

EC-SVC SERIES

1PHASE/3PHASE SERVO-MOTOR CONTROLLED TYPE AC AUTOMATIC VOLTAGE REGULATOR USER'S MANUAL



Dear User:

Thank you for ordering our EC-SVC, please read the user's manual carefully before using.

Please use it after you master it

well, and keep well it.

WARNING

PLEASE READ CAREFULLY AND FOLLOW THE INSTRUCTION TO AVOID ANY INJURY OR DEATH BY ELECTRIC SHOCK. MISUSE OF THIS DEVICE MAY CAUSE FATAL DAMAGE & ELECTRIC FAILURE. THIS DEVICE MUST BE INSTALLED BY SKILLED ELECTRICIAN.

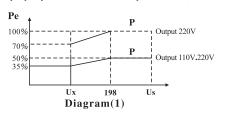
Please do read the instruction manual carefully before using.

EC-SVC series High Accuracy And Fully Automatic Voltage Regulator is such constructed that they are composed of the contact type self-coupling voltage regulator, servo motor automatic control circuit etc. When the voltage of the network is not steady or the load varies, the automatic sampling control circuit makes a signal to drive the motor to adjust the position of the carbon brush of the self-coupling voltage regulator so as to have the output voltage regulated to the rated to obtain the steady state.

It is made use of electric network voltage wave high or electric not work voltage change enable seasonal area. It makes all kind of load, instrument, panel, household electrical appliance work normal and so on. As every knows. Over-voltage can burn utilization equipment of failure Air-conditioner, electric refrigerator shall be difficult to enable of over low voltage and so on. Could not work. It is electrified but unsnarled, or manage to enabled with an effort but over low voltage shall be make air-conditioner electric refrigerator,8s compressor electric current burning-out. As a result voltage unmoral occasion, it must be made use of AC voltage power. The product is inexpensive but of fine quality.

First-. Technical Feature

- A. Single-phase high accuracy and fully A.C. Automatic Voltage Regulators
 - a. 0.5-3KVA high performance automatic A.C.voltage-stabilzing power, fundamental as per **Diagram(2)**;
 - If select output voltage 110V, the output capacity can not over 50% of rated capacity, inorder to avoid oer-load.
 - b. The relation between output capacity and imput capacity as per Diagram(1), and over-load capacity as per Chart(1);
 - c.5KVA-30KVA-high performance automatic A.C.voltage-stabilizing power adopt Compensated construction, Principle as per Diagram(3);
 - Compensated construction characteristics: In-specified input voltage range, Full-power output, it doesn't tape-limit output capability curve of **Diagram(1)**, but at overload using as tape-limited **Diagram(1)**, Don'l enable long time overload.
 - d. High accuracy full-autolmatic Single-phase A.C. voltage stabilizer source technical property for characteristics as per **Chart(2)**

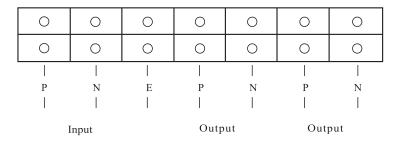


Over-load (%)	Maximum allowable Time(minute)
20	60
40	32
60	5
Chart(1)	

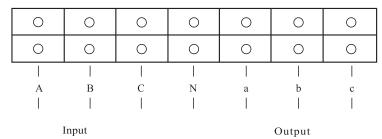
- b. According to equipments power, when choosing the voltage-stabilizing power, there are enough volume. It could not apply to the shocking load:
- c. Clean the dirty stuff to keep the brush tidy, Afer the long-term work, the brush is required to adjust the contact pressure the coils and brush to make the contact fine;
- d. The connecting earth is reliable and safe;
- e. The electricians are required to work on the installation, wiring, and adjusting etc;
- f. The plastic cover could not on the voltage-stabilizing power, Because it is not good for the cooling.

Fourth-.Installation wiring Diagram

a. Single-phase 2-30KVA wiring diagram(connection panel)



b.Three-phase 6-100KVA wiring diagram(connection panel)



Remark:

- a.It must connect the neutral wire, otherwise could not work;
- b. Three phase input and output neutral wire is on the same terminal;
- c.Single-phase choose the diameter according the copper wire per **KVA** no less than 1mm², and Three-phase choose the diameter according the copper wire per **KVA** no less than 0.5mm².

Second-.Instruction For Operation

A. Single-phase accuracy A.C. Automatic voltage-stabilizing power

- a. The voltage-stabilizing power of under 1.5KVA is used for the fuse to protect the overcurrent. Before using check whether the product is fine and meet the re-quirements; The Voltage-stabilizing power of over 2KVA, with the DZ47 circuit Breaker is for overcurrent protection. Before using, the switch should be smooth and reliable.
- b. please connect the power wire and distribution board. The distribution board should meet the technical requirements and the connecting earth is reliable;
- c. Choose the output voltage 220Vor 110V according to the electric equipments;
- d. Open the Power Switch, the output voltage meter should direct **220V**;
- e. When Net voltage is under 198V, operate it with reduced capacity according to the input capacity curve as per **Diagram(1)**.

The showed output power of the voltage-stabilizing power should be the max power. Home electric's power is the average power. During, the staring, the load current of refrigerator. Air conditioner is very big, so the input voltage which is low is the 3-5 times of the power of the refrigerator, air conditioner, refrigerator, air conditioner, reduce the load. Please refer the **Diagram(1)**;

f. If necessary, the user may adjust the output voltage, the changeable Potential Stabilizer on PC works on the time-clock, the output voltage goes up, otherwise, goes down.

B. Three-phase high accuracy AC Automatic Voltage-Stabilizing Power

- a. The input power is the three-phase, four-wire system;
- b. With the three-pole **DZ47** Circuit Breaker, the input power switch has the function of the over-current protection. After connection the net, open the switch, the three-phase voltage-stabilizing stabilizer star to work;
- c. Turn the Volt Measure Switch, the "left, middle, right" check A,B,C three-phase input voltage. If adjust the output voltage, the three single-phase voltage-stabilizing stabilizer should be adjusted one by one:
- d. Electric equipments are right for Three-phase, Four-wire Star Connection;
- e. Press the Power Switch, after the voltage-stabilizing power stable, then start the electric equipments. When switch off, first do off the electric equipments, then do off the voltage-stabilizing power;
- f. When the net is off or blocked, is should switch off the equipment and voltage-stabilizing power:
- g. The three-phase voltage-stabilizing power of **20KVA** and under, the net is below **342V**, reduce power capacity to use according to the power capacitor asper **Diagram(1)**,

C. Usage

- a. 2~10KVA with single-pole C45.15~30KVA with double-pole C45 to control;
- b. Open the voltage-stabilizing power, after it is on **220**, and then open the equipments. When not using voltage-stabilizing power, please first switch off equipment, then switch off the stabilizer;
- c. When the output voltage is more than the over-voltage protection value $(246\pm4V)$, the voltage-stabilizing power automatic be off and he light is on. When the output voltage is normal, the light is off. The voltage-stabilizing power renews to work

Third-. Attentions

a. The environment is windy, no the corruptive air, no burning and conductive stuff, no shock and hot source etc:

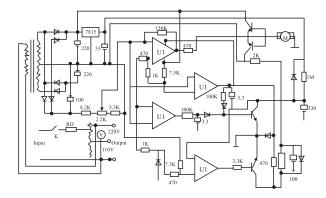
Diagram(1)Remark:P:Output capacity;

Ux:The down-limited value of rated input voltage range;

Pe:Rated output capacity;

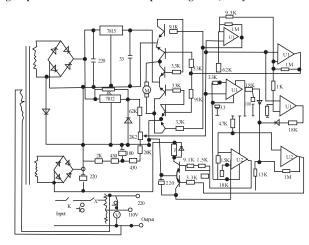
Us: The up-limited value of rated input voltage range;

U:Input voltage.



Diagram(2)

Single-phase 0.5-3KVA Principle Diagram(Only For Reference)



Diagram(3)

Single-phase 5-30KVA Principle Diagram(Only For Reference)

Input Voltage	AC140-260V
Ouput Voltage	AC220V
Voltage-stabilizing Accuracy	±2.5%
Frequency	50/60Hz
Adjustable Time	<1 sec.against 10% input voltage deviation
Ambient Temperature	-10°C∼+40°C
Temperature Rise	<60°C against full-load
Relative Humidity	<90%
Wave Distortion	No additional distortion
Efficiency	>90%

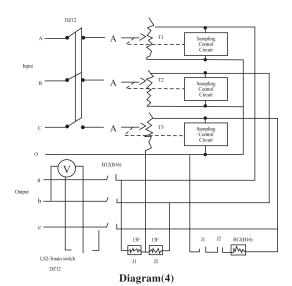
chart(2)

B. Three-phase high accuracy AC Automatic Voltage-Stabilizing Power

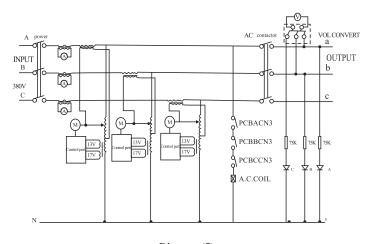
- a. Three-phase high accuracy AC automatic voltage-stabilizing power is composed of three pieces of Single-phase high accuracy and fully automatic voltage-stabilizing source, electric network input of Three-phase Four-wire System. The Star Polygon Connecting be distinguished by three ammeters directing each phase output current respectively from one Converting Switch and one Voltmeter monitoring each phase voltage;
- b. Over **1.5KVA** three-phase high accuracy AC automatic voltage-stabilizing power principles as per **Diagram(4)&(5)**;
- c. Over 30KVA three-phase high accuracy AC automatic voltage-stabilizing power is composed of the three pieces of single-phase, it's single-phase automatic voltage-stabilizing power is compensating structure, so it is not limited by the chart(1), but in the regulated ange of input voltage is all the power output, when over-loading, it is limited by chart(1);
- d. The technical data of three-phase high accuracy A.C. Automatic voltage-stabilizing ower Characteristics as per **chart(3)**

Input Voltage	AC250-450V
Ouput Voltage	AC380V
Voltage-stabilizing Accuracy	±2.5%
Frequency	50/60Hz
Adjustable Time	<1 sec. against 10% input voltage deviation
Ambient Temperature	-10°C∼+40°C
Temperature Rise	<60℃ against full-load
Relative Humidity	<90%
Wave Distortion	No additional distortion
Efficiency	>90%

chart(3)



Three-phase 1.5-10KVA Principle Diagram(Only For Reference)



Diagram(5)

Three-phase Over 15KVA Principle Diagram(Only For Reference)