

Symmetra[®] PX

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

Symmetra PX 96/160kW
Scalable from 16kW to 160kW



**High Performance,
Right-Sized
3-Phase Power
Protection with
Industry-Leading
Efficiency, Availability,
and Performance for
Small, Medium, and
Large Data Centers or
High Density Zones**



- > Power and runtime protection in the world's smallest footprint
- > Modular and scalable without forced shutdowns
- > High efficiency double conversion technology (95%)
- > High-density design
- > Low TCO
- > Unity power factor corrected
- > Optional ultra-efficient, ultra-safe modular power distribution
- > Rack-based for agility and aesthetics
- > Front access only
- > Long-life batteries (5-8 years)

Symmetra® PX 96/160

Right-sized, modular, scalable, 3-phase power protection with industry-leading availability, efficiency, and performance for small, medium, and large data centers or high density power zones

The APC Symmetra PX 96/160 is a world-class, high-efficiency power protection system designed to cost-effectively provide redundancy and high levels of availability in a two- or three-rack footprint. This Symmetra PX solution provides up to 96 or 160kW of power protection for 400V deployments, and uses hot-swappable long-life batteries to optimize the available run time.

Seamlessly integrating into today's state-of-the-art data center designs, the Symmetra PX 96/160kW is a true modular system. Made up of hot-swappable modules - power, battery, distribution and bypass, this architecture can scale power and runtime in increments of 16kW up to 160kW as demand grows or higher levels of availability are required in your data center. Self-diagnostic capabilities enhance the manageability of the Symmetra PX 96/160kW and increase overall data center reliability.



Symmetra PX 160kW



Symmetra PX 96kW

Designed to address the increasing shortage of data center space, the Symmetra PX family serves as the core power train that drives APC InfraStruXure® systems for small, medium, and large data centers. Standardized, factory-assembled modules mitigate the risk of human error during installation or routine maintenance procedures, and with no rear access required, the Symmetra PX 96/160kW fits seamlessly onto the data center floor, into the backroom, or against any wall.

In a mere 1.28 square meters for Symmetra PX 96kW or 1.92 square meters for Symmetra PX 160kW, the Symmetra PX family delivers the high availability, extreme agility, and low TCO you have come to expect from the Symmetra PX family.

Symmetra® PX 96/160

with Modular Power Distribution



160kW Modular Power Distribution Unit

The APC Symmetra PX 96/160kW with Power Distribution enhances the scalability of the Symmetra PX 96/160 UPS by combining it with APC's uniquely-designed Modular Power Distribution Unit, which enables you to safely expand your power distribution system without hot work and without scheduling downtime.

At start-up, populate the Power Distribution Unit with only the power distribution modules you need. When power demand increases, expansion is as simple as sliding a power distribution module into place—no tools are required, and standardized, factory-assembled modules mitigate the risk of human error during installation or routine maintenance procedures. Self-diagnostic capabilities of the Modular Power Distribution Unit such as branch current monitoring and breaker position monitoring enhance the manageability of the Symmetra PX 96/160kW and increase overall data center reliability.

Adding Modular Power Distribution to your Symmetra PX 96/160 UPS has no footprint penalty; batteries are stored in the rear of the PDU, so power protection, distribution, and runtime are provided in the same 1.28 square meters for Symmetra PX 96kW with Modular Power Distribution, or 1.92 square meters for Symmetra PX 160kW with Modular Power Distribution. Symmetra PX 96/160 with Modular PDU delivers the high availability, extreme agility, and low TCO you have come to expect from the Symmetra PX family.



Power Distribution Module



Symmetra PX 160 with Power Distribution



Symmetra PX 96 with Power Distribution



Symmetra® PX

Features & Benefits

- 1 Dual Mains Input/Output**
Allows for top or bottom feed connection to 2 separate power inputs for increased availability
- 2 Hot-Swappable Long-Life Battery Module**
Connected in parallel for increased availability, these hot-swappable battery modules feature advanced battery monitoring and temperature-compensated battery charging that extends battery life. The resulting 5-8yr expected life of the batteries reduces the system's lifetime costs (TCO), and hot swappability lowers the cost of replacement and Mean Time To Repair (MTTR). Additional battery frames can be added for longer run times.
- 3 Premium Line-Up/Remote External Battery Enclosure**
A total of 4 enclosures can be connected to the UPS, allowing the UPS to be configured to your data center requirements while offering extended runtimes & availability.
- 4 High Efficiency (95%) Power Module - down to 30% loading**
Independently verified by TÜV, these high-efficiency double conversion power modules reduce power & cooling costs, saving you money, while delivering the optimal power protection your data center deserves
- 5 LCD Display Interface**
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; back-up for the Main Intelligence Module guarantees the maximum possible availability for your system.
- 7 Network Management Card**
Provides UPS status and event notification. SmartSlot positions support Dry Contact, Environmental Monitor, Building Management System (Modbus/Jbus), and additional Network Management Cards
- 8 Built-in Static Bypass Switch**
The hot-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**
The all-in-one solution requires front-facing access only, which provides more flexibility on where you place the space-saving UPS and enables the Symmetra PX 96/160kW to be put anywhere, even against a wall – which leaves more room for IT equipment.
- 10 Modular Power Distribution (optional)**
Adapt the configurable power distribution solution to meet changing demand—without a forced shutdown. Monitor breaker positions and simplify power management with output metering and branch current/circuit monitoring.



Symmetra® PX

The High Density, Efficient, Scalable, Modular UPS

Scalability & Modularity

- > Scalable from 16kW to 160kW
- > One-time installation service
- > Modular components simplify future expansion as your load grows
- > N+1 redundant up to 144kW
- > Optional modular power distribution
- > Hot swappable power and battery modules
- > Hot-swappable breaker modules for UPSs with power distribution
- > All components conform to NetShelter SX form-factor (78.7 x 23.6 x 42.1in HxWxD) (1991 x 600 x 1070mm HxWxD)



High Density & Flexible Configuration

- > Modular, energy-efficient design gives Symmetra PX the highest power density in its class
 - > Frees up valuable data center space
 - up to 96kW in 1.28 sq. m (battery footprint included)
 - up to 160kW in 1.92 sq. m (battery footprint included)
 - > Integrated power, runtime, and distribution maximize solution density footprint
 - > Front access only; no rear access is required (UPS only)
- > Modular architecture simplifies installation by offering the flexibility that today's data centers require
 - White space or against a wall
 - Top Feed, Bottom Feed
 - Single Feed, Dual Feed
 - > 16kW to 160kW expansion with hot-scalable power modules and power distribution modules



Energy Efficiency

Independently verified by TUV, the PX96/160 are 95% efficient to 30% loading, saving power and cooling costs, significantly reducing your overall Total Cost of Ownership.

Comprehensive service offering

> Warranty

- 1 Year Parts, Labor and Travel included
- Next Business Day Response Time.
- 8 Hour and 4 Hour Response Upgrade available in many locations

> Start-Up

Start-up service with 5x8 scheduling is included at no charge with each Symmetra PX 96/160 UPS to ensure optimal performance. Start-up service is required for full coverage under the Factory Warranty. Optionally, you can upgrade to 7x24 scheduling.

> Preventive Maintenance Service

An examination of your system designed to ensure optimal performance. 5x8 scheduling is standard, with an option to upgrade to 7x24 scheduling.

> Assembly service

APC authorized service personnel will be dispatched to your site to ensure proper assembly of the Symmetra PX



> On-Site Services

4-hr, Next Day, or Next Business Day response-time options. A factory trained technician will arrive on site to diagnose or repair your system.

> Project Management

Complete your data center project on time and within budget.

APC[®]
by Schneider Electric

Symmetra® PX

Modular, Hot-Swappable Components

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 4 battery frames can be connected to the Symmetra PX 96/160 to extend runtime.



Power Distribution

When demand rises and expansion becomes necessary, there is no 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.



Management Cards

SmartSlot positions can be used to expand the monitoring capabilities of the UPS with these APC 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) Card: Enable a Building Management System to monitor the UPS.

Technical Characteristics

UPS Rating kVA/KW (PF = 1)	96kW	160kW
Mains Input (Normal Operation)		
Grid system	3 phases + neutral + ground	3 phases + neutral + ground
Voltage range (full load)	340-477V	340-477V
Frequency range	40-70 Hz with 10 Hz/sec slew rate	40-70 Hz with 10 Hz/sec slew rate
Power factor (PF)	>0.99 @ load > 50%	>0.99 @ load > 50%
I thd (full load)	< 5%	< 5%
Nominal input current	155A @ 380V, 146A @ 400V, or 142A @ 415V	256A @ 380V, 243A @ 400V, or 234A @ 415V
Maximum input current	(Continuous, at 340V mains voltage) 175A @ 380V, 400V, or 415V	(Nominal Vin, 10% charging batteries) 295A @ 380V, 400V, or 415V
Maximum input short-circuit level	30kA	30kA
Protection	Backfeed contactor	Backfeed contactor
Bypass Input (Bypass operation)		
Grid system	3 phases + neutral + ground	3 phases + neutral + ground
Voltage (nominal)	380V / 400V / 415V	380V / 400V / 415V
Voltage (range)	+/-10% (from selected voltage)	+/-10% (from selected voltage)
Frequency (nominal)	50/60 Hz	50/60 Hz
Frequency (range)	+/-0.1Hz, +/-3Hz, +/-10Hz (user selectable)	+/-0.1Hz, +/-3Hz, +/-10Hz (user selectable)
Nominal input current	147A @ 380V; 139A @ 400V; 134A @ 415V	243A @ 380V; 231A @ 400V; 223A @ 415V
Maximum overload input current	184A @ 380V, 174A @ 400V, 167@415V	304A @ 380V; 289A @ 400V; 278A @ 415V
Output		
Power rating	96kW	160kW
Grid system	3 phases + neutral + ground	3 phases + neutral + ground
Voltage (nominal)	380V / 400V / 415V L-L	380V / 400V / 415V L-L
Output current (nominal)	147A @ 380V; 139A @ 400V; 134A @ 415V	243A @ 380V; 231A @ 400V; 223A @ 415V
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 and battery operation)	150% for 60 seconds, 125% for 10 min, 100% continuous	150% for 60 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	< 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	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)	1991 x 1200 x 1070mm	1991 x 1800 x 1070mm
Net Weight	1814kg	2806kg
Shipping Weight	1963kg	3037kg
Maximum Module Capacity		
16kW power modules	6	10
Battery modules	9	40
Power distribution modules	6	12
Regulatory Compliance		
CE, UL1778, EN/IEC62040-1-1, E/IEC/UL60950-1, EN50091-2 / IEC62040-2 (class A), FCC15A, EN/IEC62040-3		

Preliminary – Subject to change without notice

Technical Characteristics

Modular Power Distribution Unit (PDUM160H-B)	
Output	
Output Voltage	230V
Input	
Voltage	400V
Load Capacity	160kVA
Input Mains	Dual
Frequency	40-70Hz
Maximum Input Current	295A
Physical	
Weight	411kg (906lb)
Shipping Weight	444kg (978 lb)
Height	1991mm (78.39in)
Shipping Height	2150mm (84.65)
Width	600mm (23.62in)
Shipping Width	848mm (33.39in)
Depth	1070mm (42.13in)
Shipping Depth	1210mm (47.64in)

Preliminary – Subject to change without notice

Additional APC Products Enhancing the System

Row Cooling

Energy efficient cooling from low to high density racks and zones

- Intelligent controls
- Close-coupled cooling
- Thermal containment options



InfraStruXure Central

A vendor-neutral, scalable monitoring system

- Open architecture
- Scalable to 4025 devices
- Capacity Planning and Asset Management



Advantage Plans

Comprehensive packages of services designed to provide hassle-free maintenance

- Next Business Day or faster onsite response
- Preventive Maintenance Visit
- Remote Monitoring Service

