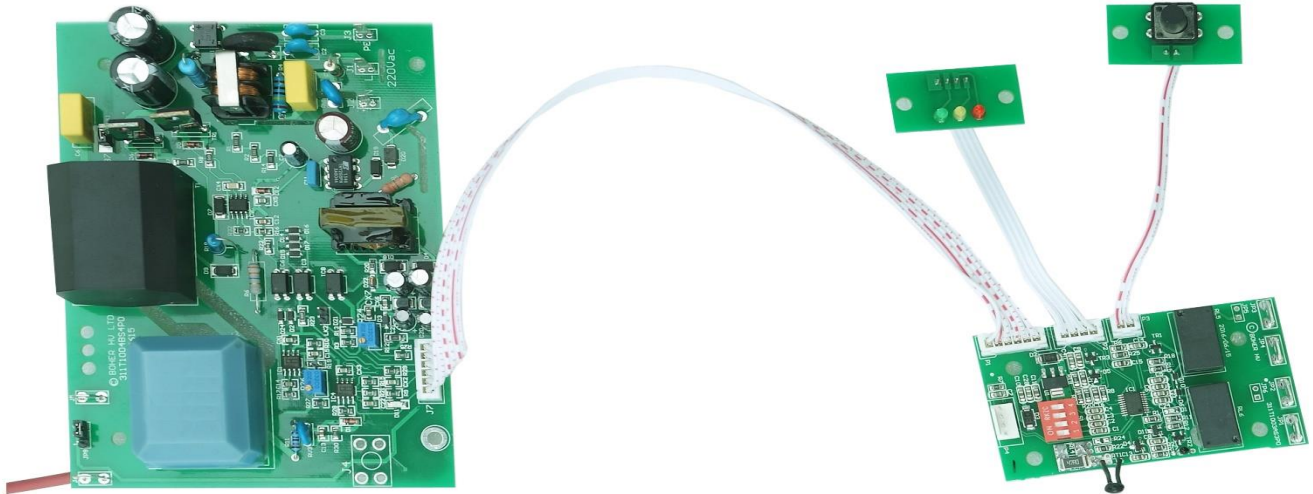




AF02C Range
Air/Oil Cleaning Power supply



Product description:

The AF02C range of high voltage power supply is specially designed by Genvolt, for air and oil purification. With intelligent controls, cost efficiency and reliable performance in mind. The range includes single and dual output types, delivering power from 5 to 30W.

Product features:

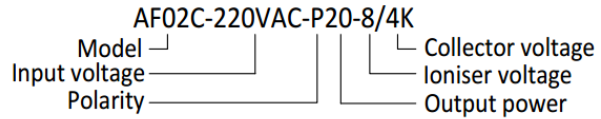
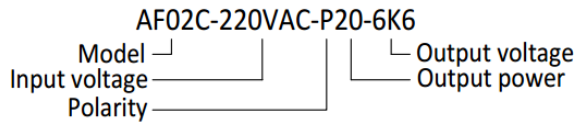
1. Closed-loop control, stable output voltage.
2. Intelligent circuit control achieved with a microcontroller.
3. Control mode: one plus one mode and one plus two mode.
(Note: One plus one mode: one control PCB controls a power supply;
One plus two mode: one control PCB controls two power supplies, where the settings will be applied to both power supplies. Please note that one of the power supplies switched off due to arcing will result in turning the other power supply off).
4. LED display and input buttons.
5. Airflow sensors for detecting airflow.
6. Programmable arc detection and protection.
7. Setting up rinse time, display, alarm and reset options.
8. Multiple fault protections.
9. Multiple dry contacts, remote data transmission available.



Product model number:

Single polarity:

Dual polarity:



Specifications:

AF02C range of high voltage power supply standard specifications

No.	Model	Input voltage	Power	Output voltage	Polarity	Note
1	AF02-220VAC-P20-6K6	220VAC \pm 10%	5 – 30W	5 – 8kV	Positive	Airflow sensor, arc detection and protection, rinse time settings and warnings.
2	AF02-220VAC-P20-8/4K	220VAC \pm 10%	5 – 30W	Ionizer: 8kV Collector: 4kV	Positive	

Note: For requirements other than those specified, please contact the factory for further information.

AF02C range of high voltage power supply main features

No.	Features	Specifications
1	Appearance	<ul style="list-style-type: none"> a. Power supply PCB (inc. HV stack), dimensions: 144mm x 101mm x 60mm. Control PCB (inc. LED and reset button), dimensions: 118mm x 43mm x 17mm. b. Power supply PCB input 220VAC, using 2.8 x 0.7 tabs. Control PCB passive signals output, using 6.3 x 0.7 tabs. c. Lead out high voltage cable. Bottom lead out available, exterior cable length 250mm. d. No sign of corrosion or oxidation on solder joints on PCBs (i.e. shining surface), solder joints are lower than 8mm height. e. Lacquered protection on both sides of PCBs and component pins. f. PCB thickness 1.6mm.
2	Power input	220VAC input on the Power Supply PCB. Green LED on the display PCB turns on when running normally.
3	Power-off protection	PCB providing power to ion chamber and switches off after running for a while. 5 seconds later, touching the high voltage laminate by high voltage probe without any high voltage indications on DVM.



4	Airflow detection	In the normal working condition: a. When airflow < 1.2m/s, the sensor responds and determines the result in 30 seconds, HV output off, green LED off. b. When airflow \geq 1.2m/s, the sensor responds and determines the result in 30 seconds, HV output on, green LED on. c. Jumper links available to disable the airflow sensor on the Power Supply PCB when necessary. 6.3 x 0.7 tabs available for external connection.
5	Fault protection	When the power supply experiences a continuous arc on load for 10s, the output will be switched off momentarily for 10s, green LED turns off. After which, it will be restored automatically, green LED turns on. When the continuous arc on load for 10s has occurred for 5 times, the output will be switched off, green LED turns off, red LED turns on. Restart to redeem normal operating. Power-off time should be no longer than 5s.
6	Rinse time	There are 6 durations to select from for rinse alarm time (per every 600 hours). When the time is up, rinse LED on (yellow). The flashing rate of the green LED on the Control PCB indicates the set duration. Factory default setting is 3600 hours.
7	Rinse alarm	When the rinse time is up, rinse LED on (yellow). The HV output will be switched off after 360 hours, without resetting the rinse reset button. Green LED turns off. Restart the power supply, it will not switch to normal operation mode until the reset button is pressed.
8	Reset	When yellow rinse LED is on, reset the alarm, rinse LED turns off and rinse time set as zero.
9	Dry contact signal output	When red fault LED is on, relay JP6 on the Control PCB closes and sends a passive signal to building management system. When yellow rinse LED is on, relay JP5 on the Control PCB closes and sends a passive signal to building management system.

Operating environment requirements:

The continuous operation of the power supply is guaranteed under below circumstances:

Environment temperature: -10°C to 50°C.

Relative humidity: non-condensation when less than 80%



Instructions for use:

- **Connection**
 1. Connect J7 on the Power Supply PCB and P1 on the Control PCB.
 2. Connect reset button PCB to P3 on the Control PCB.
 3. Connect LED Display PCB to P2 on the Control PCB.
 4. Connect 220VAC Live and Neutral respectively, to J1 and J2 on the bottom right corner of the Power Supply PCB.
 5. Connect J3 on the bottom right corner of the Power Supply PCB to ground.
 6. Red HV cable out for positive output and connects to positive side of the load.
 7. Connect J4 on the bottom left corner of the Power Supply PCB to negative side of the load. Or connect mounting holes nearby J4 to ground.
- **Disable airflow sensor**

Connect the 6.3mm tabs J5 and J6 on the Power Supply PCB, or link pin 2 and 3 on JP9 on the Power Supply PCB, to disable airflow sensor (to work normally when there is no wind). Otherwise enable the airflow detection.
- **Set rinse alarm time**

Set rinse alarm time by adjusting 1st, 2nd and 3rd (4th is not in use) position on the red toggle switch on the Control PCB. There are 6 durations to select from for rinse alarm time (per every 600 hours), as shown in the table below:

AF02C dial switch definitions

No.	Toggle switch status	Time (hour)	Time (Day)
1	001	600	25
2	010	1200	50
3	011	1800	75
4	100	2400	100
5	101	3000	125
6	110	3600	150

Note: Toggle switch ON = 0, OFF = 1.

The flashing rate of the green LED on the Control PCB indicates the set duration.

The power supply will start working according to the connections stated above with 220VAC power on.

Safety

- This power supply contains hazardous voltages and stored energy. Contact with the output may result in fatal injury. It should only be used and maintained by trained personnel.
- The area where the power supply is to be used should be kept clean and dry.
- Keep a safe distance from the output connector and any items connected to it.
- Ensure that a secure connection is made between the Earth side of the load and the green and yellow Earth lead.

Please do not hesitate to contact Genvolt if anything in doubt