



PowerStruXure™ Type A Site Preparation Guide 220–240V, 4–12 kVA Systems

Selecting and purchasing system components

When ordering your system:

- Determine your load power and runtime requirements.
- Purchase your system components.
 - Include Symmetra® redundant battery and power modules required for your system.
 - Select options and accessories, such as management cards, rack-mount PDUs, and installation kits for overhead ladders to route cables.
- Evaluate and select a service plan.

For assistance with these tasks, go to the APC Web page www.apc.com/products/powerstruxure/index.cfm/.

Environmental requirements

Select a site that is temperature-controlled, clean, dry, and free of conductive contaminants, and that meets the following specifications:

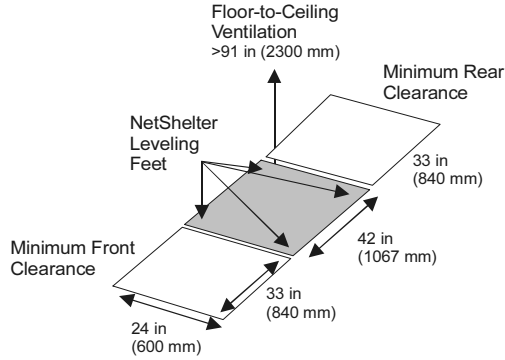
Temperature	0–40° C (32°–104° F)
Relative Humidity	0–95% non-condensing
Elevation above mean sea level	0–3000 m (0–10 000 ft)

Allow for the following typical thermal dissipation by the UPS when it is fully loaded and has N+1 redundancy (one more power module than necessary to support the load).

UPS 12kVA N+1(Full Load) with batteries charged	4246 BTU
UPS 12kVA N+1(Full Load) with batteries charging	9664 BTU

Required clearances for access and ventilation

All enclosures require the same clearances, which are the clearances required for NetShelter® VX enclosures.



Weight and U-space availability

Plan which equipment to install in the enclosures. When its leveling feet are in place, each enclosure can support 2000 lb (907.2 kg) of equipment including any factory-installed components and not including the weight of the enclosure itself. You can install a maximum of two rack-mount PDUs in each enclosure. (For detailed information on rack-mount PDUs, including the number of receptacles on each model, go to the Web page www.apc.com/products/rack/rps.cfm.)



Ensure that the floor can support a fully loaded system. Including the weight of the enclosure and its equipment load, each base enclosure or row expander enclosure can weigh up to 2359 lb (1070.0 kg), and each NetShelter VX enclosure can weigh up to 2282 lb (1035.1 kg.)

Enclosure SKU	Description	Weight (Unpacked)	U-Space Available (not used by pre-installed or required components)
PSXBR12KI	Base Enclosure	544 lb 246.9 kg	27U with UPS frame factory-installed
PSXRX12KI	Row Expander Enclosure	373 lb 169.2 kg	42U with Row Expander PDU factory-installed
AR2101BLK	NetShelter VX Enclosure	282 lb 127.9 kg	42U

Component SKU	Description	Weight (Unpacked)
SYBT3	Symmetra RM Battery Module	29 lb 13.2 kg
SYPM4KU	Symmetra RM Power Module	64 lb 29.1 kg

Electrical requirements: input/output

Use these guidelines, and check local and national electrical codes.



Hardwired installation requires a licensed electrician.

Input Connection.

SKU	Connection Method	Max Load	Input Voltage	Connection Details
PSXBR12KI (Base Enclosure)	Hardwired (3-wire: L1, L2/N, and \ominus)	12kVA (N+1)	220, 230, 240VAC	100 A 1-pole external circuit breaker (to break phase only). See local and national codes for wire required for maximum current (full load).
PSRX12KI (Row Expander Enclosure)	Hardwired (cord provided)	7.2 kVA	220, 230, 240VAC	The Row Expander PDU, factory-installed in this enclosure, must be wired into a hardware terminal block with a 30A 1-pole breaker on the rear panel of the UPS in the Base Enclosure (PSXBR12KI)

Output Connection.

SKU	Connection Method	Connection Details, Including Available Receptacles
PSXBR12KI (Base Enclosure)	Cord-connected, using factory-installed PDUs	Four IEC 320 C19 receptacles allocated for rack-mount PDUs for the appropriate output voltage.
	Hardwired, using two factory-installed PDUs	Two PDU hardwired connections: One 30A circuit breaker for each row expander PDU allocated, for a maximum of two Row Expander PDUs
	Hardwired (available but optional)	Hardwired connections: Up to 100A, 1-pole external circuit breaker (to break phase only). See local and national codes for wire required to support maximum current (full load)
PSRX12KI (Row Expander Enclosure)	Cord-connected	Four IEC 320 C19 receptacles allocated for rack-mount PDUs for the appropriate output voltage.

Electrical requirements: REPO

Remote Emergency Power Off (REPO). If required by local or national codes, you must connect the REPO (to disable output power in an emergency) either as internally powered for use with non-powered switch circuits, or externally powered for use with +24VDC-powered switch circuits. The REPO circuit must be a Class 2 (UL and CSA standard) and SELV (IEC standard) circuit, isolated from all primary circuitry. For instructions on wiring, see the installation section in the *User's Manual* for your Symmetra RM UPS.

The connection of the UPS to the REPO requires one of the following cable types:

Cable	Description
CL2	Class 2 cable for general use.
CL2P	Plenum cable for use in ducts, plenums, and other spaces used for environmental air-flow.
CL2R	Riser cable for use in a vertical run in a shaft from floor to floor.
CLEX	Limited use cable for use in dwellings and in raceways.



Installation requires a licensed electrician.

Battery installation



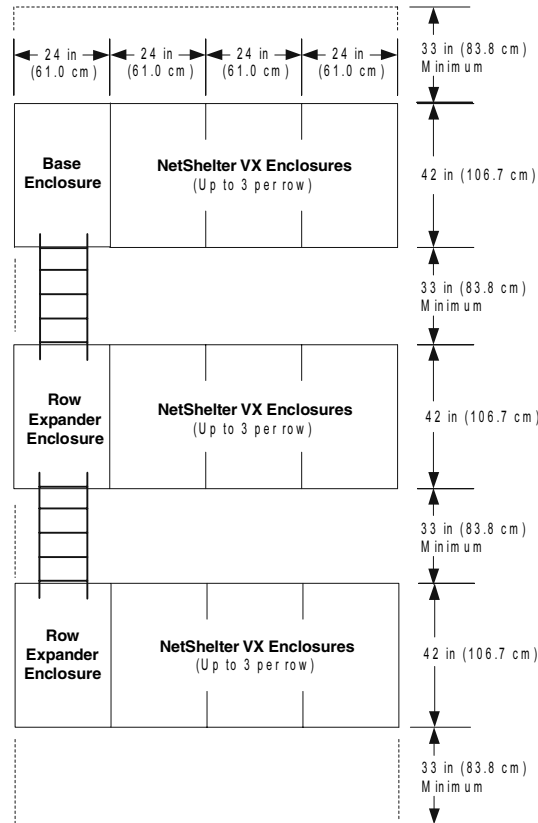
Batteries can be permanently damaged if installed in a system that is not being used.

Sample configurations

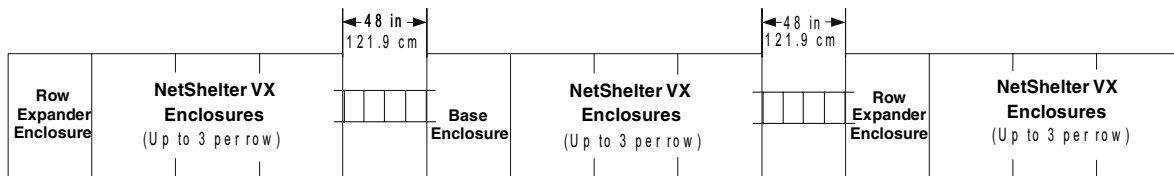
Your system can have a maximum of one base enclosure and two row expander enclosures. Each of these three enclosures can support up to three NetShelter VX enclosures. You can arrange the enclosures in your system in a single row of up to 12 enclosures or in multiple short rows (up to 3 rows of 4 enclosures). For multiple rows, order APC installation kits to install overhead ladders that route cables from row to row. Always arrange rows to be parallel or perpendicular to each other so that ladders attach securely.

Following are three typical configurations, using the maximum number of enclosures.

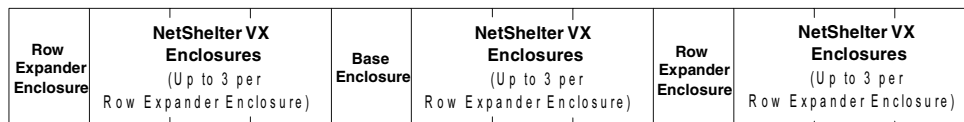
Parallel Rows. The minimum clearances between rows is required to install and service equipment.



Adjacent Short Rows. You can arrange rows in a single line, with aisles up to 48 in (121.9 cm) wide:



One Row. You can arrange all enclosures in a single row, with no aisles:





APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to find answers to frequently asked questions (FAQs), to access documents in the APC Knowledge Base, and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC Web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support with FAQs, knowledge base, and e-support.
- Contact an APC Customer Support center by telephone or e-mail.
 - Regional centers:

APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702020 (Ireland)
Japan	(03)5434-2021 Guidance 3

- Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

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