Datasheet

VITA 62 POWER SUPPLY LINE 1.6”

Key Features:

- **1 phase 85-264VAC 50Hz or 270VDC** Continuous Input Voltage
- 1500V Isolation Between Input /Output
- Active Input EMI Filtering
- Transient look ahead/cut-off technology
- 28VDC output Rail
- Isolated 3.3V aux standby feature
- 600W Maximum Continuous Power
- 88% Typical Efficiency
- -40°C to 85°C Operating Temperature
- VITA 62 6U Form Factor
- Patent pending **FourRail** thermal interface
- Load sharing

VITA 62 3U ISOLATED 600W POWER SUPPLY

This 3U power supply works with **85-264VAC 50Hz or 270VDC** and can be used for input frequencies from **47Hz to 63Hz** and isolates the input voltage ground from the output voltage ground.
The power supply is **conduction cooled**, uses **poly-phase** technology on all voltage rails and can provide up to **600 watts**. It is suitable for use in **mission critical rugged applications**.

Features:

- Parallel operating with multiple power supplies, all rails
- Load sharing and balancing
- Digital On/Off control for low standby power
- Spread Spectrum Clocking of power supply stages
- True rms ac power metering
- Precision output voltage, current metering
- Programmable ac line fault detection and protection
- Programmable output overvoltage, overcurrent, overtemperature protection

Overview	
P/N	**PCI_800.163**
Hold Up time	
VITA Compliant	**VITA62**
Size	**3U**
Temp. Range	**-40 +85 C**
Input (AC or DC)	**AC**
Input Range (AC)	**220**
Active EMI Filtering	**YES**
Power (W, max.)	**600**
Efficiency (%, typ.)	**88**
# of outputs	**2**

OUTPUTS (Total output not to exceed 600W)	
VS1, V@A	**+28@21A**
VS2, V@A	
VS3, V@A	
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	**VS1**
Remote Sense	**YES**
Standard Control	**YES, VITA62**
Extended Control	**Yes**

COMPLIANCE	
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			**360**	Vrms	Continuous
- Operating			**264**	Vrms	Continuous
- Operating Transient Protection			**280**	Vrms	10ms transient
Isolation Voltage			**1500**	V	
Operating Temperature	**-40**		**85**	C	
Storage Temperature	**-55**		**105**	C	
Electrical Characteristics					
Input Voltage					
- Continuous	**85**	**220**	**264**	Vrms	
- Transient	**85**		**280**	Vrms	Transient for 10 ms
Under-Voltage Lockout					
- Turn-On Input Voltage Threshold	**85**		**90**	Vrms	

INPUT VOLTAGE SPIKES SUPPRESSION (Vin Centered)	
+/- 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**

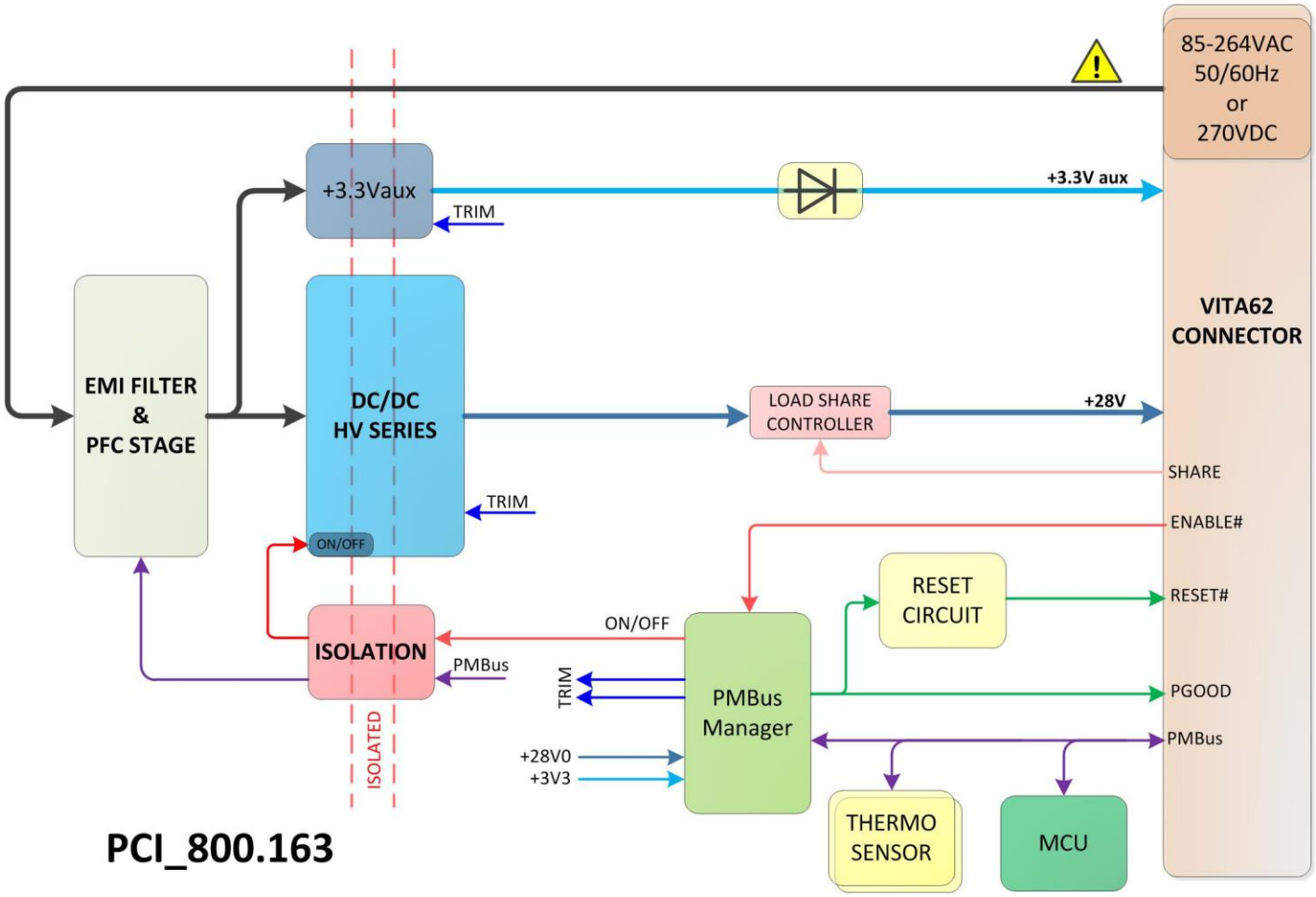
OUTPUT CHARACTERISTICS			
Parameter	*+28V*	*+3.3V aux*	*Notes*
Output Voltage Set Point, V	**28**	**3.3**	Vin = 220Vrms
- Drift -40 deg.C to 85degC +/- %	**0.01**	**0.01**	Vin = 220Vrms
Output Voltage Trim Range, V	**28**	**3.3**	Over Line/load/temp.
	+/- 10%	+/- 10%	Over Line/load/temp.
Output Voltage Ripple (pk-pk), mV	**160**	**50**	Full load with 1 uF + 10 uF tantalum capacitor
Operating Current Range, A	**0-21**	**0-4**	**600W** Total, combined Output
Over-Voltage Protection, V	**30**	**3.6**	Programmable
Current Limit Inception, A	**22**	**5**	Programmable
Maximum Output Capacitance, mF	**10**	**1**	

MODULE QUALIFICATION	
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

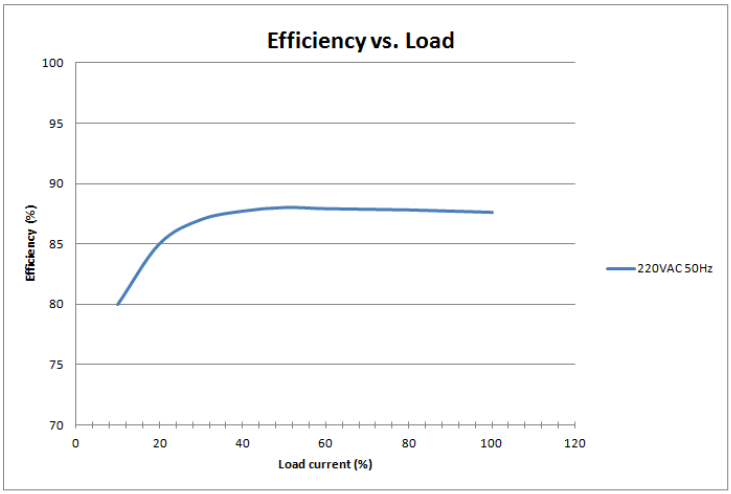
Calculated MTBF per MIL-HDBK-217F (GB) at 70 deg C. 4.1 280.000 Hrs.
Calculated MTBF per MIL-HDBK-217F (GM) at 70 deg C.0.92 80.000 Hrs.

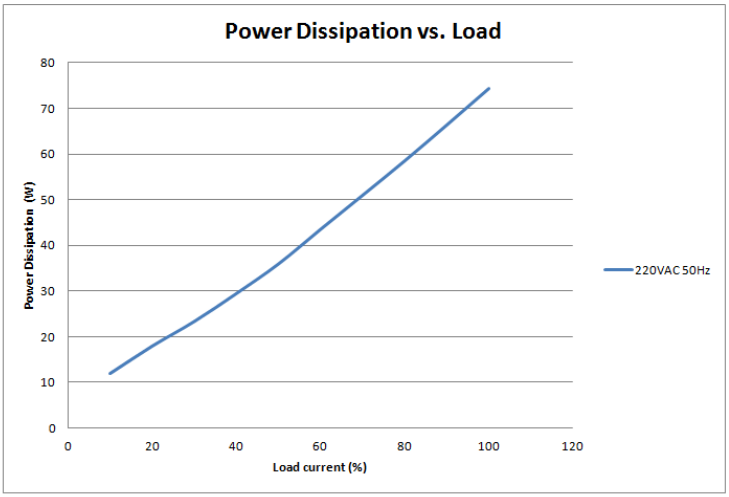
Block Diagram:

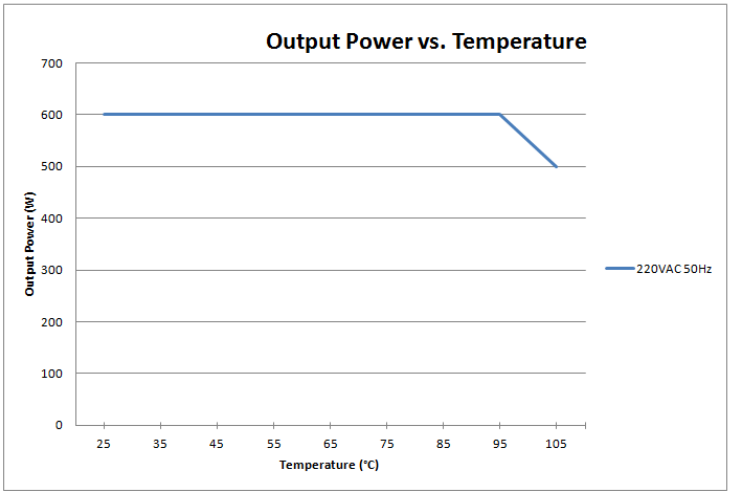


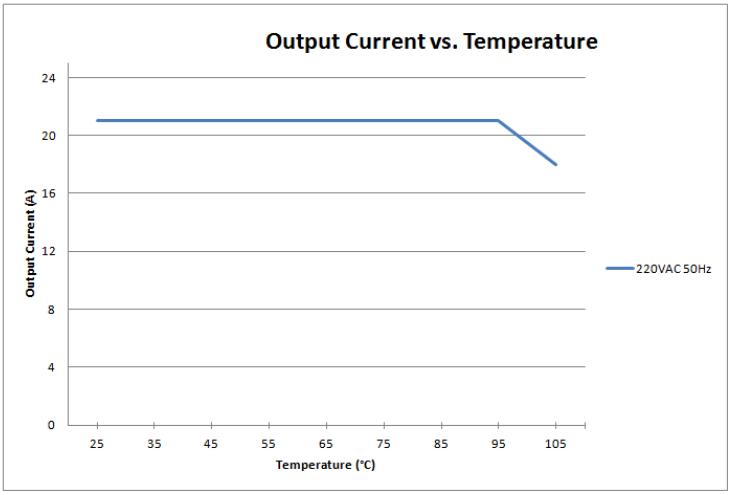
Pin-out: **As per VITA 62 specification**
Mechanical Dimensions: **As per VITA 62 specification (1.6” pitch)**

Characteristic curves:









Thermal derating max Output Power and Output Current vs. temp at module cover. (Delta T to wedgelock 7°C)

ORDERING INFORMATION:

PCI_800.163	6U VITA 62 600W 220VAC 50Hz Isolated Rugged front-end Power Supply
PCI_800.163_C	Version with Conformal Coating
PCI_800.163_C_270	270VDC input Version with Conformal Coating

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