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Test Report issued under the responsibility of:



TEST REPORT IEC 60950-1 Information technology equipment - Safety - Part 1: General requirements			
Report Reference No:	E139109-A57-CB-3		
Date of issue:	2015-08-28		
Total number of pages:	17		
CB Testing Laboratory	UL Camas		
Address:	2600 N.W. Lake Road, Camas, WA, 98607, USA		
Applicant's name	XP POWER L L C 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 UNITED STATES		
Test specification:			
Standard:	IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013		
Test procedure:	CB Scheme		
Non-standard test method:	N/A		
Test Report Form No.	IEC60950_1F		
Test Report Form originator::	SGS Fimko Ltd		
Master TRF	Dated 2014-02		

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#### General disclaimer

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Test item description	Switching Brick Power Supply
Trade Mark:	
Manufacturer:	XP POWER L L C 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 UNITED STATES
Model/Type reference:	AHM85PSXXYY-ZW##V
	Where XX is any number between 12-24, YY can be blank or C2, Z can be blank or A, W can be blank, 6, or 8, # can be blank or any alphanumeric character, and V can be blank or any alphanumeric character, may be provided with or without "-".
Ratings:	Input: 100 - 240V ac 1.0A, 50/60Hz
	Output at 40°C (100% load): Model AHM85PS12: 12 Vdc (10.1-13.5 Vdc), 7.08 A max. (85W max) Model AHM85PS15: 15 Vdc (13.6-17.0 Vdc), 5.67 A max. (85W max) Model AHM85PS19: 19 Vdc (17.1-21.0 Vdc), 4.47 A max. (85W max) Model AHM85PS24: 24 Vdc (21.1-26.0 Vdc), 3.54 A max. (85W max)
	Output voltage rating indicated in parenthesis represents voltage tolerance evaluated.
	All outputs are de-rated to 60% load at 60°C.

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Testin	g procedure and testing location:				
[x]	CB Testing Laboratory				
	Testing location / address: UL Camas 2600 N.W. Lake Road, Camas, WA, 98607, USA				
[]	Associated CB Test Laboratory				
	Testing location / address				
	Tested by (name + signature): Patrick Lan / Project Handler	mlan			
	Approved by (name + signature): Gregory Ray / Reviewer	Hugery Ray			
[]	Testing Procedure: TMP/CTF Stage 1				
	Testing location / address				
	Tested by (name + signature):				
	Approved by (name + signature):				
[]	Testing Procedure: WMT/CTF Stage 2				
	Testing location / address				
	Tested by (name + signature):				
	Witnessed by (name + signature):				
	Approved by (name + signature):				
[]	Testing Procedure: SMT/CTF Stage 3 or 4				
	Testing location / address				
	Tested by (name + signature):				
	Approved by (name + signature):				
	Supervised by (name + signature) .:				
[]	Testing Procedure: RMT				
	Testing location / address:				
	Tested by (name + signature):				
	Approved by (name + signature):				
	Supervised by (name + signature) .:				

### List of Attachments

National Differences (0 pages)

Enclosures (5 pages)

#### **Summary Of Testing**

Unless otherwise indicated, all tests were conducted at UL Camas 2600 N.W. Lake Road, Camas, WA, 98607, USA.

Tests performed (name of test and test clause) Testing location / Comments

Durability of Marking (1.7.11)

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Capacitance Discharge (2.1.1.7)

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)

# Summary of Compliance with National Differences:

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

List of countries addressed: AT, AU, BE, BG, BY, CA, CH, CN, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IT, JP, KR, NL, NO, NZ, PL, PT, RO, SE, SG, SI, SK, UA, US

The product fulfills the requirements of: EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013, UL 62368-1 - Edition 2 - Issue Date 2014-12-01, CSA C22.2 NO. 62368-1-14 - Edition 2 - Issue Date 2014-12-01

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

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Test item particulars :	
Equipment mobility	transportable
Connection to the mains	pluggable A
Operating condition	continuous
Access location	operator accessible
Over voltage category (OVC)	OVC II
Mains supply tolerance (%) or absolute mains supply values:	+10%, -10%
Tested for IT power systems	Yes
IT testing, phase-phase voltage (V)	230
Class of equipment	Class I (earthed) and Class II (double insulated)
Considered current rating of protective device as part of the building installation (A)	20 A
Pollution degree (PD)	PD 2
IP protection class	IP X0
Altitude of operation (m)	Up to 5000
Altitude of test laboratory (m)	less than 2000 meters
Mass of equipment (kg)	0.4
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	2018-05-14
Date(s) of Performance of tests	2018-05-22 TO 2018-05-25
General remarks:	
"(see Enclosure #)" refers to additional information ap "(see appended table)" refers to a table appended to Throughout this report a point is used as the decimal	pended to the report. the report. separator.
Manufacturer's Declaration per Sub Clause 4.2.5 c	of IECEE 02:
The application for obtaining a CB Test Certificate inc declaration from the Manufacturer stating that the san representative of the products from each factory has b When differences exist, they shall be identified in the	Yes Iudes more than one factory and a nple(s) submitted for evaluation is (are) peen provided
Name and address of Eastery/ics): VP DOM/EE	
230 BIN JIA ZHANGPU KUNSHAN JIANGSU 2	TOWN 15300 CHINA

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Report Reference #

XP POWER LLC 990 BENECIA AVE SUNNYVALE CA 94085 UNITED STATES

XP POWER (VIETNAM) CO LTD LOT D - 4Q - CN MY PHUOC 3 INDUSTRIAL PARK BEN CAT DISTRICT BINH DUONG BINH DUONG VIETNAM

## **GENERAL PRODUCT INFORMATION:**

#### **Report Summary**

The original report was modified on 2018-08-31 to include the following changes/additions:

This is a technical amendment:

-Models and ratings sections were updated for clarity.

-The manufacturer submitted representative production samples of these models for construction review and testing. Evaluation and testing were performed for compliance to IEC 62368-1:2014 (Second Edition). The Evaluation and testing were considered representative of the requirements of IEC 60950-1:2005 (Second Edition), Am1:2009 + Am2:2013. Evaluation specifics can be found under CBTR E139109-A6015-CB-1.

#### **Product Description**

The devices are a series of brick power supplies to be used to power ITE equipment.

#### Model Differences

All models within the series are identical with exception of the main transformer (T1) winding and other minor changes to secondary circuit to accommodate different output voltages and current ratings.

In the model number:

XX is any number between 12-24 designating output voltage

YY can be blank or C2 designating Class II configuration

Z can be blank or A designating optional IEC cable retention

W can be blank, 6, or 8 designating appliance inlet type (blank = C14 or C18, 6 = C6, 8 = C8)

# can be blank or any alphanumeric character for marketing purposes

V can be blank or any alphanumeric character designating casing color

#### Additional Information

This report is a Standard upgrade/reissue of CBTR Ref. No.: E139109-A57-CB-2, CB Test Certificate Ref. No.US-20899-UL, No.US-20899-A1-UL, No.US-20899-A2-UL, and No.US-20899-A3-UL to IEC 60950-1:2005 (Second Edition), Am1:2009 + Am2:2013. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, only the construction review and the review of previous tests was deemed necessary. All required tests were carried out under the original investigation. Humidity Test for tropical conditions was re-tested and witnessed at the clients Singapore test facilities.

Marking label is representative of all models. The nameplate labels included in this report depict the draft

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artwork for the marking plate pending approval by National Certification Bodies and it will not be affixed to products prior to such approval.

This is a technical amendment:

-Models and ratings sections were updated for clarity.

-The manufacturer submitted representative production samples of these models for construction review and testing. Evaluation and testing were performed for compliance to UL 62368-1 Edition 2 and CSA C22.2 NO. 62368-1-14 - Edition 2. Evaluation specifics can be found under CBTR E139109-A6015-CB-1.

#### Technical Considerations

- The product was investigated to the following additional standards: IEC 62368-1 2nd Ed (CBTR E139109-A6015-CB-1), EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 (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: 40°C (at 100% rated load); 60°C (at 60% rated load)
- The means of connection to the mains supply is: Detachable power cord Pluggable A --
- The product is intended for use on the following power systems: TN IT --
- The equipment disconnect device is considered to be: Appliance inlet --
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual --
- The equipment employs Functional Earthing per 2.6.2. As anticipated by the NOTE for 1.2.4, it does not conform to one of the common Classes (I, II, or III). The following insulation is provided between the primary and accessible dead metal parts and circuits: Double/Reinforced (configurations with a ground pin in the appliance inlet) --
- According to IEC60664-1, Table A2, required Clearances have been adjusted by multiplying the clearance at sea level by a factor of 1.48 for operating at an altitude of 5000 meters. The correction factor is based on barometric pressure of 70kPa and Overvoltage Category II. If the calculated Clearance exceeded the Creepage, the Creepage was adjusted to the value of clearance. No other additional requirements were considered at this time as they are not explicitly addressed in 60950-1.

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	BOP	- supplementary insulation	SI
- double insulation	. DI	- reinforced insulation	RI
Indicate used abbreviations (if any)			

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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1 TABLE: list of critical components Pass					
object/part or	manufacturer/	type/model	technical data	standard (Edition	mark(s) of
Description	trademark			or year)	conformity <sup>1</sup> )
Enclosure - Top	SABIC Innovative Plastics	PC945	Overall dimension 16.5 by 6.4 by 1.9 cm, rated V- 0, 105°C min., black	UL 94	UL,
Enclosure - Bottom	SABIC Innovative Plastics	PC945	Overall dimension 16.5 by 6.4 by 1.9 cm, rated V- 0, 105°C min, black	UL 94	UL,
EMI Shield	Interchangeable	Interchangeable	Provided two, aluminum U- shaped, overall dimension approx, 136 by 56 by 27 mm, min. 0.25 mm thick.		,
Insulation Sheet	Mianyang LongHua	PP-BK	V-0, Thickness = 0.43mm min, 105°C min.	UL 94	UL,
Insulation Sheet - Alternate	Interchangeable	Interchangeable	V-0, Thickness = 0.43mm min, 105°C min.	UL 94	UL,
AC inlet (Class I construction)	Zhe Jiang Bei Er Jia Electronic Co.,LTD	ST-A01-003J series or ST- A04-002 series (3 pin)	Rated 250V, 15A, 3 pins. Soldered to Printed Circuit Board	UL 498, IEC 60320-1	UL, VDE LIC.# 40013388 or 40016045
Bonding Conductor	Interchangeable	Interchangeable	(AVLV2) Internal Wire, min. 24 AWG, rated min. VW-1, min. 80°C, provided with Insulating Sleeving/Tubing from end to end. Provided with one end connected to provided with soldered through the Ground Connection Point	UL758	UL, -

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Clause	Requirement + Test	Result - Remark	Verdict

			located in the primary side and the other end connected to Secondary Functional Earth Connection point on Printed Wiring Board.		
Insulating Tubing/Sleeving	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; 125°C, 600V, min. 0.4mm thick.	UL224	UL, -
AC inlet (Class II construction)	Zhe Jiang Bei Er Jia Electronic Co.,LTD	ST-A01-003J series or ST- A01-005J series or ST-A03-005 series (2 pin)	Rated 250V, 15A, 2 pins. Soldered to Printed Circuit Board	UL 498, IEC 60320-1	UL, VDE LIC.# 40013388 or 40016045 or 40014833
Fuses (F1, F2)	Walter Electric	ICP series	Rated 250 V, 2. 5A	UL 248, IEC60127	UL, VDE Lic. # 40012824
Varistor (MOV1)	Thinking Electronics	TVR series	Rated min. 300 V, 5 A, min. 105°C, V-0 epoxy coating.	UL 1449, IEC 61051-2	UL, VDE LIC.# 40021243
Thermistor (RT1) not relied for safety	Thinking Electronics	SCK series	Type NTC, 5Ω, 25°C min, 3A min. steady state current	UL 1434	UL,
Thermistor (RT1) not relied for safety - Alternate	Interchangeable	Interchangeable	Type NTC, 5Ω, 25°C min, 3A min. steady state current	UL 1434	UL,
Capacitor, Across the Line (C1)	Faratronic (Xiamen) Co. Ltd	MKP62 series, type C62	Rated max. 0.47uF, min. 250V, marked X1 or X2	UL60384-14, CSA60384-14, IEC60384-14	UL, VDE LIC.# 117693
Optional Y- Capacitor, Line to Ground (CY1, CY2)	Murata	KX series	Rated max. 470pF, min. 250V, marked Y1 or Y2	UL60384-14, CSA60384-14, IEC60384-14	UL, VDE LIC.# 40002831
Optional Y- Capacitor, Line to Ground (CY1, CY2) - Alternate	Panasonic	NS-A	Rated max. 470pF, min. 250V, marked Y1 or Y2	UL60384-14, CSA60384-14, IEC60384-14	UL, VDE LIC.# 039481
Capacitor, Pri to	Evox-Rifa/Kemet	ERP610 series	Rated max.	UL60384-14,	UL, VDE LIC.#

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Clause	Requirement + Test	Result - Remark	Verdict	

Sec (CY3, CY4)			1500pF, min. 250V, marked Y1 or Y2	CSA60384-14, IEC60384-14	40001996
Capacitor, Pri to Sec (CY3, CY4) -Alternate	Murata	KX series	Rated max. 1500pF, min. 250V, marked Y1 or Y2	UL60384-14, CSA60384-14, IEC60384-14	UL, VDE LIC.# 40002831
Capacitor, Pri to Sec (CY3, CY4) -Alternate	Success Electronics Co. Ltd.	SE Series	Rated max. 1500pF, min. 250V, marked Y1 or Y2	UL60384-14, CSA60384-14, IEC60384-14	UL, VDE LIC.# 118218
Capacitor, Pri to Sec (CY3, CY4) -Alternate	Vishay Electronic GmbH	VKP Series	Rated max. 1500 pF, min. 250 V, marked "Y1".	UL60384-14, CSA60384-14, IEC60384-14	UL, VDE LIC.# 136494
Bleeder Resistor (R1, R70)	Interchangeable	Interchangeable	Rated 1/4W min., 3.01 Meg ohm max.		,
Diode Bridge (BD1)	Shindengen America	UD4KB80	Rated min. 600V, min. 4A. ` Secured to heatsink, see Heatsink for details, using screw and nut	UL 1557 or UL 1012, UL/IEC 60590-1	UL, Evaluated as part of this investigation
Diode Bridge (BD1) Alternate	Interchangeable	Interchangeable	Rated min. 600V, min. 4A	UL 1557 or UL 1012, UL/IEC 60590-1	UL, Evaluated as part of this investigation
Capacitor (C7)	Interchangeable	Interchangeable	Rated 68uF max., 450V, 1050C. Provided with integral pressure relief.		,
Mosfet (Q8, Q9)	Toshiba	2SK3568(Q)	Rated 500V min, 12A min., 150°C. Secured to heatsink, see Heatsink for details, using screw and nut, using screw and nut		,
Mosfet (Q8, Q9) - Alternate	Interchangeable	Interchangeable	Rated 500V min, 12A min., 150°C. Secured to heatsink, see Heatsink for details, using screw and nut, using screw and		,

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Clause	Requirement + Test	Result - Remark	Verdict		

			nut		
Mosfet (Q17)	ST Microelectronic	STP21NM50N	Rated 550V min, 18A min., 150°C. Secured to heatsink, see Heatsink for details, using screw and nut		,
Mosfet (Q17) - Alternate	Interchangeable	Interchangeable	Rated 550V min, 18A min., 150°C. Secured to heatsink, see Heatsink for details, using screw and nut		,
Optical Isolator (U3)	Fairchild Semiconductor	FOD817 series	Double protection, isolation voltage 5000 V (DTI: min. 0.4mm), external creepage/cleara nce distances: 7.8/7.4mm.	UL 1577, IEC 60747-5	UL, VDE LIC.# 40026857
Inductor (L1)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010375 represents the entire series)	Copper magnet wire wound on toroid core. Rated min. 130 °C.	UL/IEC 60950-1	Evaluated as part of this investigation,
Inductor (L2)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010376 represents the entire series)	Copper magnet wire wound on toroid core. Rated min. 130 °C.	UL/IEC 60950-1	Evaluated as part of this investigation,
Inductor (L3)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010035 represents the entire series)	Copper magnet wire wound on toroid core. Rated min. 130 °C.	UL/IEC 60950-1	Evaluated as part of this investigation,
Inductor (L4)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of	Copper magnet wire wound on bobbin. Rated min 130 °C	UL/IEC 60950-1	Evaluated as part of this investigation,

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		10010036 represents the entire series)			
Inductor (L6)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010037 represents the entire series)	Copper magnet wire wound on bobbin. Rated min 130 °C	UL/IEC 60950-1	Evaluated as part of this investigation,
Inductor (L7)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010038 represents the entire series)	Copper magnet wire wound on bobbin. Rated min 130 °C	UL/IEC 60950-1	Evaluated as part of this investigation,
Transformer (T1)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010284 represents the entire series)	Open type, concentrically wound. Core approx. 30 by 31 by 21 mm Provided with Class 130 (B) or Class 155(F) insulation system. See Enclosures – Diagrams for details.	UL/IEC 60950-1	Evaluated as part of this investigation,
Insulation System	Bolo JinHanBang Electronics Co. Ltd	JHB-B	Class 130 (B) insulation system, rated 130°C	UL 1446	UL,
Insulation System - Alternate	XP Power	Class B	Class 130 (B) insulation system, rated 130°C	UL 1446	UL,
Insulation System - Alternate	XP Power	Class F	Class 155 (F) insulation system, rated 155°C	UL 1446	UL,
Transformer (T1) - Bobbin	Hitachi Chemical Co., Ltd.	CP-J-8800	Rated V-0, 155°C, min. 0.8 mm thick. Insulation System designated Class B (130°C),	UL 94	UL,

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Clause	Requirement + Test	Result - Remark	Verdict		

Transformer (T1)	Sumitomo	PM-9820	Rated V-0	UI 94	UI
– Bobbin -	Bakelite Co I td	1 11 0020	155°C min 0.8	0201	02,
Alternate	Danonio Con, Etar		mm thick		
			Insulation		
			System		
			designated Class		
			F (155°C).		
Transformer (T1)	Cosmolink Co.	TIW-M	Reinforced	UL 2353.	UL. VDE (Lic. #
- Triple Insulation	Ltd		Insulation, rated	IEC60950-1	138053),
Wire (Primary)			130°C (Class B).		,,
( <b>)</b>			1000 Vpk used		
			in Insulation		
			System		
			designated Class		
			B (130°C)		
Transformer (T1)	Rubadue Wire	TxxAxxFxxx-x	Reinforced	UL 2353,	UL, VDE (Lic. #
- Triple Insulation	Co., Ltd.	TxxAxxPxxx-x	Insulation, rated	IEC60950-1	40000223),
Wire (Primary)		TxxAxxTxxx-x,	155°C (Class F),		
Alternate		where x can be	1000 Vpk used		
		any number	in Insulation		
		between 0 - 9.	System		
			designated Class		
			F (155°C)		
Transformer (T1)	Permacel	P256 or	Insulation	UL 510	UL,
- Insulating Tape		equivalent	System		
			designated Class		
<b>T</b> ( ( <b>T</b> ()		o <del>⊤</del>	F (155°C)	111 540	
Transformer (11)	Jing Jiang	CT-280 or	Insulation	UL 510	UL,
		equivalent	System designated Class		
- Alternate					
Drinted Wiring	Interchangeable	Interchangeshie	B (155°C)		1.11
Printed Winng	Interchangeable	Interchangeable	15 0 by 5 5 cm	UL 790	UL,
Duaru			15.0  by  5.5  cm,		
			thick Doted min		
			rated for direct		
			support of live		
			parts		
RTV	Momentive	TSE3941	Rated V-0.	UL 94	UL
	Performance		105°C		,
	Materials Japan				
	L.L.C				
RTV - Alternate	Interchangeable	Interchangeable	Rated V-0,	UL 94	UL,
	Ŭ		105°C		
Strain Relief	Kushan	PVC	See Enclosures -		,
	Guanglong		Diagrams for		
	Plastic Co., Ltd.		details.		
Output wire	Interchangeable	Interchangeable	Style 20939.	UL 758	UL,

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			Marked "VW-1"		
			or "FT-1" or		
			cable flame		
			rated, rated min.		
			80°C, rated min.		
			300V. Provided		
			with molded-on		
			strain relief, see		
			Strain Relief for		
			details. Suitable		
			for external use.		
			See Misc.		
			Enclosure 7-07		
			for a list of		
			alternate Style		
			Numbers		
			suitable for		
			external use.		
Label	Brady	B-434	Rated min. 80°C	UL 969	UL,
			and Subjected to		,
			the Durability of		
			Markings Test		
Optional	Dow Corning	1-2577	Rated V-0, min.	UL746E	UL, -
Conformal	-		130, min. 60-		
Coating			120 microns.		
-			(not relied upon		
			for reduced		
			creepage and		
			clearances.)		
Supplementary in	formation:				
<sup>1</sup> ) Provided evider	nce ensures the ag	reed level of comp	liance. See OD-CB	2039.	
The CBTL has ve	rified the compone	ent information			

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2.5	TABLE: Limited power sources						N/A		
Circuit output tested:									
Note: Measured Uoc (V) with all load circuits									
disconnected:									
Componen	nts	Sample No.	Uoc (V)		Isc (A)		Isc (A) VA		4
					Meas.	Limit	Meas.	Limit	
supplementary information:									
Sc=Short circuit, Oc=Open circuit									

4.5	TABLE: Thermal requirements					Pass
	Supply voltage (V) :	90	264	90	264	 
	Ambient Tmin (°C) :					 
	Ambient Tmax (°C) :	See	See	See	See	 
		below:	below:	below:	below:	
		Tma	Tma	Tma	Tma	
		40	40	60	60	

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Maximum measured temperature T of part/at:	T (°C)	T (°C)	T (°C)	T (°C)	T (°C)	Allowed
	#1	#2	#3	#4	#5	Tmax (°C)
Model AHM85PS12	Output	Output	Output	Output		
	:	:	:	:		
	12Vdc	12Vdc	12Vdc	12Vdc		
	,	,	,	,		
	7.08A	7.08A	4.25A	4.25A		
	(100%	(100%	(60%)	(60%)		
1 T1 primory windings	)	)	02 /	02.1		120
2. T1 accordent windings	76.2	70.0	03.4	03.1		120
2. There	70.3	72.0 60.6	04.3	04 92 5		120
4. Appliance Inlet BODY	73.Z	18.8	60	67.3		70
4. Appliance line: BODT	72 7	40.0 50.2	70.4	75.5		120
5. LT windings	73.7	59.5 60.3	79.4 80.2	75.5		130
7 Core of 14	74.3	66.0	84 7	82 /		100
8. Body C7	79.4	68.3	83.5	02.4 83.1		105
0. Body U3	66.0	63	77.0	77 7		105
10. Output wiring	56.6	54 5	70.6	70.5		80
11 DWB between C33 C34	74.3	70.8	70.0 82.1	70.5 81.8		105
12. Body of O9	74.5	70.0 65.4	02.1 81 /	81 7		105
	77.1	60.2	81.6	81 /		105
13. SCARDZ FWD	75.0	64.2	01.0	01.4		100
14. L3 windings	75.Z	04.Z	70.1	70		04
16. Ambient	40.9	JZ 40 5	60.9	70 60 5		94
	40.0	40.5 Output	Output	Output		
	Output					
	24\/dc	24\/dc	24\/dc	24\/dc		
	24000	24000	24000	24000		
	, 3.54A	, 3.54A	, 2.12A	, 2.12A		
	(100%	(100%	(60%)	(60%)		
	)	)	()	()		
1. T1 primary windings	76.6	72.6	84.2	83.8		120
2. T1 secondary windings	75.9	72	83.7	83.3		120
3. T1 core	74.3	70.4	82.9	82.5		120
4. Appliance Inlet BODY	56.5	50.2	70	68.5		70
5. L1 windings	73.6	59.1	79.2	75.3		130
6. L2 windings	75.5	59.9	80.1	76.2		130
7. Core of L4	78	65.7	83.8	81.4		100
8. Body C7	75.8	68.1	83.2	82.8		105
9. Body U3	68.3	64	78.4	78.1		105
10. Output wiring	58.7	56.3	71.3	71.1		80
11. PWB between C33, C34	73	69.4	79.5	79.1		105
12. Body of Q9	72.9	65.8	81.4	82.2		105
13. SCARD2 PWB	74.3	71.4	80.9	80.6		105
14. L3 windings	74.8	63.5	80.8	80		130
15. Internal enclosure (Used as Touch Temp)	55.3	52	69.4	69.3		94

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	IEC 60950-1		
Clause	Requirement + Test	Result - Remark	Verdict

16. Ambient					40.5	60.8	60.5		
Model AHM85PS24						60 Hz,			
						Output			
						:			
						24Vdc			
						,			
						2.12A			
						(60%)			
						Â			
1: T1 Core						79.4			120
2: Appliance Inlet INTERNAL NI	EAR L PIN	l				69.4			70
3: Core of L4						81.2			100
4: Body of C7						80.6			105
5: Ambient						60.1			
Test Duration (Hr:Min)						2:15			
Temperature T of winding:	t1 (°C)	R1	t2 (	°C)	R2	T (°C)	Allow	ed	Insulation
		(ohm)			(ohm)		Tmax	(°C)	class
supplementary information:									

Tested models considered representative of the entire series based upon similarities in circuit design. Evaluated under original CB Scheme investigation. Tests conducted at 50 or 60 Hz considered representative of each other due to similarities in input test results. \* This test configuration is considered representative of all models and all input voltages.

5.1 TABLE: touch current measurement						
Measured between	Measured (mA)	Measured (mA) Limit (mA)		Comments/conditions		
Foiled enclosure	Less than .005	3.5mA	e=C, p=N			
Foiled enclosure	Less than .005	3.5mA	e=C, p=R			
Output connector	.02	3.5mA	e=C, p=N			
Output connector	.02	3.5mA	e=C, p=R			
Ground pin of appliance inlet	.025	3.5mA	e=O, p=N			
Ground pin of appliance inlet	.025	3.5mA	e=O, p=R			
Output Return	0.075	0.25	e=O, p=N			
Output Return	0.075	0.25	e=O, p=R			
Foil Wrapped Enclosure	0.010	0.25	e=O, p=N			
Foil Wrapped Enclosure	0.010	0.25	e=O, p=R			
supplementary information:						

supplementary information.

Report Reference #

# **Enclosures**

Type	Supplement Id	Description
Marking Plate	13-01	Label (representative of all models)
Photographs	3-01	Overall External View (Top/Sides/Front)
Photographs	3-02	Overall External View (Bottom/Side/Rear)
Photographs	3-03	Internal View (EMI shield)
Photographs	3-04	Internal View (EMI shield removed)
Photographs	3-05	PWB (Top View)
Photographs	3-06	PWB (Bottom View)
Diagrams	4-01	T1 Specification Sheet for Model AHM85PS12
Diagrams	4-02	T1 Specification Sheet for Model AHM85PS15
Diagrams	4-03	T1 Specification Sheet for Model AHM85PS19
Diagrams	4-04	T1 Specification Sheet for Model AHM85PS24
Diagrams	4-08	L1 Specification Sheet for Model AHM85PSXX
Diagrams	4-09	L2 Specification Sheet for Model AHM85PSXX
Diagrams	4-14	Output Wire Drawing - Style 2464
Diagrams	4-15	L3 Specification Sheet
Diagrams	4-16	L4 Specification Sheet
Diagrams	4-17	L6 Specification Sheet
Diagrams	4-18	L7 Specification Sheet
Schematics + PWB	5-01	PWB Component and Trace Layouts (for C14 or C18 appliance inlet)
Schematics + PWB	5-02	Alternate PWB Component and Trace Layouts (for C6, C14 or C18 appliance inlet)
Schematics + PWB	5-03	Alternate PWB Component and Trace Layouts (for C8, C14 or C18 appliance inlet)
Miscellaneous	7-01	Manufacturer's Letter of Assurance - 2015
Miscellaneous	7-05	List of equipment under WMT
Miscellaneous	7-06	Taiwan Deviation
Miscellaneous	7-07	List of UL Cable Style Numbers

#### Misc ID 7-01

XP

THE XPERTS IN POWER

XP Power LLC, 15641 Red Hill Ave, Ste 100, Tustin, CA 92780 USA Tel: (714) 597-7100 Fax: (714) 597-7143 Website: www.xppower.com

UL LLC 47173 Benicia St. Fremont, CA 94538-7366

Attn: UL Representative

Subject: National Differences

Dear Sir,

This document confirms that XP Power LLC will provide the following items needed to the accepting NCB along with the CB test report.

Markings and Safety Instructions - Safety instructions and markings in the language suitable for countries listed in the attached report will be provided at the time the CB test report is submitted to the accepting NCB.

EMC Test Report – Where detailed in the National Differences, an EMC Test report or Declaration of Conformity will accompany this product when sent to countries that require EMC test results as part of their certification process e.g. Korea.

We confirm that:

Power Supply Cords and Plugs - All power cords and plug assemblies provided with the unit will be certified and suitable for use in the countries listed in the attached CB test report.

#### Manufacturer Declaration

XP Power LLC declares that the sample submitted for evaluation is representative of the products from each factory noted in the CB Report.

ROHS Directive – We have been advised that we will need to provide evidence that our product complies with ROHS Directive 2011/65/EU. The accepting NCB may obtain this information from XP Power LLC by part number upon request.

So and

Tac Pham International Regulatory Compliance Manager XP Power LLC

Issue Date: 2015-08-28 Amendment 1 2018-08-31

#### Misc ID 7-07

The following style numbers have met the criteria (Cable Flame Rating) for "External Use" cables and If less than 3.05 meters in length, rated minimum 300Vac, minimum 80°C and conductors are minimum 24AWG, the cables are then considered suitable for use as output cables on the Applicant's Listed Desktop Power Supplies or Listed Power Adaptors:

10009	10107	10122	10195	10216	10408	10426	10455
10509	10552	10557	10569	10571	10572	10587	10600
10614	10618	10620	10638	10660	10665	10678	10681
10684	10693	10748	10752	10754	10763	10769	10801
10805	10835	10846	10847	10848	10934	10946	10947
10949	10950	10952	10953	10973	11046	11048	11060
11107	11108	11133	11134	11167	11182	11212	11214
11216	11220	11223	11236	11299	11311	11313	11353
11362	11363	11391	11472	11473	11474	11505	11539
11545	11549	11629	1477	1777	1866	1902	1965
20007	20009	20010	20011	20063	20132	20150	20230
20233	20234	20237	20238	20239	20257	20280	20327
20328	20362	20368	20369	20372	20375	20376	20381
20387	20400	20429	20430	20448	20487	20516	20527
20529	20560	20605	20606	20643	20646	20668	20669
20676	20678	20680	20681	20717	20739	20749	20772
20773	20779	20801	20802	20811	20821	20824	20838
20840	20841	20842	20843	20850	20854	20870	20875
20886	20905	20911	20912	20917	20929	20931	20936
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Enclosures

20939	20948	20950	20951	20952	20977	20983	20999
21012	21025	21050	21053	21055	21058	21083	21098
21113	21120	21132	21143	21144	21169	21175	21178
21179	21183	21193	21194	21195	21196	21197	21214
21215	21216	21222	21223	21234	21235	21236	21237
21242	21243	21260	21263	21265	21266	21270	21276
21286	21287	21288	21339	21348	21349	21381	21383
21387	21388	21389	21396	21408	21409	21411	21412
21414	21415	21426	21449	21459	21492	21508	21510
21512	21527	21530	21558	21559	21562	21563	21614
21617	21618	21619	21623	21624	21625	21628	21630
21634	21635	21647	21651	21658	21659	21664	21665
21684	21685	21699	21703	21709	21711	21713	21715
21718	21722	21731	21733	21738	21743	21744	21757
21772	21784	21785	21788	21812	21833	21834	21838
21839	21842	21854	21855	21861	21862	21863	21876
21887	21894	21908	21918	21919	21937	21938	21944
21973	22008	22038	2346	2422	2423	2424	2425
2426	2461	2463	2464	2483	2498	2501	2512
2513	2516	2517	2549	2550	2566	2586	2587
2653	2654	2655	2656	2661	2662	2753	2853

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2995	3667	3722	3742	3753	3842	3889	3940
3955	3956	3959	3960	4216	4218	4257	4278
4279	4280	4289	4312	4313	4343	4350	4377
4378	4379	4380	4389	4392	4404	4416	4421
4430	4435	4436	4449	4454	4460	4486	4487
4488	4493	4494	4499	4501	4502	4504	4507
4511	4515	4516	4528	4535	4536	4540	4547
4550	4556	4588	4589	4590	4597	4598	4601
4602	4604	5541					