



SIEMENS

SUMMARY

Simplified design

- Concurrently maintainable
- Reduced component count, higher reliability
- Commissioning-proof approach

More cost-effective

- Lower OPEX and CAPEX requirements
- Fewer electrical components and materials

Space saving reliability

- Smallest form factor in an ATS
- Ultra-fast switching in a small footprint

ABOUT SIEMENS

Siemens is a global manufacturing company that focuses on the healthcare, power and automation markets. It is a leading supplier of systems for power generation and transmission. The Industrial Automation division of Siemens supports control panel design and production for mission-critical applications.



ABOUT THE PROJECT

The Industrial Automation division is responsible for the design and manufacture of control panels used to support data center infrastructure. Customers such as Microsoft and Citi look to Siemens control panels to run their air handling, building controls, and uninterruptible power supplies. In early 2012, Siemens reached out to Zonit about a potential application for their Z-ATS automatic transfer switch. It would eventually change the way Siemens approached their panel design.

PROJECT CHALLENGE

Within the data center environment, control panels represent a significant single point of failure. Unlike the loss of a single server or network device, the loss of a control panel means an unacceptable loss of some or all power and cooling capacity in the facility.

Siemens' clients were constantly challenging them to produce more cost-effective and reliable panels that could support their facilities from commissioning to operations. One of the challenges with their design was its reliance on small, panel-mounted UPS units. This approach to redundancy relied on the most common failure point in data center facilities: batteries. In addition to the risks associated with the battery itself, these panel-sized UPS units also required replacement every three to five years, thus driving up operating costs.

The Siemens control panel design also relied on standard time-delay relays to support the ATS (automatic transfer switch) role in the panel's miniature power train. They could have used a standard rack-mount transfer switch, but at the size of a server, they were simply too big for the application. To further complicate things, the inherent lags in the technology Siemens relied on at the time created design challenges that could only be solved with complex timing sequences in multiple relays on both sides of the redundant power supply.



ABOUT THE PRODUCT

The Zonit Z-ATS Micro is the world's smallest and most efficient automatic transfer switch for data center equipment. Designed specifically to overcome the challenges of single corded devices, the Micro automatically switches from the primary power source (A) to the backup source (B) as needed. With the Micro, you can guarantee redundant power to connected devices at all times.



We have a copy/paste design solution that we don't have to tweak from project to project."

PROJECT SOLUTION

Shortly after the launch of the Z-ATS, a Colorado-based Siemens engineering team came across Zonit, which is based in Boulder. After a period of research, the Siemens team began to realize that the new Z-ATS could be an off-the-shelf solution to the challenges of their current design. They decided to test it out.

The Zonit product proved to be not only more reliable than a panel-mounted UPS and its batteries, but it was also less expensive from both a capital and operating cost perspective. Its compact form factor also allowed it to be integrated more easily into the Siemens panel design. The Z-ATS solved the switching issue and replaced the time-delay relays that were then in use. At 11 to 14 milliseconds, the Zonit device provided faster and more reliable transfers between A and B power sources.

CUSTOMER EXPERIENCE

Siemens reports that their more technical clients are impressed with what they have been able to bring to the table. Clients such as Microsoft and Citi understand that a mission-critical product must be more robust and better suited to the application. The Z-ATS has allowed Siemens to replace power supplies, batteries, switches, and relays that were more expensive and less suited for high-reliability facilities.

In fact, Siemens has gotten so used to using the Zonit Z-ATS that it is now an integral part of the Siemens control panels that are offered in mission-critical environments. "We know the solution works, so it is a 'copy/paste' design approach for us."

The Zonit Z-ATS allows Siemens' clients to perform maintenance activities on the most critical portions of their mission-critical infrastructure while those systems remain energized. Equally as important, the Z-ATS-based design allows Siemens' panel to withstand the vagaries of the commissioning process, enduring even the rarest of failure scenarios.

CONCLUSION

The Zonit Z-ATS has proven to be an integral part of the critical power supply for the Siemens panels that control the most critical portions of the infrastructure running today's largest data centers. It is no wonder that Zonit products are used by over 70% of the Fortune 100. Operators such as Microsoft and Citi rely on Siemens' application of Zonit technology to ensure the reliability of their facilities through all phases of operation, from design and commissioning, to operation and maintenance.