

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

## CB TEST CERTIFICATE

Product	Information Technology Equipment DC to DC Converter
Name and address of the applicant	<b>Vicor Corporation</b> 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	Vicor Inc. 400 Federal Street, Andover MA 01810, USA
Ratings and principal characteristics	Rated Input Voltage: 400 VDC (260-410); 544 VDC (400-700) Rated Output Voltage: 50 V DC (32.5-51.3); 34 V DC (25.0-43.75) Rated Output Power: 1750 W; 1750 W Rated Output Current: 35 A; 40A Degree of Protection: IPX0
Trade mark (if any)	VICOR
Customer's Testing Facility (CTF) Stage used	CTF STAGE 3
Model/type Ref.	BCM4414VD1E5135T02 / Type: HV VIA BCM; BCM4414VG0F4440T02 / Type: UHV VIA BCM
Additional information (if necessary)	Certificate DE 3 – 502556 issued 2017-09-15 is replaced by this version due to technical changes
A sample of the product was tested and found to be in conformity with	IEC 60950-1:2005 IEC 60950-1:2005/AMD1:2009 IEC 60950-1:2005/AMD2:2013
as shown in the Test Report Ref. No. which forms part of this certificate	72130438-100

This CB Test Certificate is issued by the National Certification Body

CB 021433 0592 Rev. 00  
Date, 2019-08-07



( William J. Stinson )

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**High Voltage and Ultra High Voltage**

VIA BCM Model Matrix: BCMaaaaabccdwxyz

Example: BCM4414VD1E5135T00

BCM = Constant

Product Function	
BCM	Bus Converter Module

aaaa = 4414

Package Size (Length x Width)	
4414	4.4 in x 1.4 in
4914	4.9 in x 1.4 in

b = V

Package Type	
V	Chassis mount
B	Board mount

cc = D1

Max Input Voltage (range)	
D1	410 Vdc (260-410)
G0	700 Vdc (400-700)
H0	800 Vdc (500-800)

d = E

Range Ratio (Vin high / Vin low), used to define low line Vin	
E	1.6
F	1.8

ww = 51

Maximum Output Voltage (range)			
13	13 Vdc (8.1 - 12.8)	50	50 Vdc (31.2 - 50.0)
26	26 Vdc (16.3 - 25.6)	51	51 Vdc (32.5 - 51.3)
44	44 Vdc (25.0 - 43.75)		

xx = 35

Maximum Output Current			
35	35A	62 / 63	62.5A
40	40A	A2 / A3	125A

y = T

Product Grade					
C	-20 to 100°C	T	-40 to 100°C	M	-55 to 100°C

zz = 00

Customer Options, Communication type and pin type for PCB mount models (any alphanumeric, non-safety related, non-inclusive list of examples)			
00	No options	09	Analog communication, long pins
01	Analog communication	10	Digital communication, long pins
02	Digital communication	13	Analog communication, extra-long pins
05	Analog communication, short pins	14	Digital communication, extra-long pins
06	Digital communication, short pins	AD	Digital communication, extra-long socket pins
		AE	Digital communication, extra-long socket pins

Customer Special Part Number	Equivalent Standard Part Number
BCA400B500C1K8A31	BCM4914VD1E5135C02
BCA400B500T1K8A31	BCM4914VD1E5135T02
BCA400C500C1K8A31	BCM4914BD1E5135C06
BCA400C500T1K8A31	BCM4914BD1E5135T06
BCA400G500C1K8A31	BCM4914BD1E5135C10
BCA400G500T1K8A31	BCM4914BD1E5135T10

**License Conditions:**

The High Voltage and Ultra-High Voltage VIA BCM 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:

1. The housing of the VIA is required to be connected to protective earth in the end application.
2. The output is separated from the input internally by reinforced insulation.
3. The output is considered SELV for all models.
4. The SELV output (-LO) of the high current models (62.5A and 125A) is internally connected to the housing to create an earthed SELV circuit in the end use product.
5. The consequences of the circuit possibly being earthed at a second point should be considered in the end application per clause 2.9.4 NOTE 2.
6. A dielectric withstand test for Reinforced Insulation can't be performed on the final HV VIA assembly. See isolation drawings for construction details. A dielectric withstand test for Reinforced Insulation can be performed on the final UHV VIA assembly. See isolation drawings for construction details.
7. See de-rating curve for maximum output current vs. case temperature. Max case temperature assumes only single sided cooling with either the top or bottom side maintained at or below the maximum allowable temperature.
8. The High Voltage VIA BCMs with Vin from 260-410V were evaluated with fast acting external fuse rated 10A, Littelfuse 487 series or Littelfuse 505. Fuse may be provided in optional wiring harness.
9. The Ultra High Voltage VIA BCMs with Vin from 400-700V and 500-800V were evaluated with an external fuse rated 5A, Littelfuse SPF series rated 1000Vdc.
10. The UHV VIA BCM may be used with a Vicor AC-DC TPM (Three Phase VIA AIM) input module. This configuration was evaluated with a 600Vac / 5A Littelfuse KTK fuse placed on each of the 3 input phases. The KTK fuses are used in place of the SPF fuse specified in condition 9.
11. An external insulator or gap pad may be necessary to maintain the required Creepage and Clearance distances when the UHV VIA is attached to a conductive surface (chassis mounting or a heat sink).
12. Input capacitor discharge test to be evaluated as part of the end product

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