

---

PRODUCT BROCHURE

# Conceptpower DPA 120

208V UL • Modular UPS

20kW–600kW



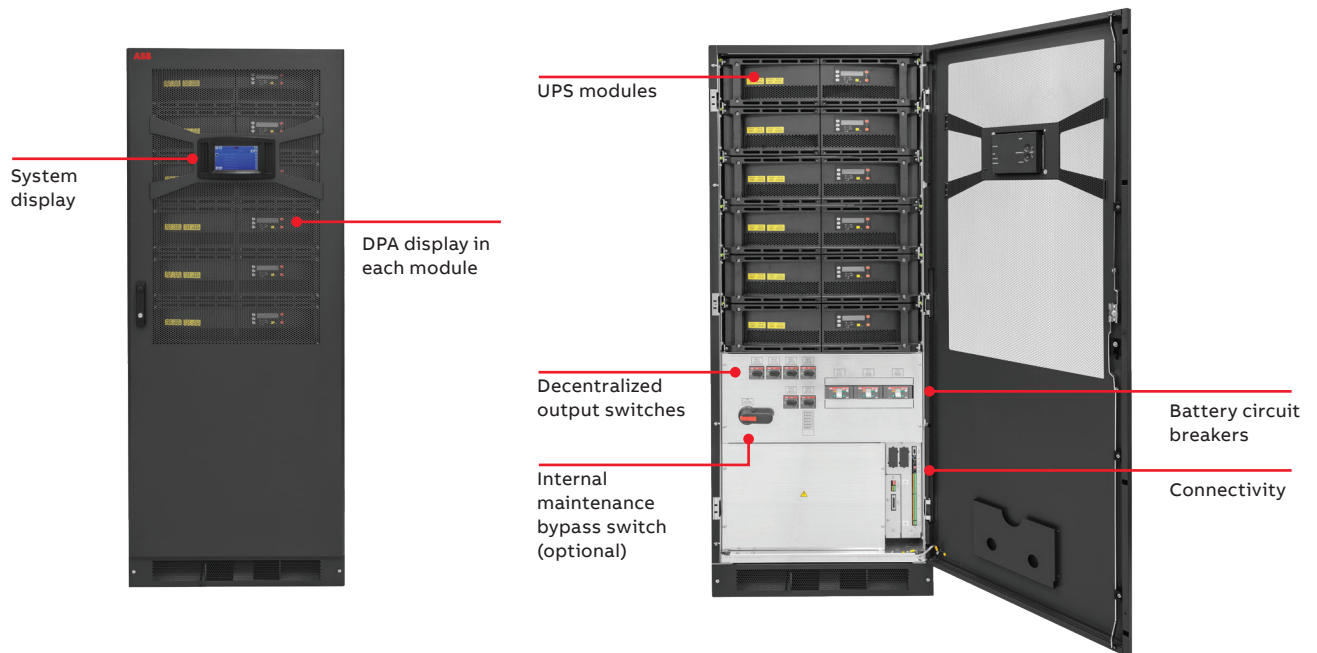


---

**Today's data centers require continuous uptime. That target is why ABB's Conceptpower DPA 120 is based on Decentralized Parallel Architecture (DPA). Only a truly redundant architecture like DPA allows online modules to be swapped out while the system is running.**

# Conceptpower DPA 120

The modular UPS for small and medium-sized data centers



Each high-reliability, standardized module is self-contained and can be swapped at any time, so nothing has to be ever switched off – making routine maintenance safe and easy. Conceptpower DPA 120 is designed to secure continuity of critical operations for small to mid-sized data centers, server rooms and other IT applications. It also protects industrial automation processes, healthcare facilities and many other vertical markets where operations are of a critical nature.

## Key benefits

### Maximized availability

- 99.9999% availability
- Decentralized parallel architecture
- Replace or add modules with no downtime
- Short mean-time-to repair
  - Eliminates single points of failure

### Cost effective “right-sizing”

- Vertical and horizontal scalability
- Pay as you grow

### Low total cost of ownership

- True online efficiency: Up to 94% at nominal load
- Small footprint/high power density
- Unity power factor (kW = kVA)
- Low input harmonic distortion (THDi < 4%)

### Efficient service concept

- Simple power upgrade
- Fast service – low MTTR
- Reduced spare parts needed
- Online-swap modularity (OSM)
- Online serviceability

# Total vertical and horizontal scalability

The Conceptpower DPA 120 delivers power protection from 20kW to 120kW at 208V (one to six modules) in a single cabinet frame. Horizontal scalability is also given, with up to five frames in parallel, to increase total power up to 600kW. This scalability means that there is no need to over-specify the original configuration as power modules can simply be added, as needed, in the future.

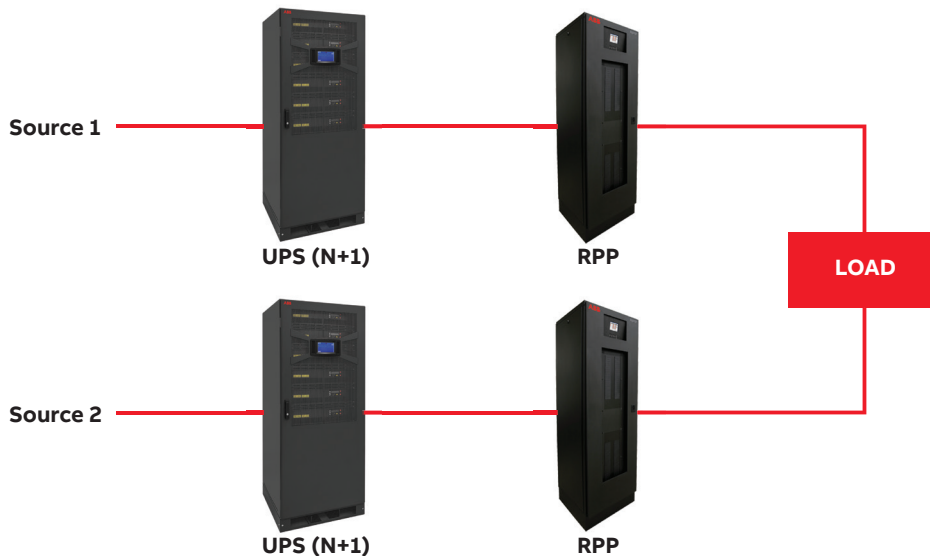
$$6 \times 5 \times 20\text{kW} = 600\text{kW}$$



**Designed with maximum flexibility and redundancy at its core for the standardization of power protection.**

In a data center, power distribution systems have historically been oversized to meet the redundancy requirements. The Conceptpower DPA 120 UPS system is designed for datacenters and other high availability applications that require redundant configurations (for example N+1, 2 (N+1), etc.). Adding redundancy for increased availability comes easy with the advanced scalability within the Conceptpower DPA UPS family. These systems complement and complete the datacenter power distribution system for ABB, providing customers with a centralized power protection solution.

— **Centralized power protection solutions**  
Sample reference scenario of ABB's centralized power protection solution, Tier 4 data center 2 (N+1) UPS configuration



N = Conceptpower DPA 120 UPS @208V



# Conceptpower DPA 120

The modular UPS suits any application requiring N+1 redundancy and flexibility

## True parallel architecture

This advanced UPS design provides the highest degree of protection in critical applications where the load must be fed with quality power. These Conceptpower DPA systems utilize decentralized parallel architecture and ensures the highest level of reliability and availability with true redundancy across modules.

Each module operates independently, containing all hardware and software required for full system operation, creating complete redundancy within the unit. Each UPS module has its own independent static bypass, rectifier, inverter, logic control, control panel and battery charger. With all the critical components duplicated and distributed between individual units, potential single points of failure are eliminated.

## Basic system configuration

### The module includes:

- 20kW
- True online double conversion UPS
- Built-in modular isolation
- Built-in backfeed protection
- Individual module display
- HMI interface with mimic diagram and LCD providing information in five languages

### The frame includes:

- 120kW rated power in single frame
- Bottom cable entry (standard)
- Rectifier, bypass terminals (single or dual-input mains connection available) and UPS output terminals
- Battery breakers and output switches for each module set
- Graphical color touch screen system display
- Communication interfaces: RS-232 and USB ports, I/O dry contacts (e.g. EPO, GEN On) and external bypass interlock



Cabinet type	DPA 120 frame
Capacity	Up to six modules
Weight	Approx. 1517 lbs. (688 kg.) (Decentralized system with 6 modules)

## Options

- Battery monitoring
- Seismic bracing
- Maintenance bypass cabinet
- Control and monitoring (Modbus RS-485, Modbus TCP/IP, SNMP, Bacnet and others)
- Line-and-match battery cabinets

# The lowest total cost of ownership

The Conceptpower DPA 120 boasts a low cost of ownership compared to other UPS systems by offering energy efficiency, scalability and ergonomic design to enable easy serviceability. The unique and modular UPS Conceptpower DPA belongs to the newest generation of midrange 3-phase UPS-Systems. High reliability, low operating cost and excellent electrical performance are only some of the highlights of this innovative UPS solution.

It can be sized to align closely with prevailing IT requirements, but can be added to incrementally as IT needs grow. This means that you only power and cool what you need. The resulting savings in power usage over the service life of the UPS are substantial.

Rack-mounted configurations can be right-sized by inserting or removing 'online-swappable' modules while the systems remain online, enabling power to be added as requirements grow without any footprint penalty. This makes servicing simple as modules can be replaced without powering down. Together with the excellent efficiency rating of up to 94% of the product, all these factors gives the Conceptpower DPA 120 the lowest total cost of ownership of any similar UPS system.

## Sized to fit your needs

Designers often over-specify UPS systems to take account of future demand growth. With the Conceptpower DPA 120, modules can simply be added in parallel to increase the system's total capacity. The Conceptpower DPA 120's vertical and horizontal scalability allow:

- Flexible power upgrades and downgrades
- Easy maintenance
- Pay as you grow

## Protecting power has never been easier

True, online-swap modularity enables the safer removal and/or insertion of Conceptpower DPA modules without risk to the critical load and without the need to power down or transfer to raw mains supply. This unique feature directly addresses today's requirement for continuous uptime. The ability to online-swap modules in a Conceptpower DPA system significantly reduces its mean time to repair (MTTR) and simplifies system upgrades. The modular approach pays off too when it comes to serviceability and availability – online-swapping of modules means you don't have to switch off or switch to bypass during replacements, so there is no downtime in a redundant configuration.

## Installation and service is easy too:

The straightforward concept of the Conceptpower DPA simplifies every step of the deployment process, from planning, through installation and commissioning to full use. Flexible set-up and fast maintenance means lower operating and maintenance costs. The UPS is serviceable by front access only.





# Technical specifications

General Data	Conceptpower DPA 120 UL UPS
System power range	20kW–600kW
Nominal power/module	20kW
Nominal power/cabinet (capacity)	600kW
Output power factor	1.0
Topology	Double conversion, transformerless, modular, Decentralized Parallel Architecture
Parallel configuration	Up to 6 modules in one frame / up to 5 frames in parallel
Cable entry	Bottom
Serviceability	Front access only
Back-feed protection	Built-in (standard)
Connection	5-wires, 3-phase + neutral + ground
<b>Input</b>	
Nominal input voltage	3 x 208/120V + neutral + ground
Voltage tolerance	< 100% (–15%, +10%), < 80% (–20%, +10%), < 60% (–30%, +10%)
Input distortion THDi	< 4% at 100% load
Frequency range	50/60Hz ± 5%
Power factor	0.99 @ 100% load
Walk in/soft start	Yes
<b>Output</b>	
Rated output voltage	3 x 208/120V + neutral + ground
Voltage tolerance	± 2.5%
Voltage distortion THDv	< 2% in linear mode
Frequency	50/60Hz
<b>Efficiency</b>	
AC-AC	Up to 94% at nominal load
<b>Environment</b>	
Protection rating	IP 20
Storage temperature	–25° to +70°C
Operating temperature	0° to +40°C
Altitude (above sea level)	1000 m without de-rating
<b>Batteries</b>	
Number of 12V jars/string	25–35 jars
Types	VRLA, NiCd
Battery charger	Decentralized charger in each module set
<b>Communications</b>	
User interface	Graphical touch screen (one per frame as standard) Decentralized LCD + mimic diagram (one per module as standard)
Communication ports	USB, RS-232, voltage-free contacts, SNMP (optional)
Customer interface	Remote shutdown, gen-set interface, external bypass contact
<b>Compliance</b>	
Safety	UL 1778 5th edition, CSA C22.2 No. 107.3-14 Third Edition
EMC	IEC/EN 62040-2 C3
Manufacturing	ISO 9001:2008
<b>Weight, Dimensions</b>	
Weight (System with 6 modules)	1466 lbs. (665 kg)
Dimensions WxHxD	31.16" x 35.17" x 77.76" (791 x 1975 x 923 mm)

Note: Please refer to ABB Conceptpower DPA 120 technical documents for configurations, features, recommendations and guidelines.



---

**Power Protection**

5900 Eastport Boulevard  
Richmond, VA 23231-4453 USA  
Tel: +1 800 292 3739  
Fax: +1 804 236 4047

**[abb.com/ups](http://abb.com/ups)**  
**[ric.sales@us.abb.com](mailto:ric.sales@us.abb.com)**

**Additional information**

We reserve the right to make technical changes to the product and to the information in this document without notice. The agreed conditions at the time of the order shall apply. ABB assumes no responsibility for any errors or omissions that may appear in this document. We reserve all rights in this document and in the information contained therein. Without prior written approval from ABB, reproduction, disclosure to third parties or use of any information, in whole or in part, is strictly forbidden.

© Copyright 2018 Thomas and Betts Power Solutions, LLC. All rights reserved.  
Specifications subject to change without notice.

