
MODULAR THREE-PHASE UPS SYSTEM

DPA UPScale RI 10–80 kW

The modular UPS
for customized solutions



DPA UPScale RI – system architecture



Product types with batteries	RI 11	RI 12	RI 22	RI 24	RI 10	RI 20	RI 40
Output power max.	20kW	20kW	40kW	40kW	20kW	40kW	80kW
Number of batteries	40	80	80	160	–	–	–
Dimensions W × H × D (mm)	488 × 487 × 735 (11 HU)	488 × 665 × 735 (15 HU)	488 × 798 × 735 (18 HU)	488 × 1153 × 735 (26 HU)	488 × 310 × 565 (7 HU)	488 × 440 × 565 (10 HU)	488 × 798 × 735 (18 HU)
Weight sub-rack (without modules / without batteries)	40kg	56kg	66kg	93kg	20kg	25kg	50kg

The core elements consist of best-in-class hardware and software that respond to diverse customer applications and changing business needs. All DPA UPScale RI components can be mounted directly in any 482.6 mm (19") cabinet of 800 or 600 mm (RI 10, RI 20) depth. Depending on the requirements, mixed equipment population is also possible. DPA UPScale RI is available in seven configurations – with or without inbuilt battery blocks.

Highlights for system integrators

- Rack-independence
- Efficient manufacture of individual solutions with standard products
- High local added value

DPA UPScale RI – 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 (10kW = 18.6 kg, 20kW = 21.5 kg) of the DPA UPScale RI modules, inserting additional modules or replacing existing ones during operation is easy and can be performed by a single technician.



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

DPA UPScale RI – always protecting your critical load

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01 DPA UPScale RI 20
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02 DPA UPScale RI 22
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03 DPA UPScale RI 24

The rack-independent DPA UPScale RI (rack-independent) is one of the most customizable UPS systems on the market and provides the best technical and commercial solutions to meet individual power protection needs. The three-phase and modular UPS system can be integrated into any 19" cabinet, regardless of the rack's manufacturer.

The multi-purpose DPA UPScale RI simplifies the engineering and deployment of customized power protection solutions. The UPS system allows system integrators to add their own know-how and to implement individual solutions according to their design requirements.

DPA UPScale RI can be integrated into any weather-resistant enclosure to withstand the demands of the harsh outdoor environments. The rack-independence allows DPA UPScale RI to be used all over the world on oil rigs, ferries and commercial shipping vessels, just to name a few.

In the rack, the warm air is discharged to the back. This allows the warm air to exit the cabinet through the top air path without heating up the whole enclosure. In any case, it is important that system integrators take the air conditioning into account.

DPA UPScale RI – always protecting your critical load

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

Maximum availability

Modular systems based on DPA are free of single points of failure. The modular DPA UPScale RI is built of self-contained modules that include the entire UPS hardware and software; hence, it eliminates all the common parts that are potential single points of failure.

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.

Low total cost of ownership

DPA UPScale RI 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.



Meeting individual needs with serial components

Our customers count on us to provide solutions that meet the demands of diverse IT environments. The following business cases are examples of DPA UP-Scale RI's outstanding flexibility.

Research institute

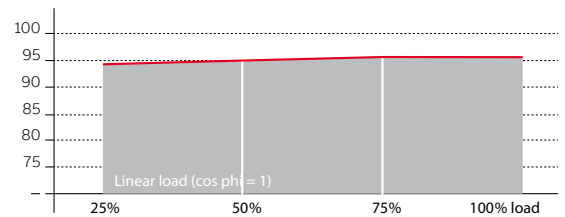
When a German research institute needed to equip 18 radar towers with new radar scanners and servers for research analysis in the head cabin of the 73-meter-high tower, it turned to ABB. The customers' business-critical technology systems demanded flexible and easy adjustable power support. Due to the fact that the standard product allows a wide range of product variants and can be integrated into any existing 19" rack, the individual requirements were easily fulfilled. The serial components allowed for the efficient manufacturing of the individual solutions, even in view of the limited number of applications.

Transportation

Peru's government is introducing a new transportation system into its country. The changes include the introduction of a fleet of modern gas buses, an advanced controlling system as well as an e-ticketing system providing customer convenience. At the heart of the new control room is DPA UP-Scale RI, installed to ensure power availability of the operating systems. Additional DPA UP-Scale RI systems are deployed in locations with limited available space and harsh environmental conditions. Thanks to features such as rack-independence and compact size, individual design requirements were easily fulfilled.

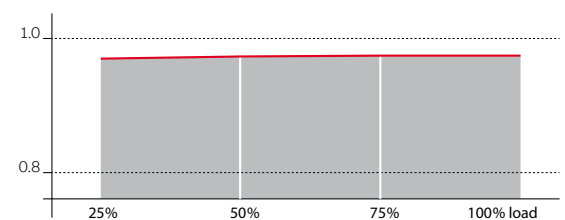
When you think environment, think ABB

Our power protection solutions help IT professionals execute a comprehensive energy-efficient strategy, drive more performance while creating a smaller energy footprint, and enable them to add new capacity to existing facilities while holding the line on power consumption.



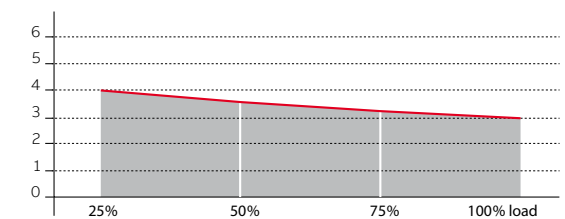
AC-AC efficiency

The flat efficiency curve enables significant energy savings in every working condition.



Input power factor versus load

The input power factor of DPA UP-Scale RI is near unity at partial and full load.



Input current total harmonic distortion (THDi)

Class-leading THDi of < 3% virtually eliminates harmonic distortion of the mains supply.

Technical specifications

GENERAL DATA	RI 10	RI 11	RI 12	RI 20	RI 22	RI 24	RI 40
UPS modules	1	1	1	2	2	2	4
Maximum number of inbuilt batteries	–	40	80	–	80	160	–
Output power max.	20kW	20kW	20kW	40kW	40kW	40kW	80kW
Output power factor	1.0						
Topology	True online double conversion						
UPS type	Modular (Decentralized Parallel Architecture)						
Cable entry	Rear 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 % (–20 %, +15 %), < 80 % (–26 %, +15 %), < 60 % (–35 %, +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	< 1.5 %						
Frequency	50 or 60 Hz						
Overload capability	10 min.: 125 % or 1 min.: 150 %						
Unbalanced load	100% possible						
Crest factor	3 : 1						
EFFICIENCY							
Overall efficiency	Up to 96 %						
In eco-mode configuration	98 %						
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						
Electromagnetic compatibility (EMC)	IEC / EN 62040-2						
Performance	IEC / EN 62040-3						
Product certification	CE						
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS18001						
WEIGHT, DIMENSIONS							
Weight (with modules / without batteries)	Up to 39 kg	Up to 62 kg	Up to 78 kg	Up to 68 kg	Up to 109 kg	Up to 136 kg	Up to 136 kg
Dimensions W × H × D (mm)	488 × 310 × 565 (7 HU)	488 × 487 × 735 (11 HU)	488 × 665 × 735 (15 HU)	488 × 440 × 565 (10 HU)	488 × 798 × 735 (18 HU)	488 × 1153 × 735 (26 HU)	488 × 798 × 735 (18 HU)

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