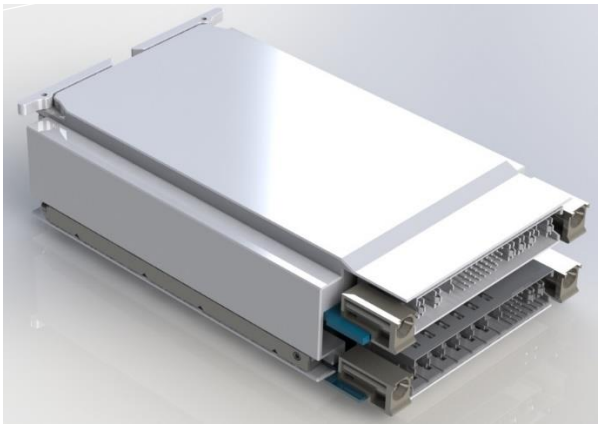
Datasheet

VITA 62 POWER SUPPLY LINE 2” preliminary PCI_800.170



Picture needs to be updated

Key Features:

- **3 phase 115VAC 400Hz** Input Voltage
- **120msec hold time**
- Isolated separate 3.3V aux output
- 3000V Isolation Between Input /Output
- Active Input EMI Filtering
- Transient look ahead/cut-off technology
- 28V output
- **3 Phase DSP controlled Power Factor Correction**
- 1200W Maximum Continuous Power, no derating
- 89% Typical Efficiency
- -40°C to 85°C Operating Temperature
- VITA 62 3U Form Factor
- Patent pending **FourRail** thermal interface
- **Space saving design combines Vita 62 and VITA 62.1 specification**

VITA 62 3U ISOLATED 1200W 115 VAC 400Hz POWER SUPPLY

This 3U power supply works with a **115VAC 3phase input** and can be used for input frequencies from **380Hz to 440Hz** and isolates each phase from the input voltage ground to the output voltage ground.

Designed into this power supply is a state of the art 3 Phase DSP controlled Power Factor Correction.

The power supply is **conduction cooled**, uses digital **poly-phase** technology on all output rails and can provide up to **1200 watts**. It is suitable for use in **mission critical rugged applications**.

Features:

- Digital On/Off control for low standby power
- Output Voltage rail setting /adjustment
- Power supply history logging and fault management
- Monitoring all output voltages, currents and power
- Automatic temperature drift compensation for all outputs
- Communication via SMB/I2C (PMB)for Vita 46.11 system management
- Collects data from temperature sensors for over temperature protection
- Precision compensation of all output voltages using integrated 5ppm voltage reference

Overview	
P/N	**PCI_800.170**
Hold Up time	**TBD**
VITA Compliant	**VITA 62**
Size	**3U**
Temp. Range	**-40 +85 C**
Input (AC or DC)	**AC with PFC**
Input Range (AC)	**3x115**
Active EMI Filtering	**YES**
Power (W, max.)	**1200**
Efficiency (%, typ.)	**89**
# of outputs	**6**

OUTPUTS (Total output not to exceed 600W)	
VS1,V@A	**+28V@40A**
VS2, V@A	
VS3, V@A	**+28V@40A**
AUX, V@A	**+3.3@4A**
AUX, V@A	
AUX, V@A	

FEATURES	
Over-current Protection	**YES**
Over-voltage Protection	**YES**
Over-temperature Protection	**YES**
Current Sharing	**NO**
Remote Sense	**YES**
Standard Control	**YES, VITA62**
Extended Control	**YES**

Designed to meet the following standards, additional circuitry in the chassis may be required	
VITA62	**YES**
MIL-STD-704 (B-F)	**YES**
MIL-STD-461	**YES**
MIL-STD-810G	**YES**
* ESD Protection	**YES**
* Shock	**YES**
* Vibration	**YES**
* Rapid Decompression	**YES**
* Corrosion Resistance	**YES**
* Fungus Resistance	**YES**
* Altitude	**YES**
* Humidity	**YES**

INPUT CHARACTERISTICS					
Parameter	*Min.*	*Typ.*	*Max.*	*Units*	*Notes*
Absolute Maximum Ratings					
Input Voltage					
- Non-Operating, Vrms			**265**	V	Continuous
- Operating, Vrms			**140**	V	Continuous
- Operating Transient Protection, Vrms			**300**	V	1ms transient
Isolation Voltage			**1500**	V	
Operating Temperature	**-40**		**85**	C	
Storage Temperature	**-55**		**105**	C	
Electrical Characteristics					
Input Voltage					
- Continuous, Vrms	**100**	**115**	**125**	V	
- Transient, Vrms	**80**		**180**	V	Transient for 10 ms
Under-Voltage Lockout					
- Turn-On Input Voltage Threshold*, Vrms*	**100**		**105**	V	

INPUT VOLTAGE SPIKES SUPPRESSION (Vin Centered) Designed to meet the following standards, additional circuitry in the chassis may be required	
+/- 450V, 100 us	**MIL-STD-1275E**
+/- 490V, 10 us	**MIL-STD-461C (CS06); DEF-STAN 61-5**
+/- 450V, 5 us	**MIL-STD-461C (CS06)**
+/- 600V, 10 us	**RTCA/DO-160E**

OUTPUT CHARACTERISTICS						
Parameter	*+28V*	*+28V*	*+3.3V aux*			*Notes*
Output Voltage Set Point, V	**28**	**28**	**3.3**			Vin = 115Vrms
- Drift -40 deg.C to 85degC +/- %	**0.01**	**0.01**	**0.01**			Over Line/load/temp.
Output Voltage Trim Range, V	+/- 10%	+/- 10%	+/- 10%			Digitally adjustable
Output Voltage Ripple (pk-pk), mV	**80**	**80**	**40**			Full load with 1 uF + 10 uF tantalum capacitor **on each slot**
Operating Current Range, A	**0-40**	**0-40**	**0-4**			**1200W** Total, combined Output
Over-Voltage Protection, V	**30**	**30**	**3.5**			**Digitally adjustable**
Current Limit Inception, A	**41**	**41**	**4.5**			**Digitally adjustable**
Maximum Output Capacitance, mF	**10**	**10**	**5**			

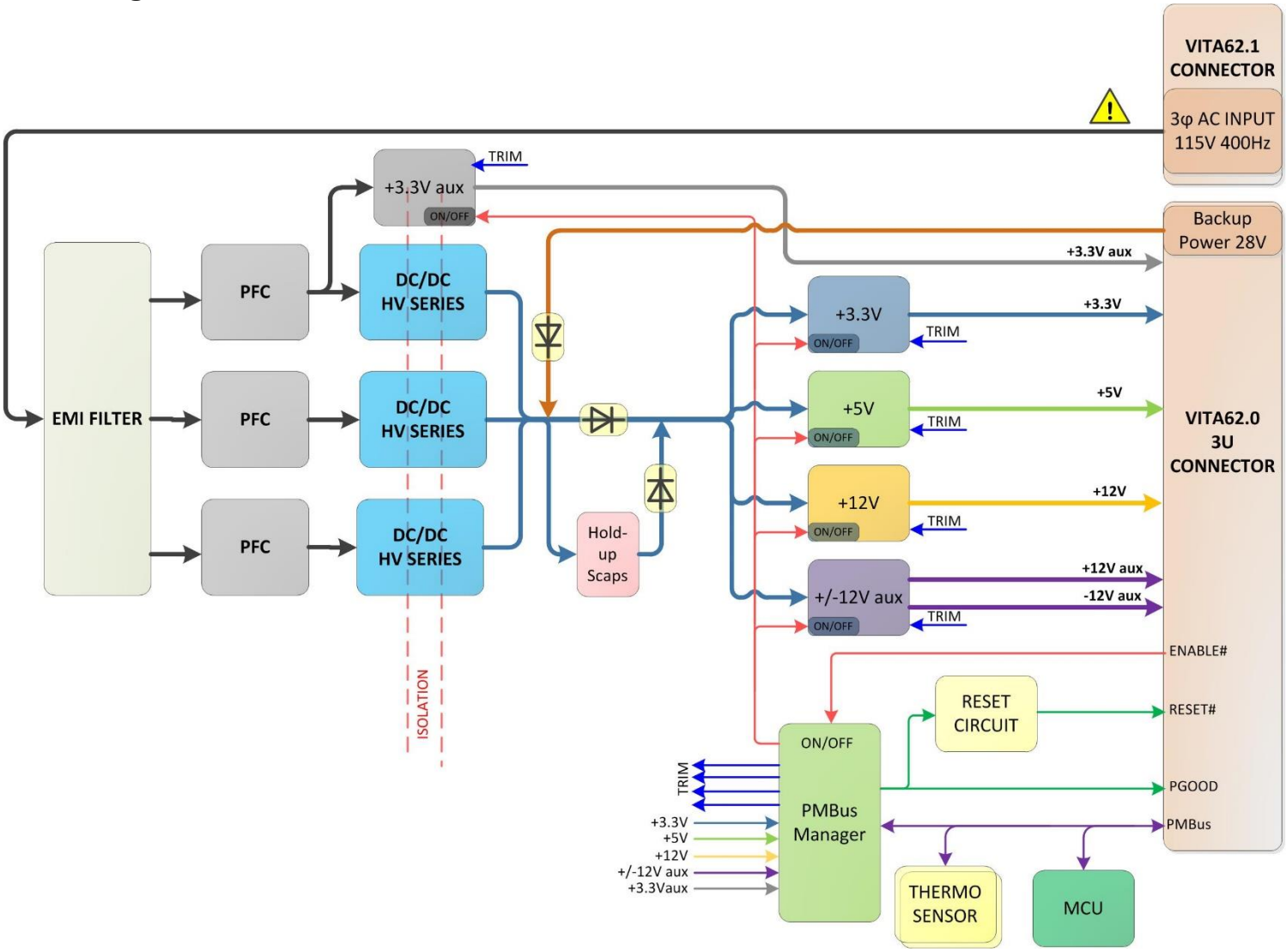
Designed to meet the following test standards, additional circuitry in the chassis may be required	
Test Name	*Method*
Random Vibration	**MIL-STD-810, 514.6 - Procedure I, Class V3**
Shock	**MIL-STD-810, 516.6 - Procedure I, VI, Class OS2**
Altitude	**MIL-STD-810, 500.5 - Procedure I, II, III**
Fungus Resistance	**MIL-STD-810, 508.6**
Corrosion Resistance	**ASTM G85, Annex A4**
Humidity	**MIL-STD-810, 507.5 - Procedure II**
High Temperature	**MIL-STD-810, 501.5 - Procedure I, II**
Low Temperature	**MIL-STD-810, 502.5 - Procedure I, II**
Temperature Cycling	**MIL-STD-202, 107 - Class C4**
ESD	**EN61000-4-2, Level 4; 15kV Air Discharge**

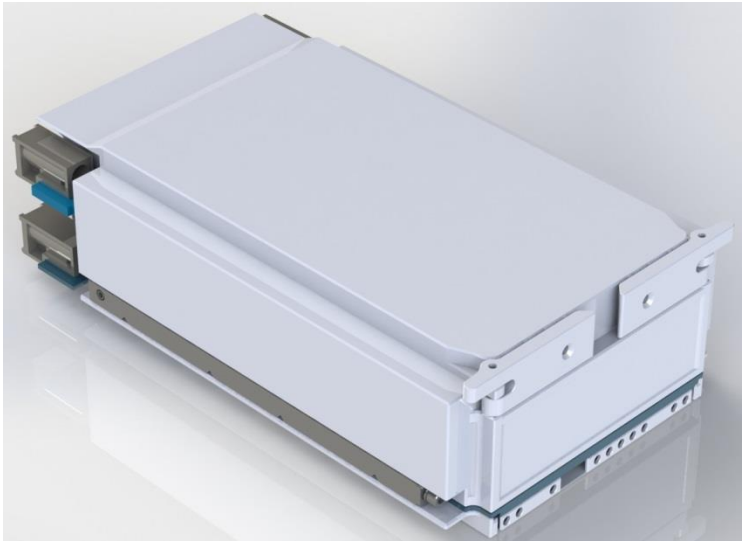
RELIABILITY CHARACTERISTICS

Calculated MTBF per MIL-HDBK-217F (GB) at 70 deg C. 4.1 280.000 Hrs.
Estimated MTBF in Airborne application 250.000 hours

Power factor is better than 0.95.

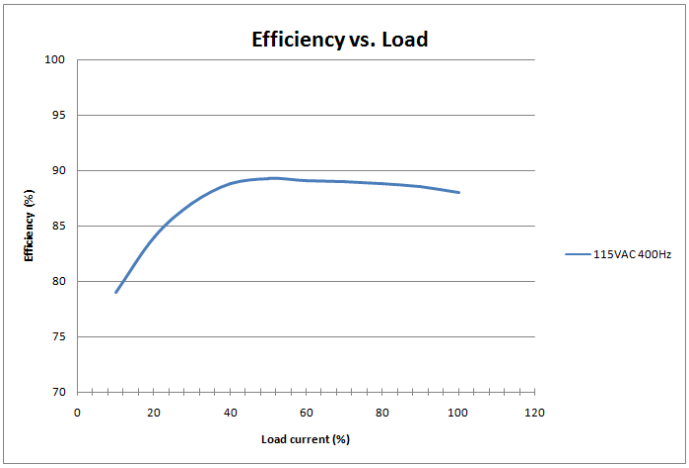
Block Diagram:

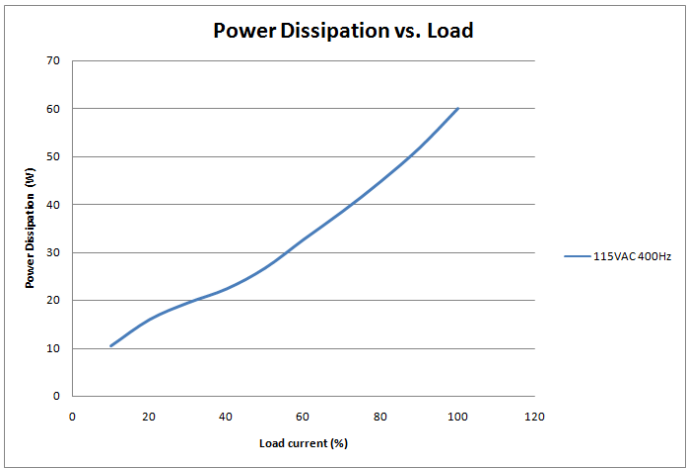




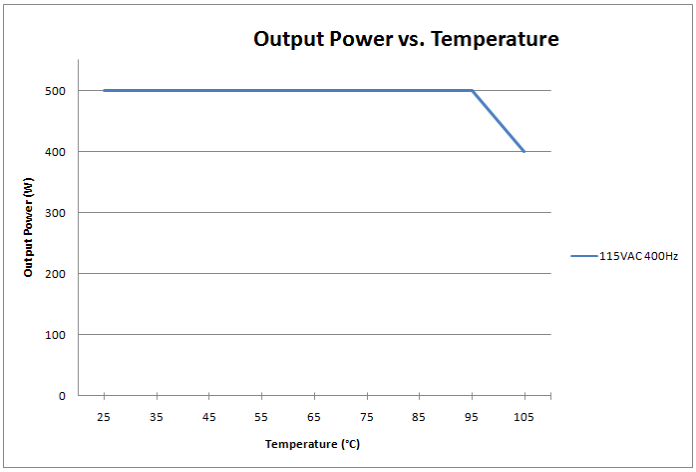
Pin-out: **Based on VITA 62 and VITA 61.1 specification**
Mechanical Dimensions: **Based on VITA 62 specification (2” pitch)**

Characteristic curves:





Efficiency and Power Dissipation at nominal output voltage vs. load current at 25°C



Thermal derating
Max. Output Power vs. temperature at thermal interface.
(**Delta T to wedgelock 7°C**)

ORDERING INFORMATION:

PCI_800.165_C	3U VITA 62 1200W 115VAC 400Hz 3 Phase Isolated Rugged Front End with Conformal Coating

Release_Oct_15_2020