

Key Features:

- 1 phase 85-264VAC 50/60Hz/400Hz input
- 4240VDC Isolation Between Input /Output/Chassis
- Active Input EMI Filtering
- Transient look ahead/cut-off technology
- 5 Voltage output Rails
- Isolated, independent 3.3V aux standby feature
- 1.200W Maximum Continuous Power, NO derating
- 87% Typical Efficiency
- -55°C to 85°C Operating Temperature
- VITA 62 6U Form Factor
- Active, DSP controlled, dual interleaved PFC input stage
- 1.6" pitch, **FourRail™** thermal interfaces to the chassis walls (Patent Pending)
- SMART internal feature managing functions
- **FiveNines (99.999%) reliability**
- **VITA 62.2 High Voltage input pin separation**
- **Completely digital controlled rails and functions**

VITA 62 6U ISOLATED 1200W 85-264VAC 50/60/400Hz POWER SUPPLY

This 6U power supply works with **1 phase 85-264VAC 50/60/400Hz input** and can be used for input frequencies from **47Hz to 440Hz** and isolates the input voltage ground from the output voltage ground. The power supply is **conduction cooled**, uses digitally controlled **poly-phase** technology on all voltage rails to minimize EMI, SSC on all stages for even lower EMI and high reliability of the power supply and can provide up to **1200 watts**.

It is suitable for use in highly reliable mission critical rugged applications.

- Reverse input protection
- Parallel operating with multiple, same type power supplies, all rails
- Load sharing and balancing
- Remote sensing
- Digital On/Off control for low standby power
- Input / Output Voltage rail setting /adjustment via GUI
- Spread Spectrum Clocking of power supply stages
- Power supply sequencing and hot-swap control /adjustment via GUI
- Power supply history logging and fault management
- Monitoring all input/output voltages, currents and power via GUI
- 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, continuous compensation of all output voltage drifts between -55 deg.C and 85 deg C. and output currents, using an integrated 5ppm voltage reference

Overview	
P/N	PCI_800.316
Hold Up time	5msec at 25 deg C.
VITA Compliant	VITA62
Size	6U
Temp. Range	-55 +85 C
Input (AC or DC)	AC
Input Range (AC-DC)	85-264VAC
Active EMI Filtering	YES
Power (W, max.)	1200
Efficiency (% , typ.)	87
# of outputs	5

OUTPUTS (Total output not to exceed 1200W)	
VS1, V@A	+12@80A
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	YES
Remote Sense	YES
Standard Control	YES, VITA62
Extended Control	YES, PCI SYSTEMS

Designed to meet the following standards, additional circuitry in the chassis may be required	
VITA62, VITA 62.2	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	
- Operating			264	Vrms	Continuous
- Operating Transient Protection			280	Vrms	100ms transient
Isolation Voltage			4240	V	
Operating Temperature	-55		85	C	At thermal rail interface
Storage Temperature	-55		105	C	
Electrical Characteristics					
Input Voltage					
- Continuous	85		264	Vrms	
- Transient	85		280	Vrms	Transient for 100 ms
Under-Voltage Lockout					
- Turn-On Input Voltage Threshold		80		Vrms	

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	+12V	+5V	+3.3V aux	+12V aux	-12V aux	Notes
Output Voltage Set Point, V	12	5	3.3	12	-12	Vin = 115VAC
- Drift -55 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	50	50	40	50	50	Full load with 1 uF + 10 uF tantalum capacitor on each rail
Operating Current Range, A	0-80	0-40	0-20	0-3	0-3	1200W Total, combined Output
Over-Voltage Protection, V	14	6	3.6	14	14	Digital setpoint adjustable
Current Limit Inception, A	85	45	25	4	4	Digital setpoint adjustable
Maximum Output Capacitance, mF	10	10	10	1	1	

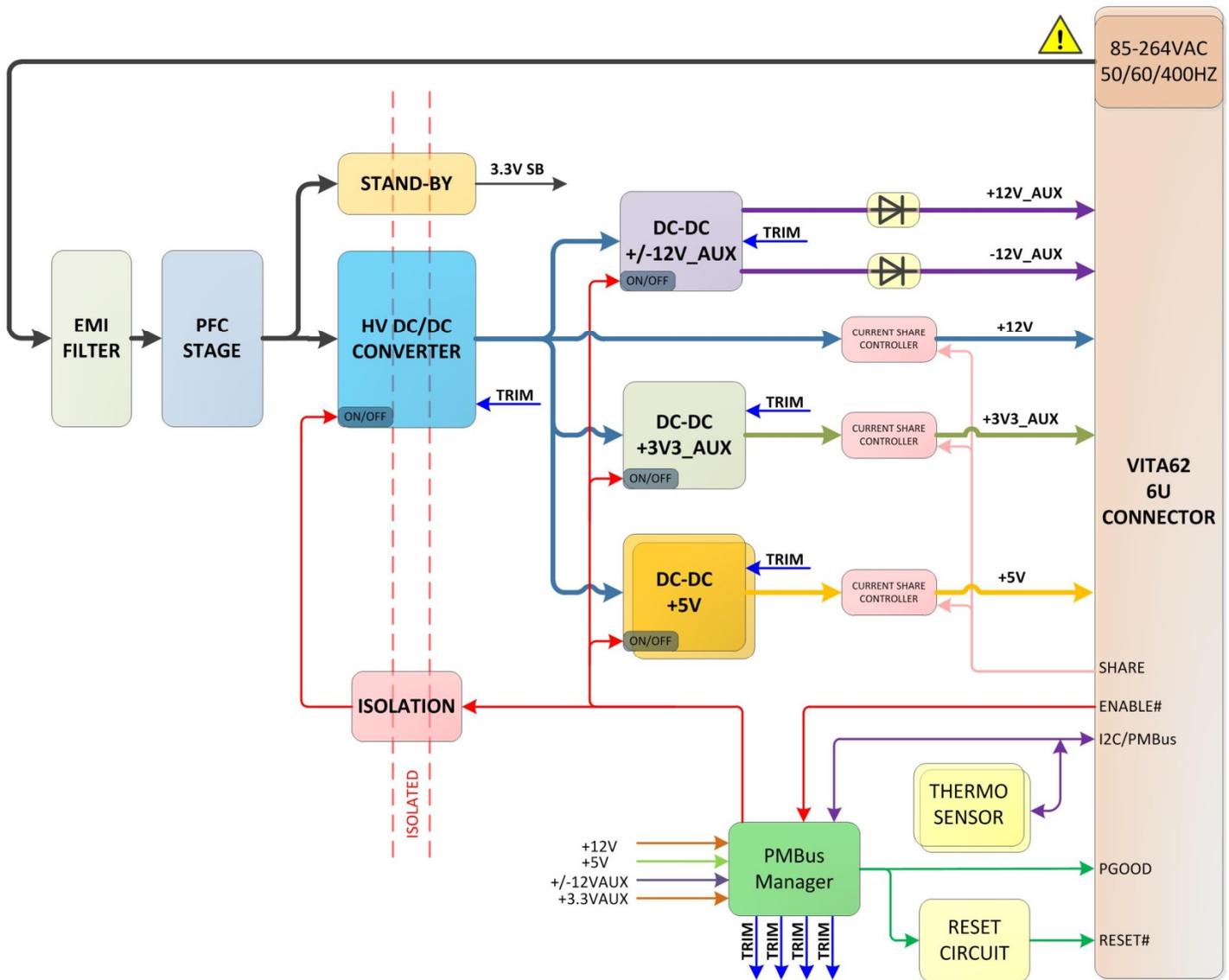
MODULE QUALIFICATION	
Designed to meet the following standards, additional circuitry in the chassis may be required	
Test Name	Method
Random Vibration	MIL-STD-810, 514.6 - Procedure I, Class V3
Shock	MIL-STD-810, 516.6 - Procedure I, VI, Class OS2
Altitude	MIL-STD-810, 500.5 - Procedure I, II, III
Fungus 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.

Power factor is better than 0.99 and at 400 Hz better than 0.95.

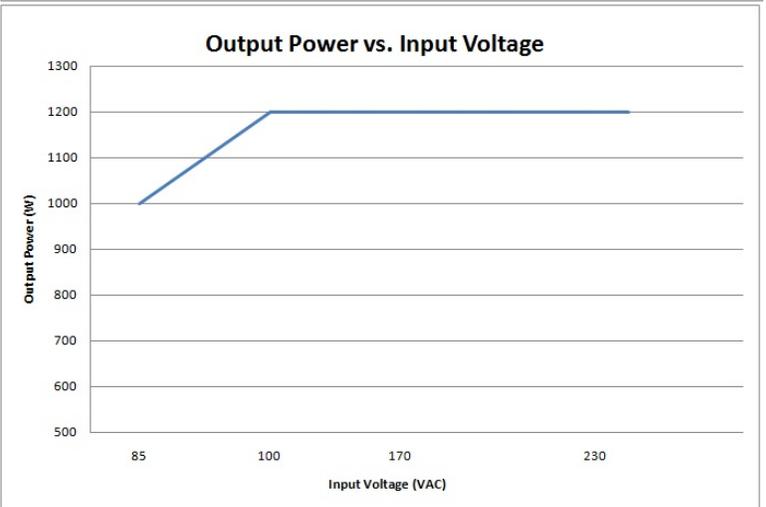
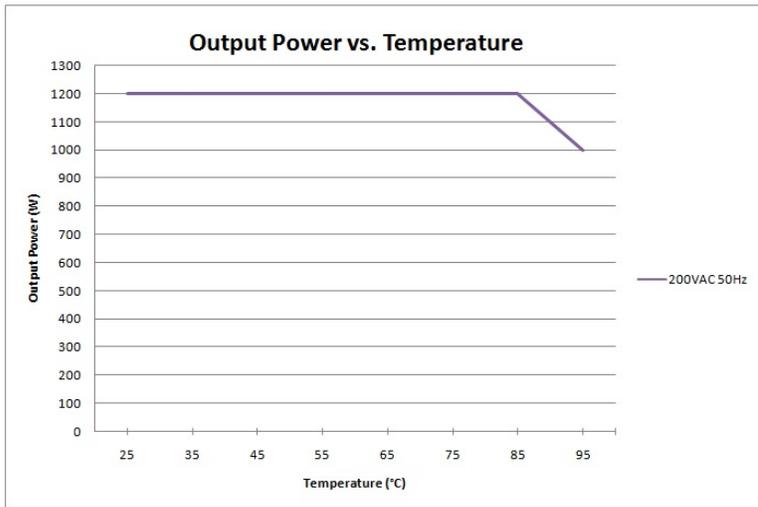
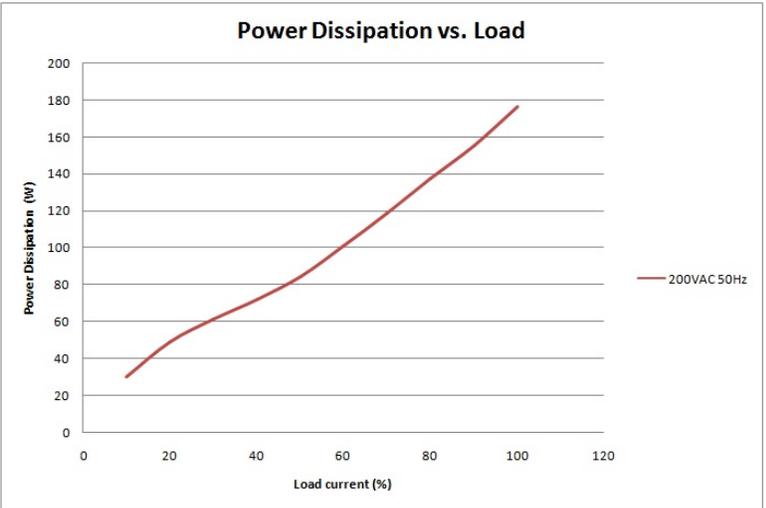
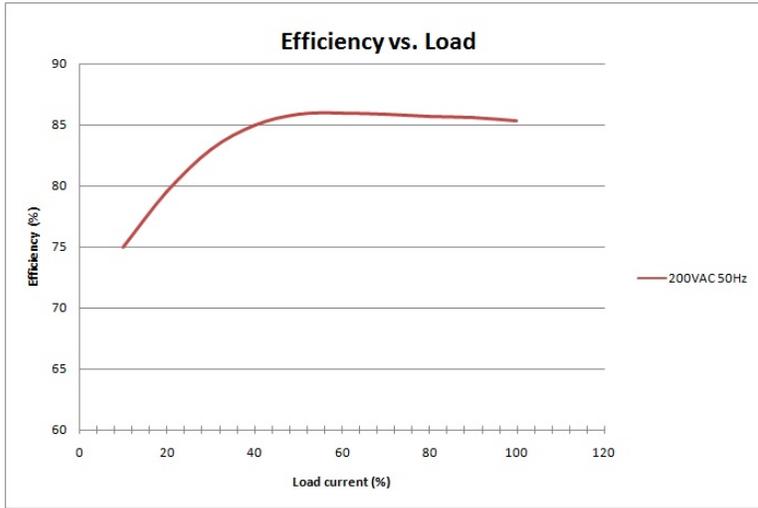
Block Diagram:



P0 Connector		
Pin #	Name	Comment
P7	ACL	AC input
P6	NC	
P5	NC	
P4	ACN	AC input
P3	NC	
P2	NC	
P1	CHASSIS	
P1 Connector		
Pin #	Name	Comment
P10	+12V	
P9	+12V	
A9	+12V_SENSE	
B9	+12V_SENSE	
C9	+5V_SENSE	
D9	UD0	NC
P8	POWER RETURN	
A8	+12V_SENSE_RTN	
B8	+12V_SENSE_RTN	
C8	+5V_SENSE_RTN	
D8	UD1	+3V3AUX_SENSE (Optional)
P7	POWER RETURN	
A7	+12V SHARE	
B7	+12V SHARE	
C7	+5V SHARE	
D7	SIGNAL RETURN	
P6	+5V	
A6	NC	
B6	NC	
C6	-12V_AUX	
D6	SYSRESET*	Open-Collector Reset Output
P5	+5V	
A5	NC	
B5	NC	
C5	SM0	I2C/PMBus Clock
D5	SM1	I2C/PMBusData
P4	POWER RETURN	
A4	NC	
B4	NC	
C4	GA1*	
D4	GA0*	
P3	POWER RETURN	
A3	UD2	+3V3AUX_SENSE_RTN (Optional)
B3	+12V_AUX	
C3	NC	
D3	NC	
P2	+3V3_AUX	
A2	VBAT	Optional
B2	FAIL*	Open-Collector Fail Output
C2	INHIBIT*	
D2	ENABLE*	
P1	POWER RETURN	
A1	UD3	+12V_AUX (Optional)
B1	UD4	+12V_AUX (Optional)
C1	UD5	-12V_AUX (Optional)
D1	UD6	-12V_AUX (Optional)

Mechanical Dimensions: As per VITA 62.2 specification (1.6" pitch)

Characteristic curves:



ORDERING INFORMATION:

PCI_800.316
PCI_800.316.C

6U VITA 62 1200W 85-264VAC 50-60-400Hz intelligent Isolated Rugged Power Supply
Version with Conformal Coating

Release_May_12_2020

