

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2011-12-19 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	AC/DC Power Adapter
Model:	AHM150PSXXYY-ZZ (where XX is any number between 12-48 designating output voltage, where YY can be "C2" or blank, and ZZ can be blank or "A", "6", "8", "6A", or "8A", may be provided with or without "-")
Rating:	Input: 100-240 Vac, 50/60 Hz, 1.8 A Output: See Model Differences section
Applicant Name and Address:	XP POWER L L C SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES

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

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

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

Prepared by: Sal Oseguera

Reviewed by: Kevin Tang

Supporting Documentation

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

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
 - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
 - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
 - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

The models covered in this report are Class I or Class II power supplies intended for use with Information Technology Equipment. They are enclosed power supplies housed within a thermoplastic enclosure. The units connect to mains via a detachable power supply cord and grounded appliance inlet. The output is through a PVC jacketed output cord terminating in a molded-on polarized connector.

Model Differences

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

Output Ratings for 40°C:

Model AHM150PS12: 12 Vdc, 12.5 A
Model AHM150PS15: 15 Vdc, 10.0 A
Model AHM150PS19: 19 Vdc, 7.89 A
Model AHM150PS24: 24 Vdc, 6.25 A
Model AHM150PS48: 48 Vdc, 3.13 A

See Enclosure - Miscellaneous for de-rated output values for higher ambient.

Models may have an additional -ZZ identifier which can be "-A", "-6", "-6A", "-8", "-8A", or blank to designate the type of input connector:

blank = C14 style input connector (Class I construction);
"-A" = C14 style input connector with optional IEC cable retention;
"-6" = C6 style input connector (Class I);
"-6A" = C6 style input connector with optional IEC cable retention;
"-8" = C8 style input connector (Class I)

Models may have an additional YY identifier which can be blank or "C2". Units designate "C2" have a Class II configuration.

Technical Considerations

§ Equipment mobility : movable

- § 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 : No
- § IT testing, phase-phase voltage (V) : N/A
- § Class of equipment : Class I (earthed) and Class II (double insulated)
- § 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) : 3048m
- § Altitude of test laboratory (m) : less than 2000 meters
- § Mass of equipment (kg) : 0.62
- § The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) 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: Pluggable A, Detachable power cord,
- § The product is intended for use on the following power systems: TN
- § The equipment disconnect device is considered to be: Appliance inlet
- § 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 following accessible locations (with circuit/schematic designation) are within a limited current circuit: Load side of Capacitor CY3 and CY4,
- § 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., 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 (configuration with a ground pin in the appliance inlet) ,
- § LEDs provided in the product are considered low power devices: Yes

Additional Information

This report is a reissue of CBTR Ref. No. E139109-A62-CB-1, CB Test Certificate Ref. Nos. US/16498/UL and US-16498-A1-UL. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, has been determined that the product complies with the upgrade of the Second Edition of the Standard to Amendment 1.

No tests were conducted under this investigation due to reissue of CB Test Report Ref. No. E139109-A62-CB-1. All required tests were carried out under the original investigation.

The following alternate components with equivalent ratings and certification were added as part of reissue:

- X Capacitor - Panasonic, Type ECQUA, ECQUG and ECQUL Series.
- X Capacitor - Epcos/Siemen, Type B32921, B32922, B32923 E, B32924 E/F, B32926 E/F Series.
- Y Capacitor - Kemet, Type ERP610 Series.
- Y Capacitor - TDK, Type CD Series.
- Y Capacitor - Vishay, Type VY1 Series

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. The nameplate labels included in this report depict the draft artwork for the marking plate pending approval by National Certification Bodies and it will not be affixed to products prior to such approval.

The attached Licenses for the Critical Components effective for three years from the date of issue noted on the License. A Recognizing National Certification Body (NCB) may challenge the CB Test Certificate when it is more than three years old.

Additional Standards

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, UL 60950-1 2nd Ed. Revised 2011-12-19, IEC 60950-1:2005 + A1:2009

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Power rating - Class II symbol	Symbol for Class II construction  (60417-2-IEC-5172)
Fuses - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
Warning to service personnel	"CAUTION: Double pole/neutral fusing"

Special Instructions to UL Representative

Units provided with additional suffix "C2" shall also be provided with Class II construction symbol.

Production-Line Testing Requirements

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

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
All Models	Transformer (T1)	-	Primary to Secondary	300 0	-	1

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

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

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

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Sample and Test Specifics for Follow-Up Tests at UL

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