

Full Facility Air Defense



FREEDOM
AIR TECHNOLOGIES



Operation and Safety Manual

SHIELD

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Read this manual carefully before using the device. Retain this manual for reference and record of your serial number.



Warning

Read all safety warnings and instructions.

Failure to follow warnings and instructions may result in electric shock, fire and / or serious injury. Do not attempt to tamper with the device. All device maintenance must be completed by a certified technician of Freedom Air Technologies. Tampering of product may cause harm and void warranty.

This manual can be electronically accessed in its entirety at: www.freedomairtechnologies.com/operation-manual

QUICK REFERENCE GUIDE. FILL IN AND SAVE.

Locate the Serial Number for your device and record. Retain for future records. This form is available at <https://www.freedomairtechnologies.com/product-registration>. Products must be registered for warranty. Please email a copy of completed form to lisa.murphy@freedomairtechnologies.com.

Model _____

Serial Number _____

Date of Purchase _____

Distributor / Retailer _____

Safety



WARNING: To avoid risk of electric shock or fire, disconnect from power supply prior to installing, moving, cleaning, or general maintenance.



CAUTION: Maintenance must be performed by a certified technician of Freedom Air Technologies.



This device contains UV Lights which can be harmful to skin and eyes if misused or tampering of product occurs. This product is used in enclosed HVAC Plenums, out of line of sight to humans.

IMPORTANT SAFETY INSTRUCTIONS

Read and save these instructions.

- 1. Upon receipt of device, check for any potential damage and inclusion of all equipment required to use device properly. Refer to Device Description for components.**
- 2. This device is intended for indoor use only.**
- 3. Turn device off prior to installation and engaging with power supply.**
- 4. Do not obstruct airflow to or from device.**
- 5. To move the device, turn the device off and disconnect from power supply.**
- 6. To avoid electric shock and device damage, plug into an appropriate 110v outlet using the power cord provided.**
- 7. Do not handle device with wet or damp hands.**
- 8. Do not sit or stand on the device.**
- 9. Do not submerge the device or expose the device to water or rain.**
- 10. Avoid contact with LEDs or LED apparatus when installing, moving or removing from packaging.**
- 11. Do not stand directly in front of the device when in use.**
- 12. This device is a stationary device. All devices should be disconnected from power supply before installing, moving, cleaning, or general maintenance.**
- 13. Devices must be securely mounted in HVAC plenum next to the coil.**
- 14. Do not attempt any maintenance on this device. All maintenance must be performed by a technician certified by Freedom Air Technologies. Tampering may cause harm and void warranty.**
- 15. This product employs overload protection. If the device does not turn on, it may indicate a fuse is blown. Replacing a fuse is not considered maintenance and may be performed by operator. Prior to changing fuse, turn off power supply and unplug from the wall. Replace the fuse as outlined in Operating Instructions. In the event the device continues to short-circuit, discontinue use and contact the manufacturer at 850-319-7489.**
- 16. To reduce the risk of fire, electric shock, or injury, turn the unit off and unplug power supply before moving, cleaning, or changing fuse.**
- 17. After moving for maintenance, the unit must be reinstalled/remounted as previously installed prior to operation.**
- 18. Do not operate the device with a damaged cord or plug.**
- 19. Do not cover cord with throw rugs, runners, or similar coverings. Do not route cord under any object. Arrange cord away from traffic area to avoid tripping hazard.**
- 20. This device is not a toy and should not be handled or operated by children.**

Device Description

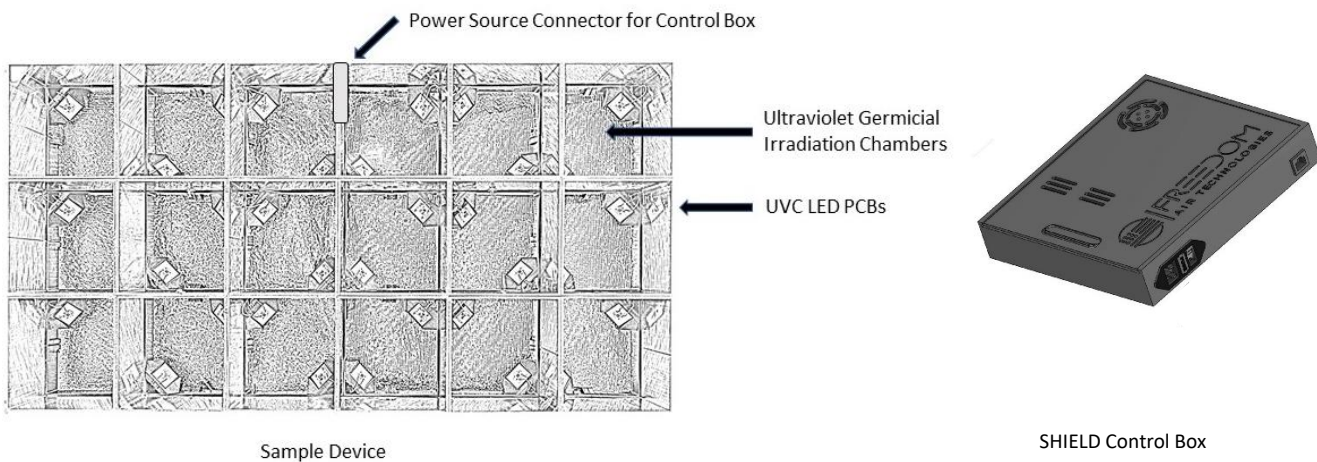
SHIELD is a powerful UV-C light array that provides maximum airborne threat reduction to provide minimal risk environments.

Placed at the coil in a HVAC plenum, SHIELD offers full-facility air disinfection.

This robust solution can provide 24-7-365 air disinfection or can be programmed to disinfect at critical times throughout the day, without disruption to business or social events.

A modular, stationary solution, applications are custom engineered for each unique space offering maximum mitigation of pathogens to create the most an effective layer of protection for indoor spaces.

All Freedom Air Technology products are proudly made in the U.S.A.



Specifications

| | |
|---|---|
| Manufacturer / Make: Model Number: Size / Weight: Physical Dimensions: | Freedom Air Technologies® Full Facility Air Defense™ SHIELD-1 Units are custom engineered applications and vary in size and weight Various |
| Power Source – AC/DC: Photolysis Chamber(s): Global / Universal Connection Plug: | AC 110v 60HZ Disinfectant(s) - Input: 36v DC, Ultra-violet Radiation Standard “D” style female (IEC-320-C13) computer receptacle with Male AC (NEMA 5-15P) Available Green Dot / Locking 110v |
| Simple Controls: | On / Off Power Switch |
| Advanced Controls: | Our technology is IoT capable and can be designed to measure a number of conditions within a building, organic compounds in the air, air velocity and indoor relative humidity. Internal sensors capture desired data. And data can be viewed and downloaded via dashboard s on the Cloud. |
| | |

NO USER SERVICEABLE PARTS INSIDE. DISASSEMBLING VOIDS ALL WARRANTIES EXPRESS OR IMPLIED.

Specifications

Function: SHIELD is a modular, stationary air quality management system with the capacity to disinfect air utilizing UV-C LED light to render airborne pathogens non-viable, non-reproductive, and harmless. Such airborne pathogens include viruses like coronaviruses and influenza to help reduce the threat of death or disease from the flu, COVID-19 and its variants. NO OZONE is produced by any Freedom Air Technologies unit. No CHEMICALS are used during the disinfection process. All ultra-violet germicidal irradiation (UVGI) is contained within the HVAC plenum, where the unit is placed. Using modular architecture, a choice of Air Quality Modules (AQMs) such as photolysis chambers with different UV wavelengths and strengths allow for limitless selection and combinations for desired efficacy.

Control Specifications: Units include a control box with a simple illuminated On / Off power switch. All units have IoT capability where light functionality and certain building conditions can be monitored via sensor technology. This data is available on dashboards via the Cloud, allowing the user to continually monitor and manage the system and/or air quality conditions of the indoor environment. All sensors are contained within the control box.

Maintenance Requirements: Units have the ability to offer continuous, full facility air disinfection, 24-7-365. Or, units can be programmed to run during normal business hours, or other critical times of the day or night. Maintenance may include changing a fuse in the power box. For UV LED light maintenance, see Product Life Span, below.

Equipment Install: Each unit comes factory shipped ready for continuous use with IoT capability. Units are easily installed in the HVAC plenum at the coil in 30-minutes. Units are securely bolted to the base of the plenum. Units include feet with wheels to ensure moving the unit, if necessary for coil cleaning or other HVAC maintenance, is easily done. Units include a control box power supply. A 110v outlet is needed for powering the unit.

Light Life Span: Each unit has its own lifespan, depending on usage times, with the UV-C LEDs averaging 10,000 hours of life. For units with 24-7-365 usage, light life averages 14-months. For units used during normal business hours, light life averages 48-months. On/Off conditions of lights can be monitored remotely via dashboards on the Cloud. Separate maintenance agreements are provided for the entire light apparatus – LED, PCB, etc., are negotiated based on predetermined usage hours of lights. Lights require continuous airflow from HVAC fans when engaged.

Operation



WARNING: To reduce the risk of electric shock, do not expose to water or rain.



This device contains UV Light which can be harmful to skin and eyes if misused or tampering of product occurs. This product is used in enclosed HVAC Plenums, out of line of sight to humans.

This device serves as continuous, proactive air defense to provide minimal risk indoor environments by eliminating airborne pathogens, including viruses such as COVID-19 and its variants. This device has a 99.9% efficacy rating in controlled testing environments.

This device is intended for use in **indoor** commercial & industrial spaces, retail outlets, food establishments, healthcare facilities, fitness facilities, places of worship, municipal facilities, educational institutions, nursing home facilities, and large venues.

Upon receipt of device, check for any potential damage and inclusion of all equipment required to use device properly. Refer to Device Description for components.

To avoid electric shock and device damage, plug control box into an appropriate 110v outlet.

Do not obstruct airflow to or from device.

This device utilized airflow from existing HVAC.

The device is a stationary device to be mounted next to the coil in an enclosed HVAC plenum. This unit utilizes continuous airflow from the HVAC system. No additional fans or filters are utilized with this device.

Units are securely mounted in the HVAC plenum. These devices are not portable and should not be used in any other manner for air disinfection.

Warning labels are provided for placement on HVAC door or panel. Lights must be turned off prior to access to the plenum where units are contained.

To engage the device, plug in control box power cord to a 110v outlet and turn device to 'On.' To shut device off, turn device to 'Off.'

For any maintenance inside the plenum where units reside, units must be turned off prior to any procedures.

Changing a fuse is not considered maintenance and may be performed by operator. To change fuse safely, first turn off unit at control box and unplug the control box power supply. **Follow the following steps and see instructions in Maintenance Section.**

1. Turn box to 'Off.' Disconnect / unplug the power supply from the wall / electricity.
2. Open panel and remove the fuse from its holder. You may need a small paperclip or screwdriver to lever the fuse holder cartridge.
3. Look at the fuse wire. If there is a visible gap in the wire or a dark or metallic smear inside the glass then the fuse is blown and needs to be replaced.
4. Replace the fuse and close cover.
5. Plug control box back into 110v outlet and turn the control box power to 'On.'

Maintenance



CAUTION: Maintenance of this device must be performed by an authorized technician of Freedom Air Technologies. Tampering may cause harm and void warranty.

This device is designed for 24-7-365 operation with minimal maintenance.

Optimal performance of this device requires all components to be monitored and maintained.

If configured, device performance is monitored remotely by Freedom Air Technologies based on registered serial numbers. **It is important that you register your device as outlined in this manual.**

All required maintenance will be performed by authorized Freedom Air Technologies. Maintenance plans are separate agreements outlined at the time of sale.

This device contains UV Light which may be harmful to skin and eyes if mishandled. Do not tamper with this device. Tampering may cause harm and void warranty.

To reduce the risk of fire, electric shock, or injury to persons, turn off power supply and unplug from wall before moving, cleaning or changing fuse.

Changing a fuse is not considered maintenance and may be performed by operator. Turn power to OFF and unplug control box prior to changing fuse. Fuse is 1amp. See below for details.

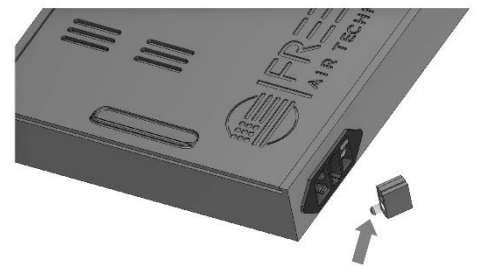
How to change the fuse:



Fuse is located on the bottom right corner of the Control Box.



Remove the fuse holder by pinching the tabs and pulling.



Remove the old fuse and replace with a new one. Insert the fuse back into the component.

LIMITED (5) YEAR WARRANTY

Freedom Air Technologies warrants, for a period of sixty (60) months from the date of purchase, that all Products, component parts and accessories, will be free from defects in material and workmanship under normal use and service. **This warranty excludes UV-C LED lights & boards, which have a light life between 14-months and 48-months, depending on usage time.** See 'Light Life Span' on Page 4. Separate maintenance plans cover light & board replacement costs.

THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS. TRAVEL AND LABOR COSTS ARE NOT COVERED UNDER WARRANTY.

To keep this warranty in effect for the aforementioned 60-month period, the purchaser must (i) promptly, i.e., immediately upon discovery, inform Freedom Air Technologies customer service of any defects, and (ii) properly use the Product in accordance with guidelines outlined in the manual, (iii) adhere to a maintenance program provided by Freedom Air Technologies, and (iv) refrain from any tampering of the product.

This warranty does not cover normal wear and tear, or defects caused by (i) improper or negligent handling or unauthorized modifications; (ii) defective or improper premises, chemical, or electrical influences; or (iii) weather or other forces of nature.

To provide the best customer service possible, Freedom Air Technologies requires purchaser to complete the online LIMITED WARRANTY REGISTRATION FORM and submit to Freedom Air Technologies within 30 days of purchase date.

Please find warranty registration at www.freedomairtechnologies.com/warranty.

LIMITATIONS OF WARRANTY

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES AND OBLIGATIONS OF Freedom Air Technologies OR ITS SUPPLIERS, EXPRESS OR IMPLIED. Mobius AirX EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

LIMITATION OF REMEDY

Under no circumstances shall Freedom Air Technologies or any supplier of Freedom Air Technologies be liable for any loss or damage, including, but not limited to, loss or damage arising out of the failure of the Products to operate for any period of time, inconvenience, the use of rental or replacement equipment, loss of profits or other economic loss, or general, direct, special, indirect, incidental or consequential damages or property damages.

PRODUCT SUITABILITY

States and localities may have varied codes and regulations governing sales, construction, installation, and/or use of Products for certain purposes. While Freedom Air Technologies attempts to assure that its Products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the Products are installed or used. Freedom Air Technologies recommends that, before purchasing and using a Product, purchasers review the Product application, and federal, state, and local regulations, to be sure that the Products, installation, and use are compliant. Freedom Air Technologies provides free consulting services to outfit spaces with the best combination and/or placement of equipment to create minimal risk