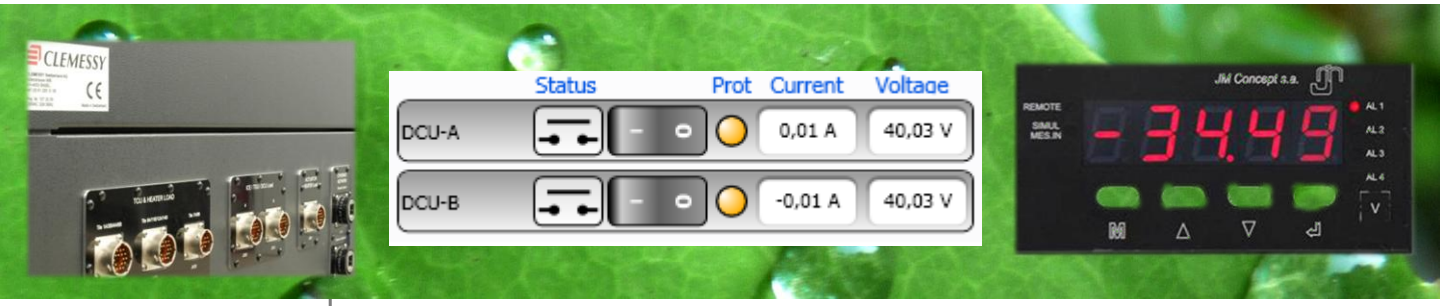
> Launch Power Supply



SyCTRL FPGA Inside

The Launch Power Supply powers, controls and monitors the spacecraft during integration / validation through the umbilical interface. The LPS provides spacecraft control and monitoring and electrical power provision on launch pad through umbilical interface compatible with launch environment.
It is used during integration / validation phases and during launch campaign.
As a baseline, it provides :

- Multi independent output power lines (adaptable power, line per line)
- Batteries trickle charge.
- Main bus conditioning and monitoring.
- Overvoltage detection.
- Line routing to / from other SCOE.
- High Power Command (HPC).
- Standard Over Voltage and Over Current protection.

It is based on COTS items (power supplies, electronic loads, Clemessy's SyCTRL products, PC).
As options, it can be fitted with:

- Second level over voltage / over current protection (per line, per group of lines, …)
- Specific sensor simulation (thermistor, cell sample, switch, …)
- Full redundancy
- Umbilical link tester

Offers and expertise

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> Launch Power Supply

Offers and expertise

Function

- Space craft powering through umbilical interface
- Battery trickle charge
- High power ON / OFF commands
- Main bus voltage monitoring and over voltage detection
- Line routing to TM/TC & TT&C SCOE
- Umbilical parameter monitoring
- Strap and switch 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
- Ariane 5, Proton, Dniepr, Soyuz, Vega compatible

Implementation

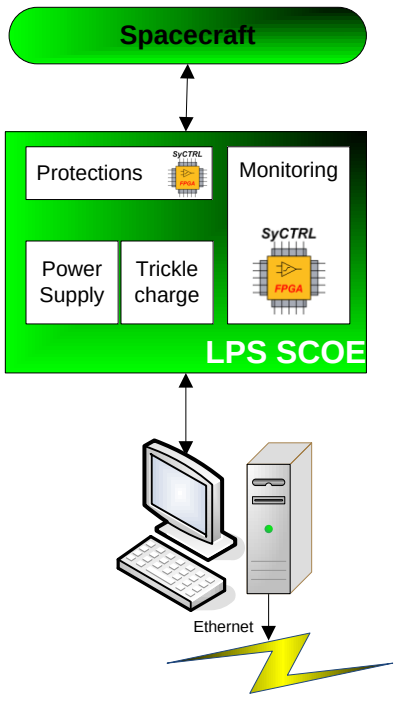
- Power provided by DC current source or solar array power supply
- Battery trickle charge current provided by DC power supply
- Independent protection features based on SyCTRL
- Ethernet TCP/IP interface for remote control
- Windows man machine interface for local control
- 19'' rack integrated (standard rack, box container or reinforced rack for critical vibrated areas – launch table)

Performance

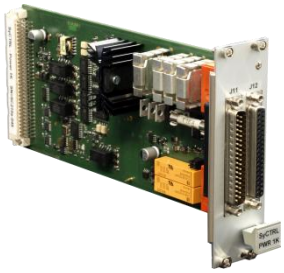
- Satellite requirement driven
- Protection reaction time: <50 µsec

Used technology

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



SyCTRL FPGA 0 1 0 1 0 1 0 1 0



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