Symmetra™ PX

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

Symmetra PX250/500kW

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

High Performance 3 Phase Modular, Scalable Power Protection with Industry Leading Efficiency, Capacity and Performance for Small, Medium, and Large Data Centers and Mission Critical Environments

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

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Symmetra PX

Right sized, Modular, Scalable, 3-Phase Power Protection with industry leading availability, efficiency and performance for any size data center or high density power zone

The APC Symmetra PX 250/500KW is a world class, redundant, scalable, ultra-high efficiency power protection system designed to cost effectively provide high levels of availability. Seamlessly integrating into today's state-of-the-art data center designs, the Symmetra PX250/500kW is a true modular system. Made up of dedicated and redundant hot-swappable modules—power, intelligence, battery and bypass, all engineered into a design that is easily and efficiently serviceable, this architecture can scale power and runtime as demand grows or as higher levels of availability are required. The Symmetra PX 250/500kW systems can scale in increments of 25KW up to 500KW, and four systems can be paralleled to deliver up to 2000kW of power protection.

The Symmetra PX family serves as the core power train that drives APC InfraStruxure™ systems for small, medium and large data centers. Highly manageable, the Symmetra PX 250/500kW features self-diagnostic capabilities and standardized modules which mitigate the risk of human error, resulting in increased overall data center reliability.

Symmetra PX 500kW

Symmetra PX 250kW

The Symmetra PX 250/500kW delivers the high availability, extreme agility, and low TCO you have come to expect from the Symmetra PX family. With industry leading power density, the Symmetra PX has the ability to fit seamlessly onto the data center floor, into the back room, or against any wall with no rear access required. Other features include automated predictive diagnostics, increased overload capacity, extended battery life and on-the-fly firmware upgrades which all lead to a highly predicable, efficient, and simplified UPS architecture.

The right-sized UPS for demanding business critical applications

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Symmetra PX Features & Benefits

1 **Long Life Battery Module**
Connected in parallel for increased availability the 5-8yr expected life reduces systems lifetime costs (TCO)

2 **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 & availability.

3 **Ultra-High Efficiency (96%) Power Module down to 35% loading**
Provides the flexibility to scale power capacity in 25kW increments and adds N+1 capability as well as a fully rated double conversion inverter for providing more real power

4 **Dual Mains Input/Output**
Allows for connection to 2 separate power inputs for increased availability – top or bottom

5 **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

6 **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

7 **Redundant Intelligence Module**
Back-up for the Main Intelligence Module provides increased availability

8 **High Density Footprint**
Space saving & more flexibility on where you place the UPS

9 **10” LCD Touch Screen Display**
Offers a clear graphical / text based overview of alarms, status data, instructional help that minimize the risk of operator errors

10 **System Wide Firmware Updates**
On-the-fly upgrades via USB port on back of display. Makes firmware updates easy and increases system availability

11 **Parallel capability**
All the benefits of the Symmetra PX 250/500 – plus system-level redundancy

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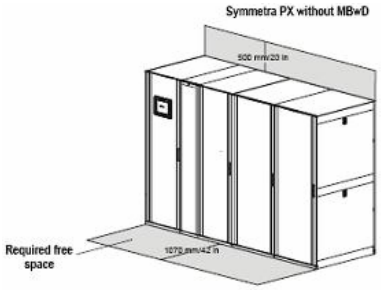
Symmetra PX

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

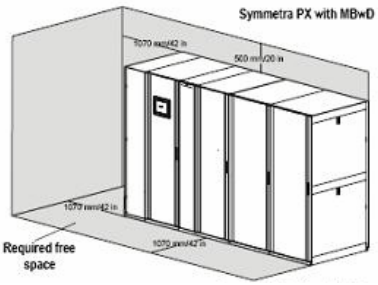
Scalable, Modular, and Parallelable

> 250kW / 500kW configuration populated at lower capacity enables one-time installation service
  - Scalable from 25kW to 500kW
  - Parallel 4 systems to 2MW
> Additional battery frames scale runtime
> Inherently N+X redundant
> Integrated parallel functionality
> Hot swappable power and battery modules
>Optional combined maintenance bypass and sub-feed distribution panels
> All components conform to InfraStruxure form-factor (78.7in x 42.1in HxD) (1991mm x 1070mm HxD)



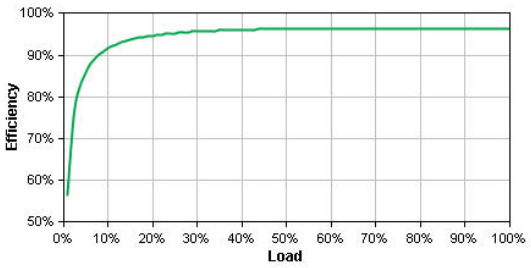
High Density

> The Highest Power Density in its class
> Frees up valuable data center space
  - 250kW in 3.3 sq/m (includes battery footprint)
  - 500kW in 5.7 sq/m (includes battery footprint)
  - 2MW in 22.8 sq/m (includes battery footprint)



Ultra-Efficient

96% efficient to 35% loading, the PX250/500kW saves you on your power & cooling costs, significantly reducing your overall Total Cost of Ownership.



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
> 250kW to 500kW expansion
  - One additional power frame
  - 500kW 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

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The most comprehensive range of services

Factory Warranty

1 Year On Site service that includes Parts, Labor and Travel

This 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 PX250/500kW 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.

Response Upgrade

Upgrades standard on-site response service to an 8-hour or 4-hour response time

Scheduling Upgrade

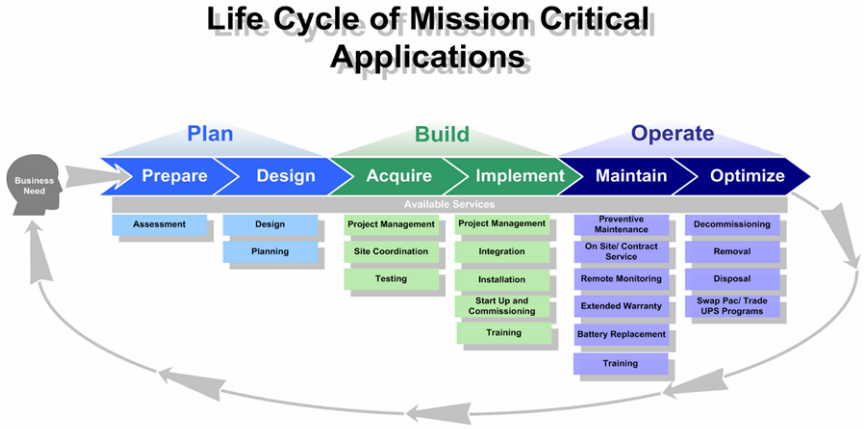
Upgrades standard scheduling for PM or Startup from 5x8 to 7x24 off-business hours scheduling

On Site Warranty Extension

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

Preventive Maintenance Visit (PM)

An examination of the system designed to ensure optimal performance 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.



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Symmetra PX

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.

Third-party Battery Cabinet

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

Battery Sidecar

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

Battery Breaker Enclosure

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

Bottom Feed Frame

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

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 InfraStruXure suite of management options. Multiple power ratings and power cord lengths for low to high power guarantee compatibility and convenient installation.

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Technical Characteristics

UPS Rating kVA/KW (PF = 1)	250kW	500kW
Mains Input (Normal Operation)		
Grid system	3 phases + neutral + ground, 3 phases + ground (Dual/Single mains)	
Voltage range	+/- 15% for full performance (340 – 460V at 400V) or (408 - 552V at 480V)	
Frequency range	40-70 Hz with 10 Hz/sec slew rate	
Power factor (PF)	>0.995 @ load = 100%, > 50%, >0.97 @ load > 25%	
I thd (full load)	< 5%	
Nominal input current	378A @ 400V or 315 @ 480V	756A @ 400V or 630 @ 480V
Maximum input current (Nominal Vin, 10 % charging batts)	316A @ 400V or 346@ 480V	831A @ 400V or 693@ 480V
Input current limit	347A @ 400V or 372@ 480V	894A @ 400V or 745@ 480V
Maximum input short-circuit level	65kA (50kA with standard MBwD)	
Protection	Backfeed contractor	
Bypass Input (Bypass operation)		
Grid system	3 phases + neutral + ground / 3 phases + ground	
Voltage (nominal)	380V / 400V / 415V / 480V 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	361A @ 400V or 301 @ 480V	722A @ 400V or 601 @ 480V
Maximum overload input current	397A @ 400V or 376 @ 480V	794A @ 400V or 752 @ 480V
Output		
Power rating	250kW	500kW
Grid system	3 phases + neutral + ground / 3 phases + ground	
Voltage nominal	480V L-L	
Nominal output current	361A @ 400V or 301 @ 480V	722A @ 400V or 601 @ 480V
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	

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Technical Characteristics

UPS Rating kVA/KW (PF = 1)	250kW	500kW
Efficiency		
Normal operation	> 96% at 35% - 100% load	
Battery operation	> 96% at 35% - 100% load	
Mechanical		
Standalone UPS, no batteries		
Size (H x W x D)	78.7 x 63 x 42.1in (1991 x 1600 x 1070mm)	78.7 x 86.6 x 42.1in (1991 x 2200 x 1070mm)
Weight	2330 lb (1057 kg)	3797 lb (1722 kg)
UPS with MBwD and 6 min. battery runtime		
Size (H x W x D)	78.7 x 121.9 x 42.1in (1991 x 3100 x 1070mm)	78.7 x 204.7 x 42.1in (1991 x 5200 x 1070mm)
Weight	9940 lb (4509 kg)	18377 lb (8336 kg)
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) Note: 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		
cUL Listed,CE,EN/IEC 62040-2,EN/IEC 62040-3,EN/IEC 62040-1-1,UL 1778,UL 60950-1,UL Listed		

Preliminary – Subject to change without notice

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

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