

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME	SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC
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CB TEST CERTIFICATE	CERTIFICAT D'ESSAI OC
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<p>Product Produit</p> <p>Name and address of the applicant Nom et adresse du demandeur</p> <p>Name and address of the manufacturer Nom et adresse du fabricant</p> <p>Name and address of the factory Nom et adresse de l'usine</p> <p><small>Note: When more than one factory, please report on page 2 Note: Lorsque il y plus d'une usine, veuillez utiliser la 2^{eme} page</small></p> <p>Ratings and principal characteristics Valeurs nominales et caractéristiques principales</p> <p>Trademark (if any) Marque de fabrique (si elle existe)</p> <p>Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur</p> <p>Model / Type Ref. Ref. De type</p> <p>Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2^{eme} page</p> <p>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</p> <p>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</p> <p>This CB Test Certificate is issued by the National Certification Body Ce Certificat d'essai OC est établi par l'Organisme National de Certification</p>	<p>Power Supply</p> <p>SL POWER ELECTRONICS CORP BLDG A, 6050 KING DRIVE VENTURA CA 93003, USA</p> <p>SL POWER ELECTRONICS CORP BLDG A, 6050 KING DRIVE VENTURA CA 93003, USA See Page 2</p> <p>Input: 100-240 V~, 50-60 HZ, 2.5-1.2 A Output: See Test Report - Enclosure Marking Plate for output ratings. None</p> <p>SMT</p> <p>MENT1220VWXFZ, See Page 2</p> <p>This CB Test Report comprises 2 enclosures.</p> <p>IEC 60601-1(ed.3)</p> <p>E116994-A71-CB-1 issued on 2011-12-16</p>
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Ref. Certif. No.

US-18244-UL

Model Details:

MENT1220VWXFZ, MENT1220VWXQZ, and MENT1220VWXNZ 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; 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.

MENT1220A2400F05.

Factories:

SL POWER ELECTRONICS XIANGHE
NO. 4, SHUANGXING NORTH ROAD
XIANGHE ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE
XIANGHE COUNTY, HEBEI PROVINCE, CHINA

Additional Information:

Additional evaluation to CENELEC Common Modifications also included.
See Test Report for National Differences.

Additional information (if necessary)

Information complémentaire (si nécessaire)



Date: 2011-12-16

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
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Signature:

Jolanta M. Wroblewska

UL TEST REPORT AND PROCEDURE

Standard:	ANSI/AAMI ES60601-1:2005, 3rd ed. (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance)
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8 (Power Supplies, Medical and Dental)
Product:	Power Supply
Model:	MENT1220VWXFZ, MENT1220VWXQZ, and MENT1220VWXNZ 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; 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. MENT1220A2400F05.
Rating:	Input: 100-240 V~, 50-60 Hz, 2.5-1.2 A Output: See Enclosure, Marking Plate, for output ratings.
Applicant Name and Address:	SL POWER ELECTRONICS CORP BLDG A 6050 KING DRIVE VENTURA CA 93003 UNITED STATES

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.

Prepared by: Tom Scheuffele
Underwriters Laboratories Inc.
Glenn Luchen
Reviewed by: Underwriters Laboratories Inc.




Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
 - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
 - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
 - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

MENT1220VWXFZ (Class 1 type) and MENT1220VWXQZ, and MENT1220VWXNZ (Class II type) are enclosed AC/DC component power supplies intended for use with end-product equipment used in a hospital or related health care facility environment.

Model Differences

The models differ in output ratings which require 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.

Model MENT1220A2400F005 (Class I unit) is identical to Models MENT1220VWXFZ (Class I), except it has an AC switch, and a different appliance inlet.

Technical Considerations

- Classification of installation and use : Desktop and/or Portable
- Device type (component/sub-assembly/ equipment/ system) : Component, Power Supply
- Intended use (Including type of patient, application location) : To supply regulated power to end products.
- Mode of operation : Continuous
- Supply connection : Appliance coupler
- Accessories and detachable parts included : None
- Other options include : None
- The product was investigated to the following additional standards:: The product was investigated to the following additional standards: ANSI/AAMI ES60601-1:2005/C1:2009 (includes National Differences for USA); CAN/CSA-C22.2 No. 60601-1:08 (includes National Differences for Canada), EN 60601-1:2006., ,
- The product was not investigated to the following standards or clauses:: Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product: Clause 4.2 (Risk Management), Clause 7.5 (Safety Signs), Clause 7.9 (Accompanying Documents), Clause 9 (ME Hazard), Clause 10 (Radiation), Clause 14 (PEMS), Clause 16 (ME Systems).
- The degree of protection against harmful ingress of water is:: IPX1 (All models, except MENT1220A2400F05); Ordinary (MENT1220A2400F05),
- The mode of operation is:: Continuous
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen

or with nitrous oxide:: No

- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No
- Manufacturer's Recommended Ambient: 40°C
- The product is Classified only to the following hazards: Casualty, Fire, Shock
- Power Supply was considered Overvoltage Category II (OVCI)

Engineering Conditions of Acceptability

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:

- The component shall be installed in compliance with the Marking (clause 7) and Separation (clause 8) requirements of the end use application.
- Consideration should be given to measuring the temperature on power electronic components and transformer windings when the power supply is installed in the end-use equipment. The end use product shall ensure that the power supply is used within its ratings.
- Transformers (T301 and T302) are provided with a Class B (130°) insulation system.
- The external surfaces measured on the enclosure were less than 86 deg. C. The end product Risk Management Process to determine the acceptability criteria.
- The end product should ensure that the requirements related to accompanying documents, clause 7.9, are met.
- This power supply has been evaluated as continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anaesthetic mixture with air, oxygen, or nitrous oxide. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions.
- End product Risk Management Process to include consideration of requirements specific to the Power Supply.
- End product Risk Management Process to consider the acceptability of risk for the following components that were identified as High-Integrity Components: Fuse (F101) (F102), Optocoupler

(PC101) (PC301).

- Single fault testing was conducted without dielectric breakdown, however end product Risk Management Process to consider the need for simultaneous fault condition testing.
- End product Risk Management Process to consider the need for different orientations of installation during testing.
- Humidity testing was conducted, however the end product Risk Management Process to determine risk acceptability criteria.
- Temperature Test was conducted without Test Corner. End product to determine the acceptability of risk with respect to insulation's resistance to heat, moisture, and dielectric strength per 8.8.4.
- End product to determine the acceptability of risk in conjunction to the selection of components as it pertains to the intended use, essential performance, transport, storage conditions as part of the power supply.
- Leakage current testing should be considered in the end product application.
- Power supply output exceeds the energy limit (240 VA) per 8.4.2.c and considered Hazardous Energy. Accessibility and compliance to be determined in the end-product evaluation.
- The expected service life of this product is 5 years.
- Both Line and Neutral of the power supplies are fused.
- Models MENT1220VWXNZ and MENT1220VWXQZ series are Class II products, the need for IEC symbol 60417-5172 should be considered in the end use product.
- For Class I configuration, Two MOOP is provided between primary and secondary, and between primary and plastic outer enclosure; One MOOP is provided between primary and earth (chassis); One MOOP is provided between secondary and earth. In addition, the power supply was evaluated with either the output (+) or (-) connected to ground/heatsink.
- For Class II configuration, Two MOOP is provided between primary and secondary, and between primary and plastic outer enclosure; One MOOP is provided between primary and chassis; One MOOP is provided between secondary and chassis.

Additional Information

The schematics for these models are kept in file at the CB Testing Laboratory mentioned in the first page of this test report, and can be provided by the manufacturer upon request by NCB's/CBTL's.

When submitting this Test Report to other Certification Body, the manufacturer is responsible for providing



any additional information that the Body may need in order to issue its Mark, including testing for compliance with the applicable collateral standards.

The Electrical and Nameplate Labels are representative of all models in the series. The Marking Plate, Optional 220 W reference not shown.

This report is a reissue of CBTR Ref. No.: E116994-A52-CB-1-Amendment 3, CB Test Certificate Ref. No. US-14532-A3-UL. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, has been determined that the product continues to comply with the standard.

All required tests were carried out under the original investigation.

Markings and instructions

Clause Title	Marking or Instruction Details
Company identification	Classified or Recognized company's name, Trade name, Trademark or File
Model	Model number
Class II equipment	
Alternating current	
Power Input	Amps, VA, or Watts
IP Rating	IPX1,, except Model MENT1220A2400F05
Fuses	Ratings (current and voltage) and type. (located adjacent to fuse OR as a diagram inside enclosure)
Class II Mark	Only for Models with Q and N suffix designations.

Special Instructions to UL Representative

N/A

Production-Line Testing Requirements			
Test Exemptions - The following models are exempt from the indicated test			
Model	Grounding Continuity	Dielectric Voltage Withstand	Patient Circuit Dielectric Voltage Withstand
MENT1220VWXFZ (Class I series)	Test	Test	Exempt
MENT1220VWXQZ, MENT1220VWXNZ (Class II series)	Exempt	Test	Exempt
Solid-State Component Test Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during either Dielectric Voltage Withstand Test:			
Component			
N/A			
Sample and Test Specifics for Follow-Up Tests at UL			
The following tests shall be conducted in accordance with the Generic Inspection Instructions			
Plastic Enclosure or Part	Test	Sample(s)	Test Specifics
N/A			

DEMKO CERTIFICATE

Certificate No.	D-00766
Page	1/3
Date of Issue	2011-12-16
Certificate Holder	SL POWER ELECTRONICS CORP BLDG A, 6050 KING DRIVE VENTURA CA 93003, USA
Manufacturer	SL POWER ELECTRONICS CORP BLDG A, 6050 KING DRIVE VENTURA CA 93003, USA
Production site	See Page 2
Certified Product	Power Supply
Model	MENT1220VWXFZ, See Page 2
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)	-
Tested acc. to	EN 60601-1:2006
Test Report No.	E116994-A71-CB-1 issued on 2011-12-16
Additional	Output: See Test Report - Enclosure Marking Plate for output ratings.
Expire date	2021-12-16

Certification Manager

Jan-Erik Storgaard

Certification Body

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 d 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.

UL International Demko A/S, Borupvang 5A, DK-2750
Ballerup, Denmark, Tel. +45 44 85 65 65, info.dk@dk.ul.com
www.ul-europe.com

Appendix DEMKO CERTIFICATE

Certificate No. D-00766
Page 2/3
Date of Issue 2011-12-16

Model Details:

MENT1220VWXFZ, MENT1220VWXQZ, and MENT1220VWXNZ

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; 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.

MENT1220A2400F05.

Production Sites:

SL POWER ELECTRONICS XIANGHE
NO. 4, SHUANGXING NORTH ROAD
XIANGHE ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE
XIANGHE COUNTY, HEBEI PROVINCE, CHINA

Additional Information:

This certificate replaces the certificate No. D-00023, dated 2011-03-23

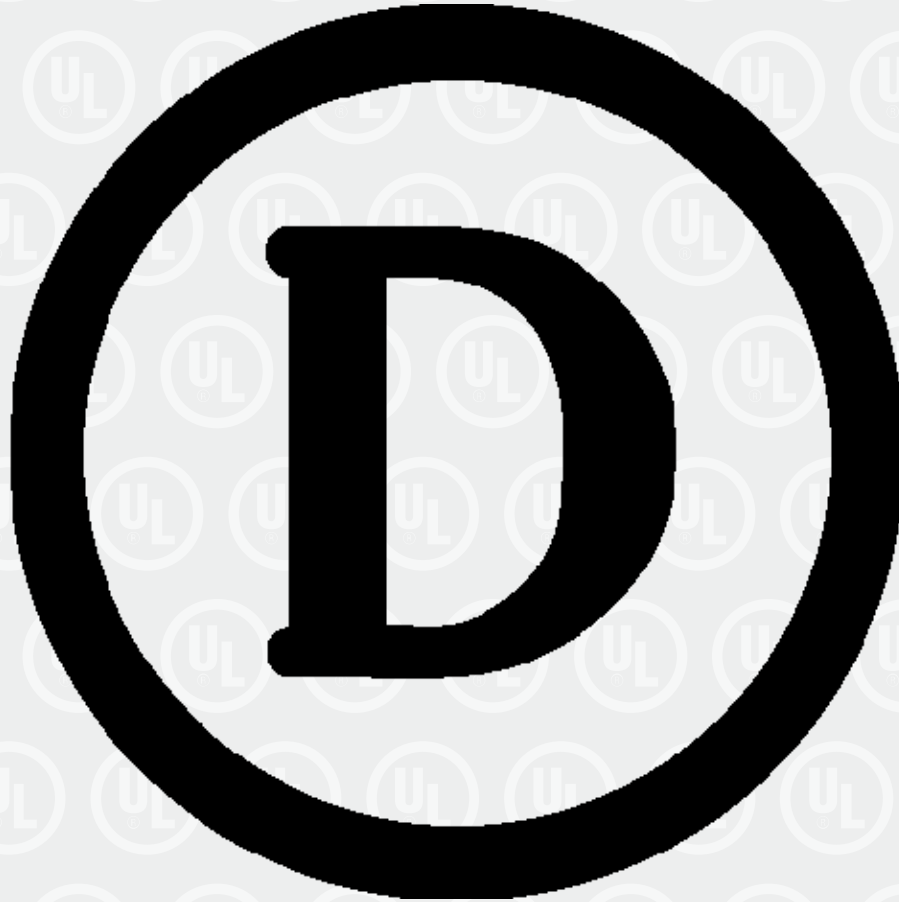
UL International Demko A/S has issued a new certificate due to standard upgrade.

Certification Body

UL International Demko A/S, Borupvang 5A, DK-2750
Ballerup, 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.	D-00766
Page	3/3
Date of Issue	2011-12-16



Certification Body

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