



Ground Zero Electrostatics Ion 5110 Benchtop Ionizer

ION-5110 Benchtop Ionizer Instruction Manual

Description

Benchtop Blower Model IN5110

The Model ION 5110 68KHz AC benchtop air ionizer is a small, efficient static elimination device with variable fan speed for protecting electronic components and general static protection. Using AC corona technology, to make the air more conductive, Ptec™ ionizers produce a balanced stream of positive and negative air ions that never need calibration. These devices are used in many industries and manufacturing applications where static electricity is a problem.

About Ptec™ Technology

A specialized piezoelectric high voltage transformer makes Ptec™ ionizers among the most reliable ionizers manufactured. Small, lightweight and stable, Ptec™ products are designed to remain in balance and to alarm when the HV output affects performance. The model ION 5110 benchtop static eliminator produces a 68KHz AC output of approximately 2200V and a continuous stream of balanced air ions.



Ionizers that use Ptec™ technology do not require calibration and only minimal maintenance.

Features

On the front panel of the ION 5110 are two LEDs. The green LED indicates that power is applied to the unit. The red LED is illuminated when an alarm condition occurs. A variable fan speed control, on-off switch, and removable finger guard are also on the front panel.

The rear panel of the ionizer has the 24 VDC power input connector and a grounding point.

- Physically small and light.
- Rapidly decays static charges.
- Excellent ion balance and ionization performance.
- Ionization (green) and HV alarm (red) lights.
- No periodic adjustments.
- Durable, replaceable tungsten alloy emitter points.
- Removable front grill.
- Adjustable air volume.

Power Requirements:

The Model ION 5110 High frequency AC benchtop air ionizer is powered by an external DC switching power supply that operates from 100-240 VAC 50/60 Hz. The output of the supply is +24 VDC @ 500 mA.

The IN5110 blower operates on an input of +24 VDC, 7W.





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Operations and Use

Environmental Conditions

The ION5110 can be operated in areas where humidity is 20-70% RH (Non-condensing). Excess humidity may affect ionizer performance. The temperature range for the ION5110 is 65-78°F (18-25° C).

Set-up and Placement

Caution! Do not use this ionizer in an explosive environment! Corona ionizers produce a weak plasma that can cause ignition in explosive environments.

Use the ION5110 benchtop blower in proximity to a static sensitive area or object. The unit can be set on the workstation or mounted to a structure, using the ushaped mounting bracket and hardware. Point the unit at the area to be protected.

Power Connection

- Connect the AC adapter to the main unit, and plug it in an AC socket. (Caution: Do not substitute another AC adapter without consulting the factory).
- Make certain the unit is grounded.
- Turn the unit on to start the corona process. The ionizer creates a continuous stream of positive and negative air ions. The ionized airflow is directed through the front grill. Charged objects in the ionization area are rapidly neutralized.
- The ion airflow is adjustable using the fan speed control knob.
- The red alarm indicator light illuminates in the event of a problem with the high voltage power output.
- Turn the power switch off after operation.

Maintenance

Periodic Maintenance

Caution! The only serviceable parts inside the ionizer are the replaceable emitter points. Any unauthorized service will void the warranty and may result in additional repair fees.

The only regular maintenance required for the IN5110 is the periodic cleaning of the emitter points and ionizer grill. Emitter point cleaning affects the static decay ability of the ionizer and is important for maintaining its optimal performance.

Cleaning the front grill and external chassis

Disassemble the front grill by squeezing the grill side clips. Temporarily remove the grill. Clean it with a polyester wiper and a cleaning solution of 50% IPA (electronicgrade isopropyl alcohol) and 50% de-ionized water. Assemble it when it is dry. Use the same method to clean the exterior of the unit, including the inlet grill.

Cleaning the emitter points

Contaminants will gradually accumulate on the tip of the emitter points with continuous use. Periodic cleaning of the emitter points is necessary to maintain the performance of the ionizer. If the emitter points are dirty, clean them with a polyester or cotton swab and IPA. Do not damage or loosen the emitter points.





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Follow these instructions to clean the emitter points:

1. Remove the front grill.
2. Moisten a swab or wiping cloth in the IPA solution.
3. Swab or wipe the emitter points until they are free of particles.
4. Make certain the emitter points are straight and parallel to the plane of the fan.
5. Replace the front grill.
6. Make sure the emitter points are dry before powering the ionizer again.

Emitter Point Replacement

The ION 5110 uses 10 tungsten alloy precision etched emitter needles. Contact Ground Zero Electrostatics for information about ordering replacement emitters. The part number for emitters is listed below:

Replacement part	Part Number
Tungsten replacement emitters	22-6423

Because the ION 5110 high voltage output is AC, emitter erosion from the ionization process on the electrodes is minimal. Unless physically broken or stressed, the ION 5110 emitters should last the life of the ionizer.

Follow these instructions to remove the emitter points:

1. Turn off and disconnect the unit from the AC power.
2. Remove the front grill.
3. Unscrew the threaded emitter point using a needle nose pliers.
4. Replace and tighten the new emitter using the same tool. Do not over-tighten.
5. Repeat steps 3 and 4 as required.
6. Make certain the emitter points are straight and parallel to the plane of the fan.
7. Replace the front grill.

Bracket Removal

The IN5110 blower can be removed from the universal bracket by unscrewing the side knobs. Note that there are washers located between the side knobs, stand and chassis.

Service

Ptec™ ionizers are reliable products with a long service life. If you feel your unit is not operating properly, turn off the unit and disconnect the power cord. Contact Ground Zero Electrostatics Technical Support for repair assistance.

Troubleshooting

The information below provides a reference for problems that may arise with your ION 5110 benchtop blower. If you have other problems not covered below, please contact Ground Zero Electrostatics Technical Support for repair assistance

Problem

- Balance outside specifications
- Alarm light activated

Causes


Emitter points are dirty, damaged or not straight. Clean or replace
Low HV output, call for repair
Unit is arcing, call for repair
Short circuit, call for repair





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ION-5110 Specifications:

Power Input	24 VDC, 12W
Power Outlet	unfused, 0.5A or 1.0A max.
Ion Emission	AC, 68KHz
Balance	+/- 5 volts, typical offset
Decay Time	1000V—100V, < 2 seconds @ 12"
Temperature	66-78°F (19-25°C)
Humidity	20-60% RH (non-condensing)
Airflow	115 CFM, typical, High speed
Noise Level	60dB(A) (Distance 1 meter)
Indicators	Power: Green LED, Alarm: Red
Controls	On/off rocker switch, fan speed control
Mounting	Adjustable bracket/stand
Emitter Points	.036" dia. Tungsten Alloy, etched
Dimensions	7.5"H x 7.1"W x 2.7"D, (19.0 x 18.0 x 7.6 cm)
Weight	2.8lbs, (1.27kg) (including stand)
AC/DC adapter	Input: 100-240 VAC 50.60 Hz 0.2A Output: + 24 VDC 1500 mA
Certifications	

Service and Warranty

Ground Zero Electrostatics provides a limited warranty for the Model ION 5110 benchtop blower. All new products are guaranteed to be free from defects in material and workmanship for a period of one (1) year from the date of shipment. Liability is limited to servicing (after evaluating, repairing or replacing) any product returned to Ground Zero Electrostatics. The company does not warrant damage due to misuse, neglect, alteration or accident. In no event shall Ground Zero Electrostatics be liable for collateral or consequential damages.

To receive service under warranty, please contact Ground Zero Electrostatics Technical Support.



ION 5110 Line Drawing

