

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2121765-0
Report Reference E139109-20210514
Date 25-May-2021

Issued to: XP POWER L L C
15641 RED HILL AVE, SUITE 100 TUSTIN, CA
United States 92780

**This is to certify that
representative samples of**

QQJQ8 - Power Supplies for Use with Audio/Video,
Information and Communication Technology Equipment
Certified for Canada - Component

See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the
component requirements in the Standard(s) indicated on
this Certificate. UL Recognized components are incomplete
in certain constructional features or restricted in
performance capabilities and are intended for installation in
complete equipment submitted for investigation to UL LLC.

Standard(s) for Safety: CSA C22.2 NO. 62368-1-14, 2nd Ed., Issue Date: 2014-12-01

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2121765-0
Report Reference E139109-20210514
Date 25-May-2021

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

Model	Category Description
FCB100USxx , FCB100US12, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US15, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US19, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US24, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USXX , FCB100US28, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USXX , FCB100US33, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US36, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US48, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment



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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2126501-0
Report Reference E139109-20210514
Date 25-May-2021

Issued to: XP POWER L L C
15641 RED HILL AVE, SUITE 100 TUSTIN, CA
United States 92780

This is to certify that representative samples of QQJQ2 - Power Supplies for Use with Audio/Video, Information and Communication Technology Equipment - Component
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

Standard(s) for Safety: UL 62368-1, 2nd Ed., Issue Date: 2014-12-01

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2126501-0
Report Reference E139109-20210514
Date 25-May-2021

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

Model	Category Description
FCB100USxx , FCB100US12, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US15, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US19, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US24, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USXX , FCB100US28, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USXX , FCB100US33, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US36, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment
FCB100USxx , FCB100US48, may or may not be followed by suffix "SF".	Power Supplies for AV, ITE, and AVICT Equipment



Bruce Mahrenholz, Director North American Certification Program

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UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 2nd Ed, 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1-14, 2nd Ed, Issued: 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements)
Certification Type:	Component Recognition
CCN:	QQJQ2, QQJQ8 (Power Supplies for Use in Audio/Video, Information and Communication Technology Equipment)
Complementary CCN:	N/A
Product:	Switching Power Supply
Model:	FCB100US12, FCB100US15, FCB100US19, FCB100US24, FCB100US28, FCB100US33, FCB100US36 and FCB100US48, may or may not be followed by suffix "SF".
Rating:	Input: 100-240 Vac, 50/60 Hz, 2.1A Output: See Model Differences for details.
Applicant Name and Address:	XP POWER L L C 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 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.

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.

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Prepared By: Robert Leon / Project Handler Reviewed By: Walid Beytoughan / 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 AC - DC power supplies intended for building in Audio/video, information and communication technology equipment.

Model Differences

All models in the FCB100USXX Series, where XX can be any number 12 to 48 designating the output voltage, may or may not be followed with suffix "SF" designate single fuse option. are identical with exception to the Mains Transformer T1, and minor secondary components that allow for different output voltage ratings.

Model output ratings as follows.

FCB100US12: 12Vdc (10.1 Vdc - 13.5 Vdc), 7.5A Convection, 8.3A Forced-cooled;
 FCB100US15: 15Vdc (13.6 Vdc - 17 Vdc), 6.0A Convection, 6.7A Forced-cooled;
 FCB100US19: 19Vdc (17.1 Vdc - 21 Vdc), 4.7A Convection, 5.3A Forced-cooled;
 FCB100US24: 24Vdc (21.1 Vdc - 26 Vdc), 4.0A Convection, 4.2A Forced-cooled;
 FCB100US28: 28Vdc (26.1 Vdc - 31 Vdc), 3.4A Convection, 3.6A Forced-cooled;
 FCB100US33: 33Vdc (31.1 Vdc - 33 Vdc), 2.8A Convection, 3.0A Forced-cooled;
 FCB100US36: 36Vdc (33.1 Vdc - 42 Vdc), 2.6A Convection, 2.8A Forced-cooled;
 FCB100US48: 48Vdc (42.1 Vdc - 54 Vdc), 2.0A Convection, 2.1A Forced-cooled.

Additional Suffix "SF" denotes units provided with only a single line side fuse.

Test Item Particulars

Classification of use by	Skilled person
Supply Connection	AC Mains
Supply % Tolerance	+10%/-10%
Supply Connection – Type	For building-in
Considered current rating of protective device as part of building or equipment installation	20 A; building;
Equipment mobility	for building-in
Over voltage category (OVC)	OVC II
Class of equipment	Not classified

Access location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified maximum operating ambient (°C)	40°C for 96W load. 50°C for 80W load. 70°C for 47.5W load Convection Cooling. 50°C for 100W load. 70°C for 50W load Forced Air Cooling (3CFM).
IP protection class	IPX0
Power Systems	TN IT - 230 V L-L
Altitude during operation (m)	5000 m
Altitude of test laboratory (m)	17 m
Mass of equipment (kg)	0.13 kg

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 40°C ambient at Full Rated Output (for Convection Cooling) as well as additional elevated ambient conditions - for de-rated output loading conditions see report Enclosure Miscellaneous – 7-05 for details.
- The product is intended for use on the following power systems : TN, IT, TT
- Considered current rating of protective device as part of the building installation (A) : 20
- Mains supply tolerance (%) or absolute mains supply values : +10%/-10%
- The power supply series covered by this report employ Double/Reinforced Insulation between Primary and Secondary circuits. Additionally evaluated for Basic Insulation between Line and Neutral up to and across the fuse (F1) per internal requirements of XP Power engineering specifications.
- 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).

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 following product-line tests are conducted for this product : Electric Strength
- The following output circuits are at ES1 energy levels : All
- The following output circuits are at PS2 energy levels : All outputs.
- The maximum investigated branch circuit rating is : 20 A
- The investigated Pollution Degree is : 2
- Proper bonding to the end-product main protective earthing termination is : Required when installed in a Class I end product.
- The following input terminals/connectors must be connected to the end-product supply neutral : CON1
- The following end-product enclosures are required : Electrical, Fire
- 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) : Transformer T1 (Class F, 155)
- The power supply was evaluated to be used at altitudes up to : 5,000 m
- The power supply is provided with a fuse in both the line and neutral of the primary circuit. The need for a marking warning service person of the hazards associated with neutral fusing shall be considered in the end-product.
- Heating (Thermal Requirements) Test was not conducted on power supply with input/output leads. If power supply is provided with input and/or output leads, then temperature on leads must be measured and cannot exceed 105°C.
- When installed in a Class II end product, the power supply shall be mounted in a manner that provides sufficient clearance and creepage distance between the hazardous parts of the power supply and accessible conductive parts of the end product.
- The end-product Electric Strength Test is to be based upon a Transient Voltage of 2500Vpk (OVC II).

Additional Information

The switching power supply series covered by this Test Report used Double/Reinforced Insulation between Primary and Secondary circuits.

This report references component licenses documentation or certificates that are older than 3 years or issued to previous IEC/EN Standard editions. It has being determined that all critical components comply with current safety requirements. Receiving NCB may request additional information. Acceptance of these licenses, certificates or relevant documentation is at the discretion of the Receiving NCB.

Marking label represents all models in the Series.

Additional Standards

The product fulfills the requirements of: EN 62368-1:2014 + A11:2017

Markings and Instructions

Clause Title	Marking or Instruction Details
Equipment identification marking – Manufacturer identification	Listee's or Recognized companys name, Trade Name, Trademark or File Number
Equipment identification marking – model identification	Model Number
Equipment rating marking – ratings	"Input Ratings (voltage, frequency/dc, current/power)", "Output Ratings (voltage, frequency/dc, current/power)"

Special Instructions to UL Representative

Inspect the transformer(s) listed in production-line testing requirements per AA1.1- (C). When the tests are conducted at other location, inspect test record and specification sheet provided by the component manufacturer. Verify the specification sheet indicates 100% routine test specified in BD1.1 is conducted at the component manufacturer. The test record noted above shall be submitted to the manufacturer from transformer manufacturer. The test record can be in the form of a actual test record. A stamp or sticker on the transformer or other method verifying the routine test is being completed on 100% production is also acceptable.

BD1.0	TABLE: Production-Line Testing Requirements					
BD1.1	Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.					
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s
All Models	Transformer T1	--	Primary Pins - Secondary Pins	2500	4000	1 sec
BD1.2	Earthing Continuity Test Exemptions – This test is not required for the following models:					
	All Models					
BD1.3	Electric Strength Test Exemptions – This test is not required for the following models:					
	--					
BD1.4	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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BE1.0	Sample and Test Specifics for Follow-Up Tests at UL				
Model	Component	Material	Test	Sample (s)	Test Specifics
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