

Key Features:

- 85-264VAC Continuous Input Voltage
- 1500V Isolation Between Input /Output
- Active Input EMI Filtering
- Transient look ahead/cut-off technology
- 6 Voltage output Rails
- Isolated 3.3V aux standby feature
- 330W Maximum Power
- 92% Typical Efficiency
- -40°C to 85°C Rail Operating Temperature
- VITA 62 3U Form Factor
- VITA 46.11 ready
- Patent pending **FourRail** thermal interface
- [SMART.PSU] Technology

VITA 62 3U ISOLATED 330W 85VAC to 264VAC POWER SUPPLY

This 3U power supply works with **85VAC to 264VAC input** voltage at input frequencies from **40Hz to 70Hz** and isolates the input voltage ground from the output voltage ground. The power supply is **conduction cooled**, uses **polyphase** technology on all voltage rails and can provide up to **330 watts**. It is suitable for use in **mission critical rugged applications**.

[**SMART.PSU**] PCI-Systems Inc. intelligent power supplies integrate a **microcontroller (MCU)** for a fully programmable and flexible solution. Intelligent power conversion allows **configuration and reconfiguration** for different applications. With intelligent power conversion, the power supply becomes a platform solution for Vita 46.11 system management based systems. The power supply can easily be **reprogrammed** to support different **operating limits and control inputs**.

Features:

- Parallel operating with multiple power supplies, all rails
- Load sharing and balancing
- Digital On/Off control for low standby power
- Input / Output Voltage rail setting /adjustment
- Spread Spectrum Clocking of power supply stages
- Possibility of external synchronization
- Power supply sequencing and hot-swap control
- Power supply history logging and fault management
- Monitoring all input/output voltages, currents and power
- Current fold back control
- Automatic temperature drift compensation for all outputs
- Total-Elapsed-Time Recorder
- Efficiency calculations at any time
- 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_800.151
Hold Up time	1ms
VITA Compliant	VITA62
Size	3U
Temp. Range	-40 +85 C
Input (AC or DC)	AC
Input Range (VDC)	85-264
Active EMI Filtering	YES
Power (W, max.)	330
Efficiency (% , typ.)	92
# of outputs	6

OUTPUTS (Total output not to exceed 500W)	
VS1, V@A	+12@20A
VS2, V@A	+3.3@10A
VS3, V@A	+5@20A
AUX, V@A	+3.3@2A
AUX, V@A	+12@1.5A
AUX, V@A	-12@1.5A

FEATURES	
Over-current Protection	YES
Over-voltage Protection	YES
Over-temperature Protection	YES
Current Sharing	VS1, VS2, VS3
Remote Sense	YES
Standard Control	YES, VITA62
Extended Control	YES, PCI Systems

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

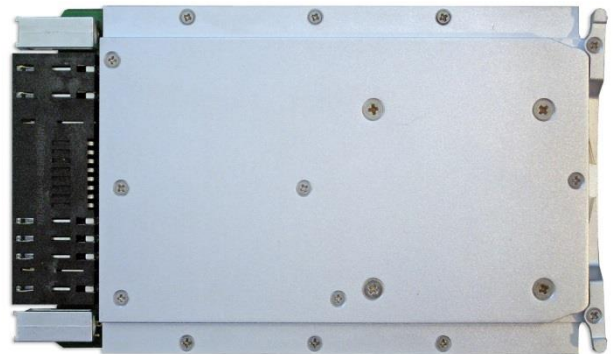
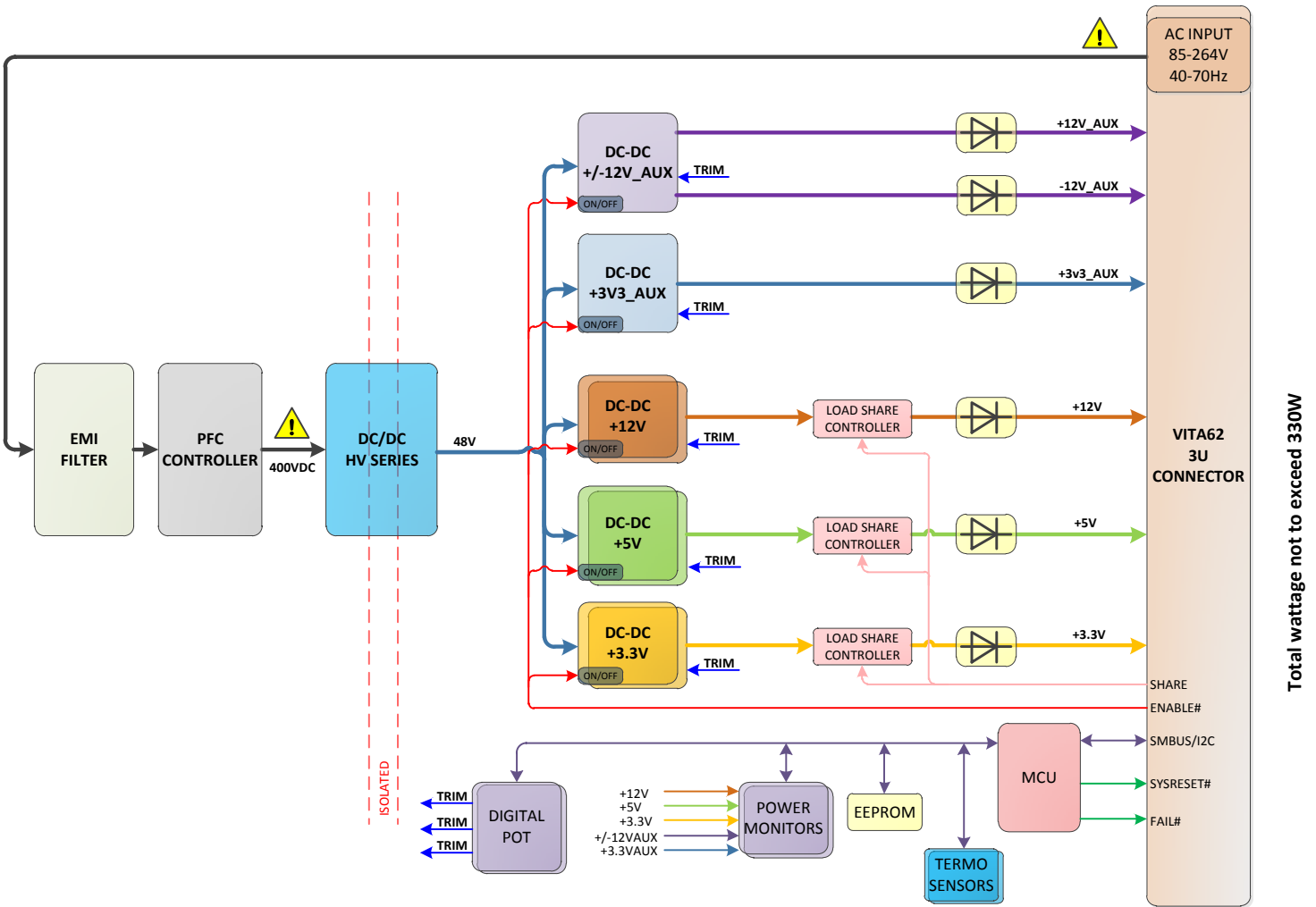
INPUT CHARACTERISTICS					
Parameter	Min.	Typ.	Max.	Units	Notes
Absolute Maximum Ratings					
Input Voltage					
- Non-Operating	-60		270	V	Continuous
- Operating	-40		264	V	Continuous- Reverse input Protection
- Operating Transient Protection			4590	V	100ms transient, square wave
Isolation Voltage			1500	V	
Operating Temperature	-40		85	C	
Storage Temperature	-55		105	C	
Electrical Characteristics					
Input Voltage					
- Continuous	85		264	V	
- Transient	85		450	V	Transient for 100 ms
Under-Voltage Lockout					
- Turn-On Input Voltage Threshold	80	115	270	V	

INPUT VOLTAGE SPIKES SUPPRESSION (Vin Centered)	
+/- 450V, 100 us	MIL-STD-1275D
+/- 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	+12V	+5V	+3.3V	+3.3V aux	+12V aux	-12V aux	Notes
Output Voltage Set Point, V	12	5	3.3	3.3	12	-12	Vin = 115VAC
- Drift -40 deg.C to 85degC +/- %	0.01	0.01	0.01	0.01	0.01	0.01	Vin = 115VAC
Output Voltage Trim Range, V	12	5	3.3	3.3	12	-12	Over Line/load/temp.
	+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	Over Line/load/temp.
Output Voltage Ripple (pk-pk), mV	80	50	40	40	80	80	Full load with 1 uF + 10 uF tantalum capacitor
Operating Current Range, A	0-20	0-20	0-10	0-2	0-1.5	0-1.5	330W Total, combined Output
Over-Voltage Protection, V	13	6	3.6	3.6	13	13	
Current Limit Inception, A	21	21	11	2.1	1.7	1.7	
Maximum Output Capacitance, mF	10	10	10	1	1	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

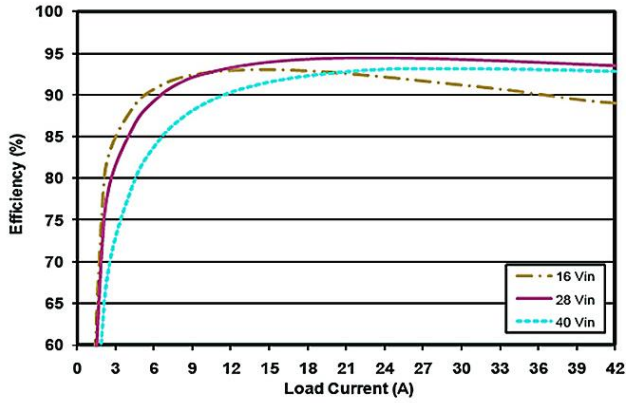
Block Diagram: reference for 330W version



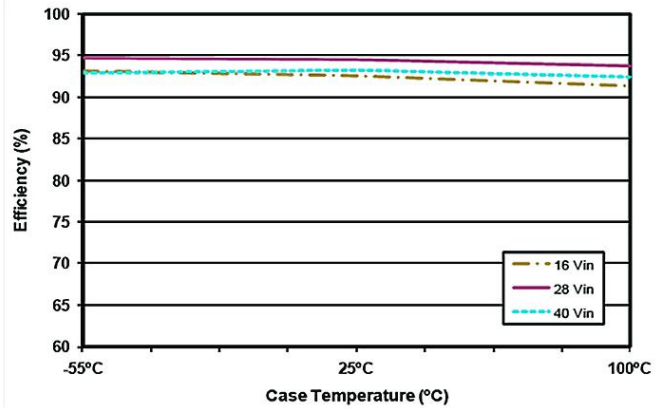


Pinout: As per VITA 62 specification

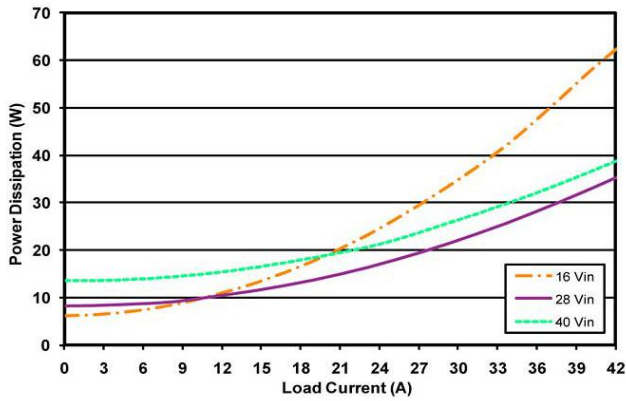
Mechanical Dimensions: As per VITA 62 specification (1" pitch)



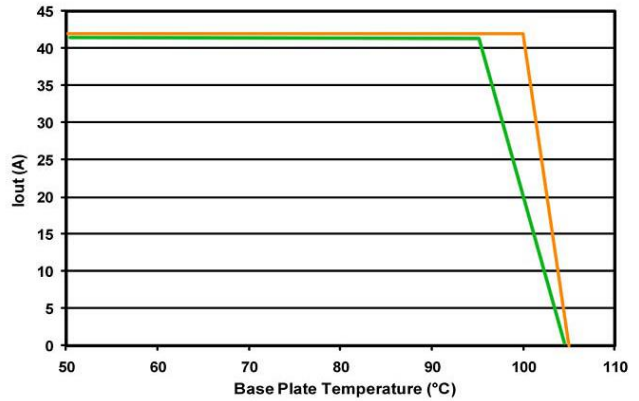
Efficiency at nominal output voltage vs. load current for min, nom, max input V at 25°C



Efficiency at nominal output voltage and 60% rated power vs. case temp for min, nom, max input voltage



Power Dissipation at nominal output voltage vs. current at module cover 25°C (Delta T to wedgelock 7°C)



Thermal derating max current vs. temp at module cover. (Delta T to wedgelock 7°C)

ORDERING INFORMATION:

PCI_800.151 3U VITA 62 85-264VAC 330W Isolated Rugged Power Supply
 PCI_800.151_C Version with Conformal Coating

Release_March_25_2015

