

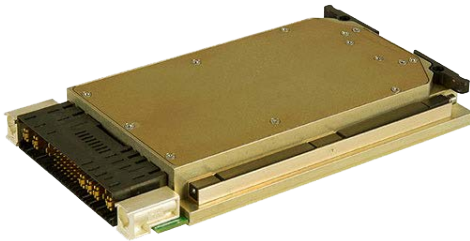


# VPX DC/DC POWER SUPPLY

DPM4465 SERIES

## DPM4465 SERIES

*DC/DC POWER SUPPLY*



### PRODUCT HIGHLIGHTS

- VITA 62 COMPLIANT
- 3U VPX FORM FACTOR
- DC/DC CONVERTER
- 6 OUTPUTS
- 600W (700W PEAK)
- Input Options:
  - MIL-STD-704
  - MIL-STD-1275
  - DEF-STAN 61-5
- Cyber secure

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Ver. 1.0

## Special Features

- VITA 62 compliant
- Wide input range
- Remote sense
- Fixed switching frequency (250kHz)
- External synchronization capability
- Indefinite short circuit Protection
- Over-voltage shutdown with auto-recovery
- Reverse battery protection
- Over temperature shutdown with auto-recovery
- EMI filters included
- IPMI communication

## Electrical Specifications

### DC Input

18 to 48 V<sub>DC</sub>

Max Non-Operating 100V

Options:

- 1) MIL-STD-704 (A-F) Normal and Abnormal Steady State
- 2) MIL-STD-704(A-F) transients Up to 50V, 80V.
- 3) MIL-STD-704(A-F) Transients Under 18V and Starting transients.
- 4) MIL-STD-1275 Surges
- 5) Def Stan 61-5 170V Load Dump

### DC Output

VS1: 12V up to 30A

VS2: 3.3V up to 20A

VS3: 5V up to 30A

12V\_Aux: 12V up to 1A

-12V\_Aux: -12V up to 1A

3.3V\_Aux: 3.3V up to 5A

### Efficiency

Up to 88%

85.5 % @ Full Load

(See Para. 4)

Typical 84% at 1275E configuration

### Isolation

Over 20 MΩ at test voltage:

200V between Input and Output

200V between Input and Case

100V between Output and Case

### EMC

Complies with MIL-STD-461F (5μH LISN): CE101, CE102, CS101, CS114, CS115, CS116

### Line/Load regulation

See table 2 on page 7

### Ripple and Noise

Typically, less than 50mV<sub>p-p</sub> (max. 1%<sub>p</sub>). Measured across a 0.1μF capacitor and 10μF capacitor on load at Input Voltage of 18V-36V, all Temperature Range.

### Load Transient Overshoot and Undershoot

Output dynamic response of less than 5% at load Step of 30%-60%. Output returns to regulation in less than 1mSec

### Communication

I2C protocol available for voltages, currents and temperature for all positive voltages (GAX, SCL, SDA)

## About Digital Power

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## **Environmental**<sup>1</sup>

Design to Meet MIL-STD-810G

### **Temperature**

Operating: -55 °C to +85 °C  
at unit edge  
Storage: -55 °C to +125 °C

### **Altitude**

Method 500.5, Procedure I & II  
Storage/Air Transport: 40 kft  
Operation/Air carriage: 70 kft

### **Salt Fog:**

Method 509.5

### **Fungus**

Does not support fungus growth, in accordance with the guidelines of MIL-STD-454, Requirement 4.

### **Humidity**

Method 507.5, Up to 95% RH

### **Shock**

Method 516.6  
40g, 11msec saw-tooth  
(all directions)

### **Vibration**

Vibration: Figure 514.6E-1. General minimum integrity exposure. (1 hour per axis.)

**Reliability: 308,000 Hours, calculated IAW MIL-HDBK-217F Notice 2 at +65 °C, GF.**

Note 1: **Environmental Stress Screening (ESS)** Including random vibration and thermal cycles is also available. **Please consult factory for details.**

## **Protections**<sup>‡</sup>

### **Input**

**Input Reverse Polarity:**  
Protection for unlimited time

**Inrush Current Limiter**  
Peak value of  $5 \times I_{IN}$  for initial inrush currents lasting more than 50  $\mu$ Sec.

**Under Voltage**  
Unit shuts down when input voltage drops below  $17 \pm 0.5$ VDC.  
Automatic restart when input voltage returns to nominal range.

**Over Voltage Lock-Out**  
Unit shuts down when input steady state voltage rise above  $55 \pm 2$ VDC.  
Automatic restart when input voltage returns to nominal range.

### **Output**

**Passive over voltage protection on Aux outputs**  
Zener selected at  $25\% \pm 5\%$  above nominal voltage, is placed across the output for passive voltage limit.

**Active over voltage protection on VS# outputs**  
 $20\% \pm 5\%$  above nominal voltage.  
Automatic recovery when output voltage drops below threshold.

**Overload / Short-Circuit Protection**  
Continuous Hiccup protection (110-130%) for VS#.  
Aux Typical:  
3.3Vaux / 8A  
12Vaux. 1.5A-2A  
-12Vaux. 2.5A-3A

### **General**

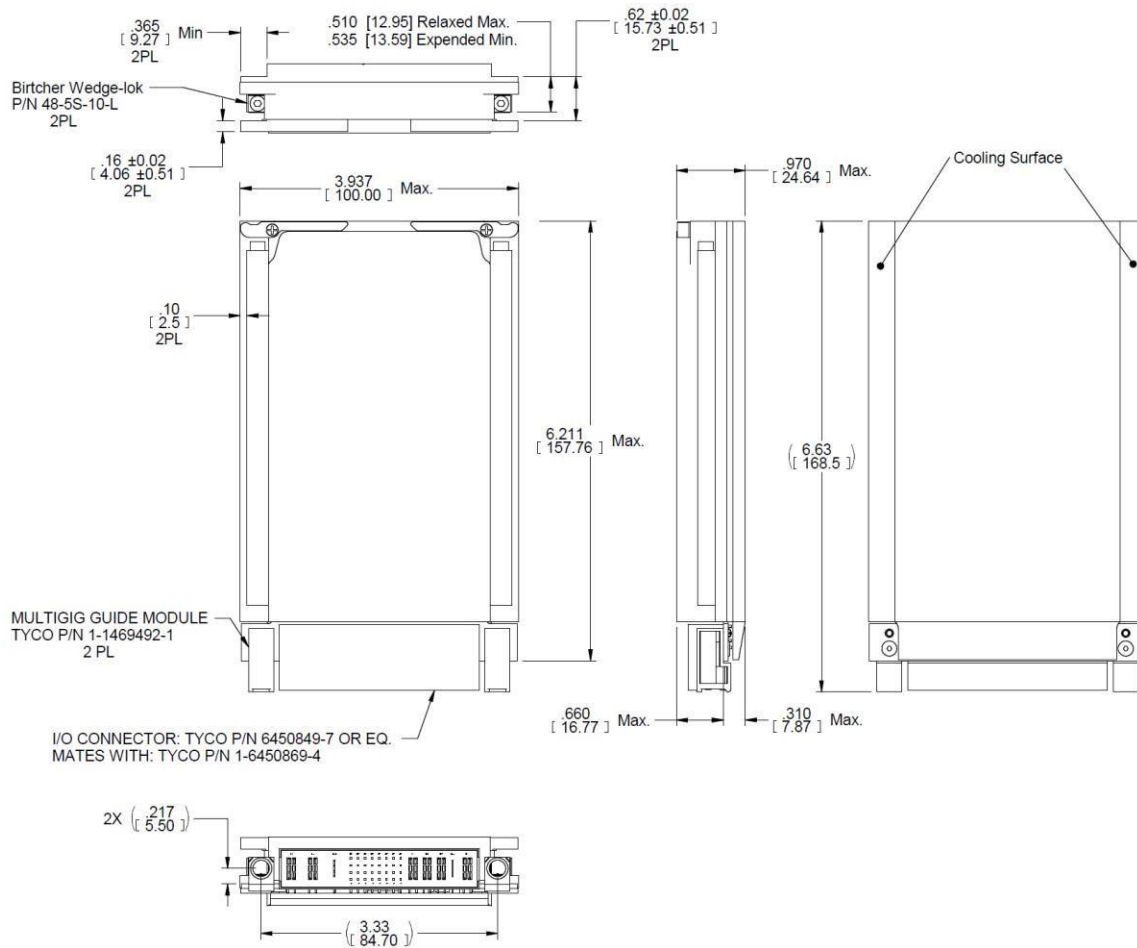
**Over Temperature Protection**  
Automatic shutdown at temperature of  $95 \pm 5$  °C (at unit edge)  
Automatic recovery when temperature drops below  $90 \pm 5$  °C.

**Note 1: Thresholds and protections can be modified / removed (please consult factory)**

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## Outline Drawing



### Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:  
 $.XX \pm 0.02$  IN  
 $.XXX \pm 0.008$  IN
3. Weight: Approx. 796 g (28.08) oz
4. 3D model available

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