

# Symmetra™

## User's Manual

SYMINIF  
SYMINIF-PD  
SYMSTRF  
SYMSTRF-PD



# APC

[www.apcc.com](http://www.apcc.com)

Power & Server Technology

**DOCKET**  
**ALARM**

Find authenticated court documents without watermarks at [docketalarm.com](http://docketalarm.com).

## ***Important Safety Instructions!***

**Please read this manual!**

**Veillez lire ce manuel!**

**Bitte lesen Sie dieses Anleitungshandbuch!**

**¡Se ruega leer este manual de instrucciones!**

This *User's Manual* provides safety, installation and operating instructions that will help you derive the fullest performance and service life that the Symmetra™ Power Array has to offer.

**PLEASE SAVE THIS USER'S MANUAL!** It includes important instructions for the safe use of the Symmetra™ Power Array, and for obtaining factory service should the proper operation of the system or the components come into question. Service or storage issues may arise at a later date, and may require reference to this *User's Manual*, or to the technical support information that is included in it.

**CONSERVER CES INSTRUCTIONS!** Cette notice contient des instructions importantes concernant la sécurité.

## **Radio Frequency Interference**

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules and the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.

**WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Part #: 990-7770A

Revised 10/97

## Limited Warranty

American Power Conversion (APC) warrants its products to be free from defects in materials and workmanship for a period of two years from the date of purchase. Its obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from APC or an APC service center. Products must be returned to APC or an APC service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment which has been damaged by accident, negligence, or mis-application or has been altered or modified in any way. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase.

EXCEPT AS PROVIDED HEREIN, AMERICAN POWER CONVERSION MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL APC BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, APC is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

## Life Support Policy

As a general policy, American Power Conversion (APC) does not recommend the use of any of its products in life support applications where failure or malfunction of the APC product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness. APC does not recommend the use of any of its products in direct patient care. APC will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to APC that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of American Power Conversion is adequately protected under the circumstances.

Examples of devices considered to be life support devices are neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), autotransfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators for both adults and infants, anesthesia ventilators, infusion pumps, and any other device designated as "critical" by the U.S.F.D.A.

Hospital grade wiring devices and leakage current may be ordered as options on many APC UPS systems. APC does not claim that units with this modification are certified or listed as Hospital Grade by APC or any other organization. Therefore these units do not meet the requirements for use in direct patient care.

Entire contents copyright © 1997 American Power Conversion. All rights reserved; reproduction in whole or in part without permission is prohibited. Symmetra, Power Array, SmartSlot, SmartCell and SNMP Adapter are trademarks of APC. Power-Chute and PowerDoctor are registered trademarks of APC. All other trademarks are the property of their respective owners.

# Table of Contents

## INTRODUCTION

Theory of Operation .....	i
Modes of Operation .....	iii

## SAFETY INFORMATION

Symbols Used In This Manual .....	safety-1
Important Safety Instructions .....	safety-1

## 1. PHYSICAL REPRESENTATION

The Power Array Frame .....	1-1
PowerView User Interface .....	1-2
Louvered Cover Grills .....	1-2
Power Modules .....	1-2
Battery Module .....	1-2
Main Intelligence Module (MIM) .....	1-3
Redundant Intelligence Module (RIM) .....	1-3
Input Circuit Breaker .....	1-3
Maintenance Bypass Switch .....	1-3
Rear View of Power Array .....	1-4
System Enable Switch .....	1-4
Communication Interface Ports .....	1-4
SmartSlot Accessory Ports .....	1-4
REPO/Input/Output Wiring Panels .....	1-4
Power Distribution Unit Panel .....	1-4
Battery Extension Frame Connector .....	1-4

## 2. SITE PREPARATION

Space and Weight Considerations .....	2-1
Transporting Power Array to Installation Site .....	2-1
Operating Conditions .....	2-1
BTU Output .....	2-1

## 3. UNPACKING AND INSTALLING FRAME

Initial Inspection .....	3-1
Check For Damage .....	3-1
Handling Considerations .....	3-1
Tools Required For Setup .....	3-1
Storage of Battery and Power Modules .....	3-1
Moving the Frame .....	3-1
Removing Packing Materials .....	3-2
Remove the Frame from the Pallet .....	3-2
Moving Battery & Power Modules .....	3-2
Clean-Up .....	3-2

## 4. WIRING REQUIRMENTS & PROCEDURES

Wiring Overview .....	4-1
Input Wiring .....	4-2
Output Wiring .....	4-4
Remote Emergency Power Off Wiring .....	4-7
Electrical Wiring Test/Checklist .....	4-8

<b>5. SETTING UP THE POWER ARRAY</b>	
Overview of Setup .....	5-1
Frame Leveling Procedure .....	5-1
Installing Battery Modules .....	5-2
Installing Power Modules .....	5-3
Installing the Main Intelligence Module (MIM) .....	5-4
Installing the Redundant Intelligence Module (RIM) .....	5-4
Installing the PowerView Interface .....	5-5
SmartSlot Interface Accessories .....	5-6
Installation Test/Checklist .....	5-7
<b>6. THE POWERVIEW DISPLAY</b>	
Overview .....	6-1
PowerView Functions .....	6-1
PowerView LED's .....	6-2
Navigation Keys .....	6-2
Startup Screen .....	6-3
Top level Menu Screen .....	6-3
<b>7. CONFIGURING &amp; OPERATING THE SYMMETRA</b>	
Introduction .....	7-1
Powering the System .....	7-1
Powering the Loads .....	7-2
Review Status Conditions .....	7-2
Perform a Self-Test .....	7-4
Shutdown Parameters .....	7-5
Configure Alarms .....	7-5
Review Diagnostics Menu .....	7-6
Review Logging Menu .....	7-6
<b>8. MODULE REPLACEMENT</b>	
Module Failure Alarm Indicators .....	8-1
Technical Support and Obtaining a Replacement Module .....	8-1
Battery Module Replacement Procedure .....	8-2
Power Module Replacement Procedure .....	8-3
Main Intelligence Module Replacement Procedure .....	8-4
Redundant Intelligence Module Replacement Procedure .....	8-4
<b>9. POWERVIEW DISPLAY MESSAGES</b>	
Start-Up Messages .....	9-1
General Status Messages .....	9-2
Module Failure Messages .....	9-3
Threshold Alarm Messages .....	9-3
Bypass Messages .....	9-3
General Fault Messages .....	9-4

## INDEX

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.