DPA 500
The modular UPS for medium-sized and large data centers

System display

Top cable entry

Module parallel isolator

DPA display in each module

Battery breaker

Customer inputs and potential-free outputs

Inbuilt maintenance bypass switch (optional)

Bypass fuses

Bottom cable entry
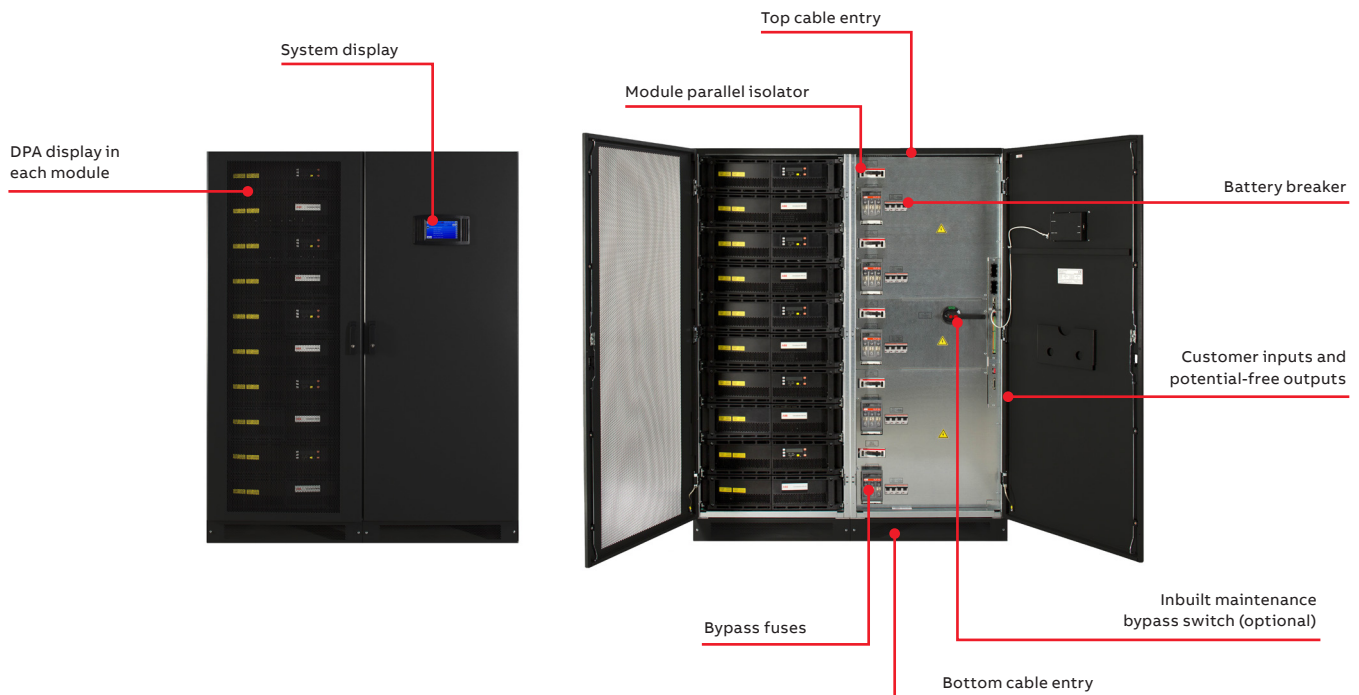
A data center with full uptime. That target is why ABB's DPA 500 is based on Decentralized Parallel Architecture (DPA). Only a truly redundant architecture like DPA allows online modules to be swapped out while the system is running. Each high-reliability, standardized module is self-contained and can be swapped at any time, so nothing has to be ever switched off – making routine maintenance safe and easy. And if you want to increase power, the UPS can be scaled vertically in 100 kW modular steps to provide up to 500 kW power in a single frame. Horizontal scalability is also given, with up to six frames in parallel, to increase total power up to 3 MW.

99.9999% (6 nines) availability
- Decentralized Parallel Architecture
- Replace or add modules with no downtime
- Short mean time to repair
- No single points of failure

Cost effective "right-sizing"
- Scalable up to 3 MW
- Vertical and horizontal scalability

Low total cost of ownership
- Up to 96% true online efficiency
- Eco-mode efficiency ≥99%
- Small footprint / high power density
- Unity power factor (kW = kVA)
- Low input harmonic distortion (THDi <3.5%)

Efficient service concept
- Simple power upgrade
- Fast maintenance
- Reduced spare parts needed
- Full front access

DPA 500
Product features

Total vertical and horizontalscalability
The DPA 500 delivers power protection from 100 to 500 kW (one to five modules) in a single cabinet (vertical scalability). Cabinets can operate in a parallel configuration to build a system of up to 3 MW (horizontal scalabiltiy).
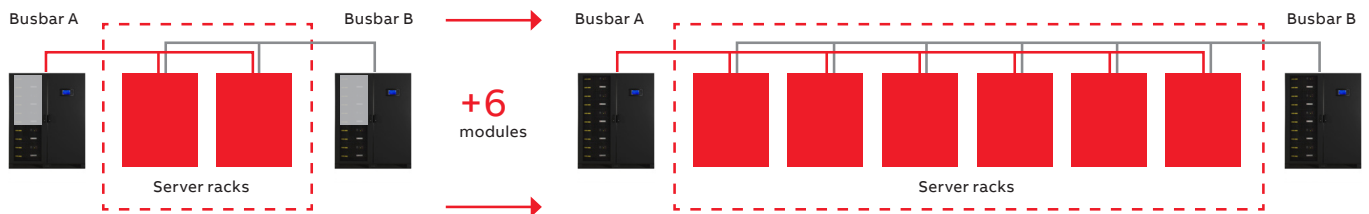
Designed with maximum flexibility at its core
The system flexibility allows upgrading or downgrading power capacity according to your needs.

$$6 \times 5 \times 100_{kW} = 3\,MW$$

End of rack raw applications

Busbar A ... Busbar B +6 modules Server racks → Busbar A ... Busbar B Server racks

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Dual-bus power protection solutions

UPS system A
4 × 300 kW

UPS system B
4 × 300 kW

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Extendable   Extendable

PDUs A   Load   PDUs B
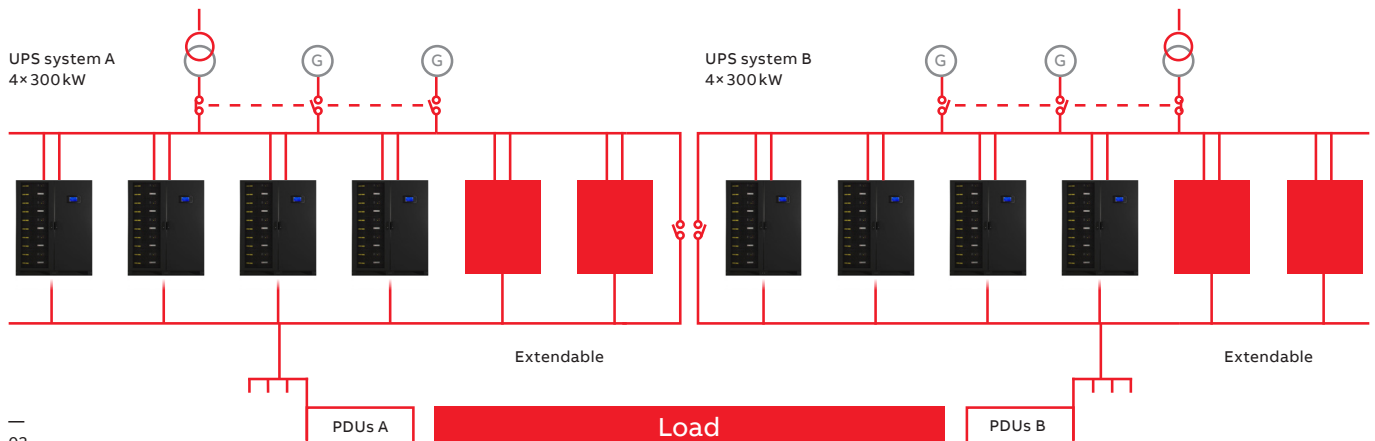
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02

DPA 500
Available model
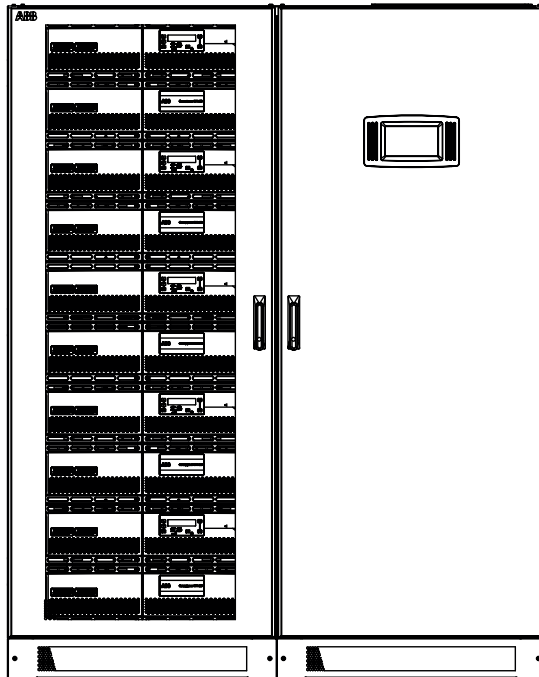
Cabinet type	DPA – 500 kW
Dimensions w × h × d	1580×1975×945 mm
Capacity	Up to five modules
Weight in kg	975 kg (500 kW system)

UPS cabinet configuration
- Online double conversion UPS
- Inbuilt module isolator
- Inbuilt back-feed protection
- Individual module display
- HMI interface with mimic diagram and LCD
- Top or bottom cable entry (standard)
- Single- and dual-input feed available
- Bypass fuses and battery circuit breaker for each module
- Graphical touch screen system display
- Communication interfaces: RS-232 and USB ports, I/O dry contacts (EPO, GEN On, …) and interface for external key interlock (bypass)

Options
- Manual bypass switch (one-frame applications)
- Control and monitoring (ModBus RS-485, ModBus TCP/IP, SNMP and others)
- Remote panel (graphical touch screen display)
- Battery temperature sensor
- Cold start
- Synchronization kit

DPA 500
Technical specification

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	Online double conversion, Decentralized Parallel Architecture
Parallel configuration	Up to 5 modules in one cabinet (500 kW) / up to 6 cabinets in parallel (3 MW)
Cable entry	Bottom or top as standard
Serviceability	Full front
Back-feed protection	Built-in as standard
Input	
Nominal input voltage	3× 380 / 220 V + N, 3× 400 / 230 V + N, 3× 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%
Frequency range	35–70 Hz
Power factor	0.99
Walk in / soft start	Yes
Output	
Rated output voltage	3× 380 / 220 V + N, 3× 400 / 230 V + N, 3× 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 Hz or 60 Hz (selectable)
Efficiency	
Overall efficiency	Up to 96%
In eco-mode	≥99%
Environment	
Protection rating	IP 20
Storage temperature	−25 °C to +70 °C
Operating temperature	0 °C to +40 °C
Altitude (above sea level)	1000 m without derating
Batteries	
Types	VRLA / NiCd / Li-Ion
Battery charger	Decentralized charger per module
Communications	
User interface	Graphical touch screen (one per frame as standard) Decentralized LCD and mimic diagram (one per module as standard)
Communication ports	USB, RS-232, potential-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 9001:2015, ISO 14001:2015, OHSAS18001
Weight, dimensions	
Weight	975 kg (500 kW system)
Dimensions w × h × d	1580 × 1975 × 940 mm