

Symmetra PX

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

High performance, right-sized, modular, 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
- Space-saving high density design
- Rack-based for agility and aesthetics

Features and benefits

The APC Symmetra™ PX UPSs are world-class, redundant, 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 UPSs are true modular systems. The Symmetra PX UPS is built from swappable modules - power, battery, intelligence, 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 advanced battery management which lead to a highly predictable, efficient, and simplified UPS architecture.

Symmetra PX features

Availability

- Swappable power, battery, and intelligence modules
- Automatic internal bypass
- Self-diagnosing, field-replaceable modules
- Redundant intelligence module
- Swappable static bypass switch
- Configurable for N+0 or N+1 module-level redundancy
- Toolless module replacement
- Modules feature less than 10-minute average mean time to repair (MTTR)

Scalability

- Extended battery runtime available
- Scalable power modules
- Swappable battery modules
- 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™ 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 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.

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 allows 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

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: Add up to four line up and match battery frames to extend runtime

Approvals

- CE
- 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 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 allows you to view UPS, battery, and power distribution status and configure settings

1 Power modules

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

2 Battery modules

Battery modules feature advanced battery monitoring and temperature-compensated battery charging that extend 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
- Battery modules
- Power distribution modules

Additional Options

Wall-mounted maintenance bypass panel

300mm maintenance bypass panel

Extended runtime battery frames:

Up to four battery frames can be added for increased runtime

Classic Battery Cabinet:

Classic battery systems provide optimized, standardized battery configurations in a compact footprint for the electrical room. Available in select regions; contact your Schneider

Representative for details

Approvals

- CE
- 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 to cost-effectively provide high levels of availability while simplifying 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

- Supports up to four UPSs 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
- Swappable, modular batteries with integrated monitoring
- Energy monitoring displays kWh output of each UPS
- Dual mains input, top or bottom feed
- 10 inch LCD touchscreen provides local access to UPS status and configuration menus
- System-wide firmware updates via the 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, swappable batteries can be replaced in under ten minutes.



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).

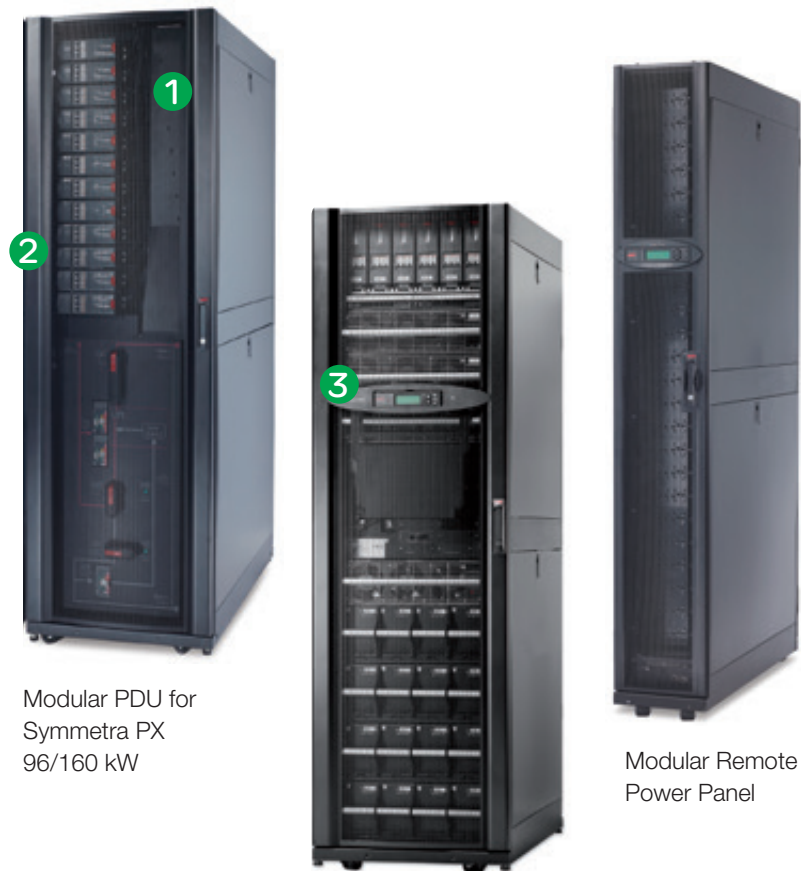
- Symmetra PX 48 kW has an integrated Modular Power Panel
- Symmetra PX 96/160 kW features an optional Power Distribution Unit with Maintenance Bypass Panel and Batteries with no footprint penalty
- Symmetra PX 250/500 is compatible with the APC 277 kW Modular Remote Power Panel

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 Power 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



Power Distribution Module with RCD

- 1 Add circuits quickly**
Automatic recognition of the module type, ampacity, and cord length by the PDU simplifies load balancing and circuit addition.
- 2 One and Three Pole 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 Integrated Monitoring Solution**
While the PowerView display provides information locally at the UPS or standalone PDU, a Network Management Card relays vital information to the monitoring platform of choice.
- 4 Residual Current Device (RCD)**
Select Power Distribution Modules provide protection from leakage current.

- 5 Locking Connectors Improve Availability**
Connector features — including a positive locking mechanism, complete isolation at all touch-points, and robust interoperability — enable standardization across all corporate locations.

StruxureWare Data Center Expert

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.

About APC InfraStruxure Systems

The APC InfraStruxure solution fully integrates power, cooling, racks, security/management components, and services to create a seamless network-critical physical infrastructure (NCPI), which is the foundation upon which all highly available networks depend. InfraStruxure solutions can turn any new or existing room into an integrated and complete world-class data center.



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, 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 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 thd (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 thd	< 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% - 24% 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, 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 to 27 °C (64 to 80 °F).

Technical specifications

	Symmetra PX 96 kW	Symmetra PX 160 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 at load > 25%, > 0.95 at load > 15%, > 0.90 at load > 10%	
I thd (full load)	< 5%	
Nominal input current	154 A @ 380 V, 146A @ 400 V, 141 A @ 415 V	256 A @ 380 V, 243 A @ 400 V, 234A @ 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	
Output		
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, 231A @ 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 thd	< 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	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
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% - 24% load	
Mechanical		
Dimensions (HxWxD)	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
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)	17,244 BTU/hr	28,729 BTU/hr
Regulatory compliance		
CE, 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 to 27 °C (64 to 80 °F).

Technical specifications

	Symmetra PX 250 kW	Symmetra PX 500 kW
Input		
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	447 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)	
Output		
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 30 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	
Bypass		
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
Efficiency		
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
Mechanical		
Dimensions (HxWxD)	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
Weight	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
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)	
Full load loss at nominal mains (BTU)	30,946 BTU/hr	61,893 BTU/hr
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		

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