



Key Features:

- 1 phase 115VAC 400Hz with 28V backup input
- 150msec hold time at 380W
- 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
- 660W Maximum Continuous Power
- 92% Typical Efficiency
- -55°C to 95°C Operating Temperature
- VITA 62 6U Form Factor
- VITA 46.11 ready
- Patent pending **FourRail** thermal interface

VITA 62 6U ISOLATED 660W 115VAC, 400Hz POWERSUPPLY

This 6U power supply works with **115VAC 1phase input and 28V backup input** and can be used for input frequencies from **350Hz to 450Hz** 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 **660 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



Overview	
P/N	PCI_800.305
Hold Up time	150ms/380W 100ms at +85 deg C.
VITA Compliant	VITA62
Size	6U
Temp. Range	-55 +95 C
Input (AC or DC)	AC+DC
Input Range (AC-DC)	115+28
Active EMI Filtering	YES
Power (W, max.)	660
Efficiency (% , typ.)	92
# of outputs	6

OUTPUTS (Total output not to exceed 660W)	
VS1, V@A	+12@40A
VS2, V@A	
VS3, V@A	+5@40A
AUX, V@A	+3.3@20A
AUX, V@A	+12@3A
AUX, V@A	-12@3A

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		300	V	Continuous
- Operating		100	140	V	Continuous- Reverse input Protection
- Operating Transient Protection			450	V	100ms transient, square wave
Isolation Voltage			1500	V	
Operating Temperature	-40		85	C	
Storage Temperature	-55		105	C	
Electrical Characteristics					
Input Voltage					
- Continuous	90		160	V	
- Transient	85		350	V	350V Transient for 100 ms
Under-Voltage Lockout					
- Turn-On Input Voltage Threshold	85	115	165	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 aux	+12V aux	-12V aux	Notes
Output Voltage Set Point, V	12	5	3.3	12	-12	Vin = 115VAC
- Drift -40 deg.C to 85degC +/- %	0.01	0.01	0.01	0.01	0.01	Vin = 115VAC
Output Voltage Trim Range, V	12	5	3.3	12	-12	Over Line/load/temp.
	+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	Over Line/load/temp.
Output Voltage Ripple (pk-pk), mV	80	40	40	40	40	Full load with 1 uF + 10 uF tantalum capacitor
Operating Current Range, A	0-40	0-40	0-20	0-3	0-3	660W Total, combined Output
Over-Voltage Protection, V	13	3.6	13	13	13	
Current Limit Inception, A	42	42	22	3.1	3.1	
Maximum Output Capacitance, mF	10	10	10	1	1	

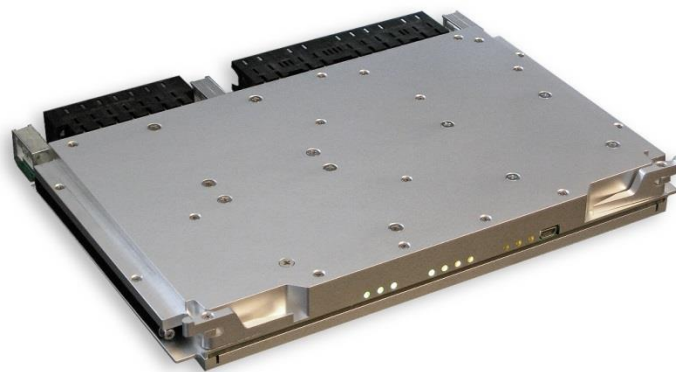
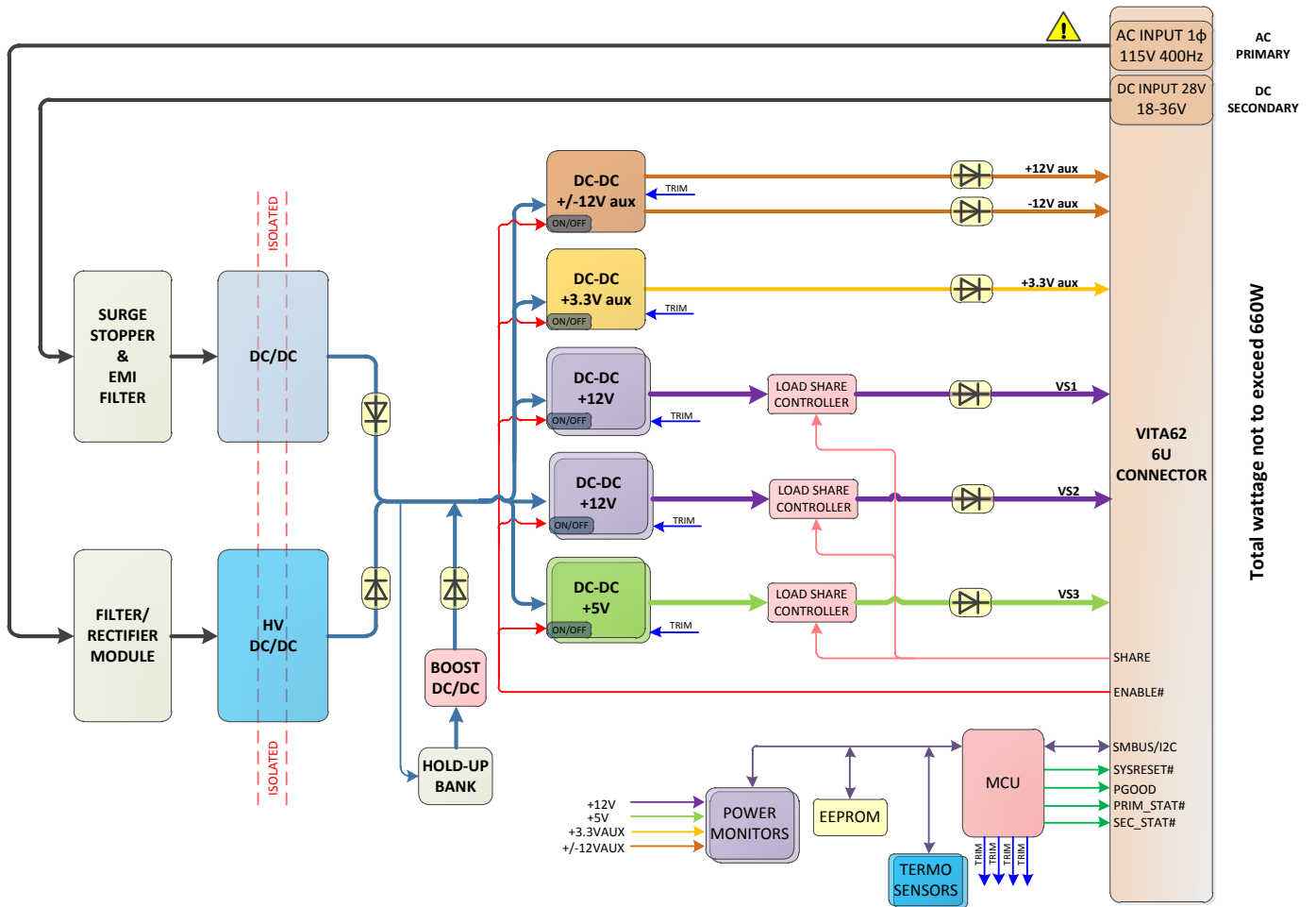
MODULE QUALIFICATION

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

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. 0.92 280.000 Hrs.

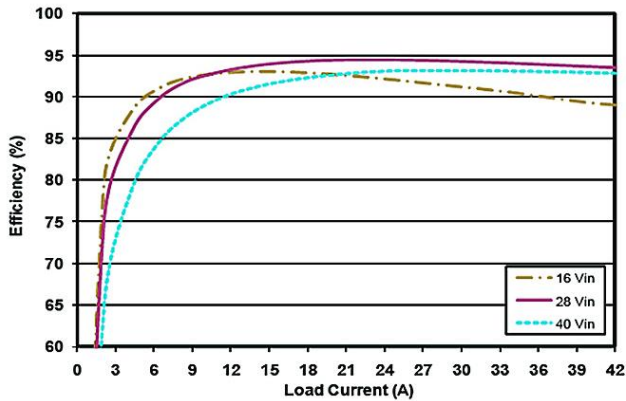
Block Diagram:



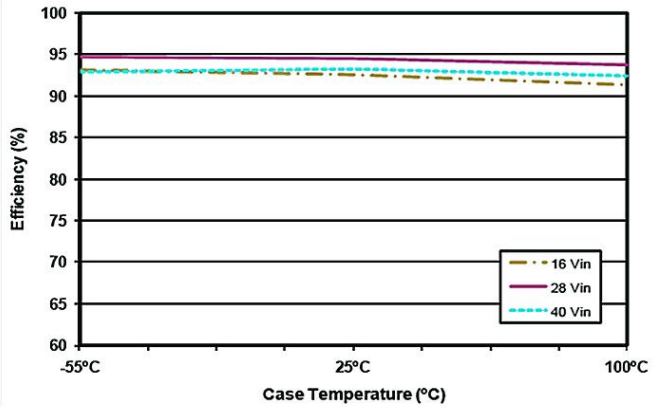
Pin-out: As per VITA 62 specification

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

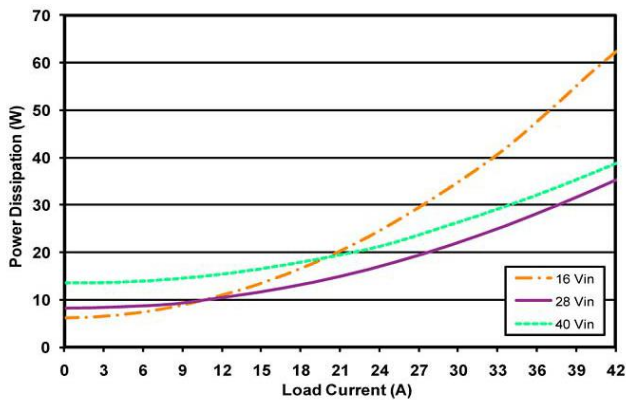
Efficiency for internal DC-DC stages:



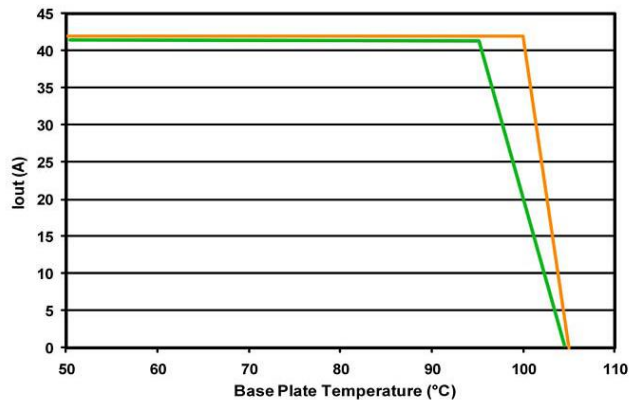
Efficiency at nominal output voltage vs. load current for min, nom, max input V at 25°C



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 7C°)



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

ORDERING INFORMATION:

PCI_800.305
PCI_800.305. C

6U VITA 62 660W 115VAC 400Hz -28V DC Isolated Rugged Power Supply
Version with Conformal Coating

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