

# 3U Conduction cooled VPX PSU

PSU-0313-065



## Key Features:

- 9V – 36V wide Continuous Input Voltage
- 1500V Isolation Between Input /Output
- Active Input EMI Filtering
- Transient look ahead/cut-off technology
- Isolated 3.3V aux, 12V aux and 5V aux standby feature
- 350W Maximum Power
- 95% Typical Efficiency
- -55°C to 95°C Rail Operating Temperature
- VITA 62 3U Form Factor
- SMART Function

## VITA 62 3U ISOLATED 350W 28VDC POWER SUPPLY

This 3U power supply works with **9V to 36 VDC (28VDC nominal) input** voltage 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 **350 watts**. It is suitable for use in **mission critical rugged applications**.

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
- 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
- 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 compensation of all output voltages using integrated 5ppm voltage reference

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Overview	
VITA Compliant	<b>VITA62</b>
Size	<b>3U</b>
Temp. Range	<b>-55 +95 C</b>
Input (AC or DC)	<b>DC</b>
Input Range (VDC)	<b>9-40</b>
Active EMI Filtering	<b>YES</b>
Efficiency (% , typ.)	<b>95</b>
# of outputs	<b>6</b>

FEATURES	
Over-current Protection	<b>YES</b>
Over-voltage Protection	<b>YES</b>
Over-temperature Protection	<b>YES</b>
Current Sharing	<b>VS1, VS2, VS3</b>
Remote Sense	<b>YES</b>
Standard Control	<b>YES, VITA62</b>

OUTPUTS (Total output not to exceed 350W)	
VS1, V@A	<b>+12@10A</b>
VS2, V@A	<b>+3.3@25A</b>
VS3, V@A	<b>+5@30A</b>
AUX, V@A	<b>+3.3@4A</b>
AUX, V@A	<b>+12@1.5A</b>
AUX, V@A	<b>-12@1.5A</b>

COMPLIANCE	
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>-60</b>		<b>60</b>	V	Continuous
- Operating	<b>-40</b>		<b>40</b>	V	Continuous- Reverse input Protection
- Operating Transient Protection			<b>50</b>	V	100ms transient, square wave
<b>Isolation Voltage</b>			<b>1500</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>9</b>		<b>40</b>	V	
- Transient	<b>9</b>		<b>48</b>	V	50V Transient for 100 ms
<b>Under-Voltage Lockout</b>					
- Turn-On Input Voltage Threshold	<b>8.5</b>	<b>9</b>	<b>10</b>	V	

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OUTPUT CHARACTERISTICS							
Parameter	+12V	+5V	+3.3 V	+3.3V aux	+12V aux	-12V aux	Notes
<b>Output Voltage Set Point, V</b>	<b>12</b>	<b>5</b>	<b>3.3</b>	<b>3.3</b>	<b>12</b>	<b>-12</b>	Vin = 28V
<b>- Drift -40 deg.C to 85degC +/- %</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	Vin = 28V
<b>Output Voltage Trim Range, V</b>	<b>12</b>	<b>5</b>	<b>3.3</b>	<b>3.3</b>	<b>12</b>	<b>-12</b>	Over Line/load/temp.
	<b>+/- 10%</b>	<b>+/- 10%</b>	<b>+/- 10%</b>	<b>+/- 10%</b>	<b>+/- 10%</b>	<b>+/- 10%</b>	Over Line/load/temp.
<b>Output Voltage Ripple (pk-pk), mV</b>	<b>80</b>	<b>50</b>	<b>40</b>	<b>40</b>	<b>80</b>	<b>80</b>	Full load with 1 uF + 10 uF tantalum capacitor
<b>Operating Current Range, A</b>	<b>0-40</b>	<b>0-40</b>	<b>0-20</b>	<b>0-4</b>	<b>0-1.5</b>	<b>0-1.5</b>	
<b>Over-Voltage Protection, V</b>	<b>13</b>	<b>6</b>	<b>3.6</b>	<b>3.6</b>	<b>13</b>	<b>13</b>	
<b>Current Limit Inception, A</b>	<b>42</b>	<b>42</b>	<b>22</b>	<b>5</b>	<b>1.7</b>	<b>1.7</b>	
<b>Maximum Output Capacitance, mF</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>1</b>	

## Block Diagram:

