

Symmetra[®] LX

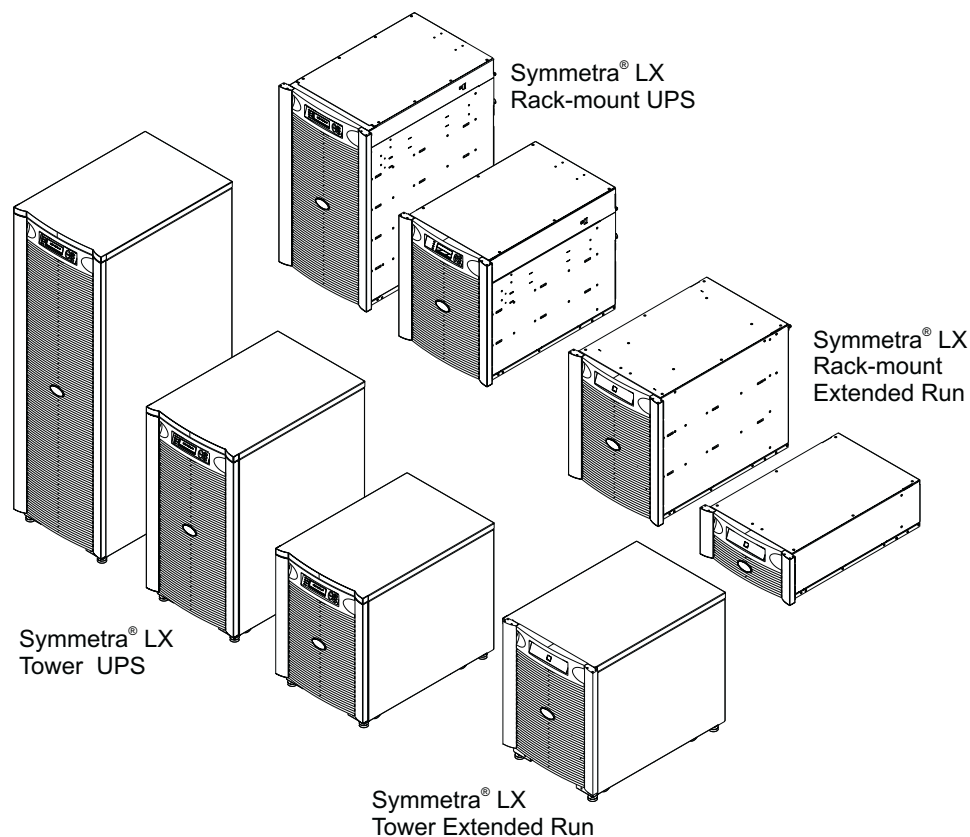
200/208/230 V, 4–16 kVA

Safety Instructions and General Information Guide

Important Safety and Installation Instructions

This manual provides important safety instructions and general information pertaining to the Symmetra[®] LX tower and rack-mount UPS and optional Extended Run Cabinet. Illustrations are representative. Your Symmetra[®] LX configuration, including components and optional APC equipment, may be different from the models shown in this guide.

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Safety Instructions

Read and understand this manual before installing, operating or maintaining APC equipment.

General Equipment Safety



Electrical Hazard

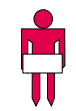
- Read, understand and follow ALL safety instructions contained in this manual. Failure to follow safety instructions and warnings could result in equipment damage, serious injury, or death.
- Connection to the branch circuit (mains) must be performed by a licensed electrician.

Handling Safety



Electrical Hazard

Do not lift heavy loads without assistance.



<40 lb.
<18 kg



40–70 lb
18–32 kg



70–120 lb
32–54 kg



>120 lb
>54 kg



Note

This equipment is intended for installation in a temperature-controlled indoor area free of conductive contaminants. Refer to Specifications at the APC web site for the actual temperature range.

Deenergizing Safety



Electrical Hazard

The UPS contains internal batteries and may present a shock hazard even when disconnected from the branch circuit (mains). Before installing or servicing the equipment, ensure that the system enable switch and input circuit breaker are set to stand-by (OFF), that internal battery modules are removed, that external extended run batteries are disconnected and the branch circuit (mains) is disconnected.

Electrical Safety



Electrical Hazard

- The protective earth conductor for the UPS carries the leakage current from the load devices (computer equipment). An insulated grounding conductor that is identical in size, insulation material, and thickness to the grounded and ungrounded branch-circuit supply conductors, except that it is green with or without a yellow stripe is to be installed as part of the branch circuit that supplies the UPS.
- The grounding conductor described above is to be grounded to earth at the service equipment, or if supplied by a separately derived system, at the supply transformer or motor-generator set.
- The attachment-plug receptacles near the unit or subsystem are all to be of a grounding type, and the grounding conductors serving these receptacles are to be connected to earth ground at the service equipment.

Battery Safety



Electrical Hazard

- Each battery module is a 120 V, 7.2 Ah battery pack. There is a risk of energy hazard. Before installing or replacing battery modules, remove jewelry such as wristwatches and rings. High short-circuit current through conductive materials could cause severe burns.
- Do not dispose of batteries in a fire. The batteries may explode.
- Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes, and may be toxic.



Caution

- Ensure that battery module(s) are in the battery disconnect position if they are in storage for an extended period of time.
- Store the battery module(s) at a cool ambient temperature of < 25 °C.
- Storage of batteries longer than six months without recharging may result in permanent damage.



Note

- To comply with FAA regulations, the battery modules are shipped disconnected to the UPS.
- Batteries are recyclable. Used batteries can be sent to APC for recycling or delivered to a recycling facility.
- Only use APC batteries when adding or replacing battery modules in the UPS.

Hardwiring Safety



Electrical Hazard

Verify that all branch circuit (mains) and low voltage (control) circuits are de-energized, and locked out before installing cables or making connections, whether in the junction box or to the UPS.



Caution

- Wiring by a qualified electrician is required.
- Check national and local codes before wiring.
- Strain relief is required for all hardwiring.
- All openings in the rear of the UPS must be covered. Failure to do so may result in personal injury or equipment damage.
- Select wire size and connectors according to national and local codes.



Note

- Loads can be connected directly to the UPS using the output plugs on the PDU panel. Ensure that the total load being plugged into a PDU panel DOES NOT EXCEED the branch circuit breaker rating on the PDU panel.
- Do not install a PDU panel when a PDU warning label is present.
- Use flexible metal conduit to make maintenance and service easier.

Safety Instructions (continued)

Remote Emergency Power Off (REPO)

The output power can be disabled in an emergency by closing a switch connected to the REPO circuit. You must manually reset the system enable switch on the front of the UPS to restart the unit.



Caution

- The REPO circuit is considered a Class 2 (UL and CSA standards) and SELV (IEC standard) circuit.
- Class 2 Circuit:** Used in North America by UL and CSA. It is defined in the National Electrical Code (NFPA 70, Article 725) and in the Canadian Electrical Code (C22.1, Section 16).
- SELV Circuit:** Used in Europe by IEC; acronym for "safety extra low voltage." A SELV circuit is isolated from primary circuitry through an isolating transformer and designed so that under normal conditions, the voltage is limited to 42.4 V peak or 60 V dc.
- Both Class 2 and SELV circuits must be isolated from all primary circuitry. Do not connect any circuit to the REPO terminal block unless it can be confirmed that the circuit is SELV or Class 2. If there is a question, use a contact closure switch.
- Use one of the following cable types to connect the UPS to the EPO switch:
 - CL2: Class 2 cable for general use.
 - CL2P: Plenum cable for use in ducts, plenums, and other spaces used for environmental air.
 - CL2R: Riser cable for use in a vertical run in a shaft of from floor to floor.
 - CLEX: Limited use cable for use in dwellings and for use in raceways.
 - For installation in Canada: Use only CSA Certified, type ELC (extra-low voltage control cable).

General Information

This section contains general information pertaining to Symmetra equipment. Please read and understand the information contained in this section before installing or operating APC equipment.

Contact Information

Visit the APC Web site for contact numbers and support at <http://www.apc.com/support>.

Regulatory Agency Approvals



LISTED 42C2
E96563



LR63938



N 394



Declaration of Conformity

Declaration of Conformity

Date of product declaration **2004**

We, the undersigned, declare under our sole responsibility that the equipment specified below conforms to the following standards and directives:

Standards to Which Conformity Declared:	Manufacturer's Name and Address:	
EN60950; IEC60950; EN50091-1-1; EN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-11; EN50091-1-2; EN55022	American Power Conversion Lot 3, Block 14, Phase 3 PEZA, Rosario, Cavite Philippines	American Power Conversion 132 Fairgrounds Rd. West Kingston, RI 02892 USA
Application of Council Directives: 73/23/EEC; 89/336/EEC; 91/157/EEC; 92/31/EEC; 93/68/EEC	APC (Suzhou) UPS Co.,Ltd 339 Suihong Zhong Lu Suzhou Industrial Park Suzhou Jiangsu 2215021 P R China	American Power Conversion 2ND Street PEZA, Cavite Economic Zone Rosario, Cavite Philippines
Type of Equipment: Uninterruptible Power Supply	APC India Pvt, Ltd. 187/3, 188/3, Jigani Industrial Area Bangalore, 562106 Karnataka India	American Power Conversion Lot 10, Block 16, Phase 4 PEZA, Rosario, Cavite Philippines
Model Numbers: SYAF8KI; SYAF8KRMI; SYAF16RMI; SYAF16KXR9I	Place: N. Billerica, MA USA	Richard J. Everett Sr. Regulatory Compliance Engineer 5 Jan 04
Importer's Name and Address: American Power Conversion Ballybritt Business Park Galway, Ireland	Place: Galway, Ireland	Ray S. Ballard Managing Director, Europe 5 Jan 04
		992-0049

Radio Frequency Interference

North America and 208 V Countries

- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the Federal Communications Commission (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 (CDC). 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 interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference. 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.

- Use shielded signal cables with this product to ensure compliance with Class A FCC limits.

Europe and 230 V Countries

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take corrective actions.

Japan and 200 V Countries

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

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 reduced leakage currents that meet medical safety standards may be ordered as options on many APC UPS systems. APC does not claim that units with these modifications are certified or listed as such by APC or any other organization, therefore these units do not meet the requirements for use in direct patient care.

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, except in India where the period is one year for battery module(s). 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 customer support (see Service in the *Symmetra LX Operations Manual*). Products must be returned 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 that has been damaged by accident, negligence, or misapplication 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.

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