CERTIFICATE OF COMPLIANCE

Certificate Number	20140602-E146893
Report Reference	E146893-A47-UL
Issue Date	2013-JUNE-02
Issued to:	XP POWER L L C SUITE 150, 1241 E DYER RD SANTA ANA CA 92705
This is to certify that representative samples of	COMPONENT - Power Supplies, Medical and Dental See Addendum Page
	Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	ANSI/AAMI ES60601-1 - Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance CAN/CSA-C22.2 No. 60601-1 - Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Recognized Component Marks for the U.S. and Canada should be considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada: and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.

William R. Carney, Director, North American Certification Programs

UL LLC

CERTIFICATE OF COMPLIANCE

Certificate Number	20140602-E146893
Report Reference	E146893-A47-UL
Issue Date	2013-JUNE-02

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Component switching power supply - CCB200PSXXYY, (where the "XX" can be any number between 12 to 56 indicating main output voltage, "YY" can be SF or blank indicating Single Fuse), may also be provided with additional suffixes "-S", "-C", "-L", and/or "A".

William R. Carney

William R. Carney, Director, North American Certification Programs

UL LLC

UL TEST REPORT AND PROCEDURE

Standard:	ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10)(Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance)
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8 (Power Supplies, Medical and Dental)
Product:	Component switching power supply
Model:	CCB200PSXXYY, (where the "XX" can be any number between 12 to 56 indicating main output voltage, "YY" can be SF or blank indicating Single Fuse), may also be provided with additional suffixes "-S", "-C", "-L", and/or "A".
Rating:	Input: 100-240 Vac, 50/60Hz, 2.4 A Max. Output: See Model Differences for details.
Applicant Name and Address:	XP POWER L L C SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Melissa DeGuia Reviewed by: Bernadette Matsuoka

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.

ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.

iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

The models covered in this report are component power supplies intended for use in Medical Electrical Equipment. They are open frame power supplies intended for building-in

Model Differences

All models in the Model CCB200PSXX-YY Series are identical with exception to the Mains Transformer (T1) and minor secondary components that allow for different output voltage ratings.

Output Ratings:
CCB200PS12: 10.1Vdc to 13.5Vdc, 16.7A Max., 200 W Max.
CCB200PS15: 13.6Vdc to 17Vdc, 13.3A Max. 200 W Max.
CCB200PS18: 17.1Vdc to 21Vdc, 11.1A Max. 200 W Max.
CCB200PS24: 21.1Vdc to 26Vdc, 8.3A Max. 200 W Max.
CCB200PS28: 26.1Vdc to 31Vdc, 7.1A Max. 200 W Max.
CCB200PS33: 31.1Vdc to 33Vdc, 6.1A Max. 200 W Max.
CCB200PS36: 33.1Vdc to 42Vdc, 5.6A Max. 200 W Max.
CCB200PS48: 42.1Vdc to 54Vdc, 4.2A Max. 200 W Max.
CCB200PS56: 54.1Vdc to 56Vdc, 3.57 A Max. 200 W Max

Suffix "SF" indicates single fuse provided in the line side of the primary.

Units provided with suffix "-C" provided with cover.

Units provided with suffix "-S" provided with screw terminal.

Units provided with suffix "-L" provided with input leads.

Units provided with suffix "-A" provided with 5V Stand-by output rated 5Vdc, 0.5A.

See Enclosure - Miscellaneous 7-02 for max power output based on model, ambient and cover options.

Technical Considerations

- Classification of installation and use : for building-in
- Device type (component/sub-assembly/ equipment/ system) : Component
- Intended use (Including type of patient, application location) : Component switching power supply
- Mode of operation : Continuous
- Supply connection : for building-in
- Accessories and detachable parts included : None
- Other options include : None
- The product was investigated to the following additional standards:: ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) (includes Deviations for United States), CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) (includes National Differences for Canada), IEC 60601-1: Edition 3.1, 2012-08
- 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)

- The degree of protection against harmful ingress of water is:: Ordinary
- 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
- The means of connection to the mains supply is: for building-in, to be determined in end-product

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- These components have been judged on the basis of the required spacings in the ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10)(Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance)CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance), which covers the end-use product for which the component was designed
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: 70°C at full rated load and 85°C at 50% of rated load. For models provided with the optional 5V standby, the manufacturer's maximum ambient temperature is 50°C. See Enclosure Miscellaneous 7-02 for additional information regarding power output.
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed: 240 Vrms, 340 Vpk, Primary-Secondary: 240 Vrms, 446 Vpk. Models with -A suffix, Primary - Earthed: 240Vrms, 241Vpk; Primary- Secondary: 181Vrms, 468Vpk.
- The power supply terminals and/or connectors are: Not investigated for field wiring
- The maximum investigated branch circuit rating is: 20 A
- The investigated Pollution Degree is: 2
- Proper bonding to the end-product main protective earthing termination is: Required
- An investigation of the protective bonding terminals has: Not been conducted
- The following input terminals/connectors must be connected to the end-product supply neutral: Input Connector (CON1) N terminal.
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): T1, T2 (Class F, 155°C)
- The following end-product enclosures are required: Electrical, Mechanical, Fire
- Suitable disconnect device is to be provided in the end system
- Temperature, Leakage and Dielectric Strength testing shall be considered in the end system and consideration of non-frequency weighted leakage current (clause 8.7.3e) to also be considered as part of the end product.
- Clearance spacing evaluated for 5000 m altitude. Additional consideration maybe necessary in the end-use product.
- Printed Wiring Board rated 130°C
- Units provided with additional suffix “SF”, provided with only one fuse. The need for additional fusing shall be determined as part of the end product.
- Heatsinks are floating and considered live. They should not be accessible in the end-product
- The device shall be installed in compliance with the enclosure, mounting, spacing, casualty, markings, and segregation requirements of the end-use application

- The power supplies without the suffix A were evaluated as having 2 MOPP between primary-to-secondary for 240Vrms, 446Vpk, 1 MOPP between primary-to-ground for 240Vac and 354Vpk. In addition Models CCB200PSXX, where XX is 12 to 36 only were evaluated for 2 MOPP between secondary to earth for working voltage of 42Vdc and 1 MOPP for a working voltage of 250Vrms between secondary and earth for BF output considerations.
- ME Equipment is component for building-in. Applicability of the following is to be determined in End Product Evaluation: 5.9 - Accessibility, 7 - Identification marking and Documents, 8.4.2 - Accessible Parts Including Applied Parts, 8.6 - Protective Earthing, 8.11.1 - Isolation from Supply Mains, 8.11.3 - Power Supply Cords, 9 - Protection against mechanical hazards, 11.3 - Fire Enclosure, 11.8 - Interruption of power supply, 15.3 - Mechanical Strength, 15.4.1 - Construction of Connectors, 15.4.4 - Indicators
- Overcurrent releases of adequate breaking capacity must be employed in the end product.
- Models with -A suffix were evaluated for 1 MOPP between Primary - Earth: 240Vrms, 241Vpk; 2 MOPP between Primary- Secondary: 240Vrms, 468Vpk. In addition Models CCB200PSXX–A, where XX is 12 to 36 only were evaluated for 2 MOPP between secondary to earth for working voltage of 42Vdc and 1 MOPP for a working voltage of 250Vrms between secondary and earth for BF output considerations.

Additional Information

The required clearance values have been assessed for suitability up to 5000 m elevation (1.29 correction factor as per Table 8 of IEC 60601-1).

The models covered under this Report were additionally evaluated to IEC 60601-1: Edition 3.1, 2012-08. See Enclosures - Miscellaneous 7-03 for details.

The need for the additional testing and evaluation shall be determined in the end product investigation

The nameplate markings provided as an Enclosure - Marking Plate are considered representative of the entire series.

The power supply series covered by this report employ 2 MOPP between Primary and Secondary circuits.

Testing to IEC 60601-1-2 was not conducted by UL and no supporting evidence of compliance has been presented. When submitting this Test Report to other Certification Body, the manufacturer is responsible for providing any additional information that the Body may need in order to issue its Mark, including testing for compliance with IEC 60601-1-2.

Additional Standards

The product fulfills the requirements of: EN 60601-1:2006 + CORR:2010, IEC 60601-1: Edition 3.1, 2012-08

Markings and instructions

Clause Title	Marking or Instruction Details
Company identification	Classified or Recognized company's name, Trade name, Trademark or File
Model	Model number
Supply Connection	Voltage range, ac/dc, phases if more than single phase

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2011-12-19 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Component Recognition
CCN:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	Switching Power Supply
Model:	CCB200PSXXYY, (where the "XX" can be any number between 12 to 56 indicating main output voltage, "YY" can be SF or blank indicating Single Fuse), may also be provided with additional suffixes "-S", "-C", "-L", and/or "A".
Rating:	Input: 100-240 Vac, 50/60Hz, 2.4 Max. Output: See Model Differences for details.
Applicant Name and Address:	XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Nathan Escalante Reviewed by: David Drewes

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.

ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.

iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

The models covered in this report are component power supplies intended for use in Information Technology Equipment. They are open frame power supplies intended for building-in.

Model Differences

All models in the Model CCB200PSXX-YY Series are identical with exception to the Mains Transformer (T1) and minor secondary components that allow for different output voltage ratings. See below for Model Ratings at 70°C Table Below:

Output Ratings:
CCB200PS12: 10.1Vdc to 13.5Vdc, 16.7A Max., 200 W Max.
CCB200PS15: 13.6Vdc to 17Vdc, 13.3A Max. 200 W Max.
CCB200PS18: 17.1Vdc to 21Vdc, 11.1A Max. 200 W Max.
CCB200PS24: 21.1Vdc to 26Vdc, 8.3A Max. 200 W Max.
CCB200PS28: 26.1Vdc to 31Vdc, 7.1A Max. 200 W Max.
CCB200PS33: 31.1Vdc to 33Vdc, 6.1A Max. 200 W Max.
CCB200PS36: 33.1Vdc to 42Vdc, 5.6A Max. 200 W Max.
CCB200PS48: 42.1Vdc to 54Vdc, 4.2A Max. 200 W Max.
CCB200PS56: 54.1Vdc to 56Vdc, 3.6 A Max. 200 W Max

See Miscellaneous enclosure Power Output Table for additional information regarding power output and the various configurations.

Suffix "SF" indicates single fuse provided in the line side of the primary.

Units provided with suffix "-C" provided with cover.

Units provided with suffix "-S" provided with screw terminal.

Units provided with suffix "-L" provided with input leads.

Units provided with suffix "-A" provided with 5V Stand-by output rated 5Vdc, 0.5A.

Technical Considerations

§ Equipment mobility : for building-in

- § Connection to the mains : for building-in
- § Operating condition : continuous
- § Access location : for building-in
- § Over voltage category (OVC) : OVC II
- § Mains supply tolerance (%) or absolute mains supply values : +10%, -10%
- § Tested for IT power systems : Yes
- § IT testing, phase-phase voltage (V) : 230
- § Class of equipment : Class I
- § Considered current rating of protective device as part of the building installation (A) : 20 A
- § Pollution degree (PD) : PD 2
- § IP protection class : IP X0
- § Altitude of operation (m) : 5000
- § Altitude of test laboratory (m) : less than 2000 meters
- § Mass of equipment (kg) : 0.394 without cover; 0.582 with cover
- § The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 70°C at full rated load and 85°C at half rated load. See Miscellaneous enclosure Power Output Table for additional information regarding power output and the various configurations.
- § The means of connection to the mains supply is: for building-in, to be determined in end-product., ,
- § The product is intended for use on the following power systems: IT, TN
- § The equipment disconnect device is considered to be: for building-in, to be determined in end-product.,
- § The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 (which includes all European national differences, including those specified in this test report).

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- § The following Production-Line tests are conducted for this product: Electric Strength
- § The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed: 244 Vrms, 353 Vpk, Primary-SELV: 338 Vrms, 562 Vpk,
- § The following secondary output circuits are SELV: All outputs, except model CCB200PS56.
- § The following secondary output circuits are at hazardous energy levels: All Outputs
- § The power supply terminals and/or connectors are: Not investigated for field wiring
- § The maximum investigated branch circuit rating is: 20 A
- § The investigated Pollution Degree is: 2
- § Proper bonding to the end-product main protective earthing termination is: Required
- § An investigation of the protective bonding terminals has: Not been conducted
- § The following input terminals/connectors must be connected to the end-product supply neutral: Input Connector (CON1) N terminal.
- § The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation

system with the indicated rating greater than Class A (105°C): T1, T2 (Class F, 155°C),

- § The following end-product enclosures are required: Electrical, Mechanical, Fire
- § Suitable disconnect device is to be provided in the end system.
- § Temperature, Leakage and Dielectric Strength testing shall be considered in the end system.
- § Clearance spacing evaluated for 5000 m altitude. Additional consideration maybe necessary in the end-use product.
- § Printed Wiring Board rated 130°C.
- § The equipment is provided with a fuse in both the Line and Neutral of the primary circuit. The need for a marking warning service person of the hazards associated with neutral fusing shall be considered in the end-product.
- § Heatsinks are floating and considered live. They should not be accessible in the end-product.
- § Heating test was not conducted on unit with input/output leads. If unit is provided with input and/or output leads, then temperature on leads must be measured and cannot exceed 105°C.

Additional Information

The required clearance values have been assessed for suitability up to 5000 m elevation (1.48 correction factor as per IEC 60664-1, Table A2).

The need for the additional testing and evaluation shall be determined in the end product investigation.

The nameplate markings provided as an Enclosure - Marking Plate are considered representative of the entire series. The word "BETA" on the marking label is not a part of the model designation.

The power supply series covered by this report employ Double/Reinforced Insulation between Primary and Secondary circuits.

Additional Standards

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011, EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011, UL 60950-1 2nd Ed. Revised 2011-12-19, IEC 60950-1:2005 + A1:2009

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Fuses - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel

Special Instructions to UL Representative

N/A

Production-Line Testing Requirements

Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
N/A						

Earthing Continuity Test Exemptions - This test is not required for the following models:

All Models

Electric Strength Test Exemptions - This test is not required for the following models:

Electric Strength Test Component Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test:

Sample and Test Specifics for Follow-Up Tests at UL

Model	Component	Material	Test	Sample(s)	Test Specifics
N/A					