Test Report issued under the responsibility of:

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

Report Number. .....:	**T211-0234/18**
Date of issue .....:	**2018-04-20**
Total number of pages.....:	**248**
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

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 ..... :	Switch mode power supply for building-in
Trade Mark ..... :	TDK-Lambda
Manufacturer ..... :	TDK-Lambda UK Limited Kingsley Avenue, Ilfracombe, Devon EX34 8ES, United Kingdom
Model/Type reference ..... :	"See general product information"
Ratings ..... :	"See general product information"

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

Attachment No. 1: National deviations (13 pages),

Attachment No. 2: Technical documentation (80 pages),

Attachment No. 3: Photos (14 pages),

Attachment No. 4: Annex BB extract from IEC 61558-2-16:2009+A1:2013 (32 pages).

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
All applicable clauses – see test report for details.	SIQ Ljubljana, Mašera-Spasićeva ulica 10, SI-1000 Ljubljana, Slovenia

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

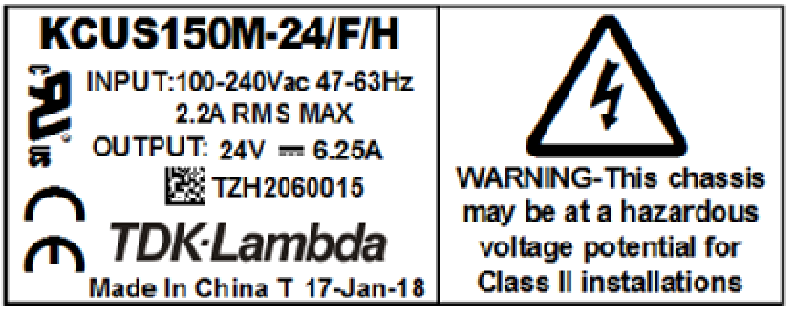
All Cenelec countries

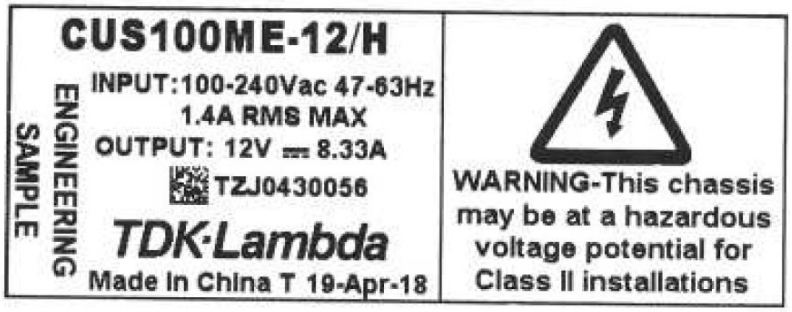
☒ **The product fulfils the requirements of IEC 60335-1:2010, AMD1:2013, AMD2:2016**

☒ **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.





Test item particulars ..... :	
Classification of installation and use ..... :	Power supply for building-in
Supply Connection ..... :	Connector
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.....:	2017-08-04; 2018-03-16
Date (s) of performance of tests.....:	(2017-08-23) – (2017-11-16); (2018-01-17) – (2018-01-19); (2018-03-22) – (2018-04-12)

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 UK Limited Kingsley Avenue, Ilfracombe, Devon EX34 8ES, United Kingdom 2) Panyu Trio Microtronic Co., Ltd Shiji Industrial Estate, Dongyong, Nansha, Guangzhou Guangdong, China

General product information:

The power supply families are open frame switch mode power supplies for building-in.

Unit is rated for altitudes up to 5000 m.

The power supplies can be used as Class I or Class II construction.

The power supplies provides two internal fuses, one in line and one in neutral.

Type reference of appliance are:

Standard versions

CUSZ-xx/yyyy

Where:
Z = 150M for 150W model (May be followed by 'D' for DC input)
100ME for 100W model
xx = Output voltage can be 12V, 15V, 18V, 24V, 28V, 36V or 48V
yyyy = Unit options from list of standard unit options below

/M = Molex connectors
/E = Single fuse in the live line
/U = U chassis
/A = Cover and U chassis
/F = Top fan, cover and U chassis (CUS150M model only)
/B = Baseplate
/H = alternate link wire and discharge resistors

Non standard versions

KCUSZ-xx-yyyy/H

Where:
Z = 150M for 150W model (May be followed by 'D' for DC input)
100ME for 100W model
xx = Output voltage can be 12V, 15V, 18V, 24V, 28V, 36V or 48V
yyyy = Unit options from list of standard unit options below

/M = Molex connectors
/E = Single fuse in the live line
/U = U chassis
/A = Cover and U chassis
/F = Top fan, cover and U chassis (CUS150M model only)
/B = Baseplate

Followed by
/H = alternate link wire and discharge resistors

Models that has 48 V on output, are 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 identical transformer constructions, only the number of secondary windings is different. Layouts of PCBs and electrical schemes are identical. Difference between 100 W and 150 W version is on secondary side of electronics and also on output choke (see LOCC).

Added 100 W versions. Added 15 V, 18 V, 28 V, 36 V versions.

Additional testing performed on representative samples of 100 W versions: CUS100ME-12/H, CUS100ME-24/H, CUS100ME-48/H

History sheet			
Report No.	Date	Change	Revision No.
T211-0884/17	2017-11-20	Initial Test Report issued.	--
T211-0034/18	2018-01-29	Changed type reference and documentation. No testing performed.	1.0
T211-0234/18	2018-04-20	Added 100 W versions. Added 15 V, 18 V, 28 V, 36 V versions	2.0