

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product	Audio/Video, Information and Communication technology equipment DC-DC converter
Name and address of the applicant	Vicor Corporation 25 Frontage Road Andover MA 01810 USA
Name and address of the manufacturer	Vicor Corporation 25 Frontage Road, Andover MA 01810, USA
Name and address of the factory	Integran Inc. Iwate Factory Aza-shimokiroku 321, Senmaya, Senmaya-cho, Ichinoseki-shi, Iwate, 029-0803 JAPAN Vicor Inc. 400 Federal Street, Andover MA 01810, USA
Ratings and principal characteristics	Rated Input Voltage: 300 V DC Rated Output Voltage: 0-95 V DC Rated Output Power: 200 W Protection Class: I Degree of Protection: IPX0
Trade mark (if any)	VICOR
Customer's Testing Facility (CTF) Stage used	CTF STAGE 3
Model/type Ref.	VI-260-CU (VI-200) and MegaMod / MasterMod series
Additional information (if necessary)	Certificate DE 3 – 502241 issued 2017-01-20 is replaced by this version due to technical changes
A sample of the product was tested and found to be in conformity with as shown in the Test Report Ref. No. which forms part of this certificate	IEC 62368-1:2018 72163885-000

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This CB Test Certificate is issued by the National Certification Body

CB 021433 0618 Rev. 00
Date, 2021-02-15



(William J. Stinson)



IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

VI-200 DC-DC Converter Model Matrix (VI-abc-de-xx-xx)

VI = Product Type

VI = VI (Vicor), VI = VE (Vicor RoHS), VI = IP (VJCL), VI = IE (VJCL RoHS), VI = MI (Mil COTS)

a Module Type

- 2 = Drive Module (master)
- B = Booster Module (slave)

b Input Voltage (Vdc)

Nominal (Range)

- 0 = 12 (10-20)
- V = 24 (10-36)
- 1 = 24 (21-32)
- W = 24 (18-36)
- 2 = 36 (21-56)
- 3 = 48 (42-60)
- 4 = 72 (55-100)
- N = 48 (36-76)
- T = 110 (66-160)
- F = 165 (130-260)
- 5 = 150 (100-200)
- 6 = 300 (200-400)
- 7 = 225 (100-375)

c Output Voltage (Vdc)

Nominal	Max(A)	Max(W)
Z = 2.0	@ 40A	80W
Y = 3.3	@ 40A	132W
0 = 5.0	@ 40A	200W
X = 5.2	@ 38.5A	200W
W = 5.5	@ 36.4A	200W
V = 5.8	@ 34.5A	200W
T = 6.5	@ 30.8A	200W
R = 7.5	@ 26.6A	200W
M = 10.0	@ 20A	200W
1 = 12.0	@ 16.7A	200W
P = 13.8	@ 14.5A	200W
2 = 15.0	@ 13.3A	200W
N = 18.5	@ 10.8A	200W
3 = 24.0	@ 8.3A	200W
L = 28.0	@ 7.1A	200W
J = 36.0	@ 5.6A	200W
K = 40.0	@ 5A	200W
4 = 48.0	@ 4.2A	200W
H = 52.0	@ 3.8A	200W
F = 72.0	@ 2.8A	200W
D = 85.0	@ 2.4A	200W
B = 95.0	@ 2.1A	200W

d Product Grade

- C = Commercial -25C to 85C
- I = Industrial -40C to 85C
- M = Milcots -55C to 85C
- E = Economy -10C to 85C

e Output Power / Current

- | | |
|-----------|-----------|
| Vout ≥ 5V | Vout < 5V |
| U = 200W | 40A |
| V = 150W | 30A |
| W = 100W | 20A |
| X = 75W | 15A |
| Y = 50W | 10A |
| Z = 25W | 5A |
| A = 10W | <5A |

xx Heatsink Options / Specials (optional)

- F1-F7 = FinMOD (Heatsink)
- TM = TachoMOD (Non-safety related secondary component changes)
- BM = BatMod (Battery Module)
- S = SlimMOD (Flangeless Package)
- B1 = BusMOD (screw / lug wiring interface)
- V = Vicor Hybrid (Non-safety related changes), may be followed by -xx denoting 0-99
- 00-99 = Customer special, unique label or testing, non-safety related changes, d and e are optional for specials

Note: Product Grade C may be replaced with an S for Straight Line Current Limit (5Vout only)

Sample model: VI-264-CU-BM-F1

Vicor, non-RoHS, Driver Module, 300 Vin, 48 Vout, Commercial, 200W, Battery Module, FinMOD (heatsink)

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IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

DC-DC Configurable MegaMod / MasterMod Model Matrix

VI-abccc-deee-xx-xx

VI = Product Type

VI = VI (Vicor), VI = VE (Vicor RoHS), VI = IP (VJCL), VI = IE (VJCL RoHS), VI = MI (Mil COTS)

a Product Configuration (maybe followed by "B" = Booster)

Configuration	No. of modules / outputs	Configuration	No. of modules / outputs
L =	1 module, 1 output	P =	2 modules, 2 outputs
M =	2 modules, 1 output	Q =	3 modules, 2 outputs
N =	3 modules, 1 output	R =	3 modules, 3 outputs

b Input Voltage (Vdc)

Nominal (range)	Nominal (range)	Nominal (range)
0 = 12 (10-20)	3 = 48 (42-60)	F = 165 (130-260)
V = 24 (10-36)	N = 48 (36-76)	5 = 150 (100-200)
1 = 24 (21-32)	4 = 72 (55-100)	6 = 300 (200-400)
W = 24 (18-36)	T = 110 (66-160)	7 = 225 (100-375)
2 = 36 (21-56)		

c Output Voltage (Vdc)

Designator	Output VDC	Designator	Output VDC
Z	2.0	2	15.0
Y	3.3	N	18.5
0	5.0	3	24.0
X	5.2	L	28.0
W	5.5	J	36.0
V	5.8	K	40.0
T	6.5	4	48.0
R	7.5	H	52.0
M	10.0	F	72.0
1	12.0	D	85.0
P	13.8	B	95.0

d Product Grade

E = Economy	-10C to 100 °C
C = Commercial	-25C to 100 °C
I = Industrial	-40C to 100 °C
M = Milcots	-55C to 100 °C

eee Output Power

U =	200W	M =	400W
V =	150W	P =	450W
W =	100W	Q =	600W
X =	75W	S =	300W
Y =	50W	N =	600W
Z =	25W	R =	600W
A =	10W	L =	200W

xx Options / Specials

00-99 Customer special, unique label or testing, non-safety related changes, d and e are optional for specials

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Product Service

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

Special Considerations – The following items are considerations that were used when evaluating these products. The VI-200 and Mega / MasterMod series of DC-DC converters are designed for building-in.

Conditions of Acceptability – When installed in the end use equipment, the following are among considerations to be made:

**VI-200 DC-DC Converter
MODULE SAFETY INSTRUCTION SHEET**

1. **Input Voltage:** Nameplate rating is the nominal input voltage. Vicor guarantees continuous operation over the entire specified voltage range.
2. **Baseplate Grounding:** A ground connection from baseplate to earth / chassis ground is required if baseplate is operator accessible.
3. **Max Temperature:** Keep the maximum baseplate temperature at 85°C or less measured at the center of the module or the middle mounting slot (negative pin side). Do not exceed 85°C under any condition.
4. **Over temperature:** If the baseplate temperature exceeds 85°C the module may shutdown. Cool module down and recycle the input power to restore operation. If the internal temperature of the module exceeds 95°C the module may be damaged.
5. **Output Voltage Trimming:** The module has a maximum allowable Trim of 110% of rated output voltage. Do not exceed maximum power output of the module. When trimmed down the maximum output current remains constant.
6. **Secondary outputs:** 48V and below comply with SELV. Outputs 52V to 95Vdc do not meet SELV requirements.
7. **Fusing Requirements:** To meet safety requirements, each module input requires a fuse as follows:

Series	Fuse	Series	Fuse
VI-20x-xx	12A / 125V	VI-2Nx-xx	8A / 125V
VI-2Vx-xx	12A / 125V	VI-24x-xx	6A / 125V
VI-21x-xx	12A / 125V	VI-2Tx-xx	Buss PC-Tron 5A
VI-2Wx-xx	12A / 125V	VI-25x-xx	Buss PC-Tron 5A
VI-22x-xx	8A / 125V	VI-26x-xx	Buss PC-Tron 3A
VI-23x-xx	8A / 125V	VI-27x-xx	Buss PC-Tron 3A

VI-2xx-xxx: the 2 = Driver Module maybe replaced by B = Booster Module (slave)

8. Refer to Vicor’s Design Guide and Applications Manual for information on proper use of modules.



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IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

**MegaMod / MasterMod DC-DC Configurable
MODULE SAFETY INSTRUCTION SHEET**

- Input Voltage:** Nameplate rating is the nominal input voltage. Vicor guarantees continuous operation over the entire specified voltage range.
- Baseplate Grounding:** A ground connection from baseplate to earth / chassis ground is required if baseplate is operator accessible.
- Max Temperature:** Keep the maximum baseplate temperature at 85°C or less measured at the center of the supply or the middle mounting slot (negative pin side). Do not exceed 85°C under any condition.
Note: Single, Dual and Triple output configurations of 225W are limited to 55°C
Single, Dual and Triple output configurations of 450W are limited to 55°C
- Over temperature:** If the baseplate temperature exceeds 85°C the supply may shutdown. Cool supply down and recycle the input power to restore operation. If the internal temperature of the supply exceeds 95°C the supply may be damaged.
- Output Voltage Trimming:** The module has a maximum allowable Trim of 110% of rated output voltage. Do not exceed maximum power output of the module. When trimmed down the maximum output current remains constant.
- Secondary outputs:** 48V and below comply with SELV. Outputs 52V to 95Vdc do not meet SELV requirements.
- Fusing Requirements:** To meet safety requirements the input requires a fuse as follows:

Nominal Input Voltage (Range)	Max P-out (Pout/module)	Mega / Master Series Model Number	Input Fuse (Max)		
			3 module Config: N, Q, R	2 module Config: M, P	1 module Config: L
150Vdc (100-375)	300W (100W)	VI-x7xxx-xxxx	PC-Tron 5A	PC-Tron 5A	PC-Tron 3A
300Vdc (200-400)	600W (200W)	VI-x6xxx-xxxx	PC-Tron 5A	PC-Tron 5A	PC-Tron 3A
150Vdc (100-200)	600W (200W)	VI-x5xxx-xxxx	10A, 125V	8A, 125V	PC-Tron 5A
110Vdc (66-160)	450W (150W)	VI-xTxxx-xxxx	10A, 125V	8A, 125V	PC-Tron 5A
72Vdc (55-100)	600W (200W)	VI-x4xxx-xxxx	15A, 125V	10A, 125V	6A, 125V
48Vdc (36-76)	600W (200W)	VI-xNxxx-xxxx	20A, 125V	15A, 125V	8A, 125V
48Vdc (42-60)	600W (200W)	VI-x3xxx-xxxx	25A, 125V	15A, 125V	8A, 125V
36Vdc (21-56)	300W (100W)	VI-x2xxx-xxxx	25A, 125V	15A, 125V	8A, 125V
24Vdc (18-36)	450W (150W)	VI-xWxxx-xxxx	25A, 125V	20A, 125V	12A, 125V
24Vdc (21-32)	450W (150W)	VI-x1xxx-xxxx	25A, 125V	20A, 125V	12A, 125V
24Vdc (10-36)	225W (75W)	VI-xVxxx-xxxx	25A, 125V	20A, 125V	12A, 125V
12Vdc (10-20)	225W (75W)	VI-x0xxx-xxxx	25A, 125V	20A, 125V	12A, 125V

- Refer to Vicor's Design Guide and Applications Manual for information on proper use of modules.



(William J. Stinson)

