

## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
<b>Certification Type:</b>	Listing
<b>CCN:</b>	QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
<b>Complementary CCN:</b>	QQJQ, QQJQ7 (Power Supplies for Use in Audio/Video, Information and Communication Technology Equipment)
<b>Product:</b>	AC/DC Power Adapter
<b>Model:</b>	AHM250PSXXT-ZW##V AHM250PSXX-ZW##V
<b>Rating:</b>	<p>Where XX is any number between 12-48, 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 "-".</p> <p>Input: 100 - 240V ac 3.0A, 50/60Hz</p> <p>Output at 40°C (100% load): Model AHM250PS12: 12 Vdc (10.1-13.5 Vdc), 17.5 A max, (250 W max). Model AHM250PS15: 15 Vdc (13.6-17 Vdc), 14.66 A max, (250 W max). Model AHM250PS19: 19 Vdc (17.1-21 Vdc), 12.63 A max, (250 W max). Model AHM250PS24: 24 Vdc (21.1-26 Vdc), 10.41 A max, (250 W max). Model AHM250PS28: 28 Vdc (26.1-31 Vdc), 8.93 A max, (250 W max). Model AHM250PS33: 33 Vdc (31.1-33 Vdc), 7.58 A max, (250 W max). Model AHM250PS36: 36 Vdc (33.1-42 Vdc), 6.94 A max, (250 W max). Model AHM250PS48: 48 Vdc (42.1-54 Vdc), 5.21 A max, (250 W max).</p> <p>Output voltage rating indicated in parenthesis represents voltage tolerance evaluated.</p> <p>All outputs are de-rated to 40% load at 60°C.</p>
<b>Applicant Name and Address:</b>	XP POWER L L C

Issue Date: 2010-07-30  
2018-08-28

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Report Reference #

E139109-A53-UL

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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: Patrick Lan / Project Handler

Reviewed by: Gregory Ray / Reviewer

### 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 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 12-48 designating output voltage

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

Model AHM250PSXXYY-ZW##V is identical to model AHM250PSXXYYT-ZW##V except for model designation for marketing purposes.

### 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 : Yes
- IT testing, phase-phase voltage (V) : 230
- Class of equipment : Class I (earthed)
- Considered current rating of protective device as part of the building installation (A) : 20
- Pollution degree (PD) : PD 2
- IP protection class : IP X0

- Altitude of operation (m) : Up to 5000 m
- Altitude of test laboratory (m) : Less than 2000 m
- Mass of equipment (kg) : 0.97
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: All outputs
- The product was submitted and evaluated for use at the maximum ambient temperature (T<sub>ma</sub>) permitted by the manufacturer's specification of: 40°C (at 100% rated load); 60°C (at 40% 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, IT
- The equipment disconnect device is considered to be: Appliance inlet
- The product was investigated to the following additional standards: IEC 62368-1 2nd Ed (CBTR E139109-A6013-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 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 (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.

#### Additional Information

This CB Report is a re-issue of CB Test Report Reference No. E139109-A53-CB-2, CB Test Certificate Ref. No. US-20647-UL, US-20647-A1-UL and US-20647-A2-UL. No sample and no testing were conducted under this investigation due to:

- 1) Upgrade the Standard to IEC 60950-1 (2nd Ed +Amd 1 + Amd 2). All required testing carried out under original investigation. Based on 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 standard;
2. Change Applicant and Manufacturer's address;
3. Update National Differences to all countries;
4. Update Enclosure - Miscellaneous 7-02 for Letter of Assurance; delete Enclosure - Miscellaneous 7-01 (China National Difference) and delete Enclosure - Miscellaneous 7-03 (Australia / New Zealand)

"This report includes licenses for components that are more than 3 years old. Recognizing NCBs may challenge certification documents more than three years old. Additional documentation, testing, and evaluation may be required when submitting this product to a National Certification Body (NCB) for obtaining certification at national level."

Required values for clearance are adjusted for 5000 m (1.48 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.

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-A6013-CB-1.

#### **Additional Standards**

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011 + A2:2014, EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013, UL 60950-1 2nd Ed. Revised 2014-10-14, IEC 60950-1:2005 + A1:2009 + 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

#### **Markings and instructions**

Clause Title	Marking or Instruction Details
1.7.1 Power rating - Ratings	Ratings (voltage, frequency/dc, current)
1.7.1 Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
1.7.1 Power rating - Model	Model Number
1.7.6 Fuses - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
1.7.6 Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
2.7.6 Warning to service personnel	"CAUTION: Double pole/neutral fusing"

#### **Special Instructions to UL Representative**

N/A