



3U VPX VITA 62 POWER CONDITIONED DC-DC CONVERTER

PERFORMANCE IN EXTREME CONDITIONS

Supporting the most complex mission capabilities

As platform power systems continue to evolve from traditional 28 VDC busses to 270 VDC, mission hardware and avionics systems must pack more functionality into less volume and adapt to the new requirements. Efficient, reliable and modular power conversion is critical to achieve maximum system performance in extreme conditions.

Collins Aerospace meets this challenge with our 3U VPX VITA 62 DC-DC power module. The 3U VPX product line meets or exceeds VITA standards for embedded computing and open architecture applications. Our products are designed for mission success and deliver power conversion for 270 VDC systems which require a variety of regulated DC VITA outputs.

Providing an overall solution for performance, 3U VPX VITA 62 power conditioned DC-DC converter offers protection and reliability for combined functions of input power conditioning and DC-DC power conversion delivering 500W maximum output power. With six isolated/regulated outputs conforming to VITA 62 standards, our DC-DC converter module operates over an extended input voltage range of 180 to 420 VDC and operating temperature range of -55 to 85° C without derating.

Collins 3U VPX power modules offer state-of-the-art health monitoring, status reporting and communication features to support and protect the most complex mission capabilities. When mission critical performance is a must, the Collins Aerospace 270 VDC 3U power converters deliver.



KEY FEATURES AND BENEFITS

- 3U VPX VITA 62 1.0" single slot
- Meets or exceeds VITA standards
- EMI meets MIL-STD-461F
- Available in 3 load configurations
- Six output voltages, 500W:
Custom scalable/configurable
- 89% typical efficiency; 270 VDC at full load

SPECIFICATIONS

- Operating temperature at rails: -55 to 85° C; 90° option
- Input in-rush current-limiting/overcurrent and reverse polarity protection
- Overcurrent, overvoltage and overtemperature protection with auto-recovery
- Current share/remote sense on VS1, VS2, VS3
- Redundant non-intelligent node IPMI (I²C slave device) communications
- Integrated IPMC (Tier 1) per VITA 46.11, optional
- Isolation: 2000 VDC input to chassis/input to outputs, 500 VDC output to chassis
- Power supply derating guidelines: NAVSO P-3641A
- Output fault tolerant MOSFET diode organization

PROTECTION

- Overvoltage: All outputs are overvoltage protected
- Overcurrent/short circuit: Individual overcurrent protection 105 - 120% of max load and short circuit protection with automatic recovery
- Over temperature: Internal heat sink monitor disables output if unit temperature rises above 100° C

EXTERNAL CONTROLS AND INTERFACES

- I²C communications and reporting
 - Redundant I²C channels (IPMB-A, IPMB-B)
 - I²C slave device
 - Current and voltage for each individual output
 - DC input voltage
 - Temperature
 - Faults for each individual output (OV, OC, UV, bit status)
 - Addressable via geographical addressing pins (GAPs)
- Discrete I/O
 - VITA 62 Discrete I/O
 - SYSRESET
 - ENABLE
 - INHIBIT

ENVIRONMENTAL

- Single slot conduction cooled model: -55 to 85° C
- Storage: 55 to 125° C
- Humidity: 0 to 95% non-condensing
- Operating acceleration: 3g, in any direction
- Operating vibration: Sinusoidal vibration 0.05g cont. 10 to 2000 Hz

MECHANICAL

- Size and weight: VITA 62 compliant ruggedized size package with internal conduction cooling and maximum weight not to exceed 1.8 lbs
- I/O connector: VITA 62 MULTI-BEAM XLE high speed connector P/N 1-6450839-4

Specifications subject to change without notice.



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