online on the adapting software.
8. The insulation performance is not affected by external moisture and dust due to thermal silica potting which is safe and reliable.

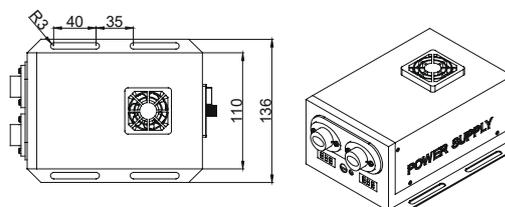
## Specifications

Model	AP-DY7221
Input voltage	AC220V/50Hz or AC110V/60Hz
Output voltage	DC±9000-16000V ( No load )
Output frequency	0.1、0.5、1、5、10、30、55、65、105Hz ( default 105Hz )
Output duty ratio	5-95%
Maximum power	24W
Status indicator	Red light——High voltage fault alarm
	Blue light——ion bar cleaning, Blue light flashing——debugging
	Green light——normal work
Power/ communication interface	Only orange light——220VAC power supply
	Only green light——RJ45 interface power supply
	Orange/green light on at the same time——220VAC and RJ45 supply power at the same time, but the actual power supply is 220VAC
Working temperature	- 10℃— + 50℃
Working humidity	<70%RH
Net weight	1200g
Dimensions	L*W*H: 136*165*75

## Dimensions

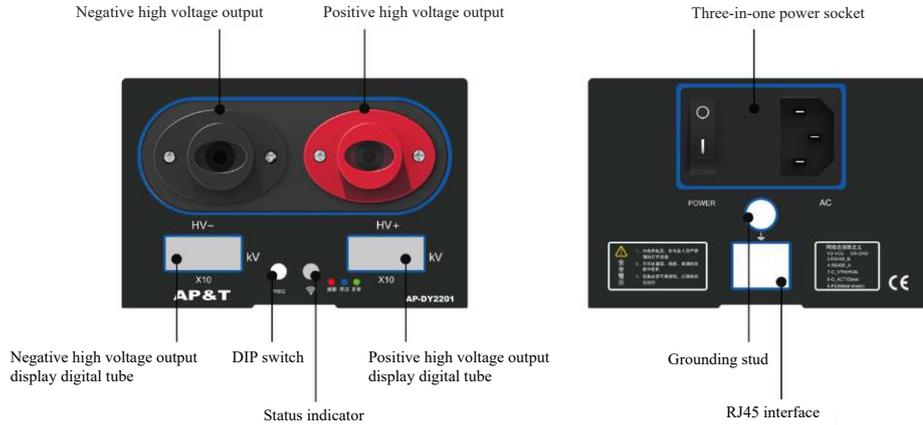


- 1-Positive and negative high voltage output
- 2-Positive and negative high voltage display digital tube
- 3-Status indicator
- 4-DIP switch
- 5-RJ45 interface
- 6-Grounding stud
- 7-Three-in-one power socket
- 8-Fan



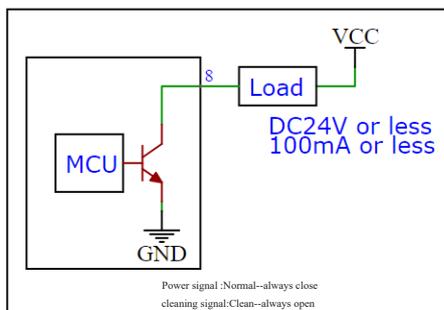
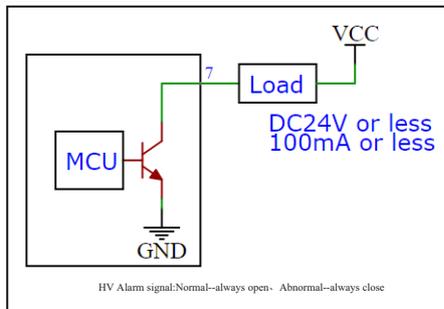
## Installation Guide

1. Insert the national standard power cord plug into the mains socket.
2. Insert the high-voltage connector of the static elimination device into the high-voltage output socket of the power supply and connect its ground terminal to the ground stud of the high-voltage power supply.
3. The switch indicator and status indicator light on and the display showing the working voltage value normally indicates the power supply working normally when turn on the power switch.
4. One end of the communication network cable should be inserted into the RJ45 communication socket on the back panel of the power supply, and the other end should be connected to a monitoring terminal or connected to a PC through a USB-485 converter If communication is required. The port wiring and panel descriptions are as follows:



Network port cable function information		
1、2	Orange/White-orange	+24VDC
3	Blue	RS485+B
4	White-blue	RS485+A
5	Green	GND
6	White-green	GND
7	Brown	HV <sub>AL</sub> : High voltage alarm
8	White-brown	ACT: Power on indication Clean: Cleaning indication
9	Metal shield	PE

The output wiring diagrams of pins 7 and 8 are as follows:



Frequency selection coding switch information
0; Pause (STOP)/ Modify the address
1: 0.1HZ
2: 0.5HZ
3: 1HZ
4: 5HZ
5: 10HZ
6: 30HZ
7: 55HZ
8: 65HZ
9: 105HZ
A: 105HZ
B: 105HZ
C: IR/PC Frequency setting can be done remotely or online (given frequency switching)
D: IR/PC Frequency setting can be done remotely or online (given frequency switching)
E: Negative high voltage output (N:95%、P:5%-105HZ)
F: Positive high voltage output (P:95%、N:5%-105HZ)

5、The output parameters of the high-voltage power supply can be set by the remote control, as shown in the table below:



Button function instructions		
Unlock		Unlock before adjusting operating parameters
Run / Pause		Device starts running when power is on. Press "STOP" to standby and no high voltage output. Press "RUN" again and the device will start working.
Parameter display	→ +/-	Unlock, press +/- to switch the display of working address/cleaning cycle, high-voltage output duty cycle/frequency, working environment temperature/humidity, positive/negative high-voltage alarm threshold, positive/negative high-voltage real-time output value
Adjust cleaning cycle	CT <sub>TH</sub> → +/-	Press CT <sub>TH</sub> first, then press +/- to increase or decrease the cleaning cycle (Default 30 days, adjustment range is 1-60 days)
Adjust alarm threshold	AL <sub>TH</sub> → +/-	Press AL <sub>TH</sub> first, then press +/- to increase or decrease the high voltage alarm threshold (Default 1000V, adjustment range is 500-2000V)
Adjust duty ratio	PWM → +/-	Press PWM first, then press +/- to increase or decrease the duty ratio of positive high voltage output to adjust ion balance
Adjust frequency	FREQ → +/-	Press FREQ first, then press +/- to increase or decrease the high voltage output frequency (set frequency switch cyclically) to adapt to different elimination distances
Calibration high pressure value	IB <sub>V</sub> → +/-	Press IB <sub>V</sub> first, then press +/- to increase or decrease the high voltage display amplitude
Adjust positive HV	IB <sub>P</sub> → +/-	Press IB <sub>P</sub> first, then +/- to increase or decrease the positive high voltage output amplitude to adjust the discharge capacity and ion balance
Adjust negative HV	IB <sub>N</sub> → +/-	Press IB <sub>N</sub> first, then +/- to increase or decrease the negative high voltage output amplitude to adjust the discharge capacity and ion balance
Confirm	CAL → OK	Press CAL first, then press OK to confirm after adjusting the output parameter
Reset	CAL →	Reset, Press CAL first, then press

Display information description			
	10.0	12.0	Display the real-time high-voltage output value of the high-voltage power supply: -10.0KV / +12.0KV
	A00	E15	Display the working address of the high-voltage power supply / the cleaning cycle of the matching ion bar: 00 / 15
	P50	F50	Display the duty ratio/frequency of the high-voltage output of the high-voltage power supply: 50% / 50Hz
	C19	H45	Display the working environment temperature/humidity of the high-voltage power supply: 19 C / 45%RH
	3.00	3.00	Display the positive/negative high-voltage alarm threshold of the high-voltage power supply: -3.00KV / +3.00KV (eg: High voltage from 9KV $\xrightarrow{3KV \text{ Attenuation}}$ 6KV alarm)

## Maintenance

It should be stopped and repaired by professional maintenance personnel when the red switch work indicator on the back panel of the high voltage power supply is off, or the status indicator on the front panel is red or off, or the display is abnormal. It can be used only after the electrical performance indicators are normal.

NO	Problems	Reasons	Solutions
1	The switch indicator on the back panel is off	Poor contact of the power cable	Check whether the power cable is in good condition and securely connected
		No power supply	Check the on-site power supply lines
2	The status indicator on the front panel is red	No power supply from high voltage transformer	Return to factory for maintenance
		High voltage transformer is damaged	Return to factory for maintenance
		High-voltage components is damaged	Return to factory for maintenance
3	The panel indicator light is blue	Cleaning indication	Ion bar and power supply cleaning maintenance
4	The display is abnormal or fuzzy	Abnormal discharge	Check the connection between the high-voltage plug of the ion bar high-voltage cable and the power supply high-voltage socket to confirm that the plug is inserted in place
5	High voltage output, but the display is 0 VOLTS; Or adjust the output high voltage, the display screen does not work	Components is damaged	Return to factory for maintenance
6	The product is smoky or burnt	The high-voltage transformer or high-voltage components are damaged or the insulation of the discharge socket is damaged	Return to factory for maintenance

## Safety warning



1. Please read the instruction manual carefully before installing and using this equipment.
2. The working input power of the power box must be reliably connected to the AC equipment grounding wire and the grounding resistance should be less than 1 ohm; Otherwise, it is easy to cause abnormal or even damage of ion bar and high voltage power supply.
3. Do not use this equipment in environment where humidity is > 70%.
4. It is strictly forbidden to use this equipment in flammable and explosive environments.
5. Unauthorized disassembly of the product is strictly prohibited, internal maintenance and repair must be performed by professionals.
6. It is strictly forbidden to touch liquid during use, otherwise an abnormality may occur and cause electric shock or fire.
7. Power must be turned off during inspecting or replacing the product, otherwise it may cause electric shock or fire.
8. The product is specially designed for eliminating static electricity. It is strictly forbidden to use it for other purposes. Any abnormal use may cause machine failure, electric shock, fire and other accidents.
9. Please check the input voltage before powering on the product. Any power supply that does not meet the specifications will cause damage to the product.
10. Please check the product power cord regularly and replace it immediately if it is damaged. Otherwise it is easy to cause problems such as electric leakage and abnormal operation.

## After-sales service

1. IMS multi-function integrated power supply has undergone rigorous testing and aging treatment before ex-work. Its performance has completely reached the relevant indicators marked in the usage instruction.
2. AP&T makes a commitment to the customer that any defective parts inspected by AP&T will be repaired or replaced free of charge within one year from the date of purchase. However, this commitment does not apply to:
  - a. The device is incorrectly used or installed.
  - b. Damage caused by negligence or accident during use.
  - c. Modified, disassembled or repaired by other service departments not authorized by Anping Company.
3. AP&T shall not be liable for any incorrect use of the products except for repair or replacement of parts as specified above.

## Packaging accessories

- 1、 Manual
- 2、 Certificate of conformity
- 3、 National standard power cord
- 4、 Remote control
- 5、 Network cables, converters and matching software are optional if communication function is required