CERTIFICATE OF COMPLIANCE

Certificate Number	20121031-E155698
Report Reference	E155698-A17-UL
Issue Date	2012-OCTOBER-30

Issued to: TDK-LAMBDA LTD
56 HAHAROSHET STREET P.O.B. 500 KARMIEL
INDUSTRIAL ZONE 2161401
KARMIEL ISRAEL

This is to certify that representative samples of COMPONENT - POWER SUPPLIES, INFORMATION TECHNOLOGY EQUIPMENT INCLUDING
ELECTRICAL BUSINESS EQUIPMENT
Programmable Power Supply
Models: EVA150-16, EVA300-8, EVA600-4

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

Standard(s) for Safety: See Addendum for Standards

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Recognized Component Marks for the U.S. and Canada should be considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada: and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

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 Recognized Component Mark on the product.

William R. Carney

William R. Carney, Director, North American Certification Programs

UL LLC

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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.

Standards for Safety

UL 60950-1 and CSA C22.2 No. 60950-1-07 - Standards for Information Technology Equipment - Safety - Part 1: General Requirements

William R. Carney

William R. Carney, Director, North American Certification Programs

UL LLC

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2011-12-19 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12 (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:	Programmable Power Supply
Model:	EVA150-16, EVA300-8, EVA600-4
Rating:	Input: AC 190-240V, 16.6A max., 50/60Hz Output: Main output EVA150-16: DC 15-150V / 16A, max. power 2400W; EVA300-8: DC 30-300V / 8A, max. power 2400W; EVA600-4: DC 60-600V / 4A, max. power 2400W. Auxiliary 1: 5VDC/0.2A (all models). Auxiliary 2: 15VDC/0.2A (all models).
Applicant Name and Address:	TDK-LAMBDA LTD 56 HAHAROSHET STREET P.O.B. 500 KARMIEL INDUSTRIAL ZONE 2161401 KARMIEL ISRAEL

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: Dennis Butcher Reviewed by: Wondwossen Alemayehu

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 EVA series is a family of power supplies (component for build-in) having a rated output between 15-150VDC / 16A, 30-300VDC/8A and 60-600/4A, respectively, with a total output power of 2400 W.

Model Differences

Alternate components are provided to give different output voltages. See table 1.5.1 for details.

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : means of connection to the mains via the end product
- Operating condition : continuous
- Access location : restricted access location
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10%
- Tested for IT power systems : Yes (Norway only)
- IT testing, phase-phase voltage (V) : 230V
- Class of equipment : Class I (earthed)
- Considered current rating of protective device as part of the building installation (A) : N/A, end product application to specify

- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : max. 3000m
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : max. 9.5kg
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 50°C
- The means of connection to the mains supply is: To be determined in the end product
- The product is intended for use on the following power systems: TT, TN, IT (Norway only)
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual

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 Production-Line tests are conducted for this product: Electric Strength, Earthing Continuity
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed Dead Metal: 240 Vrms, 400 Vpk
- The following secondary output circuits are SELV: AUX1 and AUX2
- The following secondary output circuits are at hazardous energy levels: EVA150-16: DC 15-150V (rated max. power 2400W);, EVA300-8: DC 30-300V (rated max. power 2400W);, EVA600-4: DC 60-600V (rated max. power 2400W).
- The following secondary output circuits are at non-hazardous energy levels: 15VDC, 5VDC
- The power supply terminals and/or connectors are: Suitable for factory wiring only
- The investigated Pollution Degree is: 2

- Proper bonding to the end-product main protective earthing termination is: Required
- An investigation of the protective bonding terminals has: Been conducted
- The following input terminals/connectors must be connected to the end-product supply neutral: L2/N
- 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): All transformers
- The following end-product enclosures are required: Fire, Electrical
- The equipment is suitable for direct connection to: AC mains supply
- The fans included as part of this component are suitable for use in a user access area: No
- Fans: The fan provided in this sub-assembly is provided with a fan guard to reduce the risk of operator contact with the stator.
- An appropriate disconnect device shall be provided in the end product

Additional Information

N/A

Additional Standards

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Terminal for main protective earthing	Provided adjacent to the main protective earthing terminal (60417-5019) 

Terminals for external primary power supply conductors	Capital letter "N" located adjacent to a terminal intended exclusively for connection of the primary power neutral conductor
Restricted Access Location	"Equipment intended for installation in Restricted Access Location" or equivalent. (Instruction)
Telecom type connectors not used for telecommunication purposes	For telecommunication type connectors and terminals not used for connection to the telecommunication network should be provided with a marking identifying the specific function or circuit characteristic the connector or terminal is used for. Connector RS-485/232

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
N/A						

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

Sample and Test Specifics for Follow-Up Tests at UL

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