



Ref. Certif. No.

DK-32028-A1-UL

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST  
CERTIFICATES FOR ELECTRICAL EQUIPMENT  
(IECEE) CB SCHEMESYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC**CB TEST CERTIFICATE****CERTIFICAT D'ESSAI OC**Product  
Produit

AC-DC Adaptor

Name and address of the applicant  
Nom et adresse du demandeurBRIDGEPOWER CORP  
964 GOSAEK-DONG GWONSEON-GU  
SUWON-SI GYEONGGI-DO 441-813  
KOREAName and address of the manufacturer  
Nom et adresse du fabricantBRIDGEPOWER CORP  
964 GOSAEK-DONG GWONSEON-GU  
SUWON-SI GYEONGGI-DO 441-813  
KOREAName and address of the factory  
Nom et adresse de l'usineBRIDGEPOWER CORP  
964 GOSAEK-DONG GWONSEON-GU  
SUWON-SI GYEONGGI-DO 441-813  
KOREANote: When more than one factory, please report on page 2  
Note: Lorsque il y plus d'une usine, veuillez utiliser la 2<sup>eme</sup> pageRatings and principal characteristics  
Valeurs nominales et caractéristiques principales Additional Information on page 2  
See Page 2Trademark (if any)  
Marque de fabrique (si elle existe)  
Type of Manufacturer's Testing Laboratories used  
Type de programme du laboratoire d'essais  
constructeur

None

Model / Type Ref.  
Ref. De type

See Page 2

Additional information (if necessary may also be  
reported on page 2)  
Les informations complémentaires (si nécessaire,,  
peuvent être indiqués sur la 2<sup>eme</sup> page Additional Information on page 2A sample of the product was tested and found  
to be in conformity with  
Un échantillon de ce produit a été essayé et a été  
considéré conforme à la

IEC 60601-1(ed.3)

As shown in the Test Report Ref. No. which forms part  
of this Certificate  
Comme indiqué dans le Rapport d'essais numéro de  
référence qui constitue partie de ce Certificat

E302267-A66-CB-1 issued on 2014-01-17

This CB Test Certificate is issued by the National Certification Body

Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**

- UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
- UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK
- UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
- UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see [www.ul.com/ncbnames](http://www.ul.com/ncbnames)

Date: 2014-01-17

Original Issue Date: 2013-04-08

Signature:

Jan-Erik Storgaard

**Model Details:**

BP(1)050(2)(3)(4)(5) and BP(1)060(2)(3)(4)(5)

(1) - Family Related Designs: A to Z

(2) - Output: S (S=Single)

(3) - Output Voltage: 05, 06, 07, 09, 12, 14, 15, 16, 18, 19, 24, 48 (05; 5V or 5.3V, 06; 6V, 07;7V, 09; 9V, 12; 12V, 14; 13.8V, 15; 15V, 16; 16V, 18; 18V, 19; 19.5V, 24; 24V)

(4) - Standard Input Cord Options:

F : (Class I = IEC320-C14)

Q: (Class II = IEC320-C18)

N: ((Class II = IEC320-C8)

(5) - Custom Options (Marking, Cord etc.): Number 00 to 99

(1)ENB1050(2)(3)(4)(5)(6) and (1)ENB1060(2)(3)(4)(5)(6)

(1) - Family Related Designs: A to Z

(2) - Design Revision Changes: A to Z (Standard)

(3) - Output Voltage: 05, 06, 07, 09, 12, 14, 15, 16, 18, 19, 24, 48 (05; 5V or 5.3V, 06; 6V, 07;7V, 09; 9V, 12; 12V, 14; 13.8V, 15; 15V, 16; 16V, 18; 18V, 19; 19.5V, 24; 24V)

(4) - Standards Output Cord Options: Number 00 to 99

(5) - Standard Input Cord Options:

F: (Class I = IEC320-C14)

Q: (Class II = IEC320-C18)

N: ((Class II = IEC320-C8)

(6) - Custom Options (Marking, Cord etc.): Number 00 to 99

**Factories:**

WENDENG JEIL ELECTRONICS CO LTD  
DONG SHOU GUANGZHOU LU KAIFA-QU  
WENDENG-SHI SHANDONG  
CHINA

**Ratings:**

For Model BP(1)050(2)(3)(4)(5) and (1)ENB1050(2)(3)(4)(5)(6)

- Rated Input: 100-240 Vac, 50-60Hz, 1.5 A(1.5 A-0.7 A).

- Rated Output: +5Vdc/6A +5.3Vdc/6/6A or +6Vdc/5A or +6Vdc/7A or 7Vdc/5.0A or 9Vdc/5A or 12Vdc/4.2A or 12Vdc/4.26A or 13.8Vdc/3A or 15Vdc/3.36A or 15Vdc/3.41A or 16Vdc/3.15A or 18Vdc/2.8A or 18Vdc/2.84A or 19.5Vdc/2.6A or 24Vdc/2.1A or 24Vdc/2.13A

For Model BP(1)060(2)(3)(4)(5) and (1)ENB1060(2)(3)(4)(5)(6)

- Rated Input: 100-240 Vac, 50-60Hz, 1.5 A(1.5 A-0.7 A).

- Rated Output: +5Vdc/7A 5.3V/6.6A or +6Vdc/6A or +6Vdc/7A or 7Vdc/5.0A or 9Vdc/6A or 12Vdc/5A or 13.8Vdc/4.34A or 15Vdc/4A or 16Vdc/3.7A or 18Vdc/3.4A or 19.5Vdc/2.6A or 24Vdc/2.7A

**Additional Information:**

Additionally evaluated to EN 60601-1: 2006 ;

National Differences specified in the CB Test Report.

The original report was modified to include the following changes/additions:

Addition of output rating.

**Additional information (if necessary)**

**Information complémentaire (si nécessaire)**



UL (US), 333 Pflingsten Rd IL 60062, Northbrook, USA

UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK

UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN

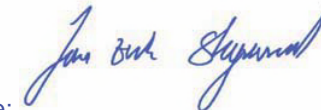
UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see [www.ul.com/ncbnames](http://www.ul.com/ncbnames)

Date: 2014-01-17

Original Issue Date: 2013-04-08

Signature:



Jan-Erik Storgaard

	Test Report issued under the responsibility of:	
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<b>TEST REPORT IEC 60601-1 Medical Electrical Equipment Part 1: General requirements for basic safety and essential performance</b>	
<b>Report Reference No</b> .....	E302267-A66-CB-1
<b>Date of issue</b> .....	2013-04-08
<b>Total number of pages</b> .....	26
<b>CB Testing Laboratory</b> .....	UL Korea, Ltd.
<b>Address</b> .....	#808, Manhattan Building, 36-2 Yeouido-Dong, Yeongdeungpo-Gu, Seoul 150-749, Korea
<b>Applicant's name</b> .....	BRIDGEPOWER CORP 964 GOSAEK-DONG
<b>Address</b> .....	GWONSEON-GU SUWON-SI GYEONGGI-DO 441-813 KOREA
<b>Test specification:</b>	
Standard .....	IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007)
Test procedure .....	CB Scheme
Non-standard test method .....	N/A
<b>Test Report Form No.</b> .....	IEC60601_1G
Test Report Form originator .....	UL LLC
Master TRF .....	Dated 2010-11
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If this test Report is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.	
<b>This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.</b>	

<b>Test item description</b> .....	AC-DC Adaptor
Trade Mark .....	None
Manufacturer .....	BRIDGEPOWER CORP 964 GOSAEK-DONG GWONSEON-GU SUWON-SI GYEONGGI-DO 441-813 KOREA
Model/Type reference .....	BP(1)050(2)(3)(4)(5) and BP(1)060(2)(3)(4)(5) (1) - Family Related Designs: A to Z (2) - Output: S (S=Single) (3) - Output Voltage: 05, 06, 07, 09, 12, 14, 15, 16, 18, 19, 24, 48 (05; 5V or 5.3V, 06; 6V, 07;7V, 09; 9V, 12; 12V, 14; 13.8V, 15; 15V, 16; 16V, 18; 18V, 19; 19.5V, 24; 24V) (4) - Standard Input Cord Options: F : (Class I = IEC320-C14) Q: (Class II = IEC320-C18) N: ((Class II = IEC320-C8) (5) - Custom Options (Marking, Cord etc.): Number 00 to 99  (1)ENB1050(2)(3)(4)(5)(6) and (1)ENB1060(2)(3)(4)(5)(6) (1) - Family Related Designs: A to Z (2) - Design Revision Changes: A to Z (Standard) (3) - Output Voltage: 05, 06, 07, 09, 12, 14, 15, 16, 18, 19, 24, 48 (05; 5V or 5.3V, 06; 6V, 07;7V, 09; 9V, 12; 12V, 14; 13.8V, 15; 15V, 16; 16V, 18; 18V, 19; 19.5V, 24; 24V) (4) - Standards Output Cord Options: Number 00 to 99 (5) - Standard Input Cord Options: F: (Class I = IEC320-C14) Q: (Class II = IEC320-C18) N: ((Class II = IEC320-C8) (6) - Custom Options (Marking, Cord etc.): Number 00 to 99
Ratings .....	For Model BP(1)050(2)(3)(4)(5) and (1)ENB1050(2)(3)(4)(5)(6) - Rated Input: 100-240 Vac, 50-60Hz, 1.5 A(1.5 A-0.7 A). - Rated Output: +5Vdc/6A +5.3Vdc/6/6A or +6Vdc/5A or +6Vdc/7A or 7Vdc/5.0A or 9Vdc/5A or 12Vdc/4.2A or 12Vdc/4.26A or 13.8Vdc/3A or 15Vdc/3.36A or 15Vdc/3.41A or 16Vdc/3.15A or 18Vdc/2.8A or 18Vdc/2.84A or 19.5Vdc/2.6A or 24Vdc/2.1A or 24Vdc/2.13A  For Model BP(1)060(2)(3)(4)(5) and (1)ENB1060(2)(3)(4)(5)(6) - Rated Input: 100-240 Vac, 50-60Hz, 1.5 A(1.5 A-0.7 A). - Rated Output: +5Vdc/7A 5.3V/6.6A or +6Vdc/6A or +6Vdc/7A or 7Vdc/5.0A or 9Vdc/6A or 12Vdc/5A or 13.8Vdc/4.34A or 15Vdc/4A or 16Vdc/3.7A or 18Vdc/3.4A or 19.5Vdc/2.6A or 24Vdc/2.7A

<b>Testing procedure and testing location:</b>	
<input checked="" type="checkbox"/>	<p><b>CB Testing Laboratory</b>                  Testing location / address..... : UL Korea, Ltd. #808, Manhattan Building, 36-2 Yeouido-Dong, Yeongdeungpo-Gu, Seoul 150-749, Korea</p> <p><input type="checkbox"/> <b>Associated CB Test Laboratory</b>                  Testing location / address..... :                  Tested by (name + signature) ..... : EoJin Lim</p> <p>Approved by (name + signature) ... : DongGug Cho</p>
<input type="checkbox"/>	<p><b>Testing Procedure: TMP</b>                  Tested by (name + signature) ..... : _____                  Approved by (+ signature) ..... : _____                  Testing location / address..... : _____</p>
<input type="checkbox"/>	<p><b>Testing Procedure: WMT</b>                  Tested by (name + signature) ..... : _____                  Witnessed by (+ signature)..... : _____                  Approved by (+ signature) ..... : _____                  Testing location / address..... : _____</p>
<input type="checkbox"/>	<p><b>Testing Procedure: SMT</b>                  Tested by (name + signature) ..... : _____                  Approved by (+ signature) ..... : _____                  Supervised by (+ signature) ..... : _____                  Testing location / address..... : _____</p>
<input type="checkbox"/>	<p><b>Testing Procedure: RMT</b>                  Tested by (name + signature) ..... : _____                  Approved by (+ signature) ..... : _____                  Supervised by (+ signature) ..... : _____                  Testing location / address..... : _____</p>

<b>List of Attachments</b>	
National Differences (2 pages)	
Enclosures (2 pages)	
<b>Summary Of Testing</b>	
Unless otherwise indicated, all tests were conducted at UL Korea, Ltd. #808, Manhattan Building, 36-2 Yeouido-Dong, Yeongdeungpo-Gu, Seoul 150-749, Korea.	
<b>Tests performed (name of test and test clause)</b>	<b>Testing location / Comments</b>
Power Input Test (4.11)	
<b>Summary of Compliance with National Differences:</b>	

Issue Date: 2013-04-08  
Amendment 1 2014-01-17

Page 4 of 26

Report Reference #

E302267-A66-CB-1

Countries outside the CB Scheme membership may also accept this report.

List of countries addressed: AT, BE, CA, CH, CZ, DE, DK, FI, FR, GB, HU, IT, NL, NO, PL, SE, SI, SK, TR, UA, US

The product fulfills the requirements of: N/A

**Copy of Marking Plate** - Refer to Enclosure titled Marking Plate for copy.

<b>Test item particulars (see also Clause 6):</b>	
Classification of installation and use .....	Hand-held or Portable
Device type (component/sub-assembly/ equipment/ system) .....	Component power supply
Intended use (Including type of patient, application location) .....	To supply regulated power.
Mode of operation .....	Continuous
Supply connection .....	Appliance inlet
Accessories and detachable parts included .....	None
Other options include .....	None
<b>Testing:</b>	
Date of receipt of test item(s) .....	2014-01-09
Dates tests performed .....	2014-01-09
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	N / A
- test object does meet the requirement .....	P(Pass)
- test object was not evaluated for the requirement :	N / E
- test object does not meet the requirement .....	F(Fail)
<b>Abbreviations used in the report:</b>	
- normal condition .....	N.C. - single fault condition .....
- means of Operator protection .....	MOOP - means of Patient protection .....
<b>General remarks:</b>	
<p>"(see Attachment #)" refers to additional information appended to the report.                  "(see appended table)" refers to a table appended to the report.</p> <p>The test results presented in this report relate only to the object tested.                  This report shall not be reproduced, except in full, without the written approval of the testing laboratory.                  List of test equipment must be kept on file and available for review.                  Additional test data and/or information provided in the attachments to this report.</p> <p>Throughout this report a point is used as the decimal separator.</p>	
<b>Manufacturer's Declaration per Sub Clause 4.2.5 of IECEE 02:</b>	
Yes	
<p>The application for obtaining a CB Test Certificate includes more than one factory and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....</p> <p>When differences exist, they shall be identified in the General Product Information section.</p>	
<b>Name and address of Factory(ies):</b>	BRIDGEPOWER CORP 964 GOSAEK-DONG GWONSEON-GU SUWON-SI GYEONGGI-DO 441-813 KOREA  WENDENG JEIL ELECTRONICS CO LTD DONG SHOU GUANGZHOU LU KAIFA-QU

WENDENG-SHI SHANDONG CHINA

**GENERAL PRODUCT INFORMATION:**

**Report Summary**

The original report was modified on 2014-01-17 to include the following changes/additions:  
Project No. 4786191420 (E302267-A66, Amendment 1)  
- Addition of output rating (5.3 Vdc / 6.6 A)

**Product Description**

Products are component power supplies intended to be used as part of Medical Electrical Equipment. This AC-DC Adaptor provides 2MOPP isolation from Primary to Secondary/Enclosure(for Class I and Class II construction) and/or 1MOPP isolation from Primary to Earth (for Class I construction). It contains the mains transformer with UL Recognized Insulation System.  
This product is the AC-DC Adaptor of the switching type power supply, which electronic components are mounted on PWB and housed in plastic enclosure and provided with appliance inlet.

**Model Differences**

Models BP(1)050(2)(3)(4)(5) and (1)ENB1050(2)(3)(4)(5)(6) are identical, except to model designation. (See cover page for detail.)

Models BP(1)060(2)(3)(4)(5) and (1)ENB1060(2)(3)(4)(5)(6) are identical, except to model designation. (See cover page for detail.)

Models BP(1)050(2)(3)(4)(5) and Models BP(1)060(2)(3)(4)(5) are identical, except to model designation and rated output current. (See cover page for detail.)

The below information is nomenclature detail for BP(1)050(2)(3)(4)(5) and BP(1)060(2)(3)(4)(5):

- (1) - Family Related Designs: A to Z
- (2) - Output: S (S=Single)
- (3) - Output Voltage: 05, 06, 07, 09, 12, 14, 15, 16, 18, 19, 24(05; 5V or 5.3V, 06; 6V, 07; 7V, 09; 9V, 12; 12V, 14; 13.8V, 15; 15V, 16; 16V, 18; 18V, 19; 19.5V, 24; 24V)
- (4) - Standard Input Cord Options:  
F : (Class I = IEC320-C14)  
Q: (Class II = IEC320-C18)  
N: ((Class II = IEC320-C8)
- (5) - Custom Options (Marking, Cord etc.): Number 00 to 99

The below information is nomenclature detail for (1)ENB1050(2)(3)(4)(5)(6) and (1)ENB1060(2)(3)(4)(5)(6):

- (1) - Family Related Designs: A to Z
- (2) - Design Revision Changes: A to Z (Standard)
- (3) - Output Voltage: 05, 06, 07, 09, 12, 14, 15, 16, 18, 19, 24 (05; 5V or 5.3V, 06; 6V, 07; 7V, 09; 9V, 12; 12V, 14; 13.8V, 15; 15V, 16; 16V, 18; 18V, 19;19.5V, 24; 24V)
- (4) - Standards Output Cord Options: Number 00 to 99
- (5) - Standard Input Cord Options:  
F: (Class I = IEC320-C14)  
Q: (Class II = IEC320-C18)  
N: ((Class II = IEC320-C8)
- (6) - Custom Options (Marking, Cord etc.): Number 00 to 99



### **Additional Information**

Except power input test, all test record is derived from records of tests for same products of report reference UL file No. E302267-12CA23558 and CB certificate No. DK-26465 which test record has been deemed appropriate for use in this report.

Project No. 4786191420 (E302267-A66, Amendment 1)  
- Addition of output rating (5.3 Vdc / 6.6 A)

### **Technical Considerations**

- The product was investigated to the following additional standards: EN 60601-1: 2006 + CORR: 2010 (Medical electrical equipment Part 1: General requirements for basic safety and essential performance)
- The product was not investigated to the following standards or clauses: Electromagnetic Compatibility (IEC 60601-1-2), Clause 14, Programmable Electronic Systems, Biocompatibility (ISO 10993-1), , Patient applied parts clauses: 4.6, 7.2.10, 8.3, 8.5.2, 8.5.5, 8.7.4.7-8.7.4.9, 8.9.1.15, , Battery related clauses: 7.3.3, 15.4.3, , Hand Control related clauses: 8.10.4, , Oxygen related clauses: 11.2.2, , Fluids related clauses: 11.6.2 - 11.6.4, Sterilization clause: 11.6.7, , Motor related clauses: 13.2.13.3, 13.4, , Heating Elements related clause: 13.2, Flammable Anesthetic Mixtures Protection: Annex G
- The degree of protection against harmful ingress of water is: Ordinary
- The following accessories were investigated for use with the product: No
- The mode of operation is: Continuous
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide: No
- Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product: Clause 7.5 (Safety Signs), Clause 7.9 (Accompanying Documents), Clause 9 (Mechanical Hazard), Clause 10 (Radiation), Clause 14 (PEMS), Clause 16 (ME Systems) --
- • These power supplies have been previously evaluated by UL to under CB report No. E302267-12CA23558 and CB certificate No. DK-26465. Only power input test for output voltage 19.5 V is tested. --
- The product is Classified only to the following hazards: Casualty, Fire, Shock --
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No --
- The product is suitable for use in the presence of a flammable anaesthetics mixture with air or oxygen or with nitrous oxide: No --
- The product has been considered for Pollution Degree 2 and Overvoltage Category II --

### **Engineering Conditions of Acceptability**

When installed in an end-product, consideration must be given to the following:

- Considerations to the applied parts requirement, to be conducted as end-product --
- Consideration should be given to measuring the temperature on power electronic components and transformer windings when the power supply is installed in the end-use equipment. The end-use product shall ensure that the power supply is used within its ratings. --
- The output circuits have not been evaluated for direct patient connection (Type B, BF or CF). --
- The component shall be installed in compliance with the enclosure, mounting, marking, spacing, and separation requirements of the end use application. --

- Power supply provides the following MOPP (means of patient protection): 2 MOPP based upon a rated voltage 240 Vrms and a working voltage 540 Vpk between Primary and Secondary/Enclosure and 1 MOPP based on a rated voltage 240 Vrms between Primary and Earth. --
- Temperature, Leakage Current, Protective Earthing, Dielectric Voltage Withstand, and Marking Legibility tests should be considered as part of the end product evaluation. --
- The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tmra) of 40 °C at Full Load. --
- Magnetic devices (T1) employ a Class B (130°C) insulation system. --
- The PWB is rated 105°C minimum. --
- The products were tested on a 15 A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary. --
- The end-product evaluation shall ensure that the requirements related to Accompanying Documents, Clause 7.9 are met. --
- End product Risk Management Process to include consideration of requirements specific to the Power Supply. --
- End product Risk Management Process to consider the need for different orientations of installation during testing. --
- Power Supply tested for 48 hours Humidity Preconditioning. End product Risk Management Process to determine risk acceptability criteria. --
- End product to determine the acceptability of risk in conjunction to insulation to resistance to heat, moisture, and dielectric strength. --
- Temperature Test was conducted without Test Corner due to no heating elements incorporated in this power supply. End product to determine the acceptability of risk in conjunction to temperature testing without test corner as part of the power supply. --
- End product to determine the acceptability of risk in conjunction to the results of Mechanical Testing conducted. --