

Ultracapacitor Wind Turbine Solutions



A Better Choice for Wind Turbines

90V, 9F



Features

- Metal housing
- Passive cell voltage management
- IP54 Rating
- Series string capable up to 500V

85V, 20F



Features

- Metal housing
- Passive cell voltage management
- IP54 Rating
- Series string capable up to 500V

80V, 22F



Features

- Metal housing
- Standard 2U rack height
- Passive cell voltage management
- IP20 Rating
- Series string capable up to 500V
- Maximum continuous current: 50A
- Voltage monitor - cell level
- AD capture + SPI bus transfer
- Temperature monitor - module level

160V, 6F



Features

- Lightweight plastic housing
- Passive cell voltage management
- IP54 Rating
- Series string capable up to 500V

16V, 58F



Features

- Lightweight plastic housing
- Passive cell voltage management
- IP54 Rating
- Series string capable up to 500V

About us:

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

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.



Ultracapacitors replace lead acid batteries as back-up power in electric pitch control systems.

Many wind turbine OEM's offer ultracapacitors instead of lead acid batteries as energy storage in the UPS system for electric pitch control. The Ultracapacitor solution has several advantages when compared to lead acid batteries, as summarized in the table below.

Characteristics	LEAD ACID	ULTRACAPACITORS
Operating Temp Range	-20C to 50C	-40C to +65C
Lifetime	1 to 5 years	10 to 15 years
Environmental	Contains lead, corrosive acid	No lead, non-toxic
Reliability	Low	High
End of Life/Failure	Unpredictable	Easy to predict
ESS Monitoring	Complex	Simple
Maintenance	Conditioning, replacement	None
Lifecycle Cost	High	Low

The Technology:

The first ultracapacitor equipped pitch control systems entered service in 2001, so ultracapacitors have had many years of proven reliable performance in harsh environments. LICAP offers several configurations of ultracapacitor modules that are suitable for a variety of wind turbine sizes. We have the experience and capability to design new ultracapacitor modules to meet any wind turbine pitch control system requirement.

RETROFIT Solution:

Tired of costly and wasteful lead acid battery replacements? Contact LICAP Technologies today to inquire about an ultracapacitor retrofit solution that can be dropped in to replace the lead acid batteries during the next scheduled maintenance.

LICAP Technologies, Inc.

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