

Rugged, Open VPX 6U, 8-slot, convection over conduction-cooled ATR Chassis

Features

- ◆ 1ATR ARINC 404A Tall/Long format or 1ATR ARINC 404A Short/Long
- ◆ Rugged: Meets the requirements for shock, vibration and structural integrity per MIL-STD-810
- ◆ Power in: Single or three phase 90-264VAC or 28VDC power
- ◆ Cooling: Air flows around a finned, conduction cooled internal, sealed chassis and exits rear of chassis pulled by a single exhaust Tubeaxial high air flow 28V exhaust fan (can be powered with internal AC supplies) – less expensive option desired
- ◆ Eight 6U VITA 48.2 (REDI) 10 inch pitch conduction cooled payload slots in Long format (# of slots in Short format TBD)
- ◆ Configurable rigid front I/O PCBA and 7.5" x 7.5" front panel with Hercules® high-speed, ruggedized, circular mil connectors allows customization to exact application requirements
- ◆ Three tri-color front panel LED's to indicate power supply status, temperature, and fan fail indicator
- ◆ Optional front panel hour meter (offered at additional cost – less expensive option desired). Dawn power supplies have integrated Power On Hours Meter than can be read over I2C or USB
- ◆ Guarded front panel integrated breaker power switch
- ◆ Front panel plug-in 7mm hard drive bay (internal mounting option)
- ◆ Optional dust filters (offered at additional cost)
- ◆ Front-mounted carrying handles
- ◆ ATR tray locks
- ◆ 50 ms at 500 W Mountable Holdup module available as an option.



Technical Specification

Backplane Compliance

6U VITA 65 OpenVPX™ compliant, VITA 48.2 (REDI), 1.0 Inch Pitch, 8-slot (Long format), conformal coated backplane with two 3U VITA 62 connectors

High-speed Multi-gig RT2-Rugged Tyco connectors

Future model to offer one power supply slot for one Dawn VME Intelligent 6U 1600W VITA 62 DC wedgelock conduction cooled power supply (i.e., the wedgelock supply is located such that they are also cooled through the bulkhead)

Mechanical

Meets ARINC 404A ATR System Mechanical Design Specification

Overall Chassis Dimensions: 10.12"W x 19.52"L x 7.62"H; 1ATR ARINC 404A Tall/Long format

Weight: TBD

Electrical

Compliance: VPX electrically compliant with VITA46.0

Maximum Power Draw Per Slot: ≤ 800 Watts/Slot

Input Power: 85-264VAC, 47-440 Hz

Power Supply Output: See rear for options

Environmental

Operating Temperature: -40C to +55C-40C to +85C (special -54C storage 28VDC power option)

Non-operating Temperature: -40C to +85C (special -54C storage 28VDC power option)

Altitude: Operating altitude up to 15,000 ft.

Humidity: <math><95\%</math> non-condensing

Power Supply Features

Includes one or two field replaceable Dawn VME Intelligent 3U VITA 62 AC or DC wedgelock conduction cooled power supplies (i.e., the wedgelock supplies are located such that they are also cooled through the bulkhead)

Future model to offer one replaceable Dawn VME Intelligent 6U 1600W VITA 62 DC wedgelock conduction cooled power supply (i.e., the wedgelock supply is located such that they are also cooled through the bulkhead)

90-264VAC single phase 47-400Hz

Max Output Current (Amps) for each channel

Voltage	12V(VS1)	3.3V(VS2)	5V(VS3)	3.3V_AUX	+12V_AUX	-12V_AUX
One Supply	16.7	30	40	4	4	3
Two Supplies	33.4	60	80	8	8	6
Max Power	400W	200W	400W			

Total Maximum Power All Rails: 400W (one supply) or 800W (two supplies)

Ripple: <50mVp-p on +3.3V and +5V, <2mVp-p on +12V and -12V

Isolation Voltage: Input to Output (1500V)

18-36VDC

Max Output Current (Amps) for each channel

Voltage	12V(VS1)	3.3V(VS2)	5V(VS3)	3.3V_AUX	+12V_AUX	-12V_AUX
One Supply	20	30	40	4	4	3
Two Supplies	40	60	80	8	8	6
Max Power	480W	200W	400W			

Total Maximum Power All Rails: 440W (one supply) or 880W (two supplies)

Ripple: <50mVp-p on +3.3V and +5V, <2mVp-p on +12V and -12V

Isolation Voltage: Input to Output (1500V)

Compliance

- MIL-STD-5400: General standard for Aerospace Electronic Equipment
- MIL-STD-810: Environmental Test Methods and Engineering Guidelines
- MIL-STD-461: Requirements for the control of EMI Emissions and Susceptibility
- MIL-STD-704: Aircraft Electric Power Characteristics
- MIL-STD-1275: Characteristics of 28 VDC Electrical Systems in Military Vehicles
- RTCA/DO-160: Environmental Conditions and Test Procedures for Airborne Equipment
- Temp, Operating -40°C to +55°C MIL-STD-810F (Methods 501.3 & 502.3)
- Temp, non-Operating -40°C to +85°C MIL-STD-810F (Methods 501.3 & 502.3)
- Altitude, Operating 15,000 ft MIL-STD-810F (Method 500.3)
- Humidity Operating/Storage MIL-STD-810F Method 507.4 Proc. 1.95% RH (non condensation)
- Vibration 15 to 2,000 Hz at .1g²/Hz (RMS – 12G) MIL-STD-810F (Method 514.5)
- Shock Tray Mount 25g 11ms MIL-STD-810F (Method 516.5)
- Shock 15g 11ms MIL-STD-810F (Method 516.5)
- EMC MIL-STD-461E CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103
- Drip Proof MIL-STD-810F
- Salt fog 5% for 48 hours MIL-STD-810F (Method 509.3)