Test Report issued under the responsibility of:

TEST REPORT
IEC 60950-1
Information technology equipment - Safety - Part 1: General requirements

Report Reference No ..... :	E135494-A109-CB-1
Date of issue ..... :	2016-08-25
Total number of pages ..... :	8
CB Testing Laboratory ..... :	UL International Germany GmbH
Address ..... :	Admiral-Rosendahl-Strasse 23, 63263 Neu-Isenburg (Zeppelinheim), Germany
Applicant's name ..... :	TDK-LAMBDA UK LTD
Address ..... :	KINGSLEY AVE ILFRACOMBE EX34 8ES UNITED KINGDOM
Test specification:	
Standard ..... :	IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60950_1F
Test Report Form originator ..... :	SGS Fimko Ltd
Master TRF ..... :	Dated 2014-02

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 ..... :	AC-DC Power Supply
Trade Mark ..... :	None
Manufacturer ..... :	TDK-LAMBDA UK LTD KINGSLEY AVE ILFRACOMBE EX34 8ES UNITED KINGDOM
Model/Type reference ..... :	DRB480-24-1-xyz where x, y, z may be any letter or digit or blank, considered non safety relevant information, see model differences
Ratings ..... :	INPUT: 100-240 Vac, 5.4A, 50/60 Hz OUTPUT: 24-26.4Vdc, 20-18.2A (max 480W)

Testing procedure and testing location:			
[x]	**CB Testing Laboratory**		
	Testing location / address .....:	UL International Germany GmbH Admiral-Rosendahl-Strasse 23, 63263 Neu-Isenburg (Zeppelinheim), Germany	
[ ]	**Associated CB Test Laboratory**		
	Testing location / address .....:		
	Tested by (name + signature) .....:	Wojciech Czerniak (Project Handler)	W. Czerniak
	Approved by (name + signature)....:	Piotr A. Bizunowicz (Reviewer)	Piotr Bizunowicz
[ ]	**Testing Procedure: TMP/CTF Stage 1**		
	Testing location / address .....:		
	Tested by (name + signature) .....:		
	Approved by (name + signature)....:		
[ ]	**Testing Procedure: WMT/CTF Stage 2**		
	Testing location / address .....:		
	Tested by (name + signature) .....:		
	Witnessed by (name + signature) ..:		
	Approved by (name + signature)....:		
[ ]	**Testing Procedure: SMT/CTF Stage 3 or 4**		
	Testing location / address .....:		
	Tested by (name + signature) .....:		
	Approved by (name + signature)....:		
	Supervised by (name + signature) .:		
[ ]	**Testing Procedure: RMT**		
	Testing location / address .....:		
	Tested by (name + signature) .....:		
	Approved by (name + signature)....:		
	Supervised by (name + signature) .:		

List of Attachments
National Differences (0 pages)
Enclosures (0 pages)
Summary of Testing:
No tests were conducted
Summary of Compliance with National Differences:

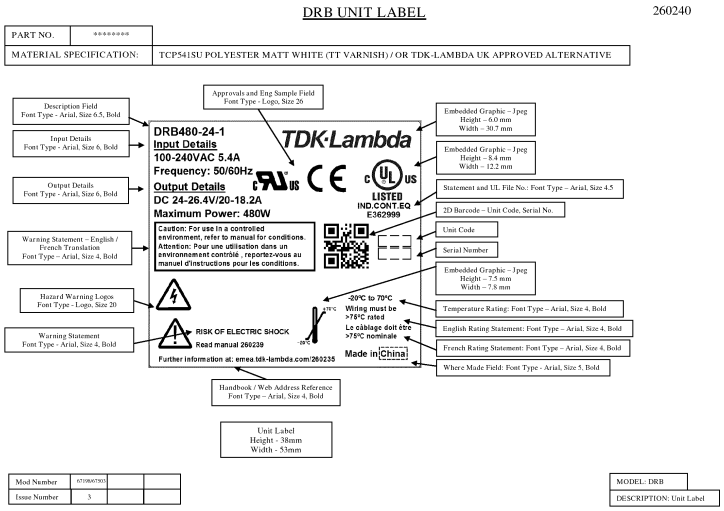
Countries outside the CB Scheme membership may also accept this report.

List of countries addressed: AR, AT, AU, BE, BG, BY, CA, CH, CN, CS, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IN, IT, JP, KR, MY, NL, NO, NZ, PL, PT, RO, SA, SE, SG, SI, SK, UA, US, ZA

The product fulfills the requirements of: EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013

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.



Test item particulars :	
Equipment mobility ..... :	for building-in
Connection to the mains ..... :	N/A (component for building-in)
Operating condition ..... :	continuous
Access location ..... :	N/A (component for building-in)
Over voltage category (OVC) ..... :	OVC II
Mains supply tolerance (%) or absolute mains supply values ..... :	+10%, -10%
Tested for IT power systems ..... :	Yes
IT testing, phase-phase voltage (V) ..... :	400
Class of equipment ..... :	Class I (earthed)
Considered current rating of protective device as part of the building installation (A) ..... :	20A
Pollution degree (PD) ..... :	PD 2
IP protection class ..... :	IP X0
Altitude of operation (m) ..... :	3000 (See Technical Considerations)
Altitude of test laboratory (m) ..... :	less than 2000 meters
Mass of equipment (kg) ..... :	1.18
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(s) 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 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 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 ..... When differences exist, they shall be identified in the General Product Information section.	Not Applicable
Name and address of Factory(ies):	TDK-LAMBDA MALAYSIA SDN BHD LOT 2 & 3, BATU 9 3/4 KAWASAN PERINDUSTRIAN BANDAR BARU JAYA GADING 26070 KUANTAN PAHANG MALAYSIA

GENERAL PRODUCT INFORMATION:

Report Summary

The original report was modified on 2016-08-29 to include the following changes/additions:
This is Correction 1 to the Original CB Test Report Ref. No. E135494-A109-CB-1 dated 2016-08-25.
This correction is published due to missing functions of staff. Original CB Test Report shall contain the following information:
Piotr Bizunowicz (Project Handler)
Radoslaw Lukasiewicz (Reviewer).
No other changes or tests were not necessary. Products are still in compliance with the Standard.

Product Description

Device is AC/DC switch mode power supply for building-in on DIN rail.

Model Differences

suffix '-xyz' is optional and denotes customer-specific variant (like fixed voltage or no LED), and is deemed not safety relevant.

Additional Information

DERATING INFORMATION:
Max. Output power: 480W up to 50°C, derate linearly down to 300W at 70°C. See manual.

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 50°C, 70°C with derating
- The means of connection to the mains supply is: to be determined in End Product
- The product is intended for use on the following power systems: TT, TN, IT
- The equipment disconnect device is considered to be: determined in End Product
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 (which includes all European national differences, including those specified in this test report).
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: Output
- The following were investigated as part of the protective earthing/bonding: Printed wiring board trace (refer to Enclosure - Schematics + PWB for layouts)
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual
- LEDs provided in the product are considered low power devices: Yes
- The following scope limitations apply to this test report and additional evaluation and/or tests may be required when submitting this CB Report to a National Certification Body (NCB) to obtain a national mark: - no EMC tests nor evaluation to EMC Directive 2004/108/EC and 2014/30/EU - no evaluation to RoHS Directive 2002/95/EC - no evaluation to Council Recommendation 1999/519/EC nor 2006/25/EC - only English version of markings and instructions provided and reviewed --

- The Clearances and Creepage Distances have additionally been assessed for suitability up to 3 000 m elevation. --

Engineering Conditions of Acceptability

When installed in an end-product, consideration must be given to the following:

- The following Production-Line tests are conducted for this product: Earthing Continuity, Electric Strength
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed Dead Metal: 316 Vrms, 584 Vpk, Primary-SELV: 233 Vrms, 423 Vpk
- The following secondary output circuits are SELV: output
- The following output terminals were referenced to earth during performance testing: Output negative.
- The power supply terminals and/or connectors are: Suitable for field wiring
- The maximum investigated branch circuit rating is: 20A
- The investigated Pollution Degree is: 2
- Proper bonding to the end-product main protective earthing termination is: Required
- An investigation of the protective bonding terminals has: Been conducted
- The following input terminals/connectors must be connected to the end-product supply neutral: J7-2
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): Transformer T1 (class 155°C), Coil L4 (class 155°C), Coli L1 (class 155°C)
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- The following components require special consideration during end-product Thermal (Heating) tests due to the indicated maximum temperature measurements during component-level testing: metal housing (85.8°C) - additional requirements for accessibillity to be evaluated in end product.

Abbreviations used in the report:

- normal condition	N.C.	- single fault condition	S.F.C
- operational insulation	OP	- basic insulation	BI
- basic insulation between parts of opposite polarity:	BOP	- supplementary insulation	SI
- double insulation	DI	- reinforced insulation	RI

Indicate used abbreviations (if any)