

Symmetra® LX Electrical Installation Guide Tower and Rack-mount UPS

For use with Symmetra LX UPS Models:

200 V, 4 8 kVA
208/240 V, 4 8 kVA

200 V, 4 16 kVA
208/240 V, 4-16 kVA

Important Safety and Installation Instructions

This manual provides instructions on the wiring and connections for the Symmetra LX tower and rack-mount UPS.

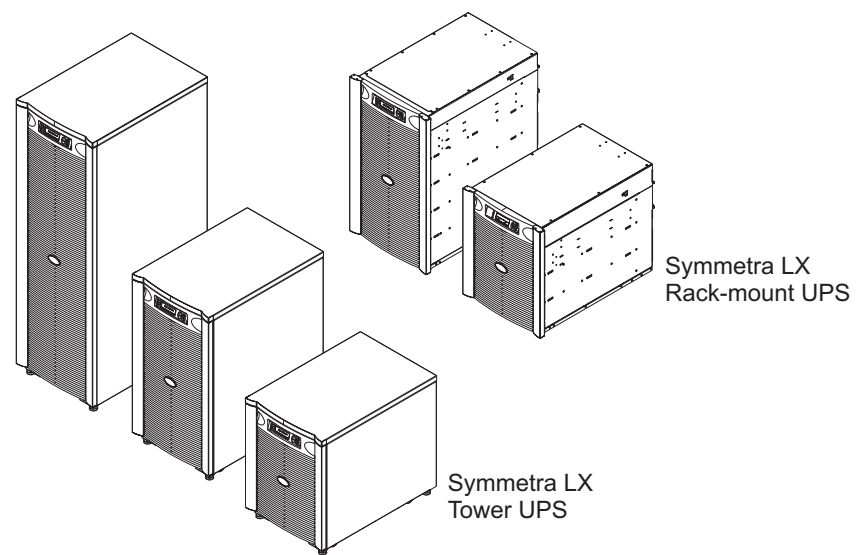
All electrical power and power control wiring must be installed by a qualified electrician and comply with local and national regulations.

See and retain the product documentation shipped with your system for other important installation, operation, and maintenance instructions.

Illustrations are representative. Your Symmetra LX configuration, including components and optional APC equipment, may be different from the models shown in this guide.

Entire contents copyright 2006 by American Power Conversion Corporation. All rights reserved. Reproduction in whole or in part without permission is prohibited.

APC, the APC logo, PowerChute, InfraStruXure, Smart-UPS and Symmetra are registered trademarks of American Power Conversion Corporation. All other trademarks are the property of their respective owners.



Electrical Installation

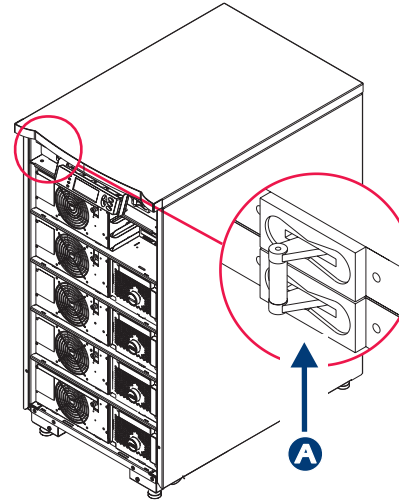


Read, understand and follow ALL safety instructions contained in the *Symmetra LX Safety Instructions and General Information Guide*. Failure to follow safety instructions and warnings could result in equipment damage, serious injury, or death.

1 Complete Pre-installation Checklist

Before beginning the electrical installation, perform the following procedures.

- 1.1 Check that the circuit breaker to be used to power the UPS is in the OFF position.
- 1.2 Check that the input circuit breaker **A** on the UPS is in the OFF position.

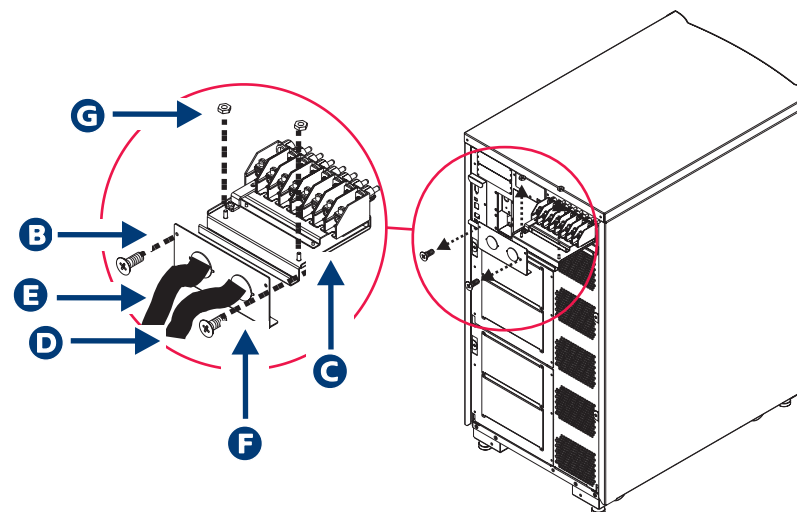


2 Hardwire the UPS



- Refer to local and national codes. Many locations require hardwiring by a licensed electrician.
- Strain relief is required for all hardwiring.
- All openings in the hardwire assembly must be covered. Failure to do so may result in personal injury or equipment damage.

- 2.1 Remove screws **B** and slide out the hardwire assembly **C**.
- 2.2 Attach an input conduit **D** and if required, an output conduit **E**.
 - ❑ Larger holes can be punched if necessary.
 - ❑ Detach the strain relief panel **F** using nuts **G** for easier access.



Input Connections				
Maximum Load	Method	Voltage (Vac)	Circuit Breaker Rating*	Connection
8 kVA	Hardwired (Standard on tower and rack-mount)	200, 208, or 240	50 A	<ul style="list-style-type: none"> ▪ External circuit breaker ▪ #6 AWG (14 mm² JAPAN) ▪ Torque to 40 in-lb (4.5 N-m) ▪ 4-Wire (L1-L2-N-G)
16 kVA	Hardwired (Standard on tower and rack-mount)	200, 208, or 240	100 A	<ul style="list-style-type: none"> ▪ External circuit breaker ▪ #3 AWG (22 mm² JAPAN) ▪ Torque to 40 in-lb (4.5 N-m) ▪ 4-Wire (L1-L2-N-G)

Output Connections				
Maximum Load	Method	Voltage (Vac)	Circuit Breaker Rating*	Connection
8 kVA	Hardwired (Standard on tower and rack-mount)	100/200, 120/208, or 120/240	50 A	<ul style="list-style-type: none"> ▪ External circuit breaker ▪ #6 AWG (14 mm² JAPAN) ▪ Torque to 40 in-lb (4.5 N-m) ▪ 4-Wire (L1-L2-N-G)
	Output receptacles (Standard on rack-mount)	100/200, 120/208, or 120/240		<ul style="list-style-type: none"> ▪ 2 (L14-30R) ▪ 4 (L5-20R)
16 kVA	Hardwired (Standard on tower and rack-mount)	100/200, 120/208, or 120/240	90 A	<ul style="list-style-type: none"> ▪ External circuit breaker ▪ #3 AWG (22 mm² JAPAN) ▪ Torque to 40 in-lb (4.5 N-m) ▪ 4-Wire (L1-L2-N-G)
	Output receptacles (Standard on rack-mount)	100/200, 120/208, or 120/240		<ul style="list-style-type: none"> ▪ 4 (L14-30R) ▪ 8 (L5-20R)

*Recommended

2 Hardwire the UPS (continued)

2.3 Attach an input cable **H** and an output cable (if required) **I**, to the terminal block **J**.

- Pull the wires through the conduit into the hardwire assembly.
- Connect to the terminal block as indicated on the label **K**, using a torque of 40 in-lb (4.5 N-m).
- Cover the unused holes in the strain relief panel.

2.4 Inspect cable connections to ensure proper installation.

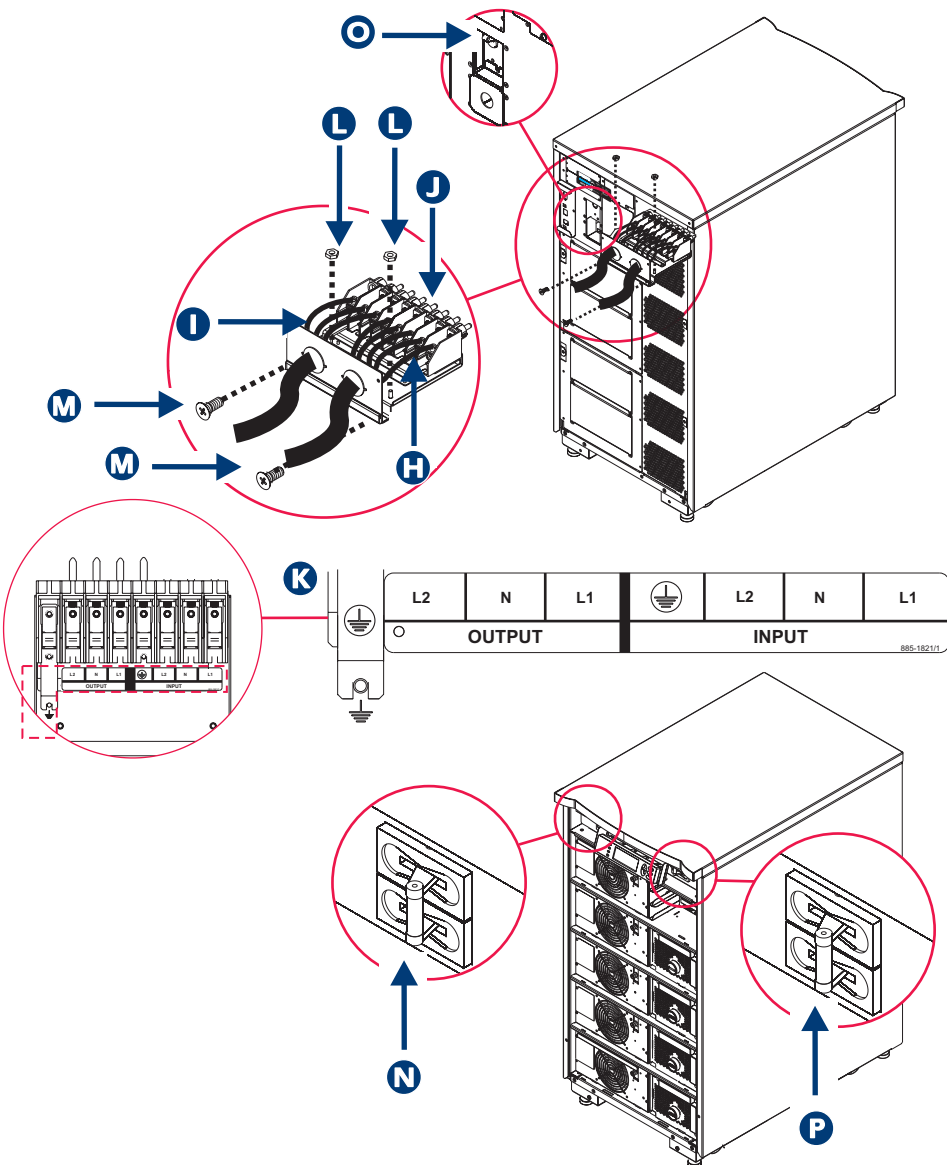
2.5 Reattach the strain relief panel with nuts **L**.

2.6 Reinstall the hardwire assembly with provided screws **M**.

2.7 Test the wiring.

- Turn on the utility power, the input circuit breaker **N**, and the system enable switch **O**. If the V_{in} value on the display does not match your branch voltage, check the input wiring.
- Check the output wiring by turning on the maintenance bypass switch **P**.

2.8 Turn OFF the input circuit breaker and maintenance bypass switch.



3 Connect Remote Emergency Power Off (REPO) Circuit, If Required



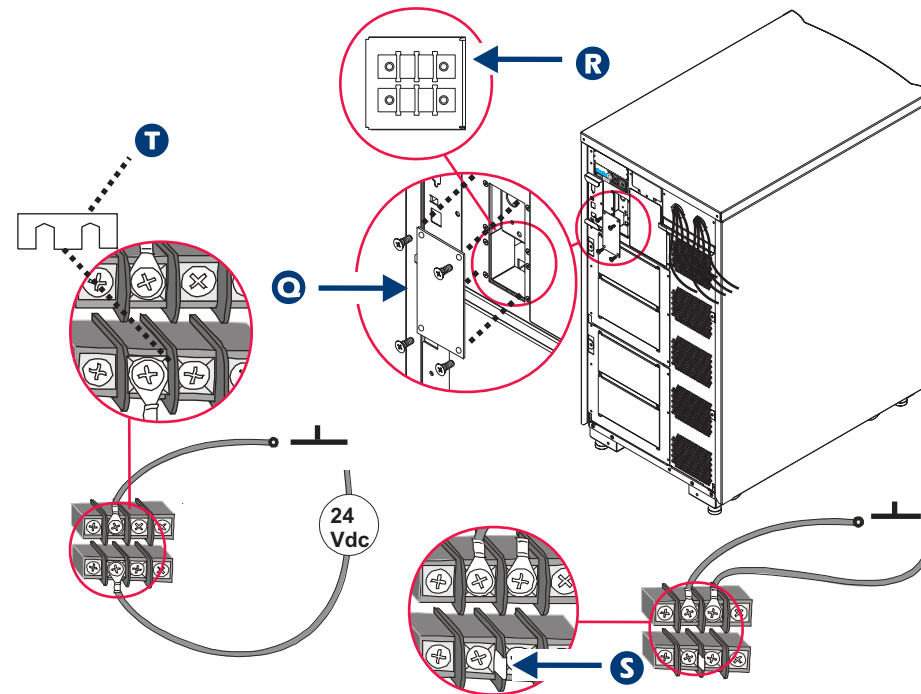
Note

- In many locations, the Remote Emergency Power Off (REPO) switch must be installed by a licensed electrician. Refer to local and national codes.
- See the *Symmetra LX Safety and General Information Guide* for REPO requirements and detailed safety instructions.

3.1 Remove the access panel **O** to connect the circuits **R**.

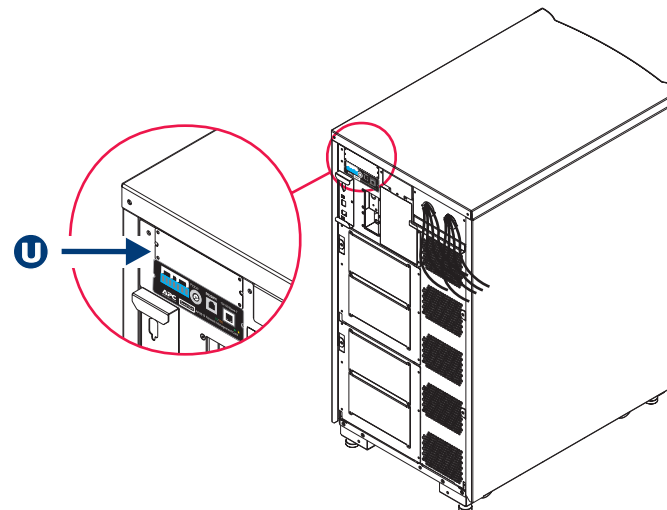
3.2 If your installation will use an external switch contact, connect the REPO switch with the pre-installed jumper **S**, as shown.

3.3 If your installation will use a switch contact and a 24 V power supply external to the UPS, remove the jumper **T** and connect the REPO switch, as shown.



4 Install Accessory Card, If Applicable

If your configuration includes an additional management accessory card, install in the empty slot **U** on the rear of the UPS. See the accompanying documentation for installation instructions.



5 Install PDU Panel(s) and Connect Loads to the UPS, If Applicable

Your configuration may include optional PDU panels. Refer to the PDU installation guide.



Note

Loads can be connected directly to the UPS using the output receptacles 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.