



Test Report issued under the responsibility of:



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

Report Number: 212476-CI3-1 CB DE1- CB-50147/M3/A1/B1

Date of issue: 2015-06-16

Total number of pages..... 160

Applicant's name.....: TDK-Lambda Americas Inc.

Address: 3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA

Test specification:

Standard: DIN EN 60950-1 (VDE 0805-1):2014-08
EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013
IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Test procedure: VDE ÜG, CB Scheme

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

Test Report Form No.....: IEC60950_1F

Test Report Form(s) Originator.....: SGS Fimko Ltd

Master TRF.....: Dated 2014-02

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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.


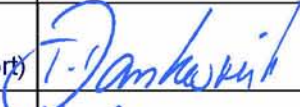

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Test item description :	Component DC DC Converter for use with IT Equipment
Trade Mark :	 and/or  and/or TDK-Lambda
Manufacturer	TDK-Lambda Americas Inc. 3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA
Model/Type reference	iJC series (See model matrix)

Ratings	
10003893 Rated voltage..... :	DC 8 - 14 V, (SELV) See model Matrix
10004017 Rated current..... :	Max. 32 A, See model Matrix
10004112 Rated power..... :	Output: max. 200 W, See model Matrix
10004029 Rated frequency..... :	DC
10003951 Output voltages and currents..... :	Output: DC 0.6 – 2.0 V, max. 120 A, See model Matrix
Ambient :	max. 25 °C

Supplementary information:

The above listing was introduced only for internal VDE administration process.

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	VDE Prüf- und Zertifizierungsinstitut GmbH VDE <i>Testing and Certification Institute</i>
Testing location/ address.....:		Merianstrasse 28, D-63069 Offenbach, Germany
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address.....:		
Tested by (name + signature).....:		(authorization of test report)
Approved by (name + signature).....:		
<hr/>		
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address.....:		
Tested by (name + signature).....:		(authorization of test report)
Approved by (name + signature).....:		
<hr/>		
<input checked="" type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address.....:		TDK-Lambda Americas Inc. 3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA WMT/CTF Stage 2 (TDAP, VDE File No. 2520400-9501-0001)
Tested by (name + signature).....:		Steve McKitrick 
Witnessed by (name + signature).....:		Thomas Dankesreiter (authorization of test report) 
Approved by (name + signature).....:		Holger Kreuzer 
<hr/>		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address.....:		
Tested by (name + signature).....:		
Witnessed by (name + signature).....:		
Approved by (name + signature).....:		
Supervised by (name + signature).....:		
<hr/>		


List of Attachments (including a total number of pages in each attachment):		
Appendix No.	Description	Page(s)
1	Photos	124
2	Model Matrix	125 - 127
3	Label	128
4	Test data, drawings, schematics	129 - 160
Summary of testing:		
Tests performed (name of test and test clause):		Testing location:
1.5 Components 1.6 Power interface 4.5 Thermal requirements 5.3 Abnormal operating and fault conditions See Appendix		TDK-Lambda Americas Inc. 3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA WMT/CTF Stage 2 (TDAP, VDE File No. 2520400-9501-0001)

Summary of compliance with National Differences:				
List of countries addressed				
The product has been tested according to standard IEC 60950-1:2005 (2 nd Edition); am1:2009 / EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 and those deviations taken into account of				
<input checked="" type="checkbox"/> CENELEC common modifications	<input checked="" type="checkbox"/> United Kingdom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Finland	<input checked="" type="checkbox"/> Denmark	<input checked="" type="checkbox"/> Ireland	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Sweden	<input checked="" type="checkbox"/> Germany	<input checked="" type="checkbox"/> Spain	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Norway	<input checked="" type="checkbox"/> Switzerland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> CB Bull. NATIONAL DIFFERENCES IEC 60950-1:2005 (2nd Edition)				
<input checked="" type="checkbox"/> Switzerland	<input checked="" type="checkbox"/> Finland	<input checked="" type="checkbox"/> Norway	<input checked="" type="checkbox"/> USA	<input type="checkbox"/>
<input checked="" type="checkbox"/> Germany	<input checked="" type="checkbox"/> United Kingdom	<input checked="" type="checkbox"/> Sweden	<input checked="" type="checkbox"/> Israel	<input type="checkbox"/>
<input checked="" type="checkbox"/> Denmark	<input checked="" type="checkbox"/> Ireland	<input checked="" type="checkbox"/> Group Differences	<input checked="" type="checkbox"/> Australia	<input type="checkbox"/>
<input checked="" type="checkbox"/> Spain	<input checked="" type="checkbox"/> Korea	<input checked="" type="checkbox"/> Canada	<input checked="" type="checkbox"/> New Zealand	<input type="checkbox"/>
For national and cenelec differences refer to main test report				
<input checked="" type="checkbox"/> The product fulfils the requirements of				
DIN EN 60950-1 (VDE 0805-1):2014-08 EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013 IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013				

Test item particulars:	
Equipment mobility:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains:	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input checked="" type="checkbox"/> not directly connected to the mains
Operating condition:	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input checked="" type="checkbox"/> other: DC supplied
Mains supply tolerance (%) or absolute mains supply values	N/A, not connected to the mains
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	≤ 2000 m
Altitude of test laboratory (m)	app. 180m
Mass of equipment (kg)	< 18kg

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	2015-02-17
Date (s) of performance of tests	2015-02-17 to 2015-05-29
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 <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:			
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 see VDE construction form 131	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable (one factory)		
When differences exist; they shall be identified in the General product information section.			
Name and address of factory (ies)	30014661 TDK-Lambda Americas Inc. 3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA 30017287 TDK-Lambda Malaysia Sdn. Bhd. PLO 33 Kawasan Perindustrian Senai; Locked Bag No. 110; SENAI, JOHOR 81400; Johor; Malaysia		
General product information:			
<p>Product Overview: The iJC product family consists of high density DC-DC power modules intended to be purchased and used as a component in an end-user's power system. The modules currently come in one input voltage range; a 8 – 14.0 Vdc input. The output voltage will be adjustable between 0.6 V and 2.0 V. The rated output current will be 120 A or less.</p> <p>The iJC product family is similar to iJB product family in that they are both Non-Isolated Digitally controlled POL modules that are PMBus compliant and perform a local bus conversion from a 12 Vdc range. Both iJB and iJC product families use the same control IC. The iJC product family will have a different form factor, output inductor, Fets and control circuit values.</p>			
Abbreviations used in the report:			
- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI
Indicate used abbreviations (if any)			

Information to test report reference No. :	
VDE Test- and Certification Institute GmbH Merianstrasse 28 D - 63069 Offenbach	DIN EN 60950-1 (VDE 0805-1):2014-08 EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013 IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test item description:	Component DC DC Converter for use with IT Equipment
Made by :	TDK-Lambda Americas Inc. 3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA
Trade mark :	 and/or and/or
Model/type ref. :	iJC series
Rated :	Input: DC 8 - 14 V, 32 A max, (SELV) See model Matrix Output: DC 0.6 – 2.0 V, max. 120 A, max. 200 W (SELV) See model Matrix
Commission received from	Steve, Mc Kitrick
Date:	2015-05-16
Modification on the appliance:	
1.	Add model iJC series

Test Report History:			
This report may consist of more than one report and is valid only with additional or previous issued reports:			
Date: (jjj-mm-dd)	VDE-Certificate: CB-Ref. No.:	VDE File No.: Test Report Number	Modifications:
2015-06-16	VDE-Certificate: 40035006 CB DE1-50147/M3/A1/B1	2520400-3336-0030 212476-CI3-1	Additional Test Report (this Report) Add model: iJC series
2015-03-16	VDE-Certificate: 40035006 CB DE1-50147/M2/A1/B1	2520400-3336-0030 207809-CI3-4	Additional Test Report. upgrade to: DIN EN 60950-1 (VDE 0805-1):2014-08 EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013 IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
2014-05-29	VDE-Certificate: 40035006 CB DE1-50147/M2/B1	2520400-3336-0030/199141	Concerns iJA series: Increase of output current from 25 A, 85 W to 35 A, 100 W. Alternate trademark: TDK-Lambda
2013-07-30	VDE-Certificate: 40035006 CB DE1-50147/M1	2520400-3336-0030/187345	Add model: iJB series
2012-05-10	VDE-Certificate: 40035006 CB DE1-50147	2520400-3336-0030/167059	Origin Test Report DC / DC converters iJA series