



Key Features:

- **3 phase 115VAC 400Hz** Continuous Input Voltage
- 40msec hold time at 600W
- 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
- -40°C to 85°C Operating Temperature
- VITA 62 6U Form Factor
- Patent pending **FourRail** thermal interface

VITA 62 6U ISOLATED 660W 115VAC 400Hz POWER SUPPLY

This 6U power supply works with **115VAC 3phase input** and can be used for input frequencies from **380Hz to 440Hz** 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**.

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

Overview	
P/N	PCI_800.310
Hold Up time	40ms/600W 30ms at +85 deg C.
VITA Compliant	VITA62
Size	6U
Temp. Range	-40 +85 C
Input (AC or DC)	AC
Input Range (AC)	115
Active EMI Filtering	YES
Power (W, max.)	660
Efficiency (% , typ.)	92
# of outputs	6

OUTPUTS (Total output not to exceed 990W)	
VS1, V@A	+12@20A
VS2, V@A	+12@20A
VS3, V@A	+5@60A
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

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, Vrms			265	V	Continuous
- Operating, Vrms			140	V	Continuous
- Operating Transient Protection, Vrms			300	V	1ms transient
Isolation Voltage			1500	V	
Operating Temperature	-40		85	C	
Storage Temperature	-55		105	C	
Electrical Characteristics					
Input Voltage					
- Continuous, Vrms	100	115	125	V	
- Transient, Vrms	80		180	V	Transient for 10 ms
Under-Voltage Lockout					
- Turn-On Input Voltage Threshold, Vrms	100		105	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	+12V	+5V	+3.3V aux	+12V aux	-12V aux	Notes
Output Voltage Set Point, V	12	12	5	3.3	12	-12	Vin = 115Vrms
- Drift -40 deg.C to 85degC +/- %	0.01	0.01	0.01	0.01	0.01	0.01	Vin = 115Vrms
Output Voltage Trim Range, V	12	12	5	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	80	40	80	80	80	Full load with 1 uF + 10 uF tantalum capacitor
Operating Current Range, A	0-20	0-20	0-60	0-20	0-3	0-3	660W Total, combined Output
Over-Voltage Protection, V	13	13	3.6	13	13	13	
Current Limit Inception, A	22	22	62	22	3.1	3.1	
Maximum Output Capacitance, mF	10	10	10	10	1	1	

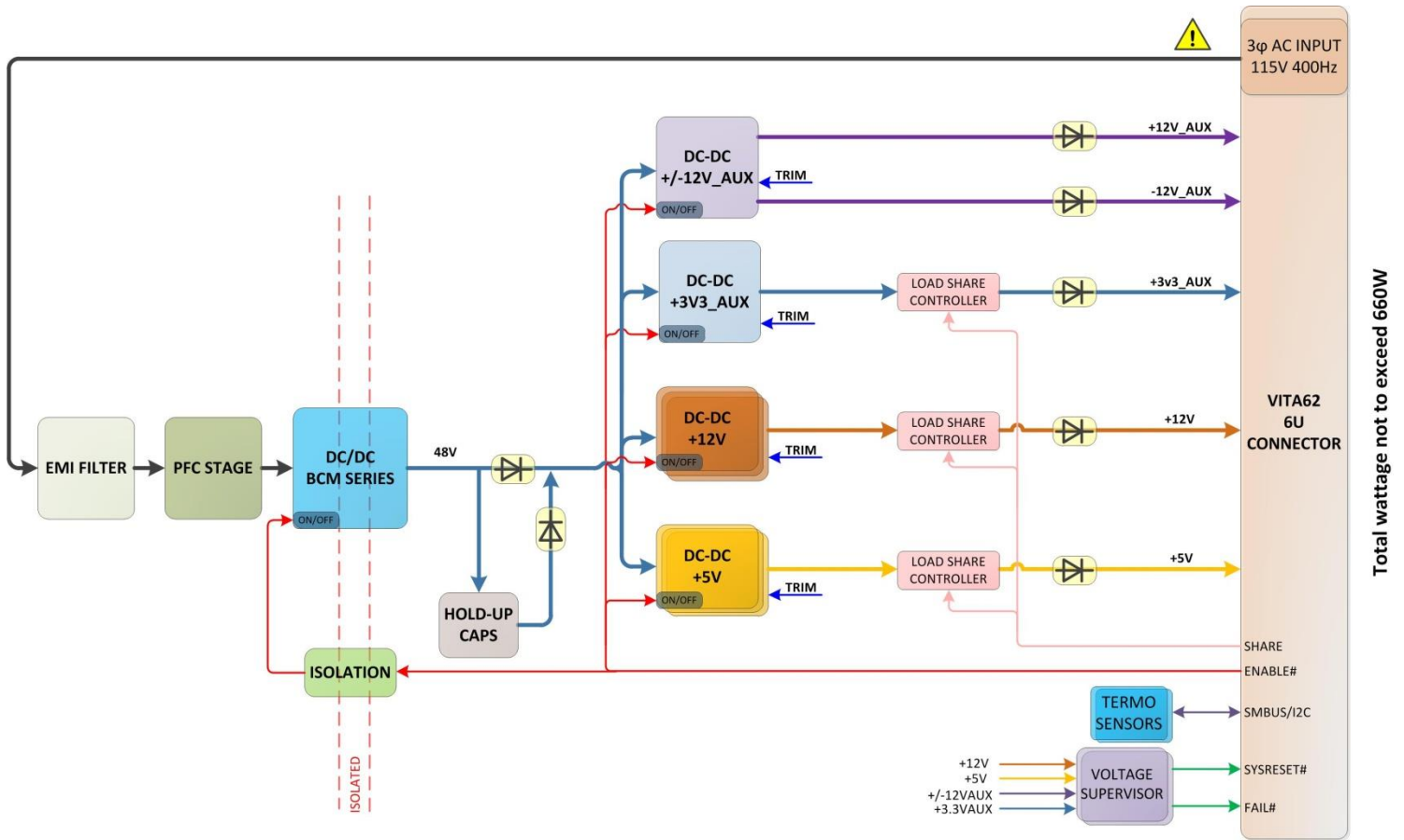
MODULE QUALIFICATION

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 80.000 Hrs.

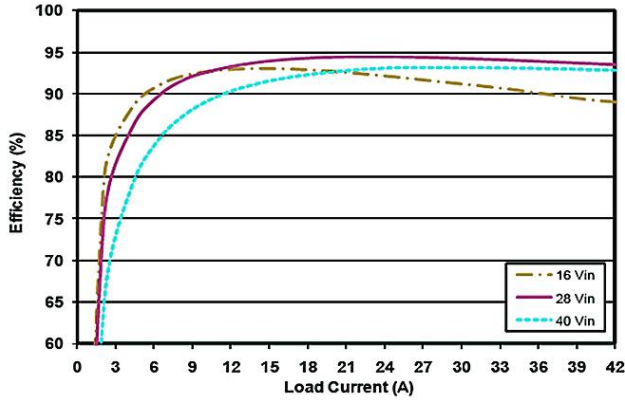
Block Diagram:



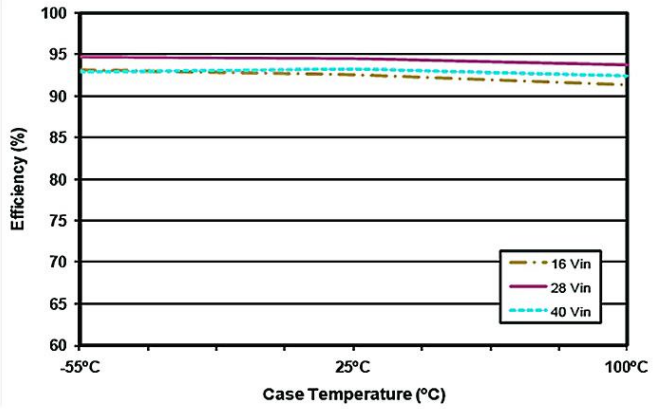
Pin-out: As per VITA 62 specification

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

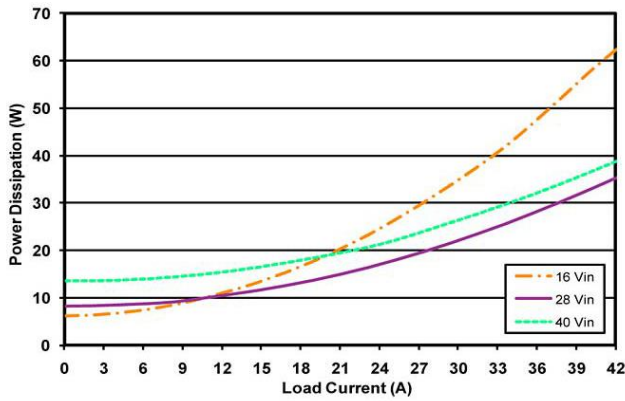
Efficiency for internal DC-DC stages:



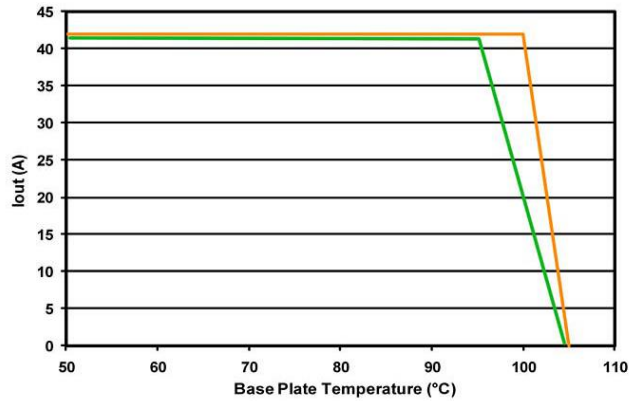
Efficiency at nominal output voltage vs. load current for min, nom, max input V at 25°C



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_800.310
PCI_800.310_C

6U VITA 62 600W 115VAC 380-440Hz Isolated Rugged Power Supply
Version with Conformal Coating

Release_Nov_19_2017