

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 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

XP POWER LLC
990 BENEZIA 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^{ème} page

Additional Information on page 2
Input: 100-240 Vac, 50/60 Hz, 4.6 A
Output: See Model Differences.

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

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



SMT

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

Model / Type Ref.
Ref. De type

SHP350PSXX
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^{ème} page

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-A91-CB-1 issued on 2012-03-27

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

Date: 2012-03-28

Signature:

Jolanta M. Wroblewska



Ref. Certif. No.

US-18720-UL

Model Details:

SHP350PSXX (where XX = represents the output voltage between 12 - 48)

Factories:

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

Additional Information:

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

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

Date: 2012-03-28

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-A91-CB-1

Date of issue: 2012-03-27

Total number of pages: 79

CB Testing Laboratory: UL San Jose

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

Applicant's name: XP POWER LLC
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



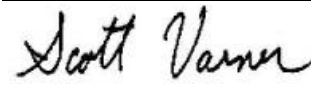
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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description	Switching Power Supplies
Trade Mark	
Manufacturer	XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Model/Type reference	SHP350PSXX (where XX = represents the output voltage between 12-48)
Ratings	Input: 100-240 Vac, 50/60 Hz, 4.6 A Output: See Model Differences.

Testing procedure and testing location:	
<input type="checkbox"/> CB Testing Laboratory	Testing location / address..... :
<input type="checkbox"/> Associated CB Test Laboratory	Testing location / address..... :
	Tested by (name + signature) : _____
	Approved by (name + signature) ... : _____
<input type="checkbox"/> Testing Procedure: TMP	Testing location / address..... :
	Tested by (name + signature) : _____
	Approved by (+ signature) : _____
	Testing location / address..... :
<input type="checkbox"/> Testing Procedure: WMT	Testing location / address..... :
	Tested by (name + signature) : _____
	Witnessed by (+ signature)..... : _____
	Approved by (+ signature) : _____
	Testing location / address..... :
<input checked="" type="checkbox"/> Testing Procedure: SMT	Testing location / address..... :
	Tested by (name + signature) : Chin CheeSiang 
	Approved by (+ signature) : Tac Pham 
	Supervised by (+ signature) : Scott Varner 
	Testing location / address..... : XP Power Ltd., 401 Commonwealth Drive, Haw Par Technocentre, Lobby B, #02-02, Singapore 149598, Singapore
<input type="checkbox"/> Testing Procedure: RMT	Testing location / address..... :
	Tested by (name + signature) : _____
	Approved by (+ signature) : _____
	Supervised by (+ signature) : _____
	Testing location / address..... :

List of Attachments
National Differences (35 pages)
Enclosures (101 pages)
Summary Of Testing
Unless otherwise indicated, all tests were conducted at XP Power Ltd., 401 Commonwealth Drive, Haw Par Technocentre, Lobby B, #02-02, Singapore 149598, Singapore.

Tests performed (name of test and test clause)	Testing location / Comments
Power Supply Reference Page Input: Single-Phase (1.6.2) Capacitance Discharge (2.1.1.7) SELV Reliability Test Including Hazardous Voltage Measurements (2.2.2, 2.2.3, 2.2.4, Part 22 6.1) Protective Bonding II (2.6.3.4, 2.6.1) Humidity (2.9.1, 2.9.2, 5.2.2) Thin Sheet Material (2.10.5.9, 2.10.5.10, 2.10.5.6) Transformer and Wire /Insulation Electric Strength (2.10.5.13) Heating (4.5.1, 1.4.12, 1.4.13) Touch Current (Single-Phase; TN/TT System) (5.1, Annex D) Electric Strength (5.2.2) Component Failure (5.3.1, 5.3.4, 5.3.7) Abnormal Operation (5.3.1 - 5.3.9) Power Supply Output Short-Circuit/Overload (5.3.7)	
<p>Summary of Compliance with National Differences:</p> <p>Countries outside the CB Scheme membership may also accept this report.</p> <p>List of countries addressed: AT, BE, CA, CH, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IT, JP, KR, NL, PL, PT, SE, SI, SK, US</p> <p>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</p>	

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

Test item particulars :	
Equipment mobility	for building-in
Connection to the mains	To be determined in the end-use product
Operating condition	continuous
Access location	N/A
Over voltage category (OVC)	OVC II
Mains supply tolerance (%) or absolute mains supply values	+10%, -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)	20A
Pollution degree (PD)	PD 2
IP protection class	IP X0
Altitude of operation (m)	3048
Altitude of test laboratory (m)	166
Mass of equipment (kg)	1.8
Possible test case verdicts:	
- 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)
Testing:	
Date(s) of receipt of test item	2011-06-18
Date(s) of Performance of tests	2011-07-18 to 2011-07-27
General remarks:	
<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.</p> <p>"(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a point is used as the decimal separator.</p>	
Manufacturer's Declaration per Sub Clause 6.25 of IEC60950:	
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	Yes
When differences exist, they shall be identified in the General Product Information section.	
Name and address of Factory(ies):	XP POWER LLC

990 BENEZIA AVE
SUNNYVALE CA 94085
UNITED STATES

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

GENERAL PRODUCT INFORMATION:

Report Summary

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

Product Description

The product is an open-frame component AC-DC power supply for building-in Information Technology Equipment.

Model Differences

All models with the series are identical, with exception to the output voltage and current ratings, number of turns of primary/secondary windings in the Transformers (T302 (Power)), and minor differences in the secondary circuit components and PWB layout.

See below for Model Ratings Table (up to 50°C) for Model SHP350PSXX, where XX indicated the output voltage:

Model SHP350PS12: Output Rated: 12.0 Vdc, 26.5A (350W)
Model SHP350PS15: Output Rated: 15.0 Vdc, 22 A (350W)
Model SHP350PS24: Output Rated: 24.0 Vdc, 14.5 A (350W)
Model SHP350PS24 (Input: 180-240Vac): Output Rated: 24.0 Vdc, 17.5 A (420W)
Model SHP350PS28: Output Rated: 28.0 Vdc, 12.5 A (350W)
Model SHP350PS28 (Input: 180-240Vac): Output Rated: 28.0 Vdc, 15 A (420W)
Model SHP350PS36: Output Rated: 36.0 Vdc, 9.7 A (350W)
Model SHP350PS36 (Input: 180-240Vac): Output Rated: 36.0 Vdc, 11.7 A (420W)
Model SHP350PS48: Output Rated: 48.0 Vdc, 7.3 A (350W)
Model SHP350PS48 (Input: 180-240Vac): Output Rated: 48.0 Vdc, 8.75 A (420W)

All models also provided with 5V, 0.2A stand-by output.

Additional Information

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

Marking label is representative of all models.

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 50°C at full rated load and 70°C at half rated load.
- 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).
- LEDs provided in the product are considered low power devices: Yes

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: Earthing Continuity, Electric Strength
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 347 Vrms, 692 Vpk, Primary-Earthed Dead Metal: 311 Vrms, 548 Vpk
- The following secondary output circuits are SELV: All Outputs
- The following secondary output circuits are at hazardous energy levels: Main Power Output
- 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 N Terminal.
- 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, L50, T201, T301-T303 (Class B)
- The following end-product enclosures are required: Mechanical, Fire, Electrical

- Fans: The fan provided in this sub-assembly is not intended for operator access.
- Consideration to repeating Heating and Touch Current Tests should be given in the end-product evaluation. --

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)

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 LLC
SUITE 150
1241 E DYER RD
SANTA ANA CA 92705
UNITED STATES

Name and address of the manufacturer
Nom et adresse du fabricant

XP POWER LLC
SUITE 150
1241 E DYER RD
SANTA ANA CA 92705
UNITED STATES

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

XP POWER LLC
990 BENECIA AVE
SUNNYVALE CA 94085
UNITED STATES

Note: When more than one factory, please report on page 2
Note: Lorsque il y plus d'une usine, veuillez utiliser la 2^{ème} page

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

Additional Information on page 2
Input: 100-240 Vac, 50/60 Hz, 9.0 A
Output: See Enclosure - Output Ratings in the test report 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

SHP650PSXXYY
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^{ème} page

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-A41-CB-2 issued on 2012-08-22

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

Date: 2012-08-22

Signature:

Jolanta M. Wroblewska



Ref. Certif. No.

US-19577-UL

Model Details:

SHP650PSXXYY (where XX = represents the output voltage between 12-48, YY = EF, TF or blank)

Factories:

XP POWER (S) PTE LTD
LIPO BLDG, #05-01
621 ALJUNIED RD
SINGAPORE 389834
SINGAPORE

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

Additional Information:

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

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

Date: 2012-08-22

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-A41-CB-2

Date of issue: 2012-08-22

Total number of pages: 78

CB Testing Laboratory: UL San Jose

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

Applicant's name: XP POWER LLC
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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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.

Test item description	Switching Power Supplies
Trade Mark	
Manufacturer	XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Model/Type reference	SHP650PSXXYY (where XX = represents the output voltage between 12-48, YY = EF, TF or blank)
Ratings	Input: 100-240 Vac, 50/60 Hz, 9.0 A Output: See Enclosure - Output Ratings for details

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

Power supply for building-in

Name and address of the applicant
Nom et adresse du demandeur

XP POWER LLC
SUITE 150
1241 E DYER RD
SANTA ANA CA 92705
UNITED STATES

Name and address of the manufacturer
Nom et adresse du fabricant

XP POWER LLC
SUITE 150
1241 E DYER RD
SANTA ANA CA 92705
UNITED STATES

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

XP POWER LLC
990 BENECIA AVE SUNNYVALE CA 94085
UNITED STATES

Note: When more than one factory, please report on page 2
Note: Lorsque il y plus d'une usine, veuillez utiliser la 2^{eme} page

Additional Information on page 2

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

Input: 100-240 Vac; 50/60 Hz; 9.0 A
Output: See Test Report

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



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

SHP650PSXXYY
See Page 2

Model / Type Ref.
Ref. De type

Additional information (if necessary may also be
reported on page 2)
Les informations complémentaires (si nécessaire,,
peuvent être indiqués sur la 2^{eme} page

Additionally evaluated to EN 61010-1:2010; 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 61010-1(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

E464214-A1-CB-1 issued on 2013-10-24

This CB Test Certificate is issued by the National Certification Body
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- 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

Date: 2013-10-24

Signature:

Jolanta M. Wroblewska



Ref. Certif. No.

US-22394-UL

Model Details:

SHP650PSXXYY (where XX = represents the output voltage between 12-48, YY = EF, TF or blank)

Factories:

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

Date: 2013-10-24

Signature:


Jolanta M. Wroblewska

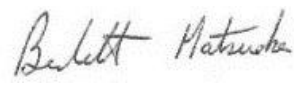
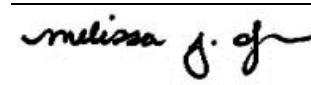


Test Report issued under
the responsibility of:



TEST REPORT IEC 61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use Part 1: General requirements	
Report Reference No	E464214-A1-CB-1
Date of issue	2013-10-24
Total number of pages	136
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 61010-1:2010, 3rd Edition
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC61010_1H
Test Report Form originator	VDE Testing and Certification Institute
Master TRF	2011-11
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Test item description	Power supply for building-in
Trade Mark	None
	
Manufacturer	XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Model/Type reference	SHP650PSXXYY (where XX = represents the output voltage between 12-48, YY = EF, TF or blank)
Ratings	Input: 100-240 Vac, 50/60 Hz, 9.0 A Output: See Enclosure Miscellaneous 7-01 - Output Ratings for details

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB Testing Laboratory	Testing location / address: UL San Jose 455 E. Trimble Rd., San Jose, CA, 95131-1230, USA
<input type="checkbox"/> Associated CB Test Laboratory	Testing location / address:
	Tested by (name + signature): Bernadette Matsuoka 
	Approved by (name + signature).....: Melissa DeGuia 
<input type="checkbox"/> Testing Procedure: TMP	Testing location / address:
	Tested by (name + signature): _____
	Approved by (name + signature).....: _____
<input type="checkbox"/> Testing Procedure: WMT	Testing location / address:
	Tested by (name + signature): _____
	Witnessed by (name + signature) ...: _____
	Approved by (name + signature).....: _____
<input type="checkbox"/> Testing Procedure: SMT	Testing location / address:
	Tested by (name + signature): _____
	Approved by (name + signature).....: _____
	Supervised by (name + signature) ..: _____
<input type="checkbox"/> Testing Procedure: RMT	Testing location / address:
	Tested by (name + signature): _____
	Approved by (name + signature).....: _____
	Supervised by (name + signature) ..: _____

List of Attachments	
National Differences (15 pages)	
Enclosures (106 pages)	
Summary Of Testing	
Unless otherwise indicated, all tests were conducted at UL San Jose 455 E. Trimble Rd., San Jose, CA, 95131-1230, USA.	
Tests performed (name of test and test clause)	Testing location / Comments
Single Fault Conditions Tests (4.4)	
Component Abnormal (4.4.1)	
Protective Conductor Abnormal Test (4.4.2.3)	

Mains Transformer Short Circuit Test (4.4.2.7.2)

Mains Transformer Overload Test (4.4.2.7.3)

Output Abnormal Test (4.4.2.8)

Cooling Abnormal Test (4.4.2.10)

Limit Values For Accessible Parts (6.3)

Insulation Requirements (6.7, Annex K)

Dielectric Strength Test (6.8)

Humidity Preconditioning (6.8.2)

Summary of Compliance with National Differences:

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, IL, IT, JP, NO, SE, SG, SI, SK, US

The product fulfills the requirements of: EN 61010-1

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.



Test item particulars :

Type of item tested	Laboratory
Description of equipment function	Power supply
Connections to mains supply	To be determined in the end-use product
Overvoltage category	II
Pollution degree	2
Means of Protection	Class I (PE connected)
Environmental conditions	Extended: 50°C (full load); 70°C (half load)
For use in wet locations	No
Equipment mobility	Built-in
Operating conditions	continuous
Overall size of the equipment: (W X D X H) (mm) :	230 X 102 X 63
Mass of the equipment (kg)	1.25
Marked degree of protection to IEC 60529	N/A

Possible test case verdicts:

- 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)

Testing:

Date(s) of receipt of test item	2013-08-15, 2013-10-03
Date(s) of Performance of tests	2013-09-11 to 2013-09-16, 2013-10-14

General remarks:

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 issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see Form A.xx)" refers to a table appended to the report.

Bottom lines for measurement tables Form A.xx are optional if used as record.

Throughout this report a point is used as the decimal separator.

Manufacturer's Declaration per Sub Clause 6.2.5 of IECEE 02:

Yes

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

When differences exist, they shall be identified in the General Product Information section.

Name and address of Factory(ies): XP POWER LLC
990 BENEZIA AVE
SUNNYVALE CA 94085

UNITED STATES

XP POWER (KUNSHAN) LTD
230 BIN JIANG NAN RD
ZHANGPU TOWN
KUNSHAN
JIANGSU 215321 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 (T302 (Power)), type of Fan Chassis Top Cover and minor differences in the secondary circuit components and PWB layout.

See below for Model Ratings Table Below:

Model SHP650PS12YY: Output Rated: 12.0 Vdc, 50 A (607 W) @ 50 C ambient; 12.0 Vdc, 25 A (300 W) @ 70 C ambient
Model SHP650PS15YY: Output Rated: 15.0 Vdc, 40 A (607 W) @ 50 C ambient; 15.0 Vdc, 20 A (300 W) @ 70 C ambient
Model SHP650PS24YY: Output Rated: 24.0 Vdc, 27 A (657 W) @ 50 C ambient; 24.0 Vdc, 13.5 A (324 W) @ 70 C ambient
Model SHP650PS28YY: Output Rated: 28.0 Vdc, 23 A (651 W) @ 50 C ambient; 28.0 Vdc, 11.5 A (322 W) @ 70 C ambient
Model SHP650PS36YY: Output Rated: 36.0 Vdc, 18 A (657 W) @ 50 C ambient; 36.0 Vdc, 9.0 A (324 W) @ 70 C ambient
Model SHP650PS48YY: Output Rated: 48.0 Vdc, 13.5 A (657 W) @ 50 C ambient; 48.0 Vdc, 6.75 A (324 W) @ 70 C ambient

See Enclosure-Miscellaneous for details.

Models provided with the following YY values differ as follows:

Model SHP650PSXXEF provided with top cover with fan located at the end of the power supply chassis.
Model SHP650PSXXTF provided with top cover with fan located at the top of the power supply chassis.
Model SHP650PSXX not provided with top cover and no fan, only provide with U-shaped chassis.

Additional Information

Marking label is representative of all models.

These power supplies were evaluated to IEC 60950-1(ed.2), IEC 60950-1(ed.2);am1 under CB Test Report Reference E139109-A41-CB-2 with CB Certificate US-19577-UL. Several tests as indicated in the appropriate test tables were derived from CB Test Report Reference E139109-A41-CB-2 where the requirements were considered equivalent or more stringent than IEC 61010-1, Third Edition

Technical Considerations

- Equipment classification: Commercial
- Equipment class: Class I
- Equipment type: Component for building-in
- The product was submitted and tested for use at the maximum recommended ambient temperature (Tmra) of: 50°C (full load); 70°C (half load)

Engineering Conditions of Acceptability

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

- This component has been judged on the basis of the creepage and clearances required in the indicated Standards, which would cover the component itself if submitted for Listing: UL 61010-1 3rd Ed., CAN/CSA 22.2 No. 61010-1-12 3rd Ed.
- The need for the following shall be considered in the end-product: Bonding to protective earthing terminal (Class I construction)
- The output connectors are: Not investigated for field wiring
- Creepage and clearance distances were based on a maximum working voltage of: Primary-Earthed Dead Metal: 245 Vrms, 350 Vpk, Primary-SELV: 240 Vrms, 442 Vpk
- Insulation between primary circuits and accessible dead metal complies with the requirements for : Basic insulation
- Insulation between primary and secondary circuits complies with the requirements for: Reinforced insulation
- The following tests shall be performed in the end-product evaluation: Capacitor Discharge, Permissible Limits for Accessible Parts, Temperature, Dielectric Strength, Determination of Accessible Parts
- The unit is considered acceptable for use at on a max branch circuit of: 20 A
- The unit is considered acceptable for use in a max ambient of: 50°C at full rated load and 70°C at half rated load
- End-product temperature tests for power supplies shall consider that the following transformers employ the indicated insulation system: L1-L3, T201, T301-T303, and L301, (min. Class B) and L50 (min. Class F)
- End-product dielectric strength tests shall be based on the maximum working voltage of: Primary-Earthed Dead Metal: 245 Vrms, 350 Vpk, Primary-SELV: 240 Vrms, 442 Vpk,
- The following end-product enclosures are required: Electrical, Fire, Mechanical --
- The following components require special consideration during end-product Thermal (Heating) tests due to the indicated maximum temperature measurements during component-level testing: Model , SHP650PS12TF: PWB under D310 (129°C) --
- The product has been evaluated for use at a max altitude of 4000m --

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 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

XP POWER LLC
990 BENEZIA 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^{ème} page

Additional Information on page 2

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

Input: 100-240 Vac, 50/60 Hz, 13 A
Output: See Enclosure - Misc 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

WMT

Model / Type Ref.
Ref. De type

SHP1000PSXX
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^{ème} page

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

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-A52-CB-2 issued on 2013-04-30

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

Date: 2013-04-30

Signature:

Jolanta M. Wroblewska



Ref. Certif. No.

US-21488-UL

Model Details:

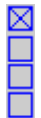
SHP1000PSXX (where XX = represents the output voltage between 12-48)

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 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

Date: 2013-04-30

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-A52-CB-2

Date of issue: 2013-04-30

Total number of pages: 72

CB Testing Laboratory: UL San Jose

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

Applicant's name: XP POWER LLC

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



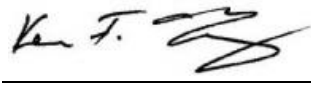
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If this test Report is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

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.

Test item description	Switching Power Supplies
Trade Mark	
Manufacturer	XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Model/Type reference	SHP1000PSXX (where XX = represents the output voltage between 12-48)
Ratings	Input: 100-240 Vac, 50/60 Hz, 13 A Output: See Enclosure - Misc Output Ratings for details

Testing procedure and testing location:	
<input type="checkbox"/>	CB Testing Laboratory Testing location / address..... :
<input type="checkbox"/>	Associated CB Test Laboratory Testing location / address..... : Tested by (name + signature) : _____ Approved by (name + signature) ... : _____
<input type="checkbox"/>	Testing Procedure: TMP Tested by (name + signature) : _____ Approved by (+ signature) : _____ Testing location / address..... : _____
<input checked="" type="checkbox"/>	Testing Procedure: WMT Tested by (name + signature) : Tac Pham  Witnessed by (+ signature) : Curtis Butler  Approved by (+ signature) : Kevin Tang  Testing location / address..... : XP Power Ltd., 401 Commonwealth Drive, Haw Par Technocentre, Lobby B, #02-02, Singapore 149598
<input type="checkbox"/>	Testing Procedure: SMT Tested by (name + signature) : _____ Approved by (+ signature) : _____ Supervised by (+ signature) : _____ Testing location / address..... : _____
<input type="checkbox"/>	Testing Procedure: RMT Tested by (name + signature) : _____ Approved by (+ signature) : _____ Supervised by (+ signature) : _____ Testing location / address..... : _____

List of Attachments	
National Differences (35 pages)	
Enclosures (190 pages)	
Summary Of Testing	
Unless otherwise indicated, all tests were conducted at XP Power Ltd., 401 Commonwealth Drive, Haw Par Technocentre, Lobby B, #02-02, Singapore 149598.	
Tests performed (name of test and test clause)	Testing location / Comments
Guide Information Page - Maximum Output Voltage,	

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

Summary of Compliance with National Differences:

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

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

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

Copy of Marking Plate

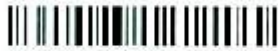
The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



XP Power
www.xppower.com

MODEL NO. SHP1000PS12

SERIAL NO. A1033001



CUSTOMER P/N

P/N 10008990 A



INPUT ~ 100-240VAC 50/60Hz 13A

OUTPUT : 12V = 83A



Test item particulars :	
Equipment mobility	for building-in
Connection to the mains	To be determined in the end-use product
Operating condition	continuous
Access location	N/A
Over voltage category (OVC)	OVC II
Mains supply tolerance (%) or absolute mains supply values	+10%, -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)	12.7
Pollution degree (PD)	PD 2
IP protection class	IP X0
Altitude of operation (m)	up to 3048
Altitude of test laboratory (m)	166
Mass of equipment (kg)	1.25
Possible test case verdicts:	
- 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)
Testing:	
Date(s) of receipt of test item	2010-04-29
Date(s) of Performance of tests	2010-05-07, 2010-08-05
General remarks:	
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.	
Manufacturer's Declaration per Sub Clause 6.25 of IEC60950:	
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.	
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 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 (T302 (Power)), and minor differences in the secondary circuit components and PWB layout.

See below for Model Ratings Table Below:

Model SHP1000PS12: Output Rated: 12.0 Vdc, 83 A (1001 W)
Model SHP1000PS15: Output Rated: 15.0 Vdc, 67 A (1010 W)
Model SHP1000PS24: Output Rated: 24.0 Vdc, 42 A (1013 W)
Model SHP1000PS24: Output Rated: 24.0 Vdc, 50 A (1200 W)
Model SHP1000PS28: Output Rated: 28.0 Vdc, 36 A (1013 W)
Model SHP1000PS28: Output Rated: 28.0 Vdc, 43 A (1204 W)
Model SHP1000PS36: Output Rated: 36.0 Vdc, 28 A (1013 W)
Model SHP1000PS36: Output Rated: 36.0 Vdc, 33 A (1188 W)
Model SHP1000PS48: Output Rated: 48.0 Vdc, 21 A (1013 W)
Model SHP1000PS48: Output Rated: 48.0 Vdc, 25 A (1200 W)

Additional Information

This report is a reissue of CBTR Ref. No. E139109-A52-CB-1, CB Test Certificate Ref. No. US/15582/UL. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, it has been determined that the product complies with IEC60950-1, 2nd Edition + Am. 1.

No tests were conducted under this investigation due to reissue of CB Test Report Ref. No. E139109-A52-CB-1. All required tests were carried out under the original investigation.

Required values for clearance are adjusted for 3048 m (1.15 correction factor as per IEC 60664-1, Table A2).

Marking label is representative of all models.

Technical Considerations

- 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).
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: 50°C at full rated load and 70°C at half rated load. --
- The product is intended for use on the following power systems: TN --
- The following are available from the Applicant upon request: Specific data sheets for LED indicators that are class I and operate at wavelength in the 400-710 nm range. --
- The following were investigated as part of the protective earthing/bonding: Printed wiring board trace (refer to Enclosure - Schematics + PWB for layouts) --

Engineering Conditions of Acceptability

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

- Fans: The fan provided in this sub-assembly is provided with a fan guard to reduce the risk of operator contact with the stator. Compliance shall be determined in the end-product.
- Consideration to repeating Heating and Touch Current Tests should be given in the end-product evaluation. --
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed Dead Metal: 264 Vrms, 373 Vpk, Primary-SELV: 353 Vrms, 608 Vpk --
- The following secondary output circuits are SELV: All outputs --
- The following secondary output circuits are at hazardous energy levels: Power output --
- 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: J1 --
- 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-L3, T201, T301-T303, and L301 (min. Class B) and L50 (min. Class F) --
- The following end-product enclosures are required: Mechanical, Fire, Electrical --
- The following Production-Line tests are conducted for this product: Earthing Continuity, Electric Strength --

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)