Ref. Certif. No.

US/14949/UL

IEC SYSTEM FOR CONFORMITY TESTING AND CERTIFICATION OF ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ESSAIS DE CONFORMITE ET DE CERTIFICATION DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product *Produit*	Power Supply
Name and address of the applicant *Nom et adresse du demandeur*	SL POWER ELECTRONICS CORP 6050 KING DR BLDG A VENTURA CA 93003, USA
Name and address of the manufacturer *Nom et adresse du fabricant*	SL POWER ELECTRONICS CORP 6050 KING DR BLDG A VENTURA CA 93003, USA
Name and address of the factory *Nom et adresse de l'usine*	SL POWER ELECTRONICS XIANGHE ANPING ECONOMIC & TECH DEVELOPING ZONE XIANGHE HEBEI 065402, CHINA
Rating and principal characteristics *Valeurs nominales et caractéristiques principales*	For ratings information see second page of this certificate.
Trademark (if any) *Marque de fabrique (si elle existe)*	Not applicable
Model / Type Ref. *Ref. de type*	MENT1220VWXYZ, where V represents the generational differences which may be any letter from A thru Z; W represents the output voltage which may be any number from 12, 15, 18 or any number from 24 thru 48; X represents the output cable and connector which may be any two alphanumeric digits; Y represents the AC inlet connector which may be the letter F, N, or Q; F for C14 type AC inlet (Class I), N for C8 type AC inlet (Class II), Q for C18 type AC inlet (Class II); and Z represents non-safety related customer options which may be any two alphanumeric digits.
Additional information (if necessary) *Information complémentaire (si nécessaire)*	The CB Test Report comprises 6 enclosures.
A sample of the product was tested and found to be in conformity with *Un échantillon de ce produit a été essayé et a été considéré conforme à la*	**PUBLICATION** **IEC 60950-1 (2001) First Edition,** Additionally evaluated to EN60950-1 (2001) with Am. 11 (2004) to include Group and National Differences for European countries; other National Differences also specified in the CB Test Report.
as shown in the Test Report Ref. No. which forms part of this Certificate *comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat*	E136791-A19-CB-1

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

Underwriters Laboratories

Underwriters Laboratories Inc. / GMA Certification Department, US
333 Pfingsten Road, Northbrook, IL 60062-2096
United States of America
TEL INT* +1 847 664 3008, FAX INT* +1 847 313 3008
email: jolanta.m.wroblewska@us.ul.com

Date: Issued: 2010 April 19

Signature: Jolanta M. Wroblewska

Ref. Certif. No.

US/14949/UL

IEC SYSTEM FOR CONFORMITY TESTING AND CERTIFICATION OF ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ESSAIS DE CONFORMITE ET DE CERTIFICATION DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Input:	100-240 V~, 50-60 Hz, 2.5-1.2 A
Output:	48 V maximum, 15 A maximum, 220 W optional, or see below for standard output models.

MENT1220V12XYZ: 12 V dc/15 A
MENT1220V15XYZ: 15 V dc/13 A
MENT1220V18XYZ: 18 V dc/11.7 A
MENT1220V24XYZ: 24 V dc/9.2 A
MENT1220V28XYZ: 28 V dc/7.9 A
MENT1220V32XYZ: 32 V dc/6.9 A
MENT1220V48XYZ: 48 V dc/4.6 A

Additional information (if necessary)
Information complémentaire (si nécessaire)

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

Underwriters Laboratories

Underwriters Laboratories Inc. / GMA Certification Department, US
333 Pfingsten Road, Northbrook, IL 60062-2096
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TEL INT* +1 847 664 3008 FAX INT* +1 847 313 3008
email: jolanta.m.wroblewska@us.ul.com

Date: Issued: 2010 April 19

Signature:

Jolanta M. Wroblewska

COVER PAGE FOR TEST REPORT

Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
Product Category CCN:	QQGQ2, QQGQ8
Test Procedure:	Component Recognition
Product:	Power Supply
Model/Type Reference:	MENT1220VWXYZ, where V represents the generational differences which may be any letter from A thru Z; W represents the output voltage which may be any number from 12, 15, 18 or any number from 24 thru 48; X represents the output cable and connector which may be any two alphanumeric digits; Y represents the AC inlet connector which may be the letter F, N, or Q; F for C14 type AC inlet (Class I), N for C8 type AC inlet (Class II), Q for C18 type AC inlet (Class II); and Z represents non-safety related customer options which may be any two alphanumeric digits.
Rating(s):	Input: 100-240 V~, 50-60 Hz, 2.5-1.2 A Output: 48 V maximum, 15 A maximum, 220 W optional, or see below for standard output models. MENT1220V12XYZ: 12 V dc/15 A MENT1220V15XYZ: 15 V dc/13 A MENT1220V18XYZ: 18 V dc/11.7 A MENT1220V24XYZ: 24 V dc/9.2 A MENT1220V28XYZ: 28 V dc/7.9 A MENT1220V32XYZ: 32 V dc/6.9 A MENT1220V48XYZ: 48 V dc/4.6 A
Standards:	UL 60950-1, 1st Edition, 2007-10-31 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Applicant Name and Address:	SL POWER ELECTRONICS CORP BLDG A 6050 KING DR VENTURA CA 93003 UNITED STATES

This Report includes the following parts, in addition to this cover page:

1. Specific Inspection Criteria
2. Specific Technical Criteria
3. Clause Verdicts
4. Critical Components
5. Test Results
6. National Differences
7. Enclosures

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Test Report By:

Tom Scheuffele
Senior Project Engineer
Underwriters Laboratories Inc.

Reviewed By:

David Feusier
Staff Engineer
Underwriters Laboratories Inc.

SPECIFIC TECHNICAL CRITERIA

UL 60950-1, First Edition Information technology equipment - Safety- Part 1: General Requirements	
Report Reference No	E136791-A19-UL-1
Compiled by	Tom Scheuffele
Reviewed by	David Feusier
Date of issue	2010-04-19
Standards	UL 60950-1, 1st Edition, 2007-10-31 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Test procedure	Component Recognition
Non-standard test method	N/A
Test item description	Power Supply
Trademark	None
Model and/or type reference	MENT1220VWXYZ, where V represents the generational differences which may be any letter from A thru Z; W represents the output voltage which may be any number from 12, 15, 18 or any number from 24 thru 48; X represents the output cable and connector which may be any two alphanumeric digits; Y represents the AC inlet connector which may be the letter F, N, or Q; F for C14 type AC inlet (Class I), N for C8 type AC inlet (Class II), Q for C18 type AC inlet (Class II); and Z represents non-safety related customer options which may be any two alphanumeric digits.
Rating(s)	Input: 100-240 V~, 50-60 Hz, 2.5-1.2 A Output: 48 V maximum, 15 A maximum, 220 W optional, or see below for standard output models. MENT1220V12XYZ: 12 V dc/15 A MENT1220V15XYZ: 15 V dc/13 A MENT1220V18XYZ: 18 V dc/11.7 A MENT1220V24XYZ: 24 V dc/9.2 A MENT1220V28XYZ: 28 V dc/7.9 A MENT1220V32XYZ: 32 V dc/6.9 A MENT1220V48XYZ: 48 V dc/4.6 A

Particulars: test item vs. test requirements	
Equipment mobility	transportable
Operating condition	continuous
Mains supply tolerance (%)	+6%, -10%
Tested for IT power systems	Yes
IT testing, phase-phase voltage (V)	230
Class of equipment	Class I (earthed) and Class II (double insulated)
Mass of equipment (kg)	1.3
Protection against ingress of water	IP X1

Possible test case verdicts:	
- test case does not apply to the test object	N / A
- test object does meet the requirement	Pass
- test object does not meet the requirement	Fail (acceptable only if a corresponding, less stringent national requirement is "Pass")

General remarks:

- "(see Enclosure #)" refers to additional information appended to the Test Report
- "(see appended table)" refers to a table appended to the Test Report
- Throughout the Test Report a point is used as the decimal separator

GENERAL PRODUCT INFORMATION:	
CA1.0	**Report Summary**
CA1.1	N/A
CB1.0	**Product Description**
CB1.1	Switching Power Supply
CC1.0	**Model Differences**
CC1.1	The models differ in output ratings which requires different turns and gage in transformers T301 & T302 and secondary circuitry component values to accommodate the rated output. Other differences are output cable/connector, AC inlet options for Class I and Class II and non-safety related customer options. In addition, the output + or - may be connected to ground/heatsink for Model MENT1220VWXFZ.
CD1.0	**Additional Information**
CD1.1	N/A
CE1.0	**Technical Considerations**
CE1.3	The means of connection to the mains supply is: Detachable power cord
CE1.4	The product is intended for use on the following power systems: IT, TN and TT
CE1.5	The equipment disconnect device is considered to be: Appliance inlet
CE1.7	The product was investigated to the following additional standards: IEC 60950-1:2001, First Edition inclusive of CENELEC Common Modifications. EN 60950-1:2001 + A11:2004 (which includes all European national differences, including those specified in this test report). IEC 60529, (2001) Edition 2.1.
CE1.12	The following were investigated as part of the protective earthing/bonding: Appliance inlet C14.
CE1.14	The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual, Schematic Diagrams
CF1.0	**Engineering Conditions of Acceptability**
CF1.1	For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc. When installed in an end-product, consideration must be given to the following:
CF1.5	The following secondary output circuits are SELV: All
CF1.6	The following secondary output circuits are at hazardous energy levels: All
CF1.12	The maximum investigated branch circuit rating is: 20 A
CF1.13	The investigated Pollution Degree is: 2
CF1.18	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℃): T301 and T302 (Class B)
CF1.20	The following components require special consideration during end-product Thermal (Heating) tests due to the indicated maximum temperature measurements during component-level testing: 40 ℃

DEMKO CERTIFICATE

Certificate No.	150523-01
Page	1/3
Date of Issue	2010-04-23
Certificate Holder	SL POWER ELECTRONICS CORP BLDG A, 6050 KING DR VENTURA CA 93003, USA
Manufacturer	SL POWER ELECTRONICS CORP BLDG A, 6050 KING DR VENTURA CA 93003, USA
Production site	SL POWER ELECTRONICS XIANGHE ANPING ECONOMIC & TECH DEVELOPING ZONE XIANGHE, HEBEI 065402 CHINA
Certified Product	Power Supply
Model	MENT1220VWXYZ
Trademark	None
Rated Voltage / Frequency	100-240 V~, 50-60 Hz
Rated Current / Power	2.5-1.2 A
Insulation Class	-
Degree of protection (IP)	X1
Tested acc. to	EN 60950-1:2001 + A11:2004
Test Report No.	E136791-A19-CB-1 issue date 2010-04-19
Additional	See appendix
Expire date	2010-12-01

Certification Manager
Jan-Erik Storgaard

The product and production sites listed on the certificate comply with the D-mark requirements and the UL Global Service Agreement, with reference to Terms and Conditions for the D mark. The Owner of the certificate is entitled to use the δ or for cables ⧏DEMKO⧐, for the products listed on the certificate and manufactured at the production sites listed. UL has to be informed in writing about any changes to the product or production site in accordance with the Term and Conditions of the D mark. The validity of the certificate is shortened if the EU legislation require re-testing and re-certification due to new standards or amendments coming into force before the expiry date.

Certification Body
UL International Demko A/S, Lyskaer 8, P.O. Box 514, DK-2730 Herlev, Denmark, Tel. +45 44 85 65 65, info.dk@dk.ul.com
www.ul-europe.com

Appendix DEMKO CERTIFICATE

Additional :

Type kye : where V represents the generational differences which may be any letter from A thru Z; W represents the output voltage which may be any number from 12, 15, 18 or any number from 24 thru 48; X represents the output cable and connector which may be any two alphanumeric digits; Y represents the AC inlet connector which may be the letter F, N, or Q; F for C14 type AC inlet (Class I), N for C8 type AC inlet (Class II), Q for C18 type AC inlet (Class II); and Z represents non-safety related customer options which may be any two alphanumeric digits.

Output:
48 V maximum,
15 A maximum,
220 W optional,
or see below for standard output models.
MENT1220V12XYZ: 12 V dc/15 A
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MENT1220V24XYZ: 24 V dc/9.2 A
MENT1220V28XYZ: 28 V dc/7.9 A
MENT1220V32XYZ: 32 V dc/6.9 A
MENT1220V48XYZ: 48 V dc/4.6 A

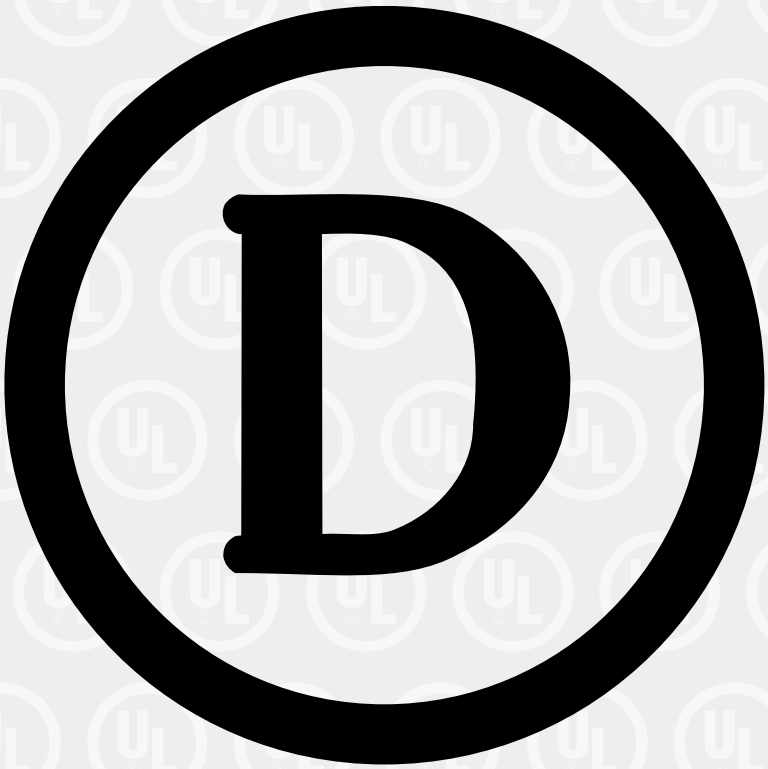
The certificate has been issued on the basis of CB certificate (CB Test certificate) No. US/14949/UL, issued by Underwriters Laboratories Inc, dated 2010-04-19

Certification Body

UL International Demko A/S, Lyskaer 8, P.O. Box 514, DK-2730 Herlev, Denmark, Tel. +45 44 85 65 65, info.dk@dk.ul.com
www.ul-europe.com

Appendix DEMKO Certificate

Certification Mark	**D-mark**
Certificate No.	150523-01
Page	3/3
Date of Issue	2010-04-23



Certification Body

UL International Demko A/S, Lyskaer 8, P.O. Box 514, DK-2730 Herlev, Denmark, Tel. +45 44 85 65 65, info.dk@dk.ul.com
www.ul-europe.com