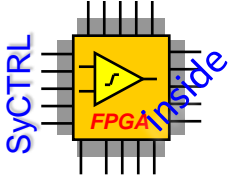
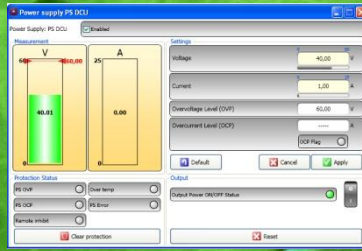


> Battery Simulator



Offers and expertise

The Battery Simulator is aimed to simulate the behaviour and the power of an adaptable number of rechargeable or non rechargeable batteries, each of them having an adaptable and independent power (up to 150V). It is used during AIT / AIV phases of a spacecraft for representative powering of the spacecraft PCDU.

It can simulate several type of flight batteries like Ni/Cd or Li/Ion batteries, in charge and in discharge situation (discharge / charge current up to 200A).

As a baseline, it provides standard over voltage and over current protection based on COTS items.

As options, it can be fitted with:

- second level over voltage / over current protection per battery
- dynamic thermal simulation
- specific sensor simulation (thermistor, cell sample, switch, ...)



Offers and expertise

Function

- Simulation of battery discharge and charge current at various battery voltage
- Battery sensor simulation (thermistor)
- Battery intermediate cell voltage simulation
- Over-voltage, over-current, under-voltage, reverse-over-current protection
- Remote and local control mode
- Self test capability
- Safety loop signal management (Inhibit input & Fault output signals)
- Interface cable to spacecraft

Implementation

- Battery discharge current simulated by DC power supplies
- Battery charge current simulated by electronic loads
- Battery intermediate cell voltages simulation by ohmic network
- Independent protection features based on SyCTRL
- Ethernet TCP/IP interface for remote control
- Windows man machine interface for local control
- 19" rack integrated

Performance

- Maximum voltage : 150V
- Discharge current up to 2000A
- Charge current up to 5A
- Simulation of up to 4 battery per 19" rack
- Protection reaction time: <math>< 50 \mu\text{sec}</math>

Used technology

- Agilent or XANTREX supplies
- Agilent, XANTREX or H&H electronic loads
- Clemessy's SyCTRL second level protection and TM/TC features
- LXI / GPIB interface with power supplies and electronic loads

