

TECHNICAL PAPER

3 big benefits of an energy-management system



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ABB Ability™

At a small number of businesses or facilities, a problem with the power would mean little more than an inconvenience. At most industrial facilities and commercial buildings, however, power problems create a major headache.

Many facilities rely on a building-management system (BMS) to provide control over electric-powered assets and systems like lighting, HVAC, and security. Unfortunately, a BMS typically has no built-in ability to monitor or manage the power that drives those assets. Adding that function means an additional module and extra costs. Without that ability, owners and managers are at increased risk of outages and other power-related issues.

That's why many facility owners and managers rely on an energy-management system (EMS) to improve power reliability and control. But that's only one benefit delivered by an EMS. They also provide more insights into your power system and give you the ability to create more savings on your energy bill.

For facilities where power is critical and costly facility owners and managers rely on energy management systems (EMS) to better control their power-distribution devices. Increased control is just one of three benefits of an EMS.

More control

An EMS provides enhanced control over your power system and your facility by providing vital data on your power-distribution assets and network. It enables you to do predictive maintenance with alerts that let you to swap out potentially troublesome devices before they fail. That's far better than making an emergency repair while angry residents or customers wait in the dark, or your operations come to a costly standstill.

Facilities' backup power systems are far less likely to experience an outage. However, most every maintenance person can recall turning on a backup system only to discover it didn't work as expected. An EMS provides an added layer of reliability here, too, by constantly monitoring your backup power-system components, giving you added confidence it will be ready when needed.

In some operations, like mining and heavy manufacturing, power problems are both costly and dangerous. Increased power reliability means increased safety both for people and equipment.

More insight

If you already have a BMS, it probably enables you to see the status of assets around your facility. But it probably doesn't deliver information about the power-distribution devices that drive those assets. An EMS adds real-time access to data on your breakers, meters, automatic transfer switches, and other devices that deliver power and protect your assets from overloads or power-quality defects.

Data captured in multi-site EMS deployments can be particularly useful by enabling benchmarking and comparative analysis of your various branches or locations. Some EMS packages are cloud-connected, offering access to power-system data from anywhere, anytime. Continuous monitoring and collection of electrical-system data make allocating costs, identifying improvement opportunities, and creating reports easy.

More savings

Electricity can be one of, and sometimes the, largest facility costs. In data centers, shaving a few percentage points off the electric bill can mean a major, bottom-line difference. In many commercial offices and other buildings, a major cost is HVAC, presenting a great opportunity for energy-cost reduction via an EMS.

Continuous diagnostics on key electrical-system devices let you skip much preventive or scheduled maintenance because you can remotely gauge asset health. A predictive service strategy also helps avoid costly and disruptive emergency maintenance.

Eliminating inefficiencies and providing a higher level of control over your power-distribution system can save 10% on utility bills, and can help cut overall operational costs by up to 30%.

EMS for all applications

EMS are available for facilities of all size. Since the devices monitored by these systems are common to almost all power-distribution systems, EMS can be applied in most applications and markets: industrial, commercial, process, healthcare, etc. The ABB Ability™ Electrical Distribution Control System (EDCS), for example, works nicely in small- to medium-size facilities across a range of markets.

EMS makes financial and operational sense for most facilities. Where power costs and/or usage are high, the up to 10% reduction in energy costs can quickly repay the investment in an EMS. For facilities that require extremely high reliability, the insights provided by an EMS combined with the increase in both maintenance efficiency and effectiveness ensure far fewer power interruptions.

Facility owners and managers interested in reducing energy consumption, enhancing their maintenance effort, and simplifying building management should explore the benefits of an energy-management system.