

UL TEST REPORT AND PROCEDURE

Standard:	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)
Certification Type:	Component Recognition
CCN:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	DC-DC Converter
Model:	CCG30-ww-xxS (ww: 24, xx: 03, 05, 12 or 15) or (ww: 48, xx: 03, 05, 12, 15 or 48), Maybe followed by suffix /P.
Rating:	9 - 36 Vdc (for Model ww: 24, xx: 03, 05, 12 or 15) 3.2 A (for Model ww: 24, xx: 03) 4.0 A (for Model ww: 24, xx: 05 or 12) 3.9 A (for Model ww: 24, xx: 15) 18 - 76 Vdc (for Model ww: 48, , xx: 03, 05, 12, 15 or 48) 1.6 A (for Model ww: 48, xx: 03) 2.0 A (for Model ww: 48, xx: 05, 12, 15 or 48)
Applicant Name and Address:	TDK-LAMBDA CORP NAGAOKA TECHNICAL CENTER 2704-1 SETTAYA-MACHI NAGAOKA-SHI NIIGATA-KEN 940-1195 JAPAN

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: Hirokatsu Kubota

Reviewed by: Tetsuo Iwasaki

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

These units are components "DC/DC Converter" with only one DC output, providing functional insulation.

Output Ratings:

3.3 V, 7 A for CCG30-24-03S and CCG30-48-03S

5 V, 6 A for CCG30-24-05S and CCG30-48-05S

12 V, 2.5 A for CCG30-24-12S and CCG30-48-12S

15 V, 2 A for CCG30-24-15S and CCG30-48-15S

48 V, 0.63 A for CCG30-48-48S

Model Differences

The differences between Models CCG30-ww-xxS maybe followed by suffix /P are as follows.

Each model is identical, except for model designation, input/output rating, Transformer (T2), and secondary components.

ww: input voltage (See Ratings for detail)

xx: output voltage (See Production Description for detail)

Suffix /P: Positive logic on/off control.

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : N/A
- Operating condition : continuous
- Access location : for building-in (component type)
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : N/A
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Not classified
- Considered current rating of protective device as part of the building installation (A) : N/A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : less than 5000
- Altitude of test laboratory (m) : approximately 10 to 20 m

- Mass of equipment (kg) : 20 g
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: Case (Center of top surface) 110°C

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 secondary output circuits are SELV: Output of each model.
- The following secondary output circuits are at non-hazardous energy levels: Output of each model.
- The investigated Pollution Degree is: 2
- The following end-product enclosures are required: Fire, Electrical
- Unit intended for building-in and supplied by secondary dc power source which isolated from primary by double or reinforced insulation.
- Only functional insulation provided between input/output circuits.
- During the test following external fuse was provided. For model CCG30-24-xxS: SOC Corp., Type 11CT, 72Vdc, 10A (UL certified component). For model CCG30-48-xxS: SOC Corp., Type DC86V11CT, 86Vdc, 6.3A (UL certified component).
- A Heating Test shall be considered in end product.
- Metal case is floating.

Additional Information

Unless otherwise stated, CCG30-48-48S was used for test purposes and is considered representative of the entire series.

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number

Special Instructions to UL Representative

N/A