MIL-COTS VIPAC Array

Low Profile, Configurable Power Solution

Features & Benefits

- Inputs: 24, 28, or 300V_{DC} 48, 72, 110, 150, and 375V_{DC} inputs also available
- -55°C operation
- Configurable single, dual, triple and quad outputs
- Any output: 0.5 – 48V_{DC}; up to 650W
- Current share option for high power / redundant operation
- Fully connectorized input & output for simplified hook up
- Rugged, low profile, cold plate chassis
- High temperature capability
- Environmental stress screening (modules only)
- Compliant to MIL-STD-810F for vibration (Method 514.5, Procedure I) and shock (Method 516.5, Procedure I)

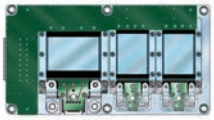
Product Highlights

VIPAC Arrays are a highly flexible system of DC input, power building-blocks that can be configured with as many as four user definable outputs on a low profile, cold plate chassis. Using Vicor's VCAD design tool, designers are able to specify VIPAC Arrays with Maxi, Mini and Micro product series H or M grade converters with nominal inputs from 24 to 375V_{DC} and outputs from 2 to 48V_{DC} at power levels up to 600W per output. VIPAC Arrays are ideal for use in distributed and modular power systems where power density and reliable operation are critical. A current share option is available on single output models enabling them to be used in applications requiring high power / redundancy. Fully connectorized input and output terminations speed system installation and a versatile cold plate chassis simplifies thermal management.

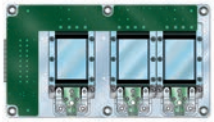
For additional technical or design information; or to create a VIPAC Array tailored to your specific requirements using Vicor's online configurator, please visit www.vicorpower.com.

Configurations

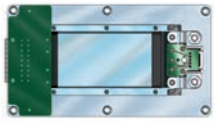
2 Minis (A)
- 3.62″ x 6.69″ (92,0 x 170,0mm)
- 1.25 lbs. (567 g)
- Single or dual outputs
- Up to 600W total



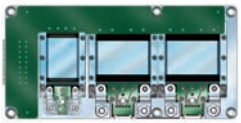
1 Mini, 2 Micros (B)
- 3.62″ x 6.69″ (92,0 x 170,0mm)
- 1.3lbs. (590g)
- Single, dual or triple outputs
- Up to 600W total



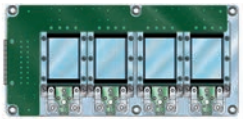
3 Micros (C)
- 3.62″ x 6.69″ (92,0 x 170,0mm)
- 1.3lbs. (590g)
- Dual or triple outputs
- Up to 450W total



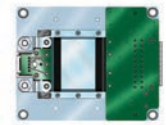
1 Maxi (D/J)
- 3.62″ x 6.69″ (92,0 x 170,0mm)
- 1.05lbs. (476g)
- Single output
- Up to 600W
- Current share option



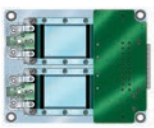
1 Micro, 2 Minis (E)
- 3.62″ x 7.52″ (92,0 x 191,0mm)
- 1.35lbs. (612g)
- Dual or triple outputs
- Up to 750W total



4 Micros (F)
- 3.62″ x 7.52″ (92,0 x 191,0mm)
- 1.3lbs. (590g)
- Dual, triple, or quad outputs
- Up to 600W total



1 Mini (G/K)
- 3.62″ x 4.39″ (92,0 x 112,0mm)
- 0.7lbs. (318 g)
- Single output
- Up to 300W total
- Current share option



2 Micros (H)
- 3.62″ x 4.39″ (92,0 x 112,0mm)
- 0.7lbs. (318g)
- Single or dual outputs
- Up to 300W total

MIL VIPAC Array General Specifications

Typical at 25°C, nominal line and load, unless otherwise specified.

For technical information refer to "Design Guide & Applications Manual for Maxi, Mini, Micro Family DC-DC Converters and Accessory Modules" and/or the "VIPAC Array Power Systems Configuration Guide". See the respective converter family datasheet for electrical details.
These are available at www.vicorpower.com

ENVIRONMENTAL – SYSTEM

Parameter	Min	Typ	Max	Unit	Notes
Dielectric withstand, input to chassis	1500 / 2121			V_{RMS} / V_{DC}	
Operating chassis temperature					
H-grade	-40		95	°C	
M-grade	-55		95	°C	
Storage temperature					
H-Grade	-55		125	°C	
M-Grade	-65		125	°C	
Shock	MIL-STD-810F, Method 514.5, Procedure I				40g for 15-23ms, 75g for 8-13ms
Vibration	MIL-STD-810F, Method 516.5, Procedure I				20-2000Hz at 5g

ENVIRONMENTAL MODULES ONLY

Altitude
MIL-STD-810C, Method 500.2, Procedure I & II, 40,000ft. and 70,000ft. Operational.

Explosive Atmosphere
MIL-STD-810F, Method 511.4, Procedure I, Operational.

Vibration
MIL-STD-810F, Method 514.5, Procedure I, Category 14, Sine and Random vibration per Table 514.5C for Helicopter AH-6J Main Rotor with overall level of 5.6g rms for 4 hours per axis. MIL-STD-810F, Method 514.5C, General Minimum Integrity Curve per Figure 514.5C-17 with overall level of 7.7g rms for 1 hour per axis.

Shock
MIL-STD-810-F, Method 516.5, Procedure I, Functional Shock, 40 G's. MIL-S-901D, Lightweight Hammer Shock, 3 impacts/axis, 1,3,5ft. MIL-STD-202F, Method 213B, 60G's, 9ms half sine. MIL-STD-202F, Method 213B, 75G's, 11ms Saw Tooth Shock.

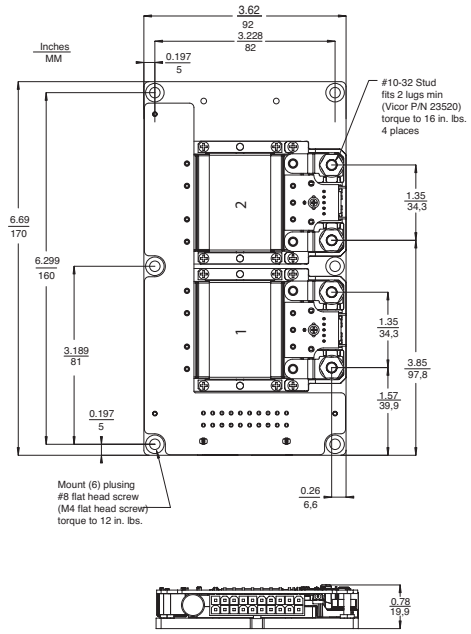
Acceleration
MIL-STD-810F, Method 513.5, Procedure II, Table 513.5-II, Operational, 2-7 G's, 6 directions.

Humidity
MIL-STD-810F, Method 507.4, Procedure I, Cycle I, 240hrs, 95% RH.

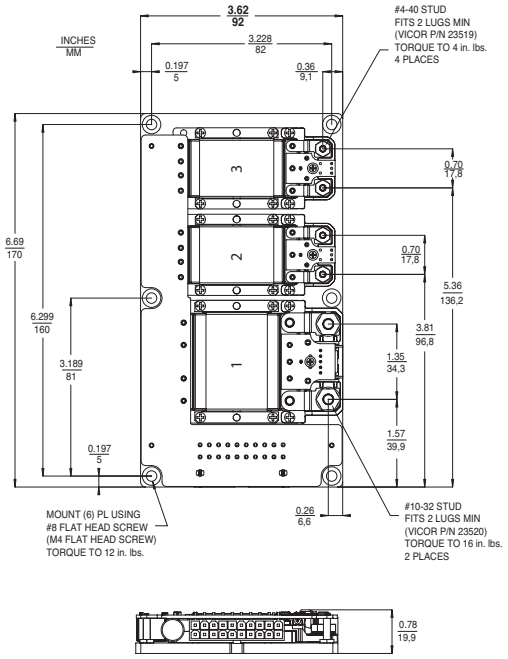
Solder Test
MIL-STD-202F, Method 208, 8 hour aging.

Mechanical Drawings

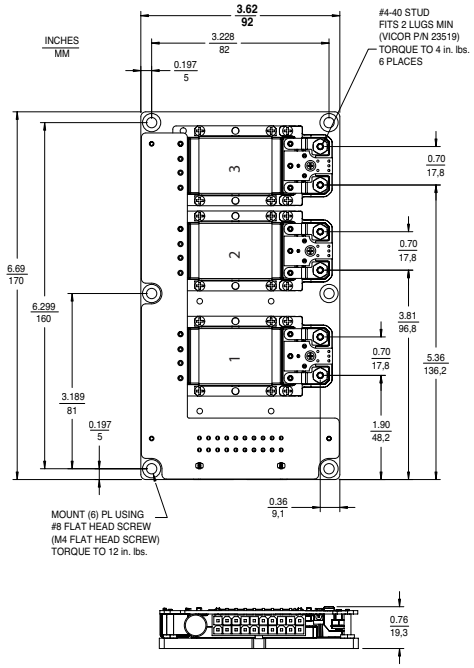
Configuration VA-A
LugMates



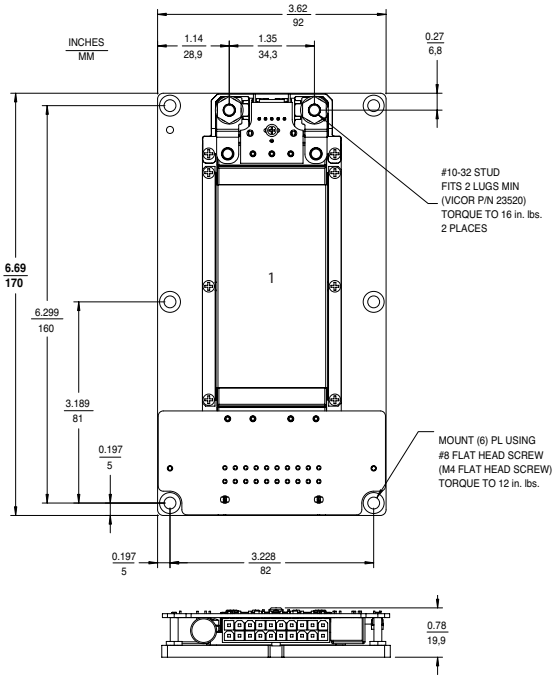
Configuration VA-B
LugMates



Configuration VA-C
LugMates

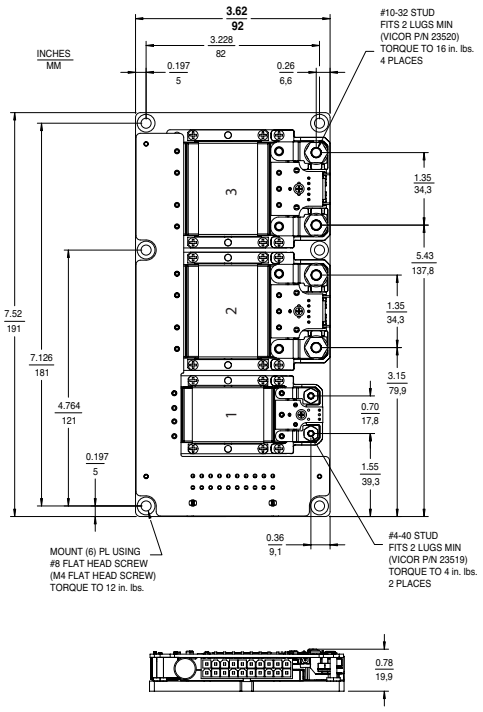


Configuration VA-D/J
LugMates

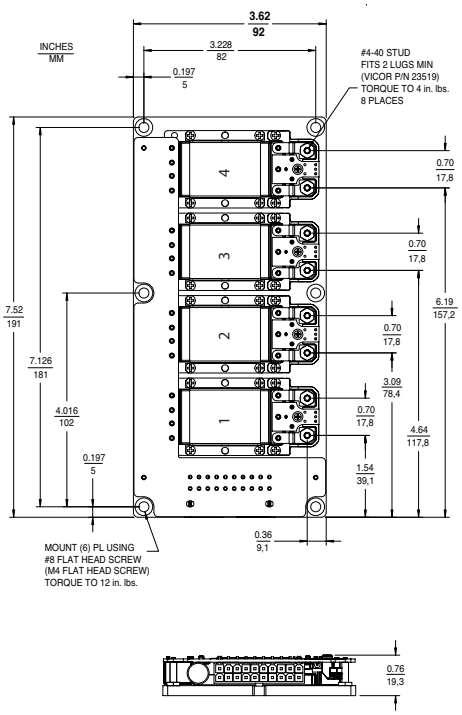


Mechanical Drawings (Cont.)

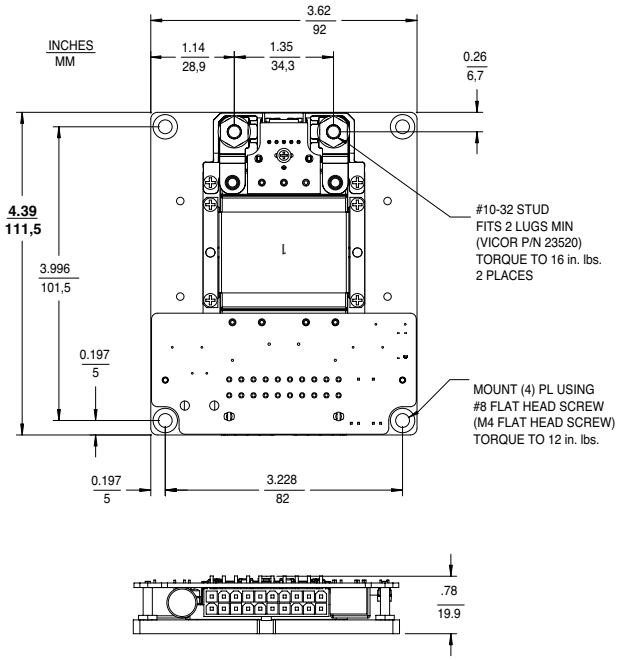
Configuration VA-E LugMates



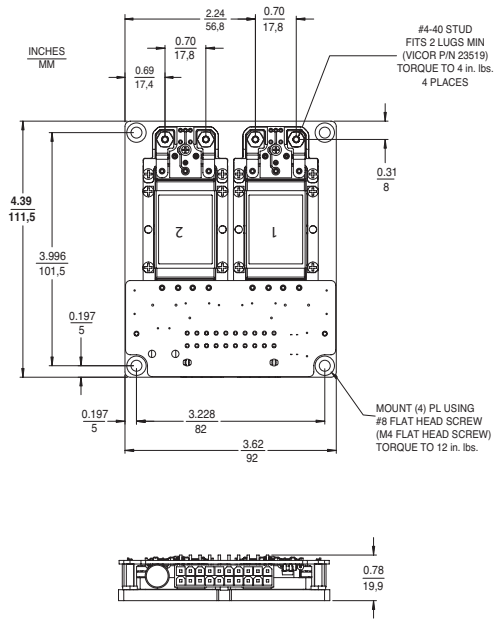
Configuration VA-F LugMates



Configuration VA-G/K LugMates



Configuration VA-H LugMates



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Visit http://www.vicorpower.com/mil-cots-power-systems/mil-cots_vipac_array_chassis_mount_dc-dc_converter for the latest product information.

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