Three-phase UPS system

DPA UPScale ST
10–120 kW
Best-in-class modular UPS for maximum availability

Power and productivity
for a better world™

Designed to provide large system benefits for medium power applications

Designed for medium power applications, the DPA UPScale ST delivers true modular power protection from 10 to 120 kW (one to six modules) in a single industry-standard frame. Its flexible design provides a "pay as you grow" model, ideal in situations where requirements change quickly and unpredictably. The DPA UPScale ST enables cost reduction through best-in-class efficiency performance, fast and efficient implementation and extremely low overall operating costs.

The modular DPA UPScale ST is based on ABB's unique and proven Decentralized Parallel Architecture (DPA™). DPA means that each UPS module contains all the hardware and software required for full system operation. They share no common components, and as a result system uptime is maximized.

Space costs money and with a footprint of only 0.42 m^2 DPA UPScale ST (10-120 kW) takes up less floor space than alternative UPS solutions. The UPS provides all the benefits of a modular UPS solution with a maximum power density of 272 kw / m^2.

DPA UPScale highlights

- Capacities from 10 to 120 kW in 10 or 20 kW modular steps
- N +1 redundancy (up to 10 kW N + 1)
- Up to 95.5 % efficiency across a wide load range
- Near-unity input power factor at partial and full loads (PF of > 0.99 at 100 % load)
- Low input harmonic distortion (THDi of < 3 %)
- 272 kW / m^2 power density
- "Six nines" availability

With DPA technology each UPS module has its own independent

- logic control
- control panel
- rectifier
- inverter
- battery charger
- static switch

DPA UPScale ST 80 **DPA UPScale ST 120**

DPA – always protecting your critical applications

The three major concerns of IT facility managers when assessing the life-cycle cost of their power protection infrastructure are availability, flexibility and total cost of ownership (TCO). The DPA UPScale ST is based on ABB's unique and proven Decentralized Parallel Architecture (DPA) that has been developed specifically to respond to these concerns.

DPA – maximum availability

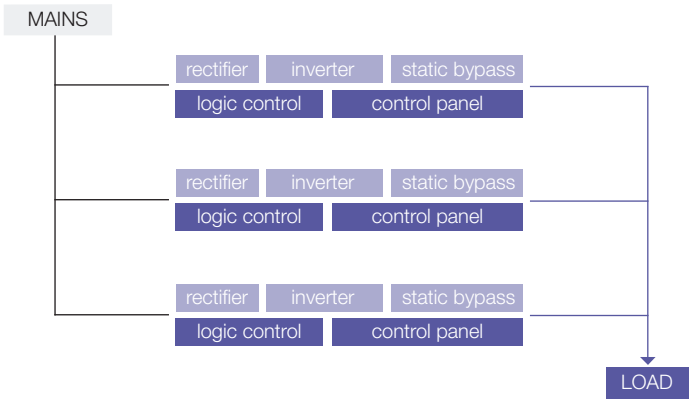
Parallel architecture limited only to modular design does not guarantee the highest power protection for critical applications. The success of a parallel modular system depends largely on the design of the parallel architecture and on the level of intelligence of the individual modules. Modular systems based on DPA are free of single points of failure and maximize the system's mean time between failure (MTBF). Quick and simple repair by safe-swapping modules while the UPS is online minimize the system's mean time to repair (MTTR).

DPA – high level of flexibility

UPS systems based on DPA allow for incremental expansions whilst ensuring redundancy at all times. It is possible to start with just a few modules and add to them as required in an easy and safe way. True safe-swap and safe-scale modularity enables the safe replacement of UPS modules and their integration into the UPS system without the need to transfer the critical load onto raw mains or to remove power from the critical load.

DPA – lowest total cost of ownership

Saving costs and optimizing capital deployment are top priorities, and IT facility managers must make effective investments to increase the efficiency of their IT systems. An infrastructure that uses cost-effective and flexible modular power protection solutions with significantly lower operating costs will create competitive advantages in the medium term. The DPA UPScale ST boasts the lowest cost of ownership of any UPS system by offering energy efficiency, scalable flexibility and highest availability due to true redundancy and easy serviceability.



ABB's modular DPA UPScale ST is built of self-contained modules that include the entire UPS hardware and software; hence, it eliminates all the common parts which are potential single points of failure.

A DPA module includes distributed CPUs, distributed control panels, distributed power units and distributed static bypass switches. Even the batteries are separately configured for each module, which makes the parallel system fully and truly redundant.

Technical specifications

GENERAL DATA	ST 40	ST 60	ST 80	ST 120
Number of UPS modules	2	3	4	6
Maximum number of inbuilt batteries	80	240	–	–
Maximum output power	40 kW	60 kW	80 kW	120 kW
Output power factor	1.0			
Topology	True online double conversion			
Parallel configuration	Up to six modules			
UPS type	Modular (Decentralized Parallel Architecture)			
Cable entry	Front access			
INPUT				
Nominal input voltage	3 × 380 / 220 V + N, 3 × 400 / 230 V + N, 3 × 415 / 240 V + N			
Voltage tolerance (Ref. to 3 × 400 / 230 V)	For loads <100 % (–23 %, +15 %), <80 % (–30 %, +15 %), <60 % (–40 %, +15 %)			
Input distortion THDi	≤ 3 % at 100 %			
Frequency	35–70 Hz			
Power factor	0.99 at 100 % load			
OUTPUT				
Rated output voltage	3 × 380 / 220 V + N, 3 × 400 / 230 V + N, 3 × 415 / 240 V + N			
Voltage distortion (Ref. to 3 × 400 / 230 V)	< 1.5 %			
Frequency	50 or 60 Hz			
Overload capability	10 min.: up to 125 % or 1 min.: up to 150 %			
Unbalanced load	100 % possible			
Crest factor	3 : 1			
EFFICIENCY				
Overall efficiency	Up to 95.5 %			
In eco-mode configuration	98 %			
ENVIRONMENT				
Storage temperature	–25–70 °C			
Operating temperature	0–40 °C			
Altitude configuration	1000 m without derating			
COMMUNICATIONS				
LCD display	Yes (per module)			
LEDs	LED for notification and alarm			
Communication ports	USB, RS-232, SNMP slot, potential-free contacts			
STANDARDS				
Safety	IEC / EN 62040-1-1, IEC / EN 60950-1			
Electromagnetic compatibility (EMC)	IEC / EN 62040-2, IEC / EN 61000-3-2 IEC / EN 61000-3-3, IEC / EN 61000-6-2			
Performance	IEC / EN 62040-3			
Product certification	CE			
WEIGHT, DIMENSIONS				
Weight (with modules / without batteries)	Up to 136 kg	Up to 238 kg	Up to 169 kg	Up to 263 kg
Dimensions W × H × D (mm)	550 × 1135 × 770	550 × 1975 × 770	550 × 1135 × 770	550 × 1975 × 770

DPA UPScale ST – system architecture

PRODUCT TYPES	ST 40	ST 60	ST 80	ST 120
Maximum output power	40 kW	60 kW	80 kW	120 kW
No. of internal batteries (7 / 9 Ah)	Up to 80	Up to 240	–	–
Dimensions W × H × D (mm)	550 × 1135 × 770	550 × 1975 × 770	550 × 1135 × 770	550 × 1975 × 770

The DPA UPScale ST can be deployed in a variety of system architectures to support the specific requirements of your IT infrastructure. The ST 40 and ST 60 cabinet types are suitable for applications with low run-times, limited space and no extension requirements. For larger autonomies and incremental future growth, the ST 80 and ST 120 are the best choices.

DPA UPScale ST – safe-swap modularity

The ability to safe-swap modules significantly reduces the system's mean time to repair (MTTR) and simplifies system upgrades. Thanks to the unique, compact design and low weight (10 kW = 18.6 kg, 20 kW = 21.5 kg) of the DPA UPScale modules, inserting additional modules or replacing existing ones during operation is easy and can be performed by a single technician.

High power – low weight!
20 kW = 21.5 kg

MODULES	M 10 or M 20
Maximum output power	10 or 20 kW
Weight	18.6 or 21.5 kg
Dimensions W × H × D (mm)	488 × 132 × 540 (3 HU)

Contact us

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