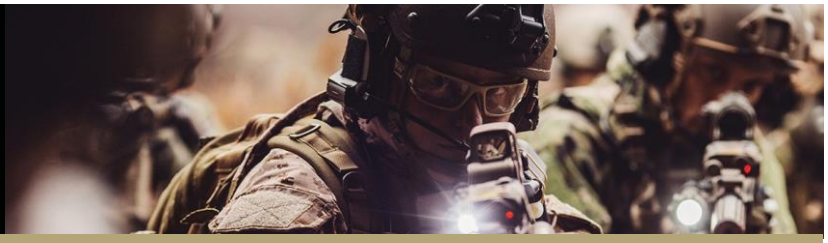
MILPOWER SOURCE | VPX Power products



# M4094 Series

## DC/DC VPX Power Supply
## 3U Form Factor 270VDC (Up to) 800W

The M4094 is a high performance, rugged VPX Power Supply specifically designed for defense applications and other extreme environments.

With special features such as fixed switching frequency (250 kHz), external synchronization capability, indefinite short circuit protection, over-voltage and over-temperature shutdown with auto recovery, reverse battery protection, remote sense, Active and Passive current sharing options, and a wide input range.

The M4054 is designed to meet MIL-STD 704 (A-F) and is EMI Compliant to MIL-STD 810G.

This solution will withstand working temperatures of -55C to +85C and storage temperatures of -55C to +125C. With an MTBF of 375,135 hours (calculated IAW MIL-HDBK 217F Notice 2 at +65C, GF)

The M4094 steady state operation voltage is 18V to 48V and will continuously work up to 50V/80V Input line. This solution is VITA 62.2 compliant as well as aligned with SOSA standards in mind.

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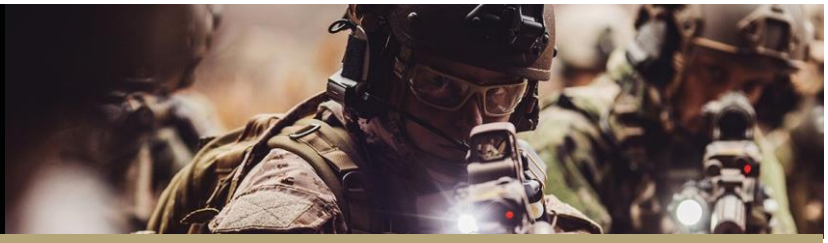
Ask us about our complete line of power and networking products.
7 Field Lane • Belmont, NH 03220 • 1.603.267.8865
sales@milpower.com • www.milpower.com

## Special Features

| | |
|---|---|
| **SPECIAL FEATURES**: | • Vita 62 Compliant<br>• Aligned with the SOSA Technical Standard<br>• Wide Input Range<br>• Up to 800W Output Power<br>• Remote Sense<br>• Fixed Switching Frequency (220 kHz)<br>• External Synchronization Capability<br>• Indefinite Short Circuit Protection<br>• Over-Voltage Shutdown with Auto-Recovery<br>• Reverse Battery Protection<br>• Over Temperature Shutdown with Auto-Recovery<br>• EMI Filters Included<br>• System Management: Protocol per VITA 46.11 Tier II<br>- Output Voltage and Currents<br>- Input Voltage<br>- Card Temperature<br>- Card System Status |



## SPECIFICATIONS

| | |
|---|---|
| DC Input | • 270 VDC<br>• MIL-STD-704 (A-F) Normal and Abnormal Steady State<br>• MIL-STD-704(A-F) transients Up to 50V, 80v<br>• MIL-STD-704(A-F) Transients Under 18V and Starting transient<br>• MIL-STD-1275 Surges |
| DC Output | • PO1 & PO3 (VS1): 12V up to 64A<br>• PO2 (3.3VAux): 3.3V up to 15A |
| Isolation | • Over 20 MΩ at test voltage:<br>• 500V between Input and Output<br>• 500V between Input and Case<br>• 100V between Output and Case |
| Current Sharing | • Active and Passive Current Sharing options available |
| Efficiency | • Up to 91% |
| EMC | • Designed to Meet:<br>• MIL STD-810G / MIL STD-461G<br>• CE101, CE102, CS101, CS114, CS115, CS116 |
| System Management Options | • I2C<br>• Custom IPMI<br>• VITA 46.11 Tier II IPMC |

# ADDITIONAL DETAILS ON CURRENT SHARING

## Current Share (C.S)

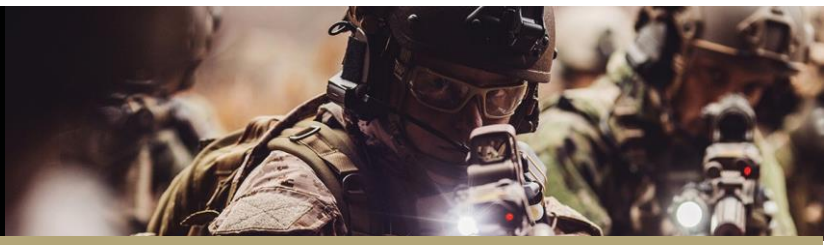
Current Share of two or more units is optional (Contact Factory)
Unit can support parallel configuration of two units.
VS1 & VS2 and Aux will current share with about 5%-10% load balance.
The unit can support two methods of current sharing:

### Passive current sharing (P.C.S)

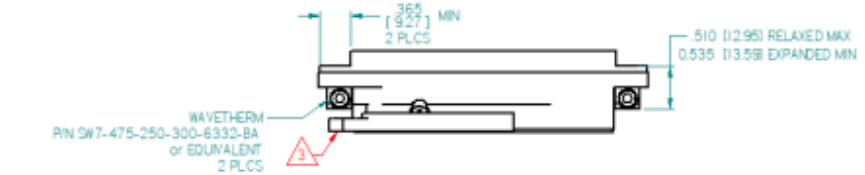
Current sharing is done in open loop, output voltage drops as function of output load.
Load balance of about 5%-10% is expected.

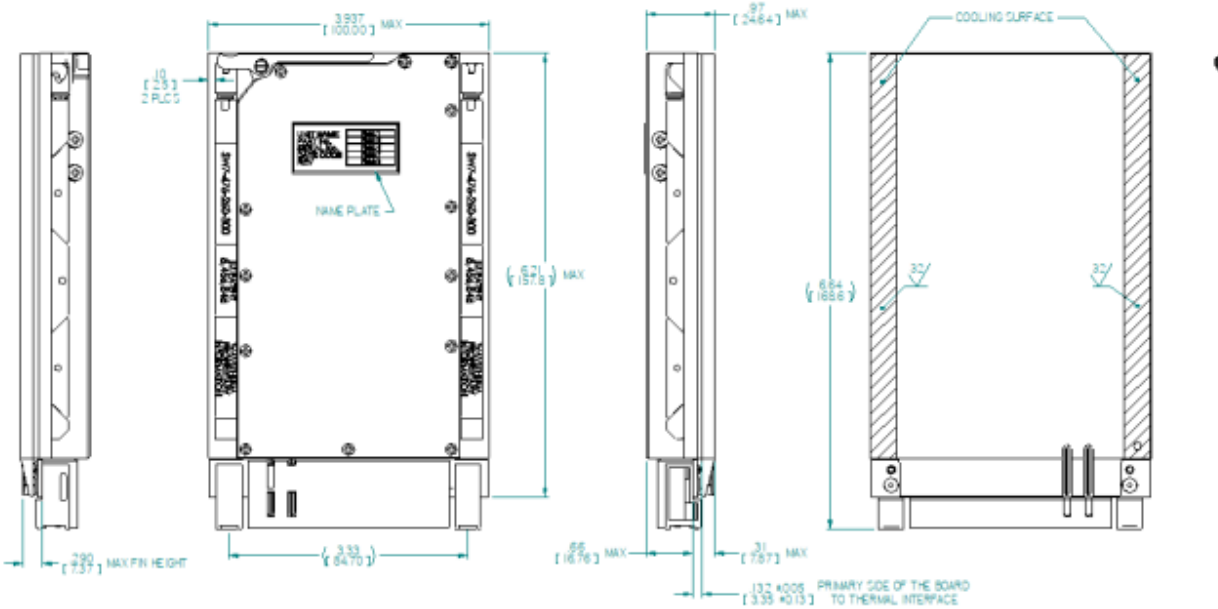
### Active Current Sharing (A.C.S)

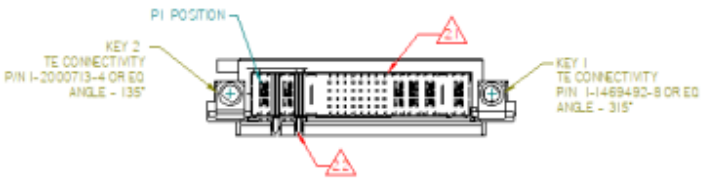
Current sharing is done in a close loop. All paralleled outputs are compared, and feedback is used to balance their bad loads.
The result is more stable, less sensitive output voltage without Voltage drops.
Load balance of about 2%-5% load is expected.

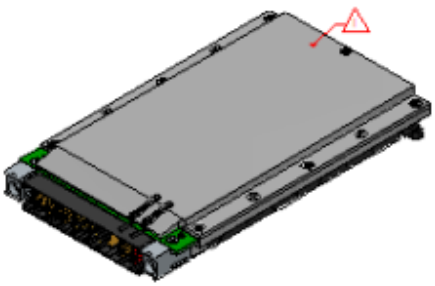


## OUTLINE DRAWING



NOTES:

1. MAIN BODY AND COVERS
   1.1. MATERIAL: ALUMINUM ALLOY 6061-T651 & 5052-H32
   1.2. FINISH: CHEMICAL CONVERSION COATING MIL-DTL-5541 TYPE I, CLASS 1A
2. CONNECTOR AND BARRIER
   2.1. CONNECTOR: TE CONNECTIVITY P/N 2313442-1 OR EQ.
   MATES WITH TE CONNECTIVITY P/N 2313441-1 OR EQ.
   2.2. BARRIER INSERT: P/N 2313445-1.
3. EJECTOR / INJECTOR
   3.1. MATERIAL: ALUMINUM ALLOY 6061-T651
   3.2. FINISH: BLACK ANODIZE PER MIL-A-8625 TYPE II, CLASS 2
4. WORKMANSHIP SHALL BE MIL-STD-454, REQT. 9

KEYING ORIENTATION GUIDE PER ANSI VITA 46.0


VITA 62 3U PRIMARY SIDE RETAINERS COMPATIBLE

DIMENSIONS ARE IN [IN]
DO NOT SCALE DRAWING

GENERAL TOLERANCES
.XX ± .02
.XXX ± .010
ANGELES ± .5°

**Weight: Approx. 800 g (24.34)**