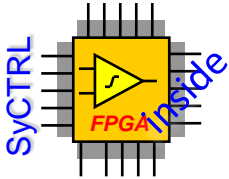


> Battery Conditioning Equipment



Offers and expertise

The Battery Conditioning Equipment provides a safe and reliable tools to prepare several types of spacecraft batteries.

As a baseline, it provides:

- global charge and trickle charge,
- global discharge,
- charge and discharge cycles,
- battery capacity calculation,
- data monitoring and archiving,
- off line evaluation,
- watchdog
- standard over voltage and over current protection

It is based on COTS items (power supplies, electronic loads, PC) enhanced by Clemessy's SyCTRL products. It is designed as a self standing equipment with its own local Windows / Linux GUI but could be remote driven through a Ethernet TCP/IP interface (CCSDS, FEECP, ...) for most of the standard OCOE like CGS, OpenCenter or SCOS2K. It is fitted with self test and safety loop, embedded in standard 19 inch rack and container.

As options, it can be fitted with:

- individual cell deep discharge
- second level over voltage / over current / under voltage protection per line
- specific sensor simulation (thermistor, cell sample, switch, ...)
- mini rack
- reusable container
- interface harness to product under test (cables, bulk head to vacuum chamber, vacuum cables, savers, ...)



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 **CLEMESSY**

> Battery Conditioning Equipment

Offers and expertise

Function

- Battery charging (full and trickle charge)
- Sink current for whole battery (normal discharge) as well as for individual battery cells (deep discharge)
- Battery overall voltage, current and temperature monitoring
- Battery cell voltage monitoring
- Off line evaluation
- Over-voltage, over-current, under-voltage, reverse-over-current protection
- Watchdog
- Self test capability
- Interface cable to spacecraft

Implementation

- Battery charge current provided by DC power supply
- Battery discharge current sink by electronic load
- Second level protection based on SyCTRL
- Windows man machine interface for local control
- 19" rack integrated

Performance

- Maximum voltage up to 150V
- Discharge mode 600W
- Charge mode 500W
- Protection reaction time: < 50 μ sec

Used technology

- Agilent, XANTREX, AMREL, H&H or other power supplies / electronic loads
- Clemessy's SyCTRL second level protection and TM/TC features
- Computer controlled instruments via IEEE488.2 or LXI
- Software controlled charge / discharge with user settable profiles

