

### Key Features:

- 1 phase 85-264VAC 50/60Hz input
- 3000VDC 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
- 700 Maximum Continuous Power, 87% Typical Efficiency
- Active, DSP controlled, dual interleaved PFC input stage PF better than 0.98
- -40°C to 85°C Operating Temperature
- VITA 62 6U Form Factor
- 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 700W 85-264VAC 50/60Hz POWER SUPPLY

This 6U power supply works with **1 phase 85-264VAC 50/60Hz input** and can be used for input frequencies from **47Hz to 65Hz** 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 **700 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 -40 deg.C and 85 deg C. and output currents, using an integrated 5ppm voltage reference

Overview	
P/N	<b>PCI_800.315</b>
Hold Up time	<b>5 msec</b>
VITA Compliant	<b>VITA62</b>
Size	<b>6U</b>
Temp. Range	<b>-40 +85 C</b>
Input (AC or DC)	<b>AC</b>
Input Range (AC-DC)	<b>85-264VAC</b>
Active EMI Filtering	<b>YES</b>
Power (W, max.)	<b>700</b>
Efficiency (% , typ.)	<b>86</b>
# of outputs	<b>5</b>

OUTPUTS (Total output not to exceed 700W)	
VS1, V@A	<b>+12@50A</b>
VS2, V@A	
VS3, V@A	<b>+5@50A</b>
AUX, V@A	<b>+3.3@20A</b>
AUX, V@A	<b>+12@5A</b>
AUX, V@A	<b>-12@5A</b>

FEATURES	
Over-current Protection	<b>YES</b>
Over-voltage Protection	<b>YES</b>
Over-temperature Protection	<b>YES</b>
Current Sharing	<b>YES</b>
Remote Sense	<b>YES</b>
Standard Control	<b>YES, VITA62</b>
Extended Control	<b>YES, PCI SYSTEMS</b>

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

INPUT CHARACTERISTICS					
Parameter	Min.	Typ.	Max.	Units	Notes
Absolute Maximum Ratings					
<b>Input Voltage</b>					
- Non-Operating			<b>360</b>	Vrms	
- Operating			<b>264</b>	Vrms	Continuous
- Operating Transient Protection			<b>280</b>	Vrms	100ms transient
<b>Isolation Voltage</b>			<b>3000</b>	V	
<b>Operating Temperature</b>	<b>-40</b>		<b>85</b>	C	
<b>Storage Temperature</b>	<b>-55</b>		<b>105</b>	C	
Electrical Characteristics					
<b>Input Voltage</b>					
- Continuous	<b>85</b>		<b>264</b>	Vrms	
- Transient	<b>85</b>		<b>280</b>	Vrms	Transient for 100 ms
<b>Under-Voltage Lockout</b>					
- Turn-On Input Voltage Threshold		<b>80</b>		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

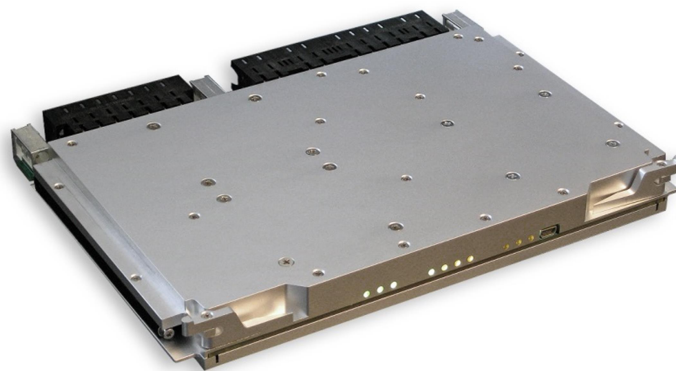
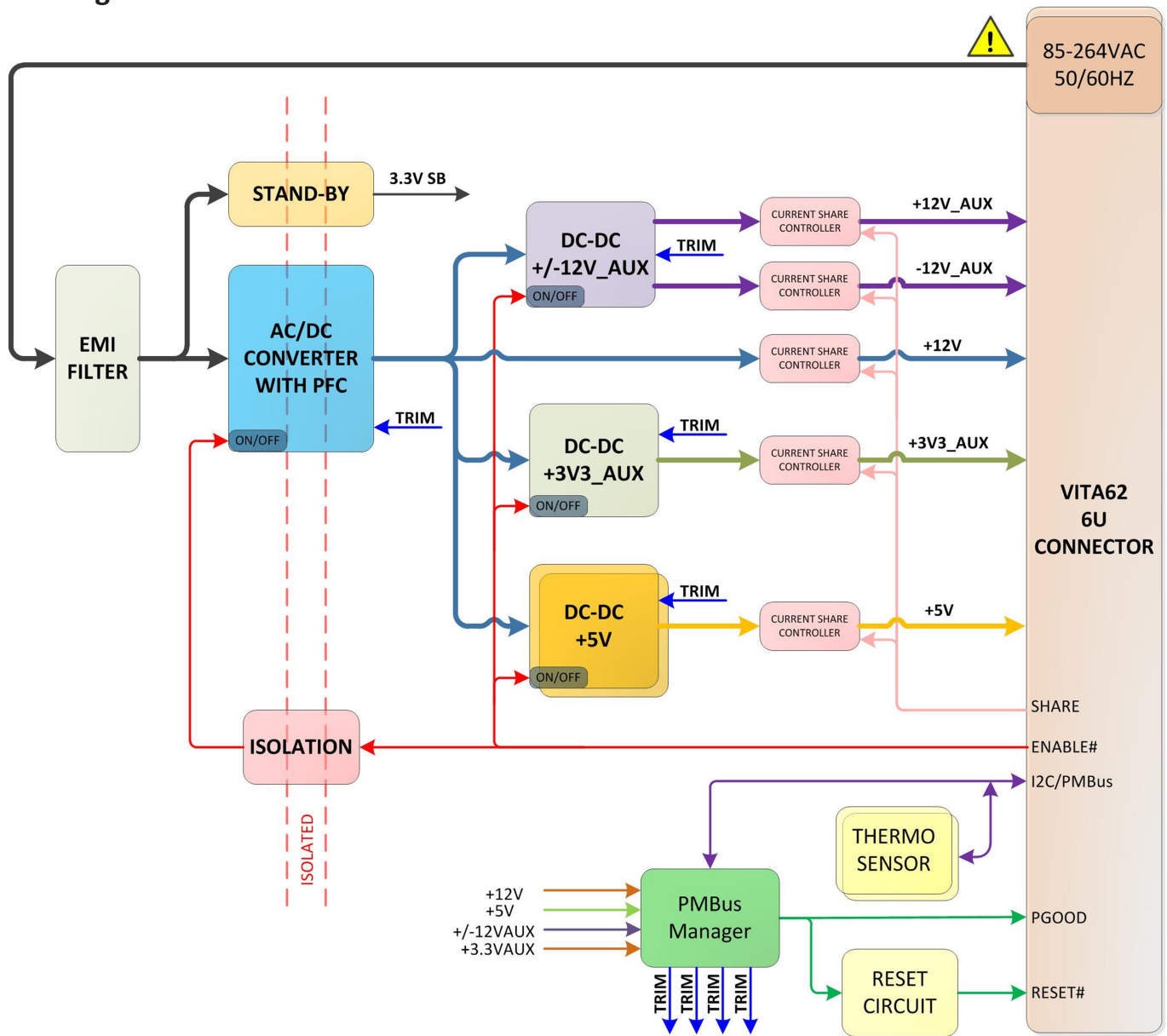
OUTPUT CHARACTERISTICS						
Parameter	+12V	+5V	+3.3V aux	+12V aux	-12V aux	Notes
Output Voltage Set Point, V	12	5	3.3	12	-12	Vin = 115VAC
- Drift -40 deg.C to 85degC +/- %	0.01	0.01	0.01	0.01	0.01	Vin = 115VAC
Output Voltage Trim Range, V	12	5	3.3	12	-12	Over Line/load/temp.
	+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	Over Line/load/temp.
Output Voltage Ripple (pk-pk), mV	80	50	40	80	80	Full load with 1 uF + 10 uF tantalum capacitor on each rail
Operating Current Range, A	0-50	0-50	0-20	0-5	0-5	700W Total, combined Output
Over-Voltage Protection, V	14	6	3.6	14	14	
Current Limit Inception, A	51	51	21	6	6	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.

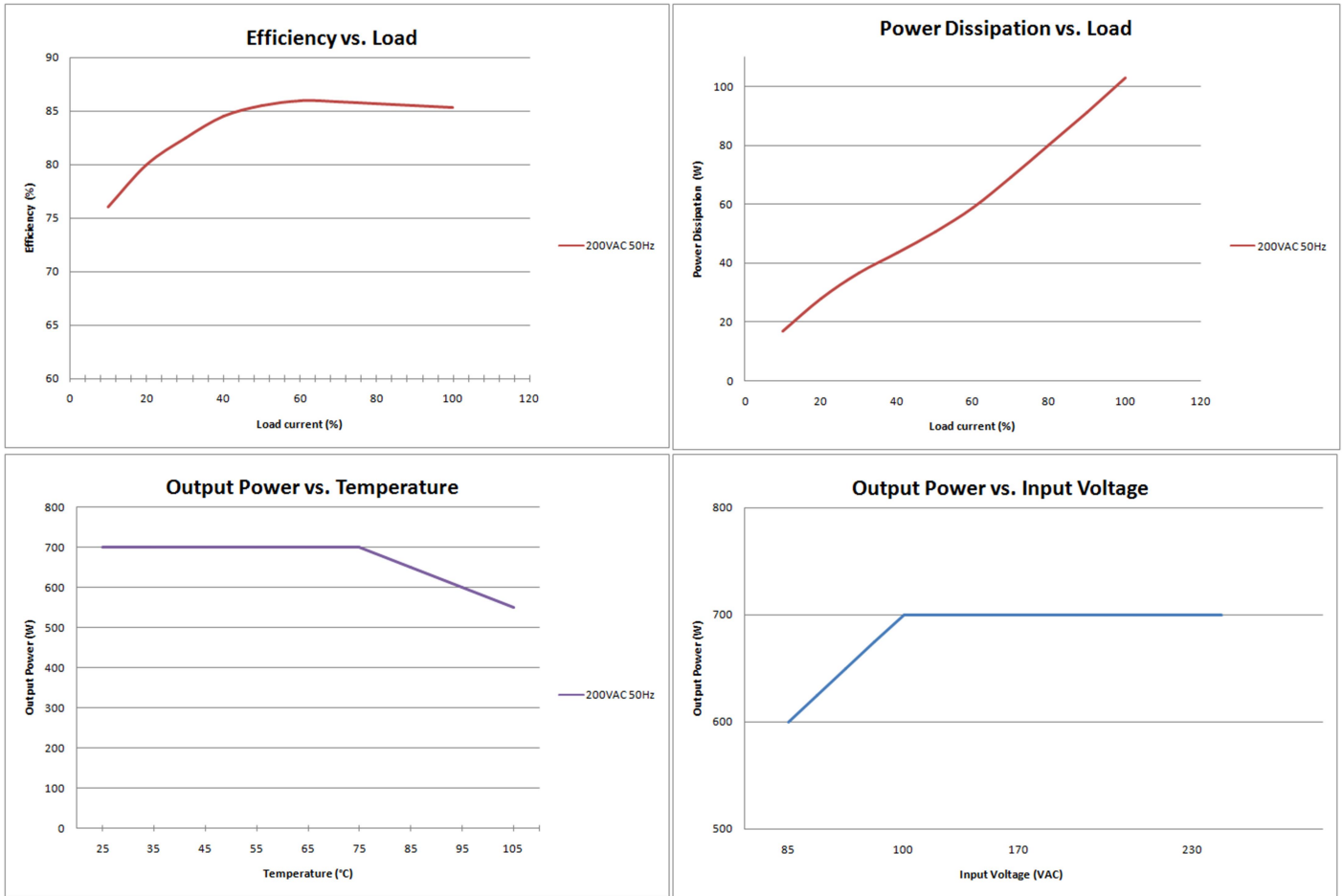
# Block Diagram:



P0 Connector		
Pin #	Name	Comment
P7	ACL	AC input
P6	NC	
P5	NC	
P4	ACN	AC input
P3	NC	+12VAUX (Optional)
P2	NC	-12VAUX_ (Optional)
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/	+12VAUX_SENSE (Optional)
B6	NC/	+12VAUX_SENSE_RTN (Optional)
C6	-12V_AUX	
D6	SYSRESET*	Open-Collector Reset Output
P5	+5V	
A5	GAP*	
B5	NC	
C5	SM0	I2C/PMBus Clock
D5	SM1	I2C/PMBusData
P4	POWER RETURN	
A4	NC/	-12VAUX_SENSE (Optional)
B4	NC/	-12VAUX_SENSE_RTN (Optional)
C4	NC	
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 SHARE(Optional)
C1	UD5	-12V_AUXSHARE (Optional)
D1	UD6	-12V_AUX (Optional)

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\_800.315  
PCI\_800.315.C

6U VITA 62700W 85-264VAC 50-60Hz intelligent Isolated Rugged Power Supply  
Version with Conformal Coating

Release\_September\_06\_2019

