

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20190516-E317867  
**Report Reference** E317867-A32-UL  
**Issue Date** 2019-MAY-16

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

**This certificate confirms that  
representative samples of**

COMPONENT - POWER SUPPLIES, INFORMATION TECHNOLOGY EQUIPMENT INCLUDING ELECTRICAL BUSINESS EQUIPMENT; COMPONENT - POWER SUPPLIES FOR USE WITH AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT

See Addendum Page.

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 60950-1 & CAN/CSA C22.2 No. 60950-1-07, Information Technology Equipment - Safety - Part 1: General Requirements

**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 Number** 20190516-E317867  
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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Power Supply, Built-In DC/DC, Models: JCA0605D01#30041-01, JCA04XXYZZ, JCA06XXYZZ, Where XX is 05, 12, 24, or 48, Y is S or D, ZZ is 01-15.



Bruce Mahrenholz, Director North American Certification Program

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## 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>	Component Recognition
<b>CCN:</b>	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
<b>Complementary CCN:</b>	QQJQ2, QQJQ8 (Power Supplies for Use in Audio/Video, Information and Communication Technology Equipment)
<b>Product:</b>	Power Supply, Built-In DC/DC
<b>Model:</b>	JCA0605D01#30041-01  JCA04XXYZZ JCA06XXYZZ
<b>Rating:</b>	Where XX is 05, 12, 24, or 48, Y is S or D, ZZ is 01-15. Ratings are for reference only.  Input:  JCA04XXYZZ Series 4.5 - 9.0 VDC (5 Vdc, 1000mA) 9 - 18 VDC (12 Vdc, 440mA) 18 - 36 VDC (24 Vdc, 220mA) 36 -75 VDC (48 Vdc, 110mA)  JCA06XXYZZ Series 4.5 - 9.0 VDC (5 Vdc, 1450mA) 9 - 18 VDC (12 Vdc, 600mA) 18 - 36 VDC (24 Vdc, 300mA) 36 -75 VDC (48 Vdc, 150mA)  JCA0605D01#30041-01: 6.25 - 16.0 VDC (1450mA)  Output: See Model Differences for details.
<b>Applicant Name and Address:</b>	XP POWER L L C 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 UNITED STATES

Issue Date: 2010-06-03  
2019-05-10

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Report Reference #

E317867-A32-UL

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.

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

Prepared by: Adam Tangocci

Reviewed by: Gregory Ray

### 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 products covered by this report are single and dual output, dc/dc converters. They are provided with input and output connectors (pins) for connection to a source of supply and to the load. All components are mounted on a printed wiring board.

### Model Differences

Minor non-safety related changes in circuitry to reflect different input voltages and output voltage and current.

JCA04 Series Output Ratings:

JCA04xxS03: V1: +3.3V 1.22A

JCA04xxS05: V1: +5V 0.8A

JCA04xxS12: V1: +12V 0.34A

JCA04xxS15: V1: +15V 0.28A

JCA04xxD01: V1: +5V 0.4A; V2: -5V 0.4A

JCA04xxD02: V1: +12V 0.17A; V2: -12V 0.17A

JCA04xxD03: V1: +15V 0.14A; V2: -15V 0.14A

JCA06 Series Output Ratings:

JCA06xxS03: V1: +3.3V 1.52A

JCA06xxS05: V1: +5V 1.0A

JCA06xxS12: V1: +12V 0.50A

JCA06xxS15: V1: +15V 0.40A

JCA06xxD01: V1: +5V 0.5A; V2: -5V 0.5A

JCA06xxD02: V1: +12V 0.25A; V2: -12V 0.25A

JCA06xxD03: V1: +15V 0.20A; V2: -15V 0.20A

JCA0605D01#30041-01: V1: +5.75V 0.5A; V2: -5.75V 0.5A

Model nomenclature:

XX indicates input voltage (05 for 5V (4.5-9.0Vdc), 12 for 12V (9 - 18Vdc), etc.)

Y indicates single (S) or dual (D) outputs.

ZZ is a configuration number indicating a specific set of outputs.

### Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : To be determined by end product
- Operating condition : continuous

- Access location : for building-in
- Over voltage category (OVC) : N/A
- Mains supply tolerance (%) or absolute mains supply values : No direct connection
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : All inputs considered SELV, except for 48 Vdc input (Special Application - TNV-2)
- Considered current rating of protective device as part of the building installation (A) : -
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : up to 5000 m
- Altitude of test laboratory (m) : <2000
- Mass of equipment (kg) : 0.02
- The product was investigated to the following additional standards: 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 product was submitted and evaluated for use at the maximum ambient temperature (T<sub>ma</sub>) permitted by the manufacturer's specification of: 75°C
- The product is intended for use on the following power systems: Regulated DC Power Source.
- 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.

#### **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 source to these dc/dc converters are intended to be supplied from an isolated source, such as a battery, or a source which meets the requirements for basic (ELV) or reinforced (SELV) insulation from primary (mains) or TNV-2 circuitry, depending on output type required. If the input meets all the requirements for ELV, the outputs may be considered ELV. , , If the input meets all the requirements for SELV or TNV-2, then the outputs may be considered SELV. Output voltages remain within SELV limits, even with internally generated non-SELV voltages, if any.
- The input and output connectors (pins) have not been evaluated for field connections and are only intended for connection to mating connectors of internal wiring inside the end-use machine. The acceptability of these and the mating connectors relative to secureness, insulating materials and temperature shall be considered.
- The units shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end-use application.
- Unit was tested with a 1.0 Listed fuse placed at input.
- The need for humidity testing shall be determined as part of the end product.
- The following Production-Line tests are conducted for this product: Electric Strength
- The following secondary output circuits are SELV: All outputs
- The following secondary output circuits are at non-hazardous energy levels: All outputs
- The power supply terminals and/or connectors are: Not investigated for field wiring

- The investigated Pollution Degree is: 2
- The following end-product enclosures are required: Fire, Mechanical
- Printed Wiring Board rated 130°C.
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class 105(A): Class 130(B) - all transformers
- The clearance and creepage distances have additionally been assessed for suitability up to 5000 m elevation. An additional evaluation may be necessary if installed at an elevation higher than 5000 meters.

**Additional Information**

This report is a Standard upgrade/reissue of CBTR Ref. No.: E317867-A32-CB-2, CB Test Certificate Ref. No. US-19857-UL to IEC 60950-1:2005 (Second Edition), Am1:2009 + Am2:2013. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, only the construction review and the review of previous tests was deemed necessary. All required tests were carried out under the original investigation.

In addition, two alternate label systems were added to this report (Brady Worldwide, Type B-423 and 3M, Types 7816 or 7818) based on previous evaluation for this manufacturer under CBTR Ref. No.: E139109-A139, CBTC Ref. No.: US-24981-UL and US-24981-M1-UL.

The clearance and creepage distances have additionally been assessed for suitability up to 5000 m elevation.

The nameplate Marking Plate is considered representative of the entire series.

**Technical Amendment 1:**

- Models, Ratings, and Model Differences sections were updated for clarity.
- Ratings: Added statment "Ratings are for reference only."
- Table 1.6.2: Statements added regarding ratings provided and test conducted for reference only.
- Schematics removed from Enclosures.
- Marking plates for all input conditions added.
- UL: 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 E317867-A6040-CB-1.

**Additional Standards**

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 2nd Ed. Revised 2014-10-14, 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

**Markings and instructions**

Clause Title	Marking or Instruction Details
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

**Special Instructions to UL Representative**

N/A

**Production-Line Testing Requirements**

**Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.**

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
JCA0448YZ Z and JCA0648YZ Z	TR	--	Input / Output	150 0	2100	1

**Earthing Continuity Test Exemptions - This test is not required for the following models:**

All models

**Electric Strength Test Exemptions - This test is not required for the following models:**

**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:**

N/A

**Sample and Test Specifics for Follow-Up Tests at UL**

Model	Component	Material	Test	Sample(s)	Test Specifics
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N/A