

UL TEST REPORT AND PROCEDURE

Standard:	UL 61010-1, 3rd Edition, 2012-05-11 (ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE - Part 1: General Requirements) CAN/CSA-C22.2 No. 61010-1, 3rd Edition, 2012-05, (ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE - Part 1: General Requirements)
Certification Type:	Listing
CCN:	OGTK, OGTK7 (Laboratory Use Electrical Equipment)
Product:	Programmable Power Supply
Model:	Z200, Z400, Z600 and Z800 series. Configuration code: Zxxx-yyy-o-p-w-m, with xxx=any number between 010 to 650 yyy=any number between 0.32 to 072 o=blank or any configuration of L, L2, IEEE-, IS420-, IS510- and/or LAN-; p=blank, E, I, J or U, w=blank, CO, m= blank, any combination of letters and numbers (not related safety)
Rating:	Z200: Input rated 100-240V~, 3A, 50/60Hz. Output rated from 0-10VDC/0-20A to 0-650VDC/0-0.32A, 220W max. Z400: Input rated 100-240V~, 6A, 50/60Hz. Output rated from 0-10VDC/0-40A to 0-650VDC/0-0.64A, 432W max. Z600: Input rated 100-240V~, 9A, 50/60Hz. Output rated 0-10VDC/0-60A to 0-650VDC/0-1A, 682W max. Z800: Input rated 100-240V~, 12A, 50/60Hz. Output rated 0-10VDC/0-72A to 0-650VDC/0-1.25A, 864W max.
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.

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

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Reviewed by: Krzysztof Wasilewski

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 Z Series power supplies are wide output range, high performance switching power supplies. The Z Series is power factor corrected and operates from worldwide AC voltage range continuously. Output voltage and current are continuously displayed and LED indicators show the complete operating status of the power supply. The Front Panel controls allow the user to set the output parameters, the protection levels (Over-Voltage protection, Under-Voltage protection and Foldback) and preview the settings. The rear panel includes the necessary connectors to control and monitor the power supply operation by remote analog signals or by the built-in serial communication USB and RS232/485. LAN, IEEE and Isolated-Analog programming/monitoring are optional.

Model Differences

Z200 series, Z400 series, Z600 series and Z800 series Configuration Code:

Zxxx-yyy-o-p-w-m

where:

xxx = max. output voltage, may be any between 10 and 650;

yyy = max. output current, may be any between 0.32 and 72;

o=options, may be one or combination of some from listed below:

blank- standard model (without an additional modules installed, standard enclosure);

L - lab. option: output on front side-binding post (wide body enclosure, standard connectors, models with output up to 60VDC);

L2 - lab. option: output on front side-binding post (wide body enclosure, isolated CATIII type connectors, all models);

IEEE- fitted with optional IEEE communication module (wide body enclosure);

IS420- fitted with optional current mode Isolated Analog module (wide body enclosure);

IS510- fitted with optional voltage mode Isolated Analog module (wide body enclosure);

LAN- fitted with optional LAN communication module (standard and wide body enclosure)

p=optional power cord set provided with unit, may be as following:

blank- power cord set not provided with unit;

E- power cord set for Europe;

I- power cord set for Israel;

J- power cord set for Japan

U- power cord set for US/Canada.

w=options, may be as following:

blank- standard model (without conformal coating);

CO-with conformal coating, whole or partially, for environmental protection only.

m=options, may be as following:

blank - standard model;
Any combination of letters (A-Z) and numbers (0-9)-not related safety






Technical Considerations

- Type of item tested : Laboratory
- Description of equipment function : Programmable switching power supplies
- Connections to mains supply : Detachable cord set
- Overvoltage category : II
- Pollution degree : 2
- Means of Protection : Class I (PE connected)
- Environmental conditions : Extended (specify): 50°C, 3000m.
- For use in wet locations : No
- Equipment mobility : Portable
- Operating conditions : continuous
- Overall size of the equipment: (W X D X H) (mm) : Standard enclosure: 70/350/83 mm; Wide body enclosure: 105/350/83 mm
- Mass of the equipment (kg) : Standard enclosure: 1.9 max; Wide body enclosure: 2.4 max.
- Marked degree of protection to IEC 60529 : N/A
- Equipment classification: Professional
- Equipment class: Class I
- Equipment type: Portable
- The product was submitted and tested for use at the maximum recommended ambient temperature (Tmra) of: 50°C,

Additional Information

N/A

Markings and instructions

Clause Title	Marking or Instruction Details
Model identification	Model number
Company	Listee's or Recognized company's name, Trade name, Trademark or File
Nature and ratings of mains supply	Equipment mains supply voltage and nature of voltage or symbols,  for dc,  for ac,  for ac/dc or  for 3-phase, frequency or frequency range, power in watts or VA or input current in amperes
Functional earth terminal	

Special Instructions to UL Representative

N/A

Production - Line Testing Exemptions			
BD1.1	<u>Grounding Continuity Test</u> - This test is not required for the following models.		
1	need to be conducted on series Z600, Z800		
BD1.2	<u>Dielectric Strength Test</u> - This test is not required for the following models.		
2	need to be conducted on series Z600, Z800, Z200 and Z400		
BD1.3	<u>Dielectric Strength Test Component</u> - The following solid-state components may disconnected from the remainder of the circuitry during the performance of this test.		
N/A	N/A		
<u>Sample and Test Specifics for Follow-Up Tests at UL</u>			
Plastic Enclosure or Part	Test	Sample(s)	Test Specifics
N/A	N/A	N/A	N/A