LICAP
GE 30Nm Wind Retrofit

About Us

LICAP, established in 2016, is a manufacturer of innovative ultracapacitor electrode material, ultracapacitor modules, and high quality ultracapacitors. and lithium ion capacitors.

The key element of our product performance is our industry leading dry electrode. LICAP's Activated Dry Electrode combines manufacturing efficiency with innovative fabrication methods that results in industry leading ESR, Capacitance, and Life Cycle performance.

Drop-in Solution

LICAP's retrofit solution replaces the existing lead-acid battery back-up system for pitch control in GE 30Nm wind turbines. Our solution is a drop-in replacement that is designed to fit in the same location as the existing batteries, and will not require any operating system modifications. We designed the solution to be common across the different pitch box versions with only wire harness, bracket and mounting accommodations.

Lower Maintenance Costs

- Retrofit is a drop-in replacement
- Retrofit interfaces with the existing Emergency Power Unit (EPU) & Turbine Controller (SCADA System)
- Eliminates Costly Maintenance
- Eliminates battery related pitch faults

Increased Reliability

- Approximately 10-15 year life
- Wider operating temperature range: -50° to +65°C
- Minimizes turbine downtime

Improved Safety

- Reduces operational safety concerns
- Can be fully discharged to provide safer working conditions
- Reduces number of climbs for technicians
- No lead or acid
- No change to lock-out tag-out system

Ultracapacitor Energy Storage System Requirements:

LICAP's retrofit solution is per blade and consists of 6 ultracapacitor energy storage modules, 1 capacitor charging unit, 1 wire harness and required brackets. The capacitor charging unit includes RS-485 serial communication capability to emulate the existing system. The ultracapacitor module housings are designed to mount to the existing battery mount locations, and the capacitor charging unit brackets will enable mounting inside the existing battery box. The new wire harness connects directly to the existing system.

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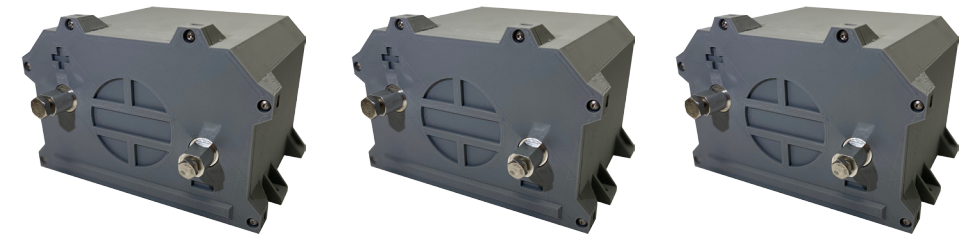
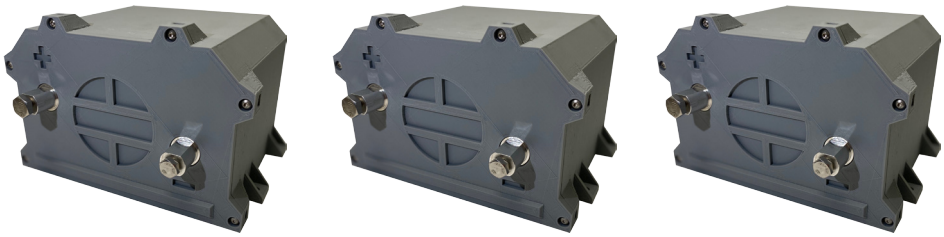
System Components (per blade):

- 6 Ultracapacitor modules
- 1 Capacitor charging unit
- Wire harness and mounting brackets for Capacitor charging unit



6 - Ultracapacitor Modules

Wiring Harness



Charger Box W-RS-485

LICAP - A World Leading Manufacturer of Ultracapacitors

- Established wind experience & knowledge of the industry.
- LICAP ultracapacitors use patented dry electrode technology for improved reliability and performance as compared to other manufacturers.
- LICAP Factory certifications: ISO9001: 2015, ISO14001, OHSAS18001, IATF16949

WINDURANCE

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