

Symmetra PX 250/500

Scalable from 25 kW to 500 kW, Parallel-capable up to 2000 kW

Modular, Scalable, Ultra-High Efficiency Power Protection for Data Centers



High performance, right-sized, modular, hot-scalable, 3-phase power protection with ultra-high availability and efficiency for small, medium, and large data centers and mission critical environments

- Parallel capable
- Patented ultra-high efficiency (96%)
- Double conversion technology
- Redundant power & runtime protection in a single unit
- High-density design
- Unity power factor corrected
- Rack based for agility and aesthetics

Features and Benefits

The right-sized UPS for demanding business critical applications

The APC Symmetra PX 250/500 kW is a world class, ultra-high efficiency power protection system designed to cost effectively provide high levels of availability while simplifying right-sizing of your data center. Symmetra PX250/500 kW is a true modular system consisting of hot-swappable dedicated and redundant power, intelligence, and battery modules that facilitate easy and efficient service. This architecture can scale power and runtime as demand grows or as higher levels of availability are required. The Symmetra PX 250/500 kW systems can scale in increments of 25 kW up to 500 kW, and four systems can be paralleled to deliver up to 2000 kW of power protection (1.5 MW with N+1 system-level redundancy).

With industry-leading power density, the Symmetra PX has the ability to fit seamlessly onto the data center floor or into the back room. Highly manageable, the Symmetra PX 250/500 kW features self-diagnostic capabilities and standardized modules which mitigate the risk of human error. Other features include automated predictive diagnostics, increased overload capacity, extended battery life and on-the-fly firmware upgrades resulting in increased overall data center reliability.

Symmetra PX 250/500

Availability

- Redundant intelligence module
- Hot-swappable power, battery and intelligence modules
- Hot-swappable static bypass switch
- Self-diagnosing, field-replaceable modules
- Toolless module replacement
- Parallelable for redundancy (1.5 MW N+1)
- N+0 or N+1 module-level redundancy
- N+0 or N+1 system-level redundancy

Scalability

- 25 kW to 500 kW power capacity
- Hot-scalable 25 kW power modules
- Parallelable for capacity (2 MW)
- Extended battery runtime available

Total Cost of Ownership

- Unity power factor corrected
- Ultra-high efficiency (96% at 35% load, 95% at 25% load)
- High-performance, long-life (5-8 year) batteries

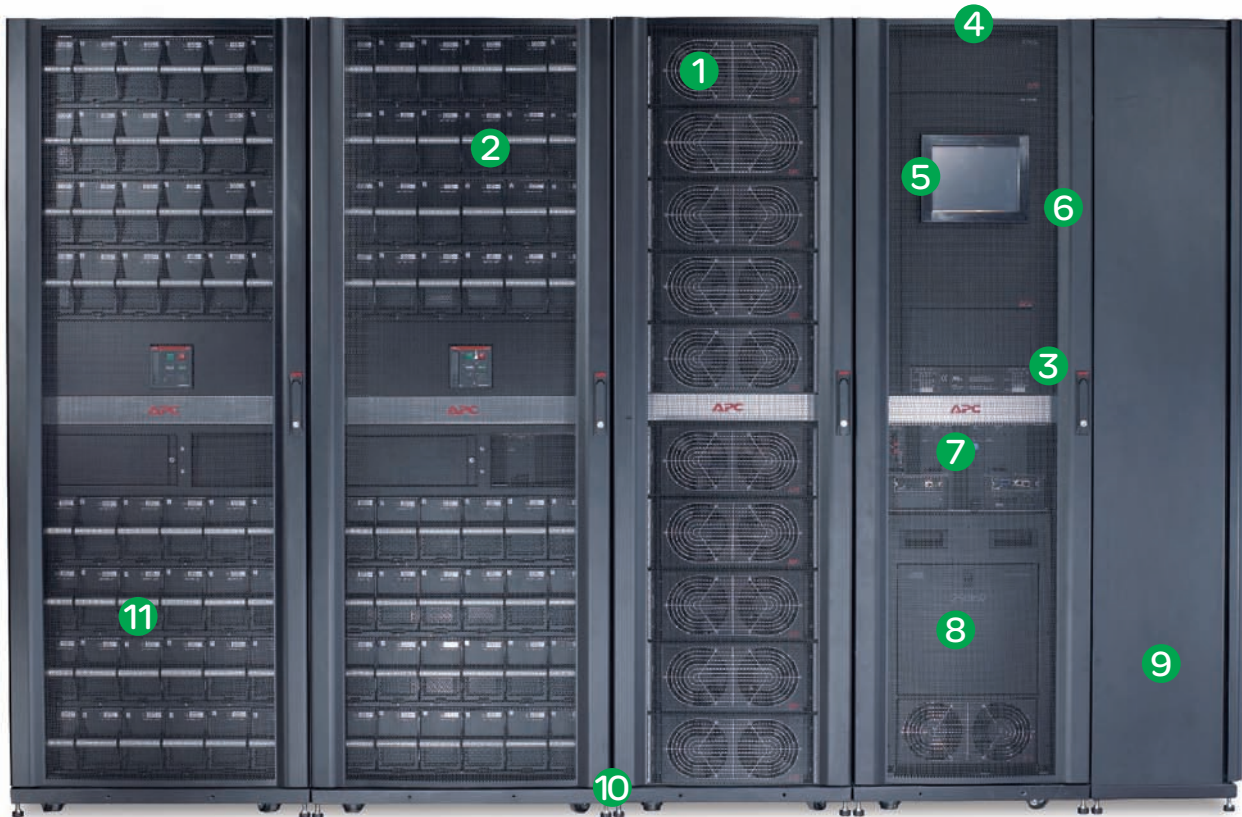
Manageability

- Energy monitoring displays kWh output of each UPS
- Dual mains input, top or bottom feed
- Embedded network management
- Remote access over HTTP, Telnet, SNMP
- Local access at touchscreen display interface
- Configurable alarm notifications
- StruxureWare™ Central compatible

Typical Applications

- Medium data centers
- Large data centers

Symmetra PX Features and Benefits



SY250K250DR-PD

1 Ultra-High Efficiency (96%) Power Module down to 35% loading

Provides the flexibility to scale power capacity in 25 kW increments and adds N+1 capability as well as a fully rated double conversion inverter for providing more real power

2 Long-Life Battery Module

Connected in parallel for increased availability, the 5-8yr expected life reduces system lifetime costs (TCO)

3 Parallel Capability

All the benefits of the Symmetra PX 250/500 – plus system-level redundancy

4 Dual Mains Input/Output

Allows for connection to 2 separate power inputs for increased availability – top or bottom

5 10" LCD Touch Screen Display

Offers a clear graphical / text based overview of alarms, status data and instructional help that minimize the risk of operator errors

6 System Wide Firmware Updates

A USB port on back of the display enables on-the-fly upgrades, making firmware updates easy and increasing system availability

7 Redundant Intelligence Module

Back-up for the Main Intelligence Module provides increased availability

8 Built-in Static Bypass Switch

Hot swappable, the SSW enables the UPS to transfer the load to utility power, without interruption, in case of heavy overload or faulty conditions

9 Maintenance Bypass with Distribution (MBwD)

Space saving design that provides power distribution to your load and, if required, isolation from the UPS while maintaining power to your critical loads

10 High Density Footprint

Space saving and more flexibility on where you place the UPS

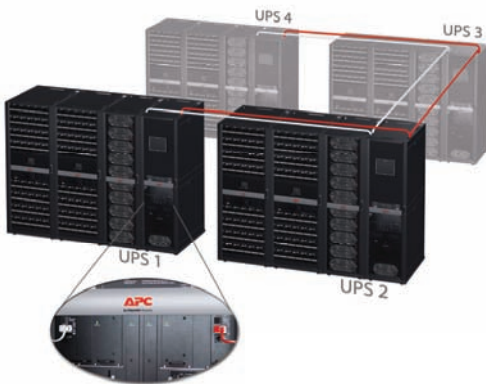
11 Premium Line-Up/Remote External Battery Enclosure

A total of 8 enclosures can be connected to the UPS either in-row or remotely, allowing the UPS to be configured to your data center requirements while offering extended runtimes and availability

The High Density, Ultra-Efficient, Scalable, Modular UPS

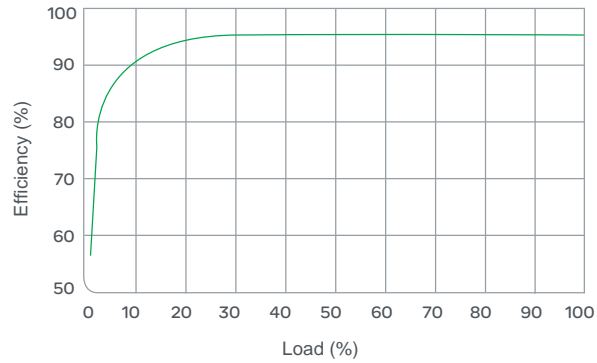
Scalable, Modular, and Parallelable

- 250 kW / 500 kW configuration populated at lower capacity enables one-time installation service
 - Each UPS scalable from 25 kW to 500 kW
 - Parallel 4 systems up to 2 MW
- Additional battery frames scale runtime
- Inherently N+X redundant
- Integrated parallel functionality
- Optional combined maintenance bypass and sub-feed distribution panel
- All components conform to InfraStruxure™ form-factor (78.7 in x 42.1 in H x D) (1991 mm x 1070 mm H x D)



Ultra-Efficient

96% efficient to 35% loading, the PX250/500 kW conserves energy and cuts back your power and cooling costs, significantly reducing your overall Total Cost of Ownership

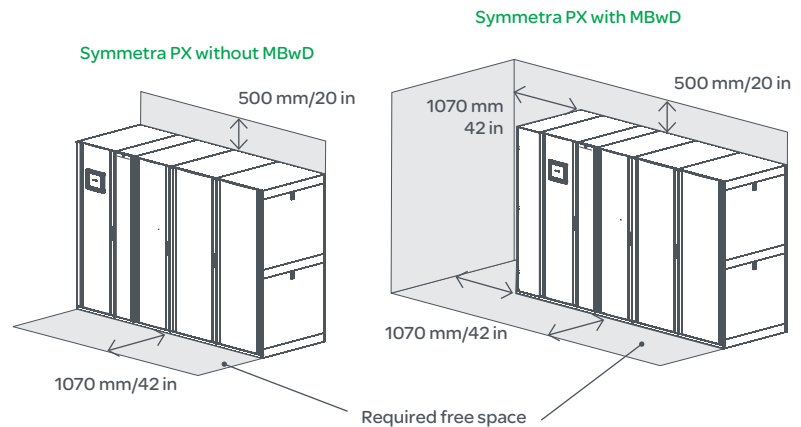


High Density

- The highest power density in its class
- Frees up valuable data center space
 - 250 kW in 3.3 sq/m (includes battery footprint)
 - 500 kW in 5.7 sq/m (includes battery footprint)
 - 2 MW in 22.8 sq/m (includes battery footprint)

Configuration Flexibility

- Modular architecture offers the flexibility that today's data center requires
 - White Space, Back Room, Wall Space
 - Line-up Batteries, Remote Batteries
 - Top Feed, Bottom Feed
 - Single Feed, Dual Feed
- 250 kW to 500 kW expansion
 - One additional power frame
 - 500 kW Static Switch
 - Additional power modules
- Supports up to four UPSs in parallel with custom switchgear
- Supports up to 8 battery frames for extended runtime applications



Symmetra PX Accessories

Extended Runtime (XR) Frames

To increase the number of minutes your load can remain on battery, add optional Battery Extended Runtime frames. A maximum of 8 battery frames can be connected to the Symmetra PX 250/500 to extend runtime



Battery Breaker Enclosure

Install the battery breaker enclosure, then use third-party battery cabinets to supply runtime to the load



Third-party Battery Cabinet

Front-access battery systems provide high energy storage density in a smaller footprint while eliminating the need to reach over energized cables or battery terminals to install, maintain, or replace batteries



Power Distribution

APC Modular Power Distribution Units eliminate the need to schedule downtime to add a breaker. Power distribution modules plug into a touch-safe backplane that shields users from dangerous amperage. The power distribution system simplifies power management by including output metering, branch current/circuit monitoring and auto-detection by the StruxureWare suite of management options. Multiple power ratings and power cord lengths for low to high power guarantee compatibility and convenient installation



Battery Sidecar

Install the batteries remotely, then connect the batteries by cables to the UPS



Bottom Feed Frame

For some configurations greater than 250 kW, use the Bottom Feed Frame to support dual bottom-feed utility input



Symmetra PX 250/500 kits



Battery Breaker Enclosure Fuse Kits (500A & 1000A)



Air filters



Optional Terminal Blocks



Parallel Cables



Third-Party Switchgear Kit

Seismic kits (not shown)

A Comprehensive Portfolio of Services



Factory Warranty

This One-Year On-site Warranty covers repairing or replacing any defective parts, including on-site labor and travel

Assembly & Start-up

Included with every Symmetra PX 250/500, this valuable service ensures the Symmetra PX 250/500 kW is fully configured on-site by company certified field service personnel, that the electrical installation has been done correctly, and that the system is started up to ensure optimal performance. The result is reduced risk of failure and increased product quality. Startup must be performed by Schneider Electric Critical Power & Cooling Services personnel in order to receive full coverage under the Factory Warranty

On-site Response Upgrade

Upgrade from standard next business day to 8-hour or 4-hour response time is available in many locations. Applicable to Factory Warranty, On-site Warranty Extension or Advantage Plans

Scheduling Upgrade

Upgrades standard scheduling for PM or Startup from 5x8 to 7x24 off-business hours scheduling

Advantage Plans

Comprehensive packages of services designed to give you extended piece of mind that your system will receive the service it needs to operate at peak performance and with maximum availability. Includes tech support, next business day on-site response, preventive maintenance and remote monitoring service. The Advantage Ultra Plan also includes parts, labor & travel so there are never any surprise expenses related to service

On Site Warranty Extension

A factory trained technician will arrive on site to diagnose or repair the system. Includes parts, labor and travel, with Next Business Day response. An Annual Site Inspection visit is also included

Preventive Maintenance Visit (PM)

A system examination system designed to help prevent problems before they occur and keep systems running at maximum efficiency. An annual PM visit is recommended for the Symmetra PX 250/500, following the Factory Warranty period

Technical Specifications

UPS Rating kVA/kW (PF=1)	250 kW	500 kW
Mains Input (Normal Operation)		
Grid system	Single feed: 3 phases + neutral + ground, 3 phases + ground Dual feed: 3 phases + ground	
Grid parallel system	Single feed: 3 phases + neutral + ground Dual feed: 3 phases + ground	
Voltage range	+/- 15% for full performance; 340 – 460 V at 400 V (408 – 552 V at 480 V)	
Frequency range	40-70 Hz with 10 Hz/sec slew rate	
Power factor (PF)	>0.995 at load = 100% >0.99 at load > 50% >0.97 at load > 25%	
I thd (full load)	< 5%	
Nominal input current	378 A @ 400 V (315 A @ 480 V)	756 A @ 400 V (630 A @ 480 V)
Maximum input current (Nominal Vin, 10 % charging batts)	416 A @ 400 V (346 A @ 480 V)	831 A @ 400 V (693 A @ 480 V)
Input current limit	447 A @ 400 V (372 A @ 480 V)	894 A @ 400 V (745 A @ 480 V)
Maximum input short-circuit level	65 kA (50 kA with standard MBwD)	
Protection	Backfeed contactor	
Output		
Power rating	250 kW	500 kW
Grid system	3 phases + neutral + ground, 3 phases + ground	
Voltage nominal	380 V / 400 V / 415 V / 480 V L-L	
Nominal output current	361 A @ 400 V (301 A @ 480 V)	722 A @ 400 V (601 A @ 480 V)
Maximum battery operation time	Unlimited	
Frequency regulation	50/60 Hz bypass synchronized, 50/60 Hz +/-0.1% free running	
Synchronized slew rate	Programmable to 0.25, 0.5, 1, 2, 4, 6 Hz/sec	
Overload (normal and battery operation)	150% for 30 seconds, 125% for 10 min, 100% continuous	
V thd	< 2% from 0 to 100% linear load, < 6% full non-linear load according to IEC/EN62040-3	
Load PF	from 0.5 leading to 0.5 lagging without any derating	
Bypass Input (Bypass operation)		
Grid system	Single feed: 3 phases + neutral + ground, 3 phases + ground. Dual feed: 3 phases + ground	
Voltage (nominal)	380 V / 400 V / 415 V / 480 V L-L	
Voltage (range)	+/-10% (from selected voltage)	
Frequency (nominal)	50/60 Hz	
Frequency (range)	+/-0.5%, +/-1%, +/-2%, +/-4%, +/-6% and +/-8% (user selectable)	
Nominal input current	361 A @ 400 V (301 A @ 480 V)	722 A @ 400 V (601 A @ 480 V)
Maximum overload input current	397 A @ 400 V (376 A @ 480 V)	794 A @ 400 V (752 A @ 480 V)

Preliminary - Subject to change without notice

Technical Specifications, continued

UPS Rating kVA/kW (PF=1)	250 kW	500 kW
Efficiency		
Normal operation	> 96% at 35% - 100% load	
Battery operation	> 96% at 35% - 100% load	
Mechanical: Stand-alone UPS, no batteries		
Size (H x W x D)	1991 x 1600 x 1070 mm (78.7 x 63 x 42.1 in)	1991 x 2200 x 1070 mm (78.7 x 86.6 x 42.1 in)
Weight	4509 kg (9940 lb)	8336 kg (18377 lb)
Mechanical: UPS with MBwD and 6 min. battery runtime		
Size (H x W x D)	1991 x 3100 x 1070 mm (78.7 x 121.9 x 42.1 in)	1991 x 5200 x 1070 mm (78.7 x 204.7 x 42.1 in)
Weight	1057 kg (2330 lb)	1722 kg (3797 lb)
Environmental		
Storage temperature, UPS only	-30 to 70°C (-22° to 158°F)	
Storage temperature, UPS and batteries	-15 to 40°C (5 to 104°F) Battery self discharge: approximately 6 -8 months @25°C; 1-2 months @45°C	
Operating temperature*	0 to 40°C (32 to 104°F)	
Regulatory compliance	UL Listed, ULc Listed, CE, EN/IEC 62040-2 (class A), FCC part 15, EN/IEC 62040-3, EN/IEC 62040-1-1, UL 1778, UL 60950-1, CSA C22.2 No. 107.3-05	

*For optimum battery life, the operating temperature range is 18 to 27°C (64 to 80°F)

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