Ref. Certif. No.

JPTUV-153417-A1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product	Switching Power Supply
Name and address of the applicant	TDK-Lambda (China) Electronics Co., Ltd. No.95, Zhujiang Road, Xinwu District,, Wuxi, 214028 Jiangsu, P.R. China
Name and address of the manufacturer	TDK-Lambda (China) Electronics Co., Ltd. No.95, Zhujiang Road, Xinwu District,, Wuxi, 214028 Jiangsu, P.R. China
Name and address of the factory	See additional page(s)
Ratings and principal characteristics	Rated Input: 100-240 Vac, 50-60 Hz, for CUS800My-zxxxxxxx, CME800Ay-zxxxxxxx: 8.0 A or 9.5 A for CUS1000My-zxxxxxxx, CME1000Ay-zxxxxxxx: 9.5 A or 11.8 A
Trademark (if any)	TDK-Lambda
Customer's Testing Facility (CTF) Stage used	N/A
Model / Type Ref.	CUS800My-zxxxxxxx, CME800Ay-zxxxxxxx, CUS1000My-zxxxxxxx, CME1000Ay-zxxxxxxx (y = blank; z = 12,24,36,48; xxxxxxx = /CO, /CO2, /G, /SF, /CQC other alphanumeric character, symbol or blank)
Additional information (if necessary may also be reported on page 2)	For model differences and O/P ratings, refer to test report. Re-issue of JPTUV-153417 dated 2023-11-01, due to non-technical change.
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2018
As shown in the Test Report Ref. No. which forms part of this Certificate	CN23X04F 002

This CB Test Certificate is issued by the National Certification Body

TÜVRheinland®

TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
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Date: 2023-11-28

Signature: Mark Chen

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1. TDK-Lambda (China) Electronics
   Co., Ltd.
   No.95,
   Zhujiang Road, Xinwu District,
   Wuxi, 214028 Jiangsu, P.R. China

2. TDK-Lambda Malaysia Sdn. Bhd.
   PLO 33, Kawasan Perindustrian Senai
   81400 Senai, Johor
   Malaysia

Additional information (if necessary) Report Ref. No. : CN23X04F 002

Date: 2023-11-28 Signature: Mark Chen

Test Report issued under the responsibility of:

TÜVRheinland®

TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number ..... :	CN23X04F 002
Date of issue ..... :	2023-11-24
Total number of pages ..... :	30
Name of Testing Laboratory preparing the Report ..... :	TÜV Rheinland (Shanghai) Co., Ltd.
Applicant's name ..... :	**TDK-Lambda (China) Electronics Co., Ltd.**
Address ..... :	No. 95, Zhujiang Road, Xinwu District, Wuxi 214028 Jiangsu, P.R. China
Test specification:	
Standard ..... :	IEC 62368-1:2018
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
TRF template used ..... :	IECEE OD-2020-F801:2021, Ed.1.4
Test Report Form No. ..... :	IEC62368_1E
Test Report Form(s) Originator .... :	UL(US)
Master TRF ..... :	Dated 2022-04-14

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory.
The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	Switching Power Supply
Trade Mark(s) ..... :	TDK·Lambda
Manufacturer ..... :	Same as applicant
Model/Type reference ..... :	CUS800My-zxxxxxxx, CME800Ay-zxxxxxxx, CUS1000My-zxxxxxxx, CME1000Ay-zxxxxxxx (y = blank; z = 12,24,36,48; xxxxxxx = /CO, /CO2, /G, /SF, /CQC other alphanumeric character, symbol or blank)
Ratings ..... :	See the model list on page 6-7 for details

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	TÜV Rheinland (Shanghai) Co., Ltd.	
Testing location/ address ..... :		No.177, 178, Lane 777 West Guangzhong Road, Jing'an District, Shanghai, China	
Tested by (name, function, signature) ..... :		James Zhang / Technical Expert	
Approved by (name, function, signature) .. :		Roy Chen / Technical Reviewer	
☐	**Testing procedure: CTF Stage 1:**	N/A	
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 2:**	N/A	
Testing location/ address ..... :			
Tested by (name, function, signature) .....:			
Witnessed by (name, function, signature). :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 3:**	N/A	
☐	**Testing procedure: CTF Stage 4:**	N/A	
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Witnessed by (name, function, signature). :			
Approved by (name, function, signature) .. :			
Supervised by (name, function, signature) :			

List of Attachments (including a total number of pages in each attachment):

N/A

Note: Total number of pages in each attachment is indicated in individual attachment.

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
This report is based on original CBTR CN23X04F 001 issued by TÜV Rheinland with changes mentioned on page 5.	TÜV Rheinland (Shanghai) Co. Ltd. No.177, 178, Lane 777 West Guangzhong Road, Jing'an District, Shanghai, China

Summary of compliance with National Differences (List of countries addressed):

Refer to original report CN23X04F 001.

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other:… (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Refer to original report CN23X04F 001.

< representative >

Test item particulars:	
Product group ..... :	☐ end product ☒ built-in component
Classification of use by ..... :	☐ Ordinary person ☐ Children likely present ☒ Instructed person ☒ Skilled person
Supply connection ..... :	☒ AC mains ☐ DC mains ☐ not mains connected: ☐ ES1 ☐ ES2 ☐ ES3
Supply tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ None
Supply connection – type ..... :	☐ pluggable equipment type A - ☐ non-detachable supply cord ☐ appliance coupler ☐ direct plug-in ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☒ permanent connection ☒ mating connector ☒ other: Terminal Block
Considered current rating of protective device ..... :	☒ 16 or 20 A (for US/CSA); Location: ☒ building ☐ equipment ☐ N/A
Equipment mobility ..... :	☐ movable ☐ hand-held ☐ transportable ☐ direct plug-in ☐ stationary ☒ for building-in ☐ wall/ceiling-mounted ☐ SRME/rack-mounted ☐ other:
Overvoltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III ☐ Not classified ☐
Special installation location ..... :	☐ N/A ☒ restricted access area ☐ outdoor location ☐
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified T_{ma} ..... :	70 °C ☐ Outdoor: minimum °C
IP protection class ..... :	☒ IPX0 ☐ IP
Power systems ..... :	☒ TN ☐ TT ☒ IT - 230 V $_{L-L}$ ☐ not AC mains
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ up to 5000 m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ m
Mass of equipment (kg) ..... :	Approx. 0.85kg for CUS1000M series Approx. 0.81kg for CUS800M series

Possible test case verdicts:

- test case does not apply to the test object ... : N/A

- test object does meet the requirement ..... : P (Pass)

- test object does not meet the requirement ... : F (Fail)

Testing:

Date of receipt of test item ..... : N/A

Date (s) of performance of tests..... : N/A

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	☒ **Yes** ☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... :

1. TDK-Lambda (China) Electronics Co., Ltd.
   No. 95, Zhujiang Road, Xinwu District, Wuxi 214028 Jiangsu, P.R. China
2. TDK-Lambda Malaysia Sdn. Bhd
   PLO33, Kawasan Perindustrian Senai, 81400 Senai Johor Malaysia

General product information and other remarks:

Refer to original report CN23X04F 001.

Description of change(s):

Previous approved models were modified as following:

1. Corrected the typo errors in the List of critical components. See table 4.1.2 in bold for details.

For the above described change, no additional tests were considered necessary.

History of amendments and modifications:

Ref. No. CN23X04F 001, dated 2023.10.31 (original report)

Ref. No. CN23X04F 002, dated see page 1 (1st amendment)

For rating differences between the models see below tables:

Series Model	I/p voltage (Vac)	Freq (Hz)	I/p current (A)	Output Channel	Minimal output	Rated output (typical)	Maximum output
Forced air by build-in intake fan							
CUS800M-12xxxxxxx CME800A-12xxxxxxx	100-240	50-60	8.0	Main output	10.8Vdc	12Vdc	12.6 Vdc
					10.8Vdc~12.6Vdc, Normal: 56.7A & 680.4W max. Peak: 66.7A & 800.4W max. (Dynamic)		
				Standby mode power (optional)	4.8Vdc	5Vdc	5.2Vdc
					2A	2A	1.9A
CUS800M-24xxxxxxx CME800A-24xxxxxxx	100-240	50-60	9.5	Main output	21.6 Vdc	24Vdc	25.9 Vdc
					21.6Vdc~25.9Vdc , Normal: 33.4A & 801.6W max.		
				Standby mode power (optional)	4.8Vdc	5Vdc	5.2Vdc
					2A	2A	1.9A
CUS800M-36xxxxxxx CME800A-36xxxxxxx	100-240	50-60	9.5	Main output	32.4 Vdc	36 Vdc	38.8Vdc
					32.4Vdc~38.8Vdc , Normal: 22.2A & 799.2W max.		
				Standby mode power (optional)	4.8Vdc	5Vdc	5.2Vdc
					2A	2A	1.9A
CUS800M-48xxxxxxx CME800A-48xxxxxxx	100-240	50-60	9.5	Main output	43.2Vdc	48 Vdc	51.8Vdc
					43.2Vdc~51.8Vdc , Normal: 16.7A & 801.6W max.		
				Standby mode power (optional)	4.8Vdc	5Vdc	5.2Vdc
					2A	2A	1.9A
Remark 1: Operating temp.: up to +70ºC (operating temperature depending on equipment's load, mounting position, for details refer to instruction manual).							
Series Model	I/p voltage (Vac)	Freq (Hz)	I/p current (A)	Output Channel	Minimal output	Rated output (typical)	Maximum output
Forced air by build-in intake fan							
CUS1000M-12xxxxxxx CME1000A-12xxxxxxx	100-240	50-60	9.5	Main output	10.8Vdc	12Vdc	12.6 Vdc
					10.8Vdc~12.6Vdc , Normal: 66.7A & 800.4W max. Peak: 83.4A & 1000.8W max. (Dynamic)		

				Standby mode power (optional)	4.8Vdc	5Vdc	5.2Vdc
					2A	2A	1.9A
CUS1000M-24xxxxxxx CME1000A-24xxxxxxx	100-240	50-60	11.8	Main output	21.6 Vdc	24Vdc	25.9 Vdc
					21.6Vdc~25.9Vdc , Normal: 41.7A & 1000.8W max.		
				Standby mode power (optional)	4.8Vdc	5Vdc	5.2Vdc
					2A	2A	1.9A
CUS1000M-36xxxxxxx CME1000A-36xxxxxxx	100-240	50-60	11.8	Main output	32.4 Vdc	36 Vdc	38.8Vdc
					32.4Vdc~38.8Vdc , Normal: 27.8A & 1000.8W max.		
				Standby mode power (optional)	4.8Vdc	5Vdc	5.2Vdc
					2A	2A	1.9A
CUS1000M-48xxxxxxx CME1000A-48xxxxxxx	100-240	50-60	11.8	Main output	43.2Vdc	48 Vdc	51.8Vdc
					43.2Vdc~51.8Vdc , Normal: 20.9A & 1003.2W max.		
				Standby mode power (optional)	4.8Vdc	5Vdc	5.2Vdc
					2A	2A	1.9A
Remark 1: Operating temp.: up to +70ºC (operating temperature depending on equipment's load, mounting position, for details refer to instruction manual).							

Definition of various:

Variable:	Suffix	Description
y	blank	Denotes for standard model
z	12,24,36,48	Denotes for output voltage
xxxxxxx	blank	Denotes for standard model
	/CO	Denotes for single side PWB Coating
	/CO2	Denotes for double side PWB Coating
	/SF	Denotes for single fuse
	/G	Denotes for low earth Leakage current
	/CQC	Denotes for CQC approval
	other alphanumeric character, symbol	For market purposes, no construction differences and no safety impact.

Note: These suffixes may be used together (e.g. /G, /GCO).

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	**Possible Hazard**			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
Refer to original report CN23X04F 001.				
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1st S	2nd S
Refer to original report CN23X04F 001.				
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
Refer to original report CN23X04F 001.				
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
Refer to original report CN23X04F 001.				
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
Refer to original report CN23X04F 001.				
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
Refer to original report CN23X04F 001.				
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM
Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems. Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings
See OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS ☒ **ES** ☒ **PS** ☒ **MS** ☐ **TS** ☐ **RS**