

# POWER SYSTEM SPACETEQ EOS1

The **Spaceteq EOS1** is a high reliability direct energy transfer, unregulated bus power system. It is designed for spacecraft in low earth orbit and has multiple redundant functions and safeguards. The EOS1 supports a single point star, structure referencing grounding architecture. The power system interfaces are optimized for the Spaceteq standard bus, but are easily customized for any typical small satellite bus.

The Spaceteq EOS1 builds on our strong heritage of power system designs for microsatellite projects. The EOS1 is a core component of the EO-SAT1 satellite bus.

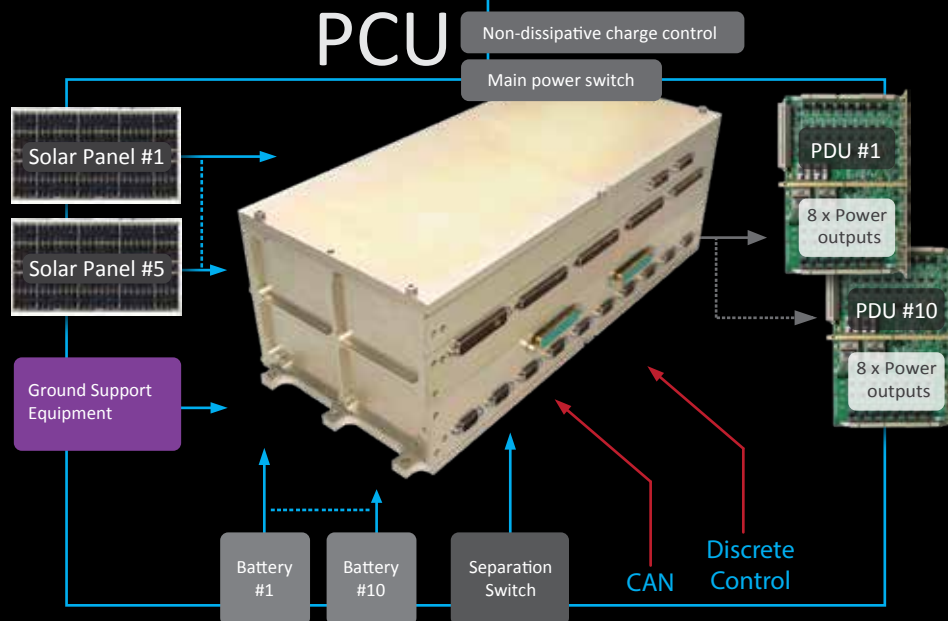


## Features/Benefits

- Power Control Unit (PCU): Manages energy input, and output to 700 W peak
- Power Distribution Unit (PDU): Fully dual redundant 8 channel tripping power switch
- Power architecture: Direct Energy Transfer
- Communication bus: CAN bus
- Various operational and test modes

## POWER CONTROL UNIT

The **PCU** is used to receive power from solar panels, interface battery energy storage, regulate and protect the upper and lower battery limit voltages, establish an unregulated battery power bus and control power distribution to downstream satellite subsystems. The separation switch and ground support equipment is also interfaced.





## SPECIFICATIONS

## POWER CONTROL UNIT

### Performance

Bus voltage	28V unregulated (29.4V max bus voltage at end of charge)
Bus control	Multi control power bus switch with auto turn-on
Reliability	Multiple dual redundant functions
Battery preservation protection	Dual end-of-charge voltage settings; over and under voltage
Grounding	Star ground, structure referencing
Solar panel interface	Up to 5 solar panels; non-dissipative charge
Battery interface	Up to 10 battery modules
Design Life	7 years

### Mechanical

Dimensions	308 mm x 145 mm x 107 mm
Weight	2.2 kg
Interface	6 point, M4 screws

### Electrical and Control

Control	Dual redundant CAN bus
Discrete controls	Power reset watch-dog; and Direct command power reset
Power consumption	5 W

### Environmental

Operating Temperature	-10°C to +50°C
Random Vibration (Qualification)	14g RMS
Radiation (component level)	> 7 kRad