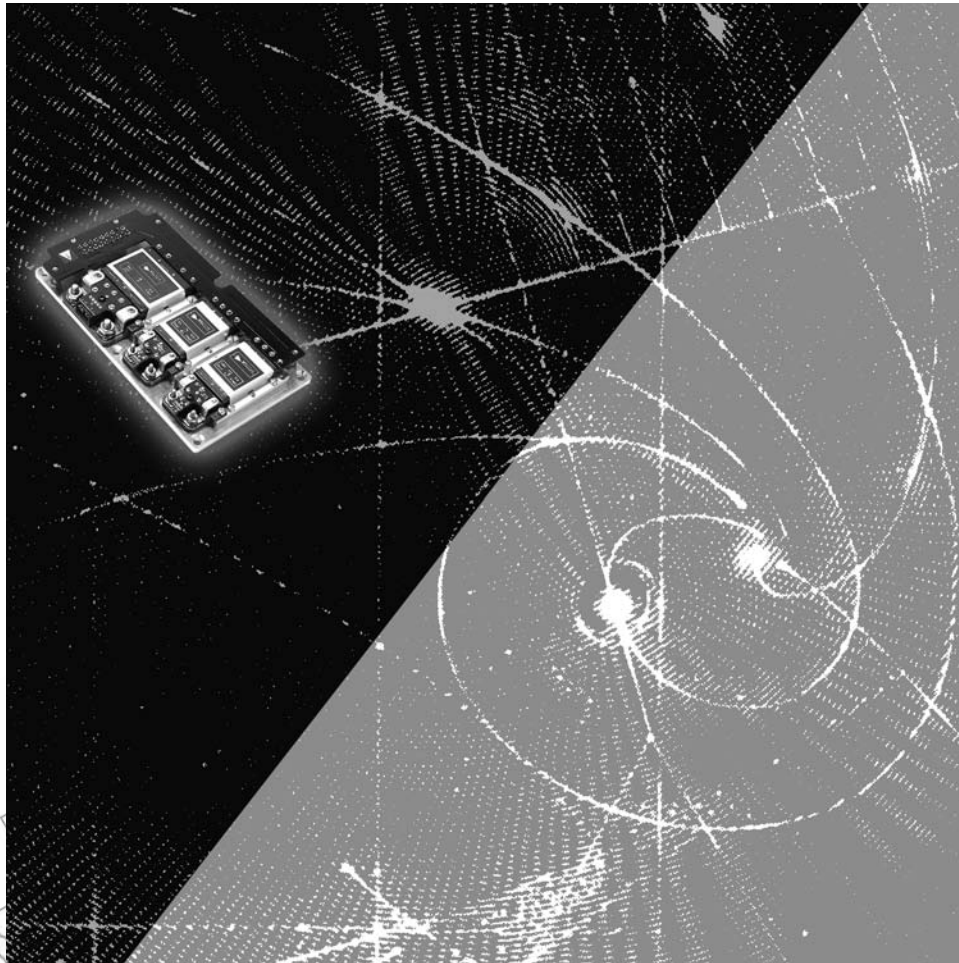


VIPAC Array™

POWER SYSTEMS CONFIGURATION GUIDE



Beratung & Vertrieb:

HY-LINE®

POWER COMPONENTS
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E-Mail: power@hy-line.de E-Mail: power@hy-line.ch
URL: www.hy-line.de URL: www.hy-line.ch



2nd Generation Components



CONTENTS

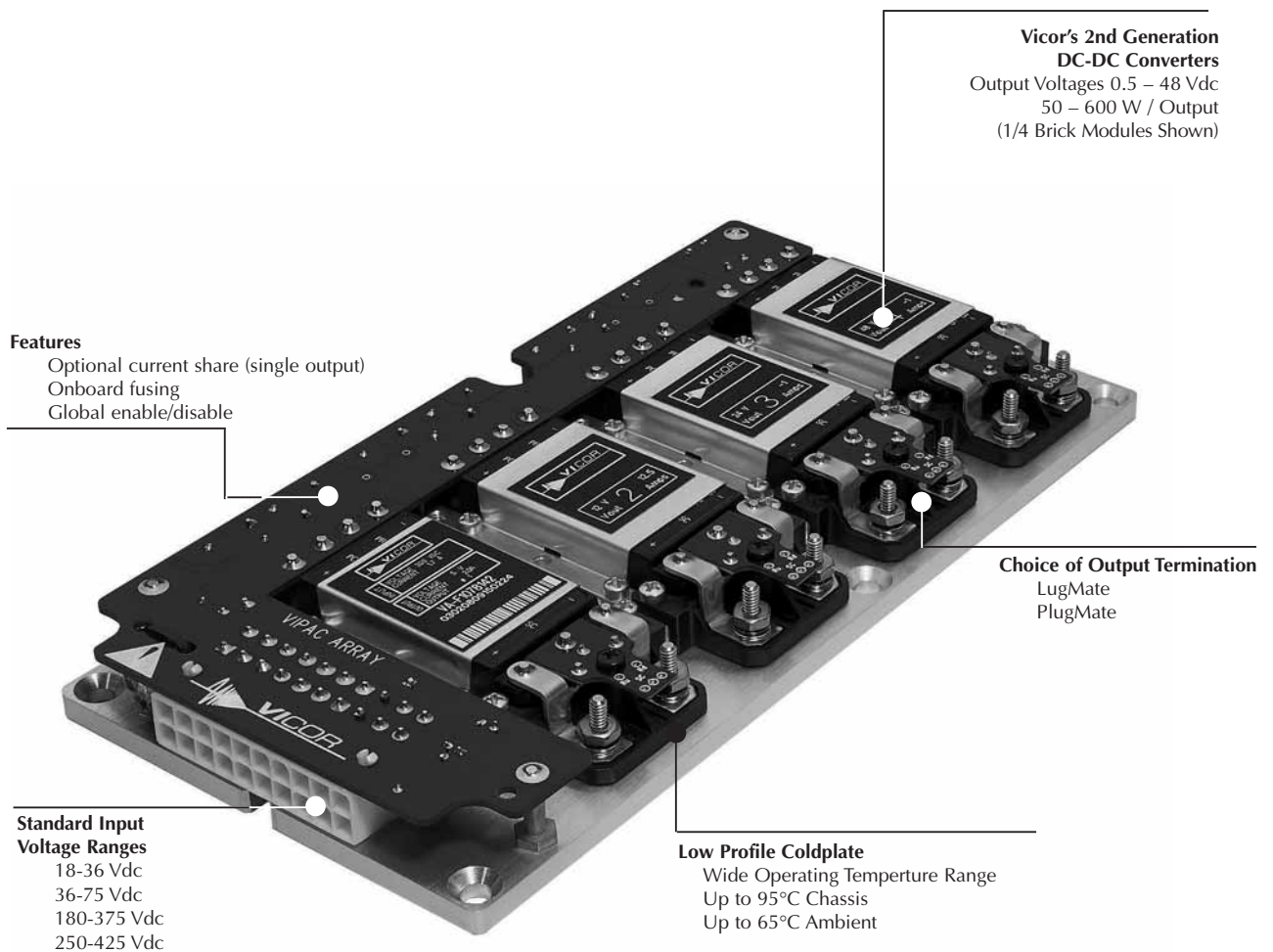
2	PRODUCT OVERVIEW
3-5	INPUT AND OUTPUT OPTIONS
6-8	INPUT AND OUTPUT CONNECTIONS
9	MOUNTING OPTIONS
10-13	MECHANICAL DRAWINGS
14	TECHNICAL SUPPORT CONTACTS

PRODUCT OVERVIEW

The VIPAC Array is 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, coldplate chassis. VIPAC Array offers the convenience of a prepackaged, chassis mount solution with the performance and power density of Vicor's 2nd Generation, DC-DC converters.

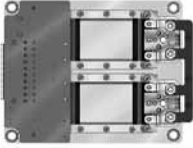
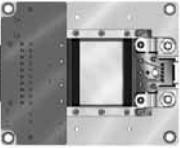

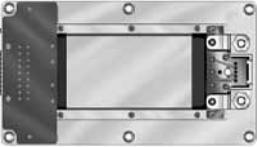
Using Vicor's VCAD selection tool, (vicorpower.com/vcad), designers are able to quickly specify VIPAC Arrays with standard inputs of 24, 48, 300 or 375 Vdc and standard outputs from 2 to 48 Vdc at power levels up to 600 Watts per output. A total of 8 standard chassis configurations offers the user a choice of power and mechanical options to fit any budget or design. Short cycle time and rapid delivery make VIPAC Array a valuable tool for power system prototyping and development efforts as well.

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 either redundant operation or kilowatts of power. The 300 and 375 Vdc input versions can be coupled to a bulk AC Front-end to create a modular, scalable power supply serving a variety of power architectures from centralized to distributed. VIPAC Arrays include internal fusing, a global enable/disable function and connectorized input and output terminations to speed system installation while a versatile coldplate chassis simplifies thermal management and mounting.



INPUT / OUTPUT OPTIONS

Single Output Configurations

	Config. Type	Vin	Nominal Output Voltage / Maximum Output Power (W)*							
			2V	3.3V	5V	12V	15V	24V	28V	48V
 VA-H	<i>Dual Micro</i>	24	100	150	200	200	200	200	200	200
		48	} 100	150	200	300	300	300	300	300
		300								
		375								
 VA-G	<i>Single Mini</i>	24	100	132	200	200	200	200	200	200
		48	} 100	150	200	250	250	250	250	250
		300								
		375								
 VA-A	<i>Dual Mini</i>	24	200	264	400	400	400	400	400	400
		48	} 200	300	400	500	500	500	500	500
		300								
		375								
 VA-D	<i>Single Maxi</i>	24	160	264	400	400	400	400	400	400
		48	} 160	264	400	500	500	500	500	500
		300								
		375								

*Model numbers and total output power capability are application specific.
See VIPAC configuration tool at: vicorpower.com/vcad

INPUT / OUTPUT OPTIONS

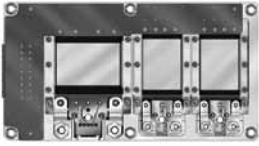
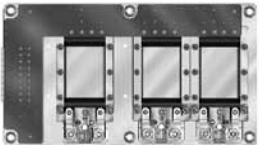

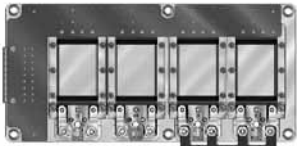
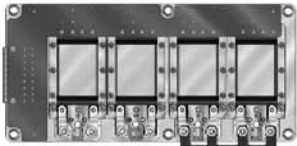
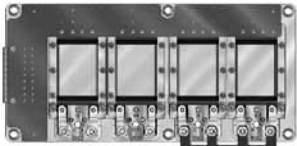
Dual Output Configurations

Config. Type	Vin	Nominal Output Voltage / Maximum Output Power (W) per Output *								
		2 V	3.3 V	5 V	12 V	15 V	24 V	28 V	48 V	
 VA-H Output #1 & #2 Single Micro	24	50	75	100	100	100	100	100	100	
	48	50	75	100	150	150	150	150	150	
	300									
	375									
 VA-A Output #1 & #2 Single Mini	24	100	132	200	200	200	200	200	200	
	48	100	150	200	250	250	250	250	250	
	300									
	375									
 VA-C Output #1 Single Micro	24	50	75	100	100	100	100	100	100	
	48	50	75	100	150	150	150	150	150	
	300									
	375									
 VA-C Output #2 Dual Micro	24	100	150	200	200	200	200	200	200	
	48	100	150	200	300	300	300	300	300	
	300									
	375									
 VA-B Output #1 Single Mini	24	100	132	200	200	200	200	200	200	
	48	100	150	200	250	250	250	250	250	
	300									
	375									
 VA-B Output #2 Dual Micro	24	100	150	200	200	200	200	200	200	
	48	100	150	200	300	300	300	300	300	
	300									
	375									
 VA-E Output #1 Single Micro	24	50	75	100	100	100	100	100	100	
	48	50	75	100	150	150	150	150	150	
	300									
	375									
 VA-E Output #2 Dual Mini	24	200	264	400	400	400	400	400	400	
	48	200	300	400	500	500	500	500	500	
	300									
	375									
 VA-F Output #1 & #2 Dual Micro	24	100	150	200	200	200	200	200	200	
	48	100	150	200	300	300	300	300	300	
	300									
	375									


*Model numbers and total output power capability are application specific.
 See VIPAC configuration tool at: vicorpower.com/vcad

INPUT / OUTPUT OPTIONS

Triple Output Configurations

Config. Type	Vin	Nominal Output Voltage / Maximum Output Power (W) per Output *							
		2 V	3.3 V	5 V	12 V	15 V	24 V	28 V	48 V
 VA-B Output #1 Single Mini	24	100	132	200	200	200	200	200	200
	48	100	150	200	250	250	250	250	250
	300								
	375	100	150	200	300	300	300	300	300
 VA-C Output #2 & #3 Single Micro	24	50	75	100	100	100	100	100	100
	48	50	75	100	150	150	150	150	150
	300								
	375	50	75	100	150	150	150	150	150
 VA-E Output #1 Single Micro	24	50	75	100	100	100	100	100	100
	48	50	75	100	150	150	150	150	150
	300								
	375	50	75	100	150	150	150	150	150
 VA-F Output #2 & #3 Single Mini	24	100	132	200	200	200	200	200	200
	48	100	150	200	250	250	250	250	250
	300								
	375	100	150	200	300	300	300	300	300
 VA-F Output #1 & #2 Single Micro	24	50	75	100	100	100	100	100	100
	48	50	75	100	150	150	150	150	150
	300								
	375	50	75	100	150	150	150	150	150
 VA-F Output #3 Dual Micro	24	100	150	200	200	200	200	200	200
	48	100	150	200	300	300	300	300	300
	300								
	375	100	150	200	300	300	300	300	300

Quad Output Configuration

Config. Type	Vin	Nominal Output Voltage / Maximum Output Power (W)*							
		2 V	3.3 V	5 V	12 V	15 V	24 V	28 V	48 V
 VA-F Output #1, #2, #3 & #4 Single Micro	24	50	75	100	100	100	100	100	100
	48	50	75	100	150	150	150	150	150
	300								
	375	50	75	100	150	150	150	150	150

*Model numbers and total output power capability are application specific.
See VIPAC configuration tool at: vicorpower.com/vcad

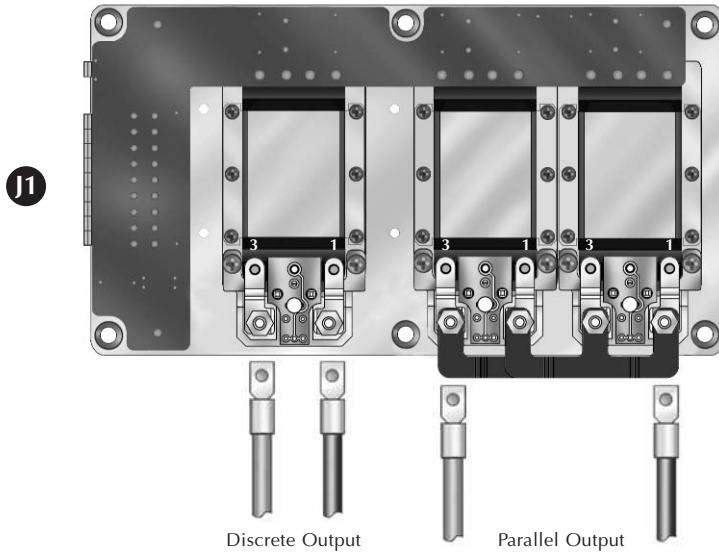
Input / Output Connections

J1 Input Connector (View looking into J1)

1										10
11										20

Pin#	Funct.
1-4	-Vin
5-7	+Vin
8	NC / PR bus
9	PE protective earth
10	Neg. enable
11-13	-Vin
14-17	+Vin
18	NC / PR bus
19	PE protective earth
20	Pos. enable

To disable output(s) apply +5 Vdc between pins 10 and 20 in the polarity indicated

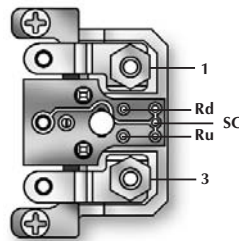


Shown with the output(s) of two modules connected in parallel using factory installed bus bar.

Mating Connector

	Vicor part #	Amp part#
Housing	24795	2-794657-0
Contacts	24796	1-106529-2
Kit	24828	

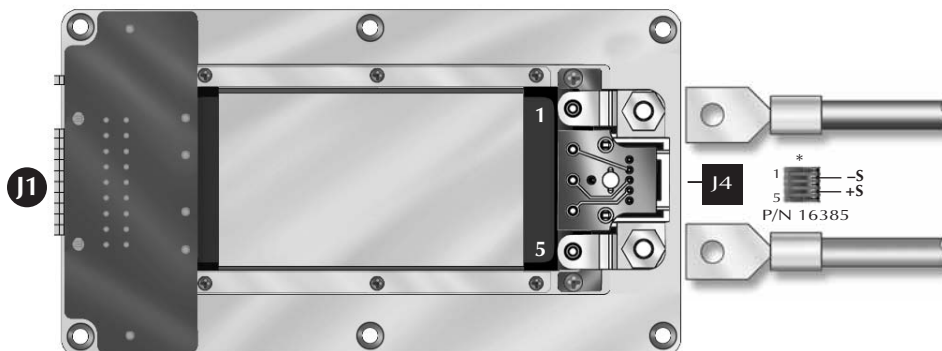
Factory installed Micro LugMate



Pin #	Solder Pad	Function
1		- Vout
	Rd	Trim Down
	SC	Secondary Control
	Ru	Trim Up
3		+ Vout

Consult design calculator for Rd/Ru trim resistor values located at vicorpower.com.

Factory installed Mini/Maxi LugMate



Pin #	Conn.	Function	Mating Conn.
1		- Vout	
J4-1		- Vout	P/N 16385
J4-2		- Sense	
J4-3		Secondary Control	
J4-4		+ Sense	
J4-5		+ Vout	
5		+ Vout	

*Removable jumpers in J4 are factory installed for local sensing. For remote sensing the +Sense pins should be tied to the same point on the +Out power bus; the -Sense pins should be tied to the same point the -Out power bus.

Parallel / Redundant Connections

J1 Input Connector (View looking into J1)

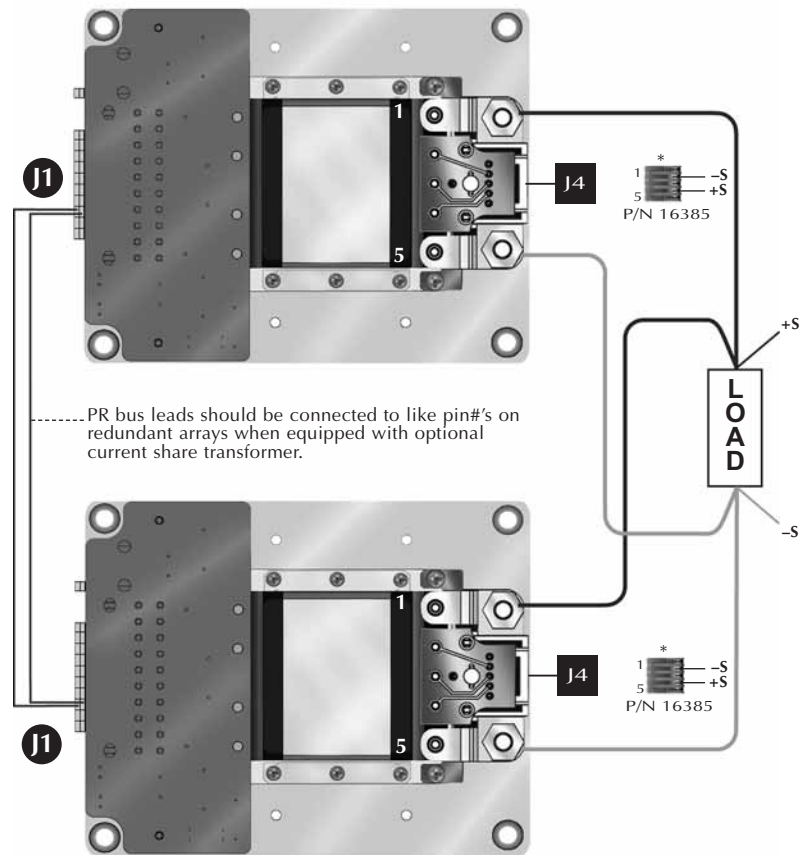
1										10
11										20

Pin#	Funct.
1-4	-Vin
5-7	+Vin
8	NC/PR bus
9	PE protective earth
10	Neg. enable
11-13	-Vin
14-17	+Vin
18	NC/PR bus
19	PE protective earth
20	Pos. enable

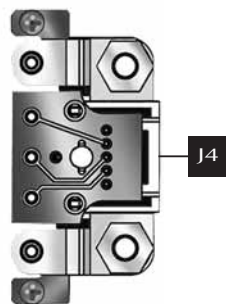
To disable output apply +5 Vdc between pins 10 and 20 in the polarity indicated

Mating Connector

	Vicor part #	Amp part#
Housing	24795	2-794657-0
Contacts	24796	1-106529-2
Kit	24828	



Factory installed Mini/Maxi LugMate



Pin #	Conn.	Function	Mating Conn.
1		- Vout	P/N 16385
J4-1		- Vout	
J4-2		- Sense	
J4-3		Secondary Control	
J4-4		+ Sense	
J4-5		+ Vout	
5		+ Vout	

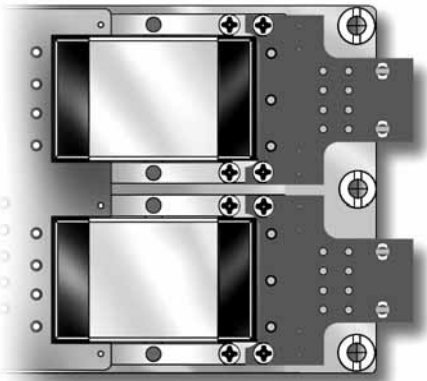
*Removable jumpers in J4 are factory installed for local sensing. For remote sensing the +Sense pins should be tied to the same point on the +Out power bus; the -Sense pins should be tied to the same point the -Out power bus.

OUTPUT CONNECTION OPTIONS

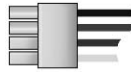
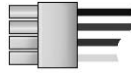
PlugMate

(Factory Installed Option)

Micro PlugMate



Vicor P/N 25073

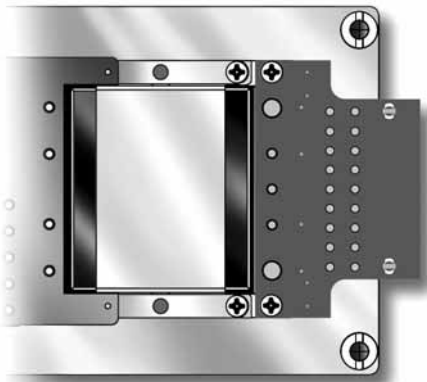


1			4
5			8

Pin #	Function	Pin #	Function
1	+Vout	5	+Vout
2	+Vout	6	N/C
3	-Vout	7	SC
4	-Vout	8	-Vout

Mating Connector	Amp. P/N	Vicor P/N
Housing	TYC-794657-8	25056
Pin	1-106529-2	24796
Kit		25073

Mini PlugMate



Vicor P/N 25067

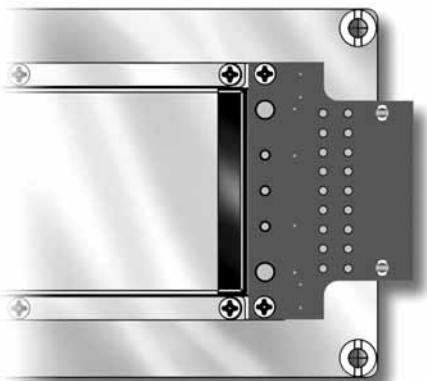


1								9
10								18

Pin #	Function	Pin #	Function
1	+Vout	10	+Vout
2	+Vout	11	+Vout
3	+Vout	12	+Vout
4	N/C	13	+S
5	N/C	14	SC
6	N/C	15	-S
7	-Vout	16	-Vout
8	-Vout	17	-Vout
9	-Vout	18	-Vout

Mating Connector	Amp. P/N	Vicor P/N
Housing	TYC1-794657-8	25050
Pin	1-106529-2	24796
Kit		25067

Maxi PlugMate



Vicor P/N 25061



1											12
13											24

Pin #	Function	Pin #	Function
1	+Vout	13	+Vout
2	+Vout	14	+Vout
3	+Vout	15	+Vout
4	+Vout	16	+Vout
5	+Vout	17	+Vout
6	N/C	18	+S
7	SC	19	-S
8	-Vout	20	-Vout
9	-Vout	21	-Vout
10	-Vout	22	-Vout
11	-Vout	23	-Vout
12	-Vout	24	-Vout

Mating Connector	Amp. P/N	Vicor P/N
Housing	TYC2-794657-4	25044
Pin	1-106529-2	24796
Kit		25061

Please Note:

VIPACs that contain multiple modules configured as a single output (paralleled for power or redundancy) **MUST** have their Outputs and Sense connected to each other at the load. **DO NOT OPERATE A PARALLEL CONFIGURATION WITH ONLY ONE MODULE CONNECTED.**

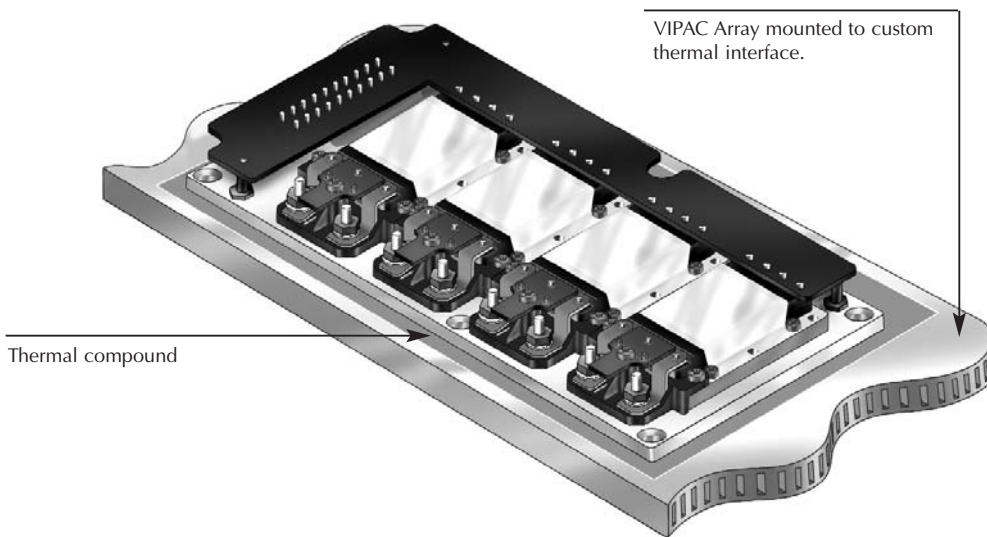
Mounting Options



VIPAC Array with external, user supplied heat sink.



VIPAC Array mounted to cabinet wall with thermal compound between VIPAC Array and cabinet wall.



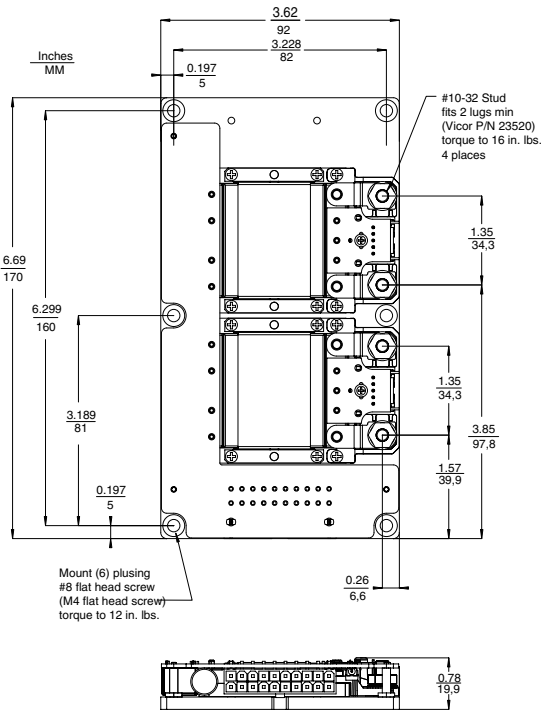
Thermal compound

VIPAC Array mounted to custom thermal interface.

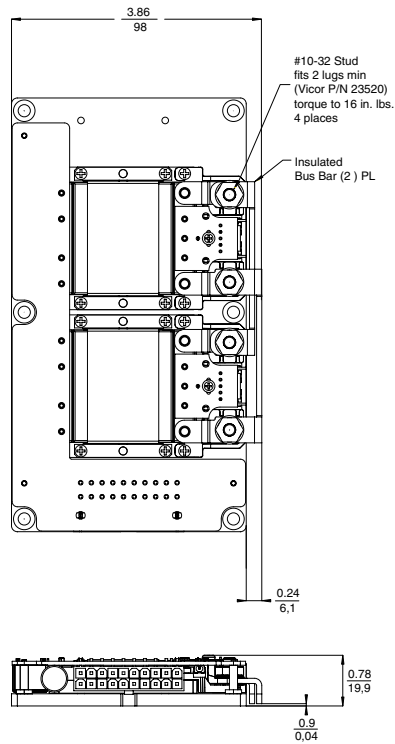
MECHANICAL DRAWINGS

Configuration A

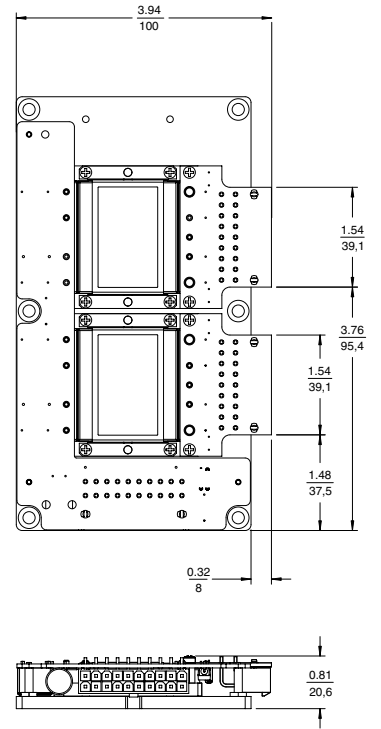
LugMates



LugMates/Bus Bars

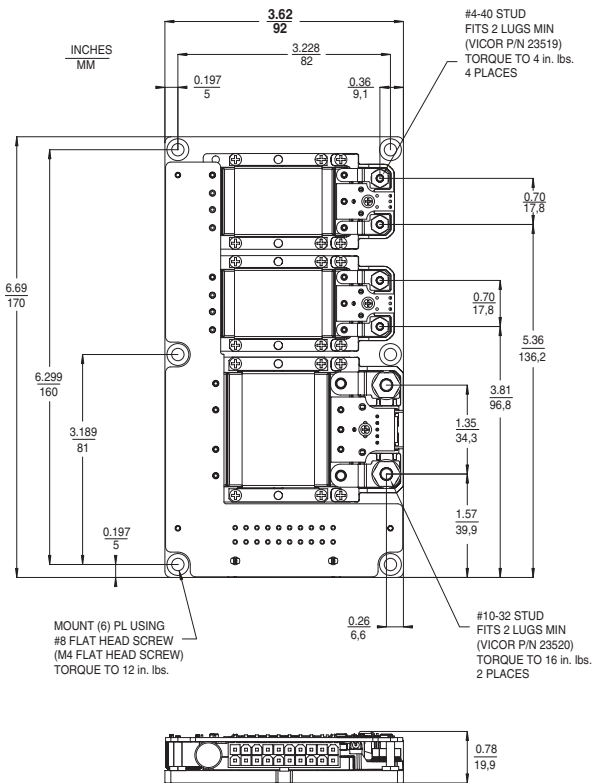


PlugMates

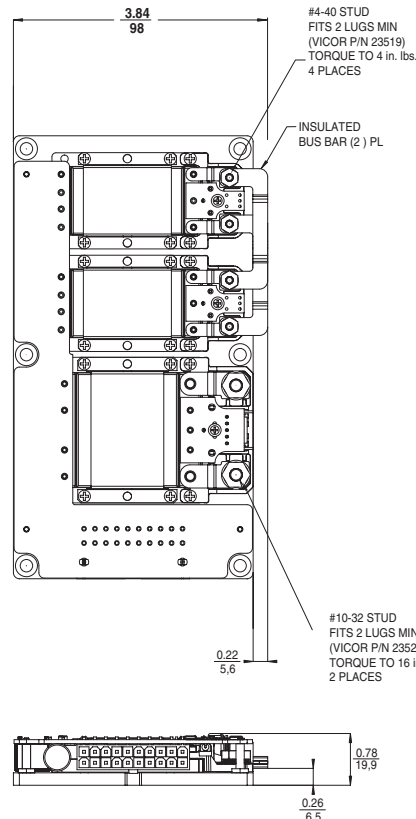


Configuration B

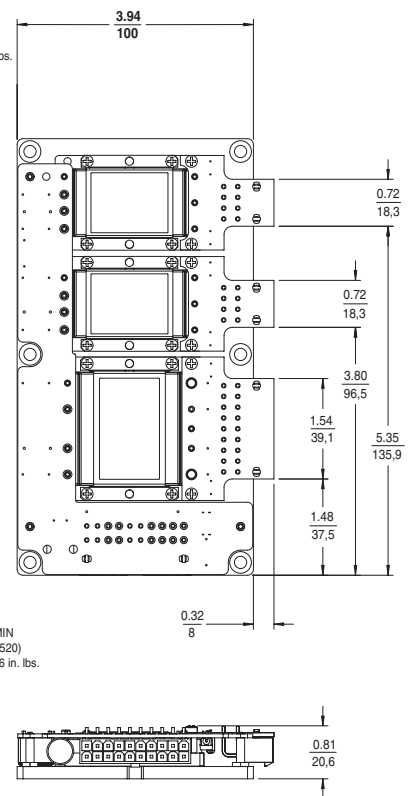
LugMates



LugMates/Bus Bars

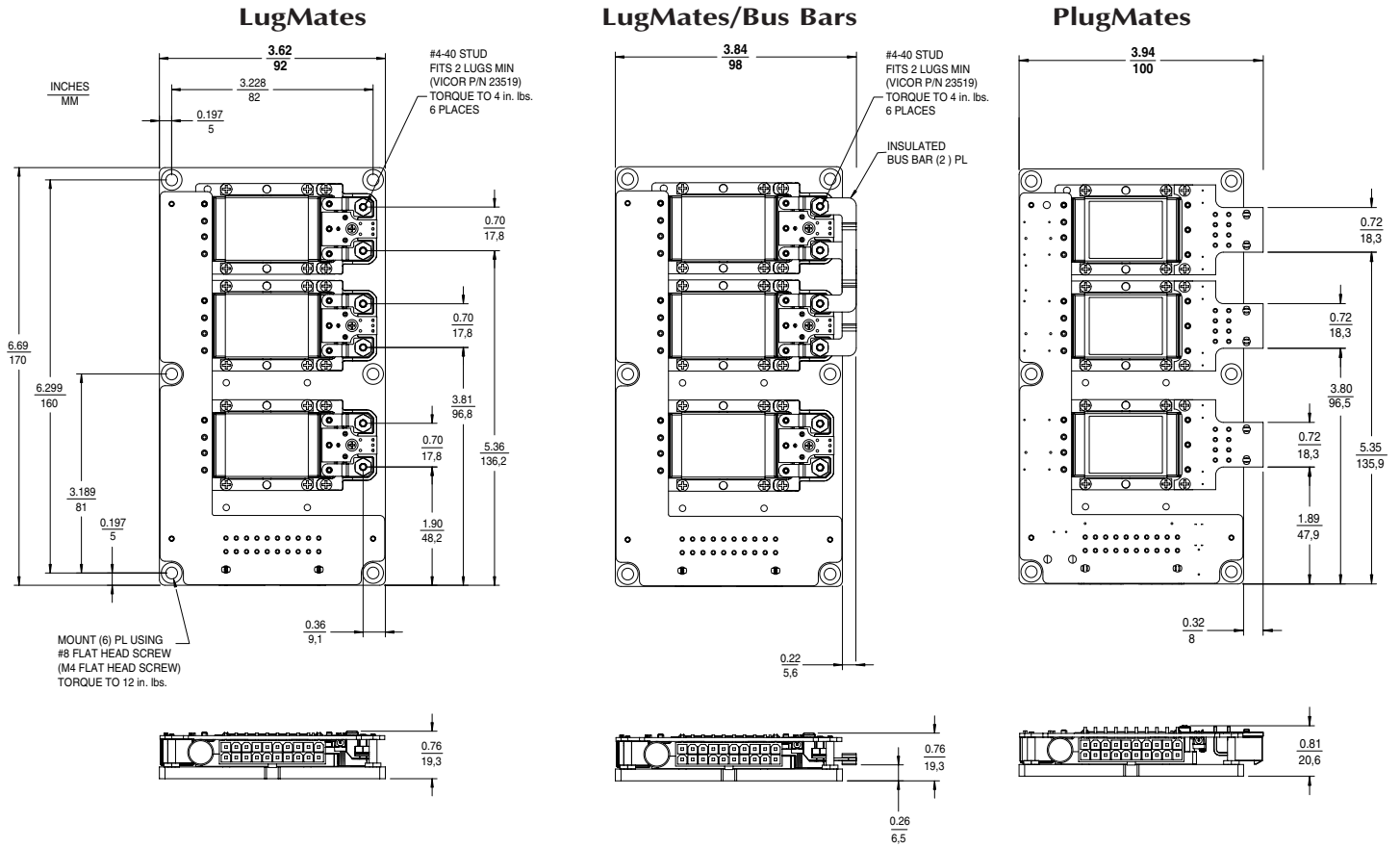


PlugMates

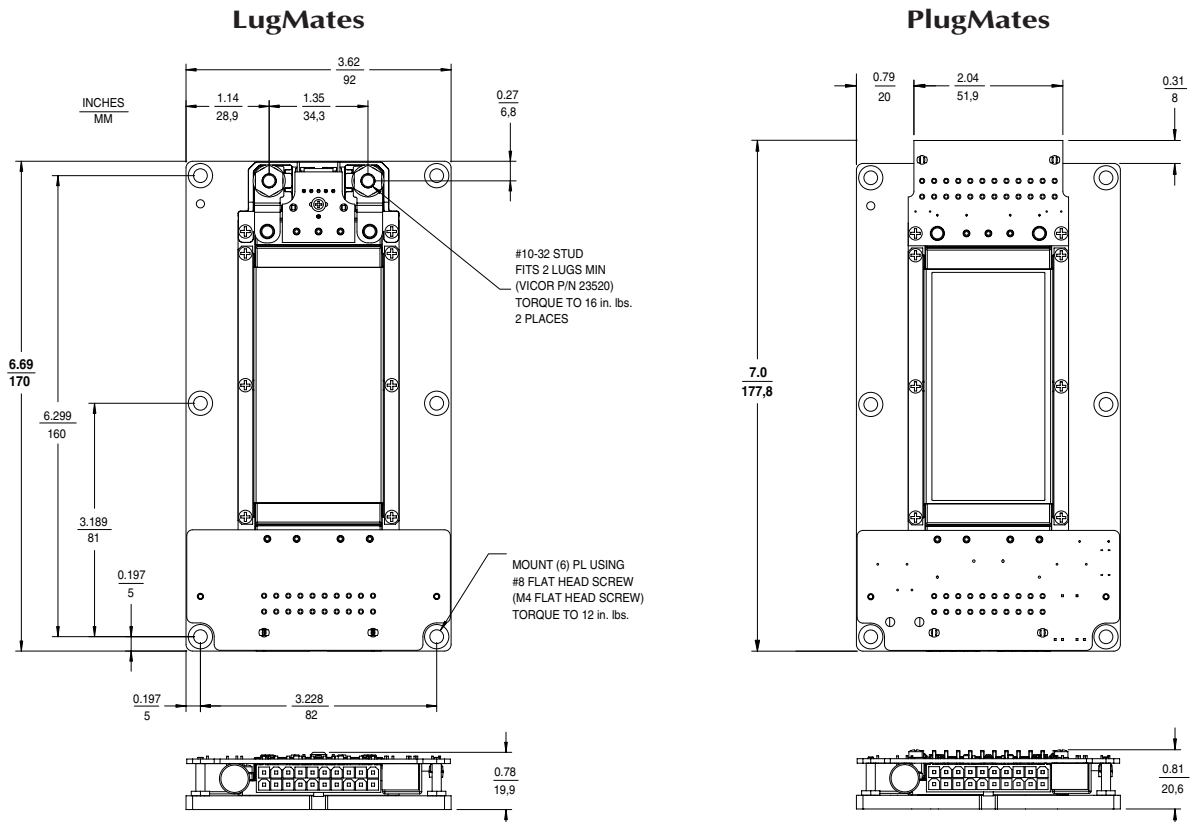


MECHANICAL DRAWINGS

Configuration C

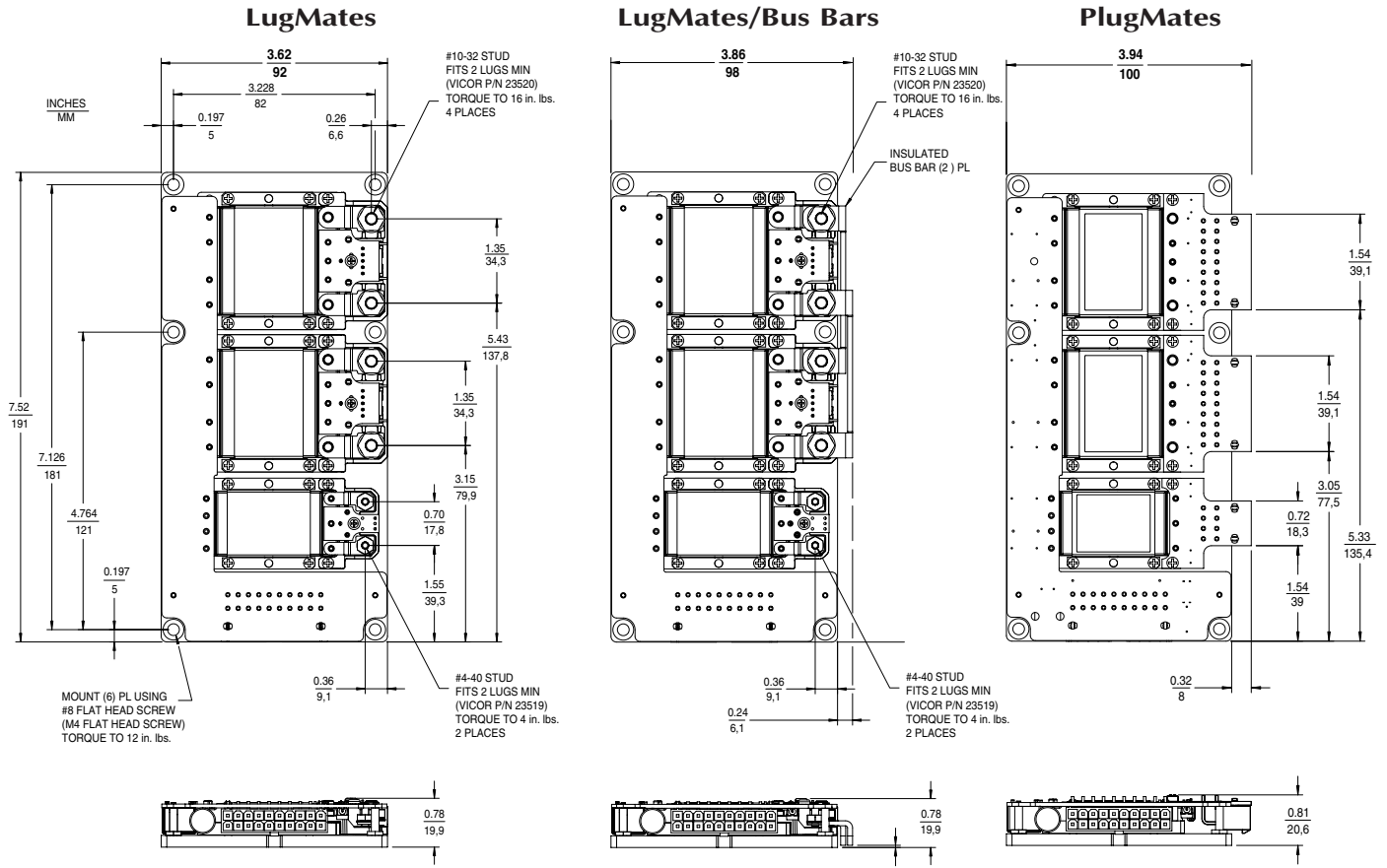


Configuration D

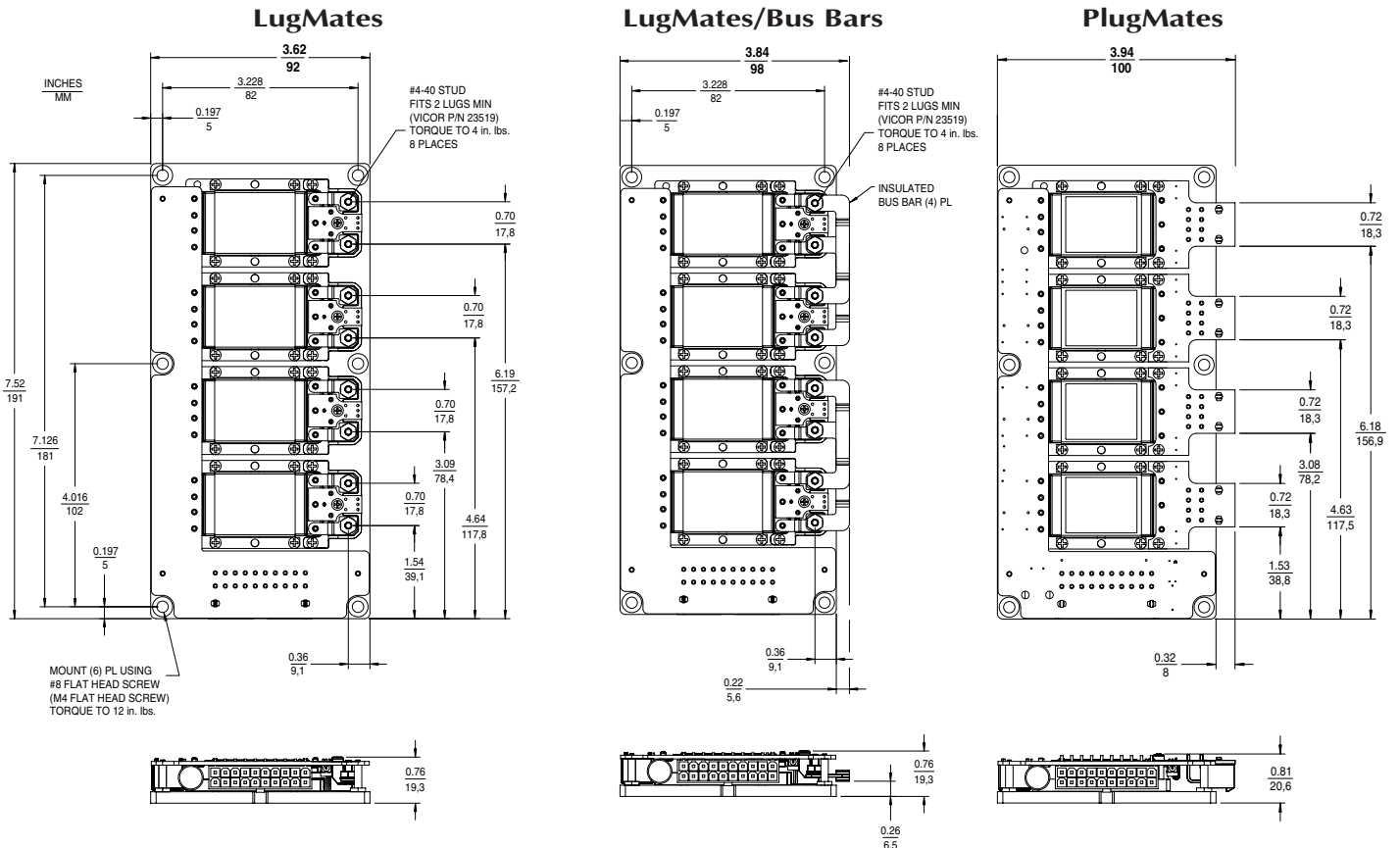


MECHANICAL DRAWINGS

Configuration E

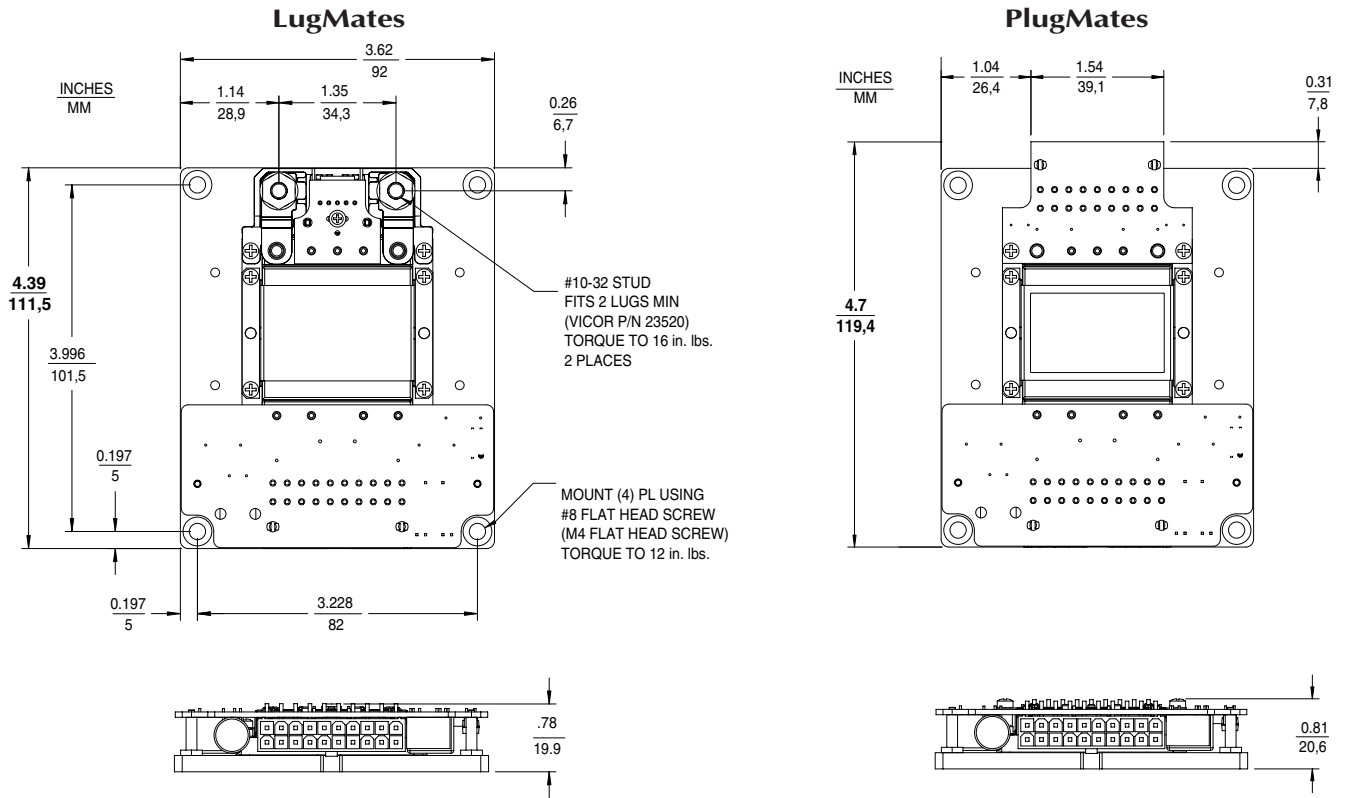


Configuration F

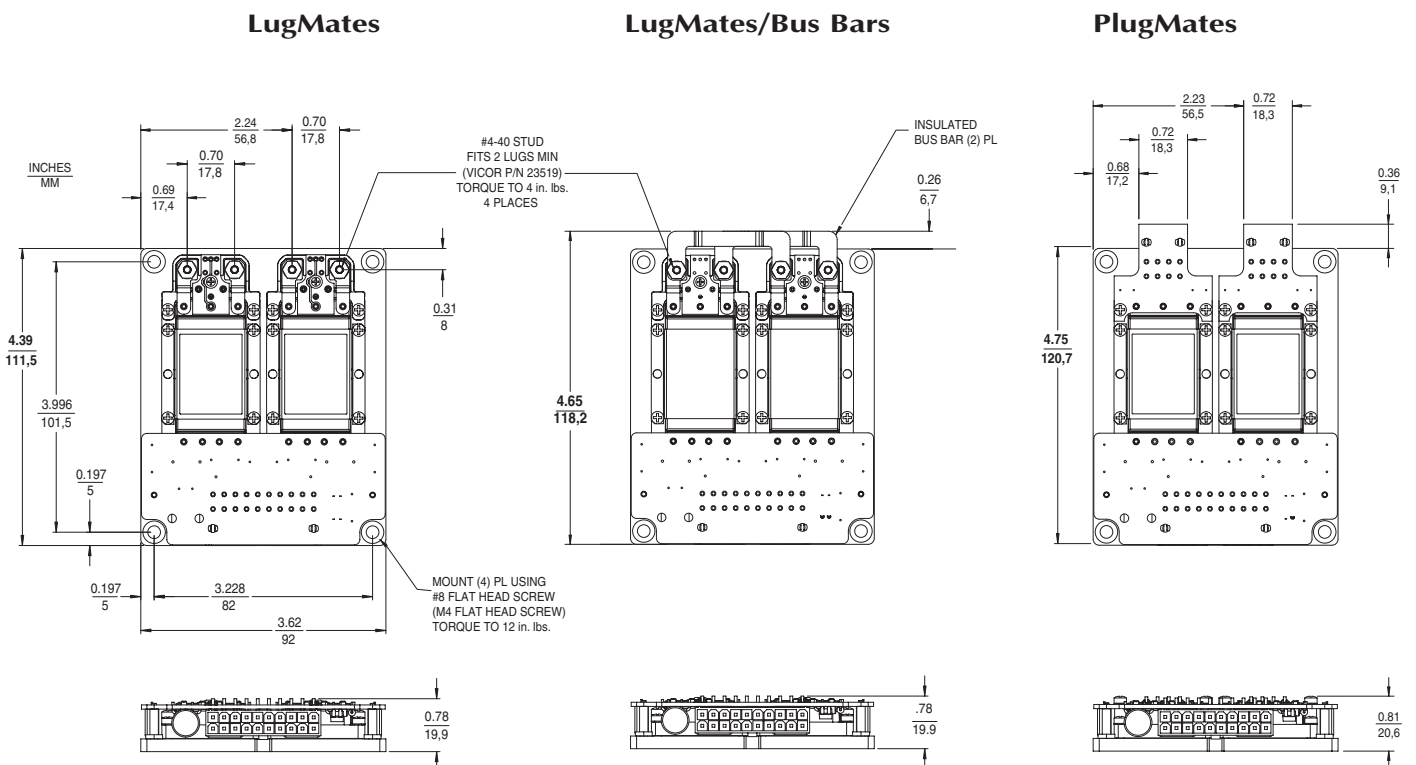


MECHANICAL DRAWINGS

Configuration G



Configuration H



TECHNICAL SUPPORT CONTACTS

Vicor's Technical support team is staffed with Applications Engineers to provide the product and application information and technical assistance customers need concerning Vicor products and power solutions.

Our facilities house electronics laboratories where Vicor Applications Engineers can evaluate specific customer design issues and offer a wide range of component-based power solutions that include distributed power, current sharing, N + 1 redundancy, thermal management, and compliance with safety and performance standards.

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Fax: 408-774-5555

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email: vicorit@vicr.com
www.vicr-europe.com

Applications engineers ...

- Answer technical questions (by phone, fax, email, or the Vicor website).
- Assist with component-based power system design.
- Support user needs through visits to Vicor and customer facilities.
- Help select the most appropriate product for your application.

If you have a specific technical question, you may call or email an Applications Engineer located at one of our global offices.

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 vicorpower.com

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