

# Symmetra PX

Scalable from 16 kW to 500 kW  
Parallel-capable up to 2,000 kW

High-performance, right-sized, modular, hot-scalable, three-phase power protection with ultra-high availability and efficiency for any size data center or high-density power zone



**Industry-leading efficiency, availability, and performance for small, medium, and large data centers and mission critical environments**

- Redundant power and runtime protection in a single unit
- Fault-tolerant (N+1) design for the highest level of availability
- Unity power factor corrected using double conversion technology
- Modular and scalable without forced shutdowns
- Space-saving high-density design
- Rack-based for agility and aesthetics

# Features and benefits

The APC Symmetra™ PX UPS units are world-class, redundant, hot-scalable, high-efficiency power protection systems designed to cost effectively provide high levels of availability. Seamlessly integrating into today's state-of-the-art data center designs, the Symmetra PX UPS units are true modular systems. 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 family serves as the core power train that drives APC InfraStruxure™ systems for small, medium, and large data centers. Highly manageable, each Symmetra PX offer features self-diagnostic capabilities and standardized modules which mitigate the risk of human error, resulting in increased overall data center reliability. Optional N+1 module-level redundancy further enhances power protection and peace of mind without increasing the footprint of your power protection solution.

The Symmetra PX family delivers high availability, extreme agility, and low TCO in an aesthetic form factor. With industry-leading power density, the Symmetra PX has the ability to fit seamlessly onto the data center floor or into the back room. Other features include automated predictive diagnostics and extended battery life which lead to a highly predictable, efficient, and simplified UPS architecture.

## Symmetra PX features

### Availability

Automatic internal bypass

Self-diagnosing, field-replaceable power modules, battery modules, and intelligence modules

Redundant intelligence module

Hot-swappable static bypass switch

Configurable for N+0 or N+1 module-level redundancy

Modules feature less than 10 minute average Mean Time to Repair

### Scalability

Extended battery runtime available

Hot-scalable power modules

Hot-swappable battery modules

Toolless module replacement

Aesthetic NetShelter™ form factor

### Total Cost of Ownership

Unity power factor corrected (kW=kVA)

TÜV-verified efficiency ratings

Intelligent battery management

One-year warranty and startup service included

### Manageability

Network management included

Remote access to system data over HTTP, HTTPS, Telnet, SSH, and SNMP (v1&3)

Secondary network management card supported

Configurable alarm notifications

StruxureWare™ Data Center Expert compatible

SmartSlot™ environmental monitoring, dry contact/environmental, or building management system cards

# Symmetra PX 48 kW

## Modular power protection. Modular distribution. One enclosure.

Preserve valuable space in your small data center or data center closet with the Symmetra PX 48 kW. Its all-in-one design includes hot-swappable modular power protection, battery backup, and power distribution, optimizing every square inch of its footprint to ensure that your power protection and distribution needs are met. Because the power and battery modules are hot swappable by a trained user, mean time to repair (MTTR) is reduced to 10 minutes or less.

### Features

- Adaptable 16 to 48 kW power capacity, with the option of N+0 redundancy up to 48 kW or N+1 redundancy up to 32 kW
- Embedded modular power distribution
- Dual-mains input, top or bottom feed
- PowerView™ display interface: an easy-to-read LCD screen allowing you to view UPS, battery, and power distribution status and configure settings

#### 1 Power Distribution Modules

Enable quick expansion of the power distribution solution with factory assembled and tested power distribution modules. The modular PDU also monitors breaker positions and simplifies power management with output metering and branch current/circuit monitoring.

#### 2 Power Modules

16 kW power modules supply 95 percent efficiency down to 30 percent loading, reducing power and cooling costs.

#### 3 Battery Modules

Hot-swappable battery modules feature advanced battery monitoring and temperature-compensated battery charging that extends battery life.



Scalable to 48 kW

#### Modular Expansion Options

- 16 kW power modules
- Battery modules
- Power distribution modules

#### Additional Options

- Secondary network management card
- Extended runtime battery frames: Up to four line-up-and-match battery frames can be added for increased runtime.

#### Approvals

- CE
- UL 1778
- EN/IEC 62040-1-1
- EN/IEC/UL 60950-1
- EN 50091-2, IEC 62040-2 (class A)
- FCC15A
- EN/IEC 62040-3

#### Support and Service

#### Included:

- One-year warranty
- Startup service

#### Optional:

- Preventive maintenance
- On-site warranty extension
- Advantage plans

# Symmetra PX 96/160 kW

## The right-sized UPS for demanding business critical applications

The Symmetra PX 96/160 kW UPS is a true modular system, made up of hot-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.

### Features

- Adaptable 16 to 96kW or 160kW power capacity, with the option of N+0 redundancy up to 96 or 160kW, or N+1 redundancy up to 80kW or 144kW
- Optional three-in-one modular power distribution enclosure with maintenance bypass and modular batteries
- Dual-mains input, top or bottom feed
- PowerView display interface: An easy-to-read LCD screen allowing you to view UPS, battery, and power distribution status and configure settings

#### 1 Power Distribution Modules

16 kW power modules supply 95 percent efficiency down to 30 percent loading, reducing power and cooling costs.

#### 2 Battery Modules

Powerful, high-performance battery modules feature advanced battery monitoring and temperature-compensated battery charging that extends battery life.

#### 3 Integrated 160 kW Modular Power Distribution Unit

Add modular power distribution to your Symmetra PX 96/160kW with no footprint penalty — a single enclosure houses modular PDU, batteries, and maintenance bypass.



Scalable  
to 160 kW

### Modular Expansion Options

- 16 kW power modules
- 9AH battery modules
- Power distribution modules

### Additional Options

- Wall-mountable maintenance bypass panel
- 300 mm maintenance bypass panel
- Extended runtime battery frames: Up to four battery frames can be added for increased runtime.

### Approvals

- CE
- UL 1778
- EN/IEC 62040-1-1
- EN/IEC/UL 60950-1
- EN 50091-2/IEC 62040-2 (class A)
- FCC15A
- EN/IEC 62040-3

### Support and Service

#### Included:

- One-year warranty
- Startup service

#### Optional:

- Preventive maintenance
- On-site warranty extension
- Advantage plans

# Symmetra PX 250/500 kW

## Modular, scalable, ultra-high-efficiency power protection for data centers worldwide

The APC Symmetra PX 250/500 kW is a world-class, ultra-high-efficiency power protection system designed provide cost-effective, provide high levels of availability while simplifying the right-sizing of your data center. 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 2 MW of power protection (1.5 MW with N+1 system-level redundancy).



Scalable from 25 kW to 500 kW  
Parallel-capable up to 2 MW

## Features

- Supporting up to four UPS units in parallel with custom switchgear
- Parallelable for capacity (2 MW) or system-level redundancy (1.5 MW N+1)
- Patented ultra-high efficiency (96% at 50% load, 95% at 25% load)
- N+0 or N+1 module-level and system-level redundancy
- Hot-swappable modular batteries
- Energy monitoring displaying kWh output of each UPS
- Dual-mains input, top or bottom feed
- 10-inch LCD touchscreen providing local access to UPS status and configuration menus
- System-wide firmware updating via USB port on back of display
- Support for remote battery installation (battery sidecar required)

## Approvals

- 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
- UL/ULc Listed

## Support and Service

### Included:

- One-year warranty
- Startup service

### Optional:

- Assembly
- Preventive maintenance
- On-site warranty extension
- Advantage plans

# Symmetra PX 250/500 options

## Extended Runtime (XR) Frames

Install a maximum of eight battery frames to increase runtime. Modular, hot-swappable batteries can be replaced by a trained user in under ten minutes while the UPS load remains fully protected.



## Battery Breaker Enclosure

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



## 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 (500 A and 1000 A)



Air filters



Optional Terminal Blocks



Parallel Cables



Third-party Switchgear Kit

# Modular Power Distribution Features

## What is Modular Power Distribution?

Modular power distribution is a solution comprised of a modular power panel and one or more Power distribution modules (PDMs).

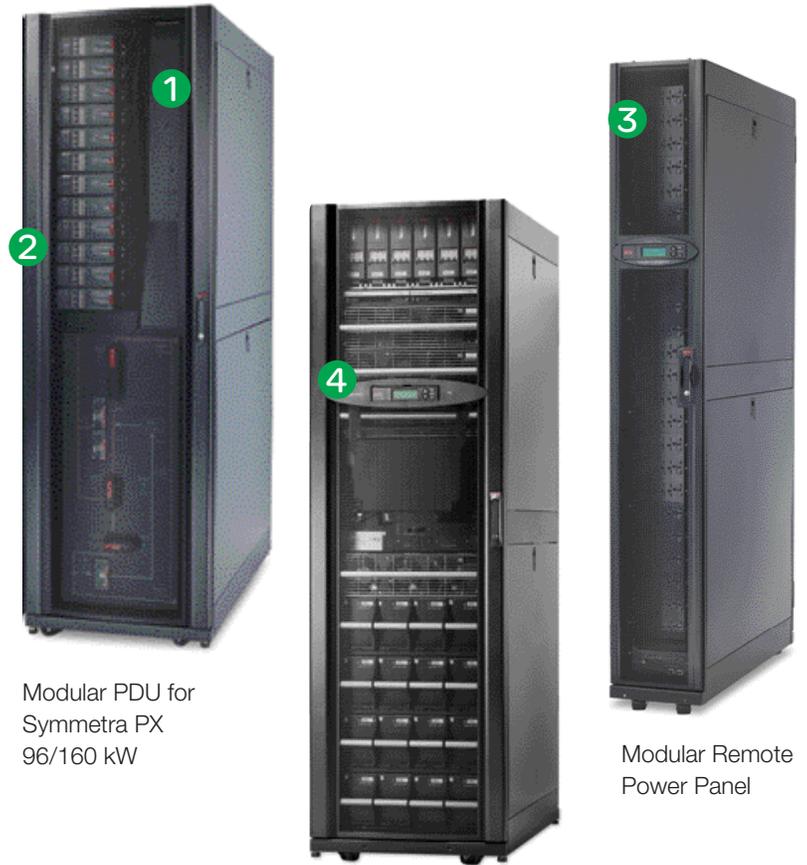
- Symmetra PX 48 kW has an integrated modular power panel
- Symmetra PX 96/160 kW features an optional Power distribution unit with maintenance bypass panel and batteries
- Symmetra PX 250/500 compatibility with APC 277kVA Modular remote power panel

## Modular RPP

The source of amperage for the distribution, housing the power backplane, the main circuit monitoring bus, and the support structure for the PDMs. Each modular RPP shares the same basic design, which enables simple installation for any distribution modules into any modular RPP of common voltage.

## Power Distribution Modules

Each PDM consists of an industry standard circuit breaker, branch current monitoring (BCM), output cable and connector plug combined into a factory assembled and tested module that feeds power to IT racks.



Modular PDU for Symmetra PX 96/160 kW

Modular Remote Power Panel

Symmetra PX 48 with Integrated Modular PDU

### 1 Add Circuits in Less than 10 Minutes

Automatic recognition of the module type, ampacity, and cord length by the PDU simplifies load balancing and circuit addition.

### 2 One-Phase and Three-Phase Power Distribution Modules

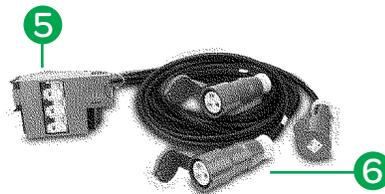
A latching module houses a standard circuit breaker, current transducers, and position sensors. The entire assembly is attached to a pre-terminated cord-set with multiple length options; each module is programmed to know how long its cable is.

### 3 Touch-Safe Backplane

A backplane that shields users from dangerous voltages — equipped with standardized connectors that enable users to add a new circuit.

### 4 Integrated Monitoring Solution

While the legendary PowerView display provides information locally at the UPS or standalone PDU, a network management card relays vital information to the monitoring platform of choice.



Power Distribution Module with RCD

### 5 Residual Current Device (RCD)

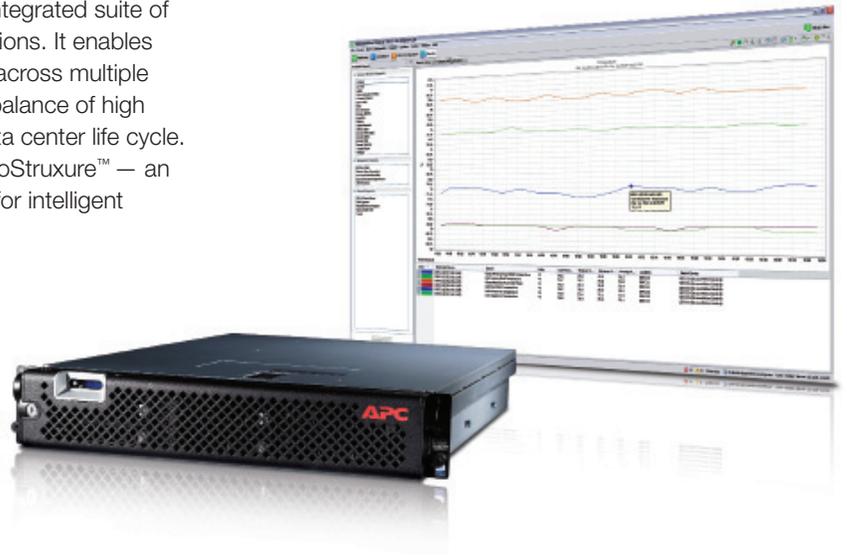
Further enhancing safety, select power distribution modules provide protection from leakage current.

### 6 Locking Connectors Improve Availability and Safety

Connector safety features — including a positive locking mechanism, complete isolation at all touch-points, and robust interoperability — enable standardization across all corporate locations.

# StruxureWare for Data Centers Software Suite

In the data center environment, our Symmetra PX UPSs are fully managed through StruxureWare for Data Centers, an integrated suite of data center infrastructure management (DCIM) 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.



## A Comprehensive Portfolio of Services

Schneider Electric Critical Power & Cooling Services (CPCS) 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 of your solution ensures your equipment is properly and safely configured for optimal performance. This service features a standard 8-hour, 5-day response time, with upgrades available for off-business hours

### Advantage Plans

Flexible service packages offer hassle-free system maintenance to improve uptime at a predictable cost. These packages provide your system with the care it needs to operate most efficiently while minimizing downtime. The Advantage Plus, Prime, Ultra, and Max are full-service packages that include technical support, preventive maintenance, quick on-site response, and remote monitoring. 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 before they occur and keep your system running at maximum efficiency.

### On-Site Warranty Extension Service

In the event of a system issue, an FSE will arrive on site by the next business day to isolate, diagnose, and correct the problem in as little time as possible, minimizing downtime. Upgrades to even faster response times are available.

# Technical specifications

## Symmetra PX 48 kW

Input	
Grid system	3P + N + G
Voltage range	340 – 477 V @ full load
Frequency	50 Hz
Frequency range	40 – 70 Hz with 10 Hz/s slew rate
Power factor (PF)	> 0.99 @ load > 25 %, > 0.95 @ load > 15%, > 0.90 @ load > 10%
I <sub>thd</sub> (full load)	< 5%
Nominal input current	77 A @ 380 V, 73 A @ 400 V, 70 A @ 415 V
Maximum input current	84.4 A @ 380 V, 80.2 A @ 400 V, 77.3 A @ 415 V
Input current limit	98.3 A @ 380 V/400 V/415 V
Maximum input short-circuit level	30 kA
Output	
Power rating	48 kW
Grid system	3P + N + G
Voltage (nominal)	380/400/415 V L-L
Nominal output current	73 A @ 380 V, 69 A @ 400 V, 67 A @ 415 V
Maximum output current (in bypass @ 110% overload)	91 A @ 380 V, 87 A @ 400 V, 83 A @ 415 V
Frequency	50/60 Hz bypass synchronized, 50/60 Hz +/-0.1% free running
Synchronized slew rate	Programmable to 0.25, 0.5, 1, 2, 4, 6Hz/s
Overload (normal and battery operation)	150% for 60 seconds, 125% for 10 min. 100% continuous
V <sub>thd</sub>	< 2% from 0 to 100% linear load, < 6% full non-linear load according to IEC/EN 62040-3
Load PF	From 0.5 leading to 0.5 lagging without any derating
Bypass	
V nominal	380 V/400 V/415 V
Voltage (range)	+/-10% from selected voltage
Frequency (nominal)	50/60 Hz
Frequency (range)	+/-0.1 Hz, +/-3 Hz, +/-10 Hz (user-selectable)
Nominal input current	73 A @ 380 V, 69 A @ 400 V, 67 A @ 415 V
Maximum overload input current (125% continuous)	84.4 A @ 380 V, 80.2 A @ 400 V, 77.3 A @ 415 V
Efficiency	
AC-AC at nominal mains	≥ 95% at 35% – 100% load; ≥ 90% @ 15% – 34% load
DC-AC at nominal battery voltage	≥ 94% at 25% – 100% load; ≥ 90% @ 15% – 34% load
Mechanical	
Dimensions (HxWxD)	1,991 x 600 x 1,070 mm
Weight	796 kg
Environmental	
Storage temperature, UPS, and batteries	-15 to 40 °C with batteries, approximately 6 – 8 months @ 25 °C battery self discharge, 1 – 2 months @ 45 °C
Operating temperature*	0 to 40 °C (32 to 104 °F)
Full load loss at nominal mains (BTU)	7,719
Regulatory compliance	
CE, UL 1778, EN/IEC 62040-1-1, EN/IEC/UL 60950-1, EN 50091-2/IEC 62040-2 (class A), FCC15A, EN/IEC 62040-3	

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

# Technical specifications

	Symmetra PX 96 kW	Symmetra PX 160 kW
<b>Input</b>		
Grid system	3P + N + G, 3P + G	
Voltage range	340 – 477 V @ full load	
Frequency	50 Hz	
Frequency range	40 – 70 Hz with 10 Hz/s slew rate	
Power factor (PF)	> 0.99 at load > 25%, > 0.95 at load > 15%, > 0.90 at load > 10%	
I <sub>thd</sub> (full load)	< 5%	
Nominal input current	155 A @ 380 V, 146 A @ 400 V, 142 A @ 415 V	256 A @ 380 V, 243 A @ 400 V, 234 A @ 415 V
Maximum input current	(Continuous, at 340 V mains voltage) 175 A @ 380 V, 400 V, or 415 V	(Continuous, at 340 V mains voltage) 290 A @ 380 V, 400 V, or 415 V
Maximum input short-circuit level	30 kA	
<b>Output</b>		
Power rating	96 kW	160 kW
Grid system	3P + N + G	
Voltage (nominal)	380 V/400 V/415 V	
Nominal output 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
Frequency	50/60 Hz bypass synchronized, 50/60 Hz +/-0.1% free running	
Synchronized slew rate	Programmable to 0.25, 0.5, 1, 2, 4, 6Hz/s	
Overload (normal and battery operation)	Normal: 150% for 60 seconds, 125% for 10 min. 100% continuous, Battery: 150% for 60 seconds	
V <sub>thd</sub>	< 2% from 0 to 100% linear load, < 6% full non-linear load according to IEC/EN 62040-3	
Load PF	From 0.5 leading to 0.5 lagging without any derating	
<b>Bypass</b>		
V nominal	380 V/400 V/415 V	
Voltage (range)	+/-10% (from selected voltage)	
Frequency (nominal)	50/60 Hz	
Frequency (range)	+/-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 (125% continuous)	184 A @ 380 V, 174 A @ 400 V, 167 A @ 415 V	304 A @ 380 V, 289 A @ 400 V, 278 A @ 415 V
<b>Efficiency</b>		
AC–AC at nominal mains	≥ 95% at 35% – 100% load, ≥ 90% @ 15% – 34% load	
DC–AC at nominal battery voltage	≥ 94% at 25% – 100% load, ≥ 90% @ 15% – 34% load	
<b>Mechanical</b>		
Dimensions (H x W x D)	1,991 x 1,200 x 1,080 mm	1,991 x 1,800 x 1,080 mm
Weight	1,814 kg	2,806 kg
<b>Environmental</b>		
Storage temperature, UPS and batteries	-15 to 40 °C with batteries, approximately 6 - 8 months @25 °C battery self discharge, 1 - 2 months @ 45 °C	
Operating temperature*	0 to 40 °C (32 to 104 °F)	
Full load loss at nominal mains (BTU)	17,244 BTU/hr.	28,729 BTU/hr.
<b>Regulatory compliance</b>		
CE, UL 1778, EN/IEC 62040-1-1, EN/IEC/UL 60950-1, EN 50091-2/IEC 62040-2 (class A), FCC15A, EN/IEC 62040-3		

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

# Technical specifications

	Symmetra PX 250 kW	Symmetra PX 500 kW
<b>Input</b>		
Grid system	Single feed: 3P + N + G, 3P+ G, Dual feed: 3P + G	
Grid parallel system	Single feed: 3P + N + G, Dual feed: 3P+ G	
Voltage range	+/- 15% for full performance; 340 - 460 V at 400 V	
Frequency	50/60 Hz	
Frequency range	40 – 70 Hz with 10 Hz/s 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	756 A @ 400 V
Maximum input current	416 A @ 400 V (Nominal Vin, 10% charging batteries)	831 A @ 400 V (Nominal Vin, 10% charging batteries)
Input current limit	447 A @ 400 V	894 A @ 400 V
Maximum input short-circuit level	65 kA (50 kA with standard MBwD)	
<b>Ouput</b>		
Power rating	250 kW	500 kW
Grid system	3P + N + G, 3P + G	
Voltage (nominal)	380 V/400 V/415 V/480 V L-L	
Nominal output current	361 A @ 400 V	722 A @ 400 V
Maximum output current (in bypass @ 110% overload)	397 A @ 400 V	902 A @ 400 V
Frequency	Output frequency: 55 – 65Hz, configurable for +/- 0.1, 1, 2, 4, 6, 8%, 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/s	
Overload (normal and battery operation)	150% for 60 seconds, 125% for 10 min. 100% continuous	
V thd	< 2% from 0 to 100% linear load, < 3% full non-linear load according to IEC/EN 62040-3	
Load PF	From 0.5 leading to 0.5 lagging without any derating	
<b>Bypass</b>		
V 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	722 A @ 400 V
Maximum overload input current (125% continuous)	397 A @ 400 V	794 A @ 400 V
<b>Efficiency</b>		
AC-AC at nominal mains	≥ 96% at 50% – 100% load, >95% at 25% – 49% load	
DC-AC at nominal battery voltage	≥ 96% at 50% – 100% load, >95% at 25% – 49% load	

## Technical specifications (continued)

	Symmetra PX 250	Symmetra PX 500
<b>Mechanical</b>		
<b>Dimensions (H x W x D)</b>	Minimum (standalone UPS, no batteries): 1,991 x 1,600 x 1,070 mm  Maximum (UPS with MBwD and 6 min. battery runtime): 1,991 x 3,100 x 1,070 mm	Minimum (standalone UPS, no batteries): 1,991 x 2,200 x 1,070 mm  Maximum (UPS with MBwD and 6 min. battery runtime): 1,991 x 5,200 x 1,070 mm
<b>Weight</b>	Minimum (standalone UPS, no batteries): 1,057 kg Maximum (UPS with MBwD and 6 min. battery runtime): 4,509 kg	Minimum (standalone UPS, no batteries): 1,722 kg Maximum (UPS with MBwD and 6 min. battery runtime): 8,336 kg
<b>Environmental</b>		
<b>Storage temperature, UPS only</b>	-30 to 70 °C (-22 to 158 °F)	
<b>Storage temperature, UPS, and batteries</b>	-15 to 40 °C (5 to 104 °F) Battery self discharge: approximately 6 – 8 months @ 25 °C; 1 – 2 months @ 45 °C	
<b>Operating temperature*</b>	0 to 40 °C (32 to 104 °F)	
<b>Full load loss at nominal mains (BTU)</b>	30,946 BTU/hr.	61,893 BTU/hr.
<b>Regulatory compliance</b>		
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. 1073-05		

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