

Supercapacitor experiments

Greencap 16V 83F (6x 2.7V 500F)

Each cap can handle 2.7V long term, 2.85V short term. Balancer starts discharging overcharged caps through 1 ohm power resistor once they overshoot 2.8 - 2.85 V.

Self discharge current is expected to stabilize at relatively low value after 100 hours of being charged.

- Absorbtion current (initial)
- Leakage current (constant)

Replacing lead acid battery with supercapacitor

- UPS (replaced 12V 7Ah)
 - There is some inefficiency in conversion from 12VDC to 220VAC
 - UPS stops discharging at 10.2V (under load, which might translate to ~11V with no load)
 - 8W LED was running for over 5 minutes
 - 100W incandescent bulb was running for 30 seconds
- Piaggio scooter (replaced 12V 10Ah AGM)
 - Charges to 14.4V (in ~1 minute)
 - After sitting for 9 hours voltage drops to 12.2V (cranks up)
 - After sitting for 15 hours voltage drops to 11.2V (cranks up)
 - At 8V (cannot crank up)

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