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Allanson AirGuard C600

# Installation and Operation Manual

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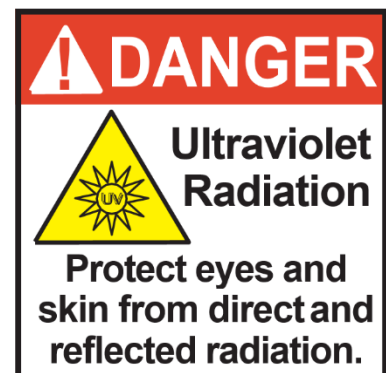
# Allanson AirGuard C600

This document is intended for Model# **AAGC600 & AAGC600-M**

## Installation and Operation Manual

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# Safety Warnings

Read and save these instructions. Please read the entire manual before proceeding with installation, maintenance, or operation of the AirGuard C600.

**WARNING** – TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT USE THIS FAN WITH ANY SOLID-STATE SPEED CONTROL DEVICE.

**WARNING** – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

A) USE THIS UNIT ONLY IN THE MANNER INTENDED BY THE MANUFACTURER. IF YOU HAVE QUESTIONS, CONTACT THE MANUFACTURER.

B) BEFORE SERVICING OR CLEANING UNIT, SWITCH POWER OFF AT SERVICE PANEL AND LOCK THE SERVICE PANEL.

DISCONNECTING MEANS TO PREVENT POWER FROM BEING SWITCHED ON ACCIDENTALLY. WHEN THE SERVICE DISCONNECTING MEANS CANNOT BE LOCKED, SECURELY FASTEN A PROMINENT WARNING DEVICE, SUCH AS A TAG, TO THE SERVICE PANEL.

**WARNING** – THIS UNIT CONTAINS A UVC LAMP. SKIN OR EYE DAMAGE MAY RESULT FROM DIRECTLY VIEWING THE LIGHT PRODUCED BY THE LAMP IN THIS APPARATUS. ENSURE APPLIANCE IS INSTALLED SO THAT THE LOWEST POINT ON THE APPLIANCE IS AT LEAST 7.55 FEET ABOVE THE FLOOR. ALWAYS DISCONNECT POWER BEFORE REPLACING THE LAMP OR SERVICING. REPLACE LAMP WITH LAMP MODEL NO. UVC36WAGLR, SOLD BY ALLANSON INTERNATIONAL INC. OR ALLANSON'S DISTRIBUTORS.

- ALL PERSONNEL SHOULD BE ALERTED TO THE POTENTIAL HAZARDS INDICATED BY THE PRODUCT SAFETY LABELING ON THIS UNIT.
- THE FOLLOWING CONVENTIONS ARE USED TO INDICATE AND CLASSIFY PRECAUTIONS IN THIS MANUAL AND ON PRODUCT SAFETY LABELING. FAILURE TO OBSERVE PRECAUTIONS COULD RESULT IN INJURY TO PEOPLE OR DAMAGE TO PROPERTY.

**WARNING** – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

a) INSTALLATION WORK AND ELECTRICAL WIRING MUST BE DONE BY QUALIFIED PERSON(S) IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS, INCLUDING FIRE-RATED CONSTRUCTION.

b) WHEN CUTTING OR DRILLING INTO WALL OR CEILING, DO NOT DAMAGE ELECTRICAL WIRING AND OTHER HIDDEN UTILITIES.

## Introduction

This manual provides information about the installation and operation of Allanson's AirGuard C600 and must be read in its entirety before beginning any installation.

Installation must be performed by a qualified technician and must adhere to the standards and special notices set by the local regulatory bodies.

For warranty and special notices information see the Warranty chapter on page 12.

This manual explains the product –

- |                 |                             |                          |
|-----------------|-----------------------------|--------------------------|
| 1. Application  | 5. Operation                | 9. Replacement parts     |
| 2. Packaging    | 6. Maintenance              | 10. Warranty             |
| 3. Features     | 7. Technical Specifications | 11. Product Registration |
| 4. Installation | 8. Troubleshooting          |                          |

## Application

Allanson's AirGuard C600 has been engineered and designed to be installed on false ceilings to improve indoor air quality for commercial and industrial applications. The unit utilizes a 2-stage filtration, as well as Ultraviolet-C (UVC) sterilization, to purify your indoor air. Constructed with a cross-flow blower fan, the air purifier is quiet and effective. This ensures that the day-to-day business activities are not interrupted even when the unit is operating. The AirGuard C600 removes airborne particles such as dust, mold spores, and pollen, and deactivates pathogens. Typical installation would be in –

- |                 |                |                    |
|-----------------|----------------|--------------------|
| • Offices       | • Food outlets | • Hospitals        |
| • Schools       | • Hospitality  | • Nursing Homes    |
| • Retail spaces | • Banking      | • Public Washrooms |

# Packaging

Remove the complete packaging prior to installing the product. Allanson International Inc. takes all possible precautions when packaging this unit to prevent damage. Carefully inspect the unit and all available wiring (if applicable). In the event you come across any damages on the unit upon initial inspection, contact your sales distributor/manufacturer immediately. Do not assemble or operate if visible damages are found. Do not throw away the packaging until the complete unit is installed.

The UVC lamp is packaged separately to provide maximum protection from damages. Keep the lamp aside until ready for installation.

Contents of package include:

- 1 \* Enclosure
- 1 \* Pleated pre-filter
- 1 \* HEPA filter (H12 or H13 based on the model#)
- 1 \* UVC lamp
- 2 \* Chain Hook or Eye Bolts
- 1 \* IR Remote
- Installation and Operational Manual

Note: All other components including the fan, drivers, and wiring are pre-assembled to the enclosure.
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## Requirements

Allanson's AirGuard C600 is required to be installed by a licensed electrician to confirm all wiring complies with applicable state, local, and national electrical and mechanical codes. The unit requires knowledgeable planning for location, installation, and supervision to prevent UVC exposure of occupants and to achieve maximum effectiveness. Please consult your local salesperson, distributor, or manufacturer prior to the installation.

## Features

- 2 stage filtration (Pre-filter & HEPA) and UVC sterilization
- 36W UVC lamp operating at peak germicidal wavelength at 254 nm
- Cross flow fan for quiet operation without compromising high velocity air flow
- Low profile unit rests into a 2 ft. x 2 ft. drop ceiling grid, ultimately suspending from the ceiling
- Easy installation that is compatible with all standard 120-277VAC electrical systems

- UVC sensors to accurately indicate lamp replacement or missing lamp
- Airflow sensors to accurately notify filter replacement or missing filter
- 2 speed levels to meet most location needs
- Infrared remote for easy operation

## Installation

The AirGuard C600 installs similar to a standard lay in troffer with added mounting provisions to secure the unit using chain and correct anchor points.

## Dimensions

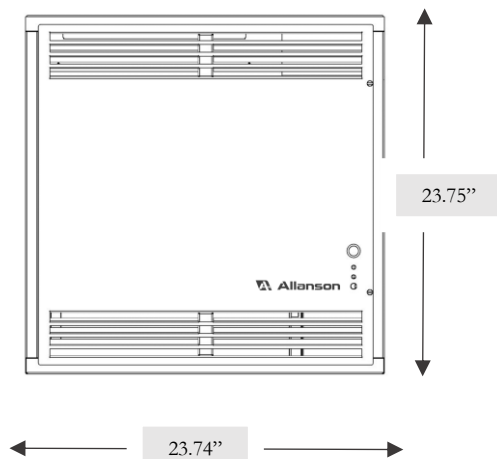


Figure 1: AirGuard C600 (Front)

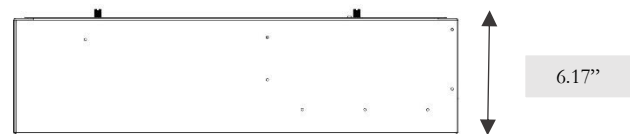


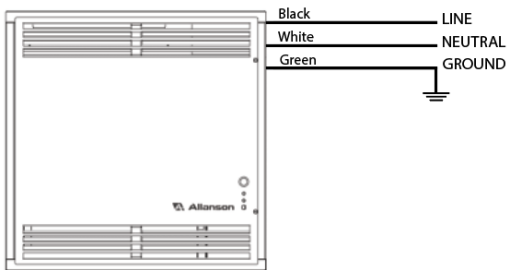
Figure 2: AirGuard C600 (Side)

## How to Install the AirGuard C600

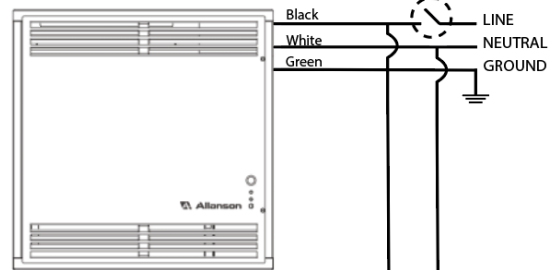
Please make sure the unit is installed by a licensed electrician to confirm that all wiring complies with applicable state, local and national electrical and mechanical codes. Make sure the power of the unit and the source is switched off. **Never service or install the product while working with live wires. Risk of UV exposure. Ensure appliance is installed so that the lowest point on the appliance is at least 7.55 feet above the floor.**

1. Do not install the UVC lamp and the media filters until the enclosure is fully installed.
2. Size the ceiling opening to fit the air purifier enclosure as closely as possible. While confirming the T-bar is mechanically rigid and stable, position the air purifier on top of the T-bar.
3. Frame the opening to provide adequate support for the enclosure. The enclosure must fit snugly in the opening; allow no more than 1/4 in. (6 mm) from the opening to each side of the enclosure.
4. Cover the framing and any unused portion of the opening with ceiling tile, wallboard, plywood, or other material and finishes to match the ceiling.
5. There are 2 threaded nuts in each corner of the unit to secure the unit to a structural support using a chain (not provided). Attach 2 hooks to secure the unit with a chain.
  - a. Never rest the unit on the T-bar only.
6. Locate the input wires on the fan side of the enclosure and connect to a power source of 120 VAC (60 Hz)
  - a. The unit comes with wire nuts and conduit connectors.
  - b. Wires should be secured with the provided conduit connectors through the knockout.
  - c. Wiring to be completed by accessing through the partition plate and connecting the AC wires according to its color (black-black (Hot) and white-white (Neutral)). Complete the connection by securing the wires using the provided wire-nuts. See below for wiring diagrams.

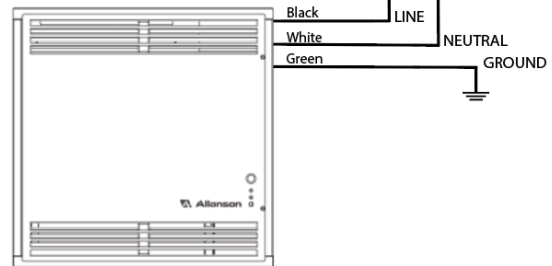
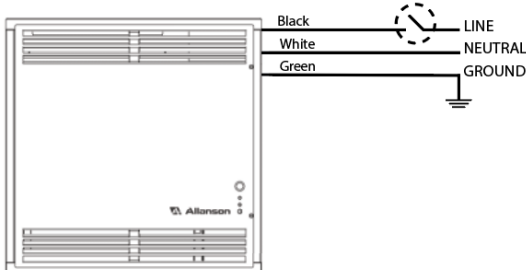
Single Unit Connection



Multiple Unit Connection with Optional Wall Switch



Single Unit Connection with Optional Wall Switch





- d. Ground wire must be bonded correctly to the ground post provided inside the junction box.
7. Once the unit is securely mounted and installed, use the 2 thumb screws to open the front cover.
8. Remove the plastic wrap before installing both the HEPA and the Pre filter. Install the HEPA filter with pull tabs facing down. Then install the Pre filter on top of the HEPA filter with pull tabs facing down. Note that both the filters are directional, and they must be installed the correct way for the unit to function effectively.
9. Secure both filters using the lock tab.
10. Unpack the UVC lamp and avoid touching the glass with bare hands. If the glass has smudges, make sure to clean it with a dry cloth first.
  - a. Always use an Allanson UVC lamp, UVC36WAGLR to ensure proper fit and optimal performance.
11. Connect the lamp with the built-in lamp socket.
  - a. Gently squeeze the 2 tabs on the lamp base to ensure proper mechanical locking of the lamp with the socket.
  - b. While securing the lamp to the socket, make sure to line up the lamp with the support clip.
12. Close the cover using the 2 thumb screws.
13. Turn on the AC power and press the power button to start the unit with default configuration (high fan speed).

Note: For multiple unit installation the orientation for the air outlet should be the same for all units. For example, if the first unit is installed with a south facing air outlet, all unit air outlet should be facing south.

## How to Install the AirGuard C600 with Optional Wall Switch

The Allanson AirGuard C600 can be connected with an optional wall switch to turn on/off. Users can connect a single or multiple units to the same wall switch.

Always make sure the wall switch is rated for the system load.

### Precautions

- Never bypass the safety switch.
- Do not turn on the AC power if the safety switch is bypassed

- There are 2 micro switches present in the unit –
  - Safety switch: The unit can only be operational when the front cover is fully closed and the 2 thumb screws are secured in lock position.
  - Filter switch: Monitors if the HEPA filter has been installed correctly or missing. HEPA filter must be installed correctly for the unit to run.
- Do not use the unit if the filter is damaged.

Note: When using a wall switch, turning off the unit using the wall switch resets the unit. Once the wall switch is pushed back into the “ON” position again, user must use the remote control/power button to turn the unit back on.

## Operation

The AirGuard C600 has been engineered to purify air in the commercial and industrial spaces. The unit has multiple stages of filtration and UVC sterilization capabilities.

### Filters

- The air passes through a pleated pre-filter first. The pleats maximize the surface area to increase filter life. The objective of the pre-filter is to capture all large particles from the air, which eventually increases the HEPA filter life expectancy.
- Once the air passes through the pre-filter it goes through an H12 or H13 HEPA filter. The HEPA filters have 99.5% and 99.95% efficiency respectively.
- Most of the air-borne particles (including pathogens) are captured with the 2 filters.

### UVC Lamp

- The particles that are smaller than 0.5 microns and that bypass the filters go through a UVC radiation chamber where they get exposed to a 36W UVC lamp.
- The enclosure is thoughtfully designed to have a maximum residency time for the air to pass through.

### Operating the Unit

- Once the installation is completed, user can turn on the AC power from the main power source and the unit will start immediately at a default fan high speed.
  - There are 2 micro switches in the unit for HEPA filter and the front cover. If the HEPA filter is missing, or the front cover is open, the unit will not operate.

- When the unit is in operational state, if the front cover is open, the safety mechanism will trigger, and the unit will stop working. Closing the front cover will not get the unit to operate again. User must push the “Power” button to start the unit in operational state. Please refer to notification table on page# 9 for different LED notification statuses.
- The unit comes with 2 fan speed level (high and low)
  - To change the fan speed, push the “Power” button (while it is in operational state)
  - If unit is running at high fan speed, pressing the “Power” button will change the fan speed to low.
  - If unit is running at low fan speed, pressing the “Power” button will shut down the unit, pressing the “Power” button again will turn on the unit with the high fan speed.
- To turn off the unit, push the “Power” button 1 or 2 times (depending on what fan speed mode the unit is in), and the unit will shut off.
  - If the unit is turned off using the “Power” button only, the UVC LED turns off
  - The filter replacement LED -
    - Stays off if everything is operational (filter present and no replacement is required)
    - Stays on if filter is missing or,
    - Flashing if filter needs to be replaced

Please refer to notification table on page# 8 for different LED statuses.

- All of the above controls can be done using the provided IR remote control –
  - Turn power on/off
  - Change fan speed to high/low
- The air flow sensor accurately detects the flow of the air. This generally varies with the condition of the filter. If the filter gets clogged the air flow reduces.
  - When the filter gets clogged up to 70%, the filter replacement red LED starts flashing every second (slow flash). Please prepare to replace the filter.
  - When the filter gets clogged up to 85%, the filter replacement red LED starts flashing every half a second (quick flash). The fan speed is automatically lowered to a low speed to protect the fan motor. The filter must be replaced immediately.

- When the filter gets clogged over 90%, the fan shuts off (the unit is not operational) and the red LED continues to flash quickly. The filter must be replaced immediately for continued operation of the unit.
- The “Power” button has an integrated green LED ring. The green LED ring will flash if the fan is in low speed.

Note: In case of a power outage, user must press the power switch or press the Power button on the remote to turn on the unit again (once the power is restored).

## Remote Control

The AirGuard C600 comes with an infrared remote control. The remote control has 4 buttons –

- ON: Turns the unit on. The unit must be connected to it’s appropriate power to turn on.
- OFF: Turns the unit off.
- + : High fan speed. No action will be taken if unit is already operating at high fan speed.
- – : Low fan speed. No action will be taken if unit is already operating at low fan speed.

## Notification

The AirGuard C600 comes with multiple notification LEDs to let users know about maintenance needs.

The notification LED details can be found in the table below.

LED	Action	Description
<b>Power Switch</b>	Off	Unit is off
	Single Flash	Remote button (any) is pressed
	Solid Green	Unit is on and operating at high fan speed
	Flashing Green	Unit is on and operating at low fan speed
<b>Filter Replacement (Red LED)</b>	Off	Everything is operational, no action / maintenance needed
	Solid Red	HEPA filter missing or incorrect filter installation
	Flashing Red & Solid Green	Prepare to replace filters / High fan speed
	Flashing Red & Green	Replace Filters / Low fan speed
	Quick Flash Red	Replace Filters / Unit is OFF
<b>UVC Sensor (Blue LED)</b>	Off	N/A
	Solid Blue	UVC is present with adequate radiation.
	Flashing Blue	Missing lamp/low UVC radiation, replace lamp.

# Maintenance

Always disconnect power before performing any service or maintenance work.

- The AirGuard C600 is designed to operate with minimal maintenance.
- Please maintain a regular cleaning schedule for the unit based on LED notification, visual inspection and experience. The frequency between cleanings will vary based on the surrounding environment.

## Filter Replacement

- The AirGuard C600 comes with an air flow sensor. As soon as the filters clog up to restrict a certain amount of air flow, the filter replacement LED indicator starts flashing red. Immediately replace both filters for optimal performance.
- Allanson recommends replacing the filters every 6-12 months (replacement frequency will vary based on surrounding environment) or every time the filter replacement LED notification is on.
- Turn off the unit by pressing the “Power” button (Press the “Power” button once if the fan is running in low speed and twice if the fan is running at high speed)
- Disconnect power and allow unit to cool down for 15 minutes before proceeding.
- Open the front cover using the 2 thumb screws.
- Locate the lock tab on the filter plate (side of the filter) and rotate it 90° in either direction to unlock.
- First remove the pre-filter and then use the 2 pull tabs on the side of the HEPA filter to remove the filter from the unit.
- Install the new HEPA filter first (it is directional, the pull tabs must face towards the installer).
- Install the pre-filter on top of the HEPA filter.
- Rotate the locking tab to 90° to lock both the filters.
- Close the front cover using 2 thumb screws.

Note: When the HEPA filter is present, it triggers a safety switch. If the HEPA filter is missing the unit will not run.

## Lamp Replacement

- The AirGuard C600 comes with an UVC sensor. As soon as the UVC radiation goes below a set point, the notification LED will start flashing blue. Immediately replace the UVC lamp for optimal performance.
- Turn off the unit by pressing the “Power” button (Press the “Power” button once if the fan is running in low speed and twice if the fan is running at the high speed) or the “Power” button on the remote.
- Disconnect power and allow unit to cool down for 15 minutes before proceeding.
- Open the front cover using the 2 thumb screws.
- Press the two locks tabs on the side of the lamp base and detach the lamp from its base.
- Carefully remove the lamp from the lamp holder.
- Take the new lamp and making sure it aligns to the lock tabs, push it towards the base. You will hear a clicking sound once the lamp locks into its tabs.
- Avoid touching the glass lens of the lamp with your bare hands to prevent getting fingerprints. If the lens is smudged, use a dry clean cloth to clean it prior to the installation.
- Once the lamp is locked, secure it by pushing it through the lamp holder.

Note: Dispose your old UVC lamp(s) in the same manner you would dispose of fluorescent lamp in your region. Mercury added lamps should not be placed in trash.

Note: Wear protective gloves when handling broken UVC lamp(s). In the event of breakage, do not use a household vacuum cleaner to pick up quartz fragments. Sweep up debris into a plastic bag and dispose of properly.

## Technical Specification

Note: The specifications given in this publication do not include normal manufacturing tolerances. Therefore, this unit may not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions, and some minor differences in performance can be expected if those conditions are changed.

Category	Specification
<b>Dimension</b>	23.75" x 23.74" x 6.17" (W x L x H)
<b>Enclosure</b>	CRS Steel
<b>Power Input</b>	120 – 240 VAC
<b>Energy Consumption</b>	57-73W (Low-High Speed)
<b>Fan</b>	24 VDC Cross Flow Blower
	163 CFM
<b>Noise Level</b>	58 dB at 1m
<b>Min Mounting Height</b>	7.55 ft or 2.31m
<b>Sterilization</b>	UVC Lamp
	Quantity 1
	Dimension: 16.18" (L) x 1.5" (W)
	Power: 36W
	UVC Radiation: 120 $\mu$ W/cm <sup>2</sup> at 1m
<b>Filtration**</b>	Pre-filter: Purple pleated Dimension: 16" (L) x 9" (W)
	HEPA filter: H12 Dimension: 16" (L) x 9" (W) Efficiency: 99.5%      OR      HEPA filter: H13 (medical grade) Dimension: 16" (L) x 9" (W) Efficiency: 99.95%
<b>Coverage Area</b>	600 sq.ft. with 8 feet ceiling*
<b>Air Change/Hour</b>	2*
<b>Certification</b>	cULus

\*In a 300 sq.ft coverage area, for a single unit, air change/hour will be 4.

## Warranty

Allanson agrees to correct any defects in material or workmanship which may develop in any air purification device sold, when used under proper or normal conditions, during a period of 12 months, from the date of manufacturer. Such correction may be by repair, replacement, or material credit at the company's discretion. This warranty does not include shipping costs to and from the factory. This correction shall fulfill completely any and all obligations by Allanson intended or implied by this warranty. Allanson shall not be responsible for consequential damage or for labor involved in making a replacement.

Allanson also offers 3 years/36 months of extended warranty for the AirGuard C600 and the AirGuard C600-M if the product is registered online. Any product that is registered after 90 days of the purchase date will entitle the product to a 12 month warranty.

## Product Registration

Please visit [www.allanson.com/airguardc600/registration](http://www.allanson.com/airguardc600/registration) to register your product with us. Please use the date code listed below to complete your registration. Registration is mandatory to get the 36 months extended warranty or have any sort of warranty claim for any AirGuard C600 or AirGuard C600-M unit.

Date code: