UVC Controller II
Installation and Operation Manual

MODEL: 8102PVAB
100/120/208/240/277VAC
40A 9.6KW MAX
UL Approved
UL File Number E841436

Patents:
5,334,347/ 5,817,276/ 5,866,076/ 6,245,293/ 6,267,924/ 6,280,686/ 6,313,470/ 6,372,186/ 6,423,882/ 6,500,267 /6,589,476/6,627,000/ 6,783,578/7,140,749/ 7,282,728/ 7,459,694 & others pending

Made in the USA

NOTE: Read the entire manual before starting the installation.

IMPORTANT CONSIDERATIONS

Improper installation, adjustments, alterations, service, maintenance, or use can cause fire, electrical shock, personal injury or property damage. Consult your supplier or Steril-Aire for information or assistance.

DANGER, **WARNING**, or **CAUTION** are universally used for overall safety. **DANGER** identifies the most serious hazards which will result in severe personal injury or death. **WARNING** signifies hazards which could result in personal injury or death. **CAUTION** is used to identify unsafe practices resulting in minor personal injury or product and property damage.

⚠WARNING: Before performing maintenance, ensure unit is unplugged. Electrical shock can cause death.

⚠CAUTIONS:

- **Never expose eyes or skin to UVC light. Wear gloves, face shield/glasses (per ANSI Z87.1) and cover all exposed skin.**
- **Do not touch Emitter™ glass without gloves. Damage to Emitter may result. Oil from fingerprints will permanently etch glass of Emitter and weaken structure. Clean Emitter using a Steril-Aire cleaning kit (included). Isopropyl alcohol and a lint-free wipe may be substituted.**
- **UVC Emitters are fragile. Handle UVC Emitter with care.**
- **Voltages outside of the range designed for the unit will void the warranty and do permanent damage to the entire unit.**
- **Emitters contain mercury. If an Emitter breaks, clean and dispose of with the same care as a fluorescent lamp.**
- **UVC energy can damage non-metallic components. Protect such components with UV resistant material such as aluminum foil, aluminum duct tape, metallic shields, etc.**
- **The qualified installer or agency must use factory kits and accessories when installing this product.**

INSTALLATION

⚠ Ensure mains at the power panel are turned off before connecting power to the controller. Apply any necessary protection to assure that mains are not accidently turned on during the installation.

1) Caution use marked areas on the inside of the enclosure for safe drilling locations. To prevent cracking, ensure that holes are not close to each other.

2) This enclosure meets type 4 approval and IP67 criteria for water resistance. Use fittings that are consistent with the environmental rating of the enclosure. Use proper torque values on fittings.

3) Make sure the controller is designed for the line voltage and intended load. Check labels, circuit breakers and fuse sizes before installing.

4) Make sure all the circuit breakers in the controller are turned off.

5) Remove the 2 screws that secure the inner door. This compartment should be opened by a qualified electrician only!

6) Connect the door switch to the two terminals on TB1 marked “DOOR”. The door switch is class 2 low voltage.

TB1	
AGW	16-24

7) Connect BMS. BMS includes Door, Emitters and Watchdog.

8) Connect Bank-1 and Bank-2 Loads. Ensure that both banks carry relatively equal load for proper watchdog operation. Ensure proper circuit breaker and grounding wire torque

9) Connect Mains. Ensure proper circuit breaker and grounding wire torque

10) Torque the circuit breakers CB1, CB2 & CB3.

CB1, CB2 & CB3 - Torque	
AGW	In. Lb.
3 to 12	13 to 17.5

11) Torque ground bar TB2.

TB2 – Torque	
AGW	In. Lb.
4 to 6	45
8	40
10 to 14	35

12) Close inner door and secure the screws.

13) Turn on the mains at the power panel on.

14) Turn on the mains in the UVC Controller.

15) The RED stop light should be illuminated.

16) Turn on the Bank1 and Bank2 circuit breakers.

17) Close and latch the Simple Controller front door.

18) Press the Green Start Button.

19) The emitters should be illuminated.

BMS 4-20MA CURRENT LOOP

The current loop has an isolated 12VDC power source, no need for an external power supply. Line resistance can vary from 0 to 200 ohms. Isolation is rated at 1.5KV. The 4-20ma current loop output represents 0-50A.
Calculate Amps to current loop: (Amps/3.125) + 4 = ma
Calculate Current loop to Amps: (ma – 4) x 3.125 = Amps
Example using 40A: (40A/3.125) + 4 = 16.8ma

BMS SOLID STATE CONTACTS (DOOR OPEN, EMITTERS OFF, FAULT)

All solid state relays are normally opened, 60v AC/DC Max, 150Ma Max, 16 ohms Max closed, 1.5KV isolation. If the UVC Controller loses power, contacts default to closed (alarm condition).

Connection/Component Locations

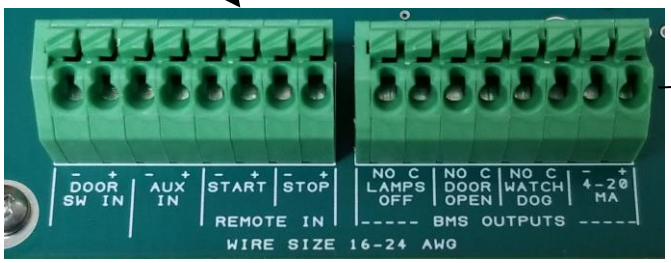
F1 & F2 0.5A 600V
PN:80004125-500

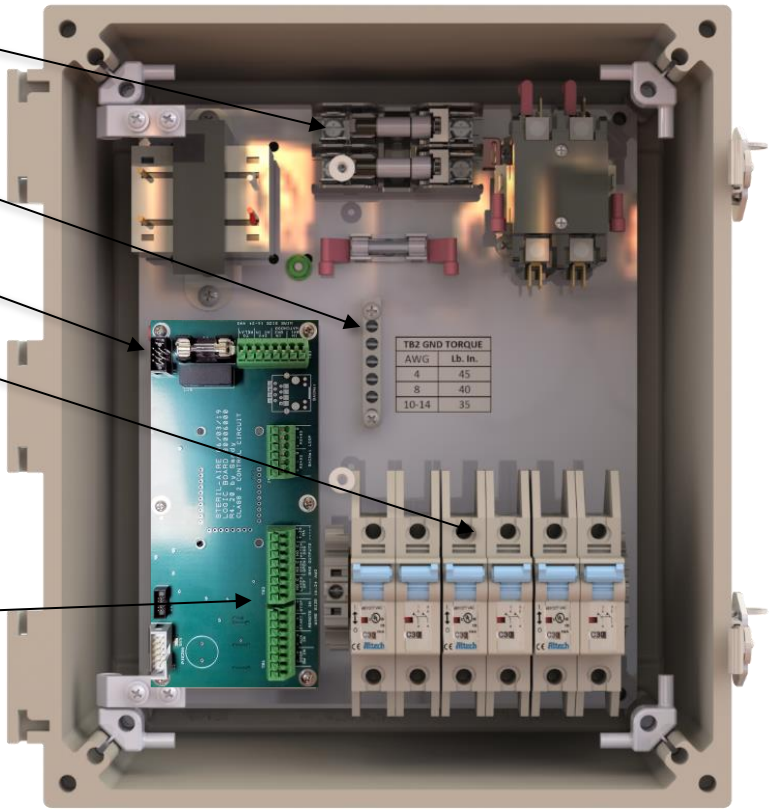
TB2 Neutral/Ground

F3 1.25A 250V
80004127

Circuit Breakers

Remote Control &
BMS Connections

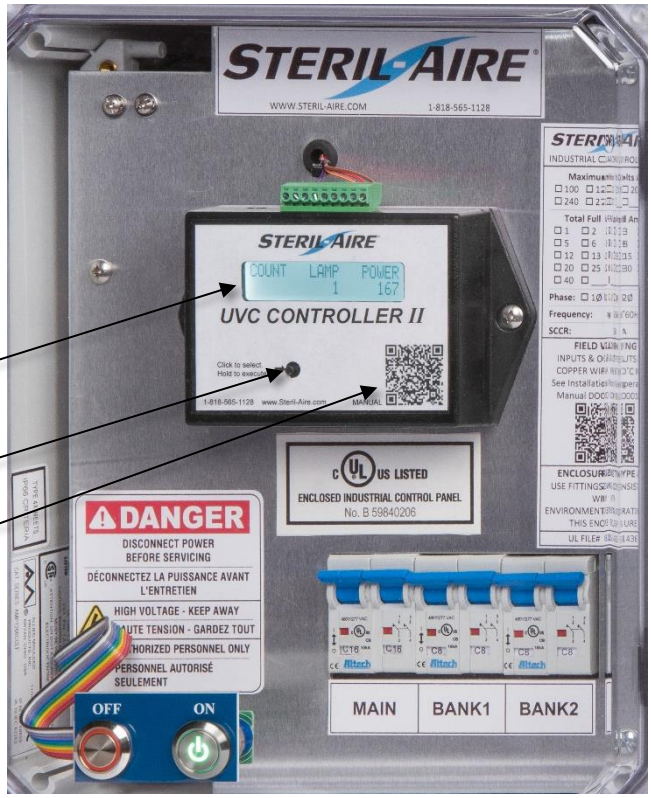




Display
Menus & Status

Menu/Select Button

QR Barcode
Link to Watchdog
Manual



MENUS

Home Menu:

```
STERIL-AIRE
UVC CONTROLLER R1.00
```

Displays Company name, Model number & Software revision.
Displays for 5 seconds on power up then changes to default menu.
The last menu viewed is saved as the default after 1 hour.

Status Menu:

```
STATUS  FAULTS  AMPS
ON      0       37.8
```

Indicates global system status.
Emitter power OFF, BUSY and ON. FAULT count and Total current.
Red indicates a fault condition. Press and hold button to clear faults.

Amps Menu:

```
AMPS    BANK1  BANK2
37.8     18.6   19.2
```

Indicates total current, bank1 and bank2 current.

Faults Menu:

```
FAULTS  BANK1  BANK2
     0      0      0
```

Faults count for banks 1 & 2.
Red indicates a fault condition. Press and hold button to clear faults.
Any faults will close the BMS alarm relay

Count Menu:

```
COUNT   LAMP   POWER
          25       1
```

Lamp counts how many times the Emitters have been ignited.
Power counts the number of times the Watchdog has been powered up.
Press and hold button to clear counts.

Timer Menu:

```
TIMERS  9K    RUN HRS
       523       1836
```

Emitter end of life count down and total run hours.
Yellow indicates Emitters need to be ordered, 672 hours or 4 weeks remaining.
Red indicates Emitters have expired, replace emitters.
After replacing Emitters, Press and hold button to clear 9K count.

Order Menu:

```
ORDER EMITTERS!
REPLACE IN 4 WEEKS
```

The order menu will popup when there is 672 hours of Emitter life remaining.
Yellow indicates Emitters need to be ordered, 672 hours or 4 weeks. remaining.
It is visible only when emitters need to be ordered.

Replace Menu:

```
REPLACE EMITTERS!
INSTALL NEW EMITTERS
```

The Replace menu will popup when 0 hours, End of life is reached.
Red indicates Emitters need to be replaced.
The BMS alarm relay is closed.

MAINTENANCE

Emitters need to be replaced every 9000 hours. Use Genuine Steril-Aire Emitters to maintain design output. If a Steril-Aire UVC Radiometer Kit is used, the Emitters should be replaced when the output falls below 50% of initial output.

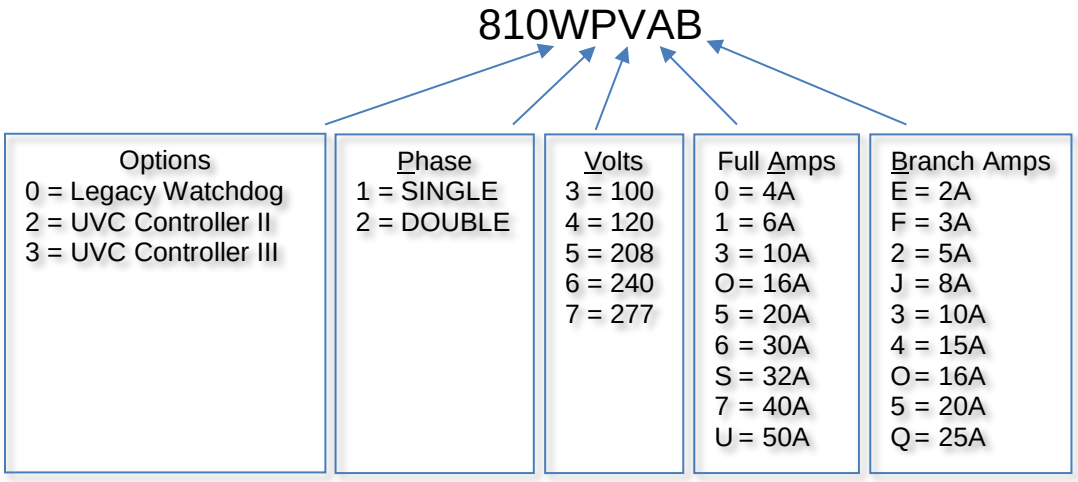
SPARE OR REPLACEMENT PARTS

⚠ Always use Genuine Steril-Aire replacement parts. Parts in this device were certified by one or more safety originations such as UL, CE... Replacement parts not intended for this device may cause equipment failure or damage.

Replacement Fuses:

Fuse	Description	Part#
F1 & F2	FUSE 0.5A 600VAC Type CC, For Line Input	80004125-500
F3	FUSE GLASS 1.25A 250VAC 5X20MM, For 24VAC	80004127-1250

Controller Part Number Options



NOTE: Circuit breakers need to be rated 125% of its expected load. If your load is 16.7A, then your circuit breaker needs to handle 22A. A 20A circuit breaker is to small, you will need a 30A circuit breaker.

Formula: Load amps x 1.25 = minimum circuit breaker size. 16.7A x 1.25 = 22A

Thank you for choosing Steril-Aire, #1 “UVC for HVAC” solution provider worldwide. Please contact your local supplier or Steril-Aire directly if we can provide any further information or service. Call **1-818-565-1128** or visit **www.steril-aire.com**. Your satisfaction is very important to us.

The health aspects associated with the use of this product and its ability to aid in disinfection of environment air have not been investigated by UL.

 Part #: 1146A