

Critical Care for Critical Assets

Power Management and Monitoring Solutions for Healthcare Institutions



"40% of global health care organizations have experienced an unplanned outage in the past 12 months with loss of power being one of the major drivers at a cost of \$432,000 per incident"

Health-care sector all over the world is undoubtedly one of the most critical consumer of energy, requiring uninterrupted supply for its support systems like ICU, OT, CPAP, Pulseoximeters, Ventilators, Robotic Systems, USG-ECG machines etc.,.

Electrical system failures create great risk of impacting the central mission of the health care facility, and of incurring a number of negative consequences:

- Compromised patient safety
- Patient discomfort and misdiagnosis
- Loss of health care data
- Equipment downtime and expensive service maintenance costs
- Wasted energy
- Lost revenue because equipment is unavailable
- Legal Scrutiny and costly lawsuits
- Claims of negligence and wrongful death

Experience has demonstrated that efforts made to monitor the UPS & Battery of critical systems can minimize potentially lethal interruptions of patient care services and the significant costs associated with medical equipment downtime.

Towards this, Energy Management System (EnMS) and Battery Management System (BMS) play a key role in optimizing the energy usage to reduce wastage, and more importantly predicting potential failures in UPS supporting critical care units like OT and ICU.



"Minimizing equipment malfunctions and maximizing uptime is a priority".

What does a BMS do?

Real-Time health monitoring of UPS Battery

Battery Management System (BMS) monitors the health of the battery, and predicts potential failure well before; thus prevents catastrophic power failure in critical medical units / equipment. A well built BMS also provides the capacity assessment of UPS, and enables an action plan for better resource management of power during power outages due to natural calamities / major power failure at the grid.

All critical care centres such as OT, Emergency Wards and ICUs are supported with high capacity UPS, which in turn comprises of large number of batteries. As the batteries are chemical based, the failure is unpredictable, and hence need to be monitored continuously for its correct functioning. It is also known fact that, while the most expensive UPS would offer a warranty of five years for the electronics, batteries would carry a warranty of only one year. In fact there have been instances where the UPS serving a particular Critical Care Unit not having enough power back up during the power failure resulting in shutting down of the OT equipment, ventilators or CPAP etc.; putting a number of patient's life into serious risk.

Why consider an EnMS?

Dashboard for Analyzing Energy Spend

Energy Management System (EnMS) helps to monitor the consumption and identify wastage of power in any of the departments. Besides, as the hospitals work 24/7, by comparing day-versus night consumption, potential wastage-times / spots can be easily identified. It is estimated that a well implemented EnMS with Data Analytic can reduce the electricity bill by 20% -30%.

In essence a Smart BMS and EnMS should provide adequate information, notification and intelligence to the power managers of the Health-care institutions to take timely action and to optimize the available resources.

Besides such technological interventions help in reduction of energy cost, as this industry is no exception to competition and intense budgetary limitations

Contact us for Solutions
