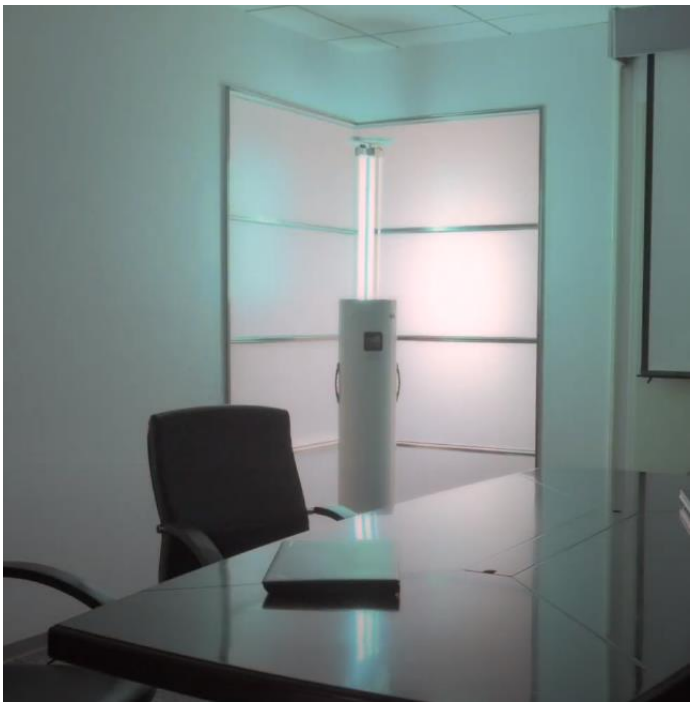


CELLO OMNI

4-IN-1 300W

USER MANUAL

ANYTIME, ANYWHERE, BY ALL MEANS

Cello OMNI integrates UVC Surface Disinfection, UVC Air Disinfection, HEPA Filtering and Needlepoint Bipolar Ionizers (NPBI) into one single product. With the blessing of IoT (Internet of Thing) technology to allow remote scheduling, control and working log over the Cello Cloud.

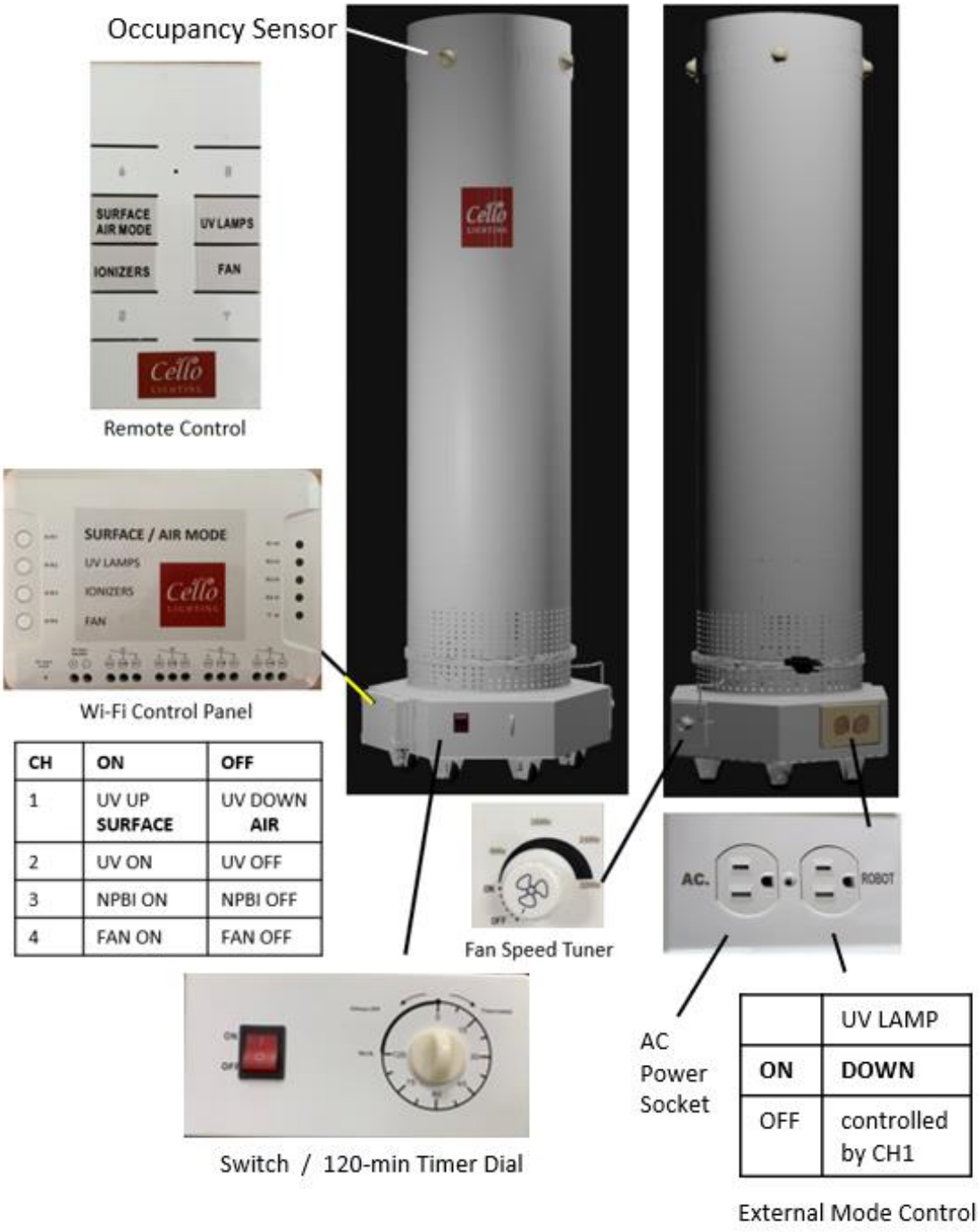
Cello Lighting, Inc.
Palo Alto, CA 94303

User Manual of Cello OMNI 4-in-1 300W

Table of Contents

User Manual of Cello OMNI 4-in-1 300W

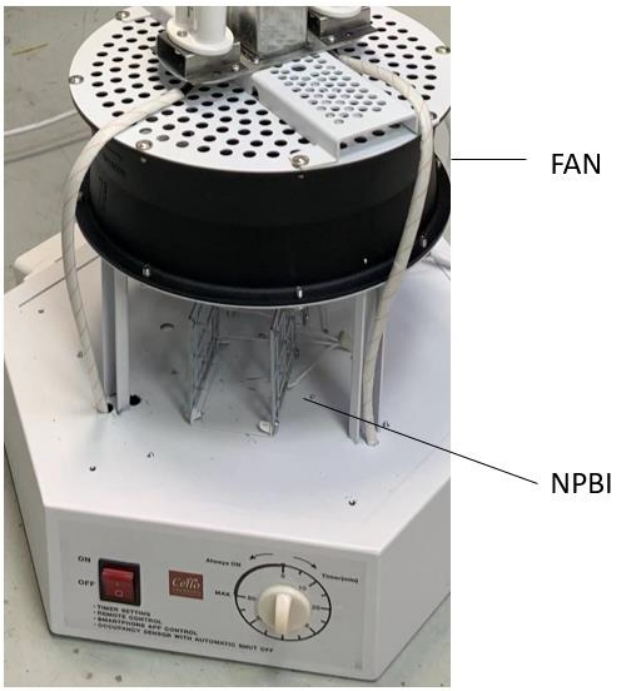
I. Overview



CH	ON	OFF
1	UV UP **SURFACE**	UV DOWN **AIR**
2	UV ON	UV OFF
3	NPBI ON	NPBI OFF
4	FAN ON	FAN OFF

	UV LAMP
ON	**DOWN**
OFF	controlled by CH1

II. Disinfection Guidelines



HEPA Filter

Surface Mode UVC Disinfection

Area	400 sq. ft.	800 sq. ft.	1200 sq. ft.	1600 sq. ft.	2400 sq. ft.	4800 sq. ft.
Time*	10 min	20 min	30 min	40 min	60 min	120 min

*Suggested time to operate for 99.9% disinfection rate.

** The UVC cart needs to navigate around the area to achieve the claimed disinfection rate.

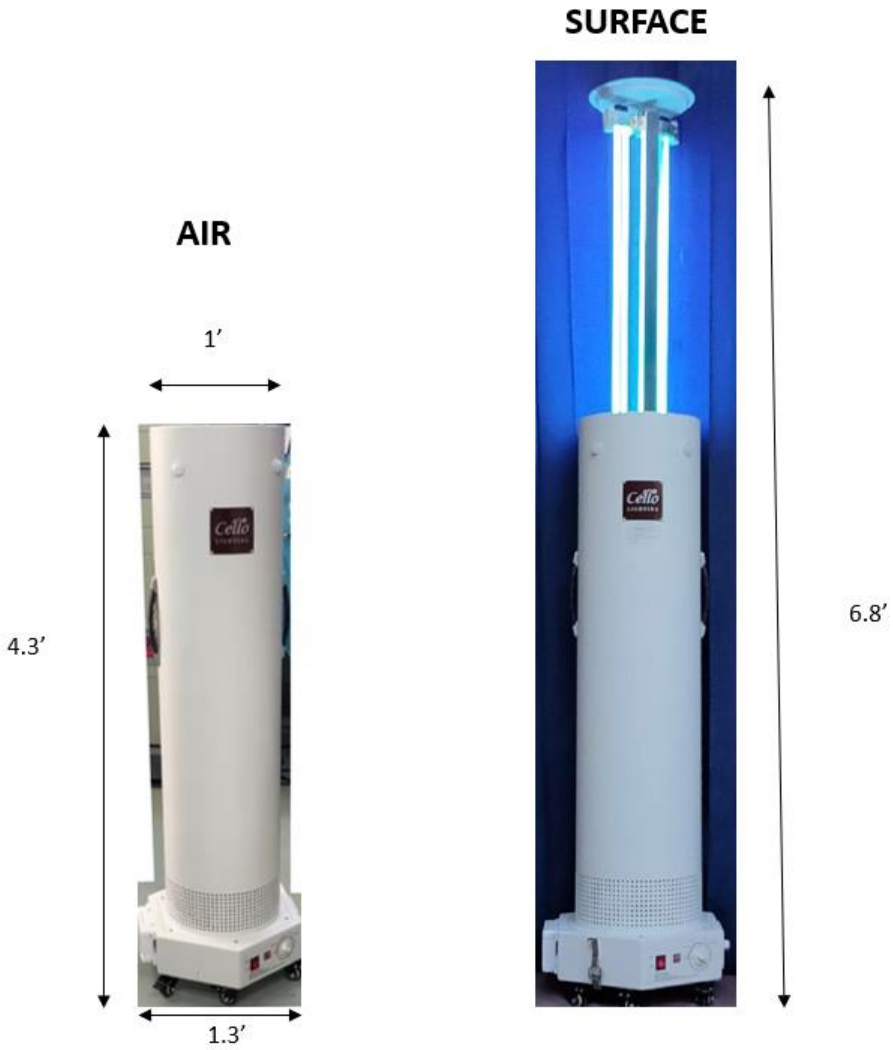
Air Mode UVC Disinfection

CFM	Disinfection	500 sq. ft.*	1000 sq. ft	2000 sq. ft.	4000 sq. ft.	5000 sq. ft.
200	99.9999%	20 min**	40 min	80 min	160 min	200 min
400	99.99%	10 min	20 min	40 min	80 min	100 min
600	99.95%	7 min	14 min	27 min	54 min	68 min
800	99.9%	5 min	10 min	20 min	40 min	50 min
1000	99.8%	4 min	8 min	16 min	32 min	40 min

* Height = 8 ft. tall.

** Time to exchange 100% of air.

III. Technical Specifications



Modes	Parameter	Value
GENERAL	Input Watt	120 V, 47Hz - 60Hz, 300W
	Dimensions & Weight	1.3' (D) x 6.8' (H) & 47 lb.
UVC SURFACE	UVC wavelength	253.7nm
	UVC Irradiation	630 µW/cm^2
UVC AIR	SARS-CoV-2 Killing Rate	99.9 % (@800CFM)
	ACH @ 8 ft. high room of 1000 sq. ft.	10 minutes (@800CFM)
	AIR EXCHANGE RATE (ACH)	100-1000 CFM (continuously tunable)
	Ambient Noise	50 dB (200CFM) – 65 dB (800CFM)
HEPA	ASHARE MERV Value	MERV 13
NPBI	Ion Concentration	60 million ions per cubic cm per second

IV. Quick Start Guide

1. Turn on Power Switch
2. Turn the Timer Dial to “Always On”
   (or 1-120 minutes)

3. Tune Fan Speed

4. Hold remote to control the Wi-Fi Panel:

5. Turn on CH2 (Turn on UVC lamps)
6. Turn on CH3 (Turn on NPBI)
7. Turn on CH4 (Turn on FAN)

Wi-Fi Control Panel

CH	ON	OFF
1	UV UP **SURFACE**	UV DOWN **AIR**
2	UV ON	UV OFF
3	NPBI ON	NPBI OFF
4	FAN ON	FAN OFF

8. Turn on CH1 to enter SURFACE Mode (UV lamps UP)
9. Turn off CH1 to enter AIR Mode (UV lamps DOWN)

V. Cello Cloud Services (CelloVira.com)

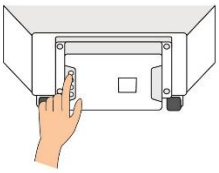
In order to enjoy the powerful Cello Cloud Services at CelloVira.com, please do the following:

1. Identify the APP ID on your Cello OMNI.

2. Email your APP ID to: **Customer_Service@CelloLighting.com**
   SUBJECT: APP ID = 100109ce70 (your own ID)
   CONTENT: Contact Name
   Organization Name
   Address
   Phone Number

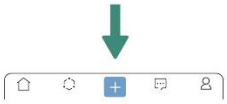
3. Once you received your user/password, follow instructions to connect Cello OMNI 4-in-1 to Internet through your existing Wi-Fi networks:

1. Download "eWeLink" app.



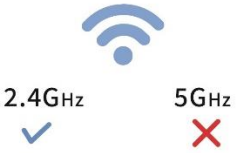
2. Power up your cello omni device, press and hold one of the 4 switch buttons for 7 seconds until the wifi LED fast blinks 3 times and repeats.

3. Login to "eWeLink" app. (If you don't have an account, please send us an email to request for a new account: **Customer_service@CelloLighting.com**)



4. Once you login, Click the "+" icon on eWeLink to search device.

5. Select the quick pairing icon. The App will auto-search the device.



6. Enter your home SSID & password: Now eWeLink only support 2.4G wifi communication protocol, 5G-WiFi-router is not supported

7. Next, the device will be registered by eWelink and add it to your account. it takes 1-3 minutes

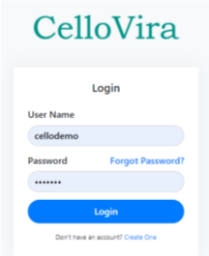
8. Finished. Your device will be listed in the home page.

9. To manage your device, such as scheduling, timer, or view your usage report, please go to our website (***http://cellovira.com/***).

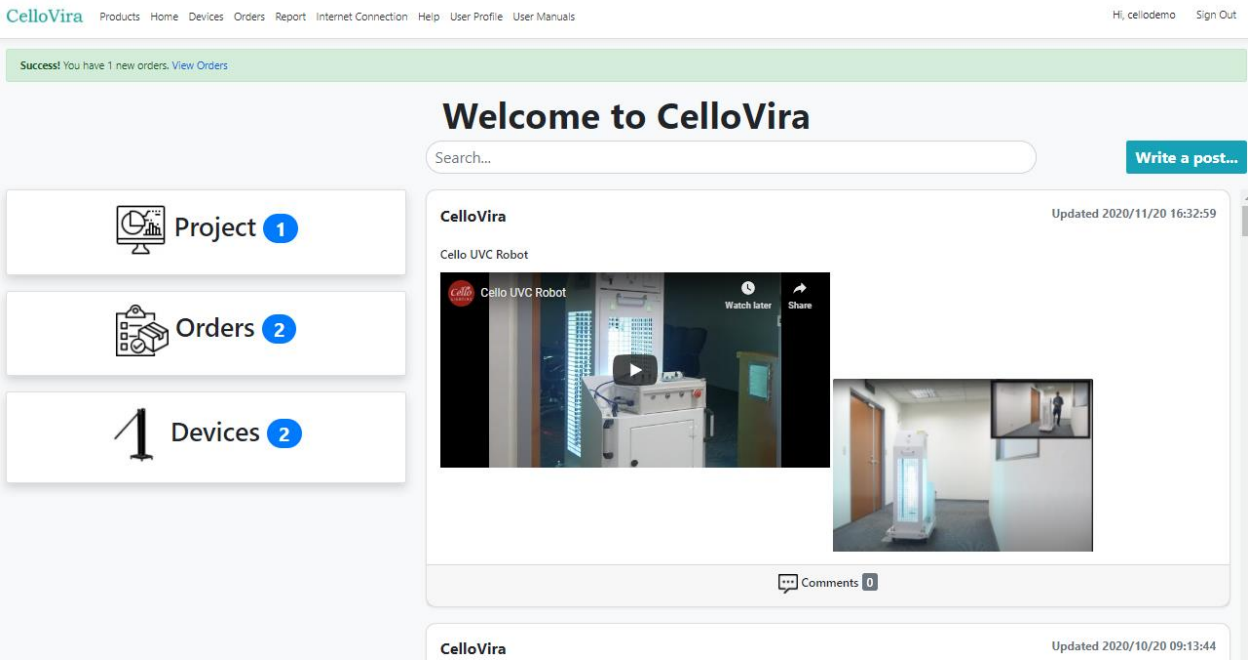
User Manual of Cello OMNI 4-in-1 300W

Use your new CelloVira USER/PASS to log in at:

CelloVira.com



Once logged in, you will see the following home page:



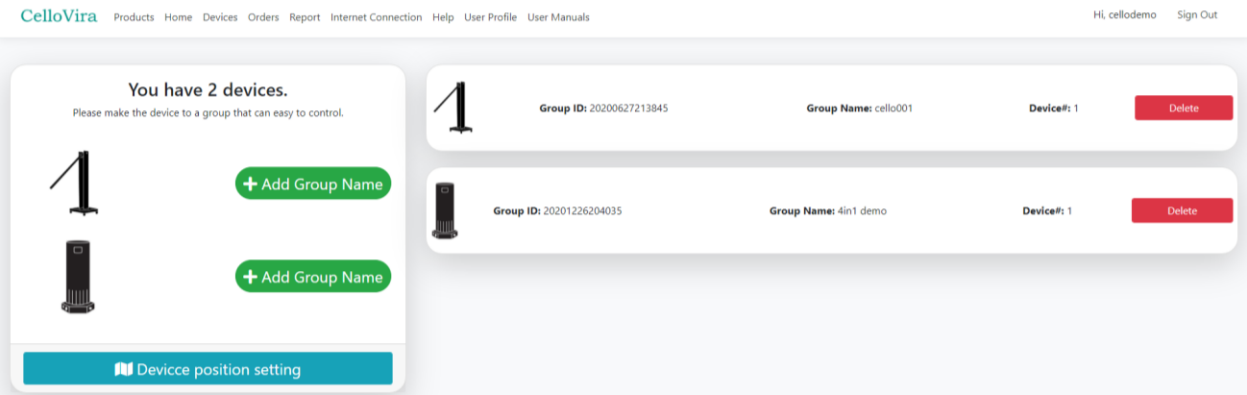
The top Menu includes the following:

Products:	Specifications sheets of Products
Devices:	Managing your Cello UV devices
User Profile:	Update your profile
User Manuals:	User manuals of Cello UV products.

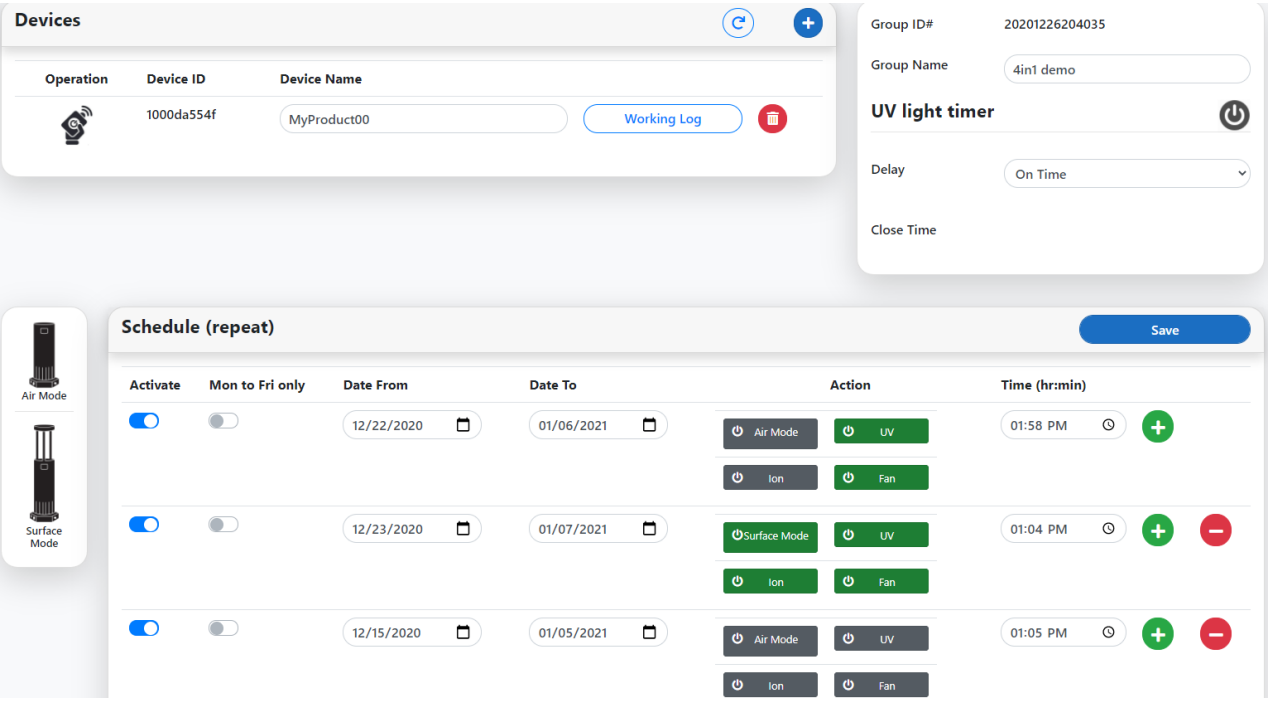
VI. Scheduling of Cello OMNI Disinfection

Please visit CelloVira.com, log in the portal with your USER/PASS.

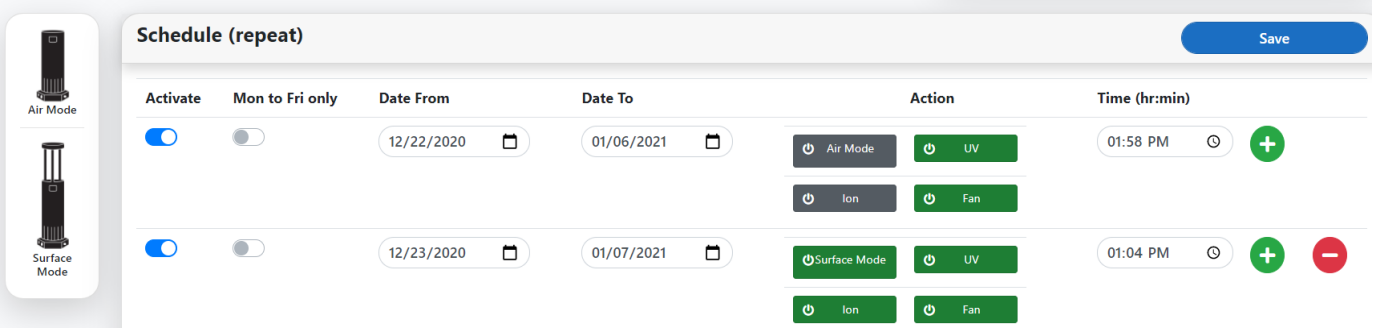
Then Click <DEVICES>



Click <Group Name>



For instance, in this example:



Cello OMNI status at **01:04 PM** is: (Valid from 12/22/2020 to 01/06/2021)

CH1 is turned ON: **SURFACE MODE** (Lamps are UP)

CH2 is turned ON: UVC Lamps ON

CH3 is turned ON: **ION ON**

CH4 is turned ON: FAN ON

Cello OMNI status at **01:58 PM** is: (Valid from 12/23/2020 to 01/07/2021)

CH1 is turned **OFF**: **AIR MODE** (Lamps are DOWN)

CH2 is turned ON: UVC Lamps ON

CH3 is turned **OFF**: **ION OFF**

CH4 is turned on: FAN ON

VII. Safety Instructions

Surface Mode: Safe Tips

What is UV-C Disinfection Lamps?

UV-C disinfection lamps emit radiation in the UV-C portion of the ultraviolet (UV) spectrum, which includes wavelengths between 100 and 280 nanometers (nm). The lamps are used in a variety of applications where disinfection is the primary concern, including air and water purification, food and beverage protection, and sterilization of sensitive tools such as medical instruments. Germicidal light destroys the ability of bacteria, viruses, and other pathogens to multiply by deactivating their reproductive capabilities. The average bacteria may be killed in 10 seconds at a distance of 6 inches from the lamp. The wavelength with the greatest effectiveness is 253.7 nm, which defines the germicidal lamp category with optimized wavelength for maximum absorption by nucleic acids.

Hazard and Risks from UV-C Disinfection Lamp Radiation

UV-C radiation (UVR) used in most disinfection bulbs is harmful to both skin and eyes.

UVR is not felt immediately; in fact, the user may not realize the danger until after the exposure has caused damage. Symptoms typically occur 4 to 24 hours after exposure.

The effects on skin are of two types: acute and chronic. Acute effects appear within a few hours of exposure, while chronic effects are long-lasting and cumulative and may not appear for years. An acute effect of UVR is redness of the skin called erythema (similar to sunburn). Chronic effects include accelerated skin aging and skin cancer.

UVR is absorbed in the outer layers of the eye – the cornea and conjunctiva. Acute overexposure leads to a painful temporary inflammation, mainly of the cornea, known as photokeratitis. Subsequent overexposure to the UV is unlikely because of the pain involved. Chronic exposure leads to an increased risk of certain types of ocular cataracts.

Working unprotected for even a few minutes can cause injury. It is possible to calculate the threshold for acute effects and to set exposure limits. It is not possible, however, to calculate threshold for chronic effects; therefore, because no exposure level is safe, exposure should be reduced as much as possible.

10 CFR 851 mandates the use of the threshold limit value (TLV) exposure limits established by the American Conference of Governmental Industrial Hygienists (ACGIH). The exposure limit for a germicidal lamp is 6 millijoules per square centimeter. At this level, detectable molecular damage appears to be fully repaired within 24 hours. For the case of continuous exposure for longer than 8 hours, special care needs to be taken.

Do not remove the cover of the AIR unit when the power is on

Due to the potential danger of UVC, do not remove the cover of this machine when the power is on.

Air Mode: Tips to Replace the HEPA Filter

The current pandemic has raised awareness and questions centered around best practices to follow for air filter replacement. Here are some recommended steps to replace an air filter:

1. **TURN OFF THE POWER for safety.** Also, turn off any fans in the area at least 20 minutes prior to servicing a filter.
2. **Wear personal protective equipment (PPE)**: This includes a face mask, nitrile gloves, and shoe covers.
3. **Remove the old filter.** Simply slide it out of the slot that holds it in place.
4. **Check the condition of the filter.** Does it look clogged with dirt and dust? Many factors can impact how fast a filter will become clogged, shortening the life of the filter.
5. **Replace the filter.** Immediately place the old filter into a plastic bag being careful not to shake or drop it. Sudden movements can cause microscopic particles to be released into the air. Twist or tie the bag shut and consider taping it to create a seal. NOTE: If the filter has a permanent frame, the media should be removed outside. Be sure to dispose of the old filter in an outdoor trash can.
6. **Insert the new filter right away.** An arrow on the filter's frame shows the direction that air should flow through the filter, which is always away from the return air duct and toward the air handler mechanism. When inserting the filter back in the housing, make sure that arrow points away from the return and toward the air handler. Write down the date you replaced the filter.

To maintain healthy breathable indoor air, standard HVAC air filters should be changed at least every three months. In some situations, the filter may need to be changed more frequently. Changing an air filter on a regular maintenance schedule also keeps equipment in top working condition, prevents breakdowns, reduces energy consumption, and limits expensive repairs.

Extra safety cushion provided by the internal UVC lamps

The HEPA filters in this AIR Unit are irradiated continuously by the UVC lamps above the HEPA filters. So, in general, most of the dangerous pathogens trapped on the HEPA filters have been inactivated before the technicians replace the HEPA filters. However, the UVC light can not penetrate the dust and particles, so if some pathogens are hidden underneath the dust and particles and were not irradiated by the UVC light, they might still be dangerous to technicians.