

Solid-State Generators

Energy Storage with Advanced Technology



Given the importance of standby power, AKA's Solid-State Generator is an innovative energy storage bridging system. It is built upon AKA's advanced Active Front End (AFE) power conversion design integrated with energy storage technology. The Solid-State Generator system offers bi-directional power flow, while shaving short-duration peak loads and providing instantaneous cycle smoothing for large step load increases or when an existing source is lost (e.g., failure of a diesel generator).



Increased Reliability

AKA's Solid-State Generator can maintain the electrical supply during the initiation and connection to the main switchboard of the standby generator in the event of the loss of any one generator in service. As an example, where the main source of electrical power is necessary for the propulsion and steering of a vessel, the electrical supply will be automatically and consistently maintained by the Solid-State Generator to ensure the safety of the vessel.

Peak Shaving and Demand Responsive

AKA's Solid-State Generator aims at reducing a vessel's electricity consumption during peak demand periods. This involves adjusting energy-consuming processes or equipment, based on real-time demand by the vessel. By efficiently "shaving off" high-energy consumption peaks, organizations can lower their fuel costs and contribute to a more stable and efficient bridging system.

Load Shifting Capability

The Solid-State Generator can efficiently store excess energy during periods of low demand and produce it when demand surges. This load-shifting capability helps balance the flow, reducing the need for additional generators. The ability to seamlessly transition between power generation and energy storage while having the ability to incorporate alternative energy sources, makes it an efficient and sustainable energy management solution.

"Drop-in-Place" Design Approach

The "drop-in-place" design of the Solid-State Generator enables a simplified and efficient integration into the existing power plant while the vessels are in service. By working closely with the client to determine the correct energy storage technology for their process or system, AKA ensures reliability, efficiency, and ease of operation is maximized.

Other Features Include:

- Reduced emissions operation in ECAs and Harbors
- Easy integration with power management
- A highly modular, and scalable system, with the option to add more energy storage later.



Seaspan Transporter

General Cargo - Operational



Bhagwan Dryden

Dive Support Vessel - Lloyds - Operational



Deepwater Atlas

Ultra-Deepwater - DNV - Operational