



# User's Manual

## SVC Series High-accuracy Full-Automatic AC Voltage Stabilizers (Single-phase/three-phase models)

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**Thanks for using our high-accuracy full-automatic AC voltage stabilizers. Please read this manual carefully before operation to get a full knowledge of the product. Please keep this manual for future reference. Thanks for your cooperation.**

### General Description

The product is mainly composed of contact voltage regulators, a sampling control circuit, a delay circuit, servomotors, etc. The change of the input voltage or the load will be sampled and magnified by the sampling control circuit and then the circuit will drive the servomotors to adjust the position of the carbon brushes accordingly to regulate the output voltage.

However, an input voltage of or higher than 280V will activate the over-voltage protection circuit and the output will be cut off to prevent the electrical appliances from any damage. Output delay mode is strongly recommended to protect the compressors from being damaged in short-time blackout and power-on when the products are applied to cooling systems such as refrigerators, air conditioners, etc.

Featured with small size, high efficiency, low waveform distortion, high voltage regulating speed, stable performance and full protection, the

product will provide non-stop protection for all your household appliances as well as other electrical equipment.

The SVC series cover single-phase and three-phase voltage stabilizers. The three-phase models are composed of three single-phase voltages stabilizers and each phase is with independent control to ensure high output accuracy.

### Instructions

1. Unpack the product and check whether there's damage in the casing, meters, switches, indicator lights, buttons, terminal blocks, etc. Please only start operation when there's no damage.
2. The input terminal of the voltage stabilizer is plugged into (or connected to) the power panel, and the user's power board is installed with fuse in conformity with power of the instrument to ensure power safety.
3. Connect the power supply of the electrical equipment to the output terminal of the product.
4. Turn on the power switch and then the working indicating light and delay indicating light will be on (If the delay function is enabled on the voltage stabilizer, there is no output power, and a delay of 8-10 seconds will be enabled. Voltage stabilizer with capacity of 2-3KVA is connected with delay selection button, power will be output 3 seconds later, and the

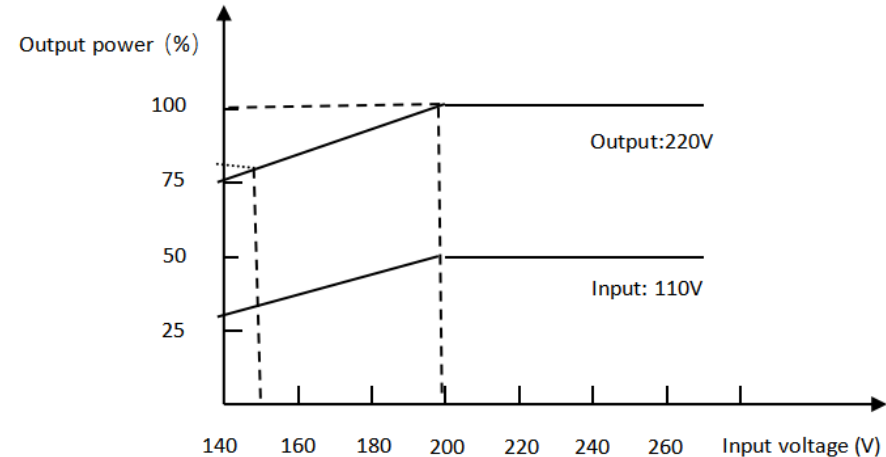
power will be output about 5 minutes after long delay). Observe if the voltmeter reads 220V and only turn on the power switches of the electric equipment when it does so. By then the product could stabilize the voltage automatically and guarantee normal power supply.

5. Turn off the power switches of the electric equipment and of the product if the electric equipment won't be used for a long time. This will help reduce power consumption and prolong the service life of the product.

6. Overloading is not allowed for this product. When the mains voltage is low, the output capacity will reduce accordingly. When the mains voltage is 110V, the output will be half of the rated capacity. (see below the curve graph of the capacities).

7. Where the electric appliances such as refrigerator, air-conditioner, and water pump carry motor, voltage stabilizers with 3 times of capacity shall be selected to avoid the starting current beyond the voltage stabilizer current or the over-current protection to make the fuse broken off or the fuse tripping off.

8. The lead wire connected to the voltage stabilizer shall have sufficient section area to avoid heating and reduction of voltage drop. The voltage stabilizer with capacity of 2KVA and above shall be connected with terminals or binding post. Single lead wire made of copper shall be adopted, and the terminal screws shall be tightened to avoid heating at the connection.



9. Please connect the cable as shown on the terminal cover plate.
10. The voltage testing switch on the panel of the three-phase voltage stabilizers indicates voltage AB, AC, and BC phases (around 380V).
11. Please first connect all the input and output cables and then switch on the stabilizer. Turn on the switches of the electric appliances after the output voltage of the stabilizer turns normal.

Note: the neutral wire shall be connected; otherwise, the voltage stabilizer cannot work as usual, and the voltage stabilizer and the power appliance will be damaged.



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### Specifications

Input voltage	Single-phase: 150V~260V 170V~270V Three-phase: 270V~450V 300V~460V (customizable)
Output voltage	220V±3% 110V±4% 380V±3%
Frequency	50-60hz
Regulating speed	>15V/S
Rated current	1K~4.5A, 2K~9A, ...
Over-voltage protection Value	<245V±5V
Power on delay	8-10s or 5±2m
Ambient temperature	-5~40℃
Working humidity	<90%
Waveform distortion	Null
Efficiency	>95%

### Cautions and maintenance

1. Intensive vibration shall be avoided to prevent entry of corrosive gases and liquids, moisture, and shall be located at a ventilated and dry place, and ventilation and heat radiation prevented by the cotton woven is not permitted.
2. Please use 3-pin sockets with grounding connection (if available), and

the grounding screws on the machine shall be grounded; otherwise, the enclosure may be electrified if being tested by the test pencil, which is caused by inductive electricity, which is normal and shall be removed by grounding. If the enclosure leaks electricity seriously, the insulation resistance shall be less than 2MΩ, which may be caused by moisturization of the insulation layer or short circuit of the enclosure, and the device shall be used after the trouble has been spotted and removed.

3. Voltage stabilizers with power of 0.5-1KVA are completed with fuse for over-current and short-circuit protection, and the same of 2-40KVA are completed with DZ47 circuit breaker for over-current and short-circuit protection. If the fuse breaks or the circuit breaker trips frequently, check the power consumption is excessive or not.

4. If the voltage stabilizer cuts off the power supply (with input and without output), check the mains voltage is higher than 280V or not. If lower than 280V, please check the voltage stabilizer involves any fault or not. Use after the trouble has been spotted and removed.

5. When the mains voltage falls at the lower limit (< 150V) or upper limit (>260V) frequently, the limit micro-switch may be triggered and cause malfunction. The voltage stabilizer is unable to regulate voltage or increases the voltage only (or decreases the voltage only), and check whether the micro-switch is damaged or not.

6. Keep interior of the voltage stabilizer clean. Dust hinders rotation of gears and seriously affects output voltage accuracy. Timely clean and

maintain the oil contact clean. When the carbon brush is seriously worn, the pressure shall be adjusted to avoid spark on the contact surface between carbon brush and transformer. The carbon brush shall be replaced when length of the carbon brush is less than 2mm. The transformer plane shall be polished with fine grinding paper if blackened by the spark.

7. Neutral wire is required at the input terminal of the three-phase voltage stabilizers; otherwise, the voltage stabilizer output is not balanced and cannot work as usual (voltage of one phase is very high, and that of the other phase is very low), which will damage to the voltage stabilizers and power consumption equipment. Do not use the grounding wire instead of the neutral wire, and the neutral wire cannot be connected to the fuse.

8. When output voltage of the stabilizer is lower than the rated voltage (220V or three-phase 380V), please check whether the input voltage is too low. During idle load, the rated voltage is reached; during loading status, the output voltage is lower than the rated voltage, which is caused by smaller output wire section area, and the voltage drop is large, and the input voltage is lower than the lower limit of the regulation range of the voltage stabilizer, and the thicker input lead wire shall be used.

9. When the load of each single equipment is high (such as air-conditioner), the input lead wire is long and the section area is insufficient, during operation of the load, the voltage may drop sharply

and the load cannot be started; during the load is working and the voltage stabilizer stops, it may cause instantaneous over-current and power failure. Under such situations, it is not caused by fault of the voltage stabilizer and the lead wire shall be improved (the lead wire shall be thickened, the input wire length shall be shortened as much as possible to reduce lead wire voltage drop).

10. When output voltage of the voltage stabilizer seriously deviates from 220V, please check①the input voltage falls within the scope of stabilizing; ②Whether the motor gear is seriously worn or not, and the rotation is flexible or not; ③The limit switch is damaged or not; ④The coil surface is smooth or not; ⑤The control board is damaged or not, VT1, VT2, B772, and D882 are damaged or not, or Q1, Q2, J1 are damaged or not.

11. In case of phase failure from input of the three-phase voltage stabilizer or failure of any phase, the voltage stabilizer will not output power.