

SVR SERIES

PRECISION UTILITY VOLTAGE
REGULATOR AND CONDITIONER

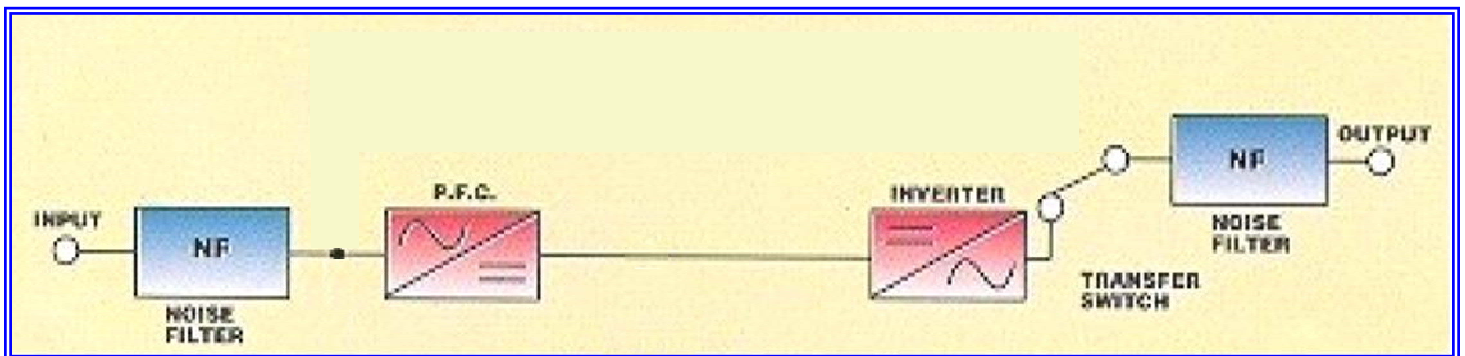
OWNER'S MANUAL

SVR1K-1T & SVR2K-2T
SVR2K-1T & SVR2K-2T
SVR3K-1 & SVR3K-2T



SVR SERIES FEATURES

- COMPACT SIZE, LIGHT WEIGHT
 - WIDE INPUT VOLTAGE WINDOW
 - TIGHT OUTPUT VOLTAGE REGULATION ($\pm 2\%$)
 - INPUT POWER FACTOR CORRECTION
 - SURGE PROTECTION
 - HIGH EFFICIENCY
 - OVER CREST RATIO LED INDICATOR
 - RS-232 INTERFACE
-



SYSTEM BLOCK DIAGRAM

This following User's Manual is provided to better enhance your understanding of the product and ensure its proper installation and usage. Reading this manual carefully prior to installation of the SVR Series Precision Utility Voltage Regulator and Conditioner will save time and ensure worry-free operation.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important safety instructions that must be followed during the installation, operation and maintenance of this equipment. Please store this manual in a safe place for future reference.

STORAGE & INSTALLATION

CAUTION: All of the SVR models presented herein are designed for installation and use in a controlled environment free of dust, dirt and water.

The SVR Series Precision Utility Voltage Regulator and Conditioner is designed for installation in a controlled environment (temperature controlled, indoor area free of conductive contaminants).

The system is lightweight and can be easily moved. Some important points to consider when positioning a unit for operation:

- * It is preferable that a dedicated outlet is accessible to connect the SVR. DO NOT modify the supplied cord in any way nor should an extension cord of any kind be used.
- * The cord paths in the system installation should remain clear of foot traffic or anything else that may disturb permanent connection.
- * The installation site should maintain an ambient air temperature of less than 104°F (40°C). When the environment for the system remains cooler during operation, there is less stress on internal electronics. An air conditioned environment will yield the longest SVR life.
- * The SVR air inlets, vents and fan should not be obstructed or blocked in any way. The more breathing space the system has, the cooler it operates.
- * The air should remain free from excessive dust and chemical fumes.

Once a location has been selected and the unit is installed, it is ready for operation.

This Symbol Denotes Earth Ground



This Symbol Denotes On and Off



CARE & MAINTENANCE

The SVR Series Precision Utility Voltage Regulator and Conditioner is designed to be maintenance-free. It can be cleaned with a damp cloth or nonabrasive cleanser providing it is turned off and the input plug is disconnected from the utility source. Be sure vents and fans are kept free from accumulation of dust, dirt or lint.

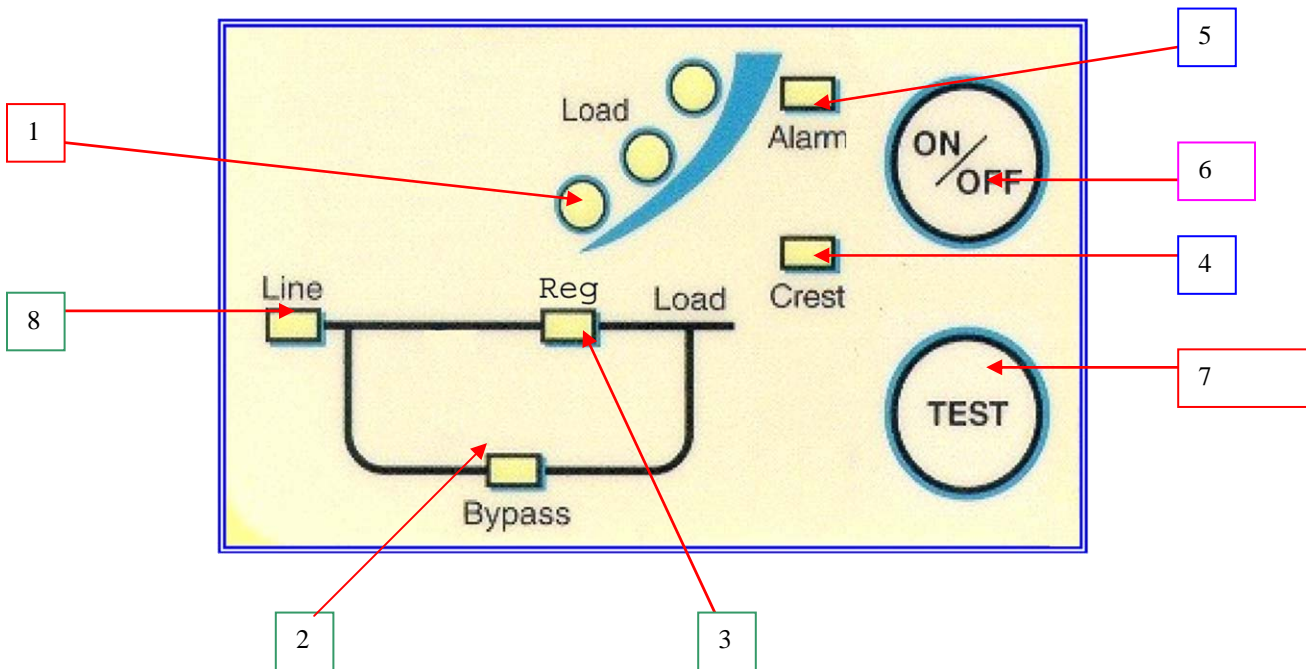
FALCON® ELECTRIC SVR SERIES INSTALLATION AND STARTUP CHECK LIST

1. Verify the following is included in the SVR shipping carton:
 - SVR
 - Power Cord
 - Owner's Manual
2. Verify that the SVR unit is configured for the proper input/output voltage and frequency. This information is stated on the nameplate label located on the rear panel of the unit as well as setting dip switch settings also located on the SVR rear panel.
3. For the 1kVA model, connect the power cord to the inlet located on the SVR rear panel.
4. Select a suitable location for the SVR near enough to the computer or equipment to connect the power cord. Verify the location you have selected has adequate ventilation to allow for the proper cooling of the SVR. **DO NOT**
BLOCK SVR FANS OR AIR VENTS. THE SVR MUST NOT BE INSTALLED IN AN ENCLOSED AREA.
5. Turn the input switch located on the SVR rear panel to the "on" position. The internal SVR fan will turn on and after several seconds the front panel "line" indicator should turn on, followed by the "inverter" indicator.
6. Turn on the connected equipment and verify the SVR does not go into overload, by using the front panel load indicator.

IMPORTANT

TO TURN OFF THE SVR, TURN OFF THE INPUT CIRCUIT BREAKER. THE SVR WILL RUN FOR ABOUT 30 SECONDS AND SHUTDOWN.

FRONT PANEL INDICATOR AND FUNCTION KEYS



LOAD LEVEL INDICATOR LEDS

1

- The first or bottom LED is lit when the output load is greater than 25% of the rated output of the SVR.
- The second LED is lit when the output load is greater than 50% of the rated output of the SVR.
- The third LED is lit when the output load is greater than 75% of the rated output of the SVR.

2

BYPASS INDICATOR LED (Not on frequency converter models)

- When this LED is lit, the SVR bypass is active. Should the Alarm LED be lit at the same time, the SVR detected an internal failure and must be serviced.

3

REGULATOR INDICATOR LED

- When this LED is lit, the SVR inverter is operating and powering the connected load.

4

OVER CREST INDICATOR LED

- This LED lights when the connected load is getting close to the peak current rating of the SVR.

5

FAULT INDICATOR LED

This LED is lit during the following conditions:

- The inverter voltage is too high or low.
- SVR over temperature condition.
- Internal DC Bus has an under or over voltage condition.
- Internal microprocessor or memory failure.

6

ON / OFF BUTTON

The following describes the different modes of operation for this button:

- Pressing this button while the SVR is on and utility is present will turn the SVR inverter and output off.
- TO TURN SVR ON: CONNECT THE SVR TO UTILITY POWER AND TURN ON THE MAIN CIRCUIT BREAKER. DO NOT PRESS THE ON BUTTON LOCATED ON THE FRONT PANEL.
- TO TURN SVR OFF: TURN OFF THE MAIN CIRCUIT BREAKER.

7

TEST BUTTON (Only present on SVR models with internal battery option installed)

The following describes the different modes of operation for this button:

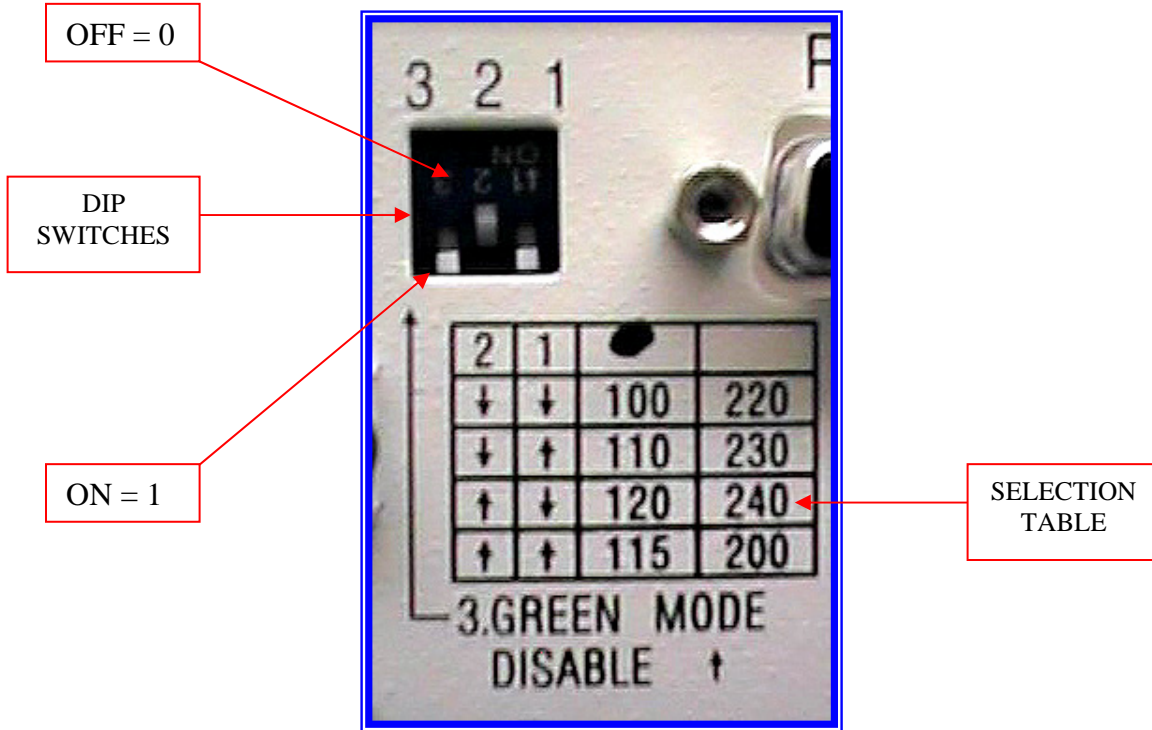
- Pressing the Test button while utility is present will put the SVR through a self test diagnostic.

8

LINE INDICATOR LED

- This LED is lit to a steady on state when Utility voltage is present.

DIP SWITCH SETTINGS (All SVR 1kVA – 3kVA Models)



REAR PANEL VIEW

FOR 100-120Vac NOMINAL LINE VOLTAGE

SW2	SW1	VOLTAGE
Down	Down	100V
Down	Up	110V
Up	Down	120V
Up	Up	115V

FOR 220-240Vac NOMINAL LINE VOLTAGE

SW2	SW1	VOLTAGE
Down	Down	220V
Down	Up	230V
Up	Down	240V
Up	Up	200V

SW3 – DISABLED

Up	GREEN MODE OFF (Default)
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NOTE: THE SVR MUST BE TURNED OFF AND BACK ON BEFORE NEW DIP SWITCH SETTINGS WILL BECOME ACTIVE.

WARNING – REFER THE SERVICING OF THIS EQUIPMENT TO QUALIFIED SERVICE PERSONNEL ONLY.
WARNING – NEVER SERVICE THIS UNIT WHILE THE POWER IS APPLIED; HIGH VOLTAGE EXISTS AND A HAZARD OF ELECTRICAL SHOCK IS PRESENT.

WARNING – THIS DEVICE IS INTENDED FOR ADMINISTRATION AND LAB USE. **NOT INTENDED FOR LIFE SUPPORT APPLICATIONS.**

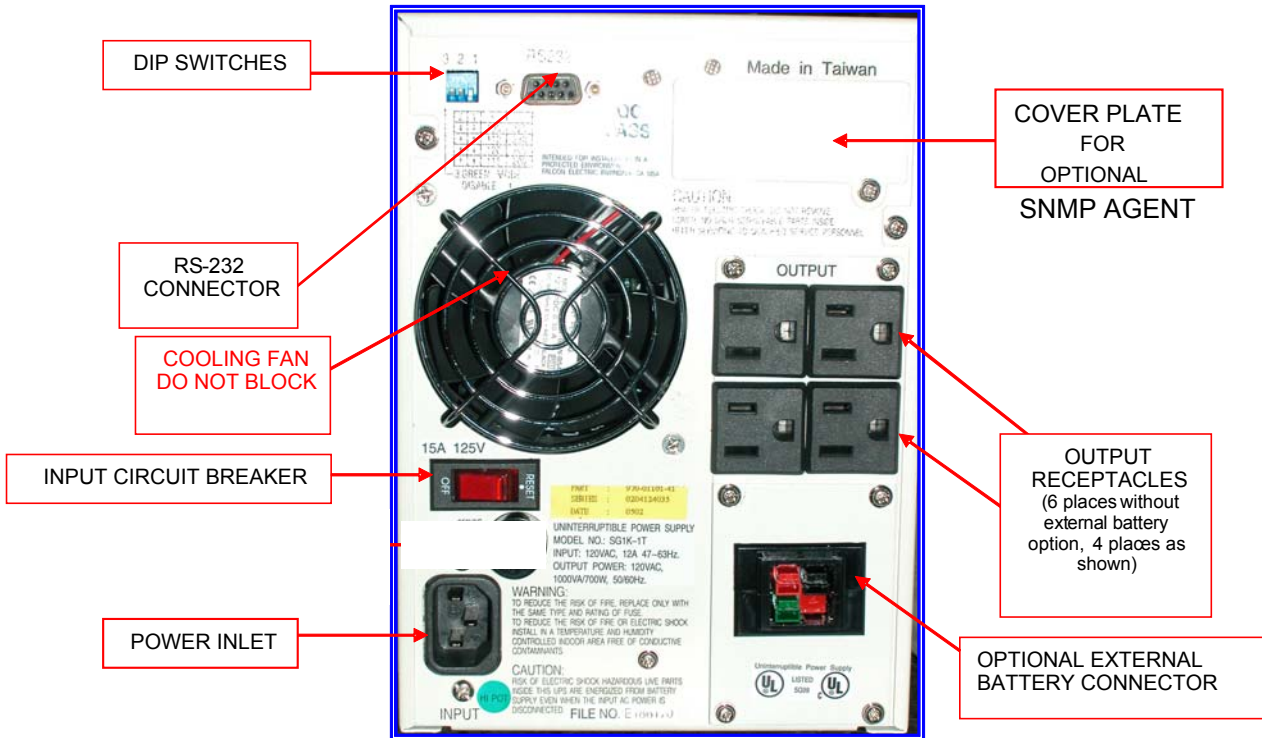
INSTALLATION DETAILS

SVR1K-1, SVR2K-1, SVR3K-1, SVR1K-2T, SVR2K-2T & SVR3K-2T Tower Models

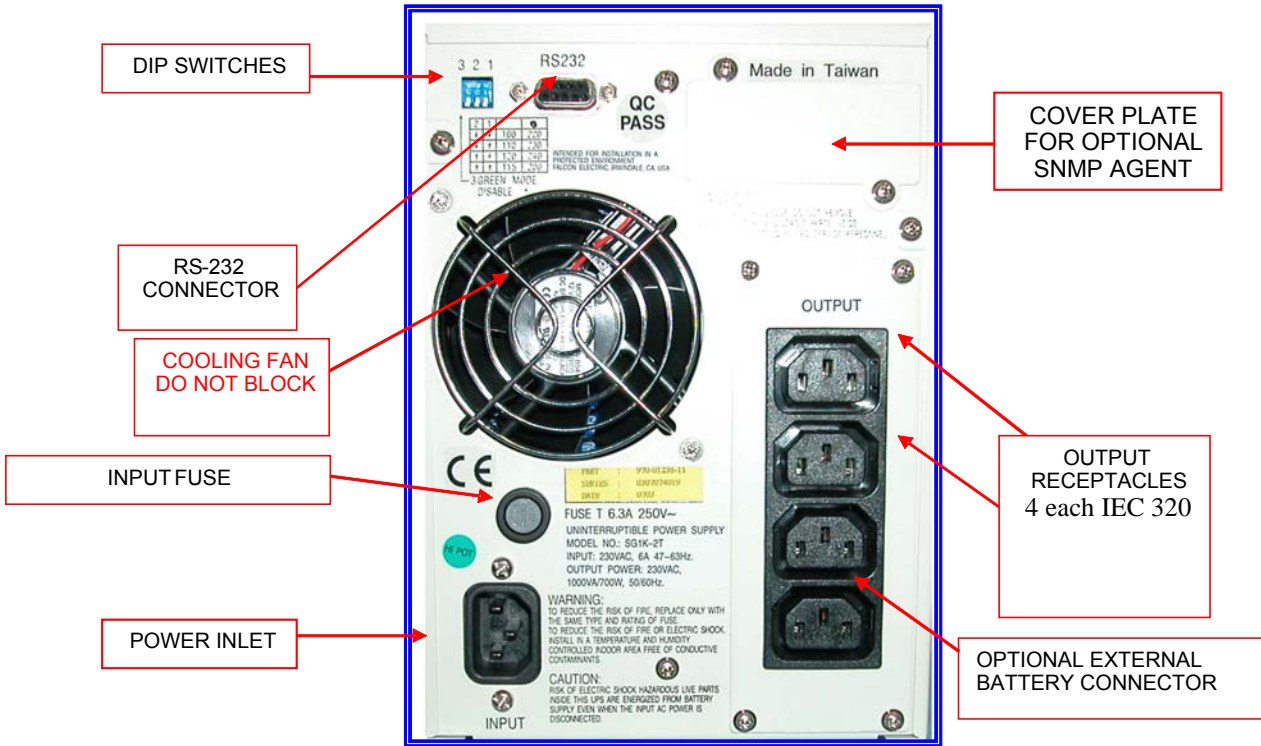
TYPICAL FRONT VIEW



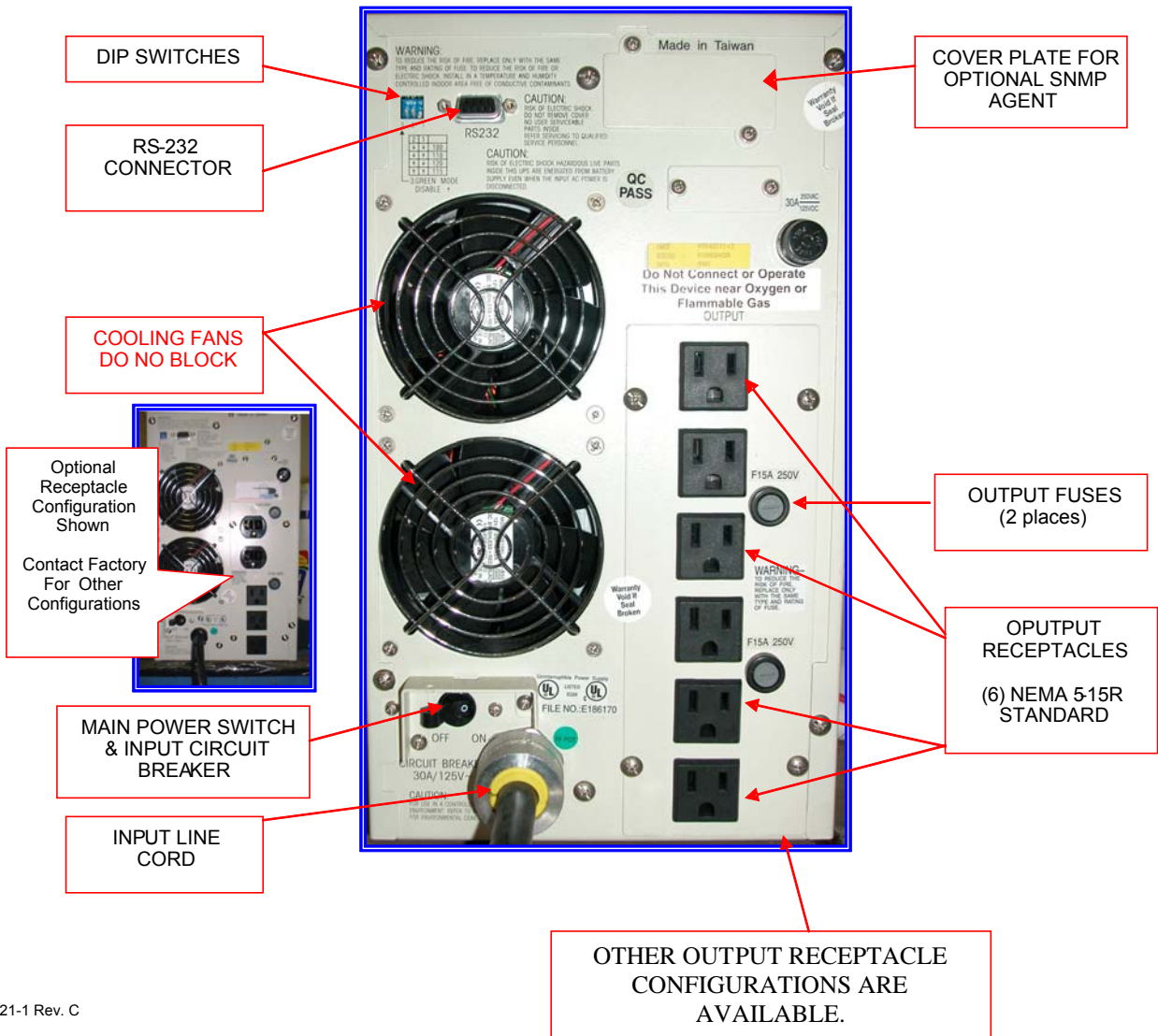
REAR VIEW SVR1K-1T



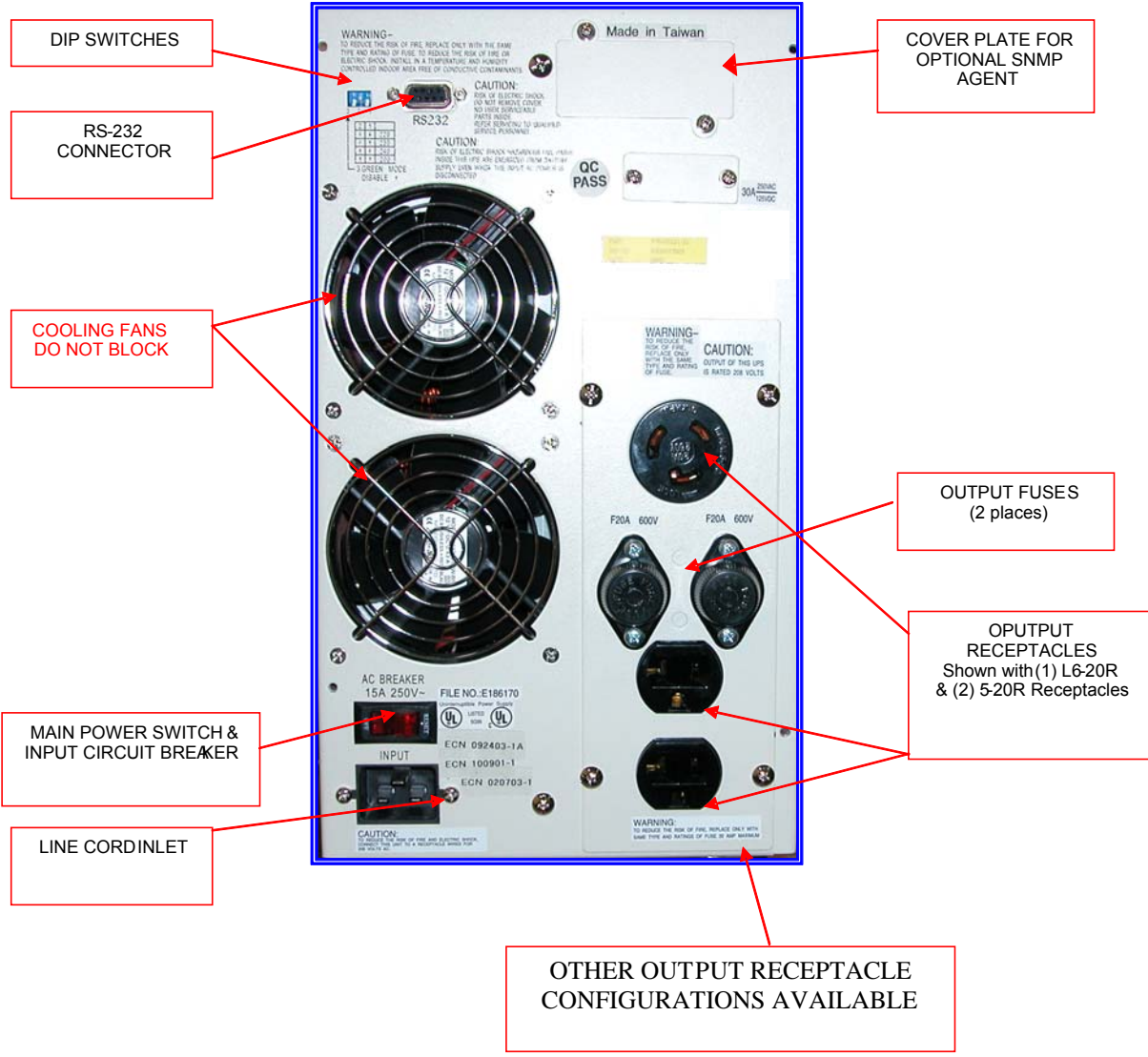
**REAR VIEW
SVRIK-2T**



**REAR VIEW
SVR2K-1T & SVR3K-1T**



REAR VIEW
SVR2K-2T & SVR3K-2T



WARRANTY

GENERAL PROVISIONS

FALCON® ELECTRIC INC. hereby warrants product shipped under this agreement to be free from defective workmanship for a period of two years following date of shipment. This Limited New Product Warranty Agreement only applies to covered repairs to the product occurring within the United States and Canada.

EXCLUSIONS:

The following are not covered by the Falcon Electric Limited New Product Warranty.

1. **DAMAGE DUE TO ACCIDENTS, FRAUD, INTENTIONAL NEGLIGENCE, MISUSE, IMPROPER INSTALLATION, UNAUTHORIZED ADJUSTMENTS, MODIFICATION, ALTERATIONS, DISCONNECTION, TAMPERING:** Accidents or acts of nature or other events beyond the control of Falcon Electric, damage from impact, contaminants, fire, or water, misuse of the product such as sustained overloading, improper installation or operation, operation in an un-controlled environment.
2. **DAMAGE DUE TO IMPROPER INSTALLATION OR LACK OF MAINTENANCE:** Lack of proper maintenance as outlined in the owner's manual.
3. **NORMAL MAINTENANCE:** Cleaning, replacement of leaking or outdated batteries.
4. **DAMAGE DUE TO ALTERATIONS:** Alterations by changing or adding to the product by any unauthorized personnel or service organization.
5. **DAMAGE CAUSED BY OTHER THAN ORIGINAL EQUIPMENT PARTS.** Any malfunctions caused by the use of other than Falcon Electric original equipment parts such as batteries, line cords and plugs, output receptacles, or any other part.
6. **BROKEN OR TAMPERED WARRANTY SEALS:** Falcon Electric will deem all warranties null and void in the event warranty seals are broken or show signs of removal or tampering.
7. **CONSEQUENTIAL DAMAGES:** This Limited New Product Warranty does not cover any consequential or secondary damages that may be suffered as a result of usage of the product or the need to repair or replace a warranted part except to the extent coverage of such damage is required by the state whose law governs the Falcon Electric Limited New Product Warranty.
8. **REPAIRS BY UNAUTHORIZED SERVICE ORGANIZATIONS OR PERSONNEL:** Otherwise covered repairs when the prescribed repair is not performed by the Falcon Electric Service Center or by a Falcon Electric authorized third party service organization.
9. **LIABILITY FROM USE OF THE PRODUCT:** Liability for damage to property or injury or death of any person arising out of the operation, maintenance, or use of the product weather.
10. This product is not recommended, and Falcon Electric inc. will not knowingly sell this product, for use with life support and other designated "critical devices". ANY SUCH USE BY A USER AUTOMATICALLY VOIDS AND DISCLAIMS ANY AND ALL WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND EXPRESS WARRANTIES THAT THIS PRODUCT WILL CONFORM TO ANY AFFIRMATION OR PROMISE, FOR THIS PRODUCT AND THE USER AGREES THAT IN NO EVENT SHALL FALCON ELECTRIC INC. BE LIABLE FOR CONSEQUENTIAL OR INDIRECT DAMAGES.

LIMITS OF LIABILITY:

LIMITATION OF LIABILITY: THERE IS NO LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE UNDER THESE WARRANTIES INCLUDING BUT NOT LIMITED TO, LIABILITY FOR INJURY, LOSS OF LIFE, PROPERTY DAMAGE, LOSS OF USE, LOSS OF DATA, LOSS OF TIME, INCONVENIENCE OR COMMERCIAL LOSS, OR BREACH OF IMPLIED OR EXPRESSED WARRANTIES. ANY AND ALL SUCH LIABILITY IS EXPRESSLY EXCLUDED. IN NO EVENT SHALL FALCON ELECTRIC BE RESPONSIBLE FOR ANY AMOUNT EXCEEDING THE ACTUAL MARKET VALUE OF THE PRODUCT. Some states do not permit the exclusions of limitations of incidental or consequential damages, so these limitations may not apply to you.

TRANSFER:

This Falcon Electric Limited New Product Warranty is not transferable in the event of the product ownership being transferred during the warranty coverage period.

ITEM COVERAGE:

Effective January 1, 2000 FALCON® ELECTRIC hereby warrants product shipped under this Agreement to be free from defective workmanship for a period of two years following date of shipment. Coverage under this Falcon Electric New Product Warranty Agreement commences with the date of shipment defined as the date on the Bill of Lading. If no Bill of Lading is issued, the date of shipment shall be shown on seller's shipping document. The Falcon Electric Limited New Product Warranties expire two years from the aforementioned commencement date. Falcon Electric, Inc. reserves the right to make changes, additions, and/or other improvements in its products without incurring any obligation to install them on its products previously sold. This Warranty is valid for product as sold.

1. For product located in the continental United States and Canada deemed by Falcon Electric to be covered under this warranty, Falcon Electric will pay shipping costs associated with the return and repair of product under the following conditions only:
 - a. Falcon Electric will pay shipping costs both to and from our U.S. Service Center for the first 30 days from the original date of invoice. During this 30 day period Falcon Electric may elect to ship a new unit to replace the defective product.
 - b. After the first 30 days and up to 90 days from the original date of invoice the end-user is responsible for shipping costs associated with sending the defective unit to the Falcon Electric U.S. Service Center. Falcon Electric will pay shipping costs associated with returning the repaired product to the end-user. During this 60 day period Falcon Electric may elect to offer a loaner unit, providing the end-user agrees to pay for all shipping costs associated with transportation of the loaner unit both from and return to the Falcon Electric U.S. Service Center.
 - c. All shipping costs for product submitted beyond 90 days of the original date of invoice is the responsibility of the end-user.

FCC CONSIDERATIONS

This equipment generates and uses radio frequency energy and if not installed and used properly in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. All models covered in this manual have been tested and found to comply with the limits for a Class A computing device, in accordance with the specifications in FCC regulations, Part 15, Subpart J, which are designed to provide reasonable protection against Such interference.

TECHNICAL SUPPORT AND SERVICE

Your SVR is backed by one of the finest customer service teams assembled. Write, call, fax or email should you require technical assistance or service.

Falcon Electric Inc,
5106 Azusa Canyon Road
Irwindale CA, 91706
(800) 842-6940; (626) 962-7770
Fax: (626) 962-7720
service@falconups.com

Should service be desired, you must first obtain a Return Material Authorization number (RMA) and shipping instructions from our customer service department. Please have your SVR Series model and serial number(s) on hand prior to the call. This information is located on the identification label on the rear panel of the unit. This information is essential in retrieving your unit's history records.

The RMA number issued must appear on the outside of the shipping carton. The original shipping container must be used when returning any SVR Series product. Falcon Electric will not assume any responsibility for shipping damage. In the event of shipping damage, you will be charged for repairs due to the damage.

All units must be returned prepaid. The address and shipping instructions will be given to you at the time the RMA is issued.