

# A new solution for data center power supply

## Introducing the Conceptpower DPA 500



**The modular and standardized approach used by ABB's Conceptpower DPA 500 uninterruptible power supply delivers unparalleled reliability and availability.**

Our modern society is now largely built on a foundation of data. Health authorities, banks, government departments, retail outlets and almost every other organization that touch our lives rely on the safe storage of enormous amounts of data.



**Conceptpower DPA 500**

ABB's uninterruptible power supply (UPS) system Conceptpower DPA 500 ensures this. A reliable UPS will guarantee a flow of continuous, clean power to the data center no matter what happens on the power supply side. No critical data center operates without an effective UPS.

So reliant have we become on data that zero downtime is now often an essential aspect of their operation. To attain zero downtime, a continuous supply of clean power must be guaranteed and a key component in ensuring this is the uninterruptible power supply (UPS). ABB a world leader in UPS technology and has a range of high-efficiency UPS products that cover all types of applications, particularly data centers. Because UPS reliability and zero downtime are so crucial, these features have been made cornerstones of ABB UPS design philosophy. Further, because data centers now consume more energy than some major industries, like paper or steel, the significant reduction in energy bills delivered by

the high efficiency of ABB UPS systems is greeted with open arms by data center operators.

ABB's newest UPS offering, the Conceptpower DPA 500, continues this tradition. With its modularity, standardized approach, low power consumption and high reliability, the Conceptpower DPA 500 provides an ideal UPS solution for all types of data centers – and any other application – from 100 kW up to 3 MW.

The decentralized parallel architecture (DPA™) upon which the Conceptpower DPA 500 is based means that each 100 kW UPS module contains all the hardware and software required for full system operation. The modules share no common components – each UPS module has its own independent static bypass, rectifier, inverter, logic control, control panel, battery charger and batteries. With all the critical components duplicated and distributed between individual units, potential single points of failure are eliminated. In the unlikely event of one UPS module failing, the overall system will continue to operate normally, but with one less module of capacity. The failed module will be fully disconnected and will not impact the operating modules.

This modular approach means you can size the UPS to exactly fit your needs and simply add modules as requirements grow. Adding capacity is easy: five 100 kW modules can be mounted in one frame and six frames can be configured in parallel to provide a top rating of 3 MW. You only power and cool what you need. The Conceptpower DPA 500 is the only modular UPS on the market that can easily add increments in this way. The resulting savings in power usage over the service life of the UPS are substantial. A further advantage is that the modular approach makes it easy to add redundancy and to further increase availability and reliability.

The Conceptpower DPA 500 modules can be swapped while online, i.e., removed or inserted, without risk to the critical load and without the need to power down or transfer to raw main supply. This unique feature directly addresses continuous uptime requirements, significantly reduces mean time to repair (MTTR), increases reliability, reduces inventory levels of specialized spare parts and simplifies system upgrades. This approach also pays off when it comes to serviceability and availability – swapping of online modules means you don't have to switch off during replacement, so there is no downtime and service personnel don't need special skills. This all leads to better risk management and an affordable, yet efficient, aftersales service, hence an overall lower total cost of ownership.

## Scalable up to 3 MW

Vertical scalability:  
one to five modules in one single cabinet



Horizontal scalability: cabinets in parallel configuration up to 3 MW

Installation is as easy as servicing: The straightforward concept of the Conceptpower DPA 500 simplifies every step of the deployment process – from planning, through installation and commissioning to full use.

This online-swap technology, along with significant reductions in repair time, can help achieve so-called six nines (99.9999 percent) availability – highly desirable for data centers in pursuit of zero downtime.

The Conceptpower DPA 500 has a very low cost of ownership, partly because of the modularity and scalability described, but also because of its best-in-class energy efficiency. ABB's Conceptpower DPA 500 operates with an efficiency of up to 96 percent. Its efficiency curve is very flat so there are significant savings in every working regime. This gives this particular product the lowest total cost of ownership of any comparable UPS system.

Further, cooling costs in data centers are substantial. Because it consumes less power, the high-efficiency Conceptpower DPA 500 requires less cooling effort, creating further savings. It also has a compact footprint – ideal for data centers, where real estate can be limited and expensive.

Standardization and modularization have revolutionized the design of power back-up systems for data centers. Gone are the days of traditional, monolithic UPS: Power systems for various applications, large and small, can now be built by using the same pre-designed, pre-manufactured and pre-tested sub-systems as building blocks. Standardizing UPS systems to serve load segments of different sizes is now a reality. The benefits are clear: faster implementation, flexibility, scalability and controlled capital spending. Standardization also enables the use of ready-made interfaces and management modules and simplifies integration with other data center systems, such as ABB's Decathlon data center monitoring software.

Data centers of different sizes or in different phases can now apply one standard product. The Conceptpower DPA 500 opens this new door because it not only provides load protection for data centers up to 1 MW, but it allows easy expansion to a much higher rating (up to 3 MW). And all by adding standardized additional modules. Standardization and modularity will drive new UPS designs and we will see further refinement of the decentralized parallel architecture, higher maximum power ratings and even more energy-efficient solutions.

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