

Life Is On

Schneider
Electric



Symmetra PX 250/500

Scalable from 100 kVA kW to 500 kW, parallel capable up to 2,000 kW

Modular, scalable, high efficiency power protection for data centers.

The Schneider Electric Symmetra™ PX 250/500 UPS provides high-performance, rightsized, modular, scalable, three-phase power protection with high availability and efficiency for medium and large data centers and mission-critical environments.

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Symmetra PX 250/500

Features and benefits

The Schneider Electric Symmetra PX 250/500 UPS is a world-class, high efficiency power protection system designed to cost effectively provide high levels of availability while simplifying the rightsizing of your data center.

Symmetra PX 250/500 is a true modular system consisting of swappable power modules, battery modules, a static bypass switch, and intelligent management 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 systems can scale in increments of 25 kW up to 500 kW, and four systems can be paralleled to deliver up to 2,000 kW of power protection (1.5 MW with N+1 system-level redundancy).

With industry-leading power density, the Symmetra PX 250/500 has the ability to fit seamlessly onto the data center floor or into the back room. Highly manageable, the Symmetra PX 250/500 features self-diagnostic capabilities and standardized modules that 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

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

Scalability

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

Total cost of ownership

- Unity power factor corrected
- High efficiency in full protection mode (96% at 50% load)
- Up to 99% efficiency in good power conditions with ECO Mode
- Integrated monitoring of battery modules

Manageability

- Energy monitoring displays kWh output of each UPS
- Dual mains input, top or bottom feed
- Embedded network management
- Remote access over HTTP, HTTPS, Telnet, SSH, SNMP v1, and SNMP v3
- Local access at touch-screen display interface
- Remote display application
- Configurable alarm notifications
- Modbus RS-485 compatible
- StruxureWare™ Data Center Expert compatible

Typical applications

- Medium data centers
- Large data centers

Symmetra PX 250/500

Features and benefits (continued)



SY250K250DR-PD

1. High-efficiency power module —

96% in full protection mode

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. Modular batteries

Connected in parallel for increased availability, swappable battery modules feature advanced battery monitoring and temperature-compensated charging, extending battery life.

3. Parallel capability

Further enhance your data center's resilience by adding system-level redundancy to your modular Symmetra PX 250/500.

4. Dual mains input/output

Allows for connection to two separate power inputs for increased availability — top or bottom.

5. 10-inch LCD touch-screen display

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

6. Systemwide 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

Backup for the main intelligence module provides increased availability.

8. Built-in static bypass switch

The swappable static bypass switch 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

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 footprint allows more flexibility on where you place the UPS.

11. Premium line-up/remote external battery enclosure

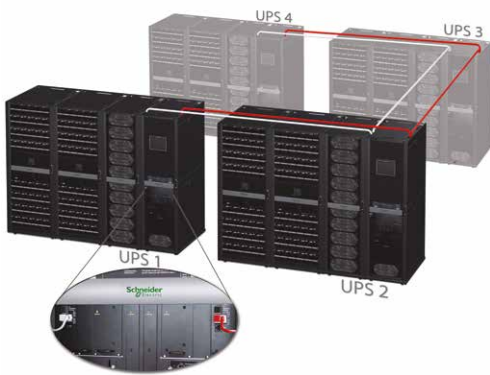
Eight enclosures can be connected to the UPS either in-row or remotely, allowing the UPS to be configured to your data center requirements while offering extended runtimes and availability.

Symmetra PX 250/500

The high-density, high efficiency, scalable, modular UPS

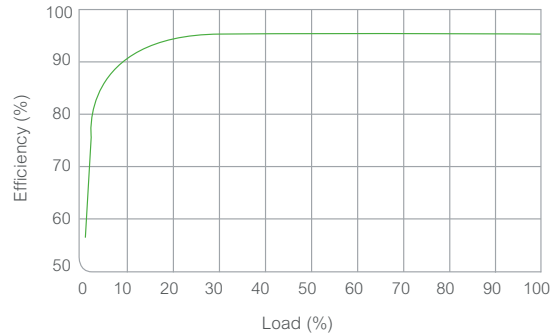
Scalable, modular, and parallelable

- 250 kW/500 kW configuration populated at lower capacity enables one-time installation service
 - Each UPS is scalable from 100 kW to 500 kW
 - Parallel four systems up to 2 MW
- Additional battery frames scale runtime
- Inherently N+X redundant
- Integrated parallel functionality
- Optional combined maintenance bypass and subfeed distribution panel
- All components conform to InfraStruxure™ architecture form-factor (78.7 x 42.1 in H x D) (1,991 x 1,070 mm H x D)



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 UPS units in parallel with custom switchgear
- Supports up to eight battery frames for extended runtime applications



High efficiency

96% efficient to 50% loading and 95% efficient to 25% loading — the Symmetra PX 250/500 kW conserves energy and cuts back your power and cooling costs, significantly reducing your overall total cost of ownership. ECO mode setting bypasses unused electrical components in good power conditions to achieve even higher operating efficiency (up to 99%) without sacrificing protection.



Modular batteries

- Modular batteries can be added or replaced quickly and easily
 - Simply slide the battery module into place; all DC connections are preconfigured and insulated — no cable installation or contact with DC terminals required
 - Patented rear connectors enable toolless connection and disconnection
- Parallel strings increase availability
 - One row of modules makes one string
 - All battery modules support the load, so no individual battery is a single point of failure
- Now even batteries look great in the data center
 - No messy-looking cables — battery connections are made inside the battery unit case
 - Fully integrated system housed in a standard IT rack form factor
- Batteries are monitored at the individual module level
 - Each individual module monitors current, voltage, and temperature and reports the information to the UPS
 - No time wasted — the online battery chart helps you quickly identify and replace faulty modules
 - See the battery data that interests you — alarm notifications are user configurable

Symmetra PX 250/500

Accessories

Extended runtime frames

To increase the number of minutes your load can remain on battery, add optional battery extended runtime frames. A maximum of eight 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 in a 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.



Bottom feed frame

For some configurations greater than 250 kW, use the bottom feed frame to support dual bottom feed utility input.



Battery breaker enclosure

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



Modular power distribution

Modular power distribution mitigates the need to predict the future requirements and configurations of your data center. Factory-assembled power distribution modules plug into a backplane that shields users from amperage. The power distribution system simplifies power management by including output metering, branch current/circuit monitoring, and auto detection by the StruxureWare for Data Centers suite of management options. Power distribution modules with a wide range of breaker ratings and cord lengths simplify installation.



Symmetra PX 250/500 kits



Battery breaker enclosure fuse kits (500 A/1,000 A)



Air filters



Optional terminal blocks



Parallel cables



Third-party switchgear kit



Seismic kits*

Symmetra PX 250/500



A comprehensive portfolio of services

Schneider Electric Critical Power & Cooling Services provides the highest quality services and solutions by trained and trusted professionals. Our world-class services offer a smart way to build, operate, and maintain your critical applications, ensuring the right people, in the right place, at the right time.

Assembly and start-up service

Assembly and start-up service by a certified Field Service Engineer (FSE) ensures full factory warranty coverage. A Schneider Electric-certified installation ensures your equipment is properly and safely configured for optimal performance. This service features a standard eight-hour, five-day response time, with upgrades available for off-business hours.

On-site warranty extension service

In the event of a system issue, an FSE will arrive by the next business day (or faster with upgrades) to isolate, diagnose, and correct the problem in as little time as possible, minimizing downtime.

Advantage plans

Flexible service packages offer hassle-free system maintenance to improve uptime at a predictable cost. The Advantage Plus, Prime, Ultra, and Max are full-service packages that include technical support, preventive maintenance, and quick on-site response. Response time upgrades are available.

Remote monitoring service (RMS)

RMS is an economical and easy-to-use Web-based service that lets you quickly respond to environmental or system changes. Trained technicians provide secure 24-hour monitoring of your physical infrastructure to diagnose and resolve problems before they become critical.

Preventive maintenance

Preventive maintenance on-site examinations of your critical systems are designed to prevent problems and keep your system running at maximum efficiency.

StruxureWare for Data Centers software suite

Schneider Electric UPSs and secure power systems are a core component of any architecture designed for highly critical applications, such as data centers, industry environments, infrastructure, and buildings.

Intelligent energy management of these systems is enabled by Schneider Electric EcoStruxure™ integrated hardware and software system architecture. StruxureWare software applications and suites are a key element of the EcoStruxure architecture. The software helps maximize system reliability and optimize operational efficiency.

StruxureWare for Data Centers software suite collects and manages real-time information about assets, resource use, and operation status throughout the data center life cycle. This data center infrastructure management software fully integrates Symmetra PX 250/500 UPS. With full system visibility, managers can monitor and apply this information in order to optimize data center performance to meet IT, business, and service-oriented goals.



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, 3 phases + neutral + ground	
Grid parallel system	Single feed: 3 phases + neutral + ground Dual feed: 3 phases + ground	
Voltage range	+/-15% at full load (340 – 460 V at 400 V [408 – 552 V at 480 V]) -50% to +15% at reduced loads (200 V at 400 V [240 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%	
THDi (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)
Input short-circuit level	65 kA/3 cycles (50 kA with standard maintenance bypass with distribution (MBwD) cabinet)	
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)
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 operation and battery operation)	150% for 60 seconds, 125% for 10 min, 125% continuous at 480 V and 110% continuous at 400 V in bypass operation*	
V thd	< 2% from 0 to 100% linear load, < 3% full nonlinear 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 bypass current	361 A @ 400 V (301 A @ 480 V)	722 A @ 400 V (601 A @ 480 V)

*This is a thermal performance rating. The continuous overload is not supported by the recommended input protection of the maintenance bypass.
Preliminary — subject to change without notice.

Technical specifications

UPS rating kVA/kW (PF = 1)	250 kW	500 kW
Efficiency		
Normal operation and battery operation, 480 V systems	>96% at 50 – 100% load; >95% at 25 – 49% load	
Normal operation, 400 V systems	>95.5% at 50 – 100% load; 95.5% at 25 – 49% load	
Battery operation, 400 V systems	>96% at 50 – 100% load; >95.5% at 25 – 49% load	
Mechanical: Stand-alone UPS, no batteries		
Size (H x W x D)	1,991 x 1,600 x 1,070 mm (78.7 x 63 x 42.1 in.)	1,991 x 2,200 x 1,070 mm (78.7 x 86.6 x 42.1 in.)
Weight	1,057 kg (2,330 lb.)	1,722 kg (3,797 lb.)
Mechanical: UPS with MBwD and 6 min. battery runtime		
Size (H x W x D)	1,991 x 3,100 x 1,070 mm (78.7 x 121.9 x 42.1 in.)	1,991 x 5,200 x 1,070 mm (78.7 x 204.7 x 42.1 in.)
Weight	4,509 kg (9,940 lb.)	8,336 kg (18,377 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, OSHPD, ENERGY STAR		

* For optimum battery life, the operating temperature range is 18 to 27 °C (64 to 80 °F)
Preliminary — subject to change without notice.