Description

UL TEST REPORT AND PROCEDURE

Standard:	AAMI ES60601-1:2005/AMD2:2021/ CAN/CSA-C22.2 No. 60601-1:14/AMD2: 2022
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8
Complementary CCNs:	
Product:	Component power supply for building-in
Model:	ECP130PSxx, where xx can be any number between 12 and 48, may be followed by -y for alternate input connector and additional suffixes denoting non-safety options.
Rating:	Input: 100-240 Vac, 50/60 Hz, 1.5A Output: See report enclosure Miscellaneous -(002) for max Power Output ratings
Applicant Name and Address:	XP Power LLC 340 Commerce, Suite 100 Irvine, CA 92602, 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: Longjie Zhang/Project Handler Reviewed by: David Alma/ 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 component power supply intended for use in Medical Electrical Equipment.
Refer to the Report Modifications page for any modifications made to this report.

Model Differences

All models in the Model ECP130PSXX series are identical with exception of the Mains Transformer, TR1, and secondary components/circuitry that allow for different output voltage ratings.
See Enclosure - Miscellaneous for max Power Output ratings based on model, forced air and ambient.

Additional Information

The clearance distances have additionally been assessed for suitability up to 5000 m elevation (1.48 correction factor as per IEC 60664-1, Table A2).
The need for the additional testing and evaluation shall be determined in the end product investigation.
The power supply series covered by this report employ 2 Method of Protection of Insulation between Primary and Secondary circuits.
Licenses older than 3 years to be provided by the manufacturer upon request. The acceptability of CB certificates and/or licenses which are greater than 3 years old will be left to the discretion of the governing NCB.
Marking label is representative of all models.

Technical Considerations

- The product was investigated to the following additional standards: EN 60601-1:2006/AMD2:2021
- The following additional investigations were conducted: N/A
- The product was not investigated to the following standards or clauses: IEC 60601-1-6, Biocompatibility, PEMS, EMC, Annex Z of EN standards for compliance with the MDD, Usability
- The following accessories were investigated for use with the product: None
- None

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:

- Power supplies covered by this report were evaluated for both Class I and Class II (double insulated). Double insulated symbol is optionally provided. See Conditions of Acceptability for insulation required for Class II. Earthing symbol may only be provided for Class I power supplies.

  The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: Forced Air Cooling - 50°C at 100% of Output

Rating, 70°C at 50% of Output Rating; Convectional Cooling: 50°C at 100W Output Rating, 70°C at 50W Output Rating, 80°C at 30W Output Rating. See Miscellaneous enclosure Power Output Table for additional information regarding power output and the various configurations.

The Impairment of cooling test has not been conducted and should be evaluated in the end product.

The Usability evaluation has not been addressed .

Printed Wiring Board rated 130°C.

Clearance spacing evaluated for 5000 m altitude. Additional consideration maybe necessary in the end-use product

Heating test should be repeated in the end-use product

The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed Dead Metal: 240 Vrms, 340 Vpk and Primary-SELV: 240 Vrms, 340 Vpk

The power supply terminals and/or connectors are: Suitable for factory wiring only

The maximum investigated branch circuit rating is: 20 A

Proper bonding to the end-product main protective earthing termination is: required when the power supply is used in a Class I end product. The power supply will be considered Class II only when protection against electric shock does not rely on 1 Method of Protection of Insulation

An investigation of the protective bonding terminals has: Not been conducted

The following input terminals/connectors must be connected to the end-product supply neutral: CN1

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): TR1 (Class B, 130°C)

The following end-product enclosures are required: Mechanical, Fire, Electrical

The equipment is suitable for direct connection to: AC mains supply. Means of connection will need to be evaluated in the end product.

Repeat of leakage current testing and consideration of non-frequency weighted leakage test shall be considered in the end product application.

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 need for Marking Durability and Marking Legibility Testing shall be considered as part of the end product installation.

The suitability of the breaking capacity of the fuse per Clause 8.11.5 shall be verified in the end product.

Models provided with suffix SF only provided with one line side fuse. Consideration should be made in the end-use product to determine the need of double pole fusing

The secondary circuit were connected to Earth during working voltage measurement.