

# PDU

## Power Distribution Unit High channel count for new-space vehicles



Second Order Effects' PDU delivers high-reliability, high-channel-count power distribution for small-to-medium-lift launch vehicles. Built from proven flight heritage across aerospace programs, it combines robust performance with modern Ethernet-based control for streamlined integration. The baseline design is qualified and tested to SMC-S-016 and MIL-STD-461G, with defined standards that support rapid deployment.

The PDU can be customized to meet mission-specific requirements, with modifications supported through re-qualification as needed, reducing overall cost, risk, and lead time.

### Inputs

- 24-40 ground support VDC input
- 5 EA parallel power inputs with diode ORing
- Chassis-power input return hard / soft tie switch

### Outputs

- 30 EA eFused power output channels
  - 24 EA 4 A capable outputs
  - 4 EA 9 A capable outputs
  - 2 EA 20 A capable outputs
- Global "battleshort" (disable eFusing)

### Ports

- 1 EA RS-422 full duplex interface
- 1 EA Ethernet 10/100t command/control interface
- 1 EA JTAG external programming interface

## Summary

PCB	
Layers	14 layers
Layer Material	1 & 2 oz copper, 370 HR dielectric
Class	IPC Class 3
Operating Temperature	-34°C to +71°C

Power	
Max Throughput	40 ADC to 40 VDC
Default Power-on State	Configurable

Enclosure	
Material	Electroless nickel-coated aluminum
Programming Interface	External
Connectors	D38999

Size / Weight	
Maximum Volume	11.5" x 9.5" x 2.32"
Assembly Weight	6.6 lbs