

High-Frequency AC Ionizing Air Nozzle

AP-AZ9502



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www.ap-static.com



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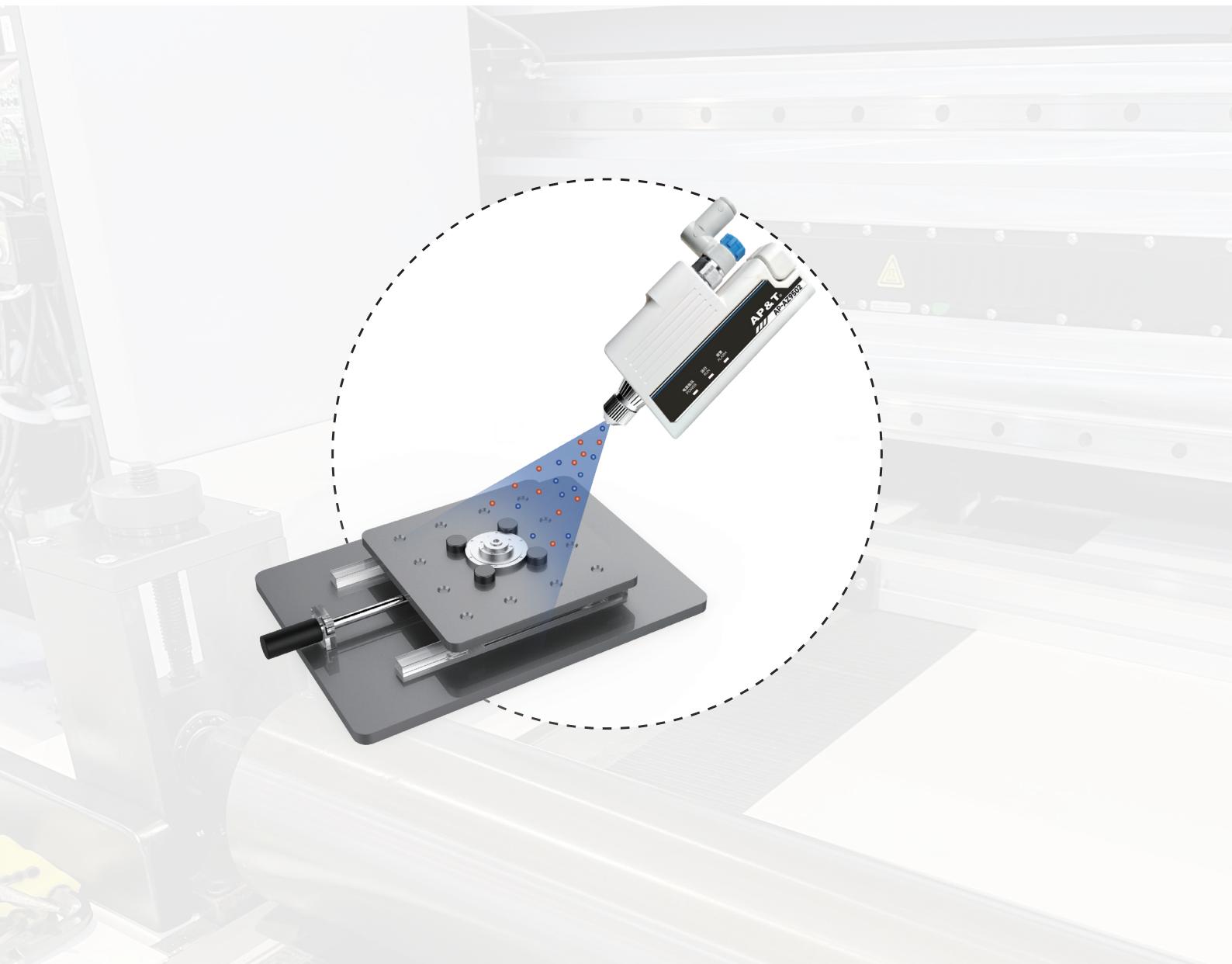
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**Is widely applicable to precision electronics,
pharmaceutical manufacturing, semiconductor
manufacturing and other industrie**

Local Area Static Removal Completely Dust Removal



Static Removal X Dust Removal

High-Efficiency Static Elimination

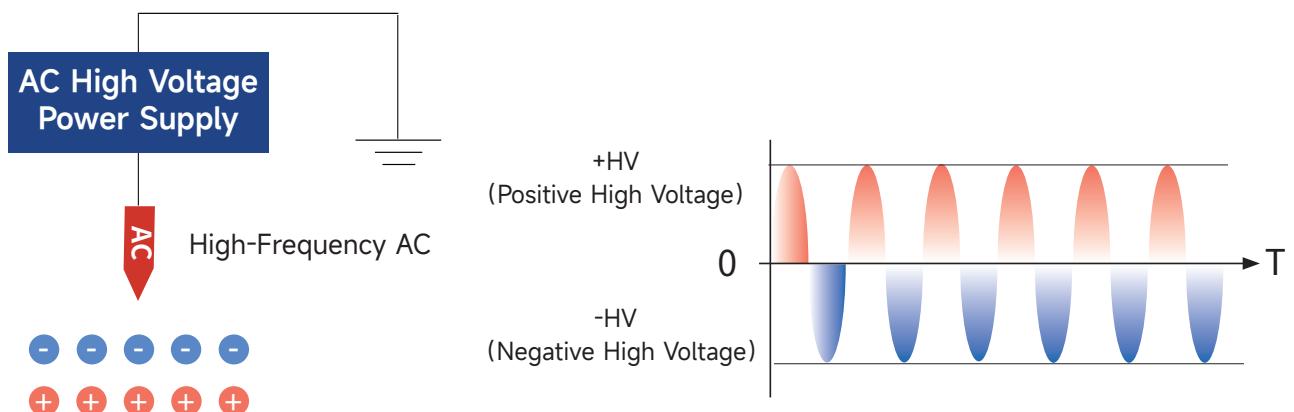
Stay away from static troubles, providing you with a clean production environment

Product Profile

AP-AZ9502 High-Frequency Ionizing Nozzle is one of the ionizing nozzle series produced by Anping Company.

The AP-AZ9502 nozzle operates on DC 24V power. A piezoelectric ceramic transformer boosts the voltage and applies high-frequency high voltage to a special emitter electrode, ionizing the air to produce large quantities of well-balanced positive and negative ions. These ions are delivered via compressed air to neutralize static charges on the target surface.

Working Mode (High-Frequency AC)



Product Feature

- Compact and lightweight, comfortable to handle, and easy to operate.
- Generates a large number of ions with high efficiency for static elimination and dust removal.
- The high-voltage generator is fully enclosed for excellent safety.
- The high-voltage components are electromagnetically shielded to prevent external interference.
- Supports IO/RS485 communication (requires additional accessories as listed).

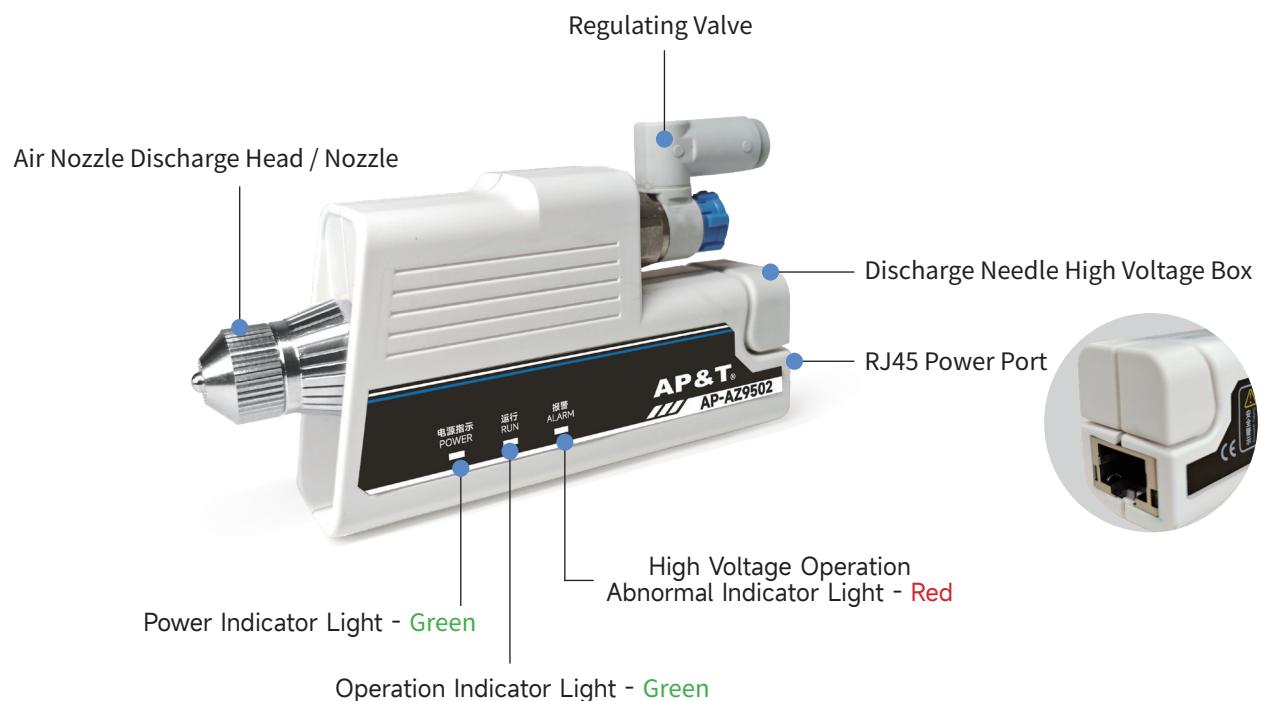
■ Visual status indicator function:

Indicator Type	Light Color	Device Status	Indicator Description
Power Indicator	Green	Power supply normal	
	Off	Power supply abnormal	
Operation Indicator	Green	Operating / Working normally	
	Off	Nozzle not running / operating	
Alarm Indicator	Red	High-voltage fault (operation light off)	
	Off	High voltage normal	

■ Product Parameter

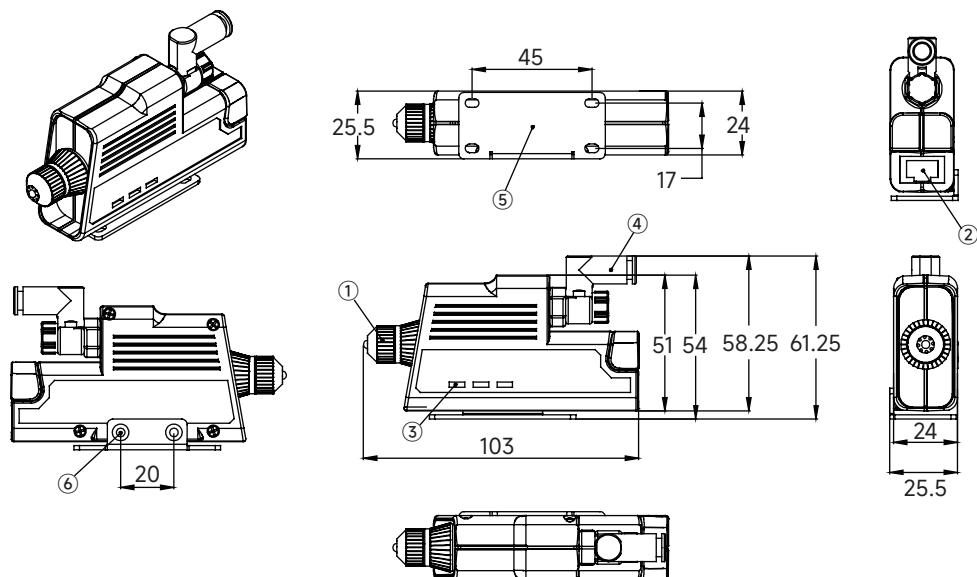
Model	AP-AZ9502-485			AP-AZ9502-IO
Input Voltage	DC24V ±1V			
Electrode Voltage	High-Frequency AC: $V_{pp}=9000V$			
Input Current	< 83mA			
Power	< 2W			
Working Distance	150-300mm			
Air Pressure	0.1-0.5MPa			
Air Inlet	Φ6mm			
Discharge Time	< 1.0s (150mm right ahead of the nozzle)			
Ion Balance	± 15VI (150mm right ahead of the nozzle, Air pressure 0.3MPa)			
Status Indicator	Power Indicator	Green	Power Normal	Power Abnormal
	Operation Indicator	Green	Operating Normally	Off
	Alarm Indicator	Red	High-Voltage Fault (Operation light off)	High Voltage Normal
Operating Temperature	0-40°C			
Operating Humidity	30—70%RH (No Condensation)			
Ozone Level	< 0.03ppm			
Power Adapter	MODEL: T6-2400500 INPUT: AC100V-240V 50Hz-60Hz 0.3A OUTPUT: DC24V 0.5A			
Dimensions (L*W*H)	Nozzle (with mounting bracket)		103*25.5*61.25mm	
	Power Adapter		71*43*30mm	
	RJ45 Power Cable Length		2.5m (Default)	
Power Adapter	Nozzle (with mounting bracket)		120.1g	
	Power Adapter:		101.3g	
Gross Weight	470.9g			

Product Appearance



Product Dimension

Unit: mm



① Air Nozzle Discharge Head / Nozzle

② RJ45 Power Port

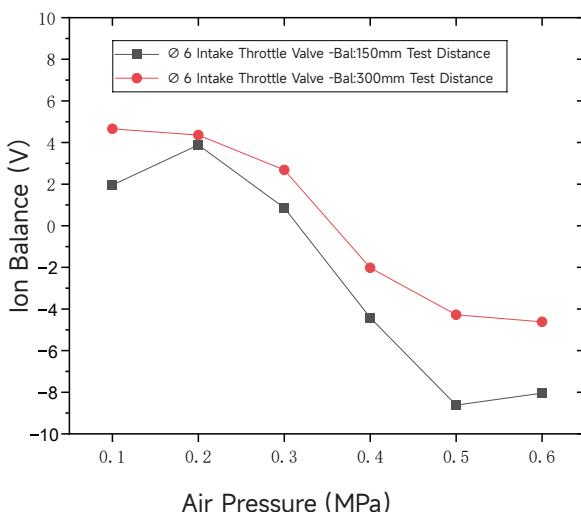
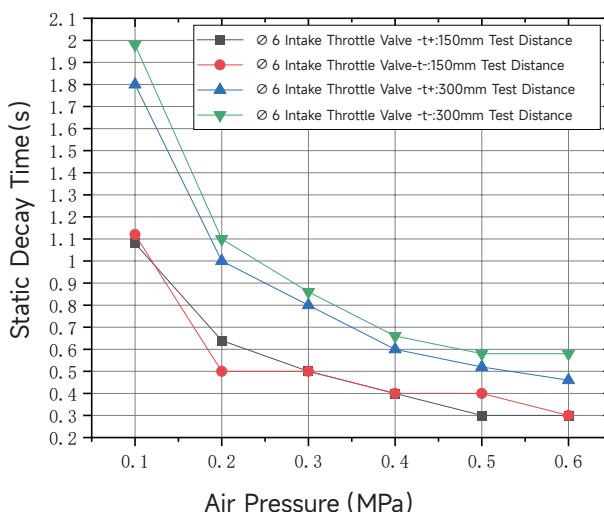
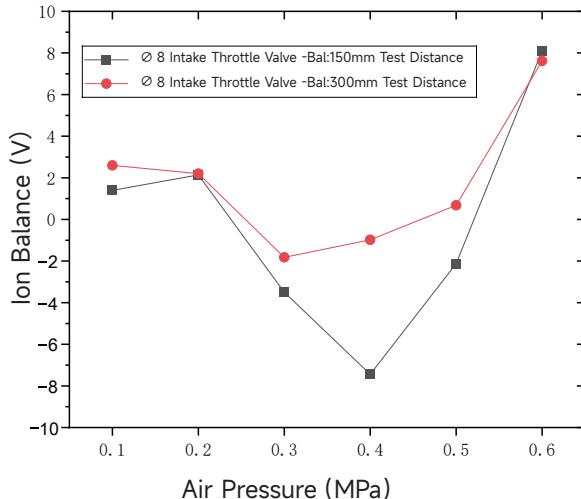
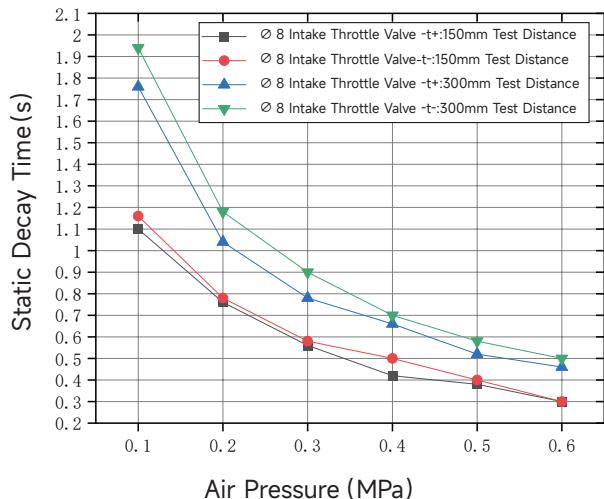
③ Working Status Indicator Light

④ Ø 6Intake Throttle Valve

⑤ Mounting Bracket

⑥ M3 Fixing Hole

Static Elimination Performance Data Chart



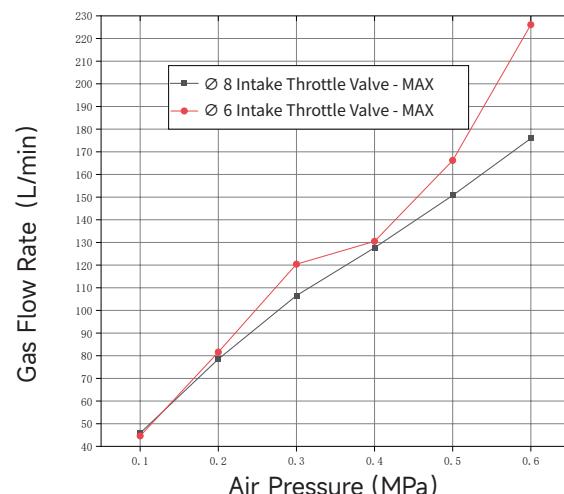
Test Standards: IEC 61340-4-7, ANSI/ESD.STM3.1, SJ/T 11446

Test Instrument: Trek Charged Plate Monitor

Test Voltage: $\pm 1000V \rightarrow \pm 100V$ Decay

Test Environment: Relative Humidity: $50 \pm 5\%$; Temperature: $23 \pm 3^\circ C$

Gas Flow Rate Characteristics



Product Usage Steps

- 1 Before use, insert the Φ6mm compressed air hose into the air connector port with throttle valve at the rear of the air nozzle, ensuring it cannot be pulled out.
- 2 The product can be powered according to actual requirements, with the following specific methods:

(1) Without Communication Requirements

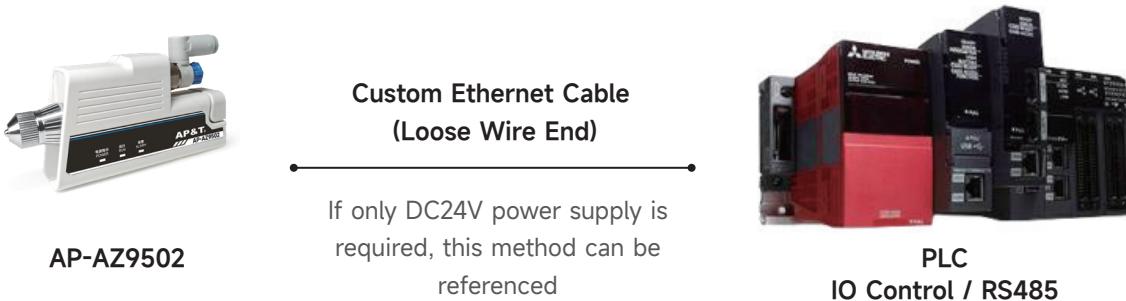
Insert the RJ45 plug of the power adapter cable into the RJ45 Ethernet port socket on the air nozzle, then connect the other end of the power adapter cable to the power adapter plug provided by our company, and connect to mains power AC220V or 110V. As shown in the figure below:



(2) PLC Connection Method: IO/RS485

Use our company's RJ45 Ethernet port power cable, and connect to the PLC according to the "Ethernet Port Pinout Function Information Table" to enable monitoring functions.

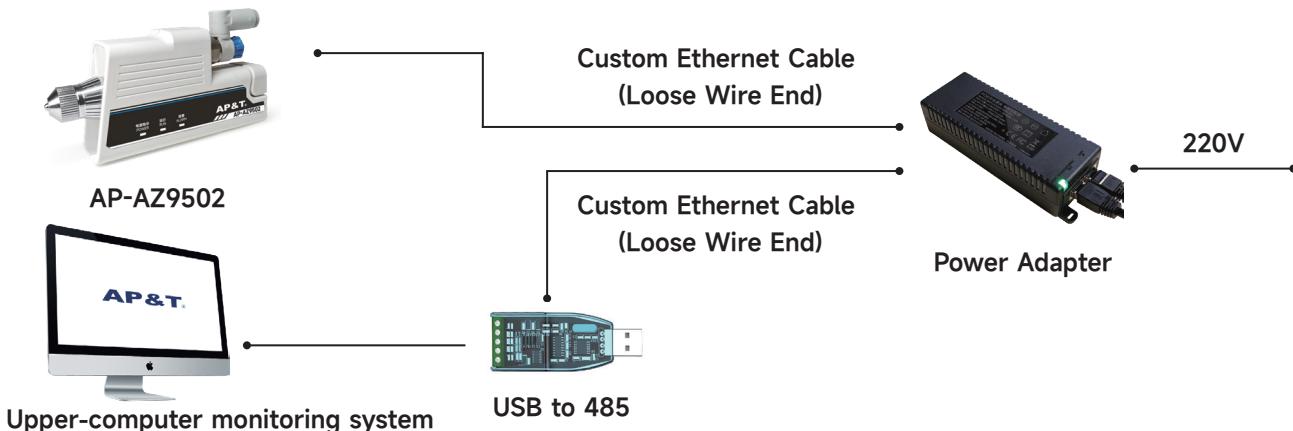
Note: RS485 and I/O cannot be used simultaneously. As shown in the figure below:



(3) Connect to the upper-computer monitoring system (e.g., IMS ionization monitoring system)

Use our RJ45 power interface and connect to the upper computer via a USB-RS485 converter.

As shown in the diagram below:



③ If wiring is required, please refer to the wiring information table for connection operations:

		AP-AZ9502-485	AP-AZ9502-IO
Function information of the RJ45 interface cable			
1	Orange	+24VDC	+24VDC
2	White Orange	+24VDC	+24VDC
3	Blue	RS485+B	/
4	White Blue	RS485+A	Input 0V: Ionizer pauses operation
5	Green	0VDC	0VDC
6	White Green	0VDC	0VDC
7	Brown	HV _{AL} High Voltage Abnormal	HV _{AL} High-voltage fault
8	White Brown	ACT: Static Eliminator Power-on Indication	/
		Clean: Static Eliminator Cleaning Indication	/
9	Metal Shield	PE	PE

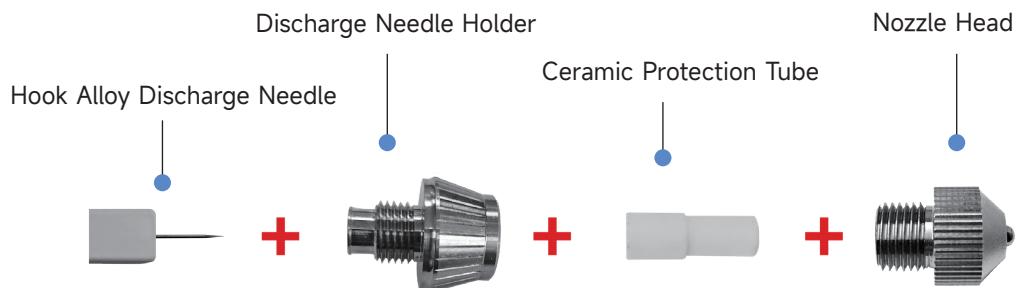
④ Adjust the throttle valve of the air connector; the gas pressure should be < 0.5MPa, with the optimal gas pressure being 0.3MPa.

⑤ After powering on, ionized gas will be emitted from the nozzle of the air nozzle. If the power-on indicator and operation indicator on the air nozzle are lit green, it indicates normal operation and electrostatic elimination is in progress.

⑥ The outlet of the ionizing air nozzle should be vertically aligned with the surface of the object to be neutralized of static electricity, with an optimal distance of approximately 150mm to 300mm.

⑦ The compressed air used should be dry and clean.

Product Maintenance



① As shown in the figure above, sequentially remove the stainless steel nozzle head and the ceramic protection tube from the ionizing air nozzle outlet. Observe the exposed alloy electrode; if it appears rounded or blunt, it should be replaced to ensure the effectiveness of static elimination.

② If the green power-on indicator on the air nozzle body goes out or the red alarm indicator lights up, stop using it. It can only be used again after professional maintenance personnel have checked the circuit or repaired the air nozzle.

③ If there is leakage in the air supply hose or throttle valve, check the assembly and connection. If damaged, replace them promptly to ensure normal air supply pressure.

④ The alloy electrode in the nozzle part of the air nozzle is a consumable item and is not covered by the warranty. If replacement is required during maintenance, it will be charged.

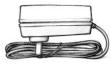
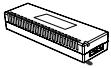
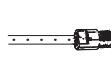
⚠ Safety Warnings

- Before installing and using this equipment, please read the instruction manual carefully.
- This equipment should not be used in environments with >70% humidity.
- It is strictly prohibited to use this equipment in flammable and explosive environments.
- Unauthorized disassembly of the product is strictly prohibited. Internal maintenance and repairs must be performed by qualified personnel.
- The product must not come into contact with conductive liquids, otherwise malfunctions may occur, leading to electric shock or fire.
- When inspecting or replacing the product, the power must be turned off, otherwise it may cause electric shock or fire.
- The product is specifically designed for static elimination. Using it for other purposes is strictly prohibited. Any improper use may cause machine failure, electric shock, fire, or other hazards.
- When the power is on, it is strictly forbidden to touch the electrode needle, as this can easily cause malfunctions and electric shock accidents.
- The electrode needle is a sharp metal object; please handle with care.
- Before powering on the product, please check the specifications of the provided power supply. Any power supply that does not meet the specifications may cause damage or even failure to the product.
- Please regularly inspect the product's power cord. If it is damaged, replace it immediately, otherwise it may easily cause electric leakage, operational abnormalities, and other issues.
- When using the air nozzle, a compressed air purification and filtration device should be installed at the air source connection to ensure the gas entering the nozzle body is dry and clean. This prevents moisture, oil, etc., from the air source from entering the nozzle area and causing high-voltage short circuits, product damage, and affecting normal use (recommended pressure dew point ≤ -20° C).

⚠ After-Sales Service

- The AP-AZ9502 High-Frequency Ionizing Nozzle undergoes rigorous testing, inspection, and high-temperature aging processes before leaving the factory, and its performance fully meets the relevant indicators stated in the instruction manual.
- Anping Company makes the following commitment to users: Within one year from the date of user purchase, the company will repair or replace free of charge any components found to be defective upon inspection by the company. After one year, only the cost of parts will be charged, with labor fees waived entirely. This commitment does not apply under the following circumstances: the equipment has been modified, misused, disassembled/reassembled by the user, or repaired by other service departments.
- Except for the component repair or replacement specified herein, AP&T shall not bear any responsibility arising from product misuse or accidents.

Product Packaging Accessories

Name	Picture	Part No.	Specs	Quantity	Note
Mounting Bracket		AP8038046	55x25 M3x2 Slot Hole Spacing 45mm x 7mm	1	Standard Accessory
Power Adapter		AP4705015	Model: T6-2400500 input: 100-240V 50-60Hz, 0.3A Output: 24V -0.5A	1	Standard Accessory
Custom Cable: Single RJ45 to DC5521 Female		8WXI00022	RJ45-DC5221 Female 2.5M	1	Standard Accessory
Black Shielded Cable, Single		8WXI00002	FUTP CAT.5E 26AWG 4 Pair PVC Sheath	1	Standard Accessory
Power Adapter		AP2930003	GRT-240200 DC24V 2A P/N:1/2+ 5/6-Port Metal PE	1	Optional for Host Monitoring System (IMS)
National Standard Power Cord		8YXG25110	Standard 1.8m, Optional 3m/5m	1	Optional for Host Monitoring System (IMS)
Black Shielded Cable, Dual RJ45		8WXI00004	Standard 2.5m, Optional 5m/10m	2	Optional for Host Monitoring System (IMS)
Interface Converter		AP2253003	USB to 485 Signal Converter	1	Optional for Host Monitoring System (IMS)
Air Pipe Adapter		AP8653020	G1/8 to M10x1.0 Total Height 22mm (Compatible with ø6/ø8 Air Connectors)	1	Custom Optional Accessory
Air Shower Pipe		AP8653019	M10X1.0 to M7x1.0	1	Custom Optional Accessory
Bamboo Pipe Adapter		AP8653021	M10x1.0Z to M10x0.75	1	Custom Optional Accessory
Air Shower Pipe		AP6210009	SUS316 300mm x 10mm Hole Pitch	1	Custom Optional Accessory

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SPECIALITY CREATES VALUE

Professional electrostatic intelligent monitoring/analysis
and elimination solution provider

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