

PCDU-12

12 Channel Power Conditioning and Distribution Unit

For Micro- and Nano-Satellites

Features

- 6-28 V battery input
- 6 adjustable DC-DC converters 1.8 - 24 V
 - Up to 92% efficiency
- 12 Protected output channels
 - Up to 2A output
 - Programmable overcurrent and latch-up protection
 - Advanced power metering
 - Automatic battery protection modes
 - Programmable on/off timers
 - Each output can be supplied by 3 different sources including unregulated battery
- 6 Power distribution connectors
 - High-reliability Micro-D connectors
 - 2 outputs channels and CAN bus in each connector
- Reliability
 - Thermal heat sinking by flush-mounted PCB on 2.5mm Al
 - Radiation total dose tested EEE parts
 - Vibration rated for all launch vehicles
- High-quality Enclosure
 - Min. 1.5 mm Al Shielding in all directions
 - PC-104 compatible mounting holes

Description

The PCDU-12 is a twelve channel power conditioning and distribution unit in a rugged, compact and modular enclosure. The system features six independent and customizable step-down converters, that can be connected to outputs as required. The PCDU-12 architecture allows designers to allocate one subsystem per connector, whereby many of the EMI issues experienced on shared power busses are eliminated. This makes the PCDU-12 ideal for missions with demanding payloads and sensitive receivers.

To minimize thermal stresses and mitigate radiation, the PCDU-12 is enclosed in 1.5 mm (min.) Al. The PCB is top-side only and mounted flush with the bottom of the enclosure, which reduces thermal resistance to the satellite body. With a standing height of only 12 mm and PC104 compatible mounting holes, the PCDU-12 easily integrates with existing busses, without occupying excess stack space.

All outputs have independent power monitoring and latch-up protection. Monitoring and configuration is enabled through the CSP protocol and onboard MCU. For convenience all connectors are CAN enabled.

