

Mini Zero Volt Ionizer Installation, Operation, and Maintenance Instructions



Made in America



Figure 1. [50661/50640](#) Mini Zero Volt Ionizer

Description

The [50661/50640](#) is an ultra-compact and lightweight dual steady state DC auto-balancing benchtop ionizer. This unit is small enough to be installed into any area needing to be neutralized. It may also be wall or shelf mounted. The ionizer's neutralization time will be best approximately 12" to 36" directly in front of the unit and will increase as the distance from the unit increases.

Installation

Remove the ionizer from the carton and inspect for damage. Included with the unit should be:

- 1 AC Power Adapter ([50661](#) only)
- 1 Ground Cord
- 1 Emitter Point Cleaner
- 1 Certificate of Calibration

Important: This appliance has a metal casing but the earth connection is only used for operational purposes and can be removed without the use of a tool. It is considered to be class I and tested as class II. The power supply connection plug is accessible to the user and there is no safety insulation inside the ZVI. Therefore the insulation of the power supply is critical.

- 1) If an alternate transformer is used, it must have insulation that complies with the requirements of SAFETY EXTRA LOW VOLTAGE (SELV).
- 2) If the ZVI is powered from the supply of another appliance, the unit must not be accessible to the user unless the power supply is fully isolated from the mains supply. Before installing the unit, verify that the unit is properly connected to earth ground. The unit has a grounding jack and must have a good

earth ground to maintain proper balance. Install the unit in the desired location, making sure that the airflow will not be restricted. Attached to the unit is an "L" bracket with three holes that can accommodate up to a #10 screw. Plug the AC power adaptor into the unit and then into the appropriate AC power source.

The unit has no On/Off switch so it should be running as soon as it is plugged in. Note: The [50661/50640](#) can fit into OEM equipment and is designed to run off of 24VDC $\pm 10\%$ 300mA. The unit's power can be wired to the internal power of OEM equipment if so desired.

Operation

Set the fan speed switch on the side of the unit to the LOW or HIGH position. Higher airflow will result in faster neutralization rates. Position the unit so that the maximum airflow is directed at the items or area to be neutralized. The LED will turn on during power up and remain GREEN during normal operation.

Balance Adjustment

The [50661/50640](#) balance adjustment can be accomplished by inserting a small screwdriver or trimmer adjustment tool into the balance adjustment hole located on the side of the unit. To increase the output in a positive direction, turn the potentiometer in a clockwise direction. Conversely, to increase the output in a negative direction, turn the potentiometer in a counter clockwise direction. Always use a charge plate monitor when adjusting the balance of the [50661/50640](#).

Maintenance / Alarms

Under normal conditions, the ionizer will attract dirt and dust (especially on the emitter electrodes). To maintain optimum neutralization efficiency and operation, cleaning should be performed on a regular basis.

If the performance of the ionizer were to degrade because of dirty or corroded points, the LED on the front of the unit will turn YELLOW; the audible alarm will sound continuously. Under this condition, the unit is not able to maintain balanced ionization.

NOTE: The input power cord MUST be disconnected before the unit is opened for maintenance. The emitter electrodes should be cleaned using the alcohol cleaners included or a swab wet with Isopropyl alcohol. Unscrew the 4 screws on the back of the unit and then remove the screen. After cleaning the emitter electrodes, reinstall the screen and 4 screws.

The emitter electrodes should not require replacement during the life of the unit with normal handling. Replacement emitter electrodes can be ordered if necessary.

Verify the balance of the unit with a charge plate monitor after cleaning.

Neutralization (Decay) Times

The comparative efficiency of benchtop ionizers is determined by a standard test published by the ESD Association: Standard S3.1. Typical positive and negative decay times (from 1000 volts to 100 volts) measured using this standard are shown below. The performance of the ionizer was measured with the unit positioned as shown, with the fan speed on high.

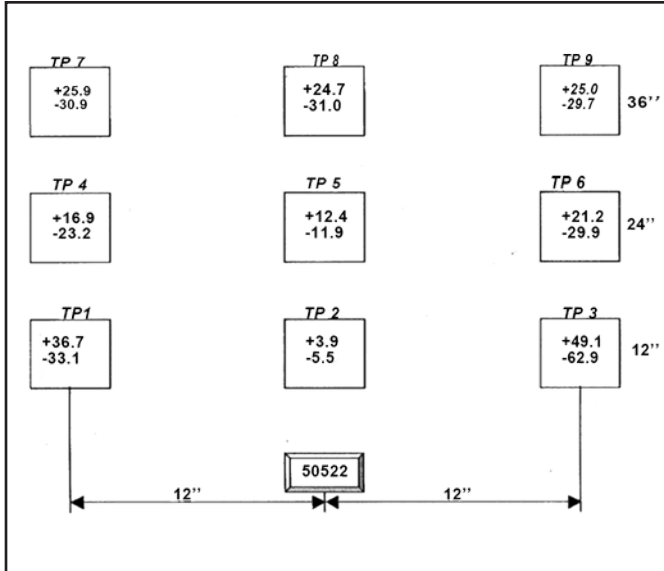


Figure 2. Neutralization Times

ALL TIMES IN SECONDS
 FAN SPEED SET TO HIGH
 REFERENCE: ESD-STM3.1-2000

Specifications

- **Air Flow**
One speed fan 34cfm at high fan speed
- **Balance**
±5 volts, typical; ±20 volts maximum.
(Temperature range: 65°F to 80°F, R.H.: 15% to 65%)
- **Chassis**
Stainless Steel Enclosure
- **Dimensions (with stand)**
5.25" high x 3.5" wide x 1.7" deep.
- **Emitter Points**
.050" diameter pure tungsten for improved mechanical strength and ionization stability.
- **High Voltage Power Supplies**
5.5 KV DC nominal.
- **Input Power**
24VDC, center positive, 2.5 x 5.5mm power jack
- **Ion Emission**
Steady state DC with sense feedback.
- **Mounting**
Tilt adjust frame with three holes that can accommodate up to a #10 screw.

- **Ozone**
Less than 0.05ppm
- **Weight**
1 pound

TECHNICAL SUPPORT:

USA

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NOTE: Unauthorized servicing or modifications to your monitor will void the product warranty and may create dangerous conditions. Servicing should be performed only at the factory, or by an EMIT approved technician.

Limited Warranty

EMIT expressly warrants that for a period of five (5) years from the date of purchase, EMIT Mini Zero Volt Ionizers will be free of defects in material (parts) and workmanship (labor). Within the warranty period, a credit for purchase of replacement EMIT products, or, at EMIT's option, the product will be repaired or replaced free of charge. If product credit is issued, the amount will be calculated by multiplying the unused portion of the expected five year life times the original unit purchase price. Call our Customer Service Department at (909) 664-9980 for a Return Material Authorization (RMA) and proper shipping instructions and address. Please include a copy of your original packing slip, invoice, or other proof of date of purchase. Any unit under warranty should be shipped prepaid to the EMIT factory. Warranty replacements will take approximately two weeks.

If your unit is out of warranty, EMIT will quote repair charges necessary to bring your unit up to factory standards. Call Customer Service at (909) 664-9980 for proper shipping instructions and address. Ship your unit freight prepaid.

Warranty Exclusions

THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean or repair products.

Limit of Liability

Electronics ionizers use high voltage corona discharge and should not be used in or near flammable or explosive environments. In no event will EMIT or any seller be responsible or liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.