Our digital world demands a top-quality, completely uninterruptible power supply. This is a requirement which cannot always be fulfilled by a normal power supply. In order to protect their critical business, data centres such as the OIZ Organisation and Information Technology Centre in Zurich rely on high-performance UPS systems.

Increasing levels of information and data as a result of online transactions, Internet applications and ever-increasing data centres make it more and more crucial to ensure power supplies are not interrupted. In order to protect their critical business processes against potential power outages, customers are demanding increasingly high-performance uninterruptible power supply systems (UPS).

The challenge for the customer
The OIZ Hagenholz Organisation and Information Technology Centre for the city of Zurich, for example, pursues a consolidation and standardisation strategy in order to provide the prerequisites for cloud services.

In this process, the IT infrastructure of the OIZ is reduced from the previous operating centres to two central data centres. Both new sites, the OIZ Albis and the OIZ Hagenholz, came into service at the same time. The two new OIZ buildings are certified for energy efficiency in data centres by TÜViT in accordance with the Trusted Site eEfficiency (TSe2) programme and have been built based on the latest standards of energy efficiency. This means that both in structural terms and in terms of IT infrastructure and server management, the focus is on great energy efficiency. From the perspective of optimum energy efficiency and supply reliability, the UPS systems were one of the components which formed part of a public invitation to tender.

The power protection solution from ABB
The effort to increase efficiency, flexibility and availability is the key to the development and introduction of modular UPS solutions. The scalability of the modular architecture can significantly reduce the high levels of power consumption and CO2 emissions, thus helping the planners to produce flexible scenarios for power and space requirements for the immediate and changing future requirements. ABB’s UPS team in Switzerland provided the best solution to the demanding requirements for the OIZ Hagenholz and installed six compact and modular Conceptpower DPA (Decentralised Parallel Architecture) systems, each with 5 × 50 kVA modules in the OIZ data centre. The battery packs are fitted separately.
This makes sense, as the cooler the batteries are kept, the longer they last. Performance density of 200 kVA for a footprint of 0.6 square metres is outstanding and only possible as ABB UPSs work with extremely high levels of efficiency (up to 96%).

**Conceptpower DPA – modular technology**

The modular UPS is currently the fastest-growing segment in the three-phase UPS market. Unlike other systems, the Decentralised Parallel Architecture system from ABB does not have shared components. This means that all the hardware and software is included separately in each single module. The real benefit of this DPA system is the very high performance availability. Each UPS module has a separate independent static switch, rectifier and frequency converter, control element, control panel and charger. The batteries for each module can also be configured, if required.

As all the critical components are redundant, potential single points of failure can be eliminated. At the same time, the system operating time is maximised by the modularity of the system.

**Increased flexibility and high performance density**

Each module of a UPS system has a certain time lapse between failure and repair time. This is defined by means of the Mean Time Between Failures (MTBF) and the Mean Time To Repair (MTTR). Modular DPA systems are free of single points of failure and maximise the Mean Time Between Failures. While the UPS system is online, quick and easy repairs can be carried out using safe-swap modules. This minimises the Mean Time To Repair. This cost-saving and the reduced storage costs and decreased demand for qualified technicians on site are also key factors for the users.

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