

Life Is On

Schneider
Electric



Symmetra PX 96/160

Scalable from 16 kW to 160 kW

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

The right-sized UPS for demanding business-critical applications

The Schneider Electric Symmetra™ PX 96/160 is a world-class, high-efficiency power protection system designed to cost-effectively provide redundancy and high levels of availability while simplifying the right-sizing of your data center.

The Symmetra PX 96/160 kW UPS is a true modular system, made up of swappable power, battery, intelligence, and bypass modules that facilitate easy installation and efficient service. This architecture can scale in increments of 16 kW up to 160 kW as demand grows or higher levels of availability are required in your data center.

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Symmetra PX 96/160

Features and benefits

Designed exclusively for the Symmetra PX 96/160, the optional integrated 160 kW modular power distribution unit (PDU) combines a PDU, battery cabinet, and maintenance bypass panel into a single enclosure, enabling rapid expansion of the power distribution system without expanding the UPS footprint. The Symmetra PX 96/160 is built into standard Schneider Electric NetShelter™ SX racks, aesthetically promoting quick installation and agility in a changing environment while minimizing the solution footprint to a mere 1.28 square meters for the Symmetra PX 96 kW, or 1.92 square meters for the Symmetra PX 160 kW.

The highly manageable Symmetra PX 96/160 features self-diagnostic capabilities, increasing overall data center reliability. Standardized, factory-assembled modules mitigate the risk of human error during installation or routine maintenance procedures. Suitable in small and medium data centers or high-density zones of larger data centers, the Symmetra PX 96/160 delivers the efficient, modular, high-availability power protection that your business-critical applications require.

High-performance, right-sized, three-phase power protection with industry-leading efficiency, availability, and performance for small and medium data centers or high-density zones.

- Swappable power and battery modules for easy expansion and fast mean time to repair (MTTR)
- High-efficiency double conversion technology (95%)
- Redundant power, runtime, and optional power distribution in a single unit
- High-density design
- Low total cost of ownership
- Unity power factor corrected
- Optional space-saving modular power distribution
- Rack-based for agility and aesthetics

Symmetra PX 96/160

Availability

- Swappable power, battery, and intelligence modules
- N+0 or N+1 module-level redundancy
- Toolless module replacement
- Self-diagnosing, field-replaceable modules
- Redundant intelligence module
- Swappable static bypass switch

Total cost of ownership

- TÜV-verified high efficiency (95% at 35% load)
- Unity power factor corrected
- Integrated monitoring of modular batteries
- One-year warranty and start-up service included

Scalability

- Scalable 16 kW power modules
- Adaptable 32 kW to 160 kW power capacity
- Extended battery runtime available

Manageability

- Dual-mains input, top or bottom feed
- Embedded network management
- Remote access over HTTP, HTTPS, Telnet, SSH, SNMPv1&3
- Local access at PowerView™ display interface
- Configurable alarm notifications
- StruxureWare™ Data Center Expert compatible

Typical applications

- Small/medium data centers
- High-density zones of large data centers

Symmetra PX 96/160

Symmetra PX 96/160 features



1. Dual-mains input/output

Dual-mains input/output allows top or bottom feed connection to two separate power inputs for increased availability.

2. Swappable battery module

Connected in parallel for increased availability, these swappable battery modules feature advanced battery monitoring and temperature-compensated battery charging that extends battery life. Swappability lowers the cost of replacement and MTTR. Additional battery frames can be added for longer runtimes.

3. Premium line-up/remote external battery enclosure

A total of four enclosures can be connected to the UPS, allowing the UPS to be configured to your data center requirements while offering extended runtimes and availability.

4. High-efficiency (95%) power module — down to 35% loading

Independently verified by TÜV, these high-efficiency double conversion power modules reduce power and cooling costs, saving you money while delivering the optimal power protection your data center deserves.

5. LCD display interface

Display offers a clear, text-based overview of alarms, status data, and system configuration options.

6. Main intelligence module and redundant intelligence module

Automated predictive diagnostics expand your ability to monitor and control energy costs; backup for the main intelligence module guarantees the maximum possible availability for your system.

Symmetra PX 96/160

Symmetra PX 96/160 features (continued)

7. Network management card

Provides UPS status and event notification — SmartSlot™ positions supporting dry contact, environmental monitor, building management system (modbus/Jbus), and additional network management cards.

8. Built-in static bypass switch

Swappable static bypass switch transfers the load to utility power without interruption in case of heavy overload or faulty conditions, and ensures that even in 125% overload conditions, the data center remains operational.

9. High-density footprint

Protect power and provide runtime in a mere 1.28 square meters for the Symmetra PX 96 kW or 1.92 square meters for the Symmetra PX 160 kW. Integrate modular power distribution and maintenance bypass without changing the footprint, freeing valuable data center space for IT equipment.

10. Modular power distribution (optional)

Adapt the modular power distribution solution to meet changing demand with easy-to-install power distribution modules. Monitor breaker positions and simplify power management with output metering and branch current/circuit monitoring.

Symmetra PX 96/160



Factory-assembled and -tested power distribution modules feed power to IT racks



16 kVA/kW power modules provide high efficiency even at low load levels



3-in-1 modular power distribution, maintenance bypass, and battery cabinet



Modular batteries provide reduced MTTR, scalable runtime, and battery monitoring at the individual module level

Symmetra PX 96/160

The high-density, efficient, scalable, modular UPS

Energy efficiency

Independently verified by TÜV, the Symmetra PX 96/160 is 95% efficient to 35% loading, saving power and cooling costs and significantly reducing your overall total cost of ownership.

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.



Battery module

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.

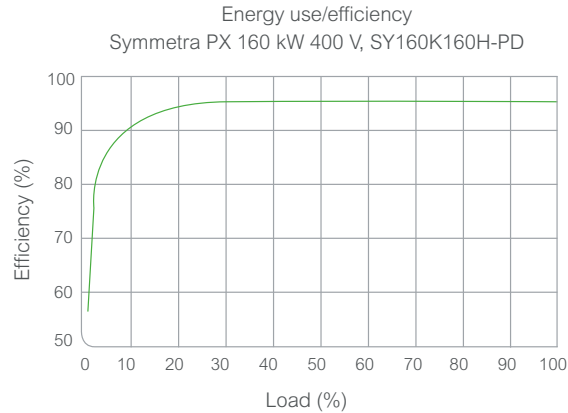
Now, even batteries look great in the data center.

- 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

Extend the runtime of any Symmetra PX 96/160 UPS by installing up to four battery cabinets.



Curve fit to measured efficiency data. All measurements taken in normal operating mode, at typical environmental conditions, with nominal electrical input and balanced resistive load (PF = 1.0) output

Scalability and modularity

Modular components simplify future expansion from 16 – 160 kW.

Sample configurations:



Symmetra PX 96 with 6 minutes of runtime (PF=1)

- 1 power cabinet
- 1 battery cabinet
- 6 power modules
- 9 battery modules



Symmetra PX 160 with 6 minutes of runtime (PF=1)

- 1 power cabinet
- 2 battery cabinets
- 10 power modules
- 15 battery modules



Symmetra PX 96 with power distribution and 6 minutes of runtime (PF=1)

- 1 power cabinet
- 1 integrated power distribution, battery, and MBP cabinet
- 6 power modules
- 9 battery modules



Symmetra PX 96 with power distribution and 6 minutes of runtime (PF=1)

- 1 power cabinet
- 1 battery cabinet
- 1 integrated power distribution, battery, and MBP cabinet
- 10 power modules
- 15 battery modules

Symmetra PX 96/160

The high-density, efficient, scalable, modular UPS

High-density and flexible configuration

- **Symmetra PX:** highest power density in its class due to modular, energy-efficient design
- Frees up valuable data center space:
 - Up to 96 kW in 1.28 m² (battery footprint included)
 - Up to 160 kW in 1.92 m² (battery footprint included)
- Integrated scalable power, runtime, and distribution maximize solution density footprint
- Modular architecture simplifies installation by offering the flexibility that today's data centers require:
 - Top feed, bottom feed
 - Single feed, dual feed

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 four battery frames can be connected to the Symmetra PX 96/160 for increased runtime.



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 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.



Classic battery cabinet*

Classic battery systems provide optimized, standardized battery configurations in a compact footprint for the electrical room.

Management cards

SmartSlot positions can be used to expand the monitoring capabilities of the UPS with these Schneider Electric management cards:

- **Network management card**
One management card is included with the UPS; it enables you to monitor and control the UPS over the network. Optionally, install a second management card for redundancy.
- **Dry contact/environmental cards**
Monitor the conditions of the UPS and its environment using external devices such as sensors.
- **Building management system (modbus/Jbus)**
Enables a building management system to monitor the UPS.



Maintenance bypass panels

Wall-mount and floor-mount maintenance bypass panels isolate the UPS from the critical load during service procedures.

Symmetra PX 96/160

StruxureWare for Data Centers software suite

In the data center environment, our Symmetra PX 96/160kW UPS is fully managed through StruxureWare for Data Centers, an integrated suite of data center infrastructure management applications. It enables businesses to prosper by managing their data centers across multiple domains, providing actionable intelligence for an ideal balance of high availability and peak efficiency throughout the entire data center life cycle. StruxureWare is a key element of Schneider Electric EcoStruxure™— an integrated hardware and software system architecture for intelligent energy management. EcoStruxure provides efficient, modular, high-availability power protection that your business-critical applications require.



A comprehensive portfolio of services

Schneider Electric™ Critical Power & Cooling Services provides the expertise, services, and support you need for your building, industry, power, or data center infrastructure. Our world-class life cycle services offer a smart way to install and maintain your critical applications, ensuring your systems are always running at peak performance.



Technical specifications: 160 kW modular PDU

Modular Power Distribution Unit (PDUM160H-B)

Output

Output voltage	230 V
Power distribution modules	96 kW UPS: 6; 160 kW UPS: 12

Input

Voltage	177 V – 240 V
Load capacity	50/60 Hz +/-3 Hz (auto sensing)
Input mains	< 6%
Frequency	61.3 A
Maximum input current	70.9 A

Physical

Weight	Three phases + neutral + ground
Shipping weight	208 V
Dimensions (H x W x D)	183 V – 233 V
Shipping dimensions (H x W x D)	60 Hz

Preliminary — Subject to change without notice.

Technical specifications: Symmetra PX 96/160

UPS rating kVA/kW (PF = 1)	96 kW	160 kW
Mains input (Normal operation)		
Grid system	3 phases + neutral + ground	3 phases + neutral + ground
Voltage range (full load)	340 – 477 V	340 – 477 V
Frequency range	40 – 70 Hz with 10 Hz/sec. slew rate	40 – 70 Hz with 10 Hz/sec. slew rate
Power factor (PF)	> 0.98 at load > 50%	> 0.98 at load > 50%
I thd (full load)	< 5%	< 5%
Nominal input current	154 A @ 380 V, 141 A @ 400 V, or 141 A @ 415 V	256 A @ 380 V, 243 A @ 400 V, or 234 A @ 415 V
Maximum input current	169 A @ 380 V, 160 A @ 400 V, or 155 A @ 415 V	281 A @ 380 V, 267 A @ 400 V, or 258 A @ 415 V
Maximum input short-circuit level	30 kA	30 kA
Protection	Backfeed contactor	Backfeed contactor
Bypass input (bypass operation)		
Grid system	3 phases + neutral + ground	3 phases + neutral + ground
Voltage (nominal)	380 V/400 V/415 V	380 V/400 V/415 V
Voltage (range)	+/-10% (from selected voltage)	+/-10% (from selected voltage)
Frequency (nominal)	50/60 Hz	50/60 Hz
Frequency (range)	+/-0.1 Hz, +/-3 Hz, +/-10 Hz (user selectable)	+/-0.1 Hz, +/-3 Hz, +/-10 Hz (user selectable)
Nominal input current	147 A @ 380 V; 139 A @ 400 V; 134 A @ 415 V	243 A @ 380 V; 231 A @ 400 V; 223 A @ 415 V
Maximum overload input current	184 A @ 380 V, 174 A @ 400 V, 167 @ 415 V	304 A @ 380 V; 289 A @ 400 V; 279 A @ 415 V
Output		
Power rating	96 kW	160 kW
Grid system	3 phases + neutral + ground	3 phases + neutral + ground
Voltage (nominal)	380 V/400 V/415 V L-L	380 V/400 V/415 V L-L
Output current (nominal)	147 A @ 380 V; 139 A @ 400 V; 134 A @ 415 V	147 A @ 380 V; 139 A @ 400 V; 134 A @ 415 V
Maximum battery operation time	Unlimited	Unlimited
Frequency regulation	50/60 Hz bypass synchronized, 50/60 Hz +/-0.1% free running	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.	Programmable to 0.25, 0.5, 1, 2, 4, 6 Hz/sec.
Overload (normal operation)	150% for 30 seconds, 125% for 10 min. 100% continuous	150% for 30 seconds, 125% for 10 min. 100% continuous
Overload (battery operation)	150% for 30 seconds	150% for 30 seconds
V thd	< 2% from 0 to 100% linear load, < 5% full nonlinear load according to IEC/EN 62040-3	< 2% from 0 to 100% linear load, < 5% full nonlinear load according to IEC/EN 62040-3
Load PF	from 0.5 leading to 0.5 lagging without any derating	from 0.5 leading to 0.5 lagging without any derating
Efficiency		
Normal operation	≥ 95% at 35% – 100% load; ≥90% @ 15% – 34% load	≥ 95% at 35% – 100% load; ≥90% @ 15% – 34% load
Battery operation	≥ 94% at 25% – 100% load; ≥90% @ 15% – 34% load	≥ 94% at 25% – 100% load; ≥90% @ 15% – 34% load
Mechanical		
Maximum dimensions (HxWxD)	1,991 x 1,200 x 1,070 mm	1,991 x 1,800 x 1,070 mm
Net Weight	1748 kg	2812 kg
Shipping weight	1898 kg	3051 kg
Module capacity		
16 kW power modules	6	10
Battery modules (6-minute runtime)	9	15
Regulatory compliance		
CE, UL 1778, EN/IEC 62040-1-1, E/IEC/UL60950-1, EN50091-2/IEC 62040-2 (class A), FCC15A, EN/IEC62040-3		

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