

Aerospace Power Converters

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DESIGN HIGHLIGHTS

DC-DC & DC-AC Converters for Aerospace Applications
Multiple kW Power Outputs
DC-DC Applications
Battery Chargers
ISS Docking Power Supplies
Motor Drives
Power Inverters
Planar Magnetics
Overcurrent Protection
Low Ripple and Noise

CUSTOM POWER MAGNETICS

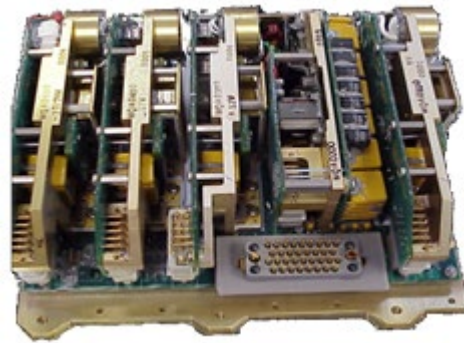
Planar Transformers
Current Sense Transformers
EMI Filters

EXTENSIVE TELEMETRY

Input / Output Voltage
Input / Output Current
System Temperatures

MISSION CRITICAL DESIGN

Complete Internal Redundancy Options
Efficiency Range From 90 TO 94%
Operating Temperatures -190°C to +200°C
EEE Parts Selection per:
EEE-INST-002 / MSFC-STD-3012
Radiation-Hardened: 100kRAD
Size, Weight & Power Efficient Design
MIL-STD-461 EMC Tests
Thermal Vacuum Cycling / Outgassing
Shock and Vibration



Models: Standard, Modified, Custom

ZIN is a proven designer of DC-DC and DC-AC power converter solutions for a wide range of aviation and space applications. ZIN has created custom power conversion solutions for crewed and mission critical applications, most recently NASA's Commercial Crew program.

ZIN excels in space-rated DC-DC converter design, manufacture, and test. In many space power systems, it is necessary to convert electrical power between two different systems. For example, vehicles that dock with the International Space Station (ISS) require a power converter to charge the spacecraft's batteries from ISS's 120V power bus.

ZIN's DC-DC converter designs handle multiple kilowatts of power with efficiency up to 95%. ZIN's DC-DC converter designs utilize state-of-the-art technology such as soft switching and synchronous rectification to meet our customers' specifications. ZIN implements the designs using space-grade, radiation-hardened components that provide reliability for mission-critical applications. ZIN also designs DC-AC converters for space-based motor drives and power inverters.

- ❑ ZIN designs power converter magnetics in-house and can therefore tightly integrate electronics and magnetics. ZIN designs custom planar magnetics that offer size, weight, and efficiency advantages over traditional designs.
- ❑ ZIN's power converter designs are modular, and offer features such as on/off control, adjustable voltage and current limits, and extensive voltage, current, and temperature telemetry. ZIN has developed a library of modular common power converter features that allow us to exceed customer expectations quickly and economically.
- ❑ The power converters are designed for critical applications, and meet requirements for EMC, Shock, Vibration, Thermal Vacuum, Outgassing, Radiation, and EEE parts control.



ZIN Technologies



Voyager Space External Use

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