CERTIFICATE OF COMPLIANCE

Certificate Number	20130419-E146893
Report Reference	E146893-A38-UL
Issue Date	2013-APRIL-19

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 (2005 + C1:09 + A2:10) & CAN/CSA-C22.2 No. 60601-1 (2008), (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

William R. Carney, Director, North American Certification Programs

UL LLC

CERTIFICATE OF COMPLIANCE

Certificate Number	20130419-E146893
Report Reference	E146893-A38-UL
Issue Date	2013-APRIL-19

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

Product: Power Supply, Model: CCM250PSXXYY, where XX can be any number between 12 to 48 designating the output voltage and where YY is SF or blank to indicate single pole fusing and CCM250PS12-XB0352

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:	Power Supply
Model:	CCM250PSXXYY, where XX can be any number between 12 to 48 designating the output voltage and where YY is SF or blank to indicate single pole fusing and CCM250PS12-XB0352
Rating:	Models CCM250PSXXYY: Input Rated: 100-240 V~, 50/60 Hz, 3.2A max Model CCM250PS12-XB0352: Input Rated: 100-240 V~, 50/60 Hz, 3.2A max, or 133-337Vdc, 3.2A 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.

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: Bernadette Matsuoka Reviewed by: Melissa DeGuia

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

Products covered are open frame power supplies intended for building-in to be used with Medical Electrical Equipment. Units are intended for used with Class I end-products.

Model Differences

All models in the Model CCM250PSXXYYseries are identical with exception to the Mains Transformer (TR1), primary fusing, and minor secondary components that allow for different output voltage ratings. See below for maximum output ratings for up to 50°C:

Model CCM250PS12: 12 Vdc, 20.8 A
Model CCM250PS15: 15 Vdc, 16.7 A
Model CCM250PS24: 24 Vdc, 10.4 A
Model CCM250PS28: 28 Vdc, 8.9 A
Model CCM250PS36: 36 Vdc, 6.9 A
Model CCM250PS48: 48 Vdc, 5.2 A

Model CCM250PS12-XB0352 is the same as Model CCM250PS12 except for the rating: Input Rated: 100-240 V~, 50/60 Hz, 3.2A, or 133-337Vdc, 3.2A max and output rated 12Vdc, 20.8A; V Standby: 5Vdc, 0.5A

The outputs are linearly derated to 50% of the maximum output ratings in a 70°C ambient

Additional Suffix "SF" denotes units provided with only a single line side fuse.

Technical Considerations

- Classification of installation and use : Building-in
- 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 : Building-in, to be determined in the end product
- 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), 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:: Biocompatibility (ISO 10993-1), Clause 14, Programmable Electronic Systems, Electromagnetic Compatibility (IEC 60601-1-2)
- 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 power supply was evaluated for use in 50°C ambient at Full Rated Output and 50% of the Rated Output in 70°C ambient.

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 component shall be considered for compliance with the Marking (clause 7) and Separation (clause 8) requirements as part of the end use application evaluation.
- Repeat of leakage current testing and consideration of non-frequency weighted leakage to be considered as part of the end product.
- This power supply was evaluated with Two MOPP between Primary and Secondary; One MOPP primary and Earth.
- This power supply has been evaluated as a continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The end product shall ensure that the requirements related to accompanying documents, clause 7.9, are met.
- The available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions.
- The following secondary output circuits are at hazardous energy levels: Main Power Output
- The output connectors are not acceptable for field connections; they are only intended for connection to mating connectors of the end-use equipment.
- The Dielectric Strength Test conducted on this power supply was based upon a maximum working voltage of: Primary-Earthed Dead Metal: 356 Vpk, 244 Vrms; Primary-SEC: 680 Vpk, 323 Vrms.
- For Class I application: Protective bonding testing shall be considered in the end product application.
- 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-T5, L1, and L3 (Class F, 155°C)
- Printed Wiring Board rated 130°C.
- The need for Marking Durability and Marking Legibility Testing shall be considered as part of the end product installation.
- Fire/ Mechanical/ Electrical Enclosure to be provided as part of the end product.
- 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.
- The maximum investigated branch circuit rating is: 20 A
- Model CCM250PS12-XB0352: Suitable dc rated input fuse shall be provided in the end product and consideration shall be given to repeating the component fault testing in the end product with the dc input fuse.

Additional Information

N/A

Additional Standards

The product fulfills the requirements of: ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10), CAN/CSA-C22.2 No. 60601-1 (2008), IEC 60601-1: 2005, EN 60601-1: 2006 + CORR: 2010

Markings and instructions

Clause Title	Marking or Instruction Details

Model	Model number
Company identification	Classified or Recognized company's name, Trade name, Trademark or File
Supply Connection	Voltage range, ac/dc, phases if more than single phase
Supply Frequency	Rated frequency range in hertz
Power Input	Amps, VA, or Watts
Output	Rated output voltage, power, frequency.
Protective earth ground	
7.2.6 Alternating Current	For Model CCM250PSUSXXYY series
7.2.6 Direct Current and Alternating Current	For Model CCM250PS12-BX0352
Special Instructions to UL Representative N/A	

Production-Line Testing Requirements

Test Exemptions - The following models are exempt from the indicated test

Model	Grounding Continuity	Dielectric Voltage Withstand	Patient Circuit Dielectric Voltage Withstand
All	Test	Test	Exempt

Solid-State Component Test Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during either Dielectric Voltage Withstand Test:

Component
N/A

Sample and Test Specifics for Follow-Up Tests at UL

The following tests shall be conducted in accordance with the Generic Inspection Instructions

Plastic Enclosure or Part	Test	Sample(s)	Test Specifics
N/A			

CERTIFICATE OF COMPLIANCE

Certificate Number	20120903-E139109
Report Reference	E139109-A110-UL
Issue Date	2012-SEPTEMBER-03

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, Information Technology Equipment Including Electrical Business Equipment

Power supply for building-in:
CCM250PSXXYY, where XX is 12 - 48, where YY is SF or blank.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 60950-1, Information Technology Equipment - Safety - Part 1: General Requirements
CSA C22.2 No. 60950-1-07, Information Technology Equipment - Safety - Part 1: General Requirements

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.

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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

William R. Carney, Director, North American Certification Programs

UL LLC

CERTIFICATE OF COMPLIANCE

Certificate Number	20120903-E139109
Report Reference	E139109-A110-UL
Issue Date	2012-SEPTEMBER-03

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

William R. Carney

William R. Carney, Director, North American Certification Programs

UL LLC

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:	Power supply for building-in
Model:	CCM250PSXXYY, where XX is 12 - 48, where YY is SF or blank
Rating:	Input: 100-240Vac, 47-63, Hz, 3.2A, 250W Output: Refer to 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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Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Sal Oseguera Reviewed by: Linus Park

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 product evaluated is a switching power supply series for building-in to an end-use product.

Model Differences

All models within the series are identical with exception to the output rating, mains transformer windings, primary fusing, and minor secondary components.

Model CCM250PSXXYY has the following nomenclature:

XX = 12 - 48, denotes the rated output voltage.
YY = SF or blank, denotes either single pole fusing (SF) or double fusing (blank)

See below for the Output Rating of the various models.

Model CCM250PS12YY: 12 Vdc, 20.8 A
Model CCM250PS15YY: 15 Vdc, 16.7 A
Model CCM250PS24YY: 24 Vdc, 10.4 A
Model CCM250PS28YY: 28 Vdc, 8.9 A
Model CCM250PS36YY: 36 Vdc, 6.9 A
Model CCM250PS48YY: 48 Vdc, 5.2 A

Auxiliary Output for all models (V2): -5 Vdc, 0.5 A

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : for building-in, to be determined in the end-use application
- Operating condition : continuous
- Access location : for building-in, to be determined in the end-use application

- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10%
- Tested for IT power systems : N/A
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed)
- Considered current rating of protective device as part of the building installation (A) : 20A
- Pollution degree (PD) : PD 2
- IP protection class : IPX0
- Altitude of operation (m) : Up to 3048
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : 0.774 kg
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 50°C at 100% of Output Rating, 70°C at 50% of Output Rating
- The means of connection to the mains supply is: For building in
- The product is intended for use on the following power systems: TN
- 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: Earthing Continuity, Electric Strength
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-

Earthed Dead Metal: 240 Vrms, 340 Vpk, Primary-SELV: 275 Vrms, 592 Vpk

- The following secondary output circuits are SELV: All ouptuts
- The following secondary output circuits are at hazardous energy levels: All
- The power supply terminals and/or connectors are: Suitable for factory wiring only,
- 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 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-T5, L1, L3, L6, L7 (Class B)
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- Temperature test was conducted with the unit mounted to a metal heat sink, 48 by 13 cm, min. 3.2 mm. Temperature test should be repeated in the end-use product.
- End product to determine the need for "Double Pole Fuse" Marking for units provided with double pole fusing.

Additional Information

The unit was mounted 9 cm above a metal base plate, 48 by 13 cm, min. 3.2 mm thick.

Limited Testing of Power Supplies, Model CCM250PSXXYY Series was considered necessary based upon previous evaluation under the CB scheme. The CB Scheme Test Certificate and Report Ref. No. 116432/A dated 16-Dec-08 was prepared by NEMKO AS, Gaustadallèen 30, Blindern, Oslo, Norway.

Additional Standards

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

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 - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.

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
All Models	Transformer (T4, T5)	-	Primary to Secondary	3000	4242	1

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