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› [VEVOR](#) /

› [VEVOR 45 Amp RV Power Converter User Manual](#)

## VEVOR SBC-45A

# VEVOR 45 Amp RV Power Converter User Manual

Model: SBC-45A | Brand: VEVOR

[Introduction](#) [Safety Instructions](#) [Product Overview](#) [Setup](#) [Operating](#)  
[Instructions](#) [Maintenance](#) [Troubleshooting](#) [Specifications](#) [Warranty & Support](#)

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your VEVOR 45 Amp RV Power Converter. This device is designed to convert standard 120V AC power into a stable 12V DC power supply, suitable for charging RV batteries and powering 12V RV appliances. It features multi-stage smart charging and is compatible with both lead-acid and LiFePO4 batteries.

Please read this manual thoroughly before installation and use, and retain it for future reference.

## 2. SAFETY INSTRUCTIONS

**WARNING:** Failure to follow these safety instructions may result in electric shock, fire, or serious injury.

- Always disconnect the AC power supply before performing any installation, maintenance, or troubleshooting.
- Ensure proper grounding of the unit according to local electrical codes.
- Do not expose the converter to rain, moisture, or excessive humidity.
- Use only the specified fuse types and ratings for replacement. Incorrect fuses can cause damage or fire.
- Do not operate the converter if it has been damaged in any way.
- Ensure adequate ventilation around the unit to prevent overheating. Do not block ventilation openings.
- Once plugged in, never leave the device unattended, especially during initial operation or when charging.
- This product is compliant with CE, UL, FCC, and RoHS standards.

## 3. PRODUCT OVERVIEW

The VEVOR 45 Amp RV Power Converter is an all-in-one unit designed for reliable power conversion and battery charging in RVs and campers. It features a robust metal enclosure and intelligent cooling for stable operation.

### Key Features:

- **45 Amp Output:** Delivers up to 45A of clean, consistent 12V DC power.

- **Wide Battery Compatibility:** Supports both lead-acid and LiFePO4 batteries.
- **Multi-Stage Smart Charging:** Extends battery life through optimized charging cycles (Bulk, Absorption, Float, Storage).
- **Fixed Voltage Output:** Selectable options for 13.0V, 14.6V, and 16.5V for specific power needs.
- **Intelligent Cooling System:** Features an intelligent cooling fan and optimized airflow design with a large heat sink to prevent overheating.
- **Six Security Protections:** Includes short circuit, over temperature, overload, low voltage, overvoltage, and reverse polarity protection.
- **Durable Construction:** Housed in a durable aluminum alloy casing.

### Package Contents:

- 1 x VEVOR RV Power Converter (SBC-45A)
- 1 x User Manual
- 2 x 30A Fuses

### Component Identification:

Refer to the image below for a visual guide to the converter's components.



Image: VEVOR 45 Amp RV Power Converter with key components labeled for quick identification. Labels include Fuse, 12V Output Terminals, Model Number, 3-Mode Adjustable Selector Switch, and Potentiometer.

1. **Fuse:** Accessible 30A fuses for protection.
2. **12V Output Terminals:** Connection points for DC loads and battery.
3. **Item Model Number:** SBC-45A.
4. **3-Mode Adjustable Selector Switch:** Used to select charging mode (Lead-Acid, Lithium) or Fixed Voltage Output.
5. **Potentiometer:** For fine-tuning output voltage in Fixed Voltage mode (if applicable).

## 4. SETUP

Proper installation is crucial for the safe and efficient operation of your RV power converter. It is recommended that installation be performed by a qualified technician.

### Installation Steps:

1. **Choose a Location:** Select a dry, well-ventilated area within your RV, away from flammable materials and direct sunlight. Ensure there is sufficient space around the unit for airflow, especially near the cooling fan.
2. **Mount the Converter:** Securely mount the converter using appropriate fasteners. The unit is designed for quick installation.
3. **AC Input Connection:** Connect the 120V AC input cord to a suitable AC power source. Ensure the AC source is properly grounded and protected by a circuit breaker.
4. **DC Output Connection:** Connect the 12V DC output terminals to your RV's 12V distribution panel and battery bank. Observe correct polarity: positive (+) to positive, and negative (-) to negative. Use appropriate gauge wiring for the 45 Amp output.
5. **Fuse Installation:** Ensure the provided 30A fuses are correctly inserted into their respective slots.
6. **Initial Check:** Before applying power, double-check all connections for tightness and correct polarity.



Image: Front view of the VEVOR 45 Amp RV Power Converter, showing the input and output terminals.

## 5. OPERATING INSTRUCTIONS

The VEVOR RV Power Converter offers dedicated charging modes and a fixed voltage output mode.

## Selecting Operating Mode:

Use the 3-Mode Adjustable Selector Switch on the side of the unit to choose your desired operating mode:

- **Lead-Acid Mode:** For charging lead-acid batteries (12V-14.6V output).
- **Lithium Mode:** For charging LiFePO4 batteries (12V-14.6V output).
- **Fixed Voltage Output Mode:** Provides a constant voltage output. Selectable options are 13.0V, 14.6V, and 16.5V. This mode is suitable for powering 12V DC devices directly without a battery, or for specific charging requirements.



Image: Side view of the VEVOR RV Power Converter, highlighting the 3-mode adjustable selector switch for Lead-Acid, Lithium, and Fixed Voltage settings.

## Multi-Stage Smart Charging:

When in Lead-Acid or Lithium charging modes, the converter employs a multi-stage charging process to optimize battery health and longevity:

- **Bulk Mode:** Rapidly charges the battery to approximately 80% capacity.
- **Absorption Mode:** Charges the battery to 100% at a decreasing current to prevent overcharging.
- **Float Mode:** Maintains the battery at optimal charge, compensating for self-discharge.
- **Storage Mode:** Minimizes self-discharge and extends battery lifespan during periods of inactivity.

# Multi-Stage Smart Charging

Enhanced Battery Protection, Extended Battery Life

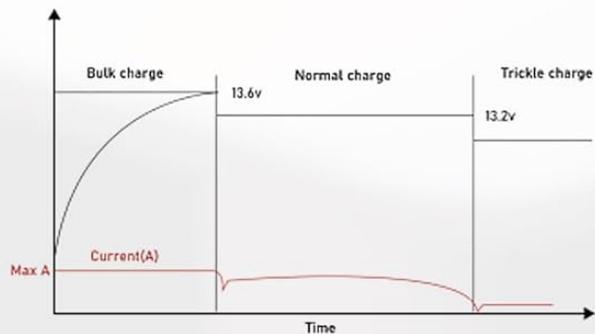


Image: A graph illustrating the multi-stage smart charging process, showing bulk charge, normal charge, and trickle charge phases with corresponding voltage levels over time.

## 6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your VEVOR RV Power Converter.

### General Maintenance:

- **Keep Clean:** Periodically clean the exterior of the unit with a dry, soft cloth. Do not use liquid cleaners or solvents.

- **Ensure Ventilation:** Regularly check that the ventilation openings and cooling fan are free from dust, debris, or obstructions. The intelligent cooling fan activates automatically when needed.
- **Check Connections:** Periodically inspect all electrical connections (AC input and DC output) to ensure they are secure and free from corrosion.



Image: Close-up view of the VEVOR RV Power Converter's intelligent cooling fan, emphasizing the automatic cooling and stable operation features.

### Fuse Replacement:

The converter is equipped with easily accessible 30A fuses for protection. If a fuse blows, replace it promptly with a

fuse of the same type and rating.

1. **Disconnect Power:** Always disconnect the AC power supply to the converter before replacing fuses.
2. **Locate Fuses:** The fuses are located on the side of the unit near the DC output terminals.
3. **Remove Old Fuse:** Carefully pull out the blown fuse.
4. **Insert New Fuse:** Insert a new 30A fuse into the slot.
5. **Restore Power:** Reconnect AC power and verify operation.

## No Need to Rewire 10-Minute Quick Installation

- ❶ Fuse    ❷ 12V Output Terminals
- ❸ Item Model Number: SBC-45A
- ❹ 3-Mode Adjustable Selector Switch
- ❺ Potentiometer



Image: A hand demonstrating the replacement of a 30A fuse on the VEVOR RV Power Converter, highlighting the ease of maintenance.

## 7. TROUBLESHOOTING

This section addresses common issues you might encounter with your RV power converter.

Problem	Possible Cause	Solution
No power output	No AC input; Blown fuse; Loose connections	Check AC power source; Replace blown fuses; Secure all connections.
Battery not charging / Slow charging	Incorrect mode selected; Battery fault; Overload; Loose connections	Verify correct charging mode (Lead-Acid/Lithium); Check battery health; Reduce DC load; Secure connections.
Converter shuts down / Red LED indicator	Overload protection activated; Over-temperature protection; Short circuit; Low/Over voltage	Reduce connected DC load; Ensure adequate ventilation; Check for short circuits in wiring; Verify input/output voltage. Disconnect power, wait a few minutes, then reconnect.
Fan not running	Normal operation (fan activates when needed); Fan fault	The fan is intelligent and only runs when the unit reaches a certain temperature. If the unit is hot and the fan is not running, contact support.

The converter is equipped with six layers of security protection to safeguard your appliances, batteries, and the converter itself. If a protection mechanism is triggered, the unit may shut down or indicate an error. Address the underlying cause before resuming operation.



Image: A visual representation of the six layers of security protection: Overload, Short Circuit, Low Voltage, Reverse Polarity, Over Voltage, and Over Temperature Protection.

## 8. SPECIFICATIONS

Feature	Detail
Model Number	SBC-45A
Input Voltage	120 Volts (AC), 60Hz
Output Current	45 Amps
Max Output Power	655W $\pm$ 5%
Output Voltage (Lead Acid Battery)	12V–14.6V (DC)
Output Voltage (Lithium Battery)	12V–14.6V (DC)
Fixed Voltage Output Mode	13.0V, 14.6V, 16.5V (DC)
Item Dimensions (L x W x H)	10.43 x 7.17 x 3.66 inches (265 x 182 x 93 mm)
Item Weight	4.85 Pounds (2.2 kg)
Material	Metal (Aluminum Alloy Casing)
Color	Orange
Ground Resistance	< 300 m $\Omega$ at 12V/25A
Certifications	CE, UL, FCC, RoHS



Item Model Number: **SBC-45A**

Input Voltage: **AC 120V 60Hz**

Ground Resistance: **< 300 mΩ at 12V/25A**

Max Output Power: **655W ±5%**

Product Dimensions: **10.4 × 7.2 × 3.7 in/265 × 182 × 93 mm**

Output Voltage: **Lead Acid Battery: 12V-14.6V、Lithium Battery: 12V-14.6V**

**Fixed Voltage Output Mode: 13.0V/14.6V/16.5V**

Accessories: **1 x User Manual、2 × 30A Fuses**

Max Output Current: **45A**

Net Weight: **4.9 lbs/2.2 kg**

Image: Technical drawing showing the dimensions of the VEVOR 45 Amp RV Power Converter (10.4 in / 265 mm length, 7.2 in / 182 mm width, 3.7 in / 93 mm height).

## 9. WARRANTY & SUPPORT

This product does not come with an explicit warranty description provided in the product information. For any technical assistance, troubleshooting beyond this manual, or inquiries regarding your VEVOR RV Power Converter, please contact VEVOR customer support directly through their official website or the retailer where the product was purchased.

Always refer to the latest information available from the manufacturer for warranty details and support procedures.

