

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

Component - Power Supply

Name and address of the applicant  
Nom et adresse du demandeur

SL Power Electronics Corp.  
6050 King Drive, Bldg. A  
Ventura, CA 93003, USA

Name and address of the manufacturer  
Nom et adresse du fabricant

SL Power Electronics Corp.  
6050 King Drive, Bldg. A  
Ventura, CA 93003, USA

Name and address of the factory  
Nom et adresse de l'usine

Ault (Xianghe) Co Ltd  
Anping Development Zone  
Xianghe County, Hebei Province, China

Rating and principal characteristics  
Valeurs nominales et caractéristiques principales

Input: 100-240 Vac, 50-60 Hz, 1.4 A  
Output: MINT1110A1208K01 Series - Rated 12 Vdc, 7.5 A  
MINT1110A1508K01 Series - Rated 15 Vdc, 6.5 A, MINT1110A1808K01 Series - Rated 18 Vdc, 5.8 A  
MINT1110A1908K01 Series - Rated 19 Vdc, 5.8 A, MINT1110A2408K01 Series - Rated 24 Vdc, 4.6 A

Trademark (if any)  
Marque de fabrique (si elle existe)



Model / Type Ref.  
Ref. de type

MINT1110AXYZ Series, where: MINT is Medical Internal Model, 1 is the number of outputs, 110 is the Output Wattage i.e. 110 W, A: is any Alpha character A-Z which indicates changes not related to Safety, X: is a 2 digit numeric character that represents the Output Voltage. Voltage Range is 12-24Vdc. Y: Output Connector Options K: Input Connector Options Z: Configuration: 01 is Standard, 02-99 Modifications which have no impact on Safety.

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

The CB Test Report comprises 8 enclosures.

**PUBLICATION**

**EDITION**

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

**IEC 60601-1 (1988) Second Edition, with Amendment No. 1 (1991) and No. 2 (1995)** with the exception of: Clause 36, Electromagnetic Compatibility, Clause 48, Biocompatibility and Clause 52.1, Programmable Electronic Systems. Inclusive of CENELEC Common Modifications. See Test Report for National Differences

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

E116994-A48-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

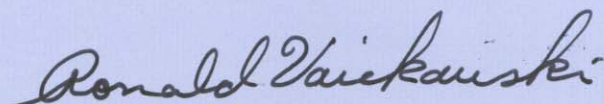


**Underwriters  
Laboratories**

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Date: Issued: 2009 April 13

Signature:



Ronald Vaickauski

## SPECIFIC TECHNICAL CRITERIA

<p><b>TEST REPORT</b>  <b>UL 60601-1</b>  <b>Medical Electrical Equipment</b>  <b>Part 1: General requirements for safety</b></p>	
Report Reference No .....	E116994-A48-UL-1
Compiled by .....	Ahmad Daoudi
Reviewed by .....	Elizabeth Drew
Date of issue .....	2009-04-10
Standards .....	UL 60601-1, 1st Edition, 2006-04-26 (Medical Electrical Equipment, Part 1: General Requirements for Safety) CAN/CSA-C22.2 No. 601.1-M90, 2005 (Medical Electrical Equipment - Part 1: General Requirements for Safety)
Test procedure .....	Component Recognition
Non-standard test method .....	N/A
<b>Test item</b> description .....	Component - Power Supply
Trademark .....	
Model and/or type reference .....	MINT1110AXYKZ Series Where: MINT is Medical Internal Model, 1 is the number of outputs, 110 is the Output Wattage i.e. 110 W, A: is any Alpha character A-Z which indicates changes not related to Safety, X: is a 2 digit numeric character that represents the Output Voltage. Voltage Range is 12-24Vdc. Y: Output Connector Options K: Input Connector Options Z: Configuration: 01 is Standard, 02-99 Modifications which have no impact on Safety
Rating(s) .....	Input: 100-240Vac, 50-60Hz, 1.4A  Output: MINT1110A1208K01 Series - Rated 12Vdc, 7.5A MINT1110A1508K01 Series - Rated 15Vdc, 6.5A MINT1110A1808K01 Series - Rated 18Vdc, 5.8A MINT1110A1908K01 Series - Rated 19Vdc, 5.8A MINT1110A2408K01 Series - Rated 24Vdc, 4.6A

<b>GENERAL INFORMATION</b>		
<b>Test item particulars (see also clause 5):</b>		
Classification of installation and use .....	For building-in	
Supply connection .....	Header type connector for internal wiring	
Accessories and detachable parts included in the evaluation .....	None	
Options included .....	None	
<b>Possible test case verdicts:</b>		
- 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) (acceptable only if a corresponding, less stringent national requirement is "Pass")	
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
<b>General remarks:</b>		
- "(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		

<b>General Product Information:</b>	
CA1.0	<b>Report Summary</b>
CA1.1	N/A
CB1.0	<b>Product Description</b>
CB1.1	<p>The MINT1110 Series are open-frame AC/DC power supplies, designed for building-in.</p> <p>MINT 1110 A X Y K Z Series Model Number Guide</p> <p>MINT: Medical Internal Model number prefix.                      1: Signifies number of outputs: 1                      110: Output wattage= 110 W.                      A: Signifies generational differences, not evaluated by UL or related to safety, such as energy star level changes, EMC level changes; may be any letter from A to Z.                      X: Output voltage: Numeric indicator from 12 to 24; i.e. 12 = 12 Vdc                      Y: Output connector options</p>

	K: Input connector options Z: Configuration: 01 = standard, 02-99 for modifications, which has no impact on safety	
<b>CC1.0</b>	<b>Model Differences</b>	
CC1.1	The power supplies in the MINT1110 Series are similar to each other, and differ only in minor component changes in the secondary circuit and the number for windings for T1 to accommodate for the different output voltages.  Model MINT1110A1908K01 (19 Vdc Output version) is similar to the other Models, except the transformer has an insulation system rated Class F (155C). All other models utilize a Class B (130C) insulation system for the transformer assembly.	
<b>CD1.0</b>	<b>Additional Information</b>	
CD1.1	Electrical Schematics are not provided in this report, in accordance with the Applicant's request. The electrical schematics can be obtained from the Applicant upon request.	
<b>CE1.0</b>	<b>Technical Considerations</b>	
CE1.1	The product was investigated to the following additional standards:	CAN/CSA-C22.2 No. 601.1-M90 (R2005) (includes National Differences for Canada), UL 60601-1, 1st Edition, 2006-04-26 (includes National Differences for USA), EN 60601-1: 1990 + A1:1993 + A2:1995 + A13:1996, IEC 60601-1
CE1.2	The product was not investigated to the following standards or clauses:	Clause 52.1, Programmable Electronic Systems (IEC 601-1-4), Clause 48, Biocompatibility (ISO 10993-1), Clause 36, Electromagnetic Compatibility (IEC 601-1-2)
CE1.4	The degree of protection against harmful ingress of water is:	Ordinary
CE1.5	The following accessories were investigated for use with the product:	None
CE1.6	The mode of operation is:	Continuous
CE1.7	Software is relied upon for meeting safety requirements related to mechanical, fire and shock:	No
CE1.8	The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:	No
<b>CF1.0</b>	<b>Engineering Conditions of Acceptability</b>	
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:	
CF2.0	This power supply has been evaluated as Class I, continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.	--
CF2.1	This component has been judged on the basis of the required spacings in the First Edition of the Standards for Medical Equipment, Part 1: General Requirements for Safety, UL60601-1 and CSA 22.2 No. 601.1, which covers the end use product for which the component is designed.	--
CF2.2	The component shall be installed in compliance with the enclosure, mounting, spacings, casualty markings and segregation requirements of the end-use application.	--
CF2.3	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.	--
CF2.4	The input/output connectors are not acceptable for field connection; they are only intended for connection to mating connectors of internal wiring inside the end-use machine. the output circuits have not been evaluated for direct patient connection (Type B, BF or CF).	--
CF2.5	The component should be properly bonded to the ground in the end-use equipment.	--
CF2.6	Leakage Current testing should be repeated in the end-product application.	--
CF2.7	The Power Transformer (T1) on the 12, 15, 18 and 24 V models comply with Class B (130C) limits.	--
CF2.8	The Power Transformer (T1) on the MINT1110A1908K01 comply with Class F (155C) limits.	--