VALUENET DPA 500
100 kW - 3 MW

The modular UPS - now up to 3 MW

NRG VALUE NET DPA

Modular three-phase UPS system

The lowest total cost of ownership

NRG VALUENET DPA 500 boasts the lowest cost of ownership of any UPS system by offering energy efficiency, scalability and ergonomic design to enable easy serviceability.

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 (up to 96%) of the product, all these factors gives the NRG VALUENET DPA 500 the lowest total cost of ownership of any similar UPS system.

6X frames in parallel can be scaled to provide 3 MW of clean and reliable power.

Sized to fit your needs

Designers often over-specify UPS systems to take account of future demand growth. With the VALUENET DPA 500 modules can simply be added in parallel to increase the system's total capacity. The Conceptpower DPA delivers power protection from 100 to 500kW (one to five modules) in a single cabinet. Cabinets can operate in a parallel configuration to build a system of up to 3 MW.

Scalable up to 3 MW

The VALUENET DPA 500's horizontal and vertical scalability allows:

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

Vertical scalability: one to five modules in one single cabinet

Horizontal scalability: cabinets in parallel configuration up to 3MW

Protecting power has never been easier

True, online-swap modularity enables the safe removal and/or insertion of VALUENET 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 VALUENET 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.

Installation and service is easy too: The straightforward concept of the VALUENET DPA 500 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 fully front serviceable.

AVAILABILITY

Mean time between failures (MTBF) and mean time to repair (MTTR) are common parameters in the UPS industry and both impact system availability. Modular UPS designs minimizes the system's MTTR. The Decentralised Parallel Architecture allows the modules to work as one system but without interdependence. In the unlikely event that one UPS module were to fail, the overall system will continue to operate normally, but with one module fewer of capacity. The failed module is fully disconnected and cannot impact the operating modules. Quick and simple repair by swapping modules, which can be held as spares on-site or at a nearby service center, minimizes the system's MTTR.

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

Not only does this improve availability but it also reduces cost as service engineers spend less time on-site and any risks of data or production loss are minimized. Inventory levels of specialist spare parts are reduced.

Online-swappable modules

HIGH EFFICIENCY

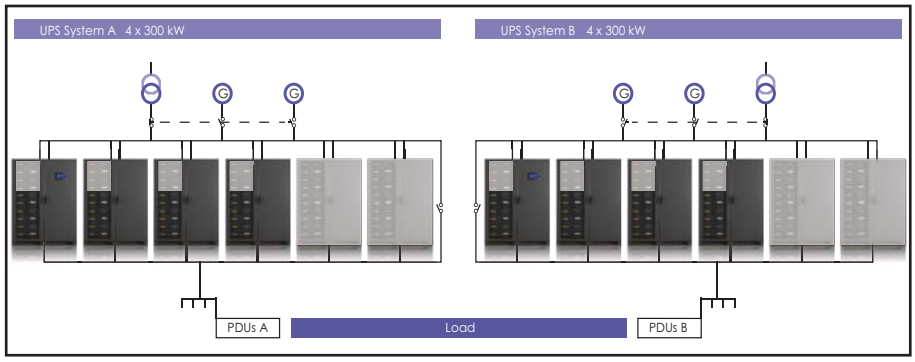
The scalability of the modular architecture can deliver major reductions in electricity consumption and CO_2 emissions. Not only that, but a class-leading energy efficiency of up to 96% significantly reduces system running costs and cooling costs. But most importantly, the efficiency is optimized with a very flat efficiency curve that enables significant savings under every working condition.

up to 3 MW

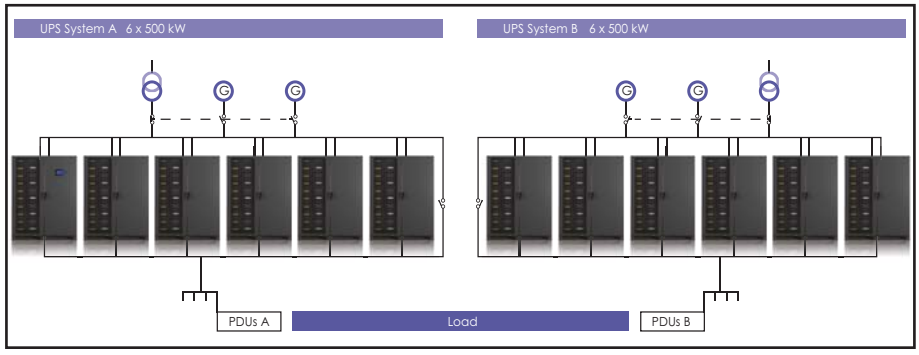
Every UPS module has a separate display. Additionally, a touchscreen display on the system level offers the opportunity of directly monitoring key functions. With both displays in place (module and system level), the UPS offers full user friendliness without making compromises on robustness.

Uninterrupted uptime for Tier IV Data Centers

Our modern society is now largely built on a foundation of data. Almost every organization that touches our lives rely on the safe storage of enormous amounts of data. And safe data storage needs a rock-solid supply of power such as that shown in this reference example.



In a Tier 4 data center, it must be possible to undertake infrastructure work without disrupting the critical load. This requires simultaneously active distribution paths, typically in a system + system configuration. Electrically this means, two seperate UPS systems in which each system has N+1 redundancy. The sample reference scenario, 1200kW Tier 4, illustrates one possible example of how the VALUENET DPA 500 can be used to create a high performance IT infrastructure.



Reference example of a data center application: Extra modules can be added while the system is powered up to make it up to 3MW.

The system flexibility allows upgrading or downgradint power capacity according to your needs.

Technical specifications

GENERAL DATA	
System power range	100 kW – 3 MW
Nominal power /module	100 kW
Nominal power / frame	500 kW
Output power factor	1.0
Topology	Double conversion, transformer-free, modular, Decentralized Parallel Architecture
Parallel configuration	Up to 5 modules in one frame (500 kW) / up to 6 frames in parallel (3 MW)
Cable entry	Bottom or top as standard
Serviceability	Fully front serviceable
Back-feed protection	Built-in as standard
INPUT	
Nominal input voltage	3 x 380 /220 V + N, 3x 400 /230 V + N, 3x 415 /240 V + N
Voltage tolerance (referred to 400 /230 V)	For loads < 100 % (–10 %, +15 %), < 80 % (–20 %, +15 %), < 60 % (–30 %, +15 %)
Input distortion THDi	< 3.5 % at 100 % load
Frequency range	35 – 70 Hz
Power factor	0.99 @ 100% load
Walk in/Soft start	Yes
OUTPUT	
Rated output voltage	3 x 380 /220 V + N, 3x 400 /230 V + N, 3x 415 /240 V + N
Voltage tolerance (referred to 400 /230 V)	<±1 % with static load / <±4 % with step load
Voltage distortion	< 2 % with linear load / <4 % with non-linear load
Frequency	50 or 60 Hz (selectable)
EFFICIENCY	
AC-AC	Up to 96%
In eco-mode	≥ 99 %
ENVIRONMENT	
Protection rating	IP 20
Storage temperature	–25° – +70°
Operating temperature	0° – +40°C
Altitude (above sea level)	1000 m without de-rating
BATTERIES	
Number of 12V blocks /string	Flexible number from 40 – 50 blocks
Types	VRLA, vented lead-acid, NiCd
Battery charger	Decentralized charger per module
COMMUNICATIONS	
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
COMPLIANCY	
Safety	IEC /EN 62040-1
EMC	IEC /EN 62040-2
Performance	IEC /EN 62040-3
Manufacturing	ISO 9001:2008, ISO 14001:2004
WEIGHT, DIMENSIONS	
Weight	approx. 975 kg (500 kW system without batteries)
Dimensions WxHxD	1580 x 1975 x 945 mm