

OPERATING INSTRUCTIONS

VOLTAGE STABILISER (SVS)

ARCTIKO

CONGRATULATIONS on your choice in selecting the Arctiko Voltage Stabiliser (SVS). We trust that the unit will give you years of trouble free operation.

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- Before using the SVS please read all instructions carefully.
- Keep these instructions for future reference.
- All specifications are subject to change without prior notice.

Safety

- All equipment complies with the latest safety codes of practice. You should still follow all safety instructions and use caution when installing and operating electrical equipment.
- To avoid the risk of shock, DO NOT expose this equipment to rain, moisture or liquid spillage.
- Before attempting to use the SVS (Arctiko Voltage Stabiliser) ensure that the total loading of your equipment does not exceed the maximum rating of the SVS . To check the rating of your SVS, refer to the label on the back of the unit.
- For your own safety, do not insert any object into the ventilation slots.
- Do not attempt to dismantle the SVS, to do so will invalidate the guarantee. There are no user serviceable parts inside.

Description

As both high and low mains voltage can damage your electrical equipment, the SVS is designed to monitor and correct the incoming supply continuously.

If the voltage rises or drops, the SVS will stabilise the output to ensure that the voltage reaching your equipment remains constant at 230 V (+6%) or 110V (+ 6%) for US voltage systems, within the operating range of the unit. See table below.

The Arctiko SVS has a modern state of the art 7 LED display to indicate accurately the state of the input at all times and 5 LED s to indicate the output voltage supplied to your load.

The Arctiko SVS is unique in having a built-in AVS™ (Automatic Voltage Switcher). This adds the following protective functions;

a) Provides a start-up delay which prevents rapid switching ON and OFF of the appliance in serious fluctuations. This is especially important for loads that use compressors (e.g. Fridges, Freezers, Coolers, Air conditioners) and vital for sensitive electronic equipment like computers, photocopiers, fax machines, lab equipment, medical instruments etc. The delay varies between 10 seconds to 6 minutes depends on the model purchased. Please check with your dealer.

b) Provides a shutdown and disconnect function whereby it will disconnect switch off your equipment in cases where the fluctuations are extremely BAD and the SVS can not safely correct the voltage.

c) The Arctiko SVS has a built-in microprocessor which adds the advanced feature Time Save™. Time Save™ means that when the mains return to normal from a brown-out, the SVS checks the duration of the OFF time. For example for models that have 3 minute delay; If the unit has been off for more than 3 minutes then it will reconnect the mains within 30 seconds rather than the standard 3 minutes. This means the Arctiko SVS will give you more vital working time than any other stabiliser!

The SVS also protects your electrical equipment against power spikes and surges. By using the SVS you will ensure a stable, and clean voltage supply to your equipment.

Depending on the rating of the SVS, it is suitable for all electrical and electronic appliances, including:

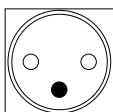
Air conditioners	Fax Machines	Ink & Bubble Jet Printers
Fridges	Photocopiers	Domestic pumps
Freezers	Laser printers	Any electrical appliance
Coolers	Television	Satellite Equipment
Computers	Video Equipment	Hi-fi

Technical Specifications

The following table illustrates the technical specifications for the standard Arctiko SVS range.

Technical Specifications	230V	115V
Stabilisation Input Output	-26% to 18% (171-272 V) ±6% (216-244 V)	(86-136 V) (108-122 V)
Input Output	-29% to +23% (164-282 V) ±10% (207-253 V)	(82-136 V) (104-127 V)
Over voltage Disconnect* Reconnect*	292 V 149 V	72 V 74 V
Under voltage Disconnect* Reconnect*	144 V 149 V	72 V 74 V
Wait time on start up	Standard delay: 10 seconds. For a different delay refer to your dealer. For refrigeration equipment, use 3 minute delay	
Frequency	50/60 Hz 45-60 Hz continuous down to 30 Hz for 1-2 seconds	
Response time	Within 0.1 second. Up to 764 V per second	

The following diagram illustrates the various socket available.



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The input/output voltage characteristics of the SVS are illustrated in the table shown;

Input	0-144	145	155	165	175	185	195	205	210	215	225	235	240	245	255	265	275	285	290	291
Output	OFF	182	196	208	221	233	221	232	237	215	225	235	240	218	228	237	246	255	259	OFF*

SVS Input vs. Output voltage range (230 V)

Input	0-72	73	78	83	88	93	98	103	105	108	113	118	120	123	128	133	138	143	145	146
Output	OFF	91	98	104	111	115	111	115	119	108	113	118	120	109	114	119	123	128	130	OFF*

SVS Input vs. Output voltage range (115 V)

Input	0-79	80	86	91	97	102	108	113	116	119	124	130	133	135	141	146	152	157	164	165
Output	OFF	101	108	115	122	129	136	127	130	133	124	130	133	135	125	130	135	140	146	OFF*

*Excludes Dual Voltage Range

SVS Input vs. Output voltage range (127 V)

Unpacking & Inspection

After removing the polystyrene protective packaging from the SVS unit, inspect the ventilation slots to ensure that they are free from all obstruction. Use a vacuum cleaner to dislodge any obstructions.

Retain the box and packaging material to return the SVS unit in the unlikely event of its operational failure.


Installation

WARNING: This appliance must be earthed.

Ensure the rating of the load doesn't exceed the capacity of the SVS. If in doubt consult your electrician.

If your mains outlet only has a 2-pin socket, consult a qualified electrician. If you are unfamiliar with installing electrical equipment consult a qualified electrician.

If a suitable electrical plug is not already fitted to the SVS unit, one should be fitted as follows.

- The wire coloured BLUE must be connected to the terminal marked 'N' for Neutral.
- The wire coloured BROWN must be connected to the terminal marked 'L' for Live.
- The wire coloured YELLOW and GREEN must be connected to the Terminal marked 'E' (or ) for Earth.

- Although the unit does not produce excessive heat, ensure that it is positioned so that a free flow of air allows the unit to cool.
- Do not install inside a closed cupboard and do not allow papers or other materials to be piled on top.

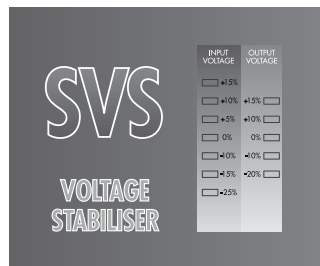
OPERATING INSTRUCTIONS

Please follow the procedure below to connect your SVS;

- 1 Turn your equipment OFF and unplug it from the wall socket.
- 2 Ensure that the switch on the SVS is OFF.
- 3 Plug the SVS into the wall socket or input and plug your equipment into the SVS.
- 4 Turn the power ON at the wall socket.
- 5 Turn the SVS switch ON.
- 6 Turn your equipment ON.
- 7 If the SVS model has a built-in AVS (Automatic Voltage Switcher). This will ensure that the load is not connected immediately. The delay will ensure that the mains is good before connecting the load and protects the equipment from rapid switching on and off.
- 8 Once the wait period (see specifications) has passed, the SVS will relay power to your equipment.
- 9 The LEDs give you a visual indication of the input and output voltage.
- 10 If the mains voltage is 230V (ie normal) the green 0% Input voltage and green 0% Output voltage LEDs will both be lit.
- 11 Any variation to the input power supply, up or down, will be monitored and adjusted by the SVS. For full details refer to the Operating Sequence.

Operating Sequence

1. Input voltage increase is displayed in steps of +5%, +10% and +15% and input voltage decrease is displayed in steps of -10%, -15% and -25%.
The SVS indicates the plus or minus voltage variation by lighting the relevant LED .
2. Within this range, the SVS will compensate by stepping up or stepping down the output voltage to maintain it's norm of 230V + 6%, which will be indicated by the green 0% LED .
- 3 If however the input voltage falls below -26%, the SVS will decrease the output



voltage accordingly. The amount to which the voltage is lowered will be indicated by the yellow -10% or red -20% LED.

- 4 Equally, if the input voltage rises above +18% (272V) the SVS will increase the output voltage, indicated by the yellow +10% or red +15% LED.
- 5 In the models where the AVS functions is incorporated, If the incoming voltage supply drops below the operating range of the SVS (144 V or 72 V for 110 V unit) or above its operating (291V or 145 V for 110 V unit) it will shut down the output and protect your equipment against the severe incoming voltage.
- 6 Power will be automatically reinstated to your appliance once the input voltage comes within the operating range of the SVS and the delay period has passed.

Troubleshooting

Symptom	Possible Cause	Remedy
The unit does not switch on. None of the LEDs are lit.	<ol style="list-style-type: none"> 1) The fuse has blown. 2) The mains switch is not on. 3) No power is available on the input. 	Change the fuse for a fuse of the correct rating. Ensure that the load current does not exceed the capacity of the unit. If after changing the fuse the unit is still not functioning return the unit for repair. Ensure that you are using the correct voltage (i.e. 230V or 110 V)
The unit appears to be functioning normally but the load is not being switched on.	<ol style="list-style-type: none"> Load is not plugged in. Load is not Switched on. Load fuse has blown. 	<ol style="list-style-type: none"> 1) Check that the load is plugged in. 2) Check that the input voltage is within the input range of the SVS. 3) Check that the load is switched on.
The unit appears to be functioning but the output voltage is persistently low.	<p>The mains input is too low;</p> <ol style="list-style-type: none"> 1) Due to continuous brown-out 2) The unit is rated at 230V and the incoming supply is 110V 	
The SVS continuously performs self-test. If it finds a fault the LEDs will continuously light from top to bottom repeatedly in one of two patterns.	<ol style="list-style-type: none"> 1) Possible internal fault. The fault could be temporary or permanent. 2) Very bad mains waveform or frequency. 	<ol style="list-style-type: none"> 1) Ensure that the load current does not exceed the rating of the SVS. 2) Turn the appliance off then switch SVS off. Restart the unit as per operating instructions. 3) If the above doesn't solve the problem please return the unit to a Arctiko service centre.

- Please consult the above chart before contacting your supplier. Ensure that you have followed the operating instructions carefully.
- There are no user serviceable parts internally.
- Disassembling the unit, opening the lid or tampering with the unit is unsafe for unqualified users and will render the warranty invalid.



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