Site Requirements

Operating Space Requirements

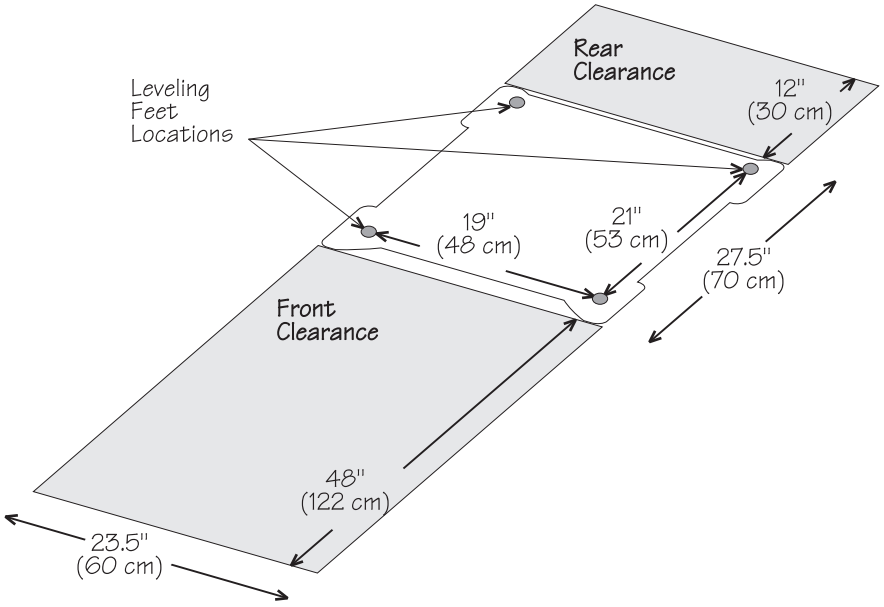
The Symmetra™ is 23.5" (60cm) wide, and 27.5" (70cm) deep. No space is required on the sides of the Symmetra™ frame.

Rear Clearance

- A minimum of 12" (30 cm) of clearance is required behind the frame for adequate airflow.
- The system enable switch must remain accessible.
- The back of the Symmetra™ must be accessible for the electrician to install wiring.

Front Clearance

- A minimum of 48" (122 cm) of clearance is required in front of the frame.
- The PowerView interface must remain accessible.
- The front of the Symmetra™ must be accessible to install and replace power and battery modules.



Notice!

- The voltage transformer in the SYMINIFJ and SYMSTRFJ models emits an electro magnetic field (EMF) that can interfere with the normal function of a computer monitor. If a monitor exibits distortion problems, move it away until the problem stops (typically 10ft, 3m). The EMF level is not of sufficient magnitude to cause interference with other equipment.

Structural Requirements

Symmetra™ components are heavy. Use this table to determine the total weight of the system.

Symmetra™ Component		Weight lb (kg)	Product Dimensions W x D x H inches (cm)
Note: *Weights shown are for frames fully loaded with modules.*			
Japanese Models	SYMINIFJ	485 lb (220 kg)	23.5" x 27.5" x 34" (60 x 70 x 86)
	SYMSTRFJ	905 lb (411 kg)	23.5" x 27.5" x 55" (60 x 70 x 140)
Extended Run Battery Frame Options	SYXR4J-BM	320 lb (145 kg)	23.5" x 27.5" x 20" (60 x 70 x 51)

Caution!

- The weight of the Symmetra™ frames rest on four 1.5" (3.8 cm) diameter leveling feet. Ensure the floor and subfloor is structurally sound to support the weight of the Symmetra™ frame(s) when concentrated on the leveling feet. Also, make sure the structure can support the *total* weight of all Symmetra™ frames, extended run battery frames, and all other options.

Environmental Requirements

Install Symmetra™ in a temperature controlled, clean, dry, and protected indoor area that is free of conductive contaminants. The environment must have adequate airflow, and be free of corrosive fumes.

Environmental Condition	Acceptable Range
Temperature	32°F - 104°F (0°C - 40°C)
Relative Humidity	0 - 95% non-condensing
Elevation	0 to 10,000 feet above mean sea level (0 to 3,048 m)

Heat Output

Heat output of the Symmetra™ is significantly increased when batteries are charging. Battery recharge periods are relatively infrequent.

Symmetra™ Component		Heat Output (Batteries Charged)	Heat Output (Batteries Charging)
Japanese Models	SYMINIFJ	3,600 kJ (3,413 BTU)	9,147 kJ (8,670 BTU)
	SYMSTRFJ	7,201 kJ (6,826 BTU)	16,500 kJ (15,640 BTU)

Short-Term Battery Module Storage Requirements

Battery modules must be temporarily stored until the electrical wiring is connected and the Symmetra™ is ready to be powered.

- Batteries should be stored at 0°F to 77°F (-18°C to 25°C) to preserve battery life.
- Storage environment can be within 0 to 100% relative humidity , *non-condensing*.

  Note: *Condensation will cause corrosion of electronic and chassis parts.*

⚠ Caution!

- Installing battery modules in a Symmetra™ that is not powered will discharge the batteries and could damage them permanently. Do not install battery modules into the Symmetra™ frame until after the electrical wiring connections have been made, and the system is ready to be powered.

Electrical Requirements - Input/Output

Symmetra™ Component		Wiring	Voltage (VAC)	Current Full Load	Overcurrent Protection (External)	Minimum Wire Size
Japanese Models	SYMINIFJ	Input	200V	40A	50Amp 2-Pole	#8 AWG (10mm²)
		Output	100V/200V			
	SYMSTRFJ	Input	200V	80A	100Amp 2-Pole	#3 AWG (25mm²)
		Output	100V/200V			

Electrical Requirements - EPO Switch

The Symmetra™ Power Array can be connected to either a dry contact or 24Vdc Emergency Power Off switch. The terminal connections for the EPO switch are physically isolated from the primary circuitry of the Power Array system.

EPO Specifications

The EPO circuit is considered a Class 2 and SELV circuit.

SELV is an acronym for "Safety Extra Low Voltage." SELV is a common term in Europe and IEC standards. 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 Vpeak or 60 Vdc.

A Class 2 Circuit is a common term in North America and in UL and CSA standards. It is defined in the Canadian Electrical Code (C22.1, Section 16) and in the National Electrical Code (NFPA 70, Article 725).

SELV and Class 2 circuits must be isolated from all primary circuitry. Do not connect any circuit to the EPO 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 Symmetra™ to the REPO switch:

CL2 - Class 2 cable for general purpose use.

CL2P - Plenum cable for use in ducts, plenums, and other space used for environmental air.

CL2R - Riser cable for use in a vertical run in a shaft or from floor to floor.

CL2X - Limited Use cable for use in dwellings and for use in raceway.

For installation in Canada, the cable should be CSA Certified, type ELC (Extra-Low-Voltage Control Cable).

Electrical Wiring Overview (SYMINIFJ Shown)