



Ref. Certif. No.

**US-17946-UL**

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

SYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC

**CB TEST CERTIFICATE**

**CERTIFICAT D'ESSAI OC**

Product  
Produit

Switching Power Supply

Name and address of the applicant  
Nom et adresse du demandeur

XP POWER LLC  
SUITE 150 1241 E DYER RD  
SANTA ANA CA 92705, USA

Name and address of the manufacturer  
Nom et adresse du fabricant

XP POWER LLC  
SUITE 150 1241 E DYER RD  
SANTA ANA CA 92705, USA

Name and address of the factory  
Nom et adresse de l'usine

See Page 2

Note: When more than one factory, please report on page 2  
Note: Lorsque il y plus d'une usine, veuillez utiliser la 2<sup>ème</sup> page

Ratings and principal characteristics  
Valeurs nominales et caractéristiques principales

Input Rated: ~ 100-240 Vac, 50/60 Hz, 5 A

See Test Report for Output Ratings.

Trademark (if any)  
Marque de fabrique (si elle existe)



Type of Manufacturer's Testing Laboratories used  
Type de programme du laboratoire d'essais  
constructeur  
Model / Type Ref.  
Ref. De type

SMT

FCM400PSXX, 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>ème</sup> page

This CB Test Report comprises 1 enclosure.

A 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

11CA34080 issued on 2011-10-26

This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**



Underwriters Laboratories Inc. / GMA Certification Department, US  
333 Pfingsten Road, Northbrook, IL 60062-2096  
United States of America  
TEL INT\* +1 847 664 3008, FAX INT\* +1 847 313 3008  
email: jolanta.m.wroblewska@us.ul.com

Signature:

Date: 2011-10-27

Jolanta M. Wroblewska



Ref. Certif. No.

**US-17946-UL**

Model Details:

FCM400PSXX;

(where XX can be any number between 12-48 designating output voltage) Additional suffix "SF" denotes units provided with only a single line side fuse.

Factories:

XP POWER LLC  
990 BENECIA AVE  
SUNNYVALE CA 94085, USA

XP POWER (KUNSHAN) LTD  
230 BIN JIANG NAN RD  
ZHANGPU TOWN KUNSHAN JIANGSU 215321, CHINA

Additional Information:

See Test Report for National Differences.

**Additional information (if necessary)**

**Information complémentaire (si nécessaire)**

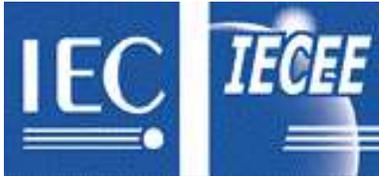


Date: 2011-10-27

Underwriters Laboratories Inc. / GMA Certification Department, US  
333 Pfingsten Road, Northbrook, IL 60062-2096  
United States of America  
TEL INT\* +1 847 664 3008, FAX INT\* +1 847 313 3008  
email: jolanta.m.wroblewska@us.ul.com

Signature:

Jolanta M. Wroblewska



Test Report issued under the responsibility of:



<p><b>IEC 60601-1</b>  <b>Medical electrical equipment</b>  <b>Part 1: General requirements for basic safety and essential performance</b></p>	
Report Reference No.....:	11CA34080
Date of issue .....	2011-10-26
Total number of pages.....:	212
CB Testing Laboratory.....:	Underwriters Laboratories Inc.
Address .....	455 E. Trimble Rd., San Jose, CA 95131-1230, USA
Applicant's name.....:	XP POWER LLC
Address .....	SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
<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
Test Report Form No.....:	IEC60601_1G
Test Report Form Originator .....	Underwriters Laboratories Inc.
Master TRF.....:	Dated 2010-11
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Test item description .....	Switching Power Supply
Trade Mark .....	

<b>Manufacturer .....</b>	<b>XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES</b>
<b>Model/Type reference .....</b>	<b>FCM400PSXX (where XX can be any number between 12-48 designating output voltage) Additional suffix "SF" denotes units provided with only a single line side fuse.</b>
<b>Ratings .....</b>	<b>Input Rated: ~ 100-240 Vac, 50/60 Hz, 5 A Output Rated: See Model Differences for details.</b>

<b>Testing procedure and testing location:</b>		
<input type="checkbox"/>	<b>CB Testing Laboratory:</b> Testing location/ address .....	
<input type="checkbox"/>	<b>Associated CB Test Laboratory:</b> Testing location/ address .....	
	Tested by (name + signature).. :	
	Approved by (+ signature) .....	
<input type="checkbox"/>	<b>Testing procedure: TMP</b> Tested by (name + signature).. : Approved by (+ signature) .....	
	Testing location/ address .....	
<input type="checkbox"/>	<b>Testing procedure: WMT</b> Tested by (name + signature).. : Witnessed by (+ signature)..... : Approved by (+ signature) .....	
	Testing location/ address .....	
<input checked="" type="checkbox"/>	<b>Testing procedure: SMT</b> Tested by (name + signature).. : Rodney Reyes	
	Approved by (+ signature) .....	Tac Pham
	Supervised by (+ signature) .... :	Alfred E. Corbellini
	Testing location/ address .....	XP Power, 1241 E. Dyer Rd #150, Santa Ana, CA 92705, USA
<input type="checkbox"/>	<b>Testing procedure: RMT</b> Tested by (name + signature).. : Approved by (+ signature) .....	
	Supervised by (+ signature) .... :	
	Testing location/ address .....	

**List of Attachments (including a total number of pages in each attachment):**

National Differences (6 pages as part of this Test Report)

Enclosures (116 pages)

**Summary of testing**

Unless otherwise indicated, all tests were conducted at XP Power, 1241 E. Dyer Rd #150, Santa Ana, CA 92705, USA

Test results from previous IEC 60601-1, 2<sup>nd</sup> Edition/ IEC 60950-1, 2<sup>nd</sup> Edition evaluations were considered where the testing conducted was consistent with the test methods of IEC 60601-1, 3<sup>rd</sup> Edition.

**Tests performed (name of test and test clause):****Testing location:**

Input Test (4.11)

Humidity Preconditioning (5.7)

Limitation of Voltage, Current or Energy (8.4.3 & 8.4.4)

Earthing And Potential Equalization Test (8.6.4)

Earth Leakage Current (8.7.4.5)

Working Voltage Measurement (8.5.4)

Dielectric Strength (8.8.3)

Ball Pressure (8.8.4.1)

Temperature Test (11.1)

Component Failure (13.2)

Mains Transformers (short and overload) (15.5, 13.2.3)

**Summary of compliance with National Differences**

List of countries addressed:

US, CAN

The product fulfils the requirements of IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007)

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBS that own these marks.

Labels provided are considered representative of the entire series.



<b>GENERAL INFORMATION</b>	
<b>Test item particulars (see also Clause 6):</b>	
<b>Classification of installation and use</b> .....	: Building-in
<b>Device type (component/sub-assembly/ equipment/ system)</b> .....	: Component, Power Supply
<b>Intended use (Including type of patient, application location)</b> .....	: To supply regulated power
<b>Mode of operation</b> .....	: Continuous
<b>Supply connection</b> .....	: Building-in, to be determined in end product
<b>Accessories and detachable parts included</b> .....	: N/A
<b>Other options include</b> .....	: N/A
<b>Testing</b>	
<b>Date of receipt of test item(s)</b> .....	: 2011-05-17, 2010-02-11
<b>Dates tests performed</b> .....	: 2011-07-07 to 2011-09-23, 2010-02-16 to 2010-08-26, 2010-02-16 to 2010-10-08
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	: N/A
- test object does meet the requirement .....	: Pass (P)
- test object was not evaluated for the requirement .....	: N/E
- test object does not meet the requirement .....	: Fail (F)
<b>Abbreviations used in the report:</b>	
- normal condition .....	: <b>N.C.</b> - single fault condition..... : S.F.C.
- means of Operator protection .....	: <b>MOOP</b> - means of Patient protection ..... : MOPP
<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.                  The tests 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 <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
<b>Manufacturer's Declaration per sub-clause 6.2.5 of IEC60601-1:</b>	
<p>The application for obtaining a CB Test Certificate includes more than one factory location 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><input checked="" type="checkbox"/> Yes  <input type="checkbox"/> Not applicable</p>

**When differences exist; they shall be identified in the General product information section.**

**Name and address of factory (ies)..... :** XP POWER LLC  
990 BENECIA AVE  
SUNNYVALE CA 94085  
UNITED STATES

XP POWER (KUNSHAN) LTD  
230 BIN JIANG NAN RD  
ZHANGPU TOWN  
KUNSHAN  
JIANGSU 215321 CHINA

**Report Summary**

All applicable tests according to the referenced standard(s) have been carried out.

**Product Description**

Products covered in this report are component power supplies intended for use in Medical Electrical Equipment. They are open frame power supply intended for building-in. Units are intended for used with Class I end-products.

**General product information:****Model Differences**

All models in the Model FCM400PSXX series are identical with exception to the Mains Transformer, T3, and minor secondary components that allow for different output voltage ratings. See table below for Model Ratings for up to 50°C ambient:

Model FCM400PS12: Output Rated: 12 Vdc, 33.3 A; Standby: 5 Vdc, 0.5 A

Model FCM400PS15: Output Rated: 15 Vdc, 26.6 A; Standby: 5 Vdc, 0.5 A

Model FCM400PS24: Output Rated: 24 Vdc, 16.6 A; Standby: 5 Vdc, 0.5 A

Model FCM400PS28: Output Rated: 28 Vdc, 14.2 A; Standby: 5 Vdc, 0.5 A

Model FCM400PS36: Output Rated: 36 Vdc, 11.1 A; Standby: 5 Vdc, 0.5 A

Model FCM400PS48: Output Rated: 48 Vdc, 8.3 A; Standby: 5 Vdc, 0.5 A

See Enclosure 7-01 and Enclosure 7-02 for de-rating curve and de-rating table, respectively, for ambient temperatures up to 70°C.

Units marked with additional suffix "SF" provided with only one line side fuse.

**Additional Information**

The schematics are kept on file at the CBTL and can be provided by the manufacturer upon request by NCB's/CBTL's.

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 the applicable collateral standards.

**Technical Considerations**

- The product was investigated to the following additional standards: ANSI/AAMI ES60601-1:2005/C1:2009 (includes National Differences for USA); CAN/CSA-C22.2 No. 60601-1:08 (includes National Differences for Canada), EN 60601-1:2006
- 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 (ME Hazard), Clause 10 (Radiation), Clause 14 (PEMS), Clause 16 (ME Systems)
- Scope of Power Supply evaluation excludes the following: 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; Biocompatibility Clause: 11.7 (ISO 10993); Motor related clauses: 13.2.13.3, 13.4; Heating Elements related clause: 13.2; Flammable Anaesthetic Mixtures Protection: Annex G

- The product is evaluated only to the following hazards: Casualty, Fire, Shock
- The degree of protection against harmful ingress of water is: Ordinary
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No
- Unit also complied with spacing requirements of UL60601-1 (1<sup>st</sup>), CSA C22.2 No. 60601-1 (2<sup>nd</sup>), and IEC 60601-1 (2<sup>nd</sup>) for Basic for 240 Vac from Primary to Ground, Double/Reinforced for 240Vac from Primary to Secondary.

#### **Risk Controls/ Engineering Condition of Acceptability**

- The component shall be installed in compliance with the Marking (clause 7) and Separation (clause 8) requirements of the end use application.
- 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. (See De-rating Curve, Enclosure 7-01 for details)
- Consideration shall 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.
- Repeat of leakage current testing, including applicability of Clause 8.7.3e, shall be considered in the end product application.
- This power supply was evaluated with Two MOPP between Primary and Secondary; One MOPP primary and Earth.
- This power supply has been evaluated for continuous operation, as 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 should 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 input/output connectors are not acceptable for field connections, they are only intended for connection to mating connectors of internal wiring inside the end-use machine.
- The Electric Strength Test conducted on this power supply was based upon a maximum working voltage of: Primary-Earthed Dead Metal (Class I units): 353 Vpk, 244 Vrms; Primary-SEC: 441 Vpk, 240 Vrms.
- The maximum investigated branch circuit rating is: 20 A
- The power supply shall be mounted in a manner that provides, at a minimum, 2.5 mm Clearance/4 mm Creepage between the primary side of power supply and protectively earthed accessible conductive parts. In addition, when installed in a Class I end product, the protective bonding terminal of the power supply shall be reliably connected to the main protective earthing terminal of the end product.
- An investigation of the protective bonding terminal has: Not been conducted.
- 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 min. Class F (155°C): L1 , L5, L6 and T1-T4.
- Printed Wiring Board rated 130°C.
- The need for marking durability testing shall be considered as part of the end-use product.
- Fire/ Mechanical/ Electrical Enclosure to be provided as part of the end product.
- Units provided with suffix "SF" are provided with only one line side fuse. The need for additional fusing shall be considered as part of the end-product.

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

SYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC

**CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC**

Product  
Produit

Switching Power Supplies

Name and address of the applicant  
Nom et adresse du demandeur

XP POWER L L C  
SUITE 150, 1241 E DYER RD  
SANTA ANA CA 92705, USA

Name and address of the manufacturer  
Nom et adresse du fabricant

XP POWER L L C  
SUITE 150, 1241 E DYER RD  
SANTA ANA CA 92705, USA

Name and address of the factory  
Nom et adresse de l'usine

XP POWER L L C  
990 BENECIA AVE  
SUNNYVALE CA 94085  
USA

Note: 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> page

Ratings and principal characteristics  
Valeurs nominales et caractéristiques principales

Input: 100-240 Vac, 50/60 Hz, 5 A  
Output: See Enclosure - Output Ratings for details

Trademark (if any)  
Marque de fabrique (si elle existe)



Type of Manufacturer's Testing Laboratories used  
Type de programme du laboratoire d'essais  
constructeur

SMT

Model / Type Ref.  
Ref. De type

FCM400PSXX, 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

Additionally evaluated to EN 60950-1:2006 / A11:2009 / A1:2010 /  
A12:2011; National Differences specified in the CB Test Report.

Additional Information on page 2

A 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 60950-1(ed.2), IEC 60950-1(ed.2);am1

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

E139109-A43-CB-2 issued on 2013-04-18

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/nbcnames](http://www.ul.com/nbcnames)

Date: 2013-04-18

Signature:

Jolanta M. Wroblewska



Ref. Certif. No.

**US-21403-UL**

**Model Details:**

FCM400PSXX (where XX = represents the output voltage between 12-48); may also be provided with additional suffix "SF" and/or suffix "S".

**Factories:**

XP POWER (KUNSHAN) LTD  
230 BIN JIANG NAN RD  
ZHANGPU TOWN, KUNSHAN, JIANGSU 215300  
CHINA

**Additional information (if necessary)**

**Information complémentaire (si nécessaire)**



- 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: 2013-04-18

Signature:

Jolanta M. Wroblewska



Test Report issued under  
the responsibility of:



**TEST REPORT**  
**IEC 60950-1**  
**Information technology equipment - Safety -**  
**Part 1: General requirements**

**Report Reference No** .....: E139109-A43-CB-2

Date of issue .....: 2013-04-18

Total number of pages .....: 86

**CB Testing Laboratory** .....: UL San Jose

Address .....: 455 E. Trimble Rd., San Jose, CA, 95131-1230, USA

**Applicant's name** .....: XP POWER L L C

SUITE 150  
Address .....: 1241 E DYER RD  
SANTA ANA CA 92705  
UNITED STATES

**Test specification:**

Standard .....: IEC 60950-1:2005 (2nd Edition); Am 1:2009

Test procedure .....: CB Scheme

Non-standard test method .....: N/A

**Test Report Form No.** .....: IEC60950\_1B

Test Report Form originator .....: SGS Fimko Ltd

Master TRF .....: 2010-04

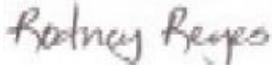
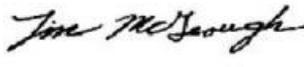
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If this test Report is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

**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>Test item description</b> .....	Switching Power Supplies
Trade Mark .....	
Manufacturer .....	XP POWER L L C SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Model/Type reference .....	FCM400PSXX (where XX = represents the output voltage between 12-48); may also be provided with additional suffix "SF" and/or suffix "S".
Ratings .....	Input: 100-240 Vac, 50/60 Hz, 5 A Output: See Enclosure - Output Ratings for details

<b>Testing procedure and testing location:</b>	
<input type="checkbox"/>	<b>CB Testing Laboratory</b> Testing location / address..... :
<input type="checkbox"/>	<b>Associated CB Test Laboratory</b> Testing location / address..... : Tested by (name + signature) ..... : _____ Approved by (name + signature) ... : _____
<input type="checkbox"/>	<b>Testing Procedure: TMP</b> Tested by (name + signature) ..... : _____ Approved by (+ signature) ..... : _____ Testing location / address..... : _____
<input type="checkbox"/>	<b>Testing Procedure: WMT</b> Tested by (name + signature) ..... : _____ Witnessed by (+ signature)..... : _____ Approved by (+ signature) ..... : _____ Testing location / address..... : _____
<input checked="" type="checkbox"/>	<b>Testing Procedure: SMT</b> Tested by (name + signature) ..... : Rodney Reyes  Approved by (+ signature) ..... : Tac Pham  Supervised by (+ signature) ..... : Tim McGeough  Testing location / address..... : XP Power, 1241 E. Dyer Rd., Santa Ana, CA 92705
<input type="checkbox"/>	<b>Testing Procedure: RMT</b> Tested by (name + signature) ..... : _____ Approved by (+ signature) ..... : _____ Supervised by (+ signature) ..... : _____ Testing location / address..... : _____

<b>List of Attachments</b>	
National Differences (37 pages)	
Enclosures (81 pages)	
<b>Summary Of Testing</b>	
Unless otherwise indicated, all tests were conducted at XP Power, 1241 E. Dyer Rd., Santa Ana, CA 92705.	
<b>Tests performed (name of test and test clause)</b>	<b>Testing location / Comments</b>
End Product Reference Page	Evaluated under original CB Scheme investigation.
General Guidelines	Evaluated under original CB Scheme

Power Supply Reference Page	investigation. Evaluated under original CB Scheme investigation.
Guide Information Page - Maximum Output Voltage, Current, and Volt Ampere Measurement (1.2.2.1)	Evaluated under original CB Scheme investigation.
Input: Single-Phase (1.6.2)	Evaluated under original CB Scheme investigation.
Energy Hazard Measurements (2.1.1.5, 2.1.2, 1.2.8.10)	Evaluated under original CB Scheme investigation.
Capacitance Discharge (2.1.1.7)	Evaluated under original CB Scheme investigation.
SELV Reliability Test Including Hazardous Voltage Measurements (2.2.2, 2.2.3, 2.2.4, Part 22 6.1)	Evaluated under original CB Scheme investigation.
Limited Current Circuit Measurement (2.4.1, 2.4.2)	Evaluated under original CB Scheme investigation.
Protective Bonding II (2.6.3.4, 2.6.1)	Evaluated under original CB Scheme investigation.
Humidity (2.9.1, 2.9.2, 5.2.2)	Evaluated under original CB Scheme investigation.
Determination of Working Voltage; Working Voltage Measurement (2.10.2)	Evaluated under original CB Scheme investigation.
Thin Sheet Material (2.10.5.9, 2.10.5.10, 2.10.5.6)	Evaluated under original CB Scheme investigation.
Transformer and Wire /Insulation Electric Strength (2.10.5.13)	Evaluated under original CB Scheme investigation.
Steady Force (4.2.1 - 4.2.4)	Evaluated under original CB Scheme investigation.
Heating (4.5.1, 1.4.12, 1.4.13)	Evaluated under original CB Scheme investigation.
Ball Pressure (4.5.5, 4.5)	Evaluated under original CB Scheme investigation.
Touch Current (Single-Phase; TN/TT System) (5.1, Annex D)	Evaluated under original CB Scheme investigation.
Electric Strength (5.2.2)	Evaluated under original CB Scheme investigation.
Component Failure (5.3.1, 5.3.4, 5.3.7)	Evaluated under original CB Scheme investigation.
Abnormal Operation (5.3.1 - 5.3.9)	Evaluated under original CB Scheme investigation.
Transformer Abnormal Operation (5.3.3, 5.3.7b, Annex C.1)	Evaluated under original CB Scheme investigation.
Electric Strength (For Spacing Deficient PWBs) (5.3.4, 5.2)	Evaluated under original CB Scheme investigation.
Power Supply Output Short-Circuit/Overload (5.3.7)	Evaluated under original CB Scheme investigation.

**Summary of Compliance with National Differences:**

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

List of countries addressed: AT, BE, BG, CA, CH, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IT, JP, KR, NL, PL, PT, RO, SE, SI, SK, UA, US

The product fulfills the requirements of: EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 (which includes all European national differences, including those specified in this test report).

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

<b>Test item particulars :</b>	
Equipment mobility .....	for building-in
Connection to the mains .....	To be determined in the end-use product.
Operating condition .....	continuous
Access location .....	To be determined in the end-use product.
Over voltage category (OVC) .....	OVC II
Mains supply tolerance (%) or absolute mains supply values .....	+6%, -10%
Tested for IT power systems .....	No
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) .....	5.0 A
Pollution degree (PD) .....	PD 2
IP protection class .....	IP X0
Altitude of operation (m) .....	3048
Altitude of test laboratory (m) .....	40
Mass of equipment (kg) .....	0.8
<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 does not meet the requirement .....	F(Fail)
<b>Testing:</b>	
Date(s) of receipt of test item .....	2011-04-07
Date(s) of Performance of tests .....	2011-04-08 to 2011-04-11
<b>General remarks:</b>	
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.  "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.  Throughout this report a point is used as the decimal separator.	
<b>Manufacturer's Declaration per Sub Clause 6.25 of IEC60950-1:</b>	
The application for obtaining a CB Test Certificate includes more than one factory and a declaration form the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....	
When differences exist, they shall be identified in the General Product Information section.	
<b>Name and address of Factory(ies):</b>	XP POWER L L C 990 BENECIA AVE SUNNYVALE CA 94085

UNITED STATES

XP POWER (KUNSHAN) LTD  
230 BIN JIANG NAN RD  
ZHANGPU TOWN  
KUNSHAN  
JIANGSU 215300 CHINA

## GENERAL PRODUCT INFORMATION:

### Report Summary

All applicable tests according to the referenced standard(s) have been carried out.

### Product Description

The product is a component AC-DC power supply for building-in, open frame type provided with a metal chassis, incorporating primary and SELV components.

The main PWB is secured to the chassis studs by multiple machine screws.

### Model Differences

The power supplies in the series are differentiated by the output voltage and current ratings, number of turns of primary/secondary windings in the Transformers (T3 (Power)) and minor differences in the secondary circuit components.

See below for Model Ratings Table for 50°C Below:

Model FCM400PS12: Output Rated: 12 Vdc, 33.3 A (400 W); Stand-by: 5 V, 0.5A  
Model FCM400PS15: Output Rated: 15 Vdc, 26.6 A (400 W); Stand-by: 5 V, 0.5A  
Model FCM400PS24: Output Rated: 24 Vdc, 16.6 A (400 W); Stand-by: 5 V, 0.5A  
Model FCM400PS28: Output Rated: 28 Vdc, 14.2 A (400 W); Stand-by: 5 V, 0.5A  
Model FCM400PS36: Output Rated: 36 Vdc, 11.1 A (400 W); Stand-by: 5 V, 0.5A  
Model FCM400PS48: Output Rated: 48 Vdc, 8.3 A (400 W); Stand-by: 5 V, 0.5A

See Enclosure-Miscellaneous for details.

Additional suffix "SF" denotes units with single pole fusing.

Additional suffix "S" denotes units provided with input screw terminal.

### Additional Information

Marking label is representative of all models.

This report is a re-issue of CB Test Report (Cert. No. US-15598-UL), Test Report Reference: E139109-A43-CB-1, issued on 2010-09-02). All required testing was carried out under the original investigation. No testing was required to upgrade the report to IEC 60950-1, Second Edition including Amendments A1:2009 .

Component licenses may be more than three years old. According to Publication IEC60950-1, Clause 6.3.4, Recognizing NCB may challenge these certificates.

The required clearance values have been assessed for suitability up to 3048 m elevation (1.15 correction factor as per IEC 60664-1, Table A2)

#### Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (T<sub>ma</sub>) permitted by the manufacturer's specification of: 50°C at full rated load and 70°C at half rated load (See Enclosure - Miscellaneous for details),.
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: determined in the end-product.,
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A12:2010 + A12:2011 (which includes all European national differences, including those specified in this test report).
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: Load side of C55, C100

#### Engineering Conditions of Acceptability

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, Earthing Continuity,
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed Dead Metal: 244 Vrms, 353 Vpk, Primary-SELV: 240 Vrms, 441 Vpk,
- The following secondary output circuits are SELV: All outputs
- The following secondary output circuits are at hazardous energy levels: All outputs
- The following secondary output circuits are Limited Current Circuits: Load side of C55, C100
- 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: CON2
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJ2 insulation system with the indicated rating greater than Class A (105°C): L1, L2, L5, L6 and T1-T4 (Class F),
- The following end-product enclosures are required: Mechanical, Fire,
- Consideration to repeating Heating and Touch Current Tests should be given in the end-product evaluation. --
- The need for additional mechanical protection against access to the DC Fan blades in the Service Area should be considered as part of the end-product. --
- Labels provided on the power supply were considered to inaccessible when installed in the end-product. Labels that are required to be exposed to the user shall have the marking durability testing conducted as part of the end-product. --
- Means of disconnection to be provided as part of the end-product. --

- The +5Vdc/0.5 A output was evaluated as a signal output only. The need for additional evaluation shall be determined in the end product. --

Abbreviations used in the report:

- normal condition .....	N.C.	- single fault condition .....	S.F.C
- operational insulation .....	OP	- basic insulation .....	BI
- basic insulation between parts of opposite polarity:	BOP	- supplementary insulation .....	SI
- double insulation .....	DI	- reinforced insulation .....	RI

Indicate used abbreviations (if any)