



Key Features:

- 115VAC 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
- 600W Maximum Power
- 92% Typical Efficiency
- -55°C to 95°C Rail Operating Temperature
- VITA 62 3U Form Factor
- VITA 46.11 ready
- Patent pending **FourRail** thermal interface
- **[SMART.PSU]** Technology

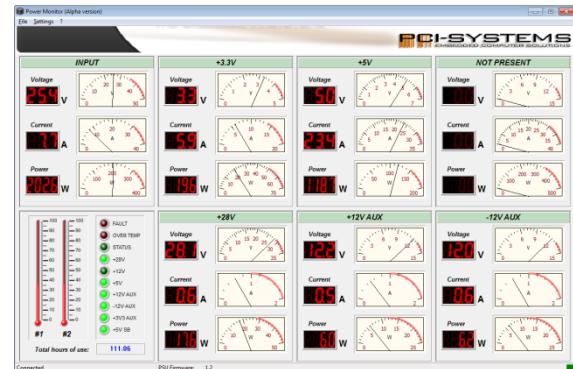
VITA62 3U ISOLATED 600W 85VAC to 150VAC POWER SUPPLY

This 3U power supply works with **85VAC to 150VAC (115VAC nominal)** input voltage at input frequencies from 350Hz to 450Hz 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 **600 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_800.150 |
| Hold Up time | 1ms |
| VITA Compliant | VITA62 |
| Size | 3U |
| Temp. Range | -55 +95 C |
| Input (AC or DC) | AC |
| Input Range (VDC) | 85-150 |
| Active EMI Filtering | YES |
| Power (W, max.) | 600 |
| Efficiency (%), typ. | 92 |
| # of outputs | 6 |

| 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 |

| OUTPUTS (Total output not to exceed 600W) | |
|---|-----------------|
| VS1, V@A | +12@40A |
| VS2, V@A | +3.3@20A |
| VS3, V@A | +5@40A |
| AUX, V@A | +3.3@4A |
| AUX, V@A | +12@1.5A |
| AUX, V@A | -12@1.5A |

| 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 | | 220 | V | Continuous |
| - Operating | -40 | | 150 | V | Continuous- Reverse input Protection |
| - Operating Transient Protection | | | 220 | 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 | | 150 | V | |
| - Transient | 85 | | 220 | V | 220V Transient for 100 ms |
| Under-Voltage Lockout | | | | | |
| - Turn-On Input Voltage Threshold | 105 | 115 | 125 | V | |



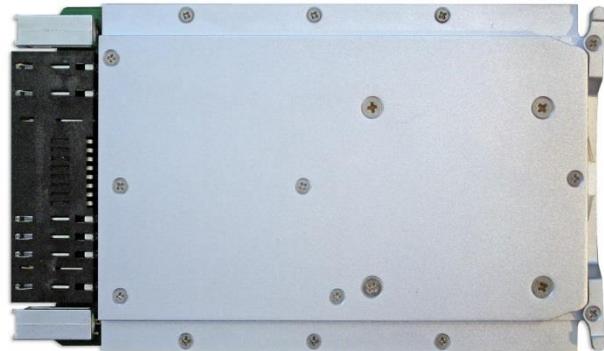
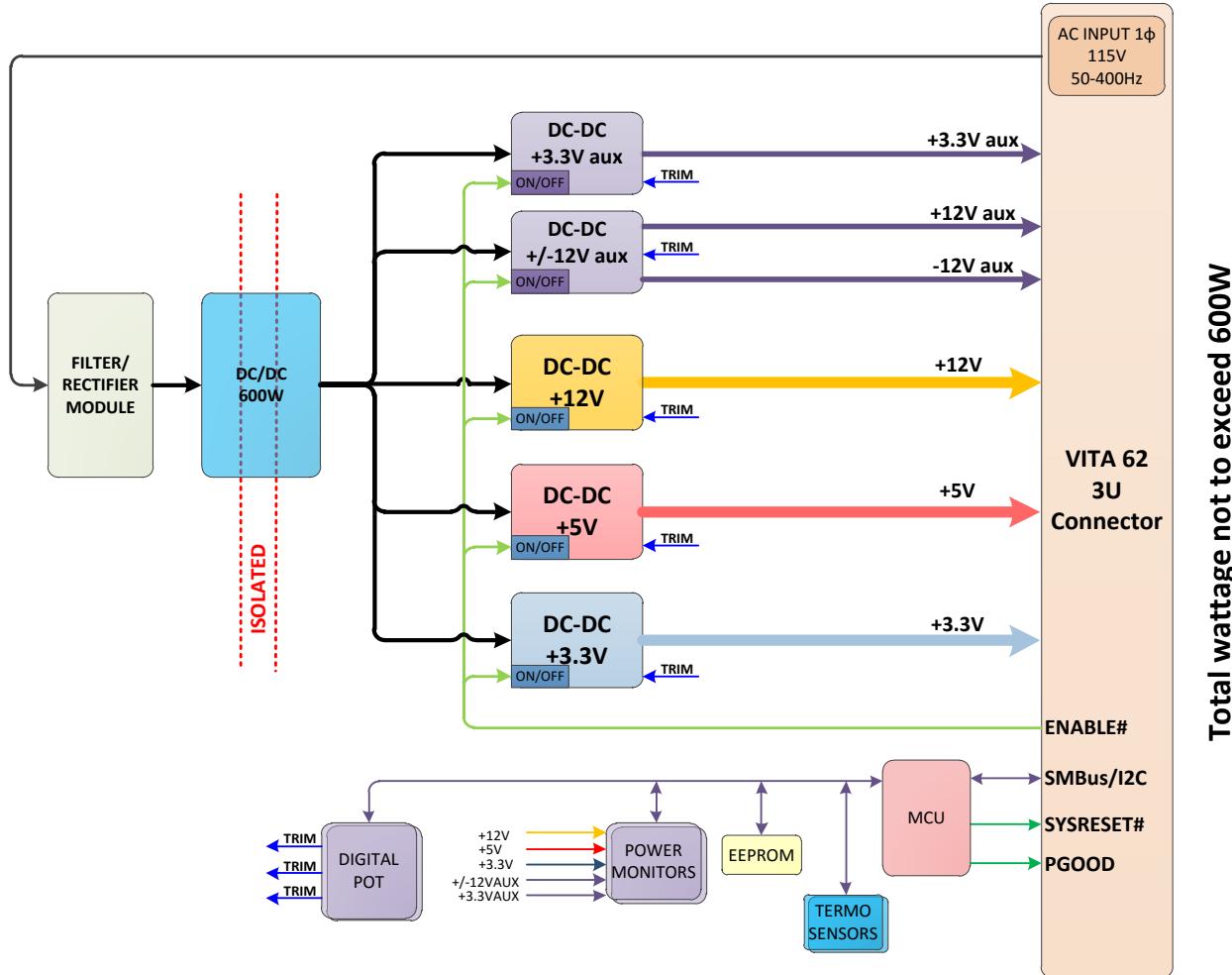
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| INPUT VOLTAGE SPIKES SUPPRESSION (Vin Centered) | | | | | | |
|---|------------------------------------|--|--|--|--|--|
| +/- 250V, 100 us | MIL-STD-1275D | | | | | |
| +/- 200V, 10 us | MIL-STD-461C (CS06); DEF-STAN 61-5 | | | | | |
| +/- 400V, 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 | 0-40 | 0-40 | 0-20 | 0-4 | 0-1.5 | 0-1.5 | 600W Total, combined Output |
| Over-Voltage Protection, V | 13 | 6 | 3.6 | 3.6 | 13 | 13 | |
| Current Limit Inception, A | 42 | 42 | 22 | 5 | 1.7 | 1.7 | |
| Maximum Output Capacitance, mF | 10 | 10 | 10 | 1 | 1 | 1 | |

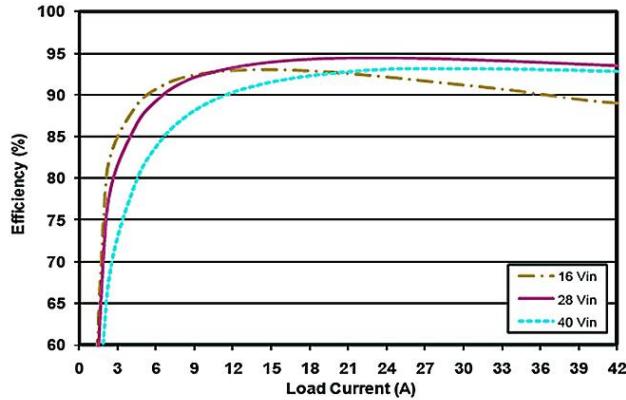
| MODULE QUALIFICATION | |
|-----------------------------|--|
| Test Name | Method |
| Random Vibration | MIL-STD-810, 514.6 - Procedure I, Class V3 |
| Shock | MIL-STD-810, 516.6 - Procedure I, VI, Class OS2 |
| Altitude | MIL-STD-810, 500.5 - Procedure I, II, III |
| Fungus Resistance | MIL-STD-810, 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:

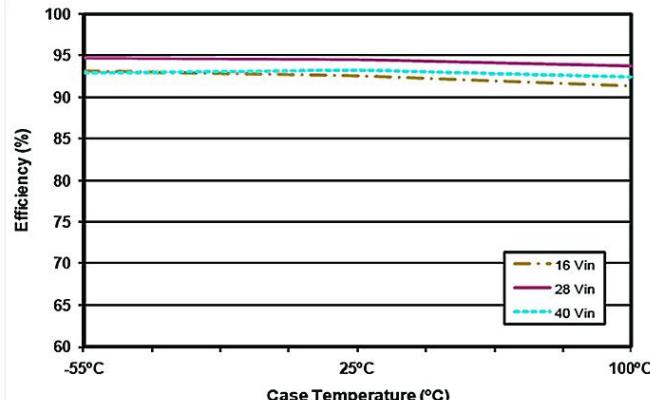


Pinout: As per VITA 62 specification

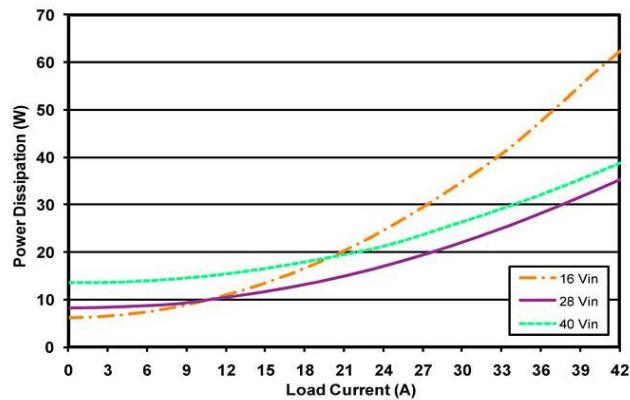
Mechanical Dimensions: As per VITA 62 specification (1" pitch)



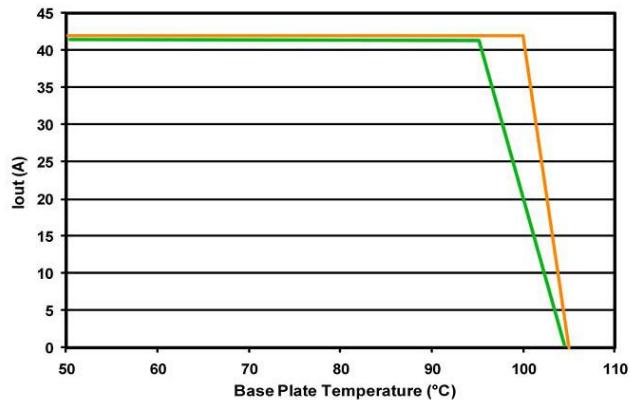
Efficiency at nominal output voltage vs. load current for min, nom, max input V at 25°C



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_800.150
PCI_800.150_C

3U VITA 62 115VAC 600W Isolated Rugged Power Supply
Version with Conformal Coating

Release_Jan_16_2015