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Simran AC-500

Simran AC-500 Step Up/Down Voltage Converter Transformer User Manual

MODEL: AC-500



Image: Front view of the Simran AC-500 Step Up/Down Voltage Converter Transformer, showcasing its compact design and front panel controls.

1. Introduction

The Simran AC-500 is a heavy-duty, continuous-use voltage converter transformer designed for worldwide compatibility. This CE Certified unit allows for both step-up and step-down voltage conversion, making it suitable for use in countries with 110V/120V or 220V/240V electrical systems at 50Hz or 60Hz. It features fuse protection and includes two spare fuses, along with a grounded European Shucko plug adapter for international use. The unit is equipped with an ON/OFF switch with an indicator lamp and provides two distinct outlets on the front panel: one for 110V/120V and another for 220V/240V. The 220V/240V outlet is a USA patented universal output socket, compatible with most plug types globally, excluding large South African plugs.

2. Safety Instructions

- Always ensure the voltage selector switch on the back of the unit is set to the correct input voltage (110V or 220V) before plugging the transformer into a wall outlet. Incorrect selection can damage the unit and connected appliances.
- Do not overload the transformer. The AC-500 has a maximum capacity of 500 watts. Always leave a safety margin; for most appliances, this means selecting a transformer with at least 100% more wattage than the appliance's rating. For heating appliances, laser printers, and power tools, a margin of 3 to 4 times the rated wattage is recommended due to power spikes.
- Place the transformer on a stable, flat surface with adequate ventilation. Do not block the ventilation openings.
- Keep the unit away from water, moisture, and extreme temperatures.
- Do not open the transformer casing. Refer servicing to qualified personnel.
- Unplug the transformer from the wall outlet when not in use.
- Ensure the appliance you are connecting is compatible with the output voltage provided by the transformer.

3. Package Contents

- Simran AC-500 Step Up/Down Voltage Converter Transformer
- Insulated Power Cord with Grounded USA Plug (hardwired)
- Grounded European Shucko Plug Adapter
- Two (2) Spare Fuses

4. Product Features

- **Dual Functionality:** Converts 110V/120V to 220V/240V (Step Up) or 220V/240V to 110V/120V (Step Down).
- **Universal Compatibility:** Operates with both 50Hz and 60Hz frequencies.
- **Output Outlets:** Features one 110V/120V outlet and one 220V/240V universal outlet (compatible with most international plugs, excluding large South African plugs).
- **Safety Features:** Equipped with fuse protection and an ON/OFF power switch with an indicator lamp.

- **Durable Construction:** Housed in a robust metal casing for enhanced durability.
- **Certifications:** CE Certified for safety and quality standards.

5. Setup

5.1. Input Voltage Selection

Before connecting the transformer to a power source, locate the INPUT VOLTAGE SELECTION switch on the back of the unit. This switch determines whether the transformer will operate as a step-up or step-down unit based on your local power supply.

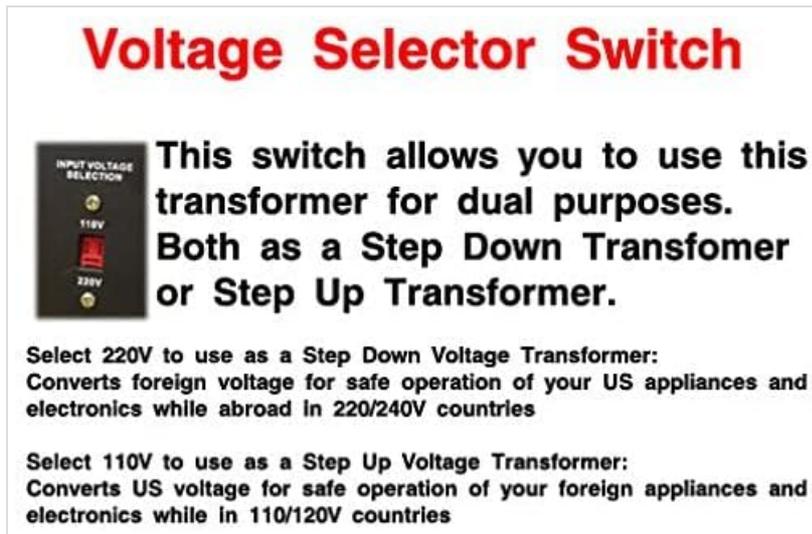


Image: Rear view of the Simran AC-500, highlighting the INPUT VOLTAGE SELECTION switch. This switch allows selection between 110V and 220V input.

- **For Step-Down Operation (e.g., using US appliances in 220V/240V countries):** Set the switch to **220V**. This configures the transformer to accept 220V/240V input and provide 110V/120V output.
- **For Step-Up Operation (e.g., using foreign appliances in 110V/120V countries):** Set the switch to **110V**. This configures the transformer to accept 110V/120V input and provide 220V/240V output.

Caution: Always verify the correct input voltage selection before plugging in the transformer.

5.2. Connecting to Power

Once the input voltage is correctly selected, plug the transformer's hardwired power cord into a wall outlet corresponding to the selected input voltage.

5.3. Connecting Appliances

The front panel of the AC-500 features two output sockets:



Image: Close-up of the Simran AC-500 front panel, showing the 110V/120V and 220V/240V universal output sockets, along with the ON/OFF switch and power lamp.

- **110V/120V Socket:** Use this for appliances requiring 110V/120V.
- **220V/240V Universal Socket:** Use this for appliances requiring 220V/240V. This socket is designed to accept various international plug types.

Important: Ensure your appliance is plugged into the correct output socket for its voltage requirement.

6. Operating Instructions

6.1. Powering On/Off

After connecting the transformer to the wall outlet and your appliance to the appropriate output socket, press the ON/OFF switch on the front panel to the 'ON' position. The indicator lamp will illuminate, signifying that the transformer is active. To turn off, press the switch to the 'OFF' position.

6.2. Wattage Guide and Appliance Compatibility

Proper wattage selection is crucial for the safe and efficient operation of your transformer and connected appliances. The AC-500 has a maximum capacity of 500 watts.

Transformer Purchase Guide

- Remember to leave at least a 100% margin for power surges/spikes when buying a transformer.
- Some items, such as televisions and computer monitors have a big spike when you turn them on. For these products, you need to buy a voltage converter transformer that is at least 3 times the item's capacity.
- For Power tools, laser printers, and heating appliances like coffee makers, Rice cookers, toasters, Microwaves, Lasers, Halogen or fluorescent bulbs you must leave a margin of 3-4 times the rated wattage.



Image: A guide illustrating recommended wattage margins for various types of appliances when using a voltage converter.

- **General Rule:** Always leave at least a 100% wattage slack for the voltage converter transformer. This means if your appliance is rated at 100 watts, you should use a transformer with a minimum capacity of 200 watts.
- **Appliances with Power Surges:** For items like televisions, Xbox, and PlayStation consoles, the power surge can be up to 3 times their rated wattage. Therefore, select a transformer that is at least 3 times the appliance's capacity.
- **Heating Appliances, Laser Printers, and Power Tools:** These devices experience significant power spikes when turned on. For such products (e.g., coffee makers, rice cookers, toasters, microwaves, lasers, halogen or fluorescent bulbs), you must leave a margin of 3 to 4 times the rated wattage.
- **Appliances with Motors:** Appliances with motors may require 3 to 7 times the listed wattage during startup. The startup load determines the necessary transformer capacity.

Refer to the table below for general recommendations:

	Electrical power	Recommended transformer power
Cell Phone Charger	<300W	500W+
Blu-Ray or DVD Player		
Clock Radio		
iPad / Tablet		
Inkjet Printer		
Satellite Dish / Receiver		
Laptop Computer		
Stereo		
TV		
Home Theater Projector		
Vacuum Cleaner	<600W	1000W+
Hair Dryer		
Desktop with Monitor		
Waffle Iron		
Coffee Maker	1000W+	3000W+
Space Heater		
Blender		
Microwave		
Toaster Oven		
Air Fryer		
<p>For safety reasons, it's recommended to use a Voltage Converter / Transformer that's max watts is at least 50% higher than your appliance. For example, if your appliance is rated at 100 watts, you need to buy a Transformer with a max power of at least 150 watts or greater. Some appliances, such as heating appliances, Refrigerator, Air Conditioner and Coffee Maker, require 2-4 times more watts at start up than the printed rated wattage. *Appliances with motors may require from 3 to 7 times the listed wattage when starting. The startup load of the appliance or tool determines whether a transformer has the capability to power it.</p>		

Image: A table providing examples of various electrical appliances and their corresponding recommended transformer power ratings.

Recommended Transformer Power Guide

Appliance Type	Typical Electrical Power	Recommended Transformer Power
Cell Phone Charger, Blu-Ray/DVD Player, Clock Radio, iPad/Tablet, Inkjet Printer, Satellite Dish/Receiver, Laptop Computer, Stereo, TV, Home Theater Projector	<300W	500W+
Vacuum Cleaner, Hair Dryer, Desktop with Monitor, Waffle Iron	<600W	1000W+
Coffee Maker, Space Heater, Blender, Microwave, Toaster Oven, Air Fryer	1000W+	3000W+

Note: This AC-500 model is rated for 500 watts. Ensure your appliance's power requirements, including surge and startup, do not exceed this limit, considering the recommended safety margins.

7. Maintenance

7.1. Fuse Replacement

The Simran AC-500 is fuse protected. If the unit stops functioning, the fuse may have blown due to an overload or short circuit. Two spare fuses are provided with the unit.

- To replace the fuse, first unplug the transformer from the wall outlet and disconnect all appliances.
- Locate the fuse holder on the back panel of the unit (near the input voltage selector).
- Unscrew the fuse cap, remove the old fuse, and insert a new fuse of the same rating.
- Securely screw the fuse cap back into place.
- Reconnect the transformer and test its operation. If the fuse blows again, discontinue use and contact customer support.

7.2. Cleaning

To clean the exterior of the transformer, use a soft, dry cloth. Do not use liquid cleaners or solvents, as these can damage the unit or create an electrical hazard. Ensure the unit is unplugged before cleaning.

8. Troubleshooting

- **No Power / Indicator Lamp Off:**

- Check if the transformer is securely plugged into a working wall outlet.
- Ensure the ON/OFF switch is in the 'ON' position.
- Check the fuse and replace if blown (refer to Section 7.1).

- **Appliance Not Working:**

- Verify that the appliance is correctly plugged into the appropriate output socket (110V or 220V).
- Confirm that the input voltage selector switch on the back is set correctly for your local power supply.
- Ensure the appliance's wattage requirement, including any surge or startup power, does not exceed the transformer's 500-watt capacity, considering the recommended safety margins (refer to Section 6.2).
- Test the appliance directly in a compatible wall outlet (if available) to rule out an issue with the appliance itself.

- **Unit Overheating:**

- Disconnect the appliance and unplug the transformer.
- Ensure there is adequate ventilation around the unit and that no vents are blocked.
- Verify that the connected appliance's wattage is within the safe operating limits of the AC-500, including surge margins. Overloading can cause overheating.

If issues persist after troubleshooting, contact Simran customer support for assistance.

9. Specifications

Specification	Detail
Model	AC-500
Brand	Simran

Specification	Detail
Manufacturer	VCT Electronics
Type	Step Up/Down Voltage Converter Transformer
Max Wattage	500 Watts
Input Voltage Selection	110V or 220V (switchable)
Output Voltage	110V/120V and 220V/240V
Frequency	50Hz / 60Hz Compatible
Outlets	1 x 110V/120V (USA type), 1 x 220V/240V (Universal)
Fuse Protection	Yes (2 spare fuses included)
Power Cord	Grounded USA Plug (hardwired)
Included Adapter	Grounded European Shucko Plug Adapter
Dimensions (L x W x H)	7.1 x 6.5 x 4.3 inches
Item Weight	7 pounds
Color	Black
Certifications	CE Certified
UPC	810128010849

10. Warranty Information

Specific warranty terms and conditions for the Simran AC-500 Voltage Converter Transformer are typically provided by the manufacturer or the retailer at the time of purchase. Please refer to any documentation included with your product or contact the point of purchase for detailed warranty information. Keep your proof of purchase for warranty claims.

11. Support

For technical assistance, troubleshooting beyond this manual, or inquiries regarding your Simran AC-500 Voltage Converter Transformer, please contact Simran customer support or the authorized retailer from whom you purchased the product. Have your model number (AC-500) and purchase details ready when contacting support.
