

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 2018-6-14-E146893  
**Report Reference** E146893-D1021-1/A0/C2-ULCB  
**Issue Date** 2018-6-14  
**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** AC-DC Power Supply for Build-in.  
HPT5K0TSXXX Series, where X can be 0 to 9 which represents rated output voltage.

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

**Standard(s) for Safety:** ANSI/AAMI ES60601-1: A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14, IEC 60601-1 Edition 3.1 (2012)

**Additional Standards:** ANSI/AAMI ES60601-1: A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14, IEC 60601-1 Edition 3.1, EN 60601-1:2006/ A1:2013/ A12:2014

**Additional Information:** See the UL Online Certifications Directory at [www.ul.com/database](http://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

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**Description****UL TEST REPORT AND PROCEDURE**

<b>Standard:</b>	ANSI/AAMI ES60601-1: A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14, IEC 60601-1 Edition 3.1 (2012)
<b>Certification Type:</b>	Component Recognition
<b>CCN:</b>	QQHM2 / QQHM8
<b>Complementary CCNs:</b>	
<b>Product:</b>	AC-DC Power Supply for Build-in.
<b>Model:</b>	HPT5K0TSXXX Series, where X can be 0 to 9 which represents rated output voltage.
<b>Rating:</b>	Input: 200-480 Vac, 3-Phase (3W+PE), 50/60 Hz, 10A Max Per Phase  Output: See Model Differences for Output Ratings per each Model.
<b>Applicant Name and Address:</b>	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.

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Prepared by: Rahul Baria/Project  
Handler

Reviewed by: Seth De Sota, 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 equipment is a 3-Phase (3W+PE) AC to DC isolating power supply for building-in. The power supply with up to a 5000 watt rated output is provided with a metal enclosure housing and several PWBs with various critical components intended for use in ME Equipment. The 5Vsb auxiliary output is an isolated output for control and monitoring of the equipment's operation.

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

**Model Differences**

All models provided within the series are identical with the exception of the output rating, mains transformer windings and minor secondary components.

Output Rating:

At 200-240Vac Input:

HPT5K0TS060: 0-60Vdc/50A, Max. 3000W

HPT5K0TS100: 0-100Vdc/30A, Max. 3000W

HPT5K0TS200: 0-200Vdc/15A, Max. 3000W

At 380-480Vac Input:

HPT5K0TS060: 0-60Vdc/83.33A, Max. 5000W

HPT5K0TS100: 0-100Vdc/50A, Max. 5000W

HPT5K0TS200: 0-200Vdc/25A, Max. 5000W

All Models are provided with an isolated 5Vsb/2A output.

**Additional Information**

N/A

**Technical Considerations**

- The product was investigated to the following additional standards: ANSI/AAMI ES60601-1: A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14, IEC 60601-1 Edition 3.1, EN 60601-1:2006/ A1:2013/ A12:2014
- The following additional investigations were conducted:
- The product was not investigated to the following standards or clauses: Clause 9, 10, 14, 16, 17, Biocompatibility
- 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:

- The component shall be considered for compliance with the requirements of clauses 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16 as part of the end use application evaluation.
- • The power supply was evaluated for use in 50°C ambient at Full Rated Output and 50% of the Rated Output in 70°C ambient.
- • Consideration shall 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.
- • Earth and Touch leakage current testing and consideration of non-frequency weighted leakage test shall be considered in the end product application.
- • This power supply was evaluated with Two MOPP between Primary and Secondary; One MOPP primary and Earth; Two MOOP between Secondary and Earth.
- • This power supply has been evaluated as a continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- • The end product shall ensure that the requirements related to accompanying documents, clause 7.9, are met.
- • The Electric Strength Test conducted on this power supply was based upon a maximum working voltage of: Primary-Earthed Dead Metal: 271 Vrms, 392 Vpk; Primary-SEC: 239 Vrms, 570 Vpk.
- • Proper bonding to the end-product main protective earthing termination is required. Protective earthing testing shall be conducted in the end product application
- • The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): T101-T105, T600, L101-L103 (Class F, 155°C)
- • Printed Wiring Board rated 130°C.
- • The need for Marking Durability and Marking Legibility Testing shall be considered as part of the end product installation.
- • Fire/ Mechanical/ Electrical Enclosure to be provided as part of the end product.