



Ref. Certif. No.

US/8146/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

DC Power Supplies

Name and address of the applicant
Nom et adresse du demandeur

Condor D C Power Supplies Inc.
2311 Statham Pky
Oxnard, CA 93033, USA

Name and address of the manufacturer
Nom et adresse du fabricant

Condor D C Power Supplies Inc.
2311 Statham Pky
Oxnard, CA 93033, USA

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

1. Industrias S L S A de C V, Costa Rica #60, Col Cuahutemoc Mexicali, Baja California N, Mexico
2. Flash Electronics Inc, (Shanghai) W E D Z
2 Gutang Rd, Wujiang City, Suzhou Jiangsu, China

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

Input: 100-240 V ac, 1.4 A, 50/60 Hz
See CB Test Report for output ratings.

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

CONDOR

Model / Type Ref.
Ref. de type

GLM50 Series, which consists of both Multiple and Single Output models. Multi-output models are referred to as GLM50 followed by suffix A, B, D, G. Single output models are referred to as GLM50-X where X indicates the output voltage and may be any number from 3.3 to 28. Models may or may not be followed by -101 or -102, and/or -C where -101 indicates improved EMI, -102 indicates different output connector with wiring, and -C indicates chassis & cover option.

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

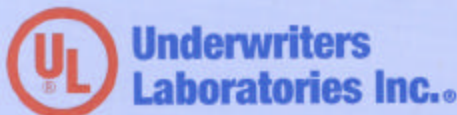
PUBLICATION EDITION

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 (IEC 601-1-4), 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-A11-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 Inc. / Certification Programs Office
333 Pfingsten Road, Northbrook, IL 60062-2096
United States of America
TEL INT* 1-847-272-8800, Ext. 43008 FAX INT* 1-847-272-9562
email: jolanta.m.wroblewska@us.ul.com

Date:
Issued: 2004 March 29

Signature:



Certificate of Compliance

Certificate: 1256604 (LR 46516C)

Master Contract: 150684

Project: 1546772

Date Issued: 2004/04/23

Issued to: **Condor D.C. Power Supplies Inc.**

2311 Statham Pky
Oxnard, California 93033
USA
Attention: Mr. Dan Mitchell

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US'



Issued by: Mohamed Omran, P. Eng.

Authorized by: Shane Stevenson, Product Group Manager

PRODUCTS

Component Power Supplies for use in Medical Equipment, where the suitability of the combination is to be determined by CSA International.

· Models GLM50-X where X represents the output voltage, which may be any number from 3.3 thru 28. Models may be followed by suffix -101 or -102, and/or -C where -101 indicates improved EMI, -102 indicates different output connector with wiring, and -C indicates chassis & cover option.

Input: 100-240 V ac, 50/60 Hz, 1.4 A

The 'C' and 'US' indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/UL Standards, for use in Canada and the U.S., respectively. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.



Certificate: 1256604 (LR 46516C)

Master Contract: 150684

Project: 1546772

Date Issued: 2004/04/23

Output: 3.3 thru 28 V, 8 thru 1.8 A, overall classification L3M1

26.4 W maximum for output voltages from 3.3 thru 4.8 V

40 W maximum for output voltages from 4.9 thru 11.4 V

50 W maximum for output voltages from 11.5 thru 28 V

· Model GLM50A, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +5.05 V/4 A, +12 V/2.5 A, -12 V/0.2 A; 50 watts maximum continuous total output power.

· Model GLM50B, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +5.05 V/4 A, +15 V/2.5 A, -15 V/0.2 A; 50 watts maximum continuous total output power.

· Model GLM50D, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +5.05 V/4 A, +24 V/1.5 A, -12 V/0.2 A; 50 watts maximum continuous total output power.

· Model GLM50G, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +3.3 V/4 A, +12 V/2.5 A, -12 V/0.2 A.

· Model GLM50-12-101, input rated 100-240 V ac, 50/60 Hz, 1.4 a; dc outputs rated overall classification L3M1, +12 V/4.16 A; 50 W maximum continuous total output power.

Notes:

1. Maximum ambient temperature for rated output power is 50°C.
2. -C option requires 12 CFM minimum airflow for full rated power.
3. Model designation GLM50-12-101 may be followed by suffix '-C' which indicates chassis and cover option.

APPLICABLE REQUIREMENTS

CAN/CSA Standard C22.2 No. 601.1-M90 - Medical Electrical Equipment

UL Standard 60601-1, 1st Edition - Medical Electrical Equipment, Part 1: General Requirements for Safety



Supplement to Certificate of Compliance

Certificate: 1256604

Master Contract: 150684

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
1546772	2004/04/23	Update Report 1256604 to Add New Model Designation, Alternative transformer Construction and Upgrade to UL 60601-1, 1st Ed.

History

1256604	2001/11/16	Original Certification. (Reissued Report LR 46516-290C).
---------	------------	----------------------------------------------------------

MASTER CONTRACT: 150684

REPORT: 1256604 (LR 46516C)

PROJECT: 1546772

Edition 1: November 16, 2001; Project 1256604 - Vancouver
Issued by Vincent Un, B.Sc.;
Reviewed by Brad Clasby, Technologist and Orest Ewanchyna, P. Eng.

Edition 2: **April 16, 2004; Project 1546772 - Vancouver**
Issued by Mohamed Omran, P. Eng.;
Reviewed by John Chiang, P. Eng.

Pages Replaced: All (Report Updated and Reissued)

Contents: Certificate of Compliance - Pages 1 to 2
Supplement to Certificate of Compliance - Page 1
Description and Tests - Pages 1 to 14
Figures (Photo) Figure 1
Illustration - 1 (Schematic) Pages 1 to 13
Illustration - 2 (PWB Layouts) Pages 1 to 3
Illustration - 3 (Installation Instructions) 1 to 4

PRODUCTS

CLASS 5311 20 - POWER SUPPLIES - For Use in Medical Equipment

CLASS 5311 96 - POWER SUPPLIES - Component Acceptance - Certified to U.S. Standards

Component Power Supplies for use in Medical Equipment, where the suitability of the combination is to be determined by CSA International.

- Models GLM50-X where X represents the output voltage, which may be any number from 3.3 thru 28. Models may be followed by suffix -101 or -102, and/or -C where -101 indicates improved EMI, -102 indicates different output connector with wiring, and -C indicates chassis & cover option.

Input: 100-240 V ac, 50/60 Hz, 1.4 A
Output: 3.3 thru 28 V, 8 thru 1.8 A, overall classification L3M1
26.4 W maximum for output voltages from 3.3 thru 4.8 V
40 W maximum for output voltages from 4.9 thru 11.4 V
50 W maximum for output voltages from 11.5 thru 28 V

This report shall only be reproduced in full, otherwise, written permission of CSA International is required.

13799 Commerce Parkway, Richmond, BC, Canada V6V 2N9

Telephone: 604.273.4581 1.800.463.6727 Fax: 604.244.6600 www.csa-international.org

- Model GLM50A, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +5.05 V/4 A, +12 V/2.5 A, -12 V/0.2 A; 50 watts maximum continuous total output power.
- Model GLM50B, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +5.05 V/4 A, +15 V/2.5 A, -15 V/0.2 A; 50 watts maximum continuous total output power.
- Model GLM50D, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +5.05 V/4 A, +24 V/1.5 A, -12 V/0.2 A; 50 watts maximum continuous total output power.
- Model GLM50G, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +3.3 V/4 A, +12 V/2.5 A, -12 V/0.2 A.
- **Model GLM50-12-101, input rated 100-240 V ac, 50/60 Hz, 1.4 A; dc outputs rated overall classification L3M1, +12 V/4.16 A; 50 W maximum continuous total output power.**

Notes:

1. Maximum ambient temperature for rated output power is 50°C.
2. -C option requires 12 CFM minimum airflow for full rated power.
3. **Model designation GLM50-12-101 may be followed by suffix '-C' which indicates chassis and cover option.**

APPLICABLE REQUIREMENTS

CAN/CSA Standard C22.2 No. 601.1-M90 - Medical Electrical Equipment
UL Standard 60601-1, 1st Edition - Medical Electrical Equipment, Part 1: General Requirements for Safety

CONDITIONS OF ACCEPTABILITY

1. This component has been judged on the basis of the required spacings in the Standard for Medical Electrical equipment, Part 1: General Requirements for Safety, CAN/CSA-C22.2 No. 601.1-M90 and UL 2601-1, which covers the end-use product for which the component is designed.
2. The enclosure provided with this equipment does not meet the applicable requirements for Fire or Electrical enclosures. Suitable enclosure to be provided in the end-use equipment.
3. The input/output connectors are not acceptable for field connections, they are only intended for connection to mating connectors of internal wiring inside the end-use equipment.
4. The main isolation transformer (T2) is provided with Class F insulation.
5. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
6. The power supply has been evaluated for patient care equipment, but not patient connected.

7. The temperature tests were performed in a raised ambient of 50°C.
8. The power supply was evaluated for Reinforced insulation between primary and secondary, and Basic insulation between primary and ground, based on min 250 V ac.
9. The power supply has been evaluated as Class I equipment, 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.
10. Under normal and single fault conditions, the outputs do not exceed 25 V ac or 60 V dc.
11. The internal fuse is located in the phase lead only. CAN/CSA-C22.2 No. 601.1-M90 and UL 60601-1 require that both supply leads (phase and neutral) be protected against overcurrent except for permanently installed equipment. Complete overcurrent protection must be provided in the end-use equipment. Fuse ratings must not exceed that specified for the internal fuse.

MARKINGS

A CSA Mark with C/US indicator, adjacent to the submitter's name and/or File No "LR 46516" or Master Contract No "150684", model designation, complete electrical rating in volts and amperes, and a date code or serial number traceable to the month and year of manufacture, and location.

ADDITIONAL MARKINGS

The following markings are provided on an installation instruction sheet:

- (a) A statement of output ratings and maximum output power.
- (b) Safety declaration/certification.
- (c) The fuse type (e.g. time delay) and ratings (in volts and amperes), adjacent to fuse.

ALTERATIONS

Markings, as described above.

FACTORY TEST

Production-Line Dielectric Voltage-Withstand Test: Clause 5.3.2

- (a) Only ac values are specified. As an alternative, the equivalent dc voltage (1.414 times the ac voltage) may be used.
- (b) The factory test may be done at existing room temperature.

For Grounded Units (Class I or Class 2) Rated Above 130V and Up To 250V: The equipment at the conclusion of manufacture, before shipment, shall withstand for one sec, without breakdown, the application of 1500V ac between live parts and exposed non-current-carrying metal parts.

COVER PAGE FOR TEST REPORT

Test Item Description:	DC Power Supplies
Model/Type Reference:	GLM50 Series which consists of both Multiple and Single Output models. Multi-output models are referred to as GLM50 followed by suffix A, B, D, G. Single output models are referred to as GLM50-X where X indicates the output voltage and may be any number from 3.3 to 28. Models may or may not be followed by -101 or -102, and/or -C where -101 indicates improved EMI, -102 indicates different output connector with wiring, and -C indicates chassis & cover option.
Rating(s):	Input: 100-240 V ac, 1.4 A, 50/60 Hz Output Ratings: GLM50A, 50 Watts max, 5.05 V/4 A, +12 V/2.5 A, -12 V/0.2 A GLM50B, 50 Watts max, 5.05 V/4 A, +15 V/2.5 A, -15 V/0.2 A GLM50D, 50 Watts max, 5.05 V/4 A, +24 V/1.5 A, -12 V/0.2 A GLM50G, 50 Watts max, 3.3 V/4 A, +12 V/2.5 A, -12 V/0.2 A GLM50-X: 3.3 thru 28 V, 8 thru 1.8 A 26.4 W maximum for output voltages from 3.3 thru 4.8V 40 W maximum for output voltages from 4.9 thru 11.4V 50 W maximum for output voltages from 11.5 thru 28V Maximum output power for -C option requires 12 cfm min. airflow.
Standards:	IEC 60601-1:1988 + A1:1991 + A2:1995
Applicant Name and Address:	CONDOR D C POWER SUPPLIES INC 2311 STATHAM PKY OXNARD CA 93033
Factory Location(s):	INDUSTRIAS S L S A DE C V COSTA RICA #60 COL CUAHUTEMOC MEXICALI BAJA CALIFORNIA N MEXICO FLASH ELECTRONICS INC (SHANGHAI) W E D Z 2 GUTANG RD WUJIANG CITY SUZHOU JIANGSU CHINA

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

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

All applicable tests according to the above standard(s) have been carried out.

Test results are valid only for the tested equipment.

This Test Report can be reproduced on in whole.

Amendments and corrections can be reproduced only with the original CB Test Report.

Written permission from Underwriters Laboratories Inc. is required if the test report is copied in part.

Copyright © 2002 Underwriters Laboratories Inc.

COVER PAGE FOR TEST REPORT

Product Category:	Power Supplies, Medical and Dental
Product Category CCN:	QQHM2, QQHM8
Test Procedure:	Component Recognition
Product:	DC Power Supplies
Model/Type Reference:	GLM50 Series which consists of both Multiple and Single Output models. Multi-output models are referred to as GLM50 followed by suffix A, B, D, G. Single output models are referred to as GLM50-X where X indicates the output voltage and may be any number from 3.3 to 28. Models may or may not be followed by -101 or -102, and/or -C where -101 indicates improved EMI, -102 indicates different output connector with wiring, and -C indicates chassis & cover option.
Rating(s):	Model GLM50-12-101 - with Kapton wound transformer. Input: 100-240 V ac, 1.4 A, 50/60 Hz Output Ratings: GLM50A, 50 Watts max, 5.05 V/4 A, +12 V/2.5 A, -12 V/0.2 A GLM50B, 50 Watts max, 5.05 V/4 A, +15 V/2.5 A, -15 V/0.2 A GLM50D, 50 Watts max, 5.05 V/4 A, +24 V/1.5 A, -12 V/0.2 A GLM50G, 50 Watts max, 3.3 V/4 A, +12 V/2.5 A, -12 V/0.2 A GLM50-X: 3.3 thru 28 V, 8 thru 1.8 A 26.4 W maximum for output voltages from 3.3 thru 4.8V 40 W maximum for output voltages from 4.9 thru 11.4V 50 W maximum for output voltages from 11.5 thru 28V Maximum output power for -C option requires 12 cfm min. airflow. GLM50-12-101: 12 V/4.16 A, 50 W maximum.
Standards:	UL 60601-1, First Edition (2003) CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2
Applicant Name and Address:	CONDOR D C POWER SUPPLIES INC 2311 STATHAM PKY OXNARD CA 93033
This Report includes the following parts, in addition to this cover page: 1. Specific Technical Criteria	

Issue Date: 2004-03-26
Correction 2 2004-07-27

Page 2 of 2

Report Reference #

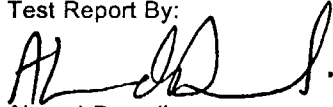
E116994-A11-UL-1

This is to certify that representative samples of the products covered by this Test Report have been investigated by Underwriters Laboratories Inc. ('UL') 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 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.

UL authorizes the applicant 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.

Test Report By:



Ahmad Daoudi

Engineering Project Handler

Reviewed By:



Kent Jones

Staff Engineer

Underwriters Laboratories Inc.

Copyright © 2002 Underwriters Laboratories Inc.

Underwriters Laboratories Inc.

SPECIFIC TECHNICAL CRITERIA

TEST REPORT UL2601-1 Medical Electrical Equipment Part 1: General requirements for safety	
Report Reference No	E116994-A11-UL-1
Compiled by	Ahmad Daoudi
Reviewed by	Kent Jones
Date of issue	2004-03-26
Standards	UL 60601-1, First Edition (2003) CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2
Test procedure	Component Recognition
Non-standard test method	N/A
Test item description	DC Power Supplies
Trademark	CONDOR
Model and/or type reference	GLM50 Series which consists of both Multiple and Single Output models. Multi-output models are referred to as GLM50 followed by suffix A, B, D, G. Single output models are referred to as GLM50-X where X indicates the output voltage and may be any number from 3.3 to 28. Models may or may not be followed by -101 or -102, and/or -C where -101 indicates improved EMI, -102 indicates different output connector with wiring, and -C indicates chassis & cover option. Model GLM50-12-101 - with Kapton wound transformer.
Rating(s)	Input: 100-240 V ac, 1.4 A, 50/60 Hz Output Ratings: GLM50A, 50 Watts max, 5.05 V/4 A, +12 V/2.5 A, -12 V/0.2 A GLM50B, 50 Watts max, 5.05 V/4 A, +15 V/2.5 A, -15 V/0.2 A GLM50D, 50 Watts max, 5.05 V/4 A, +24 V/1.5 A, -12 V/0.2 A GLM50G, 50 Watts max, 3.3 V/4 A, +12 V/2.5 A, -12 V/0.2 A GLM50-X: 3.3 thru 28 V, 8 thru 1.8 A 26.4 W maximum for output voltages from 3.3 thru 4.8V 40 W maximum for output voltages from 4.9 thru 11.4V 50 W maximum for output voltages from 11.5 thru 28V Maximum output power for -C option requires 12 cfm min. airflow. GLM50-12-101: 12 V/4.16 A, 50 W maximum.

GENERAL INFORMATION		
Test item particulars (see also clause 5):		
Classification of installation and use	Permanently installed	
Supply connection	Connector, PCB Locking Header	
Accessories and detachable parts included in the evaluation	None	
Options included	Optional chassis/cover for GLM50 Series.	
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) (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
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	The equipment (DC Power Supplies) covered by this report, are components, which are intended for use in end-product equipment used in a hospital or related health care facility, evaluated to standard for Medical Equipment.
CC1.0	Model Differences
CC1.1	The models are similar. Models differ only in secondary outputs ratings as designated in output electrical ratings, secondary windings of transformer T2, and in secondary components.
CD1.0	Additional Information

CD1.1	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 applicant up on request by CBTL's.	
CE1.0	Technical Considerations	
CE1.1	The product was investigated to the following additional standards:	(except EMC limitations, EN 60601-1-2, Biocompatibility, EN 10993-1, Programmable Electronic Systems, IEC 60601-1-4), EN 60601-1: 1990 + A1:1993 + A2:1995 + A13:1996
CE1.3	The product is Classified only to the following hazards:	Shock, Fire, Casualty
CE1.4	The degree of protection against harmful ingress of water is:	Ordinary
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
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:	

CF1.2	Note: No default COAs exist for 60601	<p>1. This component has been judged on the basis of the required spacings in the First Edition of the Standards for Medical Electrical Equipment, Part 1: General Requirements for Safety, UL/EN/IEC 60601-1 and CSA C22.2 No. 601-1, which covers the end use product for which the component is designed., 2. The component shall be installed in compliance with the enclosure, mounting, spacing, casualty markings and segregation requirements of the end-use application., 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., 4. The input/output connectors are not acceptable for field connections, they are only intended for connection to mating connectors of internal wiring inside the end-use machine., 5. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF)., 6. The component should be properly bonded to ground in the end-use equipment., 7. The Temperature Test was performed in a raised ambient of 50°C., 8. The isolation transformer, T2 complies with Class F (155°C) limits., 9. Leakage current testing should be repeated in the end product application., 10. The power supply was evaluated as Reinforced insulation between primary and secondary; basic insulation between primary to ground and secondary to ground., 11. 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., 12. This product provides fusing in the line input lead only. Need for fusing of the neutral lead should be considered in the end product.,</p>
-------	---------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



America

CERTIFICATE

No. B 08 12 59743 036

Holder of Certificate: SL Power Electronics, Corp.
CONDOR 6050 King Drive Bldg A
Ventura CA 93003
USA

Production Facility(ies): 16784, 52962

Certification Mark:



Product: Switching power supply unit
(Switch Mode Power Supply, for building-in)

Model(s): GLM50X Series, GLM50-X Series, MSPXXXX Series
(For further model information please see attachment)

Parameters:
Input Voltage, AC: 100 - 240 V
Input Frequency: 50 / 60 Hz
Input Current: 1.4 A
Protection Class: I
Output, DC Voltage: model dependent, see attachment
For further information please see attachment.

Tested according to: EN 60601-1/A2:1995

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. The certification mark must not be altered in any way. See also notes overleaf.

Test report no.: 095-200383-100

Date, 2009-01-06
Page 1 of 3





**ATTACHMENT TO CERTIFICATE NO. B 08 12 59743 036
for
SL POWER ELECTRONICS, CORP.**

GLM50X Series, GLM50-X Series, MSP Series

GENERAL PRODUCT INFORMATION:

These power supplies are auto-ranging switch mode power supplies (SMPSs). The power supply units (PSUs) have single output or multiple outputs configurations. The outputs are intended for Protective Earthed Signal Output or Intermediate Circuits only. All outputs are low voltage circuits under normal and single fault conditions.

Primary circuitry, PWB and all the safety critical components for all the models listed are the same. Models differ slightly in secondary components and secondary transformer windings. An optional transformer which utilizes insulated wire may be used.

MODEL NUMBERS:

GLM50X Multi Output Series: Where X may be the letters A, B, D, or G.

GLM50-X Single Output Series: Where X represents the output voltage, which may be any number from 3.3 thru 48.

MSPXXX Series: Where each X = 0 to 9 for custom (Special Purpose) variations of the GLM50 Series units.

All GLM50 Series models may be followed by optional suffixes:

- C indicates chassis/cover option.
- YYY indicates value added options that have no impact on safety which may be any number from 001 thru 999 (e.g. Burn-in processes, Metric Vs SA hardware, Customer Notifications, Customer Harness on Outputs, Customer Number); and/or;
- "G" indicates RoHS version.

GLM50X Multi Output Units

OUTPUT RATINGS

Model ¹	Watts ²	Output #1	Output #2	Output #3
GLM50A	50	+5.05 VDC, 4 A	+12 VDC, 2.5 A	-12 VDC, 0.2 A
GLM50B	50	+5.1 VDC, 4 A	+15 VDC, 2.5 A	-15 VDC, 0.2 A
GLM50D	50	+5.1 VDC, 4 A	+24 VDC, 1.5 A	-12 VDC, 0.2 A
GLM50G	50	+3.3 VDC, 4 A	+12 VDC, 2.5 A	-12 VDC, 0.2 A

Notes:

1. Model may be followed by -C for Chassis & Cover option.
2. -C option requires 24 cfm minimum airflow for full rated output power.
3. Maximum operating ambient is 50°C.
4. Maximum Relative Humidity 96%, no condensation.

GLM50-X Single Output Units

OUTPUT RATINGS

Model	Watts ¹	Output	Model	Watts ¹	Output
GLM50-3.3	26.4	+3.3 VDC, 8 A	GLM50-15	50	+15 VDC, 3.3 A
GLM50-5	40	+5.1 VDC, 8 A	GLM50-24	50	+24 VDC, 2.1 A
GLM50-12	50	+12 VDC, 4.2 A	GLM50-28	50	+28 VDC, 1.8 A

Notes:

1. -C option requires 24 cfm minimum airflow for full rated output power.
2. Maximum operating ambient is 50°C.
3. Maximum Relative Humidity 96%, no condensation.

Report Number: 095-200383-100

Page 2 of 3

Date: 2009-01-06



America

**ATTACHMENT TO CERTIFICATE NO. B 08 12 59743 036
for
SL POWER ELECTRONICS, CORP.**

MSPXXXX Units

OUTPUT RATINGS

MSPXXXX Any voltage from 3.3 to 28 V with maximum output power as specified under the base GLM50 model above.

CONDITIONS OF ACCEPTABILITY (applies to all models):

- 1) A suitable electrical and fire enclosure at end use.
- 2) Maximum operating ambient and humidity shall not exceed 50 °C and 96%, no condensation.
- 3) Maximum total DC output power not to exceed 50 W.
- 4) Grounding Terminal must be connected to reliable earth connection.
- 5) Model with the suffix -C option requires 24 CFM airflow cooling.
- 6) Storage temperature: -40 to +85°C.

Report Number: 095-200383-100

Page 3 of 3

Date: 2009-01-06