Rittal – The System.
Faster – better – everywhere.

We’ve got the power – modular UPS systems
Always play it safe

IT solutions are increasingly the heart of the company. As such, it is becoming more important to use high-quality, scalable solutions which cover all requirements in the IT environment as well as in the industrial environment to optimum effect, and which are perfectly coordinated with one another. Rittal offers a complete range, from TS IT, the global standard in network and server enclosures, through to transparent monitoring, which reliably oversees the functioning and efficiency of all components.

1. TS IT network/server enclosures
   The intelligent modular system with flexible network and server enclosures is in use around the globe. The ideal racks for data centres of any size.

2. Aisle containment
   Door and roof components separate hot and cold air in the data centre, for improved energy efficiency.

3. Chiller for IT cooling
   Supplies the cold water for IT cooling units in the data centre, such as Liquid Cooling Packages (LCP) or Computer Room Air Conditioning (CRAC).

4. Liquid Cooling Package
   For efficient rack and suite cooling, available as a CW and DX variant.

5. Ri4Power
   The heart: Low-voltage switchgear manages the various infeed sources (A, B and emergency power) and ensures their subsequent distribution.

6. Power Distribution Rack
   For sub-distribution among the individual enclosure suites in the data centre.

7. IT power
   UPS systems ensure an uninterruptible power supply in the data centre.
Modular for perfect solutions

Critical loads need to be protected with the best possible UPS design. The UPS design from ABB optimises availability and total cost of ownership (TCO), and is based on a complete redundancy concept. In the modular UPS series, each UPS module has all the hardware and software needed for autonomous operation. All critical components are available in each individual module, thereby eliminating weak points altogether. ABB calls this modular approach “decentralised parallel architecture (DPA™)”. 

“Only a genuinely redundant architecture like DPA allows switched modules to be replaced whilst the system is operational”.

Decentralised parallel architecture
With DPA, each UPS module has all the hardware and software needed for autonomous operation.

Optimised investments and energy savings
The UPS capacity can be modified to accommodate changing loads. This reduces the need for overdimensioning.

Standalone solution
1 1 × 60 kW (+60 kW) until year 1
2 2 × 60 kW (+60 kW) year 1 – 4
3 Overdimensioned capacity

Modular solution
3 20 kW UPS modules may be added or removed at any time
4 Typical 4-year load curve for a medium-sized EDP centre

1 Rectifier input
2 Bypass input
3 UPS module
4 Control logic display
5 Output to critical load
High availability
For all critical applications, availability is the key parameter of any UPS. The following approaches are best for optimising power availability:

- **Add redundancy**
  The safest way of improving power availability is by ensuring redundancy in the UPS system. In a redundant system (DPA), all modules are active, and the load is distributed evenly among the modules. If one of the modules should fail, the remaining modules seamlessly take over its load.

- **Choose high-quality equipment**
  Quality and reliability are the defining features of the Swiss-made DPA uninterruptible power supplies from ABB. They are designed with the utmost care and subjected to stringent testing. Each product is tested individually before it leaves the factory. All modules are individually tested to 100 percent, and all modular and standalone uninterruptible power supplies undergo sign-off testing.

- **Use the best topology**
  With DPA UPSs from ABB, the incoming AC current is first converted into DC current. This DC current in turn generates the outgoing AC current with a pure sine wave voltage. The term “double conversion” is derived from these two conversion stages. They protect the wave form of the outgoing voltage from all interference on the AC input side.

- **Minimise waiting times**
  Because the UPS modules are independent of one another in a DPA system, they may be replaced whilst the system is operational without the risk of a critical load, and without the need to shut down or switch to mains power. This means that engineers can work on the UPS without interrupting operation. Replacement with the system operational minimises the amount of time needed for maintenance and repair. The procedure is quick and easy, and does not pose a threat to system operation.

- **Standardised maintenance concept**
  The DPA modules are standardised, helping to keep costs low. The stocking of spare parts is reduced, and data processing centres can be assembled with the same pre-configured, tested sub-systems in block form.

Low total cost of ownership
The modular UPS approach from ABB ensures optimum performance for maintenance, scalability and flexibility. Together, these features make a decisive contribution to the low total cost of ownership (TCO). The best way to minimise TCO:

- **Optimise investments**
  If the UPS output requirements change, for example if an EDP centre is expanded, the modular structure means that additional modules are easily added to increase the electricity supply.

- **Optimise battery performance**
  The autonomy and battery size may be tailored to your system’s precise requirements. A separate battery makes it possible to upgrade and preserve the system’s autonomy without limiting availability.

- **Save on space**
  The modular design keeps space requirements for the UPS system to a minimum. This is ideal, particularly if the available space is limited and expensive. A modular UPS rack does not take up too much space, and if additional modules are added, extra space is not usually required.

- **Cut installation and maintenance costs**
  The modular layout makes installation and commissioning simple. Standardised modules mean that fewer spare parts need to be kept in stock, and system upgrades are simplified.

- **Save energy**
  The modularity and scalability of the UPS system contribute to low overall operating costs, but the exceptionally energy-efficient design also helps to cut costs. For example, the UPS system Conceptpower DPA 500 from ABB boasts an operating ratio of up to 96 percent. The operating ratio curve is very flat, meaning minimal losses at any load.
The rack-independent DPA UPScale RI is one of the most compact UPS systems on the market, and is particularly well-suited to customised solutions. The modular, rack-independent system is ideal for creating flexible solutions, both technically and commercially. The DPA UPScale RI is suitable for applications in the lower and medium output range in controlled environments.

### Output range kW

<table>
<thead>
<tr>
<th>DPA UPScale RI</th>
<th>R10</th>
<th>R11</th>
<th>R12</th>
<th>R20</th>
<th>R22</th>
<th>R24</th>
<th>R40</th>
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<tbody>
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</tr>
</tbody>
</table>

### General specifications

- **Output kW**: 10/20/40/80
- **Output per module kW**: 10/20
- **Max. number of system enclosures connected in parallel**: 1 subrack
- **Max. number of modules connected in parallel, per enclosure**: 4 modules
- **Rated input voltage V AC**: 220/380, 230/400, 240/415
- **Rated output voltage V AC**: 220/380, 230/400, 240/415
- **User interface**: Module level LCD + mimic diagram
The DPA UPScale ST TS 8 series from ABB is a UPS system developed for applications in the low to medium output range. The flexible design permits a scalable output system in increments of 10 or 20 kW and a range of enclosure sizes. The redundant N+1 design ensures absolute operational continuity with no weak points. Additionally, the system is suitable for the installation of internal battery modules, depending on the output requirements. The DPA UPScale ST is the ideal solution for medium-sized infrastructures which are constantly expanding.

The Conceptpower DPA TS 8 enclosure is a genuine double conversion UPS system developed for applications in the medium to high output range. The modular architecture of the Conceptpower DPA allows a very flexible output configuration with 30/40/50 kVA rack-mounted modules, which may be retrofitted if the power demand rises. This helps to avoid excessive up-front investment. You pay as you grow. The Conceptpower DPA serves a range of different market segments, such as medium to large EDP centres and telecommunications, transport and production infrastructures in a clean, controlled environment.

### DPA UPScale ST TS 8

<table>
<thead>
<tr>
<th>ST60</th>
<th>up to 3 modules</th>
<th>ST120</th>
<th>up to 6 modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 kW</td>
<td>□□□□□□□□ □□□□□□□□</td>
<td>10 kW</td>
<td>□□□□□□□□ □□□□□□□□</td>
</tr>
<tr>
<td>20 kW</td>
<td>□□□□□□□□ □□□□□□□□</td>
<td>20 kW</td>
<td>□□□□□□□□ □□□□□□□□</td>
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### Conceptpower DPA TS 8

<table>
<thead>
<tr>
<th>DPA 150</th>
<th>up to 3 modules</th>
<th>DPA 250</th>
<th>up to 5 modules</th>
</tr>
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<tbody>
<tr>
<td>24 kW</td>
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<tr>
<td>32 kW</td>
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<td>40 kW</td>
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<td>40 kW</td>
<td>□□□□□□□□ □□□□□□□□</td>
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</tbody>
</table>

### Specifications

- **ST60**
  - 10 kW 20 kW
  - Up to 3 modules

- **ST120**
  - 10 kW 20 kW
  - Up to 6 modules

- **DPA 150**
  - 24 kW 32 kW 40 kW
  - Up to 3 modules

- **DPA 250**
  - 24 kW 32 kW 40 kW
  - Up to 5 modules

- **60/120**
- **80/120/200**
- **10/20**
- **24/32/40**
- **1 enclosure**
- **Up to 6 enclosures**
- **6 modules**
- **30 modules**
- **220/380, 230/400, 240/415**
- **220/380, 230/400, 240/415**
- **220/380, 230/400, 240/415**
- **Module level LCD + mimic diagram**
- **Module level LCD + mimic diagram**
Modular UPS systems

Network cards

Highlights:
- Genuine double-conversion UPS with an operating ratio of up to 96%
- 448 mm (19”) rack-mountable, modular UPS system
- Compact, lightweight design for configuring customised solutions
- Online swap modularity (OSM) for replacement with the system operational
- N+x redundancy supported
- Adapted battery configuration

Basic configuration of the system:
The UPS system DPA UPScale RI is accommodated in seven sub-racks of varying sizes, and comprises the following:
- Up to four genuine double conversion UPS modules, each with mimic diagram and LCD display, showing information in five languages
- Slow fuses for input, bypass and battery
- Manual bypass switch
- Rectifier and bypass terminals (available with single or double mains power connection) and terminals at the UPS output
- Free space for the installation of internal battery modules (only for UPScale R11/12/22/24)
- COM ports: RS-232 port, five floating contacts at the input/output (including EPO and GEN On)

Options:
- Built-in backfeed protection
- Internal battery modules
- Temperature sensor battery
- Connectivity (Modbus RS-485, Modbus TCP/IP, SNMP)
- Software for monitoring and shutdown

Conformity and certifications:
Certifications and third-party test reports for the following standards:
- IEC/EN 62040-1
- IEC/EN 62040-2
- IEC/EN 62040-3

DPA UPScale RI, 1 module

<table>
<thead>
<tr>
<th>Subrack type</th>
<th>R10</th>
<th>R11</th>
<th>R12</th>
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<tbody>
<tr>
<td>Dimensions (W x H x D) mm</td>
<td>448 x 310 (7 U) x 565</td>
<td>448 x 487 (11 U) x 735</td>
<td>448 x 665 (15 U) x 735</td>
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<tr>
<td>Internal battery output</td>
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<td>Up to 40 blocks 7 Ah</td>
<td>Up to 80 blocks 7 Ah</td>
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<tr>
<td>Model No.</td>
<td>04-0780</td>
<td>04-0410</td>
<td>04-0411</td>
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<tr>
<td>Output per subrack kW</td>
<td>10/20</td>
<td>10/20</td>
<td>10/20</td>
</tr>
<tr>
<td>Output per module kW</td>
<td>10/20</td>
<td>10/20</td>
<td>10/20</td>
</tr>
<tr>
<td>Power factor</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Max. number of system enclosures connected in parallel</td>
<td>1 subrack</td>
<td>1 subrack</td>
<td>1 subrack</td>
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<tr>
<td>Max. power output kW</td>
<td>20</td>
<td>20</td>
<td>20</td>
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<tr>
<td>Network topology (I/O)</td>
<td>3 ph + N + PE</td>
<td>3 ph + N + PE</td>
<td>3 ph + N + PE</td>
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<tr>
<td>Input voltage range V AC (load-dependent)</td>
<td>150/204 – 264/460</td>
<td>150/204 – 264/460</td>
<td>150/204 – 264/460</td>
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<td>Frequency range Hz</td>
<td>36 – 70</td>
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<td>36 – 70</td>
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<tr>
<td>Distortion factor at 100% load</td>
<td>&lt; 3%</td>
<td>&lt; 3%</td>
<td>&lt; 3%</td>
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<tr>
<td>Power factor 100% load</td>
<td>≥ 0.99</td>
<td>≥ 0.99</td>
<td>≥ 0.99</td>
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<tr>
<td>Total harmonic distortion THD (with linear load)</td>
<td>&lt; 1.5%</td>
<td>&lt; 1.5%</td>
<td>&lt; 1.5%</td>
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<td>Output frequency Hz (selectable)</td>
<td>50/60</td>
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<td>50/60</td>
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<tr>
<td>Eco-mode</td>
<td>98%</td>
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## Modular UPS systems

### DPA UPScale RI, 2 modules

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<th>RI22</th>
<th>RI24</th>
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<tr>
<td>Dimensions (W x H x D) mm</td>
<td>448 x 440 (10 U) x 565</td>
<td>448 x 798 (18 U) x 735</td>
<td>448 x 1153 (26 U) x 735</td>
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<tr>
<td>Internal battery output</td>
<td>–</td>
<td>Up to 80 blocks 7 Ah</td>
<td>Up to 160 blocks 7 Ah</td>
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### Model No.

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<th>04-0412</th>
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<td>Output per subrack kW</td>
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<td>Power factor</td>
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<td>Max. number of system enclosures connected in parallel</td>
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<tr>
<td>Max. power output kW</td>
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<td>Network topology (I/O)</td>
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### DPA UPScale RI, 4 modules

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<td>448 x 798 (18 U) x 735</td>
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<tr>
<td>Internal battery output</td>
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### Model No.

<table>
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<td>Output per subrack kW</td>
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<td>Output per module kW</td>
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<tr>
<td>Power factor</td>
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<tr>
<td>Max. number of system enclosures connected in parallel</td>
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<tr>
<td>Max. power output kW</td>
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<tr>
<td>Network topology (I/O)</td>
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<tr>
<td>Rated input voltage V AC</td>
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### DPA UPScale RI, 4 modules

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<tr>
<td>Dimensions (W x H x D) mm</td>
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<tr>
<td>Internal battery output</td>
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### Model No.

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<td>Output per subrack kW</td>
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<td>Output per module kW</td>
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<tr>
<td>Power factor</td>
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<tr>
<td>Max. number of system enclosures connected in parallel</td>
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<tr>
<td>Max. power output kW</td>
</tr>
<tr>
<td>Network topology (I/O)</td>
</tr>
<tr>
<td>Rated input voltage V AC</td>
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### Performance Parameters

- **Frequency range Hz**: 35 – 70
- **Distortion factor at 100% load**: < 3%
- **Power factor 100% load**: ≥ 0.99
- **Rated output voltage V AC**: 220/380, 230/400, 240/415
- **Total harmonic distortion THD (with linear load)**: < 1.5%
- **Output frequency Hz (selectable)**: 50/60
- **Eco-mode**: 98%
Modular UPS systems

Battery cases Page 12  Network cards Page 15

Highlights:
- Genuine double-conversion UPS with an operating ratio of up to 96%
- Highly flexible, scalable system
- Online swap modularity (OSM) for replacement with the system operational
- N+x redundancy supported
- Adapted battery configuration
- Parallel connection of up to four systems

Basic configuration of the system:
The UPS system DPA UPScale ST is accommodated in five enclosures of varying sizes, and comprises the following:
- Up to six genuine double-conversion UPS modules, each with mimic diagram and LCD display, showing information in five languages
- Slow fuses for input, bypass and battery
- Manual bypass switch
- Rectifier and bypass terminals (available with single or double mains power connection) and terminals at the UPS output
- Free space for the installation of internal battery modules (only for ST60)
- COM ports: RS-232 port, five floating contacts at the input/output (including EPO and GEN On)

Options:
- Built-in backfeed protection
- Internal battery modules
- Temperature sensor battery
- Connectivity: Modbus RS-485, Modbus TCP/IP, SNMP
- Software for monitoring and shutdown

Conformity and certifications:
Certifications and third-party test reports for the following standards:
- IEC/EN 62040-1
- IEC/EN 62040-2
- IEC/EN 62040-3

DPA UPScale ST TS 8

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<thead>
<tr>
<th>Enclosure type</th>
<th>ST60</th>
<th>ST60</th>
<th>ST120</th>
<th>ST120</th>
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<tbody>
<tr>
<td>Maximum no. of modules</td>
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<td>3</td>
<td>6</td>
<td>6</td>
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<tr>
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<td>600 x 2000 x 1000</td>
<td>600 x 2000 x 800</td>
<td>600 x 2000 x 1000</td>
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<tr>
<td>Internal battery output</td>
<td>Up to 240 blocks 7 Ah</td>
<td>Up to 240 blocks 7 Ah</td>
<td>–</td>
<td>–</td>
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<tr>
<td>Model No.</td>
<td>TS84NWP100T78R0002</td>
<td>TS84NWP100T78R0001</td>
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<td>TS84NWP100T78R0001</td>
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<td>10 – 60</td>
<td>10 – 120</td>
<td>10 – 120</td>
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<tr>
<td>Output per module kW</td>
<td>10/20</td>
<td>10/20</td>
<td>10/20</td>
<td>10/20</td>
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<td>Power factor</td>
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<tr>
<td>Max. number of system enclosures connected in parallel</td>
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<tr>
<td>Max. power output kW</td>
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<td>3 ph + N + PE</td>
<td>3 ph + N + PE</td>
<td>3 ph + N + PE</td>
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<tr>
<td>Frequency range Hz</td>
<td>35 – 70</td>
<td>35 – 70</td>
<td>35 – 70</td>
<td>35 – 70</td>
</tr>
<tr>
<td>Distortion factor at 100% load</td>
<td>&lt; 3%</td>
<td>&lt; 3%</td>
<td>&lt; 3%</td>
<td>&lt; 3%</td>
</tr>
<tr>
<td>Power factor 100% load</td>
<td>≥ 0.99</td>
<td>≥ 0.99</td>
<td>≥ 0.99</td>
<td>≥ 0.99</td>
</tr>
<tr>
<td>Total harmonic distortion THD (with linear load)</td>
<td>&lt; 1.5%</td>
<td>&lt; 1.5%</td>
<td>&lt; 1.5%</td>
<td>&lt; 1.5%</td>
</tr>
<tr>
<td>Output frequency Hz (selectable)</td>
<td>50/60</td>
<td>50/60</td>
<td>50/60</td>
<td>50/60</td>
</tr>
<tr>
<td>Eco-mode</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
</tr>
</tbody>
</table>
## Conceptpower DPA TS 8

### Basic configuration of the system:
The Conceptpower DPA TS 8 is based on three different module sizes and two enclosure types. The module comprises:
- Genuine double conversion UPS module
- Slow fuses for input, bypass and battery
- Built-in backfeed protection
- User interface with mimic diagram and LCD display showing information in five languages.

### Options:
- Synchronisation kit
- System configuration as standalone or parallel
- Temperature sensor battery
- Internal battery protection
- Software for monitoring and shutdown

### Conformity and certifications:
Certifications and third-party test reports for the following standards:
- IEC/EN 61000-1
- IEC/EN 61000-2
- IEC/EN 61000-3

<table>
<thead>
<tr>
<th>Enclosure type</th>
<th>DPA – 150 kVA enclosure</th>
<th>DPA – 250 kVA enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (W x H x D) mm</td>
<td>800 × 2000 × 1000</td>
<td>800 × 2000 × 1000</td>
</tr>
<tr>
<td>Capacity</td>
<td>max. 3 modules and up to 240 batteries 7Ah</td>
<td>max. 5 modules and no batteries</td>
</tr>
<tr>
<td>Weight kg</td>
<td>379 (with modules, without batteries)</td>
<td>439 (with modules, without batteries)</td>
</tr>
</tbody>
</table>

### Highlights:
- Vertical and horizontal scalability (up to 5 rack-mounted modules in the enclosure and 6 enclosures in parallel, with a total of 30 modules)
- Online swap modularity (OSM) for replacement with the system operational
- Up to 96% operating ratio with double conversion in a broad load range
- High current density with up to 250 kW/m²
- Built-in backfeed protection

### Model No.
- TS84NWP100785R0001
- TS84NWP100786R0001

### Technical Specifications:
- Output per system enclosure kW (min. – max.):
  - 24 – 120
  - 24 – 200
- Output per module kW:
  - 24/32/40
  - 24/32/40
- Power factor:
  - 0.8
  - 0.8
- Max. number of system enclosures connected in parallel:
  - 6 enclosures
  - 6 enclosures
- Max. power output kW:
  - 1200
  - 1200
- Network topology (I/O):
  - 3 ph + N + PE
  - 3 ph + N + PE
- Rated input voltage V AC:
  - 220/380, 230/400, 240/415
  - 220/380, 230/400, 240/415
- Input voltage range V AC (load-dependent):
  - 150/204 – 264/460
  - 150/204 – 264/460
- Frequency range Hz:
  - 50 – 70
  - 50 – 70
- Distortion factor at 100% load:
  - < 3%
  - < 3%
- Power factor 100% load:
  - ≥ 0.99
  - ≥ 0.99
- Rated output voltage V AC:
  - 220/380, 230/400, 240/415
  - 220/380, 230/400, 240/415
- Total harmonic distortion THD (with linear load):
  - < 1.5%
  - < 1.5%
- Output frequency Hz (selectable):
  - 50/60
  - 50/60
- Eco-mode:
  - 98%
  - 98%
ABB offers a complete series of battery cases for the modular UPS range in the Rittal TS 8 enclosure. This series of cases is ideal for a broad spectrum of battery configurations and has been optimised to accommodate varying autonomy requirements.

**Colour:**
- RAL 7035

### Network cards Page 15

<table>
<thead>
<tr>
<th>Battery case type</th>
<th>CBAT-120 C TS 8</th>
<th>CBAT-120 S TS 8</th>
<th>CBAT-150 C TS 8</th>
<th>CBAT-150 S TS 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (W x H x D) mm</td>
<td>600 × 2000 × 1000</td>
<td>600 × 2000 × 1000</td>
<td>800 × 2000 × 1000</td>
<td>800 × 2000 × 1000</td>
</tr>
<tr>
<td>Compatible UPS (only without internal battery)</td>
<td>DPA UPScale ST 60 TS 8, 1000 mm deep/DPA UPScale ST 120 TS 8, 1000 mm deep</td>
<td>Concept/power Triple DPA-150 TS 8/Concept/power Upgrade DPA-250 TS 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery output</td>
<td>up to 120 VRLA 24 or 28 Ah</td>
<td>up to 150 VRLA 24 or 28 Ah</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery arrangement</td>
<td>together(^1)</td>
<td>separate(^2)</td>
<td>together(^1)</td>
<td>separate(^2)</td>
</tr>
<tr>
<td>Model No.</td>
<td>TS800-7610</td>
<td>TS800-8588</td>
<td>TS800-6363</td>
<td>TS800-6578</td>
</tr>
</tbody>
</table>

\(^1\) together: Battery system for complete rack

\(^2\) separate: Battery system for each module

<table>
<thead>
<tr>
<th>Battery case type</th>
<th>CBAT-150 C TS 8</th>
<th>CBAT-150 S TS 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (W x H x D) mm</td>
<td>800 × 2000 × 800</td>
<td>800 × 2000 × 800</td>
</tr>
<tr>
<td>Compatible UPS (only without internal battery)</td>
<td>DPA UPScale ST 60 TS 8, 800 mm deep/DPA UPScale ST 120 TS 8, 800 mm deep</td>
<td></td>
</tr>
<tr>
<td>Battery output</td>
<td>up to 150 VRLA 24 or 28 Ah</td>
<td>up to 150 VRLA 24 or 28 Ah</td>
</tr>
<tr>
<td>Battery arrangement</td>
<td>together(^1)</td>
<td>separate(^2)</td>
</tr>
<tr>
<td>Model No.</td>
<td>TS804-1717</td>
<td>TS804-1717</td>
</tr>
</tbody>
</table>
Intelligent monitoring of the power supply

ABB offers intelligent solutions for monitoring the functioning of the UPS system and ensuring a clean, reliable power supply to the IT infrastructure in the event of a power failure. The control devices provide an overview of the UPS status in real time, helping to avoid problems before they become critical.

**Power and environment monitoring**

Network cards connect the ABB UPS systems to the network. These cards also offer the option of connecting various ambient sensors to the UPS. This combination allows the UPS system and its environment to be clearly depicted on a Web interface.

**Control software**

The network cards are equipped with an extensively configurable software package providing access to the measurement values and status information of the UPS system. The status of each UPS, of each UPS module or of the system as a whole can be displayed on a separate mimic diagram. These diagrams provide the user with clear information in real time. During normal operation, all events are stored in a LOG file. In the event of a system power failure, the battery autonomy is monitored and the disconnection of protected devices from the mains is initialised.

**Data privacy**

The software for remote disconnection controls a specific PC, a group of PCs or all computers in the network. Shutdowns and reboots may be carried out safely. The data remains protected in the event of a weak battery charge or power failure. Additionally, text messages, e-mails or pop-up windows and mobile messages may be sent or displayed before the devices are shut down. This allows the user to respond flexibly and manage or abort the operation.

**Highlights**

- Remote monitoring via the Web
- Monitoring of the environment
- Extended alarm management and sending of information
- Monitoring of redundant UPS
- Integration into the network or building management system
- Integration into multi-vendor and multi-platform environments
- Modbus interface
- Supports various standard protocols

**Applications**

- PCs
- Server and network devices
- EDP centres
- Warehousing systems
- Industrial automation
- Power supply systems

**Connectivity components**

![Network card and software](image)

- E-mails, various protocols

![Ambient sensors](image)

![Data privacy client](image)

- Shutdown service

![Data monitoring and data management](image)

- Web browser, remote viewer, BMS

---

IT infrastructure/Modular UPS systems 13
Connectivity and sensor options
for CS cards and enclosures

**Basic**
- CS121 Basic
- No peripheral devices

**Modbus**
- CS121 Modbus

**Peripheral options**
- Relay card 04-0593
- Buzzer 04-0592

**Advanced**
- CS121 Advanced

**Sensor manager**
- Temperature 00-5916
- Temperature + humidity 00-6948
- SMIO 00-6947
- Buzzer 00-6945

**Profibus converter**
- 04-0594
- Modbus RS485

**Configuration Options**
- LAN
- SNMP
- Modbus TCP
- Other

**No Peripheral Devices**
Network cards/software

**CS121 Basic**
For connecting the UPS to the network without the need for additional sensors or interfaces. Available as a slide-in card or with an enclosure. Power supply to the slide-in cards is guaranteed by the UPS. Cards with enclosures require an additional power source.

**Supported protocols:**
- HTTP
- SNMP
- SMTP (e-mail)
- Modbus TCP
- Telnet FPT

<table>
<thead>
<tr>
<th>Version</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slide-in card</td>
<td>1 pc(s).</td>
<td>04-3866</td>
</tr>
<tr>
<td>With enclosure</td>
<td>1 pc(s).</td>
<td>04-3865</td>
</tr>
</tbody>
</table>

**CS121 Advanced**
For connecting the UPS to the network with the option of connecting additional sensors and I/O options, either directly on the card or via a sensor manager. Available as a slide-in card or with an enclosure. Power supply to the slide-in cards is guaranteed by the UPS. Cards with enclosures require an additional power source.

**Supported protocols:**
- HTTP
- SNMP
- SMTP (e-mail)
- Telnet FPT
- Modbus RS232
- Modbus TCP

<table>
<thead>
<tr>
<th>Version</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slide-in card</td>
<td>1 pc(s).</td>
<td>04-3862</td>
</tr>
<tr>
<td>With enclosure</td>
<td>1 pc(s).</td>
<td>04-3861</td>
</tr>
</tbody>
</table>

**CS121 Modbus**
For connecting the UPS to the network and the Modbus RS485 interface with the option of connecting alarm buzzers or an additional relay card. Available as a slide-in card or with an enclosure. Power supply to the slide-in cards is guaranteed by the UPS. Cards with enclosures require an additional power source.

**Supported protocols:**
- HTTP
- SNMP
- SMTP (e-mail)
- Telnet FPT
- Modbus RS485
- Modbus TCP

<table>
<thead>
<tr>
<th>Version</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slide-in card</td>
<td>1 pc(s).</td>
<td>04-3864</td>
</tr>
<tr>
<td>With enclosure</td>
<td>1 pc(s).</td>
<td>04-3863</td>
</tr>
</tbody>
</table>

**RCCMD software**
Client software to control server shutdowns via the UPS. The software supports all common operating systems and versions (e.g. Windows 10, 8, 7, VISTA, XP, Server 2003/2008, UNIX/LINUX and VMWARE Sphere/ESX Server, CITRIX XEN etc). One licence is required for each server to be shut down on an event-controlled basis.

**Licences**
<table>
<thead>
<tr>
<th>Description</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single licence</td>
<td>04-3869</td>
</tr>
<tr>
<td>Licence bundle (10 servers)</td>
<td>85000000151</td>
</tr>
</tbody>
</table>

**Note:**
- Software updates and a complete list of currently supported operating systems may be found at www.rittal.com.
Rittal – The System.

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- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

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