



Test Report issued under
the responsibility of:



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

Report Reference No: E135803-A70-CB-2
Date of issue: 2015-09-29
Total number of pages: 22

CB Testing Laboratory: UL Camas
Address: 2600 N.W. Lake Road, Camas, WA, 98607, USA

Applicant's name: SL POWER ELECTRONICS CORP
BLDG A
Address: 6050 KING DR
VENTURA CA 93003
UNITED STATES

Test specification:

Standard: IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013
Test procedure: CB Scheme
Non-standard test method: N/A

Test Report Form No.: IEC60950_1F
Test Report Form originator: SGS Fimko Ltd
Master TRF: Dated 2014-02

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General disclaimer

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description	Switching Power Supply
Trade Mark	SL Power
	
Manufacturer	SL POWER ELECTRONICS CORP BLDG A 6050 KING DR VENTURA CA 93003 UNITED STATES
Model/Type reference	GB60SXXYWW Where XX represents output voltage which may be any number from 12 to 48, Y can be K (for Class I construction) or C (for Class II construction) or P (for Pin version with Class I or Class II), WW may be any number from 00 to 99 or blank, designates additional configurations indicating non-safety related options.
Ratings	Input: 100-240 Vac, 1.4A, 50-60 Hz Output: Refer to enclosure 7-01 for output rating

Testing procedure and testing location:	
<input type="checkbox"/> CB Testing Laboratory	Testing location / address
<input type="checkbox"/> Associated CB Test Laboratory	Testing location / address
	Tested by (name + signature)
	Approved by (name + signature).....
<input type="checkbox"/> Testing Procedure: TMP/CTF Stage 1	Testing location / address
	Tested by (name + signature)
	Approved by (name + signature).....
<input type="checkbox"/> Testing Procedure: WMT/CTF Stage 2	Testing location / address
	Tested by (name + signature)
	Witnessed by (name + signature) ...
	Approved by (name + signature).....
<input checked="" type="checkbox"/> Testing Procedure: SMT/CTF Stage 3 or 4	Testing location / address: SL Power Electronics Corp. 6050 King Dr. Bldg. A Ventura, CA 93003 USA
	Tested by (name + signature): Mark Martinez / Tester 
	Approved by (name + signature).....: Randy Johnson / Final Reveiwer 
	Supervised by (name + signature) ..: Randy Johnson / Final Reviewer 
<input type="checkbox"/> Testing Procedure: RMT	Testing location / address
	Tested by (name + signature)
	Approved by (name + signature).....
	Supervised by (name + signature) ..

List of Attachments
National Differences (2 pages)
Enclosures (3 pages)
Summary Of Testing
Unless otherwise indicated, all tests were conducted at SL Power Electronics Corp. 6050 King Dr. Bldg. A Ventura, CA 93003 USA.

Tests performed (name of test and test clause)	Testing location / Comments
<p data-bbox="326 281 678 310">Heating (4.5.1, 1.4.12, 1.4.13)</p> <p data-bbox="228 323 870 352">Summary of Compliance with National Differences:</p> <p data-bbox="228 365 1110 394">Countries outside the CB Scheme membership may also accept this report.</p> <p data-bbox="228 407 1463 470">List of countries addressed: AR, AT, AU, BE, BG, BY, CA, CH, CN, CS, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IN, IT, JP, KR, MY, NL, NO, NZ, PL, PT, RO, SA, SE, SG, SI, SK, UA, US, ZA</p> <p data-bbox="228 483 1446 512">The product fulfills the requirements of: EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013</p>	

Copy of Marking Plate - Refer to Enclosure titled Marking Plate for copy.

Test item particulars :	
Equipment mobility	for building-in
Connection to the mains	To be determined
Operating condition	continuous
Access location	To be determined
Over voltage category (OVC)	OVC II
Mains supply tolerance (%) or absolute mains supply values	+10%, -10%
Tested for IT power systems	Yes
IT testing, phase-phase voltage (V)	230 V
Class of equipment	Class I (earthed) or Class II (double insulated)
Considered current rating of protective device as part of the building installation (A)	16 A (20 A for north America)
Pollution degree (PD)	PD 2
IP protection class	IP X0
Altitude of operation (m)	up to 3000 m
Altitude of test laboratory (m)	less than 2000 m
Mass of equipment (kg)	0.183
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(s) of receipt of test item	2017-10-17
Date(s) of Performance of tests	2017-11-30, 2017-12-04, 2017-12-05, 2018-01-05, 2018-01-08, 2018-01-09, 2018-01-11, 2018-01-15, 2018-01-16
General remarks:	
<p>"(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a point is used as the decimal separator.</p>	
Manufacturer's Declaration per Sub Clause 4.2.5 of IEC 60950-1:	
<p>The application for obtaining a CB Test Certificate includes more than one factory 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</p> <p>When differences exist, they shall be identified in the General Product Information section.</p>	
Name and address of Factory(ies):	INDUSTRIAS S L S A DE C V CIRCUITO SIGLO XXI 2055 COL PARQUE INDUSTRIAL EX-XXI 21254 MEXICALI

BC MEXICO

SL XIANGHE POWER ELECTRONICS CORP.
NO. B-02-03, NORTH SIDE OF LANSCAPE AVENUE,
QIBU DISTRICT,
ENVIRONMENTAL INDUSTRIAL PARK,
XIANGHE COUNTY,
HEBEI PROVINCE 065400 CHINA

GENERAL PRODUCT INFORMATION:

Report Summary

The original report was modified on 2018-02-21 to include the following changes/additions:
As part of this amendment, some components were updated and limited testing was conducted to expand the client declared ratings based on the end product application as a Technical Amendment.

Product Description

The units are open-frame AC/DC power supplies, designed for building-in to an end-product.

The units were evaluated to operate up to the altitude of 3000 m.

Model Differences

All models were similar in construction except for secondary winding of transformer and output rating.

GB60SXXYWW:

Where XX represents output voltage which may be any number from 12 to 48, Y can be K (for Class I construction) or C (for Class II construction) or P (for Pin version with Class I or Class II), WW may be any number from 00 to 99 or blank, designates additional configurations indicating non-safety related options.

Additional Information

This report is a reissue of CBTR Ref. No.E135803-A70-CB-1, CB Test Certificate Ref. Nos. US-19760-UL, US-19760-A1-UL, US-19760-A2-UL, and US-19760-A2-M1-UL. Based on previously conducted testing and the review of product construction it was determined that the product continues to comply with the standard.

No tests conducted under this investigation due to reissue of CB Test Report Ref. No. E135803-A70-CB-1. All required tests were carried out under the original investigation.

The Critical Components List includes components in the product as submitted and also includes, in certain cases, alternate generic descriptions (designated as "interchangeable") for equivalent component substitutions. Recognizing NCBs may require newer or updated licenses, additional information and/or evaluation to qualify alternate components.

User's Manuals, instructions and markings will be provided in the national language of the country of sale. The manufacturer is aware of the requirements for language requirements for markings/instructions, cords/cables, plugs and EMC. Detailed information may be obtained directly from the client. See Enclosure-Miscellaneous for a Letter of Assurance.

Some of the attached Critical Component Licenses/Certs may be more than 3 years old. Manufacturer to provide updated licenses upon request from an accepting NCB.

The label is a draft of an artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.

As part of this amendment, some components were updated and limited testing was conducted to expand the client declared ratings based on the end product application as a Technical Amendment.

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 50°C with full power, derated power at 60, 70 and 80°C convection cooled (See Enclosure 7-01). Alternatively, the power supply may be provided with forced-air cooling for full rated power up to 80°C ambient.
- The means of connection to the mains supply is: Determined in end-product
- The product is intended for use on the following power systems: IT, TN
- The equipment disconnect device is considered to be: Determined in end-product
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 (which includes all European national differences, including those specified in this test report).
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: C21 load side
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual

Engineering Conditions of Acceptability

When installed in an end-product, consideration must be given to the following:

- The following Production-Line tests are conducted for this product: Electric Strength
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 271 Vrms, 512 Vpk, Primary-Earth: 240 Vrms, 344 Vpk
- The following secondary output circuits are SELV: All outputs
- The following secondary output circuits are at non-hazardous energy levels: All outputs
- The following secondary output circuits are Limited Current Circuits: C21 load side.
- The power supply terminals and/or connectors are: Not investigated for field wiring
- The maximum investigated branch circuit rating is: 20 A
- The investigated Pollution Degree is: 2
- Proper bonding to the end-product main protective earthing termination is: Required for Class I construction
- An investigation of the protective bonding terminals has: Not been conducted
- The following input terminals/connectors must be connected to the end-product supply neutral: N pin of input connector
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJ2 insulation system with the indicated rating greater than Class A (105°C): T1 (Class B)
- The following end-product enclosures are required: Fire, Electrical
- The equipment is suitable for direct connection to: AC mains supply
- For class II construction: Y caps C1, C2 and Inductor L2 were removed, and the cl/cr between

primary to Pin G1 complied with basic insulation. The spacing shall be reconsidered in end use. Refer to enclosure 3-02 and 3-03 for reference. --

- If dual fuses used in this product (F1 and F2, where F2 is optional), Clause 2.7.6 shall be reconsidered in end use --
- For all configurations employing forced air cooling, the end-product shall repeat the temperature test(s) to ensure that the maximum temperature limits of the components listed in the report are not exceeded. --

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

Indicate used abbreviations (if any)