



AC to DC Converter & Charger

## AC to DC CONVERTER & CHARGER

SRV models 32, 45, 55, and 75 Amp

### Installation & Maintenance



#### **SAFETY ALERT**

FOR YOUR SAFETY, READ ALL INSTRUCTIONS BEFORE INSTALLATION AND OPERATION.

**INSTALLER:** Provide these instructions to the end user or consumer.

**CONSUMER:** Keep these instructions for future reference.

NOTICE: Products are not to be used nor are warranted in aerospace, medical or lifesafety applications.



#### **WARNING – Avoid Possible Injury or Death**

**120 VAC** is present. This Converter/Charger is designed to convert **120 VAC** to **12 VDC**. It also provides low voltage power for charging on-board **12 VDC** batteries. The SRV series Converter/Charger is a “switch mode” type and is designed to be maintenance-free with no user serviceable components. The Converter/Charger power output is “current limiting” by design.



#### **WARNING – Avoid Personal Injury or Product Damage**

NEVER store electrical devices in compartments where flammable liquids (such as gasoline) exist. DO NOT mount/install unit in compartments designed for storage of batteries of flammable liquids.

1. **DISCONNECT RV DC POWER.** Disconnect the RV battery POS (+) wire at the battery end before connecting this Converter/Charger to any RV wiring.
2. **LOCATION.** The mounting location may be on any interior (out of direct weather) surface. Location chosen must be accessible after installation. When mounted inside a cabinet, the cabinet must be large enough to allow dissipation of heated air. Make sure that there is a minimum of 1” (one inch) free air space at each end of the unit so that cooling air can move through the unit properly. AVOID foreign contaminants such as dirt, metal particles or moisture.
3. **MOUNTING.** Flanges with holes are provided for ease of mounting using standard fasteners. Confirm that the surface that the converter is mounted to is solid and will hold the weight (6 lbs) during vehicle operation.
4. **ELECTRICAL REQUIREMENTS.** A **120 VAC** receptacle needs to be located within 36 inches of the converter to supply power. Electrical consideration should also be given to mounting near the locations of the RV batteries and the **12-volt DC** distribution panel.
5. **ELECTRICAL CONNECTIONS.** Be sure to tighten all connections securely. A loose connection can quickly cause terminals and wires to overheat. Review unit labels for recommended terminal torque values.



#### **WARNING – Avoid Possible Injury or Death**

**120 VAC Connection** – First confirm that the **120 VAC** power source AC circuit breaker(s) are in the ☐ off position. **DO NOT** turn-on AC circuit breakers until installation is complete.

- Using an 8 AWG minimum size copper wire, attach from the RV chassis to the Converter/Charger Bonding Lug.
- Using the attached power cord on the Converter/Charger, connect firmly to the **120 VAC** receptacle

**12 VDC Wiring**— It is important to use the correct wire gauge for the specific model selected. As an example the model SRV-32 is a 32 amp Converter/Charger that requires a 10 AWG wire.

- The terminal marked **+** or **POS** is for the RV **12 VDC positive** connection.
- The terminal marked **-** or **NEG** is for the RV **12 VDC negative** connection.
- The **12 VDC** output wiring does not require over-current protection because the Converter/ Charger limits current output. However, all electrical connections need to comply with the appropriate NEC code.

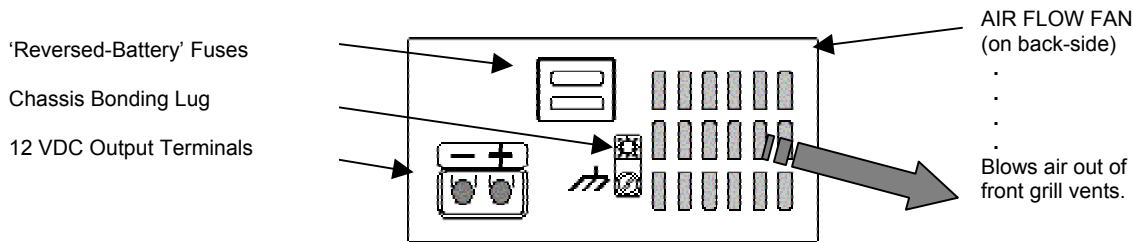
6. **TEST.** First, disconnect all loads and battery on the Converter/Charger by removing all **12 VDC** connections from **+** or **POS**. Second, attach a multimeter instrument between the positive and negative terminals of the Converter/Charger. Then energize the **120 VAC** converter circuit. Test for proper output power using the multimeter. Measure the output voltage from the positive and negative terminals. The voltage should read **13.6 +/- 0.2 VDC**. Add **12 VDC** load connections to about 2/3 of the rated capacity of the converter. Recheck the voltage, which should remain approximately the same as at no load.
7. **BATTERY.** With the **120 VAC** disconnected, reconnect the **+** or **POS** positive terminal to a known good battery. With the converter **120 VAC** energized, measure the voltage at the converter and at the battery. The voltage should be about the same in both locations. As with any battery it is important that the fluid level be checked on a regular basis. When continuously connected to any charging source all batteries will “Gas” and lose some fluid.



**WARNING – Avoid Personal Injury / Product Damage**

8. **HI-POT TESTING.** (RV Manufacturing Facilities Only) **DO NOT** Hi-Pot DC wiring with the Converter/Charger connected to the RV wiring in order to prevent serious injury and/or damage.

#### TROUBLESHOOTING



**NOTE:** Before removing and replacing the Converter/charger, perform the following checks:

- Disconnect the AC power from the RV coach.
- Disconnect the wiring and Battery from the Converter Positive **+** output terminal.
- Re-connect the AC power to energize the Converter.
- Using a voltmeter, measure the voltage at the Converter **-** and **+** Output terminals.
  - > The Converter is OK if the voltage reading is between 13 VDC and 14 VDC (typically 13.6 VDC).
  - > Otherwise check the table below:

CONDITION	POSSIBLE CAUSE
No 12 VDC output	<ul style="list-style-type: none"> <li>• 120 VAC not connected to coach or the coach AC circuit breaker is in the <b>off</b> position.</li> <li>• Reversed battery fuses blown. (Battery wiring connections are reversed),</li> <li>• Severe overload or shorted load. Remove all loads and retest per above instructions.</li> <li>• Converter internal failure.</li> </ul>
Converter cycles On & Off	<ul style="list-style-type: none"> <li>• Fan air flow is inadequate or blocked. (1" minimum free air space at each end required)</li> <li>• Converter internal failure.</li> </ul>
Reversed Battery fuses blown	<ul style="list-style-type: none"> <li>• Battery wiring connections are reversed.</li> <li>• Defective battery, possible bad cells.</li> </ul>
12 VDC output is too low	<ul style="list-style-type: none"> <li>• Attached load exceeds rating of the Converter.</li> <li>• Defective battery, possible bad cells.</li> <li>• Converter internal failure.</li> </ul>



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This warranty is the only warranty made by Supplier and is in lieu of all other warranties, express or implied, except as to title, and can be amended only by a written instrument signed by an officer of Supplier.

The liability of Supplier under this warranty is limited solely to replacing, repairing or, at Supplier's discretion, issuing credit for any devices which are returned by Buyer during the schedule period, provided that (a) Supplier is promptly notified in writing upon discovery of any defect by Buyer with a detailed explanation of any alleged deficiencies; (b) the defective product is returned to Supplier, transportation charges prepaid by Buyer; and (c) Supplier's examination of such product discloses to its satisfaction that such defect was not caused by misuses, neglect, improper installation, repair, alteration or accident. In no event shall Supplier be liable to Buyer for loss of profits, loss of use, or damages of any kind based upon a claim for breach of warranty.

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