

SAFEGUARD FACILITIES WITH RAPID POWER CONNECTION

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Safeguard facilities with rapid portable power connection

In today's 24/7/365 business world, organizations rely on power to keep virtually every aspect of their operations functioning. Power outages—whether caused by lightning strikes, blackouts, aging electrical systems, or natural disasters—can potentially result in loss of perishable inventory, customer service disruptions, and reduced productivity.

A study by the Electrical Power Research Institute estimated that U.S. businesses lost \$188 billion in 2001 due to power outages and quality disturbances. Regardless of the duration or cause, power outages can have disastrous implications on the finances and future of a company. For this reason, businesses of all types are beginning to recognize the value of bringing portable sources of power online safely and quickly in the event of a power failure.

Even power-critical facilities such as schools, hospitals, and municipal facilities that already possess back-up generation on the premises can benefit greatly by supplementing on-site generation with a portable power source.

Generally, back-up generators are only capable of supporting critical functions such as emergency lighting, or in the case of hospitals, life support systems. In the event of an extended power outage that lasts days or even weeks, applications not supported by the back-up generator—such as heating and cooling systems, food services, and data systems—can become valuable. Facility managers need to consider whether or not they can continue to effectively run their businesses without these assets.

Make the connection

Fortunately, a number of new products are becoming available that give facilities the ability to safely and rapidly deploy and connect portable generators. A facility's back-up power need is the determining factor in choosing which product would be the most appropriate fit.

With the 2006 hurricane season here and the lessons of Hurricane Katrina still fresh in facility managers' minds, organizations are taking a hard look at their operations to determine how they can best protect their facilities.

Safety features and cost are additional factors that should be considered. Ideally, power protection systems are installed when power supply is normal so that the potential for safety problems associated with connecting a mobile generator to a facility's electrical system during lost-power conditions is reduced.

For example, a large hospital system in the Southeast partnered with Eaton and a leading portable power provider to prepare for last year's epic hurricane season. As Hurricane Katrina set its sights on the Gulf, mobile, truck-mounted generators were staged outside each facility to support the on-site emergency generators. Using "plug-and-play" switchboard devices, the generators were quickly and safely connected to cam-type plug recep-

tacles located on the outside of the switchboard when the outage occurred. This configuration permitted rapid generator connection by eliminating guesswork, avoiding hazards associated with opening electrical panels, and preventing workers from running power cables through flooded, potentially dangerous conditions. The vast majority of the facilities that implemented these precautionary measures reported that they were able to endure the initial impact of Hurricane Katrina without losing power.

In terms of product selection, large power-critical operations, such as hospitals, schools, municipal facilities, large office buildings, and grocery stores with electrical ratings between 800 amps and 3,000 amps, should consider installing "quick-connect" switchboards that provide a connection point for bringing additional back-up generation on line. The switchboard eliminates the need to modify a facility's structure to accommodate generator cables or make additional field modifications to an internal switchboard. Once installed, the switchboard becomes a permanent connection point for mobile power at the facility. By simplifying connection tasks, more time is freed up to focus on important situations that occur during power losses.

A similar product is available for smaller facilities that have back-up power needs. Ideal for equipment rated between 30 amps and 800 amps, safety switch products provide facilities such as convenience stores, retail establishments, restaurants, and small offices and extended care facilities with a low-cost, reliable connection point during power outages.

Similar to the switchboard connect, safety switch products enable safe and rapid connection between mobile generators and the electrical distribution system in the event of a power outage. For example, Eaton offers a Quick Connect Double-Throw Safety Switch product that allows a generator to be plugged in to the switch via receptacles rather than having to open the switch—thus avoiding significant safety hazards. Once connected, the switch easily transfers the building from the utility feed to the generator.

Another readily available option in power protection is a termination box. Serving as an intermediary termination point between the facility and the generator, the termination box is intended for loads up to 2,500 amps and is designed as a heavy-duty, outside enclosure. The primary purpose of the box is to minimize the length of exposed conductors between the generator and the facility. The box requires manual connection in the

event of power failure, but it is an effective and cost-efficient way to power a facility in the event of an outage. Termination boxes are commonly used in facilities such as telecom facilities and data centers and can be found at office and institutional facilities.

Lastly, for facilities requiring a continuous source of power, products such as automatic power transfer switches provide constant and reliable power.

Products such as these have the ability to detect when the power supply has been interrupted and automatically send a signal to the generator. Using an uninterruptible power supply (UPS) to supply power during the brief time between when the signal is sent and when the generator is activated, the facility will experience zero power interruptions. Automatic power transfer switches are commonly used at large facilities where power outages can have serious financial and productivity implications such as grocery

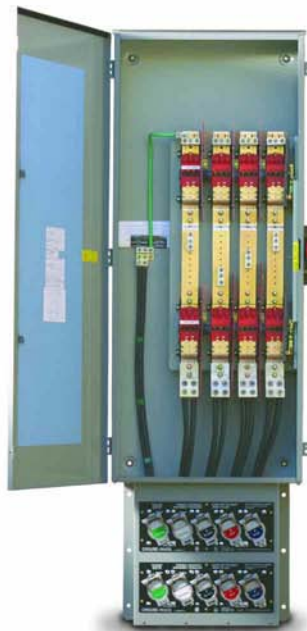
stores, large office buildings, hospitals, and educational facilities.

With the 2006 hurricane season here, facilities of all types should be encouraged to take preventative measures to ensure that their power will stay on in the event of a blackout, natural disaster, or power quality disturbance. These power protection products will enable facilities to stay up and running and avoid significant financial losses associated with power outages. ■■■

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**Quick-Connect
Switchboard**



**Generator Quick-Connect
Safety Switch**



**Roll-Up Generator
Termination Box**

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