

## SAFETY INSTRUCTIONS

- a) This product complies with the maximum allowable concentration of ozone of 0.050 parts per million by volume (ppmv) in a 24-h period.
- b) The 8-hr TWA ozone for this product is 0.0 ppmv when tested in a 30 m3 chamber.
- c) Intertek® Sustainability Verified Zero Ozone: This product meets UL 2998 and does not emit more than 0.005 ppm as tested per UL 867.
- d) CAUTION HIGH VOLTAGE: This equipment should be inspected frequently and collected dirt removed from it regularly to prevent excessive accumulation that may result in flashover or a risk of fire.

## CONSIGNES DE SÉCURITÉ

- a) Ce produit est conforme à la concentration maximale admissible d'ozone de 0,050 partie par million en volume (ppmv) sur une période de 24 heures.
- b) L'ozone TWA sur 8 heures pour ce produit est de 0,0 ppmv lorsqu'il est testé dans une chambre de 30 m3.
- c) Intertek® Sustainability Verified Zero Ozone : Ce produit est conforme à la norme UL 2998 et n'émet pas plus de 0,005 ppm selon les tests de la norme UL 867.
- d) ATTENTION HAUTE TENSION: Cet équipement doit être inspecté fréquemment et la saleté collectée doit en être retirée régulièrement pour éviter une accumulation excessive pouvant entraîner un embrasement ou un risque d'incendie.

## MAINTENANCE

The following maintenance procedure is recommended.

- a) Turn power off to FAU or packaged HVAC system or air purifier or ventilation fan.
- b) Open access panel on FAU or packaged HVAC system or cover of air purifier or fan.
- c) With access panel or cover open, use LED lamp to locate greenfan® bipolar ionizer on fan inlet and carefully clean carbon fiber electrode brushes with soft and carefully clean non-abrasive cloth, small brush, or toothbrush.  
**CAUTION: Carefully clean carbon fiber electrode brushes to avoid damaging brushes.** Inspect equipment frequently and remove collected dirt regularly to prevent excessive accumulation that may result in flashover or a risk of fire.
- d) Install MERV 10 (or better) electrostatically charged pleated air filters with activated carbon to remove dust, pollen, dust mites, pet dander, smoke, Volatile Organic Compounds (VOCs), and other airborne particles.
- e) Remove tools and close access panel on FAU or packaged HVAC system or cover of air purifier or ventilation fan.
- f) Turn on power to the FAU or packaged HVAC system or air purifier or fan.

## WARRANTY

GREENFAN® hereby warrants to the consumer that the product purchased under this warranty be free from defects in material and workmanship under normal use when installed, operated, and maintained in accordance with manufacturer's instructions. In the event of a product defect, failure, or malfunction, GREENFAN® will, for a period of five (5) years from the date of purchase, repair or replace at its discretion the defective, failed, or malfunctioning product purchased under this Warranty. Installation and/or removal labor is not covered under this Warranty.

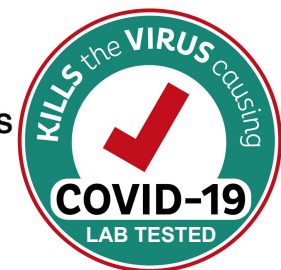
Warranty, return, or repair requests must be processed at [www.greenfan.co/contact](http://www.greenfan.co/contact). The following information is required for processing a warranty, return, or repair request: 1) purchases made and received within the USA; 2) product registration or proof of purchase may be required; 3) excludes filters and parts intended for regular replacement; 4) normal recommended use at the recommended input voltages on the product label or installation manual. Warranty, return, or repair requests are not provided for products that are damaged due to incorrect installation, physical abuse, chemical exposure, water damage, fire damage, or input voltage outside the recommended input voltage on the product label or instruction manual, or service of product by anyone other than GREENFAN® technicians or authorized dealers. Products covered by the warranty, return or repair may be replaced with new or refurbished units of the same or similar model. Liability for damages to you for any costs whatsoever arising out of this statement of warranty shall be limited to the amount paid for this product at the time of original purchase, and GREENFAN® shall not be liable for any direct, indirect, consequential, or incidental damages arising out of the use or inability to use the product. An RMA# is required for warranty, return, or repair requests. Returned packages that do not have an RMA# will be refused. For warranty information please contact: [support@greenfan.co](mailto:support@greenfan.co) or call 1-877-777-6756. Other than as herein expressly set forth, there are no warranties, expressed or implied, including, without limitation, the warranties of merchantability and fitness for a particular purpose, any such warranties otherwise imposed by the law being hereby expressly disclaimed. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply. GREENFAN® is not and shall under no circumstances be liable or responsible for any special, incidental, or consequential damages, losses, or expenses arising from a claimed or actual defect in any of the products purchased under this warranty or the installation or use thereof or from any other cause whatsoever, including, but not limited to, loss of profits, loss of business, loss of revenues, and other economic loss. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply.

# greenfan® bipolar ionizer Model 1600-01

## Installation, Operation, and Maintenance Instructions

US Pat. 11173226  
and pending patents  
[www.greenfan.co/s/gbi\\_manual](http://www.greenfan.co/s/gbi_manual)

Intertek Verified  
Zero Ozone  
Meets UL 2998  
Meets California Ozone  
Emission Limits  
CARB Certified  
Certified to  
CSA C22.2 #187



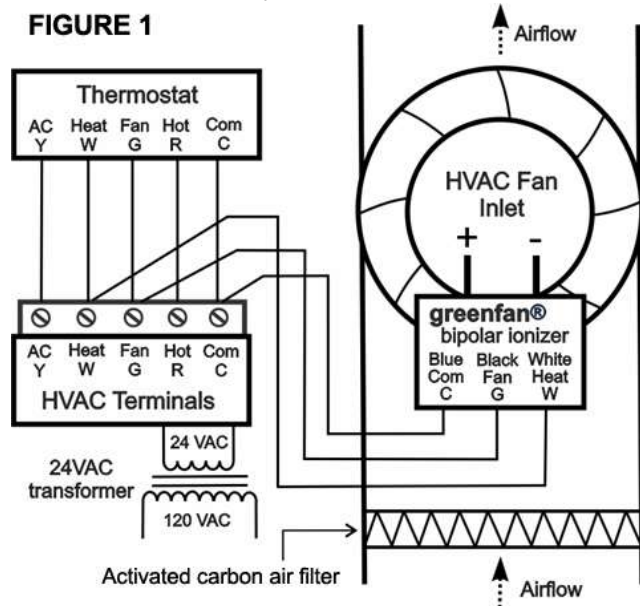
## INTRODUCTION

The greenfan® bipolar ionizer produces more than 200 million positive and negative ions per cubic centimeter (ions/cc) to deactivate harmful pathogens and odors. The greenfan® bipolar ionizer deactivates the SARS-CoV-2 Delta variant virus causing COVID-19 based on laboratory tests by Innovative Bioanalysis. The greenfan® bipolar ionizer may be installed in an air handler, fan coil, PTAC, heat pump, mini-split system, air purifier, and ventilation fan. For high voltage installations order accessory 120/208/240V to 24VAC Class 2 transformer Model 1601-01 (UL 5085-3 listed E65390).

## MECHANICAL INSTRUCTIONS

- WARNING:** Do not connect unit to power before mechanical and electrical installation are complete.
- Install unit at fan inlet with two sheet metal screws attached through holes in flanges on either side to allow access for general maintenance with at least one inch clearance between electrodes and metal surfaces and ensure simultaneous airflow over both carbon fiber electrode. Optional rare-earth magnets may be mounted on back of unit to locate product during installation.
- For HVAC system, greenfan® bipolar ionizer must be installed behind panel on fan inlet downstream of air filter to reduce dust build-up on carbon fiber electrode brushes
- For air purifier or ventilation fan, greenfan® bipolar ionizer must be installed behind cover downstream of air filter to reduce dust build-up and allow airflow to pass through carbon fiber electrode brushes.
- Per UL 867, install caution label to indicate: "This equipment should be inspected frequently and collected dirt removed from it regularly to prevent excessive accumulation that may result in flashover or a risk of fire."

**FIGURE 1**



## ELECTRICAL INSTRUCTIONS

- WARNING:** Do not connect to power before installation is complete. Always disconnect power to ionizer before handling. All wiring must be in accordance with NEC and Authorities Having Jurisdiction (AHJ).
- The greenfan® bipolar ionizer must be installed inside the HVAC equipment, air purifier, or fan. L'ioniseur bipolaire greenfan® doit être installé à l'intérieur de l'équipement CVC, du purificateur d'air ou du ventilateur.
- This air cleaner shall not be installed on the hot-air side of duct-type systems. Ce filtre à air ne doit pas être installé du côté air chaud des systèmes de type conduit.

## HVAC SYSTEM ELECTRICAL INSTRUCTIONS

- For HVAC systems, refer to **FIG. 1**. Loosen screws, insert wires (as shown), and tighten screws with all wires in place. Connect bipolar ionizer blue wire to common wire of 24VAC transformer or connect to C terminal of HVAC system terminal block. Connect black wire to fan 24VAC G wire of system or connect to G terminal of HVAC system terminal block. Connect white wire to white or heat 24VAC W wire of HVAC system or connect to W terminal of HVAC system terminal block.
- For HVAC systems without 24VAC accessible wires install 120/208/240V to 24VAC Class 2 UL-listed transformer shown in **FIG. 2**. Connect 120/208/240V common wire of transformer to common wire of HVAC system and greenfan® bipolar ionizer blue wire to either of 24VAC yellow wires from transformer. Connect greenfan® bipolar ionizer black wire to other yellow wire from transformer and connect appropriate colored wire from 120/208/240V transformer to hot wire of fan. Connect 120V white, 208V red, or 240V orange wire from 120/208/240V transformer to hot wire of fan. Transformer wire color may vary. Install wire nut on white wire of greenfan® bipolar ionizer as shown in **FIG 2**.
- After completing all steps, verify proper operation by applying power to unit and confirming green LED lamp is illuminated or measure ion concentration.

## AIR PURIFIER ELECTRICAL INSTRUCTIONS

- Air purifier electrical installation requires UL-listed 24VAC transformer with 120V connection to air purifier fan control and 24VAC connection to greenfan® bipolar ionizer blue and black wire.
- Connect greenfan® bipolar ionizer blue wire to one wire of 24VAC transformer.
- Connect greenfan® bipolar ionizer black wire to other wire of 24VAC transformer.
- Install a wire nut on the greenfan® bipolar ionizer white wire to insulate the wire which is not used.
- After completing all steps, turn on power for air purifier or fan and verify green LED lamp on the front of greenfan® bipolar ionizer is illuminated or measure ion.

## VENTILATION FAN ELECTRICAL INSTRUCTIONS

- Ventilation fan electrical installation requires UL-listed 24VAC transformer with 120V connection to ventilation fan control and 24VAC connection to greenfan® bipolar ionizer blue and black wire.
- Connect greenfan® bipolar ionizer blue wire to one wire of the 24VAC transformer.
- Connect greenfan® bipolar ionizer black wire to other wire of 24VAC transformer.
- Install wire nut on greenfan® bipolar ionizer white wire to insulate white wire which is not used.
- After completing all steps, verify proper operation by applying power to unit and confirming green LED lamp is illuminated or measure ion concentration.

## TROUBLESHOOTING

- The greenfan® bipolar ionizer continuously monitors electrodes to maintain consistent high-voltage and balanced bipolar ion concentrations .
- If LED lamp does not illuminate when HVAC fan, air purifier, or ventilation fan is ON, then check: 1) power supply or transformer is plugged in and operating properly; 2) bipolar ionizer is properly connected to power supply or transformer; 3) verify all wire and wire nut connections are correct and tight; and 4) reconnect any loose wires and verify operation as described above.
- If LED lamp is flashing when thermostat fan, air purifier, or fan is ON, then check: 1) power supply voltage input is within 20 to 30VAC; and 2) electrical shorts on the positive-ion electrode or the negative-ion electrode.
- If above steps do not correct flashing or non-illuminated LED lamps, then please contact technical support at [support@greenfan.co](mailto:support@greenfan.co) or [greenfan.co/contact](http://greenfan.co/contact).

**FIGURE 2**

