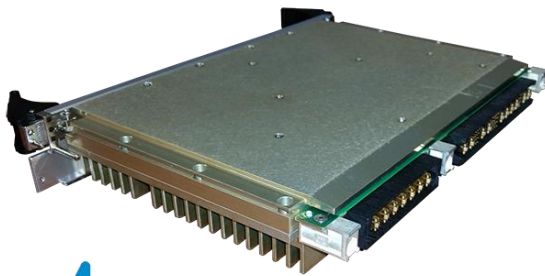


M4468 SERIES

DC/DC POWER SUPPLY



MIL VPX

PRODUCT HIGHLIGHTS

- 6U VPX VITA 62 COMPLIANT
- HIGH DENSITY
- SIX OUTPUTS
- HEATSINK INCLUDED
- UP TO 900W

<p>Applications</p> <p>Military (Airborne, ground-fix, shipboard), Ruggedized, Telecom, Industrial</p>											
<p>Special Features</p> <ul style="list-style-type: none"> • VITA 62 standard compliant • High power – up to 900W cont. • High density – up to 18W/in³ • High efficiency – up to 90% • Wide input voltage range • Input / Output isolation • Remote sense (@ PO# outputs) • External On/Off Inhibit • External On/Off Enable • Fixed switching freq. (250 kHz) • External sync. capability • EMI filters included • I²C communication • PO# outputs parallelable • Indefinite short-circuit protection with auto-recovery • Over-voltage protection • Over-temperature shutdown with auto-recovery • Reverse input protection • Conduction cooled via card edge 											
<p>Electrical Specifications</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top; padding: 5px;"> <p>DC Input</p> <ul style="list-style-type: none"> • Steady-State: 18 to 36 V_{DC} • Operates through over-voltage transients IAW MIL-STD-704(A-F) and MIL-STD-1275(A-D) • No damage due to transients IAW MIL-STD-704(A-F) and MIL-STD-1275(A-D) </td> <td style="width: 33%; vertical-align: top; padding: 5px;"> <p>DC Output*</p> <p>PO1: 12 V up to 40 A PO2: 12 V up to 40 A PO3: 5 V up to 12 A +12V_Aux: +12 V up to 1 A -12V_Aux: -12 V up to 1 A 3.3V_Aux: 3.3 V up to 12 A</p> </td> <td style="width: 33%; vertical-align: top; padding: 5px;"> <p>Isolation</p> <p>Input to Output: 200 V_{DC} Input to Case: 200 V_{DC} Output to Case: 100 V_{DC}</p> </td> </tr> <tr> <td style="vertical-align: top; padding: 5px;"> <p>Line/Load regulation</p> <p>Up to ±1% (Low to high input line voltage, no load to full load, -55 °C to +85 °C).</p> </td> <td style="vertical-align: top; padding: 5px;"> <p>Efficiency</p> <p>88% - Typical (Nominal line voltage, full loads, room temperature)</p> </td> <td style="vertical-align: top; padding: 5px;"> <p>EMC</p> <p>Designed to meet MIL-STD-461F (/w 5μH LISN): CE101, CE102, CS101</p> </td> </tr> <tr> <td style="vertical-align: top; padding: 5px;"> <p>Ripple and Noise</p> <p>Typically less than 50 mV_{p-p} (max. 100 mV_{p-p}), measured across a 0.1 μF capacitor, with 10 μF capacitor across load.</p> </td> <td style="vertical-align: top; padding: 5px;"> <p>Load Transient Overshoot and Undershoot</p> <p>Output dynamic response of less than 5% at load Step of 30%-90%. Output returns to regulation in less than 1 ms</p> </td> <td style="vertical-align: top; padding: 5px;"> <p>Communication</p> <p>I²C protocol available for voltages, currents and temperature for all positive voltages (GAX, SCL, SDA)</p> </td> </tr> </table>			<p>DC Input</p> <ul style="list-style-type: none"> • Steady-State: 18 to 36 V_{DC} • Operates through over-voltage transients IAW MIL-STD-704(A-F) and MIL-STD-1275(A-D) • No damage due to transients IAW MIL-STD-704(A-F) and MIL-STD-1275(A-D) 	<p>DC Output*</p> <p>PO1: 12 V up to 40 A PO2: 12 V up to 40 A PO3: 5 V up to 12 A +12V_Aux: +12 V up to 1 A -12V_Aux: -12 V up to 1 A 3.3V_Aux: 3.3 V up to 12 A</p>	<p>Isolation</p> <p>Input to Output: 200 V_{DC} Input to Case: 200 V_{DC} Output to Case: 100 V_{DC}</p>	<p>Line/Load regulation</p> <p>Up to ±1% (Low to high input line voltage, no load to full load, -55 °C to +85 °C).</p>	<p>Efficiency</p> <p>88% - Typical (Nominal line voltage, full loads, room temperature)</p>	<p>EMC</p> <p>Designed to meet MIL-STD-461F (/w 5μH LISN): CE101, CE102, CS101</p>	<p>Ripple and Noise</p> <p>Typically less than 50 mV_{p-p} (max. 100 mV_{p-p}), measured across a 0.1 μF capacitor, with 10 μF capacitor across load.</p>	<p>Load Transient Overshoot and Undershoot</p> <p>Output dynamic response of less than 5% at load Step of 30%-90%. Output returns to regulation in less than 1 ms</p>	<p>Communication</p> <p>I²C protocol available for voltages, currents and temperature for all positive voltages (GAX, SCL, SDA)</p>
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* All PO# outputs have remote sense lines for voltage drop compensation and current share ability

M4468 SERIES VPX VITA 62 POWER SUPPLY

Protections *

Input

- **Reverse Polarity Protection**
Protection for unlimited time, up to $-48 V_{DC}$.
- **Under-Voltage Lockout**
Unit shuts down if input voltage drops below $16.5 \pm 1 V$.
Automatic restart when input voltage rises above $19 \pm 1 V$.
Minimum hysteresis: 2 V.
- **Over-Voltage Lockout**
Unit shuts down if input voltage rises above $55 \pm 2 V$.
Automatic restart when input voltage falls below $38 \pm 2 V$.
Lockout is delayed by at least 100ms from the onset of the over-voltage state, to allow operation through normal transients, per MIL-STD-704 and MIL-STD-1275.

Output

- **Over-Voltage Protection**
- **Overload / Short-Circuit Protection**
Continuous protection (10-30% above maximum current) for unlimited time (Hiccup).
Automatic recovery when overload/short-circuit removed.

General

- **Over Temperature Protection**
Automatic shutdown in case internal temperature (communicated via I^2C) rises above $105 \pm 5 ^\circ C$.
Operation *guaranteed* at card edge temperature up to $+85 ^\circ C$ under full load conditions.

Environmental Conditions

Designed to meet MIL-STD-810G

Temperature

Operating: $-55 ^\circ C$ to $+85 ^\circ C$ at unit edge (consult factory)
Storage: $-55 ^\circ C$ to $+125 ^\circ C$

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
40 g, 11 ms saw-tooth (all directions)

Vibration

Shock: Saw-tooth, 20 g peak, 11 ms.

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

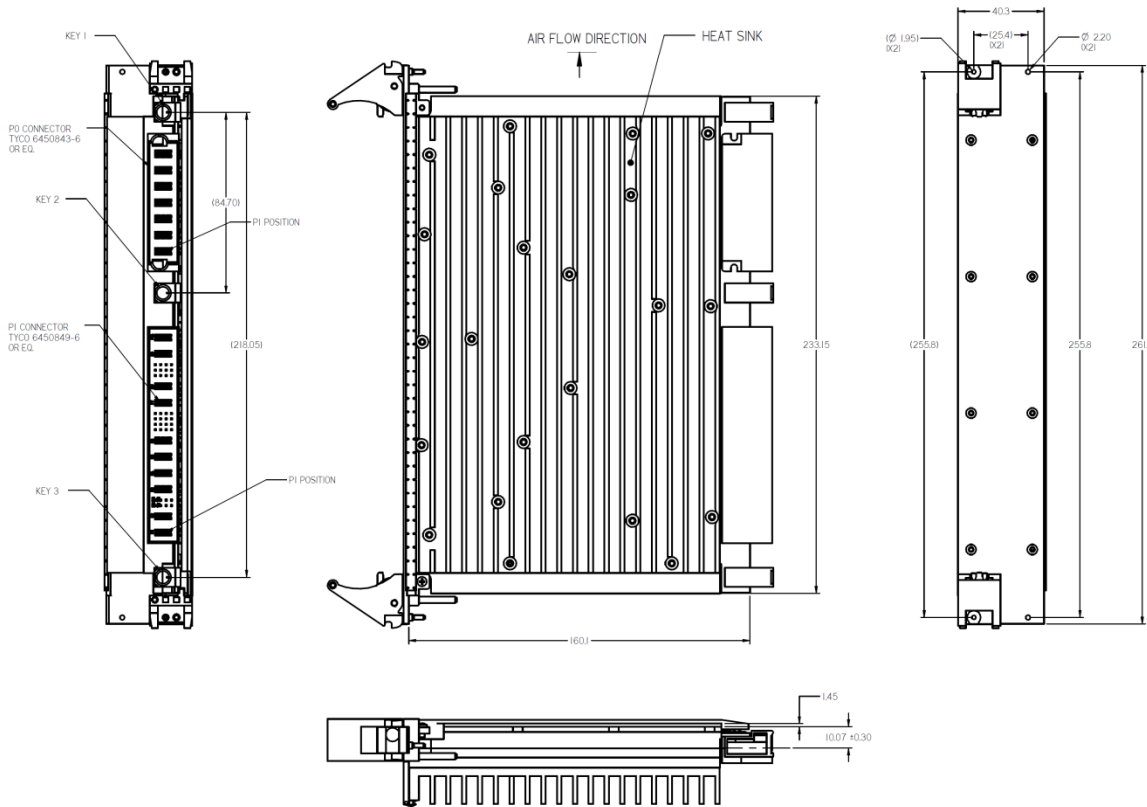
Environmental Stress Screening (ESS)

Including random vibration and thermal cycles is also available. **Please consult factory for details.**

* Thresholds and protections can be modified / removed – please consult factory.

M4468 SERIES VPX VITA 62 POWER SUPPLY

Outline Drawing



Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:
 .XX ± 0.01 IN
 .XXX ± 0.005 IN
3. Weight: Approx. 3 lbs (1.36 kg)

Note: Specifications are subject to change without prior notice by the manufacturer.