

Test Report issued under the responsibility of:



**TEST REPORT**  
**IEC 60335-1**  
**Safety of household and similar electrical appliances**

**Report Number** .....: T211-0884/17

**Date of issue** .....: 2017-11-20

**Total number of pages**.....: 201

**Name of Testing Laboratory preparing the Report**.....: **SIQ Ljubljana**  
SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number LP-009 in the field of testing

**Applicant's name** .....: TDK-Lambda UK Limited

**Address** .....: Kingsley Avenue, Ilfracombe, Devon EX34 8ES, United Kingdom

**Test specification:**

**Standard** .....: IEC 60335-1:2010, COR1:2010, COR2:2011, AMD1:2013, COR1:2014, AMD2:2016, COR1:2016

**Test procedure**.....: Type test

**Non-standard test method**.....: N/A

**Test Report Form No**.....: IEC60335\_1X

**Test Report Form(s) Originator**.....: Nemko AS

**Master TRF** .....: Dated 2016-10

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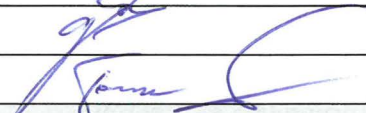

**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

**General disclaimer:**

The test results presented in this report relate only to the object tested.

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<b>Test item description</b> .....	Switch mode power supply for building-in
<b>Trade Mark</b> .....	TDK-Lambda
<b>Manufacturer</b> .....	TDK-Lambda UK Limited Kingsley Avenue, Ilfracombe, Devon EX34 8ES, United Kingdom
<b>Model/Type reference</b> .....	CUS150M-XX Where: - XX = Output voltage that can be 12 V, 24 V or 48 V Type reference may be followed by: - /M = Molex connector - /E = Single fuse in live line - /U = U chassis - /A = Cover and U chassis - /F = Top fan cover and U chassis
<b>Ratings</b> .....	Input: 100 – 240 V a.c.; 47 - 63 Hz; 2,2 A max. Output: CUS150M-12: 12 V d.c.; 12,50 A CUS150M-24: 24 V d.c.; 6,25 A CUS150M-48: 48 V d.c.; 3,12 A

<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	SIQ Ljubljana SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number LP-009 in the field of testing
<b>Testing location/ address .....</b>		Tržaška cesta 2, SI-1000 Ljubljana, Slovenia
<b>Tested by (name, function, signature) .....</b>		Boštjan Grum 
<b>Approved by (name, function, signature) ..</b>		Tomaž Knez 
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	
<b>Testing location/ address .....</b>		
<b>Tested by (name, function, signature) .....</b>		
<b>Approved by (name, function, signature) ..</b>		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	
<b>Testing location/ address .....</b>		
<b>Tested by (name + signature).....</b>		
<b>Witnessed by (name, function, signature) .</b>		
<b>Approved by (name, function, signature) ..</b>		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	
<b>Testing location/ address .....</b>		
<b>Tested by (name, function, signature) .....</b>		
<b>Witnessed by (name, function, signature) .</b>		
<b>Approved by (name, function, signature) ..</b>		
<b>Supervised by (name, function, signature) :</b>		

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

Attachment No. 1: National deviations (13 pages),  
 Attachment No. 2: Technical documentation (44 pages),  
 Attachment No. 3: Photos (12 pages),  
 Attachment No. 4: Annex BB extract from IEC 61558-2-16:2009+A1:2013 (28 pages).

**Summary of testing:**

**Tests performed (name of test and test clause):**

All applicable clauses – see test report for details.

**Testing location:**

SIQ Ljubljana,  
 Mašera-Spasićeva ulica 10,  
 SI-1000 Ljubljana, Slovenia

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

All Cenelec countries

**The product fulfils the requirements of IEC 60335-1:2010, AMD1:2013, AMD2:2016**

**The product fulfils the requirements of EN 60335-1:2012, A11:2014**

**Copy of marking plate (example):**

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.



<b>Test item particulars.....:</b>	
<b>Classification of installation and use.....:</b> Power supply for building-in	
<b>Supply Connection.....:</b> Connector	
<b>Possible test case verdicts:</b>	
- 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)	
<b>Testing.....:</b>	
<b>Date of receipt of test item.....:</b> 2017-08-04	
<b>Date (s) of performance of tests.....:</b> (2017-08-23) – (2017-11-16)	
<b>General remarks:</b>	
<p>"(See Enclosure #)" refers to additional information appended to the report.          "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p>	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1:</b>	
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 .....:	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>Not applicable</b>
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies).....:</b> <ul style="list-style-type: none"> <li>1) TDK-Lambda UK Limited Kingsley Avenue, Ilfracombe, Devon EX34 8ES, United Kingdom</li> <li>2) Panyu Trio Microtronic Co., Ltd Shiji Industrial Estate, Dongyong, Nansha, Guangzhou Guangdong, China</li> </ul>	
<b>General product information:</b>	
The power supply is an open frame switch mode power supply for building-in. Unit is rated for altitudes up to 5000 m. The power supply can be used as Class I or Class II construction. The power supply provides two internal fuses, one in line and one in neutral. Type reference of appliance is CUS150M-XX	

Where:

- XX = Output voltage that can be 12 V, 24 V or 48 V

Type reference may be followed by:

- /M = Molex connector

- /E = Single fuse in live line

- /U = U chassis

- /A = Cover and U chassis

- /F = Top fan cover and U chassis

Model CUS150-48 has 48 V on output, therefore is not considered as SELV.

The following temperatures within end equipment shall not be exceeded:

Circuit Ref.	Description	Max. Temperature (°C)
L1	Common Mode Choke	110 (130*)
L2	PFC Choke	125 (130*)
L3	Differential Mode Choke	125 (130*)
C1	Film Capacitor	105
C2, C110	Electrolytic Capacitors	86 (105*)
C6, C102, C104, C105	Electrolytic Capacitors	92 (105*)
C3	X Capacitor	100
C5, C100, C101, C103	Y Capacitor	105
TX100	Transformer winding	110
XU101, XU102	Opto-coupler	100 (110*)
CD8	Diode	130
J1	Input Connector	105
J100	Output Connector	105
*Temperatures in brackets may be used but product life may be reduced.		

All models with different output voltages provide different transformer constructions. The secondary output windings have different number of turns to get different secondary output voltages. Otherwise layouts of PCBs and electrical schemes are identical.