

CERTIFICATE OF COMPLIANCE

Certificate Number 2018-3-7-E146893
Report Reference E146893-D1018-1/A0/C0-ULCB
Issue Date 2018-3-7
Issued to: XP POWER LLC
Applicant Company: 15641 RED HILL AVE, SUITE 100
TUSTIN, CA, 92780 USA
Listed Company: Same as Applicant

This is to certify that representative samples of Power Supply for building-in, switch mode type SMP350PSxx (where xx can be any number between 12 and 48 may also be provided with additional suffix "SF")

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: ANSI/AAMI ES60601-1:2005/(R)2012 and A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012, CAN/CSA C22.2 No. 60601-1:14, IEC 60601-1 :2005 +A1 :2012

Additional Standards: EN 60601-1:2006 / A1:2013 / A12:2014

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information.

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

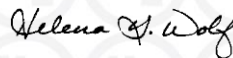
Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.



Bruce Mahrenholz, Assistant Chief Engineer, Global Inspection and Field Services, UL LLC
Joseph Hosey, General Manager, Director of Sales – Canada, UNDERWRITERS LABORATORIES OF CANADA INC.



Helena Y. Wolf, Director, Global Market Access Operations, UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative www.ul.com/contactus



Description**UL TEST REPORT AND PROCEDURE**

Standard:	ANSI/AAMI ES60601-1:2005/(R)2012 and A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012, CAN/CSA C22.2 No. 60601-1:14, IEC 60601-1 :2005 +A1 :2012
Certification Type:	Component Recognition
CCN:	QQHM2 / QQHM8
Complementary CCNs:	
Product:	Power Supply for building-in, switch mode type
Model:	SMP350PSxx (where xx can be any number between 12 and 48 may also be provided with additional suffix "SF")
Rating:	Input: 100-240Vac, 50/60Hz, 4.9A See Model Differences Section for output ratings.
Applicant Name and Address:	XP POWER LLC 15641 RED HILL AVE, SUITE 100 TUSTIN, CA, 92780, USA

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.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability as applicable.

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

Prepared by: Anthony Moussa/Project Handler
Reviewed by: Denise Klinker/Project 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 model covered in this report is a Class I build-in component power supply intended for use in Class I Medical Equipment.

The Marking Plate is representative of all models.

Refer to the Report Modifications page for any modifications made to this report.

Model Differences

All models in the Model SMP350PSXX series are identical with exception to model designation, Transformer (T1) and secondary components/circuitry that allow for different output voltage ratings.

Model output ratings as follows.

Model SMP350PS12: Output Rated: 10.1 Vdc - 13.5 Vdc, 25 A Max., 300 W Max.

Model SMP350PS15: Output Rated: 13.6 Vdc - 17 Vdc, 22 A Max., 330 W Max.

Model SMP350PS18: Output Rated: 17.1 Vdc - 21 Vdc, 19.4 A Max., 350 W Max.

Model SMP350PS24: Output Rated: 21.1 Vdc - 26 Vdc, 14.6 A Max., 350 W Max.

Model SMP350PS28: Output Rated: 26.1 Vdc - 31 Vdc, 12.5 A Max., 350 W Max.

Model SMP350PS33: Output Rated: 31.1 Vdc - 33 Vdc, 10.6 A Max., 350 W Max.

Model SMP350PS36: Output Rated: 33.1 Vdc - 42 Vdc, 9.70 A Max., 350 W Max.

Model SMP350PS48: Output Rated: 42.1 Vdc - 54 Vdc, 7.30 A Max., 350 W Max.

Provided with additional suffix "SF" to indicate single pole fusing.

Additional Information

N/A

Technical Considerations

- The product was investigated to the following additional standards: EN 60601-1:2006 / A1:2013 / A12:2014
- The following additional investigations were conducted: N/A
- The product was not investigated to the following standards or clauses: Clause 9, 10, 11, 12, 14, 16, Annex G
- The following accessories were investigated for use with the product: N/A
- No Other Considerations.



Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- • Considerations to the applied parts requirement, to be conducted as end-product
- • The component shall be installed in compliance with the enclosure, mounting, marking, spacing,

and separation requirements of the end use application.

- • Legibility and Durability of Markings, Fixing of Mains Terminals, Temperature, Leakage Current, Protective Earthing, Dielectric Voltage Withstand, and Interruption of the Power Supply tests should be considered as part of the end product evaluation.
- • The following clauses are to be determined as part of the end product evaluation: Clause 7.5 (Safety Signs), Clause 7.9 (Accompanying Documents), Clause 8 (Electrical Hazard) Clause 9 (ME Hazard), Clause 10 (Radiation), Clause 11 (Temperature), Clause 12 (Controls), Clause 13 (SFC/Abnormals), Clause 14 (PEMS), Clause 15, Clause 16 (ME Systems)
- • Consideration should be given to measuring the temperature on power electronic components and transformer windings when the power supply is installed in the end-use equipment. The end-use product shall ensure that the power supply is used within its ratings.
- • Power supply provides the following MOPP (means of patient protection): 2 MOPP based upon a working voltage 240 Vrms, 340 Vpk between Primary to Secondary, 1 MOPP based upon a working voltage 240 Vrms, 340 Vpk between Primary and Earth/Enclosure, and 1 MOPP based upon a working voltage 48 Vrms between Secondary and Earth/Enclosure

Markings and instructions	
Clause Title	Marking or Instruction Details
Company identification	Classified or Recognized company's name, Trade name, Trademark or File
Model	Model number
Serial number or lot or batch identifier	Serial number or lot or batch identifier
Supply Connection	Voltage range, ac/dc, phases if more than single phase
Alternating current	
Direct current and alternating current	
Supply Frequency	Rated frequency range in hertz
Power Input	Amps, VA, or Watts
Output	Rated output voltage, power, frequency.

Special Instructions to UL Representative

Production-Line Testing Requirements

Test Exemptions - The following models are exempt from the indicated test		
Test	Exemption Specifics	Details
Grounding Continuity	The following models are exempt from the indicated test:	N/A
Dielectric Voltage Withstand	The following models are exempt from the indicated test:	N/A
Patient Circuit Dielectric Voltage Withstand	The following models are exempt from the indicated test:	N/A
Solid-State Components	The following solid-state components may be disconnected from the remainder of the circuitry during either Dielectric Voltage Withstand Test:	N/A

Sample and Test Specifics for Follow-Up Tests at UL

The following tests shall be conducted in accordance with the Generic Inspection Instructions

Plastic Enclosure or	Test	Sample(s)	Test Specifics
----------------------	------	-----------	----------------

Part			
None	NA	NA	NA