

Powerware UPSs for security and reliability of BMW Regensburg power supply system

Customer

BMW

Markets served

Automotive



Eaton's Powerware UPSs chosen to guarantee the highest reliability of the facility's power supply.

Increased security and more straightforward management – these were the requirements set down by BMW Regensburg for its new power supply solution. As energy and media supplies have changed dramatically over the years, the management, maintenance and repair of various systems at BMW had become increasingly difficult, in large part due to the massive lengths of cable distributed across the entire factory compound.

Moreover, BMW Regensburg wanted to be prepared to meet new challenges it would face. System expansions and the installation of additional equipment demanded a flexible infrastructure that was able to overcome any of these future challenges. "As the number of active network components

and the network load were continuously increasing, it was necessary to introduce a modern UPS supply that could maintain these increased demands," explains Jörg Tratzl, project manager, BMW Regensburg.

Rapid installation, maximum protection

For BMW Regensburg, this was reason enough to replace its existing centralized UPS supply with an advanced, decentralized solution. As a result, it is now possible for BMW to accurately define the electrical connections to all points on the network, as well as eliminate any single point of failure, guaranteeing the security of the network and the safety of consumers.

The project team decided that a total of 10 Powerware® UPS systems from Eaton®, ranging from 8 to 120 kVA, should be assigned to the factory's structural units, which includes a paint shop, assembly and BIW.

In the paint shop, it was essential to protect the process control system, which was accomplished by deploying a 30 kVA UPS. In addition, a mirrored backup with a UPS system with two 80 kVA UPSs now guarantees effective protection against power failures and surge damage for BMW's server and other computer technologies. The company also has the ability to expand the systems to four 80 kVA units if required, which can be completed during operation without interrupting the connected load. The UPS solution

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also provides protection for the factory's data center across BMW's entire configuration. The feature that made this system distinctive was that the two mirrored halves and central supply/feed/bypass units were located in separate rooms.

In order to reduce the higher maintenance and repair costs, it was necessary to increase the degree of automation and networking. To achieve this, BMW integrated zenOn software, which enhances the ability to perform maintenance on the UPS systems. In the event of a fault, a comprehensive alarm management system ensures reliability.

As part of the project, Eaton was responsible for installing the UPS systems, which in some cases had been retrofitted with SNMP connections. Commenting on the project's preparation and implementation, Frank Repper, Eaton sales director, explains, "With regards to the design, it was important that all aspects of technical development were continuous and accurate and that implementation was consistent."

Prozesstechnik Kropf GmbH, a long-standing partner of BMW, performed the configuration, the entry of IP addresses and integration into zenOn.

BMW was enormously satisfied with its decision both during and after the project. "We chose Eaton because we felt that this manufacturer could offer the best value for money," says Tratzl. "Not only that, but the products were also ready for use straight away, thanks to plug and play capabilities, and could be easily integrated into our zenOn software, which we have been using successfully for many years. Powerware is a brand with an extremely good reputation in the installation sector and can meet extremely challenging security requirements."

Advanced power protection

The UPS systems used by BMW in Regensburg include two Powerware 9355s, one 8 kVA and one 10 kVA. The Powerware 9355 is specially designed for sensitive applications in server environments, offering ideal protection for business-critical infrastructure and security systems, telecommunication systems, and health and finance applications.

The Regensburg-based car manufacturer also uses the Powerware 9305 UPS in 20, 30 and 40 kVA models. When it comes to parallel systems, BMW relies on the Powerware 9390 with two 80 kVA and two 120 kVA units, as well as a Powerware 9390 40 kVA UPS. These double-conversion UPSs protect business-critical systems such as IT, telecom and production systems in the event of power failures or faults in the power supply.

Unlike previous models, the UPSs offer increased efficiency, reliability and ease of maintenance. With the help of patented Powerware Hot Sync® technology it is possible to operate up to eight UPSs in parallel. Hot Sync technology ensures automatic load sharing and enables UPSs to be grouped and segmented for individual groups of consumers. "Above all, we were impressed by the Hot Sync paralleling technique," Tratzl reveals. "It permits several UPS modules to be operated for capacity or parallel and so increases output and reliability. The Powerware 9390 also provides the option to monitor and control the UPS remotely via SNMP or a web browser."

Centralized monitoring and control for media supplies

Today's monitoring and control processes that are involved in energy and media supply are

incorporated into the factor supply center's control system. A central graphic UPS monitoring system enables all of the UPS systems in the network to be monitored and controlled according to the server/client principle. By using SNMP adaptors, the zenOn software can access all of the information stored in the UPS systems. In order to view this UPS data, Prozesstechnik Kropf developed a transfer interface for the data and a user interface for easy operation of the software.

The company, based in Oberkottzau, has already set up the central control system for the BMW factory in Regensburg and implemented all of its software. All of the media (light, air, electricity, etc.) that are essential for operating the factory are now controlled and monitored by the zenOn software.

With the help of zenOn, all of the information that is recorded, such as capacity utilization or faults, can be viewed and accessed by the operator so action can be taken if required. Another important aspect is that the new technologies such as telephony, which the company will be using over its network in the future, can also be protected via the UPS systems.

Advanced and efficient solution

Decentralizing the uninterruptible power supply has proven to be a significant advantage for BMW's factory in Regensburg. Thanks to automation technology and the zenOn software solution, the decentralized UPS solution can be controlled just as simply and reliably as a centralized solution. The combined expertise and extensive experience of Kropf and Eaton in the fields of energy management and control systems provided the ideal basis for ensuring that the project ran as smoothly as the operation of the UPS systems. "We achieved our aims 100 per cent," Tratzl summariz-

es. "Despite decentralization, the costs of maintenance and repair have fallen and stayed within the limits we have set. Our choice of system and our choice of project partners was a winning decision. All of the partners involved worked together superbly."



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says Jörg Tratzl, BMW Project Manager

