

## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	UL 62368-1, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1:19, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements)
<b>Certification Type:</b>	Component Recognition
<b>CCN:</b>	QQJQ2, QQJQ8 (Power Supplies for Use in Audio/Video, Information and Communication Technology Equipment)
<b>Complementary CCN:</b>	N/A
<b>Product:</b>	AC-DC Converters
<b>Model:</b>	PF1500B-zxxxxxxx (z = 360; xxxxxxx =/T, other alphanumeric character, symbol or blank)
<b>Rating:</b>	Input: 100-240Vac, 11.0A, 50-60Hz, Output: 360Vdc, 2.8A Input: 200-240Vac, 10.0A, 50-60Hz, Output: 360Vdc, 4.2A
<b>Applicant Name and Address:</b>	TDK-LAMBDA (CHINA) ELECTRONICS CO LTD NO.95, ZHUJIANG RD, XINWU DISTRICT WUXI JIANGSU 214028 CHINA

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: Star Gu / Project Handler

Reviewed By: Jie Qian / 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 EUTs are a component type AC-DC Converters (non-isolating type) intended for the class I construction of information technology equipment.

### Model Differences

See Enclosed Miscellaneous 7-01 (Model Different List) for details.

### Test Item Particulars

Product group	built-in component
Classification of use by	Ordinary person Instructed person Skilled person
Supply Connection	AC Mains
Supply tolerance	+10%/-10%
Supply connection – type	permanent connection mating connector Terminal block
Considered current rating of protective device	20 A; Location: building
Equipment mobility	for building-in
Over voltage category (OVC)	OVC II
Class of equipment	Class I
Special installation location	restricted access area
Pollution degree (PD)	PD 2
Manufacturer's specified T <sub>ma</sub> (°C)	-40°C ~ +100°C (At center of Baseplate), -40°C ~ +85°C (Ambient) (operating temperature depending on equipment's load, mounting position, Refer to Enclosure 6-01 for details).
IP protection class	IPX0
Power systems	TN
Altitude during operation (m)	3000 m
Altitude of test laboratory (m)	2000 m or less

Mass of equipment (kg)	Approx. 0.18
<p><b>Technical Considerations</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The product was submitted and evaluated for use at the maximum ambient temperature (T<sub>ma</sub>) permitted by the manufacturer's specification of : -40°C ~ +100°C (At center of Baseplate), -40°C ~ +85°C(Ambient) (operating temperature depending on equipment's load, mounting position, Refer to Enclosure 6-01 for details).</li> <li><input type="checkbox"/> The product is intended for use on the following power systems : TN</li> <li><input type="checkbox"/> Considered current rating of protective device as part of the building installation (A) : 20</li> <li><input type="checkbox"/> Mains supply tolerance (%) or absolute mains supply : +10%/-10%</li> <li><input type="checkbox"/> The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual</li> <li><input type="checkbox"/> The product can be operated sea level up to 3000 m; the minimum clearance multiplied by the factor given in Table A.2 of IEC 60664-1: 1.14.</li> <li><input type="checkbox"/> The recommended input fuse rating within the instructions and that used for all tests is 250V, 20A. The breaking capacity and voltage rating of this fuse may be subject to the end use application. The external fuse must be fitted in the live side of the input to the AC to DC converter. During the evaluation, additional External fuse(for input) rating 20A.(Mfr./Model: Little fuse/ type: 0324020.MX52LP) and External fuse(for output) rating 6.3A.(Mfr./model: WALTER / type: WN30-6.3P) were used.</li> <li><input type="checkbox"/> Basic insulation is provided between all circuits and baseplate. The product is entirely primary. Accessibility of the baseplate is to be evaluated in the end-product. This product is a non-isolating AC to DC converter.</li> <li><input type="checkbox"/> Baseplate can be connected to Frame ground through by M3 Mounting tapped holes in End product specified in Manual.</li> <li><input type="checkbox"/> BD1.2 Earthing Continuity Test shall be evaluated in end products.</li> </ul> <p><b>Engineering Conditions of Acceptability</b></p> <p>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:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The following product-line tests are conducted for this product : Electric Strength</li> <li><input type="checkbox"/> The following output circuits are at ES3 energy levels : All output</li> <li><input type="checkbox"/> The following output circuits are at PS3 energy levels : All output</li> <li><input type="checkbox"/> The maximum investigated branch circuit rating is : 20 A</li> <li><input type="checkbox"/> The investigated Pollution Degree is : 2</li> <li><input type="checkbox"/> Proper bonding to the end-product main protective earthing termination is : Required</li> <li><input type="checkbox"/> An investigation of the protective bonding terminals has : been conducted</li> <li><input type="checkbox"/> The following input terminals/connectors must be connected to the end-product supply neutral : N</li> <li><input type="checkbox"/> The following end-product enclosures are required : Mechanical, Electrical, Fire</li> <li><input type="checkbox"/> The equipment is suitable for direct connection to : AC mains supply</li> <li><input type="checkbox"/> The power supply was evaluated to be used at altitudes up to : "3,000 m"</li> </ul>	
<p><b>Additional Information</b></p> <p>Trademark: See Enclosed Miscellaneous 7-02 (Trademark) for details.</p> <p>The circuit was used during testing: See Enclosed Miscellaneous 7-03 for details.</p>	
<p><b>Additional Standards</b></p> <p>The product fulfills the requirements of: N/A</p>	
<p><b>Markings and Instructions</b></p>	

Clause Title	Marking or Instruction Details
Equipment identification marking – Manufacturer identification	Listee's or Recognized Company's 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)"
<b>Special Instructions to UL Representative</b> N/A	

**Definition of variable(s):**

PF1500B-zxxxxxxx (z = 360; xxxxxx =/T, other alphanumeric character, symbol or blank)

Note: Suffix options would be used shown below or used together.

Variable:	Range of variable:	Content:
z	360	Denotes for output voltage
xxxxxxx	Blank	Denotes for Standard model
	/T	Denotes for the corner studs are non-threaded.
	other alphanumeric character, symbol	For market purposes, no construction differences and no safety impact.