




COVER PAGE FOR TEST REPORT

Test Item Description:	Switching Power Supply, Built-In AC/DC
Model/Type Reference:	GT-9250P Series
	Note:
	The models listed above are standard models, upon which custom versions are based. All units are based on the same nomenclature; see the Model Differences section for details.
Rating(s):	Input: Voltage: 100-240 Vac Frequency: 50-60 Hz Rated Current for : 4.0 A
	Output: See CB Test Report for output ratings.
Standards:	IEC 60950-1:2001, First Edition
Applicant Name and Address:	GLOBTEK INC 186 VETERANS DR NORTHVALE NJ 07647 UNITED STATES
Factory Location(s):	GLOBTEK (SHANGHAI) CO LTD 2085 JIA AN GONG LU JIA DING 201821 SHANGHAI, CHINA
This Report includes the following parts, in addition to this cover page:	
<ol style="list-style-type: none">1. Specific Technical Criteria2. Clause Verdicts3. Critical Components4. Enclosures<ol style="list-style-type: none">a. National Differencesb. Miscellaneous	
The original report was modified on 2008-06-06 to include the following changes/additions: This report was modified on May 18, 2008 to remove references to Model Series GTM9250.	
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 only 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.	

	<p>Test Report issued under the responsibility of:</p> <p>Underwriters Laboratories Inc.</p>	 <p>Underwriters Laboratories</p>
<p>TEST REPORT IEC 60950-1, First Edition Information technology equipment-Safety Part 1: General Requirements</p>		
<p>Report Reference No : E170507-A12-CB-1 Date of issue : 2006-03-13 Total number of pages : 23</p>		
<p>CB Testing Laboratory : Underwriters Laboratories Inc. Address : 1285 Walt Whitman Road, Melville, NY, 11747, USA</p>		
<p>Applicant's name : GLOBTEK INC 186 VETERANS DR Address : NORTHVALE NJ 07647 UNITED STATES</p>		
<p>Test specification: Standard : IEC 60950-1:2001, First Edition Test procedure : CB Scheme Non-standard test method : N/A</p>		
<p>Test Report Form No. : IEC60950_1B Test Report Form originator : SGS Fimko Ltd Master TRF : dated 2003-03</p>		
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Test item description	Switching Power Supply, Built-In AC/DC
Trade Mark	
Model/Type reference	GT-9250P Series
	Note: The models listed above are standard models, upon which custom versions are based. All units are based on the same nomenclature; see the Model Differences section for details.
Manufacturer	GLOBTEK INC 186 VETERANS DR NORTHVALE NJ 07647
Rating	Input: Voltage: 100-240 Vac Frequency: 50-60 Hz Rated Current for : 4.0 A Output: See CB Test Report for output ratings.

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB Testing Laboratory	
Testing location / address..... :	Underwriters Laboratories Inc. 1285 Walt Whitman Road, Melville, NY, 11747, USA
<input type="checkbox"/> Associated CB Test Laboratory	
Testing location / address..... :	
Tested by (name + signature) :	Michael Lavorata 
Approved by (+ signature) :	David Keen 
<input type="checkbox"/> Testing Procedure: TMP	
Tested by (name + signature) :	
Approved by (+ signature) :	
Testing location / address..... :	
<input type="checkbox"/> Testing Procedure: WMT	
Tested by (name + signature) :	
Witnessed by (+ signature)..... :	
Approved by (+ signature) :	
Testing location / address..... :	
<input type="checkbox"/> Testing Procedure: SMT	
Tested by (name + signature) :	
Approved by (+ signature) :	
Supervised by (+ signature) :	
Testing location / address..... :	
<input type="checkbox"/> Testing Procedure: RMT	
Tested by (name + signature) :	
Approved by (+ signature) :	
Supervised by (+ signature) :	
Testing location / address..... :	

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Summary of Testing:

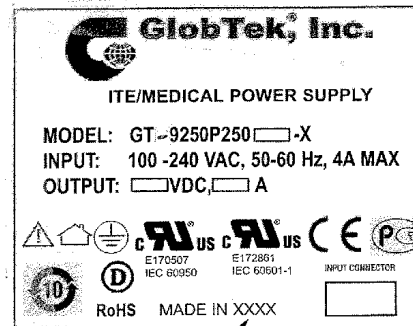
No tests were conducted

Summary of Compliance with National Differences:

AR, AT, AU, BE, CA, CH, CN, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IN, IT, JP, KE, KR,
MY, NL, NO, NZ, PL, PT, SE, SG, SI, SK, US

Copy of Marking Plate

Generic label which represents all units in the Model GT-9250P Series



XXXX - USA OR CHINA

Test item particulars :

Equipment mobility	for building-in
Operating condition	continuous
Mains supply tolerance (%)	+10%, -10%
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class I (earthed)
Mass of equipment (kg)	< 18
Protection against ingress of water	IP X0

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	N/A
Date(s) of Performance of tests	N/A

General remarks:

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 testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

Refer to the Cover Page For Test Report for a list of all Factory Locations.

GENERAL PRODUCT INFORMATION:

Report Summary

The original report was modified on 2008-06-06 to include the following changes/additions:
This report was modified on May 18, 2008 to remove references to Model Series GTM9250.

Product Description

The products covered by this report are switching power supplies, intended to provide power to and intended for use with Information Technology Equipment and Medical Electrical Equipment.

Model Differences

Differences within the GT-9250 families are limited to minor component changes to determine specific output voltage and current parameters.

The 9250 Series is the family model designation which is represented by the following generic nomenclature:

GT-9250PXXXXYY-Z.Z-D where:

GT- designates GlobTek models with IEC 60950 safety approvals:

P designates the use of active power factor correction circuitry;

XXX designates the rated output power as seen in the standard model list;

YY designates the rated output voltage as seen in the standard model list;

Z.Z designates the optional voltage deviation, subtracted from standard output voltage in 0.1 volt increments;

D designates the type of construction, where D is:

F which represents the fan control option

S which represents input header and output terminal block

M which represents input and output header on board

HIXXX which represents input wire harness. Where XXX may be between 000 and 999 (max. length for input is 200 mm)

HOXXX which represents input header on board and output wire harness. Where XXX may be between 000 and 999 (max. length is 200 mm)

HIOXXX which represents input and output wire harness. Where XXX may be between 000 and 999 (max. length is 200 mm for output)

HIHXXX which represents input wire harness and output header on board.

Standard Models:

	Vdc	A
GT-9250P753.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	22.72
GT-9250P1005.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	20.00
GT-9250P1007.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	13.33
GT-9250P1509-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	16.67
GT-9250P15012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	12.50
GT-9250P15015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	15.00
GT-9250P15018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	8.33
GT-9250P15024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	6.25
GT-9250P15036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	4.17
GT-9250P15048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48.0	3.12
GT-9250P1203.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	36.36
GT-9250P1505.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	30.00
GT-9250P1807.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	24.00
GT-9250P2009.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	22.00
GT-9250P25012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	20.83
GT-9250P25015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	16.66
GT-9250P25018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	13.88
GT-9250P25024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	10.41
GT-9250P25036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	6.94
GT-9250P1503.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	45.45
GT-9250P2205.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	44.00
GT-9250P2207.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	29.33
GT-9250P2709.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	30.00
GT-9250P27012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	22.50
GT-9250P27015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	18.00
GT-9250P27018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	15.00
GT-9250P27024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	11.75

GT-9250P27036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	7.50
GT-9250P27048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48.0	5.63

Note - This nomenclature only covers models employing output ratings equivalent to or less than those listed in Standard Models table.

Additional Information

These units were evaluated to comply with IEC 60950-1 1st Edition. Where test procedures or acceptable limits were more stringent in one standard, data taken was considered acceptable for both standards' requirements.

This report does not include the investigation or the test report for the triple insulated wire employed in the transformer. A test report for the power supply may be required when submitting this CB Test Report to a National Certification Body (NCB) for obtaining certification at national level.

This report has been modified on May 18, 2008 to remove all references to IEC 60601-1. An updated list of Standard Models is found under Enclosure 7-09.

Technical Considerations

The Model GT-9250 Series is considered Class I (protectively earthed).

Additional single fault testing with alternate fuses listed in the Critical Component table were not considered necessary due to the examination of the fuse curves.

These products were submitted and tested for use at the manufacturer's recommended ambient temperature (Tmra) of 60°C for the 150 W Model GT-9250 Series and 70°C for 270 W Model GT-9250 Series.

These power supplies are for building-in to an end product.

The current (I-T) curves for the alternate fuses for the described manufacturers were evaluated for similarity and found acceptable.

Engineering Conditions of Acceptability

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

Consideration shall be given to performing the following tests in the end product evaluation: Capacitor Discharge, Touch Current, Heating, Electric Strength, and Earthing.

The following Production-Line tests are conducted for this product: Earthing Continuity (Class I products only), Electric Strength,

The following secondary output circuits are SELV: All outputs

The following secondary output circuits are at non-hazardous energy levels: All outputs except 48 VDC outputs.

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

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°C): Transformer, T1 - Class B (130°C).

The following end-product enclosures are required: Electrical, , Fire and , Mechanical.

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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Type/model or type reference	GT-9250P Series	Pass
2.6.3.3	Rated current (A), cross-sectional area (mm ²), AWG	Unit is intended for building-in; to be determined in the end product. Bonding terminals are acceptable.	-
2.6.4.2	Rated current (A), type and nominal thread diameter (mm)	Unit is intended for building-in; to be determined in the end product. Bonding terminals are acceptable.	-
2.9.2	Humidity (%)	93	-
	Temperature (°C).....	30	-
2.10.4	CTI tests	Material group IIIb; 100 ≤ CTI < 175.	-
2.10.5.2	Thin sheet material		N/A
F	Annex F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: list of critical components					Pass
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
Printed Wiring Board (all models)	Gospeed PCB Co.	KS-01	Min V-0, FR4 material	UL 796C	UL R/C, -	
Alternate - Printed Wiring Board	Wan Nien	03V0	Min V-1, 105°C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	Cheerful	03	Min V-1, 130 °C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	King Board	CEM-1	Min V-1, 130 °C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	Evergreen PCB FTY LTD	EG1	Min V-1, 130 °C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	Crimp Circuits	1-0	Min V-1, 105 °C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	various	various	Min V-1, 105°C, rated for direct support of live parts	UL 796, IEC 60603-2	UL R/C, -	
Input Connector (-S, -M, -HOXXX versions)	Molex	26-60-4050	250V, 5A, 3.96mm, second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA	
Alternate - Input Connector (-S, -M, -HOXXX versions)	WELI Sheng	M-139601	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA	
Alternate - Input Connector (-S, -M, -HOXXX versions)	Joint Tech Electronic Industrial Co Ltd.	A3960WV-5P	250V, 5A, 3.96mm, Second and fourth pins removed, rated	UL 1059 IEC 60947	UL R/C, TUV, CSA	

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
			min V-2.		
Alternate - Input Connector (-S, -M, -HOXXX versions)	Lian Cheng	A3960WV-5P	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Input Connector (-S, -M, -HOXXX versions)	Landwin	CQ306IP050TN A	250V, 7A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, CSA
Input Connector (HIXXX, HIOXXX and HIHXXX versions)	Molex	09-50-3051	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Input Connector (HIXXX, HIOXXX and HIHXXX versions)	WELI Sheng	P-I39601	250V, 7A, 5 CKT 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV CSA
Alternate - Input Connector (HIXXX, HIOXXX and HIHXXX versions)	Joint Tech Electronic Industrial Co Ltd.	A3960H-5P	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Input Connector (HIXXX, HIOXXX and HIHXXX versions)	Lian Cheng	A3960H-5P	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Output Connector (-S and -HIXXX versions)	JITE	BTB654-10-04-1-M1	300V, 20A, 4 circuits, rated min V-0.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-S and -HIXXX versions)	Dinkle	DT-45-B14W-XX	300V, 20A, 4 circuits, rated min V-0.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output	Tyco/Buchanan	6PCV-04	300V, 20A, 4 circuits, rated	UL 1059 IEC 60947	UL R/C, TUV, CSA

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Connector (-S and -HIXXX versions)			min V-0.		
Output Connector (-HOXXX and -HIXXX versions)	Molex	09-50-3101	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-HOXXX and -HIXXX versions)	WELI Sheng	P-139XXXX	250V, 7A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-HOXXX and -HIXXX versions)	Joint Tech Electronic Industrial Co. Ltd.	A3960H-10P	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-HOXXX and -HIXXX versions)	Lian Cheng	A3960H-10P	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Output Connector (-M and -HIXXX versions)	Molex	26-60-4100	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-M and -HIXXX versions)	WELI Sheng	M-139XXX	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-M and -HIXXX versions)	Joint Tech Electronic Industrial Co. Ltd.	A396WV-10P	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-M and -HIXXX versions)	Lian Cheng	A396WV-10P	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-M and -HIXXX versions)	Landwin	CQ306IP100TN A	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Fuse (F1, F2)	Wickmann	372/TR5 Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/C, VDE, SEMKO, METI,

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

					CCC
Alternate Fuse (F1, F2)	Littelfuse	372/TR5 Series	250V, 5 A, time lag;	UL 198G IEC 60127	UL R/C, VDE, SEMKO, METI, CCC, PSE-JET, K-Mark
Alternate Fuse (F1, F2)	Bel	MRT Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/, CVDE SEMKO CSA PSE CCC
Alternate Fuse (F1, F2)	Conquer	MET Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/C, VDE, SEMKO, CSA, MITI, CCC
Alternate Fuse (F1, F2)	Walter	2000 Series	250V, 5 A, time lag;	UL 198G IEC 60127	UL R/C, VDE, SEMKO, PSE, CCC
Alternate Fuse (F1, F2)	Wickmann	382/TR5 Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/C, -
Alternate Fuse (F1, F2)	ELU	166050 Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/C, VDE, SEMKO, METI, CCC
MOV (MOV1/MOV2 optional)	RGA	CNR-07D471K	300Vac	UL 1449 IEC 60384	UL R/C, CSA VDE
Alternate MOV (MOV1/MOV2 optional)	Thinking Electronics	TVR07471	300Vac	UL 1449 IEC 60384	UL R/C, CSA VDE CQC
Alternate MOV (MOV1/MOV2 optional)	Littelfuse	V07E300	300Vac	UL 1449 IEC 60384	UL R/C, CSA VDE
Alternate MOV (MOV1/MOV2 optional)	Panasonic	ERZV07D471	300Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate MOV (MOV1/MOV2 optional)	CNR	CNR-07D471K	300Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate MOV (MOV1/MOV2 optional)	JOYIN	JVN07N471K65 PU5	300Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate	Song Long	471KD07J	300Vac	UL 1449	UL R/C, CSA,

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

MOV (MOV1/MOV2 optional)	Electronics			IEC 60384	VDE
Alternate MOV (MOV1/MOV2 optional)	Panasonic	ERZ-V10D511	320Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate MOV (MOV1/MOV2 optional)	Centra Science	10D511K	320Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate MOV (MOV1/MOV2 optional)	Song Long Electronics	SAS511KD10 SBNE	320Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Capacitor - Line to Line (CX1)	Cheng Tung	CTX	300V, 0.47uF maximum, Class X1	UL 1283	UL R/C, -
Alternate Capacitor - Line to Line (CX1)	UTX	HQX	275V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, FIMKO
Alternate Capacitor - Line to Line (CX1)	Pilkor	PCX Series	250V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE, FIMKO
Alternate Capacitor - Line to Line (CX1)	Panasonic	ECQUL	250V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE
Alternate Capacitor - Line to Line (CX1)	Philips	PCX2335	250V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, SEMKO
Alternate Capacitor - Line to Line (CX1)	Rifa	PHE	275V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, ENEC
Alternate Capacitor - Line to Line (CX1)	Okaya	LE	250V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, SEMKO
Alternate Capacitor - Line to Line (CX1)	BC Components	MKP	270V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE NEMKO, SEMKO, DEMKO, FIMKO, SEV, CE

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Clause	Requirement + Test		Result - Remark		Verdict
Capacitor - Line to Line (CX1A)	Cheng Tung	CTX	300V, 2.2uF maximum, Class X1	UL 1283	UL R/C, -
Alternate Capacitor - Line to Line (CX1A)	UTX	HQX	275V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, FIMKO
Alternate Capacitor - Line to Line (CX1A)	Pilkor	PCX Series	250V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE, FIMKO
Alternate Capacitor - Line to Line (CX1A)	Panasonic	ECQUL	250V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE
Alternate Capacitor - Line to Line (CX1A)	Philips	PCX2335	250V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C SEMKO, VDE
Alternate Capacitor - Line to Line (CX1A)	Rifa	PHE	275V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, ENEC
Alternate Capacitor - Line to Line (CX1A)	Okaya	LE	250V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, SEMKO
Alternate Capacitor - Line to Line (CX1A)	BC Components	MKP	270V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE NEMKO SEMKO DEMKO FIMKO SEV, CE
Capacitor - Line to Line (CX2)	Cheng Tung	CTX	300V, 0.12uF maximum, Class X1	UL 1283	UL R/C, -
Alternate Capacitor - Line to Line (CX2)	UTX	HQX	275V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, FIMKO
Alternate Capacitor - Line to Line (CX2)	Pilkor	PCX Series	250V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA VDE FIMKO
Alternate Capacitor - Line to Line	Panasonic	ECQUL	250V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA VDE

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

(CX2)					
Alternate Capacitor - Line to Line (CX2)	Philips	PCX2335	250V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, SEMKO
Alternate Capacitor - Line to Line (CX2)	Rifa	PHE	275V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C,, CSA, ENEC
Alternate Capacitor - Line to Line (CX2)	Okaya	LE	250V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, SEMKO
Alternate Capacitor - Line to Line (CX2)	BC Components	MKP	270V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE NEMKO SEMKO DEMKO FIMKO SEV, CE
Capacitor - Line to Earth (CY1, CY2)	Pan Overseas	AC#	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE SEMKO
Alternate Capacitor - Line to Earth (CY1, CY2)	Murata	KH#	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor - Line to Earth (CY1, CY2)	Success	SF	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE FIMKO DEMKO SEMKO CCC
Alternate Capacitor - Line to Earth (CY1, CY2)	Welson	KL	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor - Line to Earth (CY1, CY2)	JYA-NAY CO. LTD	JY	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE, CSA FIMKO DEMKO SEMKO NEMKO CB, SEV ENEC 10 CHINA
Alternate Capacitor - Line to Earth (CY1,	TDK	CD	250V, 1.0nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

CY2)					
Capacitor - Line to Earth (CY3)	Pan Overseas	AC#	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE, SEMKO
Alternate Capacitor - Line to Earth (CY3)	Murata	KH#	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor - Line to Earth (CY3)	Success	SF	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE FIMKO DEMKO SEMKO CCC
Alternate Capacitor - Line to Earth (CY3)	Welson	KL	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor - Line to Earth (CY3)	JYA-NAY CO. LTD	JY	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE, CSA FIMKO DEMKO SEMKO NEMKO CB, SEV
Alternate Capacitor - Line to Earth (CY3)	TDK	CD	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Capacitor, Bridging (CY5)	Pan Overseas	AH	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor, Bridging (CY5)	Murata	KX	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor, Bridging (CY5)	TDK	CD	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, CSA, VDE
Alternate Capacitor, Bridging (CY5)	Welson	WD	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor, Bridging (CY5)	Chun Fyu	CD	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor, Bridging (CY5)	JYA-NAY CO. LTD	JN	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE, CSA FIMKO DEMKO SEMKO NEMKO CB, SEV
NTC Thermistor	Thinking	SCK	16 Ohm, 4A	UL 1434	UL R/C, CSA

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

(RTH1)	Electronics or equivalent			IEC 60730	
NTC Thermistor (RTH1) Alternate	Thermometrics or equivalent	CL70	16 Ohm, 4A	UL 1434 IEC 60730	UL R/C, CSA
Thermal Switch TS1	Dong Guan Chwen-Der Elec or Equivalent	CD2KF-0-80A/100	80C/100C	IEC 60691	UL R/C, VDE
Alternate Thermal Switch (TS1)	THERMOSTATE	UP72-80/100PM5	80C/100C	IEC 60691	UL R/C, VDE
Diode Bridge (BD1)	ST	KG600P	600V 10A minimum	Tested in the power supply.	-, -
Capacitor (C5)	Rubycon	MXG Series t	450V, 220uf max.	Tested in the power supply.	-, -
Alternate Capacitor (C5)	various	various	450V, 220uf max.	Tested in the power supply.	-, -
MOSFET (Q1)	ST	STW45NM50 or equivalent	500V, 40A	Tested in the power supply.	-, -
Alternate MOSFET (Q1)	ST	IRFP460A	500V, 20A minimum	Tested in the power supply.	-, -
Alternate MOSFET (Q1)	IR	IRFP450	500V, 14A minimum	Tested in the power supply.	-, -
Alternate MOSFET (Q1)	various	various	500V, 14A minimum	Tested in the power supply.	-, -
MOSFET (Q2, Q3)	ST	STW13NK100Z	1000V, 13A	Tested in the power supply.	-, -
Alternate MOSFET (Q2, Q3)	Fuji	2SK3337-01	1000V, 7A	Tested in the power supply.	-, -
Alternate MOSFET (Q2, Q3)	various	various	1000V, 7A	Tested in the power supply.	-, -
Diode (D1)	IXYS	DSEI30-06A	600V, 37A	Tested in the power supply.	-, -
Alternate Diode (D1)	APT	APT30D60B	600V, 30A	Tested in the power supply.	-, -
Alternate Diode (D1)	various	various	600V, 30A	Tested in the power supply.	-, -
Transformer (T1) 3.3V to 48V	Globtek/ Young-Shang Electronic Plant/ Volt Electronic Factory/ Yao Sheng Electronic Co Ltd/ENG	400-0087 = 3.3V 400-0101 = 5V 400-0086 = 7.5V 400-0106 = 9V 400-0104 = 12V 400-0105 = 15V 400-0089 = 18V 400-0130 = 22V 400-0102 = 24V 400-0107 = 30V	Provides reinforced/double insulation. Provided w/ R/C Class B (130°C) insulation system. See Diagrams Enclosure for details.	Tested in the power supply.	-, -

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

		400-0103= 36V 400-0108 = 40V 400-0088 = 48V			
Insulation System (employed in T1)	Globtek	GTX-1	Class B (130°C). For transformer manufactured by GlobTek only.	UL 506	UL R/C, -
Insulation System (employed in T1)	Young-Shang Electronic Plant	YSE 0510 YSE 0522	Class B (130°C). For transformer manufactured by Young- Shang Electronic Plant.	UL 506	UL R/C, -
Alternate Insulation System (employed in T1)	Volt Electronic Factory	R152D R172D TVT-130 DASH 2B-5 TVT-130 GH-130	Class B (130°C). For transformer manufactured by Heng Chi Li only.	UL 506	UL R/C, -
Alternate Insulation System (employed in T1)	Yao Sheng electronic Co Ltd	YST-JC1 M7A90 M7AGHB M7ADEW DASH 2B-5A	Class B (130°C). For transformer manufactured by Heng Chi Li only.	UL 506	UL R/C, -
Optical Isolator (U5, U6)	Liteon	LTV817C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, TUV, CSA VDE FIMKO NEMKO DEMKO SEMKO BSI
Alternate - Optical Isolator (U5, U6)	Sharp	PC817C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, TUV
Alternate - Optical Isolator (U5, U6))	Fairchild	FOD817C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Alternate - Optical Isolator (U5, U6)	Infineon	SFH615ABM	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Alternate - Optical Isolator (U5, U6)	NEC	PS2501-1L	5000 Vac isolation	UL 1577 IEC 60947	UL R/, TUV
Alternate - Optical Isolator (U5, U6)	Cosmo Electronics Co.	KP1010C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Alternate - Optical Isolator	Everlight	EL817C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE SEMKO

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

(U5, U6))					FIMKO NEMKO DEMKO CSA, BSI
Alternate - Optical Isolator (U5, U6)	Matsushita Electric Corp.	ON3171	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Optical Isolator (U4)	Fairchild or equivalent	MOC3022 or equivalent	5300 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Light Emitting Diode (LED1)	LITEON Or equivalent	LTL-16KGE	575 nm wavelength Green visible light range only	Tested in the power supply.	-, -
Alternate - Light Emitting Diode (LED1)	Cosmo Electronics Co.	KLR03CGX	525 nm wavelength Green visible light range only.	Tested in the power supply.	-, -
Alternate - Light Emitting Diode (LED1)	Bright Led Electronics Corp	BL-B2141-AT LED Ø3	Gallium Phosphide green diffused.	Tested in the power supply.	-, -
Alternate - Light Emitting Diode (LED1)	Brightek Optoelectronics Co., Ltd.	LA304G1DA-1A/01 Ø3	Gallium Phosphide green diffused.	Tested in the power supply.	-, -
Insulator between PCB and Chassis	Sun-Yo Industrial Co	HX-3F1301-001	Formex GK-18 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Alternate - Insulator between PCB and Chassis	DMC	HX-3F1301-001	Formex GK-18 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Alternate - Insulator between PCB and Chassis	FU YI	HX-3F1301-001	Formex GK-18 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Alternate - Insulator between PCB and Chassis	various	various	Formex GK-18 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Alternate - Insulator between PCB and Chassis	Device Mate Corp.	FR-60	FR-60 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Cooling Fans (Fan1 & Fan2 for 250W version)	SUNON	KD1204PKV2 or KDE1204PKV2	12VDC 0.6W (0.8W) 40x40x20mm	UL 507 IEC 60950	UL R/C, TUV CE
Alternate - Cooling Fans	SUNON	KDE1204PKV1	12VDC 0.8W 40x40x20mm	UL 507 IEC 60950	UL R/C, TUV CE

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
(Fan1 & Fan2 for 250W version)						
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	SUNON	KDE1204PKVX	12VDC 1.4W 40x40x20mm	UL 507 60950	IEC	UL R/C, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	SUNON	KDE1204PKV3	12VDC 0.6W 40x40x20mm	UL 507 60950	IEC	UL R/C, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	SUNON	KDE1204PKBX-8 OR KD1204PKBX-8	12VDC 1.1W 40x40x20mm	UL 507 60950	IEC	UL R/C, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	Adda	AD0412LB-C50	12VDC 0.07W 40x40x20mm	UL 507 60950	IEC	UL R/C, TUV CE, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	NMB	1608KL-04W-B10 to B50	12VDC 0.48W to 1.32W 40x40x20mm	UL 507 60950	IEC	UL R/C, TUV CE, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	EBM Papst	412/412H	12VDC 0.9W/1.6W 40x40x20mm	UL 507 60950	IEC	UL R/C, CSA VDE, CSA, VDE
Cooling Fans (Fan1 & Fan2 for 270W version)	SUNON	KDE1208PTV1	12VDC 1.8W 80X80X25mm	UL 507 60950	IEC	UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	SUNON	KDE1208PTV2	12VDC 1.6W 80X80X25mm	UL 507 60950	IEC	UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	SUNON	KDE1208PTV3	12VDC 1.8W 80X80X25mm	UL 507 60950	IEC	UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	Adda	AD0812MB-A70GL	12VDC 1.8W 40x40x25mm	UL 507 60950	IEC	UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	SUNON	KD1208PTB3	Brushless 12VDC 80x80x25mm	UL 507 60950	IEC	UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	NMB	3110KL-04W-B30-P00	Brushless 12VDC 80x80x25mm	UL 507 60950	IEC	UL R/C, CSA VDE CE

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

270W version)					
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	EBM Papst	8412NME	Brushless 12VDC 80x80x25mm	UL 507 60950 IEC	UL R/C VDE, CSA
¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance					

Enclosure

National Differences

Argentina*
Australia / New Zealand
Austria**
Belgium**
China*
Czech Republic**
Denmark
Finland
France**
Germany
Greece**
Group
Hungary*
India*
Ireland*
Israel*
Italy*
Japan*
Kenya*
Korea
Malaysia*
Netherlands**
Norway
Poland*
Portugal*
Singapore*
Slovakia**
Slovenia*
Spain*
Sweden
Switzerland**
USA / Canada
United Kingdom

* No National Differences Declared

** Only Group Differences

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

USA / Canada - Differences to IEC 60950-1:2001, First Edition			
NAF	Household/Home Office Document Shredders		N/A
NAF.1.7	Markings and instructions alert the user to key safety considerations related to use of shredders, including not intended to be used by children, avoid touching document feed opening, avoid clothes and hair entanglement, and avoid aerosol products.		N/A
NAF.2.8.3	Safety interlock cannot be inadvertently activated by the articulated accessibility probe (figure NAF.1).		N/A
NAF.3.4	Provided with an isolating switch complying with 3.4.2, including 3 mm contact gap, with appropriate markings associated with the switch.		N/A
NAF.4.4	Hazardous moving parts are not accessible to the user, as determined using the articulated accessibility probe (figure NAF.1) and the accessibility probe/wedge (figures NAF.2/NAF.3).		N/A

Issue Date: 2006-03-13
Amendment 1 2008-06-06

Page 1 of 2

Report Reference #

E170507-A12-CB-1

Enclosure

Miscellaneous

Supplement Id	Description
7-02	150 W Spec
7-03	250 W Spec
7-04	270 W Spec
7-08	Overall Specification
7-09	List of Standard Models

Misc ID 7-09

Standard Models

GT-9250P753.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	22.72
GT-9250P1005.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	20.00
GT-9250P1007.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	13.33
GT-9250P1509-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	16.67
GT-9250P15012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	12.50
GT-9250P15015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	15.00
GT-9250P15018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	8.33
GT-9250P15024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	6.25
GT-9250P15036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	4.17
GT-9250P15048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48.0	3.12
GT-9250P1203.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	36.36
GT-9250P1505.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	30.00
GT-9250P1807.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	24.00
GT-9250P2009.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	22.00
GT-9250P25012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	20.83
GT-9250P25015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	16.66
GT-9250P25018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	13.88
GT-9250P25024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	10.41
GT-9250P25036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	6.94
GT-9250P1503.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	45.45
GT-9250P2205.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	44.00
GT-9250P2207.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	29.33
GT-9250P2709.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	30.00
GT-9250P27012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	22.50
GT-9250P27015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	18.00
GT-9250P27018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	15.00
GT-9250P27024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	11.75
GT-9250P27036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	7.50
GT-9250P27048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48.0	5.63

TEST REPORT
IEC 60950-1, First Edition
Information technology equipment - Safety -
Part 1: General Requirements

Report Reference No: E170507-A12-CB-1

Compiled by (+ signature).....: Michael Lavorata



Reviewed by (+ signature): David Alma



Date of issue: 2006-03-13

CB Testing Laboratory: Underwriters Laboratories Inc.

Address.....: 1285 Walt Whitman Road, NY, 11747, USA

Testing location/procedure: CBTL ☒ SMT ☐ TMP ☐ WMT ☐

Address.....: Underwriters Laboratories Inc. 1285 Walt Whitman Road, NY, 11747, USA

Applicant's name: GLOBTEK INC

186 VETERANS DR

Address: NORTHVALE NJ 07647

Test specification:

Standard: IEC 60950-1:2001, First Edition

Test procedure : CB Scheme

Non-standard test method: N/A

Test Report Form No.: IEC60950__1A


TRF originator: SGS Fimko Ltd

Master TRF: dated 2002-03

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Test item description: Switching Power Supply, Built-In AC/DC

Trade Mark: 

Model/Type reference : GT-9250P and GTM9250P Series

Note:

The models listed above are standard models, upon which custom versions are based. All units are based on the same nomenclature; see the Model Differences section for details.

Also, please note that the models described above meet both IEC 60950 and IEC 60601 criteria.

Manufacturer: GLOBTEK INC
186 VETERANS DR
NORTHVALE NJ 07647

Rating: Input: Voltage: 100-240 Vac
Frequency: 50-60 Hz
Rated Current for : 4.0 A

Output: See CB Test Report for output ratings.

Marking Plate - Refer to Enclosure titled Miscellaneous for copy.

Particulars: test item vs. test requirements

Equipment mobility :	for building-in
Operating condition :	continuous
Mains supply tolerance (%) :	+10%, -10%
Tested for IT power systems :	No
IT testing, phase-phase voltage (V) :	N/A
Class of equipment :	Class I (earthed)
Mass of equipment (kg) :	< 18
Protection against ingress of water :	IP X0

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)

General remarks:

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by a NCB in accordance with IEC 60950-1.

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 testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

General Product Information:**Report Summary**

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

Product Description

The products covered by this report are switching power supplies, intended to provide power to and intended for use with Information Technology Equipment and Medical Electrical Equipment.

Model Differences

Differences within the GT-9250 and GTM9250 families are limited to minor component changes to determine specific output voltage and current parameters.

The 9250 Series is the family model designation which is represented by the following generic nomenclature:

GT-9250PXXXXY-Z.Z-D and GTM9250PXXXXY-Z.Z-D where:

GT- designates GlobTek models with IEC 60950 safety approvals and where as
GTM designates GlobTek models with both IEC 60950 and IEC 60601 safety approvals while:

P designates the use of active power factor correction circuitry;

XXX designates the rated output power as seen in the standard model list;

YY designates the rated output voltage as seen in the standard model list;

Z.Z designates the optional voltage deviation, subtracted from standard output voltage in 0.1 volt increments;

D designates the type of construction, where D is:

F which represents the fan control option

S which represents input header and output terminal block

M which represents input and output header on board

HIXXX which represents input wire harness. Where XXX may be between 000 and 999 (max. length for input is 200 mm)

HOXXX which represents input header on board and output wire harness. Where XXX may be between 000 and 999 (max. length is 200 mm)

HIOXXX which represents input and output wire harness. Where XXX may be between 000 and 999 (max. length is 200 mm for output)

HIHXXX which represents input wire harness and output header on board.

Standard Models:

	Vdc	A
GT-9250P753.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	22.72
GT-9250P1005.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	20.00
GT-9250P1007.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	13.33
GT-9250P1509-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	16.67
GT-9250P15012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	12.50
GT-9250P15015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	15.00
GT-9250P15018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	8.33
GT-9250P15024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	6.25
GT-9250P15036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	4.17

GT-9250P15048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48.0	3.12
GTM9250P753.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	22.72
GTM9250P1005.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	20.00
GTM9250P1007.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	13.33
GTM9250P1509-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	16.67
GTM9250P15012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	12.50
GTM9250P15015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	15.00
GTM9250P15018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	8.33
GTM9250P15024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	6.25
GTM9250P15036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	4.17
GTM9250P15048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48.0	3.12
GT-9250P1203.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	36.36
GT-9250P1505.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	30.00
GT-9250P1807.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	24.00
GT-9250P2009.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	22.00
GT-9250P25012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	20.83
GT-9250P25015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	16.66
GT-9250P25018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	13.88
GT-9250P25024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	10.41
GT-9250P25036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	6.94
GTM9250P1203.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	36.36
GTM9250P1505.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	30.00
GTM9200P1807.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	24.00
GTM9250P2009.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	22.00
GTM9250P25012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	20.83
GTM9250P25015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	16.66
GTM9250P25018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	13.88
GTM9250P25024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	10.41
GTM9250P25036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	6.94
GT-9250P1503.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	45.45
GT-9250P2205.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	44.00
GT-9250P2207.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	29.33
GT-9250P2709.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	30.00
GT-9250P27012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	22.50
GT-9250P27015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	18.00
GT-9250P27018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	15.00
GT-9250P27024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	11.75
GT-9250P27036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	7.50
GT-9250P27048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48.0	5.63
GTM9250P1503.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3	45.45
GTM9250P2205.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5.0	44.00
GTM9200P2207.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5	29.33
GTM9250P2709.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9.0	30.00
GTM9250P27012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12.0	22.50
GTM9250P27015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15.0	18.00
GTM9250P27018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18.0	15.00
GTM9250P27024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24.0	11.75
GTM9250P27036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36.0	7.50
GTM9250P27048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48.0	5.63

Note - This nomenclature only covers models employing output ratings equivalent to or less than those listed

in Standard Models table.

Additional Information

These units were evaluated to comply with both IEC 60601-1 2nd Edition, and IEC 60950-1 1st Edition. Where test procedures or acceptable limits were more stringent in one standard, data taken was considered acceptable for both standards' requirements.

This report does not include the investigation or the test report for the triple insulated wire employed in the transformer. A test report for the power supply may be required when submitting this CB Test Report to a National Certification Body (NCB) for obtaining certification at national level.

Technical Considerations

The Model GTM9250 Series is considered Class I (protectively earthed).

Additional single fault testing with alternate fuses listed in the Critical Component table were not considered necessary due to the examination of the fuse curves.

These products were submitted and tested for use at the manufacturer's recommended ambient temperature (T_{mra}) of 60°C for the 150 W Model GT-9250/GTM9250 Series and 70°C for 270 W Model GT-9250/GTM9250 Series.

These power supplies are for building-in to an end product.

The current (I-T) curves for the alternate fuses for the described manufacturers were evaluated for similarity and found acceptable.

Engineering Conditions of Acceptability

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

Consideration shall be given to performing the following tests in the end product evaluation: Capacitor Discharge, Touch Current, Heating, Electric Strength, and Earthing.

The following Production-Line tests are conducted for this product: Earthing Continuity (Class I products only), Electric Strength,

The following secondary output circuits are SELV: All outputs

The following secondary output circuits are at non-hazardous energy levels: All outputs except 48 VDC outputs.

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

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°C): Transformer, T1 - Class B (130°C).

The following end-product enclosures are required: Electrical, , Fire and , Mechanical.

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1	GENERAL		Pass
1.5	Components		Pass
1.5.1	General		Pass
	Comply with IEC 60950 or relevant component standard		Pass
1.5.2	Evaluation and testing of components		Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers		Pass
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors in primary circuits	Line-to-line capacitors are subclass X1 or X2. Primary-to-earth capacitors are subclass Y1 or Y2.	Pass
1.5.7	Double insulation or reinforced insulation bridged by components		Pass
1.5.7.1	General		N/A
1.5.7.2	Bridging capacitors	One Y1 capacitor employed (double/reinforced insulation) which complies with IEC 60384-14	Pass
1.5.7.3	Bridging resistors		N/A
1.5.7.4	Accessible parts	Unit is intended for building-in; to be determined in the end product.	N/A
1.5.8	Components in equipment for IT power systems		N/A

1.6	Power interface		Pass
1.6.1	AC power distribution systems	Unit investigated for use on TN(-S) system.	Pass
1.6.2	Input current	(See appended table 1.6.2.)	Pass
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.7	Marking and instructions		Pass
1.7.1	Power rating		N/A
	Rated voltage(s) or voltage range(s) (V)	100-240 vac	Pass
	Symbol for nature of supply, for d.c. only		N/A
	Rated frequency or rated frequency range (Hz).....	50-60 Hz	Pass
	Rated current (mA or A)	Rated Current: 4.0 A	Pass
	Manufacturer's name or trademark or identification mark.....	GlobTek, Inc.	Pass
	Type/model or type reference	GT-9250P and GTM9250P Series	Pass
	Symbol for Class II equipment only		N/A
	Other symbols		N/A
	Certification marks.....		N/A
1.7.2	Safety instructions	Accompanying documents not provided. Acceptability to be determined in the end product.	N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment		N/A
1.7.5	Power outlets on the equipment.....		N/A
1.7.6	Fuse identification.....	Fuse(s) provided with voltage, current, and special fusing characteristic marking as applicable. See Schematics and PWB Enclosure for details.	Pass
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals.....		N/A
1.7.7.2	Terminal for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking		N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417		N/A
1.7.8.4	Markings using figures.....		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.9	Isolation of multiple power sources		N/A
1.7.10	IT power distribution systems		N/A
1.7.11	Thermostats and other regulating devices		N/A
1.7.12	Language.....	May be provided in other languages upon request from the manufacturer. See Miscellaneous Enclosure for details.	-
1.7.13	Durability		Pass
1.7.14	Removable parts		N/A
1.7.15	Replaceable batteries		N/A
	Language.....		-
1.7.16	Operator access with a tool		N/A
1.7.17	Equipment for restricted access locations.....		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2	PROTECTION FROM HAZARDS		Pass
2.1	Protection from electric shock and energy hazards		Pass
2.1.1	Protection in operator access areas	Unit is intended for building-in; to be determined in the end product.	Pass
2.1.1.1	Access to energized parts		N/A
	Test by inspection..... :		N/A
	Test with test finger..... :		N/A
	Test with test pin..... :		N/A
	Test with test probe :		N/A
2.1.1.2	Battery compartments..... :		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V); minimum distance (mm) through insulation :		-
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards..... :		N/A
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		Pass
	Time-constant (s); measured voltage (V) :	At one second, the following voltages were measured: Line to Neutral = <0.1 V peak Line to Protective Earth = <0.1 V peak Neutral to Protective Earth = 5 V peak	-
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.2	SELV circuits		Pass
2.2.1	General requirements		Pass
2.2.2	Voltages under normal conditions (V) :	All accessible voltages are less than 42.4 Vp or 60 V dc and are classified as SELV.	Pass
2.2.3	Voltages under fault conditions (V)..... :	Under fault conditions voltages never exceed 71V peak and 120Vdc and do not exceed 42.4V peak or 60V dc for more than 0.2 sec.	Pass
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)		Pass
2.2.3.2	Separation by earthed screen (method 2)		N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N/A
2.2.4	Connection of SELV circuits to other circuits..... :		N/A

2.3	TNV circuits		N/A
2.3.1	Limits		N/A
	Type of TNV circuits :		-
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed..... :		-
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed..... :		-
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed..... :		-
2.3.5	Test for operating voltages generated externally		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.4	Limited current circuits		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz)		-
	Measured current (mA)		-
	Measured voltage (V)		-
	Measured capacitance (mF)		-
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	Limited power sources		N/A
	Inherently limited output		N/A
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition		N/A
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (V), output current (A), apparent power (VA):		-
	Current rating of overcurrent protective device (A):		-

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.6	Provisions for earthing and bonding		Pass
2.6.1	Protective earthing	Power supply for building-in. Parts intended to be connected to the PE Terminal in the end product are separated by basic insulation (Class I units only).	N/A
2.6.2	Functional earthing	Power supply for building-in. Functionally earthed parts/circuits are reliable separated from MAINS parts by double/reinforced insulation.	Pass
2.6.3	Protective earthing and protective bonding conductors	Unit is intended for building-in; to be determined in the end product. Bonding conductors were tested and found acceptable.	Pass
2.6.3.1	General		Pass
2.6.3.2	Size of protective earthing conductors	Unit is intended for building-in; to be determined in the end product.	N/A
	Rated current (A), cross-sectional area (mm ²), AWG		-
2.6.3.3	Size of protective bonding conductors		Pass
	Rated current (A), cross-sectional area (mm ²), AWG		-
2.6.3.4	Resistance (Ohm) of earthing conductors and their terminations, test current (A)	Unit is intended for building-in; to be determined in the end product. Test conducted from earthing tab of unit to the farthest point away on the chassis. Test conditions: 40A (12Vac source), for 2 minutes. Calculated resistance = 0.0212 Ohms.	Pass
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		Pass
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals	Unit is intended for building-in; to be determined in the end product. Bonding terminals	Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

		are acceptable.	
	Rated current (A), type and nominal thread diameter (mm)		-
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Unit is intended for building-in; to be determined in the end product.	N/A
2.6.5	Integrity of protective earthing	Unit is intended for building-in; to be determined in the end product.	N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.7	Overcurrent and earth fault protection in primary circuits		Pass
2.7.1	Basic requirements		Pass
	Instructions when protection relies on building installation		Pass
2.7.2	Faults not covered in 5.3		Pass
2.7.3	Short-circuit backup protection	Fuses are appropriately rated for the application.	Pass
2.7.4	Number and location of protective devices..... :	One protective device in the "LIVE" phase. May be provided optionally with one protective device in each phase conductor.	Pass
2.7.5	Protection by several devices	When more than one fuse is provided, all protective devices are located together.	Pass
2.7.6	Warning to service personnel :	To be determined in the end-product.	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm) :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.9	Electrical insulation		Pass
2.9.1	Properties of insulating materials		Pass
2.9.2	Humidity conditioning		Pass
	Humidity (%) :		-
	Temperature (°C)..... :		-
2.9.3	Grade of insulation		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.10	Clearances, creepage distances and distances through insulation		Pass
2.10.1	General		Pass
2.10.2	Determination of working voltage		Pass
2.10.3	Clearances		Pass
2.10.3.1	General		Pass
2.10.3.2	Clearances in primary circuit		Pass
2.10.3.3	Clearances in secondary circuits		Pass
2.10.3.4	Measurement of transient voltage levels		N/A
2.10.4	Creepage distances	Unit provided with at least 8.0 mm creepage from primary to secondary, and at least 5.0 mm from primary to earth.	Pass
	CTI tests..... :		-
2.10.5	Solid insulation		Pass
2.10.5.1	Minimum distance through insulation		N/A
2.10.5.2	Thin sheet material		Pass
	Number of layers (pcs) :		-
	Electric strength test :		-
2.10.5.3	Printed boards		N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material :		-
	Number of layers (pcs) :		N/A
2.10.5.4	Wound components		Pass
	Number of layers (pcs) :	Three extruded layers. See Annex U for additional details.	Pass
	Two wires in contact inside wound component; angle between 45° and 90° :		N/A
2.10.6	Coated printed boards		N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.10.6.4	Thermal ageing (°C) :		N/A
2.10.6.5	Electric strength test :		-
2.10.6.6	Abrasion resistance test		N/A
	Electric strength test :		-
2.10.7	Enclosed and sealed parts :		N/A
	Temperature T1=T2 = Tma - Tamb +10K (°C)..... :		N/A
2.10.8	Spacings filled by insulating compound..... :		N/A
	Electric strength test :		-
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A

3	WIRING, CONNECTIONS AND SUPPLY		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection		Pass
3.1.2	Protection against mechanical damage	Unit is intended for building-in; to be determined in the end product.	N/A
3.1.3	Securing of internal wiring	Internal wiring is triple insulated but held in place using silicone.	Pass
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

3.2	Connection to an a.c. mains supply or a d.c. mains supply		N/A
3.2.1	Means of connection	Unit intended for building-in. To be re-evaluated in the end-product.	N/A
3.2.1.1	Connection to an a.c. mains supply	Unit intended for building-in.	N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter (mm) of cable and conduits..... :		-
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords	Unit intended for building-in.	N/A
	Type..... :		-
	Rated current (A), cross-sectional area (mm ²), AWG :		-
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) :		-
	Longitudinal displacement (mm)..... :		-
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	D (mm); test mass (g) :		-
	Radius of curvature of cord (mm) :		-
3.2.9	Supply wiring space		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

3.3	Wiring terminals for connection of external conductors		Pass
3.3.1	Wiring terminals	Applicable to Metal Enclosed Class I and Class II input units only (since those are the only models provided with screw terminals.)	Pass
3.3.2	Connection of non-detachable power supply cords	Unit is intended for building-in; to be determined in the end product.	N/A
3.3.3	Screw terminals		Pass
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)	Terminals are sized accordingly to allow the connection of conductors having nominal cross-sectional areas.	-
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type and nominal thread diameter (mm)	Screw type terminals. Minimum nominal thread diameter: 3.5 mm.	-
3.3.6	Wiring terminals design		Pass
3.3.7	Grouping of wiring terminals		Pass
3.3.8	Stranded wire		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

3.4	Disconnection from the mains supply		N/A
3.4.1	General requirement	Unit is intended for building-in; to be determined in the end product.	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Single-phase equipment and d.c. equipment		N/A
3.4.7	Three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

3.5	Interconnection of equipment		N/A
3.5.1	General requirements		N/A
3.5.2	Types of interconnection circuits		N/A
3.5.3	ELV circuits as interconnection circuits		N/A

4	PHYSICAL REQUIREMENTS		Pass
4.1	Stability		N/A
	Angle of 10°	Unit is intended for building-in; to be determined in the end product.	N/A
	Test: force (N)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.2	Mechanical strength		N/A
4.2.1	General	Unit is intended for building-in; to be determined in the end product.	N/A
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		N/A
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified :		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.3	Design and construction		N/A
4.3.1	Edges and corners		N/A
4.3.2	Handles and manual controls; force (N) :		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection of plugs and sockets		N/A
4.3.6	Direct plug-in equipment		N/A
	Dimensions (mm) of mains plug for direct plug-in . :		N/A
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N) :		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids..... :		N/A
	Quantity of liquid (l)..... :		N/A
	Flash point (°C)..... :		N/A
4.3.13	Radiation; type of radiation		N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) :		-
	Measured high-voltage (kV)..... :		-
	Measured focus voltage (kV) :		-
	CRT markings..... :		-
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification :		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation..... :		N/A
4.3.13.5	Laser (including LEDs)		N/A
	Laser class..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict

4.3.13.6	Other types		N/A
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4.4	Protection against hazardous moving parts		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A

4.5	Thermal requirements		Pass
4.5.1	Maximum temperatures		Pass
	Normal load condition per Annex L		N/A
4.5.2	Resistance to abnormal heat		N/A

4.6	Openings in enclosures		N/A
4.6.1	Top and side openings		N/A
	Dimensions (mm)		-
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom		-
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C)/time (weeks)		-

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Clause	Requirement + Test	Result - Remark	Verdict

4.7	Resistance to fire		N/A
4.7.1	Reducing the risk of ignition and spread of flame		N/A
	Method 1, selection and application of components wiring and materials		N/A
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure		N/A
4.7.2.1	Parts requiring a fire enclosure		N/A
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		N/A
4.7.3.1	General		N/A
4.7.3.2	Materials for fire enclosures		N/A
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		N/A
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General		Pass
5.1.2	Equipment under test (EUT)		Pass
5.1.3	Test circuit		Pass
5.1.4	Application of measuring instrument		Pass
5.1.5	Test procedure		Pass
5.1.6	Test measurements		Pass
	Test voltage (V)	240 Vac	-
	Measured touch current (mA)	0.215 mA	-
	Max. allowed touch current (mA)	3.5 mA	-
	Measured protective conductor current (mA)		-
	Max. allowed protective conductor current (mA) ...		-
5.1.7	Equipment with touch current exceeding 3.5 mA ..		N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		N/A
	Test voltage (V)		-
	Measured touch current (mA)		-
	Max. allowed touch current (mA)		-
5.1.8.2	Summation of touch currents from telecommunication networks		N/A

5.2	Electric strength		Pass
5.2.1	General		Pass
5.2.2	Test procedure		Pass

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Clause	Requirement + Test	Result - Remark	Verdict

5.3	Abnormal operating and fault conditions		Pass
5.3.1	Protection against overload and abnormal operation		Pass
5.3.2	Motors		N/A
5.3.3	Transformers		Pass
5.3.4	Functional insulation	Functional insulation complies with the requirements (a), (b), or (c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults		Pass
5.3.7	Unattended equipment		N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions		Pass

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Test voltage (V)		-
	Current in the test circuit (mA)		-
6.1.2.2	Exclusions.....		N/A

6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		-
	Current limiting method.....		-

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.2	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.3	Insulation between primary circuits and cable distribution systems		N/A
7.3.1	General		N/A
7.3.2	Voltage surge test		N/A
7.3.3	Impulse test		N/A

A	Annex A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		-
	Wall thickness (mm)		-
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples.....		N/A
A.1.4	Test flame		N/A
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		-
	Sample 2 burning time (s).....		-
	Sample 3 burning time (s).....		-

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Clause	Requirement + Test	Result - Remark	Verdict

A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		-
	Wall thickness (mm)		-
A.2.2	Conditioning of samples		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame		N/A
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		-
	Sample 2 burning time (s).....		-
	Sample 3 burning time (s).....		-
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4, 8		N/A
	Sample 1 burning time (s).....		-
	Sample 2 burning time (s).....		-
	Sample 3 burning time (s).....		-

A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

B	Annex B, MOTOR TESTS UNDER ABNORMAL CONDITIONS(see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		-
	Manufacturer.....		-
	Type		-
	Rated values		-
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days).....		-
	Electric strength test: test voltage (V).....		-
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	Test procedure		N/A
B.7.2	Alternative test procedure; test time (h).....		N/A
B.7.3	Electric strength test		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V).....		-

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Clause	Requirement + Test	Result - Remark	Verdict

C	Annex C, TRANSFORMERS (see 1.5.4 and 5.3.3)		Pass
	Position	T1	-
	Manufacturer.....	GlobTek	-
	Type	Isolation	-
	Rated values	150W through 270W units	-
	Method of protection	Reinforced	-
C.1	Overload test		Pass
C.2	Insulation		Pass
	Protection from displacement of windings.....	Triple insulated wire used.	Pass

D	Annex D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS		N/A
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A

E	Annex E, TEMPERATURE RISE OF A WINDING		Pass
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F	Annex F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		N/A
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Clause	Requirement + Test	Result - Remark	Verdict

G	Annex G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	DC mains supply		N/A
G.3	Determination of telecommunication network transient voltage (V) :..... :		N/A
G.4	Determination of required withstand voltage (V) ... :		N/A
G.5	Measurement of transient levels (V)..... :		N/A
G.6	Determination of minimum clearances :		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
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J	Annex J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal used :		-

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) :		N/A
K.3	Thermostat endurance test; operating voltage (V) :		N/A
K.4	Temperature limiter endurance; operating voltage (V) :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

L	Annex L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)		N/A
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		N/A

M	Annex M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz)		-
M.3.1.2	Voltage (V).....		-
M.3.1.3	Cadence; time (s), voltage (V)		-
M.3.1.4	Single fault current (mA)		-
M.3.2	Tripping device and monitoring voltage.....		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V).....		N/A

N	Annex N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

P	Annex P, NORMATIVE REFERENCES		N/A
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Q	Annex Q, BIBLIOGRAPHY		N/A
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R	Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

S	Annex S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

T	Annex T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
 :		-

U	Annex U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		Pass
 :	Furukawa TEX-E wire provided. This report does not include the investigation or the test report for the triple insulated wire employed in the transformer. A test report for the power supply may be required when submitting this CB Test Report to a National Certification Body (NCB) for obtaining certification at national level.	-

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1.5.1	TABLE: list of critical components					Pass
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
Printed Wiring Board (all models)	Gospeed PCB Co.	KS-01	Min V-0, FR4 material	UL 796C	UL R/C, -	
Alternate - Printed Wiring Board	Wan Nien	03V0	Min V-1, 105°C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	Cheerful	03	Min V-1, 130 °C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	King Board	CEM-1	Min V-1, 130 °C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	Evergreen PCB FTY LTD	EG1	Min V-1, 130 °C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	Crimp Circuits	1-0	Min V-1, 105 °C, rated for direct support of live parts	UL 796, IEC60603-2	UL R/C, -	
Alternate - Printed Wiring Board	various	various	Min V-1, 105°C, rated for direct support of live parts	UL 796, IEC 60603-2	UL R/C, -	
Input Connector (-S, -M, -HOXXX versions)	Molex	26-60-4050	250V, 5A, 3.96mm, second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA	
Alternate - Input Connector (-S, -M, -HOXXX versions)	WELI Sheng	M-139601	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA	
Alternate - Input Connector (-S, -M, -HOXXX versions)	Joint Tech Electronic Industrial Co Ltd.	A3960WV-5P	250V, 5A, 3.96mm, Second and fourth pins removed, rated	UL 1059 IEC 60947	UL R/C, TUV, CSA	

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			min V-2.		
Alternate - Input Connector (-S, -M, -HOXXX versions)	Lian Cheng	A3960WV-5P	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Input Connector (-S, -M, -HOXXX versions)	Landwin	CQ306IP050TN A	250V, 7A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, CSA
Input Connector (HIXXX, HIOXXX and HIHXXX versions)	Molex	09-50-3051	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Input Connector (HIXXX, HIOXXX and HIHXXX versions)	WELI Sheng	P-I39601	250V, 7A, 5 CKT 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV CSA
Alternate - Input Connector (HIXXX, HIOXXX and HIHXXX versions)	Joint Tech Electronic Industrial Co Ltd.	A3960H-5P	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Input Connector (HIXXX, HIOXXX and HIHXXX versions)	Lian Cheng	A3960H-5P	250V, 5A, 3.96mm, Second and fourth pins removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Output Connector (-S and -HIXXX versions)	JITE	BTB654-10-04-1-M1	300V, 20A, 4 circuits, rated min V-0.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-S and -HIXXX versions)	Dinkle	DT-45-B14W-XX	300V, 20A, 4 circuits, rated min V-0.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output	Tyco/Buchanan	6PCV-04	300V, 20A, 4 circuits, rated	UL 1059 IEC 60947	UL R/C, TUV, CSA

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Clause	Requirement + Test		Result - Remark		Verdict
Connector (-S and -HIXXX versions)			min V-0.		
Output Connector (-HOXXX and -HIXXX versions)	Molex	09-50-3101	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-HOXXX and -HIXXX versions)	WELI Sheng	P-139XXXX	250V, 7A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-HOXXX and -HIXXX versions)	Joint Tech Electronic Industrial Co. Ltd.	A3960H-10P	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-HOXXX and -HIXXX versions)	Lian Cheng	A3960H-10P	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Output Connector (-M and -HIXXX versions)	Molex	26-60-4100	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-M and -HIXXX versions)	WELI Sheng	M-139XXX	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-M and -HIXXX versions)	Joint Tech Electronic Industrial Co. Ltd.	A396WV-10P	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-M and -HIXXX versions)	Lian Cheng	A396WV-10P	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Alternate - Output Connector (-M and -HIXXX versions)	Landwin	CQ306IP100TN A	250V, 5A, 3.96 mm pins 5 and 6 removed, rated min V-2.	UL 1059 IEC 60947	UL R/C, TUV, CSA
Fuse (F1, F2)	Wickmann	372/TR5 Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/C, VDE, SEMKO, METI,

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Clause	Requirement + Test	Result - Remark	Verdict

					CCC
Alternate Fuse (F1, F2)	Littelfuse	372/TR5 Series	250V, 5 A, time lag;	UL 198G IEC 60127	UL R/C, VDE, SEMKO, METI, CCC, PSE-JET, K-Mark
Alternate Fuse (F1, F2)	Bel	MRT Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/, CVDE SEMKO CSA PSE CCC
Alternate Fuse (F1, F2)	Conquer	MET Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/C, VDE, SEMKO, CSA, MITI, CCC
Alternate Fuse (F1, F2)	Walter	2000 Series	250V, 5 A, time lag;	UL 198G IEC 60127	UL R/C, VDE, SEMKO, PSE, CCC
Alternate Fuse (F1, F2)	Wickmann	382/TR5 Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/C, -
Alternate Fuse (F1, F2)	ELU	166050 Series	250V, 5 A, time lag	UL 198G IEC 60127	UL R/C, VDE, SEMKO, METI, CCC
MOV (MOV1/MOV2 optional)	RGA	CNR-07D471K	300Vac	UL 1449 IEC 60384	UL R/C, CSA VDE
Alternate MOV (MOV1/MOV2 optional)	Thinking Electronics	TVR07471	300Vac	UL 1449 IEC 60384	UL R/C, CSA VDE CQC
Alternate MOV (MOV1/MOV2 optional)	Littelfuse	V07E300	300Vac	UL 1449 IEC 60384	UL R/C, CSA VDE
Alternate MOV (MOV1/MOV2 optional)	Panasonic	ERZV07D471	300Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate MOV (MOV1/MOV2 optional)	CNR	CNR-07D471K	300Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate MOV (MOV1/MOV2 optional)	JOYIN	JVN07N471K65 PU5	300Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate	Song Long	471KD07J	300Vac	UL 1449	UL R/C, CSA,

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
MOV (MOV1/MOV2 optional)	Electronics			IEC 60384	VDE
Alternate MOV (MOV1/MOV2 optional)	Panasonic	ERZ-V10D511	320Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate MOV (MOV1/MOV2 optional)	Centra Science	10D511K	320Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Alternate MOV (MOV1/MOV2 optional)	Song Long Electronics	SAS511KD10 SBNE	320Vac	UL 1449 IEC 60384	UL R/C, CSA, VDE
Capacitor - Line to Line (CX1)	Cheng Tung	CTX	300V, 0.47uF maximum, Class X1	UL 1283	UL R/C, -
Alternate Capacitor - Line to Line (CX1)	UTX	HQX	275V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, FIMKO
Alternate Capacitor - Line to Line (CX1)	Pilkor	PCX Series	250V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE, FIMKO
Alternate Capacitor - Line to Line (CX1)	Panasonic	ECQUL	250V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE
Alternate Capacitor - Line to Line (CX1)	Philips	PCX2335	250V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, SEMKO
Alternate Capacitor - Line to Line (CX1)	Rifa	PHE	275V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, ENEC
Alternate Capacitor - Line to Line (CX1)	Okaya	LE	250V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, SEMKO
Alternate Capacitor - Line to Line (CX1)	BC Components	MKP	270V, 0.47uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE NEMKO, SEMKO, DEMKO, FIMKO, SEV, CE

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Capacitor - Line to Line (CX1A)	Cheng Tung	CTX	300V, 2.2uF maximum, Class X1	UL 1283	UL R/C, -
Alternate Capacitor - Line to Line (CX1A)	UTX	HQX	275V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, FIMKO
Alternate Capacitor - Line to Line (CX1A)	Pilkor	PCX Series	250V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE, FIMKO
Alternate Capacitor - Line to Line (CX1A)	Panasonic	ECQUL	250V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE
Alternate Capacitor - Line to Line (CX1A)	Philips	PCX2335	250V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C SEMKO, VDE
Alternate Capacitor - Line to Line (CX1A)	Rifa	PHE	275V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, ENEC
Alternate Capacitor - Line to Line (CX1A)	Okaya	LE	250V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, SEMKO
Alternate Capacitor - Line to Line (CX1A)	BC Components	MKP	270V, 2.2uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE NEMKO SEMKO DEMKO FIMKO SEV, CE
Capacitor - Line to Line (CX2)	Cheng Tung	CTX	300V, 0.12uF maximum, Class X1	UL 1283	UL R/C, -
Alternate Capacitor - Line to Line (CX2)	UTX	HQX	275V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, FIMKO
Alternate Capacitor - Line to Line (CX2)	Pilkor	PCX Series	250V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA VDE FIMKO
Alternate Capacitor - Line to Line	Panasonic	ECQUL	250V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA VDE

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

(CX2)					
Alternate Capacitor - Line to Line (CX2)	Philips	PCX2335	250V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, VDE, SEMKO
Alternate Capacitor - Line to Line (CX2)	Rifa	PHE	275V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C,, CSA, ENEC
Alternate Capacitor - Line to Line (CX2)	Okaya	LE	250V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, SEMKO
Alternate Capacitor - Line to Line (CX2)	BC Components	MKP	270V, 0.12uF maximum, Class X2	UL 1283 IEC 60384	UL R/C, CSA, VDE NEMKO SEMKO DEMKO FIMKO SEV, CE
Capacitor - Line to Earth (CY1, CY2)	Pan Overseas	AC#	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE SEMKO
Alternate Capacitor - Line to Earth (CY1, CY2)	Murata	KH#	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor - Line to Earth (CY1, CY2)	Success	SF	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE FIMKO DEMKO SEMKO CCC
Alternate Capacitor - Line to Earth (CY1, CY2)	Welson	KL	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor - Line to Earth (CY1, CY2)	JYA-NAY CO. LTD	JY	250V, 1.0nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE, CSA FIMKO DEMKO SEMKO NEMKO CB, SEV ENEC 10 CHINA
Alternate Capacitor - Line to Earth (CY1,	TDK	CD	250V, 1.0nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

CY2)					
Capacitor - Line to Earth (CY3)	Pan Overseas	AC#	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE, SEMKO
Alternate Capacitor - Line to Earth (CY3)	Murata	KH#	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor - Line to Earth (CY3)	Success	SF	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE FIMKO DEMKO SEMKO CCC
Alternate Capacitor - Line to Earth (CY3)	Welson	KL	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor - Line to Earth (CY3)	JYA-NAY CO. LTD	JY	250V, 2.2nf maximum, Class Y2 min	UL 1283 IEC 60384	UL R/C, VDE, CSA FIMKO DEMKO SEMKO NEMKO CB, SEV
Alternate Capacitor - Line to Earth (CY3)	TDK	CD	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Capacitor, Bridging (CY5)	Pan Overseas	AH	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor, Bridging (CY5)	Murata	KX	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor, Bridging (CY5)	TDK	CD	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, CSA, VDE
Alternate Capacitor, Bridging (CY5)	Welson	WD	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor, Bridging (CY5)	Chun Fyu	CD	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE
Alternate Capacitor, Bridging (CY5)	JYA-NAY CO. LTD	JN	250V, 2.2nf maximum, Class Y1	UL 1283 IEC 60384	UL R/C, VDE, CSA FIMKO DEMKO SEMKO NEMKO CB, SEV
NTC Thermistor	Thinking	SCK	16 Ohm, 4A	UL 1434	UL R/C, CSA

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

(RTH1)	Electronics or equivalent			IEC 60730	
NTC Thermistor (RTH1) Alternate	Thermometrics or equivalent	CL70	16 Ohm, 4A	UL 1434 IEC 60730	UL R/C, CSA
Thermal Switch TS1	Dong Guan Chwen-Der Elec or Equivalent	CD2KF-0-80A/100	80C/100C	IEC 60691	UL R/C, VDE
Alternate Thermal Switch (TS1)	THERMOSTATE	UP72-80/100PM5	80C/100C	IEC 60691	UL R/C, VDE
Diode Bridge (BD1)	ST	KG600P	600V 10A minimum	Tested in the power supply.	-, -
Capacitor (C5)	Rubycon	MXG Series t	450V, 220uf max.	Tested in the power supply.	-, -
Alternate Capacitor (C5)	various	various	450V, 220uf max.	Tested in the power supply.	-, -
MOSFET (Q1)	ST	STW45NM50 or equivalent	500V, 40A	Tested in the power supply.	-, -
Alternate MOSFET (Q1)	ST	IRFP460A	500V, 20A minimum	Tested in the power supply.	-, -
Alternate MOSFET (Q1)	IR	IRFP450	500V, 14A minimum	Tested in the power supply.	-, -
Alternate MOSFET (Q1)	various	various	500V, 14A minimum	Tested in the power supply.	-, -
MOSFET (Q2, Q3)	ST	STW13NK100Z	1000V, 13A	Tested in the power supply.	-, -
Alternate MOSFET (Q2, Q3)	Fuji	2SK3337-01	1000V, 7A	Tested in the power supply.	-, -
Alternate MOSFET (Q2, Q3)	various	various	1000V, 7A	Tested in the power supply.	-, -
Diode (D1)	IXYS	DSEI30-06A	600V, 37A	Tested in the power supply.	-, -
Alternate Diode (D1)	APT	APT30D60B	600V, 30A	Tested in the power supply.	-, -
Alternate Diode (D1)	various	various	600V, 30A	Tested in the power supply.	-, -
Transformer (T1) 3.3V to 48V	Globtek/ Young-Shang Electronic Plant/ Volt Electronic Factory/ Yao Sheng Electronic Co Ltd/ENG	400-0087 = 3.3V 400-0101 = 5V 400-0086 = 7.5V 400-0106 = 9V 400-0104 = 12V 400-0105 = 15V 400-0089 = 18V 400-0130 = 22V 400-0102 = 24V 400-0107 = 30V	Provides reinforced/double insulation. Provided w/ R/C Class B (130°C) insulation system. See Diagrams Enclosure for details.	Tested in the power supply.	-, -

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Clause	Requirement + Test	Result - Remark	Verdict

		400-0103= 36V 400-0108 = 40V 400-0088 = 48V			
Insulation System (employed in T1)	Globtek	GTX-1	Class B (130°C). For transformer manufactured by GlobTek only.	UL 506	UL R/C, -
Insulation System (employed in T1)	Young-Shang Electronic Plant	YSE 0510 YSE 0522	Class B (130°C). For transformer manufactured by Young- Shang Electronic Plant.	UL 506	UL R/C, -
Alternate Insulation System (employed in T1)	Volt Electronic Factory	R152D R172D TVT-130 DASH 2B-5 TVT-130 GH-130	Class B (130°C). For transformer manufactured by Heng Chi Li only.	UL 506	UL R/C, -
Alternate Insulation System (employed in T1)	Yao Sheng electronic Co Ltd	YST-JC1 M7A90 M7AGHB M7ADEW DASH 2B-5A	Class B (130°C). For transformer manufactured by Heng Chi Li only.	UL 506	UL R/C, -
Optical Isolator (U5, U6)	Liteon	LTV817C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, TUV, CSA VDE FIMKO NEMKO DEMKO SEMKO BSI
Alternate - Optical Isolator (U5, U6)	Sharp	PC817C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, TUV
Alternate - Optical Isolator (U5, U6))	Fairchild	FOD817C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Alternate - Optical Isolator (U5, U6)	Infineon	SFH615ABM	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Alternate - Optical Isolator (U5, U6)	NEC	PS2501-1L	5000 Vac isolation	UL 1577 IEC 60947	UL R/, TUV
Alternate - Optical Isolator (U5, U6)	Cosmo Electronics Co.	KP1010C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Alternate - Optical Isolator	Everlight	EL817C	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE SEMKO

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Clause	Requirement + Test	Result - Remark	Verdict

(U5, U6))					FIMKO NEMKO DEMKO CSA, BSI
Alternate - Optical Isolator (U5, U6)	Matsushita Electric Corp.	ON3171	5000 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Optical Isolator (U4)	Fairchild or equivalent	MOC3022 or equivalent	5300 Vac isolation	UL 1577 IEC 60947	UL R/C, VDE
Light Emitting Diode (LED1)	LITEON Or equivalent	LTL-16KGE	575 nm wavelength Green visible light range only	Tested in the power supply.	-, -
Alternate - Light Emitting Diode (LED1)	Cosmo Electronics Co.	KLR03CGX	525 nm wavelength Green visible light range only.	Tested in the power supply.	-, -
Alternate - Light Emitting Diode (LED1)	Bright Led Electronics Corp	BL-B2141-AT LED Ø3	Gallium Phosphide green diffused.	Tested in the power supply.	-, -
Alternate - Light Emitting Diode (LED1)	Brightek Optoelectronics Co., Ltd.	LA304G1DA-1A/01 Ø3	Gallium Phosphide green diffused.	Tested in the power supply.	-, -
Insulator between PCB and Chassis	Sun-Yo Industrial Co	HX-3F1301-001	Formex GK-18 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Alternate - Insulator between PCB and Chassis	DMC	HX-3F1301-001	Formex GK-18 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Alternate - Insulator between PCB and Chassis	FU YI	HX-3F1301-001	Formex GK-18 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Alternate - Insulator between PCB and Chassis	various	various	Formex GK-18 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Alternate - Insulator between PCB and Chassis	Device Mate Corp.	FR-60	FR-60 Rated min V-0, min thickness of 0.43mm	UL 94	UL R/C, -
Cooling Fans (Fan1 & Fan2 for 250W version)	SUNON	KD1204PKV2 or KDE1204PKV2	12VDC 0.6W (0.8W) 40x40x20mm	UL 507 IEC 60950	UL R/C, TUV CE
Alternate - Cooling Fans	SUNON	KDE1204PKV1	12VDC 0.8W 40x40x20mm	UL 507 IEC 60950	UL R/C, TUV CE

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

(Fan1 & Fan2 for 250W version)					
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	SUNON	KDE1204PKVX	12VDC 1.4W 40x40x20mm	UL 507 60950	IEC UL R/C, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	SUNON	KDE1204PKV3	12VDC 0.6W 40x40x20mm	UL 507 60950	IEC UL R/C, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	SUNON	KDE1204PKBX-8 OR KD1204PKBX-8	12VDC 1.1W 40x40x20mm	UL 507 60950	IEC UL R/C, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	Adda	AD0412LB-C50	12VDC 0.07W 40x40x20mm	UL 507 60950	IEC UL R/C, TUV CE, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	NMB	1608KL-04W-B10 to B50	12VDC 0.48W to 1.32W 40x40x20mm	UL 507 60950	IEC UL R/C, TUV CE, TUV CE
Alternate - Cooling Fans (Fan1 & Fan2 for 250W version)	EBM Papst	412/412H	12VDC 0.9W/1.6W 40x40x20mm	UL 507 60950	IEC UL R/C, CSA VDE, CSA, VDE
Cooling Fans (Fan1 & Fan2 for 270W version)	SUNON	KDE1208PTV1	12VDC 1.8W 80X80X25mm	UL 507 60950	IEC UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	SUNON	KDE1208PTV2	12VDC 1.6W 80X80X25mm	UL 507 60950	IEC UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	SUNON	KDE1208PTV3	12VDC 1.8W 80X80X25mm	UL 507 60950	IEC UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	Adda	AD0812MB-A70GL	12VDC 1.8W 40x40x25mm	UL 507 60950	IEC UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	SUNON	KD1208PTB3	Brushless 12VDC 80x80x25mm	UL 507 60950	IEC UL R/C, TUV
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	NMB	3110KL-04W-B30-P00	Brushless 12VDC 80x80x25mm	UL 507 60950	IEC UL R/C, CSA VDE CE

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Clause	Requirement + Test	Result - Remark	Verdict

270W version)					
Alternate - Cooling Fans (Fan1 & Fan2 for 270W version)	EBM Papst	8412NME	Brushless 12VDC 80x80x25mm	UL 507 60950 IEC	UL R/C VDE, CSA
¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance					

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: electrical data (in normal conditions)						Pass
fuse #	I rated (A)	U (V)	P (W)	I (mA)	I fuse (mA)	condition/status	
-	-	-	-	-	-	Model GTM9250P753.3	
F1	4	90	113.0	1256	4000	Rated Load	
F1	4	100	112.0	1120	4000	Rated Load	
F1	4	120	110.8	924	4000	Rated Load	
F1	4	180	108.6	607	4000	Rated Load	
F1	4	220	108.0	499	4000	Rated Load	
F1	4	240	107.6	460	4000	Rated Load	
F1	4	264	107.3	506	4000	Rated Load	
-	-	-	-	-	-	Model GTM9250P1203.3	
F1	4	90	181.2	2014	4000	Rated Load	
F1	4	100	179.0	1792	4000	Rated Load	
F1	4	120	176.2	1471	4000	Rated Load	
F1	4	180	172.4	960	4000	Rated Load	
F1	4	220	171.0	782	4000	Rated Load	
F1	4	240	170.3	716	4000	Rated Load	
F1	4	264	170.0	765	4000	Rated Load	
-	-	-	-	-	-	Model GTM925P1503.3	
F1	4	90	232.1	2581	4000	Rated Load	
F1	4	100	228.8	2288	4000	Rated Load	
F1	4	120	224.8	1874	4000	Rated Load	
F1	4	180	218.9	1217	4000	Rated Load	
F1	4	220	216.4	987	4000	Rated Load	
F1	4	240	215.4	902	4000	Rated Load	
F1	4	264	214.5	865	4000	Rated Load	
-	-	-	-	-	-	Model GTM9250P15012	
F1	4	90	186.0	2067	4000	Rated Load	
F1	4	100	184.0	1841	4000	Rated Load	
F1	4	120	181.8	1518	4000	Rated Load	
F1	4	180	178.9	1000	4000	Rated Load	
F1	4	220	178.0	823	4000	Rated Load	
F1	4	240	177.7	760	4000	Rated Load	
F1	4	264	177.5	787	4000	Rated Load	
-	-	-	-	-	-	Model GTM9250P15048	
F1	4	90	189.5	2111	4000	Rated Load	
F1	4	100	187.2	1875	4000	Rated Load	
F1	4	120	184.4	1539	4000	Rated Load	
F1	4	180	181.2	1016	4000	Rated Load	
F1	4	220	180.0	836	4000	Rated Load	
F1	4	240	179.6	773	4000	Rated Load	
F1	4	264	179.3	800	4000	Rated Load	
-	-	-	-	-	-	Model GTM9250P25012	
F1	4	90	321.4	3573	4000	Rated Load	
F1	4	100	313.0	3131	4000	Rated Load	
F1	4	120	304.7	2539	4000	Rated Load	

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Clause	Requirement + Test				Result - Remark	
F1	4	180	296.3	1652	4000	Rated Load
F1	4	220	294.0	1346	4000	Rated Load
F1	4	240	293.1	1232	4000	Rated Load
F1	4	264	291.9	1122	4000	Rated Load
-	-	-	-	-	-	Model GTM9250P25048
F1	4	90	309.8	3446	4000	Rated Load
F1	4	100	303.7	3042	4000	Rated Load
F1	4	120	297.1	2478	4000	Rated Load
F1	4	180	290.0	1617	4000	Rated Load
F1	4	220	288.0	1318	4000	Rated Load
F1	4	240	287.1	1208	4000	Rated Load
F1	4	264	286.3	1100	4000	Rated Load
-	-	-	-	-	-	Model GTM9250P27012
F1	4	90	346.7	3858	4000	Rated Load
F1	4	100	338.0	3384	4000	Rated Load
F1	4	120	330.0	2754	4000	Rated Load
F1	4	180	320.4	1787	4000	Rated Load
F1	4	220	317.9	1456	4000	Rated Load
F1	4	240	316.8	1334	4000	Rated Load
F1	4	264	315.7	1214	4000	Rated Load
-	-	-	-	-	-	Model GTM9250P27048
F1	4	90	343.1	3818	4000	Rated Load
F1	4	100	334.1	3350	4000	Rated Load
F1	4	120	326.1	2730	4000	Rated Load
F1	4	180	316.1	1778	4000	Rated Load
F1	4	220	314.1	1451	4000	Rated Load
F1	4	240	313.1	1333	4000	Rated Load
F1	4	264	312.2	1217	4000	Rated Load
supplementary information:						
-						

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements						Pass
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)	
AC Input L-N	264	2121	1.6	5.0	3.0	5.0	
AC Input N-G	264	2121	1.6	5.0	3.0	5.0	
LF4 to LF3	264	2121	2.5	3.0	3.0	4.5	
L1 to LF5	264	2121	2.5	6.5	4.0	10.0	
LF4 to LF5	264	2121	2.5	6.5	4.0	10.0	
T1 to L100	264	2121	2.5	6.5	4.0	10.0	
T1 Primary to Secondary	264	4242	5.0	5.0	8.0	12.0	
LF7 to R133	264	4242	5.0	12.0	8.0	15.0	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

C101 to T1	264	4242	5.0	8.5	8.0	8.5
supplementary information:						
-						

2.10.5	TABLE: distance through insulation measurements				Pass
distance through insulation di at/of:		Up (V)	test voltage (V)	required di (mm)	di (mm)
Q1, Q2 (Sil-pads) to chassis		264	2121	0.4	0.4
BD1 (Insulating materials) to chassis		264	2121	0.4	0.4
TRC1 (Insulating material) to chassis		264	2121	0.4	0.4
Q3, Q4 (Sil-pad) to chassis		264	2121	0.4	0.4
supplementary information:					
-					

4.5	TABLE: temperature rise measurements						Pass
	test voltage (V)	90	264	-	-	-	—
	t1 (°C).....	25	25	-	-	-	—
	t2 (°C).....	-	-	-	-	-	—
maximum temperature T of part/at:		T (°C)					allowed Tmax (°C)
-		-	-	-	-	-	GTM9250 P753.3
Ambient		25.1	25.4	-	-	-	Test Passed
T1 Winding		96.8	95.1	-	-	-	Test Passed
T1 Core		106.3	106.3	-	-	-	Test Passed
D100 Casing		71.3	68.7	-	-	-	Test Passed
L100 Winding		86.2	84.7	-	-	-	Test Passed
C102 casing		68.9	67.0	-	-	-	Test Passed
PCB at Input Inductor		74.2	72.1	-	-	-	Test Passed
LF4 Winding		65.3	58.2	-	-	-	Test Passed
Q1 Casing		67.8	57.9	-	-	-	Test Passed

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		

BD1 Casing	73.1	62.1	-	-	-	Test Passed
L1 Winding	92.3	75.9	-	-	-	Test Passed
-	-	-	-	-	-	GTM9250 P1203.3
Ambient	25.1	25.9	-	-	-	Test Passed
T1 Winding	50.4	49.6	-	-	-	Test Passed
T1 Core	55.5	55.0	-	-	-	Test Passed
D100 Casing	49.1	48.6	-	-	-	Test Passed
L100 Winding	60.4	59.4	-	-	-	Test Passed
C102 casing	43.4	43.3	-	-	-	Test Passed
PCB at Input Inductor	65.9	66.0	-	-	-	Test Passed
LF4 Winding	35.4	30.8	-	-	-	Test Passed
Q1 Casing	44.5	37.8	-	-	-	Test Passed
BD1 Casing	37.9	33.7	-	-	-	Test Passed
L1 Winding	47.3	38.5	-	-	-	Test Passed
-	-	-	-	-	-	GTM9250 P15012
Ambient	25.1	25.9	-	-	-	Test Passed
T1 Winding	84.2	80.0	-	-	-	Test Passed
T1 Core	86.6	83.6	-	-	-	Test Passed
D100 Casing	67.8	62.8	-	-	-	Test Passed
L100 Winding	98.1	93.8	-	-	-	Test Passed
C102 casing	72.8	70.3	-	-	-	Test Passed
PCB at Input Inductor	42.3	40.2	-	-	-	Test Passed
LF4 Winding	79.8	59.9	-	-	-	Test Passed
Q1 Casing	65.1	54.0	-	-	-	Test Passed

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict

BD1 Casing	76.5	59.5	-	-	-	Test Passed
L1 Winding	91.0	65.7	-	-	-	Test Passed
-	-	-	-	-	-	GTM9250 P25012
Ambient	25.1	25.9	-	-	-	Test Passed
T1 Winding	53.3	50.8	-	-	-	Test Passed
T1 Core	54.5	52.3	-	-	-	Test Passed
D100 Casing	59.1	54.6	-	-	-	Test Passed
L100 Winding	85.1	82.5	-	-	-	Test Passed
C102 casing	48.5	46.1	-	-	-	Test Passed
PCB at Input Inductor	51.9	49.3	-	-	-	Test Passed
LF4 Winding	61.7	36.5	-	-	-	Test Passed
Q1 Casing	78.5	40.5	-	-	-	Test Passed
BD1 Casing	71.6	46.4	-	-	-	Test Passed
L1 Winding	69.4	45.9	-	-	-	Test Passed
-	-	-	-	-	-	GTM9250 P27 012
Ambient	25.1	25.9	-	-	-	Test Passed
T1 Winding	53.6	49.3	-	-	-	Test Passed
T1 Core	56.6	53.3	-	-	-	Test Passed
D100 Casing	60.3	54.3	-	-	-	Test Passed
L100 Winding	79.8	78.1	-	-	-	Test Passed
C102 casing	41.7	42.2	-	-	-	Test Passed
PCB at Input Inductor	49.4	47.9	-	-	-	Test Passed
LF4 Winding	49.0	36.9	-	-	-	Test Passed
Q1 Casing	91.1	45.8	-	-	-	Test

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

						Passed
BD1 Casing	70.9	46.9	-	-	-	Test Passed
L1 Winding	79.0	47.5	-	-	-	Test Passed
temperature T of winding:		R ₁ (Ω)	R ₂ (Ω)	T (°C)	allowed Tmax (°C)	insulation class
-		-	-	-	-	-
supplementary information:						
-						

4.5.2	TABLE: ball pressure test of thermoplastics				N/A
	allowed impression diameter (mm)..... :				—
part			test temperature (°C)	impression diameter (mm)	
supplementary information:					

4.7	TABLE: resistance to fire				N/A
part	manufacturer of material	type of material	thickness(mm)	flammability class	
supplementary information:					

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests			Pass
test voltage applied between:		test voltage (V) a.c./d.c.	breakdown Yes / No	
Primary to Chassis		2121	No	
Primary to Secondary		5656	No	
supplementary information:				
-				

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.3	TABLE: fault condition tests					Pass
	ambient temperature (°C)	:	24.3			—
	model/type of power supply	:	See below			—
	manufacturer of power supply	:	GlobTek			—
	rated markings of power supply	:	100-240 vac, 4 A, 50-60 Hz			—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
-	-	-	-	-	-	GTM9250P1503.3
BD1	Short ~ to +	264	1 sec.	F1	22 pk	IP (F1 opened); NB, NC, NT
Q1	Short D to S	264	1 sec.	F1	19 pk	IP (F1 opened); NB, NC, NT
D2	Short A to C	264	1 sec.	F1	23 pk	IP (F1 opened); NB, NC, NT
-	-	-	-	-	-	GTM9250P15048
TRC1	Short Across	264	1 hr.	F1	0.79	T1 Temp. 84.6 ; NCD, NB, CT, NC, NT
Q3	Short A to C	264	1 sec.	F1	22 pk	IP (F1 opened); NB, NC, NT
C112	Short Across	264	1 hr.	F1	0.79	T1 Temp. 83.9 NCD, NB, CT, NC, NT
-	-	-	-	-	-	GTM9250P25048
DC Fan	Stalled blower	264	1 hr. 10 min.	F1	1.11	T1 Temp. 117.1; IP (Fuse F1 Cleared); CD (Q1, Q2, Q3), NB, CT, NC, NT
-	-	-	-	-	-	GTM9250P15048
T1	Overload	264	2 hrs.	F1	0.504	T1 Temp. 108.0; NB, NC, NT
-	-	-	-	-	-	GTM9250P15048
+48 VDC	Short Output	264	1 hr.	F1	0.35	T1 Temp. 46.3; CT, NB, NC, NT
+48 VDC	O/L Output	264	1 hr. 20 min.	F1	1.22	T1 Temp. 56.3; NB, NC, NT
-	-	12	-	-	-	GTM9250P753.3
Earthing Test	Farthest point away on chassis	12	2 mins.	-	40	Resistance = 0.0011
supplementary information:						
Results Key: IP = Internal protection operated (component indicated) CT = Constant temperatures were obtained TW = Transformer winding opened CD = Components damaged (damaged components indicated) NB = No indication of dielectric breakdown YB = Dielectric breakdown (time and location indicated) NC = Cheesecloth remained intact YC = Cheesecloth charred or flamed NT = Tissue paper remained intact YT = Tissue paper charred or flamed						

Enclosure

National Differences

(Total 27 Pages including this Cover Page)

Argentina*
Australia / New Zealand
Austria**
Belgium**
Czech Republic*
Denmark
Finland
France*
Germany
Greece**
Group
Hungary*
Ireland*
Israel*
Korea
Malaysia*
Netherlands**
Norway
Poland*
Portugal*
Slovakia*
Slovenia*
Spain*
Sweden
Switzerland
USA / Canada
United Kingdom

* No National Differences Declared

** Only Group Differences

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

Australia / New Zealand - Differences to IEC 60950-1:2001, First Edition																																			
1.2.12.11	POTENTIAL IGNITION SOURCE Possible fault which can starts a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards. Note 201: An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE.		N/A																																
1.5.1	Add to the first paragraph: "or the relevant Australian / New Zealand Standard".		Pass																																
1.5.2	Add to the first and third dashed items after the words "IEC Component Standard": "or the relevant Australian / New Zealand Standard".		Pass																																
1.6.1	Add: AC power distribution systems classified as TT or IT are not allowed	Unit investigated for use on TN(-S) system.	Pass																																
1.7.12	Add to the first paragraph: All safety instructions and safety markings shall be in English.		N/A																																
3.2.5	Substitute for Table 3B: Sizes of Conductors <table><tr><th>Rated Current of Equipment (A)</th><th>Nominal cross-sectional area (mm²)</th></tr><tr><td>0.2 <= 3</td><td>0.5*</td></tr><tr><td>3 <= 7.5</td><td>0.75</td></tr><tr><td>7.5 <= 10</td><td>(0.75) 1.00</td></tr><tr><td>10 <= 16</td><td>(1,0) 1.5</td></tr><tr><td>16 <= 25</td><td>2.5</td></tr><tr><td>25 <= 32</td><td>4</td></tr><tr><td>32 <= 40</td><td>6</td></tr><tr><td>40 <= 63</td><td>10</td></tr><tr><td>63 <= 80</td><td>16</td></tr><tr><td>80 <= 100</td><td>25</td></tr><tr><td>100 <= 125</td><td>35</td></tr><tr><td>125 <= 160</td><td>50</td></tr><tr><td>160 <= 190</td><td>70</td></tr><tr><td>190 <= 230</td><td>95</td></tr><tr><td>230 &lt;= 260</td><td>120</td></tr></table>	Rated Current of Equipment (A)	Nominal cross-sectional area (mm²)	0.2 <= 3	0.5*	3 <= 7.5	0.75	7.5 <= 10	(0.75) 1.00	10 <= 16	(1,0) 1.5	16 <= 25	2.5	25 <= 32	4	32 <= 40	6	40 <= 63	10	63 <= 80	16	80 <= 100	25	100 <= 125	35	125 <= 160	50	160 <= 190	70	190 <= 230	95	230 <= 260	120		N/A
Rated Current of Equipment (A)	Nominal cross-sectional area (mm²)																																		
0.2 <= 3	0.5*																																		
3 <= 7.5	0.75																																		
7.5 <= 10	(0.75) 1.00																																		
10 <= 16	(1,0) 1.5																																		
16 <= 25	2.5																																		
25 <= 32	4																																		
32 <= 40	6																																		
40 <= 63	10																																		
63 <= 80	16																																		
80 <= 100	25																																		
100 <= 125	35																																		
125 <= 160	50																																		
160 <= 190	70																																		
190 <= 230	95																																		
230 <= 260	120																																		

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	260 <= 300 150 300 <= 340 185 340 <= 400 240 400 <= 460 300 ----- * This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord or cord guard, enters the appliance, and the entry to the plug, does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see Note 2 to Table 2.17 of AS/NZS 3191).		
4.3.6	Replace the third paragraph: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.3.13	For the purpose of this standard compliance with AS/NZS 2211.1 is deemed to be compliance with IEC60825.1		N/A
4.7	Add after the clause: For alternative resistance to fire tests, refer to Annex YY.		N/A
6.2.1	Replace item c) with: An SELV circuit, a TNV-2 circuit or a Limited Current Circuit provided for connection of other equipment. The requirement for separation applies whether or not this circuit is accessible.		N/A
6.2.2	Replace the first paragraph by: In Australia (not in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2.		N/A
6.2.2.1	Replace 6.2.2.1 with: In Australia (not in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of Annex N for 10/700µs impulses. The interval between successive impulses is 60 s and the initial voltage, U _c is: - for 6.2.1a): 7.0 kV for hand-held telephones and for headsets; 2.5 kV for other equipment; for 6.2.1b) and 6.2.1c): 1.5 kV.		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

	<p>NOTE 1 - The 7 kV impulse is to simulate lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 2 - The value of 2.5 kV for 6.2.1a) was chosen to ensure adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>						
6.2.2.2	<p>Replace the first and second paragraphs of 6.2.2.2 with: In Australia (not New Zealand), the electrical separation is subjected to an electric strength test according to 5.2.2.</p> <p>The a.c. test voltage is:</p> <table><tr><td>- for 6.2.1a)</td><td>3 kV</td></tr><tr><td>- for 6.2.1b) and 6.2.1c)</td><td>1.5 kV</td></tr></table> <p>NOTE 1 - Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>NOTE 2 - The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>	- for 6.2.1a)	3 kV	- for 6.2.1b) and 6.2.1c)	1.5 kV		N/A
- for 6.2.1a)	3 kV						
- for 6.2.1b) and 6.2.1c)	1.5 kV						

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

Denmark - Differences to IEC 60950-1:2001, First Edition			
1.2.4.1	Certain types of Class I appliances (see sub-clause 3.2.1.1) may be provided with plug not establishing earthing continuity when inserted into Danish socket-outlets.		Pass
1.7.2	<p>Supply cords of Class I equipment, which is delivered without a plug, must be provided with a visible tag with the following text:</p> <p style="text-align: center;">"Vigtigt ! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket (IEC 417, No. 5019) eller (IEC 417, No. 5017)."</p> <p>If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning".</p>		N/A
1.7.5	Socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For stationary equipment, the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.		N/A
1.7.5	Class II equipment shall not be fitted with socket-outlets for providing power to other equipment.		N/A
3.2.1.1	<p>Supply cord of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>Class I equipment provided with socket-outlets with earth contact or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a rated current exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current</p>		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	Regulations, Section 107-2-D1 or EN 60309-2.		

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

Finland - Differences to IEC 60950-1:2001, First Edition			
1.7.2	Class I Pluggable Equipment Type A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text shall be: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"		N/A
6.1.2.1	<p>Add the following text between the first and second paragraph:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0.4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition:</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of IEC 60950-1, 2.10.8 with an electric strength test of 1.5 kV multiplied by 1.6 (the electric strength test of 2.10.7 shall be performed using 1.5 kV), and - is subject to routing testing for electric strength during manufacturing, using a test voltage of 1.5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with IEC 60384-14:1993, subclass Y2.</p> <p>A capacitor classified Y3 according to IEC 60384-14:1993, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by IEC 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2.5 kV defined in EN 		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	60950-1, subclause 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in IEC 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in IEC 60384-14, in the sequence of tests as described in IEC 60384-14.		
6.1.2.2	The exclusions are applicable for permanently connected equipment and pluggable equipment type B and equipment intended to be used in a restricted access location where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected protective earthing conductor and is provided with instructions for the installation of that conductor by a service person.		N/A
7.1	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term telecommunication network in 6.1.2 being replaced by the term cable distribution system.		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

Germany - Differences to IEC 60950-1:2001, First Edition			
1.7.12	<p>(Gesetz uber technische Arbeitsmittel (Geratesicherheitsgesetz) [Law of technical labour equipment {Equipment safety law}], of 23rd October 1992, Article 3, 3rd paragraph, 2nd sentence, together with the "Allgemeine Verwaltungsvorschrift zur Durchfuehrung des Zweiten Abschnitts des Geratesicherheitsgesetzes" [General administrative regulation on the execution of the Second Section of the Equipment safety law], of 10th January 1996, article 2, the paragraph, item 2).</p> <p>Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language.</p> <p>NOTE: Of this requirement, rules for use even only by service personnel are not exempted.</p>		N/A
1.7.15	<p>(Regulation on protection against hazards by X-ray, of 8th January 1987, Article 5 [operation of X-ray emission source], clauses 1 to 4)</p> <p>a) A licence is required by those who operate an X-ray emission source.</p> <p>b) A licence in accordance with Cl. 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV if</p> <ol style="list-style-type: none"> 1) the local dose rate at a distance of 0,1 m from the surface does not exceed 1 µSv/h and 2) it is adequately indicated on the X-ray emission source that <ol style="list-style-type: none"> i) X-rays are generated ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. <p>c) A licence in accordance with Cl. 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if</p> <ol style="list-style-type: none"> 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that <ol style="list-style-type: none"> i) X-rays are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum 		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	<p>permissible local dose rate in accordance with the type approval is not exceeded and</p> <p>iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer.</p> <p>d) Furthermore, a licence in accordance with Cl. 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV if</p> <p>1) the X-rays are generated only by intrinsically safe CRTs complying with Enclosure III, No. 6,</p> <p>2) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measures and specified in the device and</p> <p>3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.</p>		

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

Group - Differences to IEC 60950-1:2001, First Edition									
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in primary circuits, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		N/A						
2.7.2	Void		N/A						
2.10.2	Replace the first line "(see also 1.4.7)" by "(see also 1.4.8)".		N/A						
3.2.3	Delete NOTE 1, and in table 3A delete the conduit sizes in parentheses.		N/A						
3.2.5	<p>Replace:</p> <p>"60245 IEC 53" by "H05 RR-F"</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F"</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F"</p> <p>In table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6</td><td>0.75¹</td></tr><tr><td>Over 6 up to and including 10</td><td>0.75² 1.0</td></tr><tr><td>Over 10 up to and including 16</td><td>1.0³ 1.5</td></tr></table> <p>In the Conditions applicable to table 3B. delete the</p>	Up to and including 6	0.75 ¹	Over 6 up to and including 10	0.75 ² 1.0	Over 10 up to and including 16	1.0 ³ 1.5		N/A
Up to and including 6	0.75 ¹								
Over 6 up to and including 10	0.75 ² 1.0								
Over 10 up to and including 16	1.0 ³ 1.5								

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	words "in some countries" in condition 1. In Note 1, delete the second sentence.		
3.3.4	In table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: "Over 10 up to and including 16 1.5 to 2.5 1.5 to by 4" Delete the fifth line: conductor sizes for 13 to 16A.		N/A
4.3.13.6	Add the following note: NOTE - Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this recommendation are currently under development.		N/A
General	Delete all the "country" notes in the reference document according to the following list: 1.5.1 Note 2 1.5.8 Note 2 1.6.1 Note 1.7.2 Note 4 1.7.12 Note 2 2.1 Note 2.2.3 Note 2.2.4 Note 2.3.2 Note 2, 7, 8 2.3.3 Note 1, 2 2.3.4 Note 2,3 2.7.1 Note 2.10.3.1 Note 4 3.2.1.1 Note 3.2.3 Note 1, 2 3.2.5.1 Note 2 4.3.6 Note 1,2 4.7.2.2 Note 4.7.3.1 Note 2 6.1.2.1 Note 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7 Note 4 7.1 Note G2.1 Note 1, 2 H Note 2		N/A
H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the operator access area, the dose rate shall not exceed 1 μ Sv/h (0,1 mR/h) (see note). Account is taken of the background level. Replace the notes as follows: NOTE - These values appear in Directive 96/29/Euratom. Delete Note 2.		N/A
P	Replace the text of this annex by: See annex ZA		N/A
Q	Replace the title of IEC 61032 by "Protection of persons and equipment by enclosures - Probes for verification". Add the following notes for the standards indicated: IEC 60127 NOTE Harmonized as EN 60127		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

	(Series) (not modified) IEC 60269-2-1 NOTE Harmonized as HD 630.2.1 S4:2000 (modified) IEC 60529 NOTE Harmonized as EN 60529:1991 (not modified) IEC 61032 NOTE Harmonized as EN 61032:1998 (not modified) IEC 61140 NOTE Harmonized as EN 61140:2001 (not modified) ITU-T Recommendation K.31 NOTE in Europe, the suggested document is EN 50083-1.		
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Korea - Differences to IEC 60950-1:2001, First Edition			
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains comply with the Korean requirement (KSC 8305).	Unit is intended for building-in; to be determined in the end product.	N/A
7	Addition: EMC - The apparatus shall comply with the relevant CISPR standards.		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

Norway - Differences to IEC 60950-1:2001, First Edition			
1.5.8	Due to the IT power system used (see annex V, figure V.7), capacitors are required to be rated for the applicable phase-to-phase voltage (230 V).		N/A
1.7.2	Class I Pluggable Equipment Type A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text shall be: "Apparatet må tilkoples jordet stikkontakt"		N/A
2.2.4	Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		N/A
2.3.2	Requirements according to this annex, 6.1.2.1 apply.		N/A
2.3.3	Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		N/A
2.3.4	Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		N/A
2.10.3.1	Due to the IT power distribution system used (see annex V, figure V.7), the A.C. mains supply voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault.		N/A
6.1.2.1	Add the following text between the first and second paragraph: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0.4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	<p>the compliance clause below and in addition:</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of IEC 60950-1, 2.10.8 with an electric strength test of 1.5 kV multiplied by 1.6 (the electric strength test of 2.10.7 shall be performed using 1.5 kV), and - is subject to routing testing for electric strength during manufacturing, using a test voltage of 1.5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with IEC 60384-14:1993, subclass Y2.</p> <p>A capacitor classified Y3 according to IEC 60384-14:1993, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by IEC 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1, subclause 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in IEC 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in IEC 60384-14, in the sequence of tests as described in IEC 60384-14. 		
6.1.2.2	The exclusions are applicable for permanently connected equipment and pluggable equipment type B and equipment intended to be used in a restricted access location where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected protective earthing conductor and is provided with instructions for the installation of that conductor by a service person.		N/A
7.1	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term telecommunication network in 6.1.2 being replaced by the term cable distribution system.		N/A
G.2.1	Due to the IT power distribution system used (see annex V, figure V.7), the A.C. mains supply voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault.		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

Sweden - Differences to IEC 60950-1:2001, First Edition			
1.5.1	(Ordinance (1990:944)) Add NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.2	Class I Pluggable Equipment Type A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text shall be: "Apparaten skall anslutas till jordat uttag"		N/A
6.1.2.1	<p>Add the following text between the first and second paragraph:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0.4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition:</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of IEC 60950-1, 2.10.8 with an electric strength test of 1.5 kV multiplied by 1.6 (the electric strength test of 2.10.7 shall be performed using 1.5 kV), and - is subject to routing testing for electric strength during manufacturing, using a test voltage of 1.5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with IEC 60384-14:1993, subclass Y2.</p> <p>A capacitor classified Y3 according to IEC 60384-14:1993, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by 		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	having a capacitor classified Y3 as defined by IEC 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1, subclause 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in IEC 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in IEC 60384-14, in the sequence of tests as described in IEC 60384-14.		
6.1.2.2	The exclusions are applicable for permanently connected equipment and pluggable equipment type B and equipment intended to be used in a restricted access location where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected protective earthing conductor and is provided with instructions for the installation of that conductor by a service person.		N/A
7.1	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term telecommunication network in 6.1.2 being replaced by the term cable distribution system.		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

Switzerland - Differences to IEC 60950-1:2001, First Edition			
1.5.1	Add NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.15	Annex 4.10 of SR 814.013 (Ordinance on environmentally hazardous substances) applies for batteries.		N/A
3.2.1.1	<p>Supply cords of equipment having a rated current not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991, Plug type 15, 3P+N+PE 250/400 V, 10 A</p> <p>SEV 6533-2.1991, Plug type 11, L+N 250 V, 10 A</p> <p>SEV 6534-2.1991, Plug type 12, L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998, Plug type 25, 3P+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998, Plug type 21, L+N 250 V, 16 A</p> <p>SEV 5934-2.1998, Plug type 23, L+N+PE 250 V, 16 A</p>		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

USA / Canada - Differences to IEC 60950-1:2001, First Edition			
1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part1, and when applicable, the National Electrical Safety Code, IEEE C2.		Pass
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.		Pass
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.		N/A
1.1.2	Special requirements apply to equipment intended for use outdoors.		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20 A.		N/A
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of CSA and UL component standards in Annex P.1.		Pass
1.5.1	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of CSA and UL component standards in Annex P.2.		Pass
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.		N/A
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.		N/A
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC and CEC.		N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable.		N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.		N/A
1.5.5	Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233.		N/A
1.6.1.2	Equipment intended for connection to a d.c. power (mains) distribution system is subject to special		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

	circuit classification requirements (e.g., TNV-2)		
1.6.1.2	Earthing of d.c. powered equipment provided.		N/A
1.7	Lamp replacement information indicated on lampholder in operator access area.		N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor.		N/A
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions.		N/A
1.7.6	Special fuse replacement marking for operator accessible fuses.		N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor.		N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.		N/A
1.7.7	Marking located adjacent to terminals and visible during wiring.		N/A
2.1.1	Screw shell of Edison-base lampholder tied to the neutral conductor.		N/A
2.1.1.1	Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover.		N/A
2.3.1.b	Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4.		N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the maximum current limit through a 2000 Ohm or greater resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions.		N/A
2.3.1.b	Limits for measurements across 5000 ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.		N/A
2.3.2	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and routine testing.		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
2.3.2	In the event of a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.		N/A
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting in accordance with the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable.		N/A
2.6	Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.		N/A
2.6.3.3	For Pluggable Equipment Type A, if neither a) or b) are applicable, the current rating of the circuit is taken as 20 A.		N/A
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.		Pass
2.6.3.4	Protective bonding conductors and their terminals of non-standard constructions (e.g. PWB traces) evaluated to limited short-circuit test of CSA C22.2 No.0.4.		N/A
2.6.4.1	Field wiring terminals for earthing conductors suitable for wire sizes (gauge) used in US and Canada.		N/A
2.7.1	Data for selection of special external branch circuit overcurrent devices marked on the equipment.		N/A
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC, and CEC, Part 1.		N/A
2.7.1	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring.		N/A
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards.		N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.		N/A
2.10.5.4	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.4 and Annex U.	Wire is UL R/C OBJS2. See Annex U for further details.	Pass
3.1.1	Permissible combinations of internal wiring/external		Pass

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	cable sizes for overcurrent and short circuit protection.		
3.1.1	All interconnecting cables protected against overcurrent and short circuit.		N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1.	Unit is intended for building-in; to be determined in the end product.	N/A
3.2.1	Permitted use for flexible cords and plugs.		N/A
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.		N/A
3.2.1	Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.		N/A
3.2.1.2	Equipment intended for connection to DC mains supply power systems complies with special wiring requirements (e.g., no permanent connection to supply by flexible cord).		N/A
3.2.1.2	Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing		N/A
3.2.1.2	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.		N/A
3.2.1.2	Special markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to earthing conductor at the equipment.		N/A
3.2.1.2	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment.		N/A
3.2.1.2	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.		N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC and CEC.		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	Part 1.		
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm ²) and not less than 152 mm in length for connection of field installed wiring.		N/A
3.2.3	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate.		N/A
3.2.3	Equipment compatible with suitable trade sizes of conduits and cables.		N/A
3.2.5	Length of power supply cord limited to between 1.5 and 4.5 m unless shorter length used when intended for a special installation.		N/A
3.2.5	Conductors in power supply cords sized according to NEC and CEC, Part I.		N/A
3.2.5	Power supply cords and cord sets incorporate flexible cords suitable for the particular application.		N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.		N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.		N/A
3.2.9	Equipment intended solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system. A method of securing wiring or instructions provided to ensure the wiring is protected from abuse.		N/A
3.3	Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3.		N/A
3.3	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than those specified in 3.3 if wiring is reliably separated.		N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means.	Neutral terminal marked with a large letter "N".	Pass
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm ²) or smaller conductor if provided with upturned lugs. cupped		Pass

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

	washer or equivalent retention.		
3.3.4	Terminals accept wire sizes (gauge) used in the U.S. and Canada.		Pass
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating.		Pass
3.3.6	Field wiring terminals marked to indicate the material(s) of the conductor appropriate for the terminals used.		N/A
3.3.6	Connection of an aluminum conductor not permitted to terminal for equipment earthing conductor.		Pass
3.3.6	Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads.		N/A
3.4.2	Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or with motor rated more than 1/3 hp or more than 120 V.		N/A
3.4.8	Vertically mounted disconnect devices oriented so up position of handle is "on".		N/A
3.4.11	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 min require battery disconnect means.		N/A
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more.		N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion.		N/A
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg tested at four times the weight of the unit.		N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310 or CSA 223 mechanical assembly requirements.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with ANSI/NFPA 30(Table NAE.6).		N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.		N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible.		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
4.3.13.5	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370).		N/A
4.7	Automated information storage equipment intended to contain more than 0.76 mm ³ of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.		N/A
4.7.3.1	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics. Low smoke-producing characteristics evaluated according to UL 2043. Equipment for installation in space used for environmental air as described in Sec. 300-22(c) of the NEC provided with instructions indicating suitability for installation in such locations.		N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m ² or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications.		N/A
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent.		N/A
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.		N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.		N/A
5.3.6	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.		N/A
5.3.6	Tests interrupted by opening of a component repeated two additional times.		Pass
5.3.8.1	Test interrupted by opening of wire or trace subject to certain conditions.		N/A
6	Specialized instructions provided for telephones that may be connected to a telecommunications network.		N/A
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.		N/A
6.2.1	Special requirements for enameled wiring used as electrical separation provided between parts		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict
	connected to telecommunication network and telecommunication circuitry intentionally isolated from network.		
6.2.1	Digital line termination equipment (e.g., NCTE) subject to separation requirements.		N/A
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection.		N/A
6.3	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable.		N/A
6.4	Additional requirements for equipment intended for connection to a telecommunication network using cable subject to overvoltage from power line failures (Fig. 6C).		N/A
6.4	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions.		N/A
6.5	Acoustic pressure from an ear piece less than 136 dBA for short duration disturbances, and less than 125 dBA for handsets, 118 dBA for headsets, and 121 dBA for insert earphones, for long duration disturbances.		N/A
7	Equipment associated with the cable distribution system may need to be subjected to applicable parts of Chapter 8 of the NEC.		N/A
H	Ionizing radiation measurements made under single fault conditions in accordance with the requirements of the Code of Federal Regulations 21 CFR 1020 and the Canadian Radiation Emitting Devices Act, REDR C1370.		N/A
M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations.		N/A
M.4	Special requirements for message waiting and similar telecommunications signals.		N/A
NAC	Equipment intended for use with a generic secondary protector marked with suitable instructions.		N/A
NAC	Equipment intended for use with a specific primary or secondary protector marked with suitable instructions.		N/A

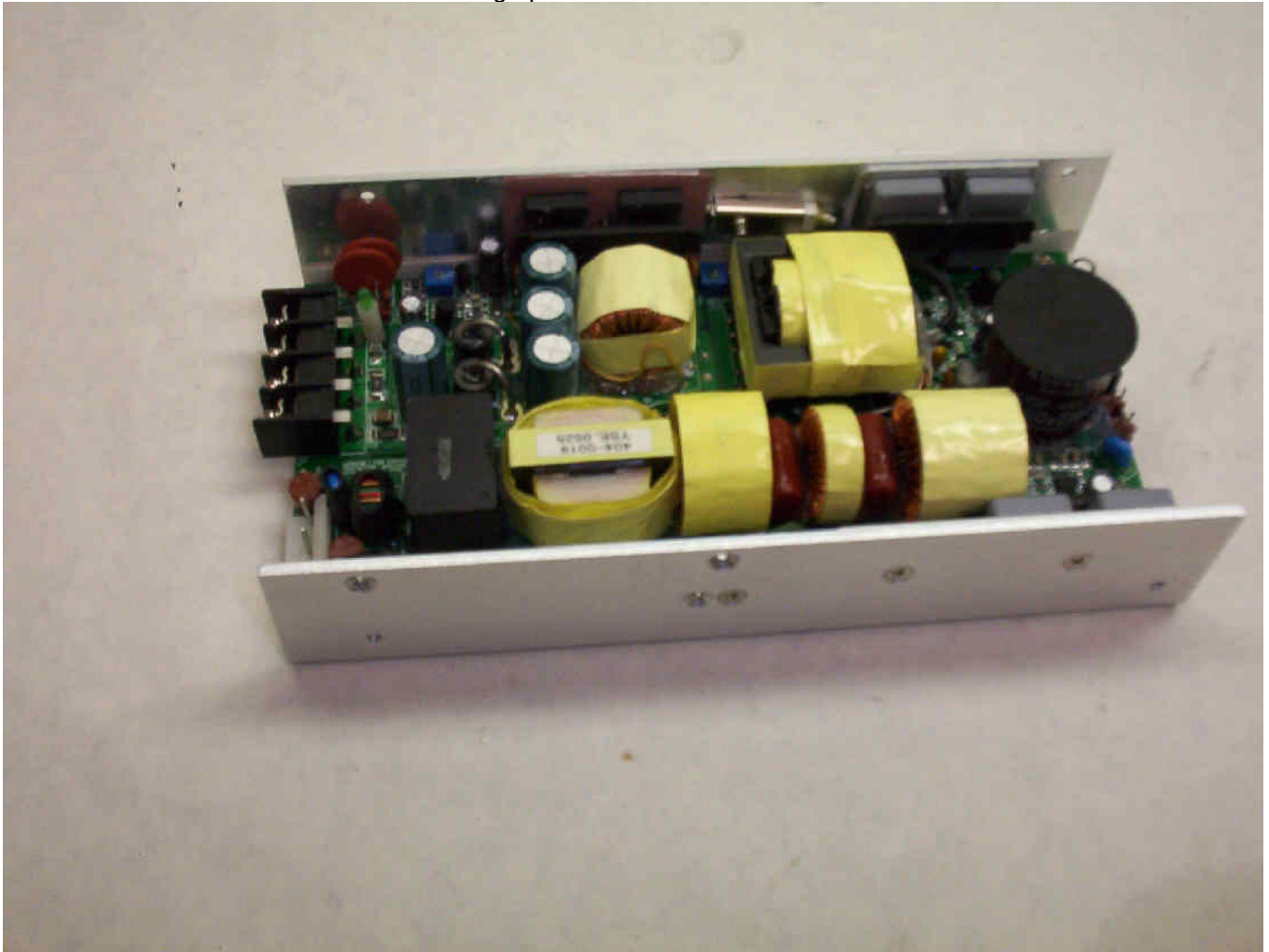
IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

United Kingdom - Differences to IEC 60950-1:2001, First Edition			
2.6.3.3	The current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, protective device shall be included as integral parts of the direct plug-in equipment.		N/A
3.2.1.1	Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a "standard plug" in accordance with Statutory Instrument 1786: 1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE: "Standard plug" is defined in SI 1786: 1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.5.1	A power supply cord with conductor of 1.25 mm ² is allowed for equipment with a rated current over 10A and up to and including 13A.		N/A
3.3.4	The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10 A up to and including 13 A is 1.25 mm ² to 1.5 mm ² nominal cross-sectional area.		N/A
4.3.6	The torque test is performed using a socket outlet complying with BS 1363 and the plug part of Direct Plug-In Equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C.		N/A

Enclosure**Photographs**

Supplement Id	Description
3-01	Open View of Units Without Fan
3-02	Front View of Overhead Fan Unit
3-03	Rear View of Overhead Fan Unit
3-04	Top View of Dual Fan Unit
3-05	Rear View of Dual Fan Unit

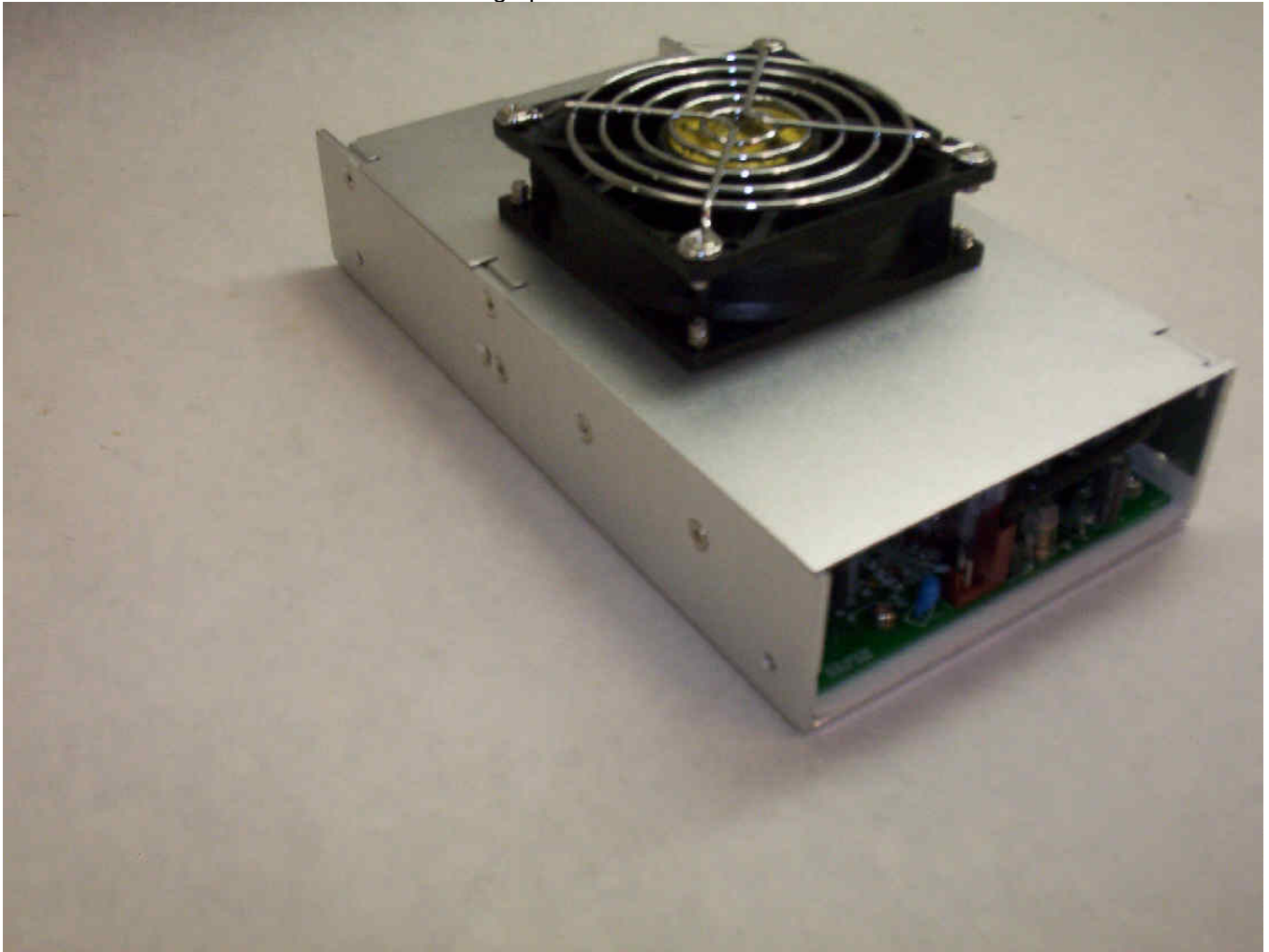
Photographs ID 3-01



Photographs ID 3-02



Photographs ID 3-03



Photographs ID 3-04



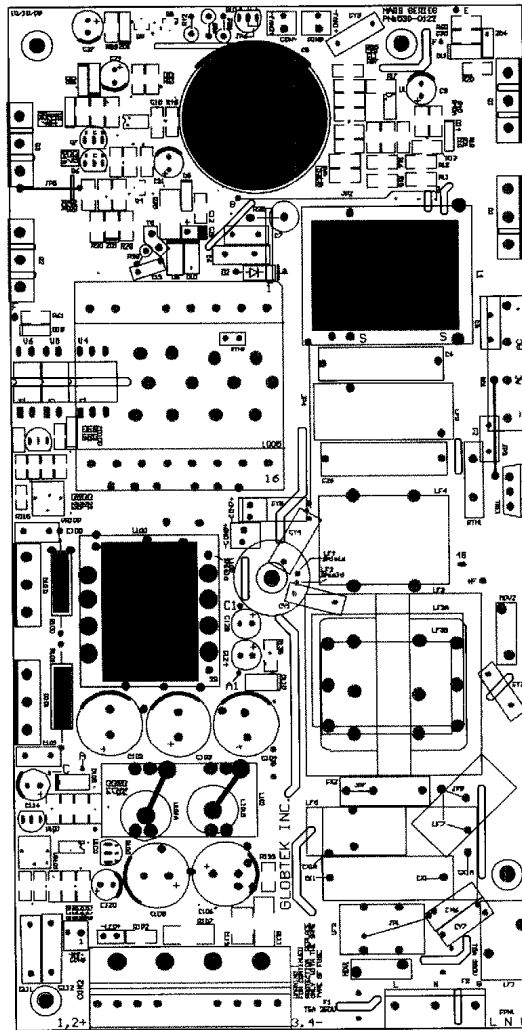
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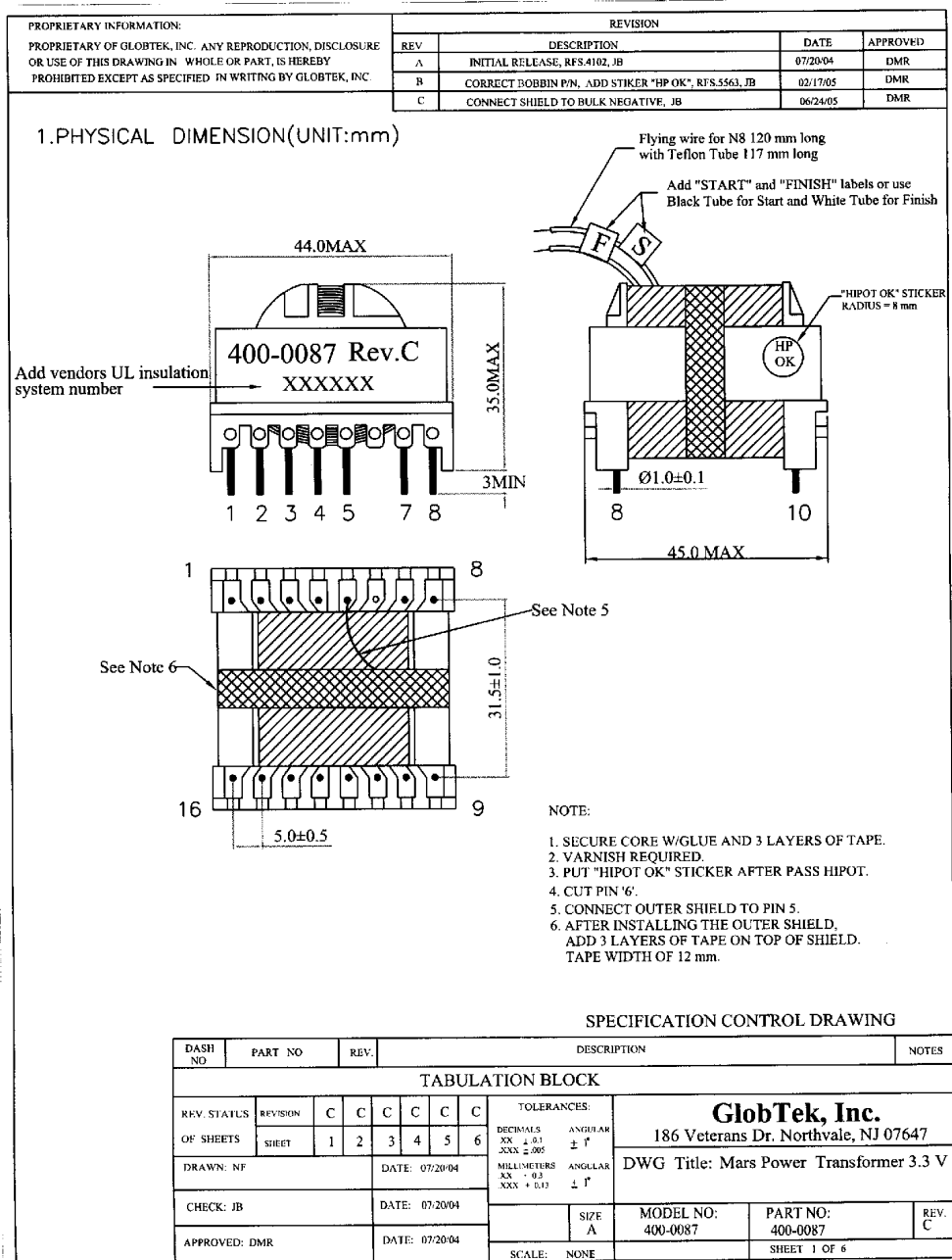
Enclosure**Diagrams**

Supplement Id	Description
4-01	Component Layout
4-02	3.3 V Transformer Assembly
4-03	48 V Transformer Assembly
4-04	150 W Assembly
4-05	250 W Assembly
4-06	270 W Assembly

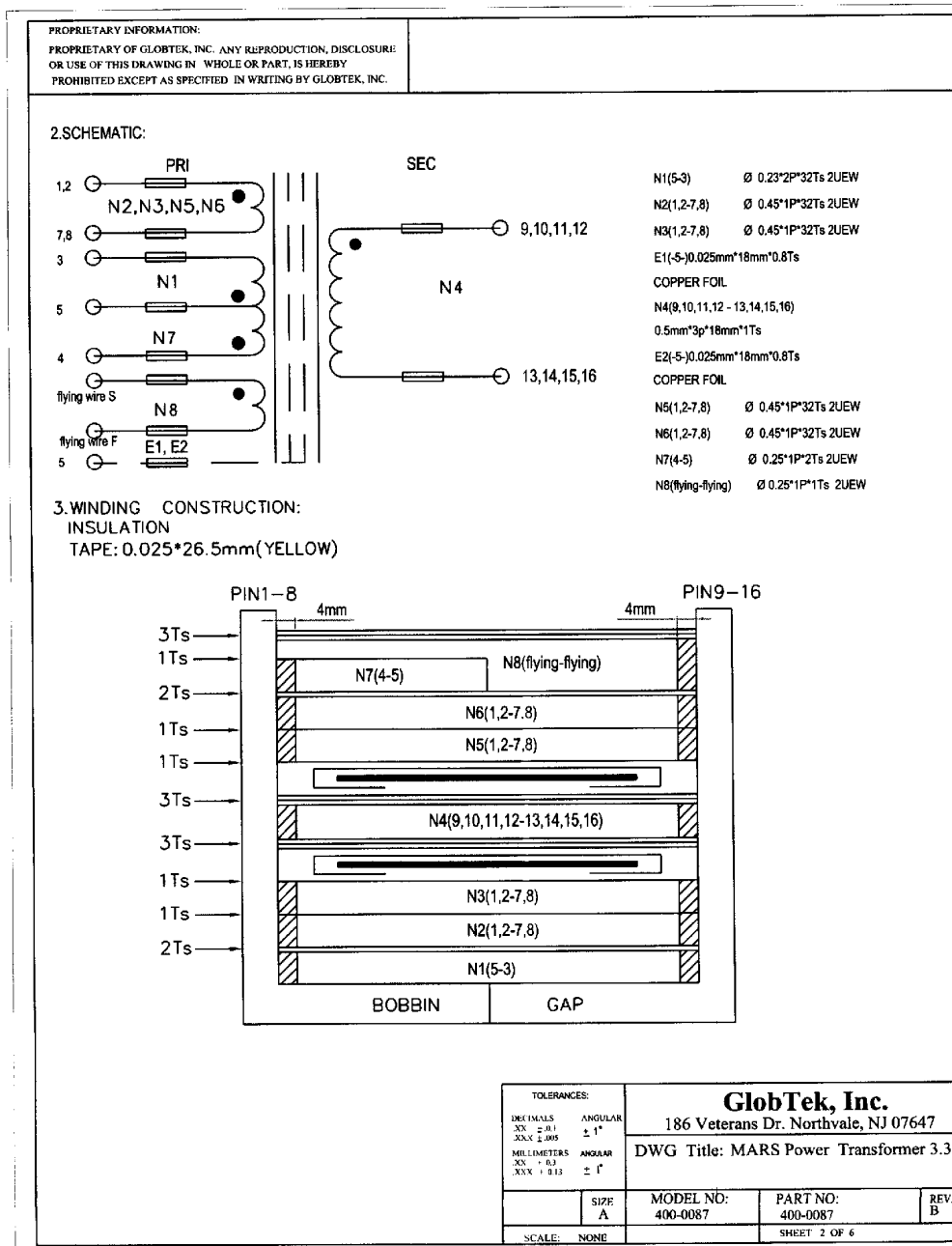
Diagrams ID 4-01



Diagrams ID 4-02



Diagrams ID 4-02



Diagrams ID 4-02

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4. MATERIAL LIST:

NO.	TEM	MATERIAL	SUPPLIERS	UL NO.
1	BOBBIN	PHENOLIC T373J 94V-0 150C OR EQUIV	CHANG CHUN PLASTICS CO.,LTD.	E59481(S)
2	CORE	FERRITE CORE ETD39/20 3C90 OR PC40ETD39-Z TDK	FERROXCUBE	
3	WIRE	POLYURETHANE ENAMELLED COPPER WIRE 2UEW	WAN MON INDUSTRIAL CORP	E104091(S)
4	INSULATION TAPE	POLYESTER FILM TAPE CT-280	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	E165111
5	MARGIN TAPE	POLYESTER FILM TAPE WF-2902	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CL,LTD.	E165111
6	TUBE	TEFLON TUBE	FLUO TECH INDUSTRIES CO.,ITD	E175982(S)
7	COPPER FOIL	0.025*12mm 0.025*18mm 0.5*18mm	DIANQIANG MATERIAL CO.,LTD.	
8	VARNISH	WA-238A	HITACHI CHEMICAL CO.,LTD	E72979
9	SOLDER	BAR 63/37	SOLNET METAL INDUSTRY CO.,LTD.	

TOLERANCES:

DECIMALS ANGULAR
XX ± 0.1 $\pm 1^\circ$
XXX ± 0.05

MILLIMETERS ANGULAR
XX ± 0.1 $\pm 1^\circ$
XXX ± 0.15

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647

DWG Title: Mars Power Transformer 3.3V

SIZE
AMODEL NO:
400-0087PART NO:
400-0087REV:
C

SCALE: NONE

SHEET 3 OF 6

Diagrams ID 4-02

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5.ELECTRICAL CHARACTERISTIC:

TEST ITEM	TEST CONDITION	RESULT
INDUCTANCE	@1KHz 0.25V (1,2-7,8)	2.8mH±10%
LEAKAGE INDUCTANCE	@1KHz 0.25V (1,2-7,8) SHORTED PIN3,4,5,9, 10,11,12,13,14,15,16	15uH MAX
D.C.RESISTANCE	@25°C (1,2-7,8) (5-3) (4-5) (9,10,11,12-13,14,15,16)	450 mΩ MAX 700 mΩ MAX 85 mΩ MAX 2 mΩ MAX
HI-POT	@10mA 1MIN	P-S 4000VAC P-C 1500VAC S-C 1500VAC

TOLERANCES:

DECIMALS ANGULAR
XX ± 0.1
XXX ± 0.05
MILLIMETERS ANGULAR
XX ± 0.5
XXX ± 0.13

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647

DWG Title: Mars Power Transformer 3.3V

SIZE	MODEL NO:	PART NO:	REV.
A	400-0087	400-0087	C
SCALE: NONE		SHEET 4 OF 6	

Diagrams ID 4-02

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6. WINDING TABLE:

Winding No.	Margin Tape	Pin	Copper Wire	Turns	Winding Method	Tape Turns	Tube
N1	4mm×2L/4mm×2L	5-3	Ø0.23×2P	32Ts	CLOSED	2Ts	26L×17mm/26L×17mm
N2	4mm×2L/4mm×2L	1,2-7,8	Ø0.45×1P	32Ts	CLOSED	1Ts	26L×17mm/26L×17mm
N3	4mm×2L/4mm×2L	1,2-7,8	Ø0.45×1P	32Ts	CLOSED	1Ts	26L×17mm/26L×17mm
E1	0	-5-	0.025×18mm	0.8Ts	COPPER FOIL	3Ts	-24L×12mm-
N4	4mm×2L/4mm×2L	9,10,11,12 -13,14,15,16	0.5×18mm×3P	1Ts	COPPER FOIL	3Ts	18L×14mm/18L×14mm
E2	0	-5 -	0.025×18mm	0.8Ts	COPPER FOIL	1Ts	-24L×12mm-
N5	4mm×2L/4mm×2L	1,2-7,8	Ø0.45×1P	32Ts	CLOSED	1Ts	23L×12mm/23L×12mm
N6	4mm×2L/4mm×2L	1,2-7,8	Ø0.45×1P	32Ts	CLOSED	2Ts	23L×12mm/23L×12mm
N7	4mm×2L/0	4-5	Ø0.25×1P	2Ts	CLOSED	1Ts	28L×12mm/28L×12mm
N8	0/4mm×2L	flying- flying	Ø0.25×1P	1Ts	CLOSED	3Ts	28L×17mm/28L×17mm

TOLERANCES:

DECIMALS

XX ± 0.1

XXX ± 0.05

MILLIMETERS

XX ± 0.3

XXX ± 0.13

ANGULAR

± °

ANGULAR

± °

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647

DWG Title: Mars Power Transformer 3.3V

SIZE

A

MODEL NO:

400-0087

PART NO:

400-0087

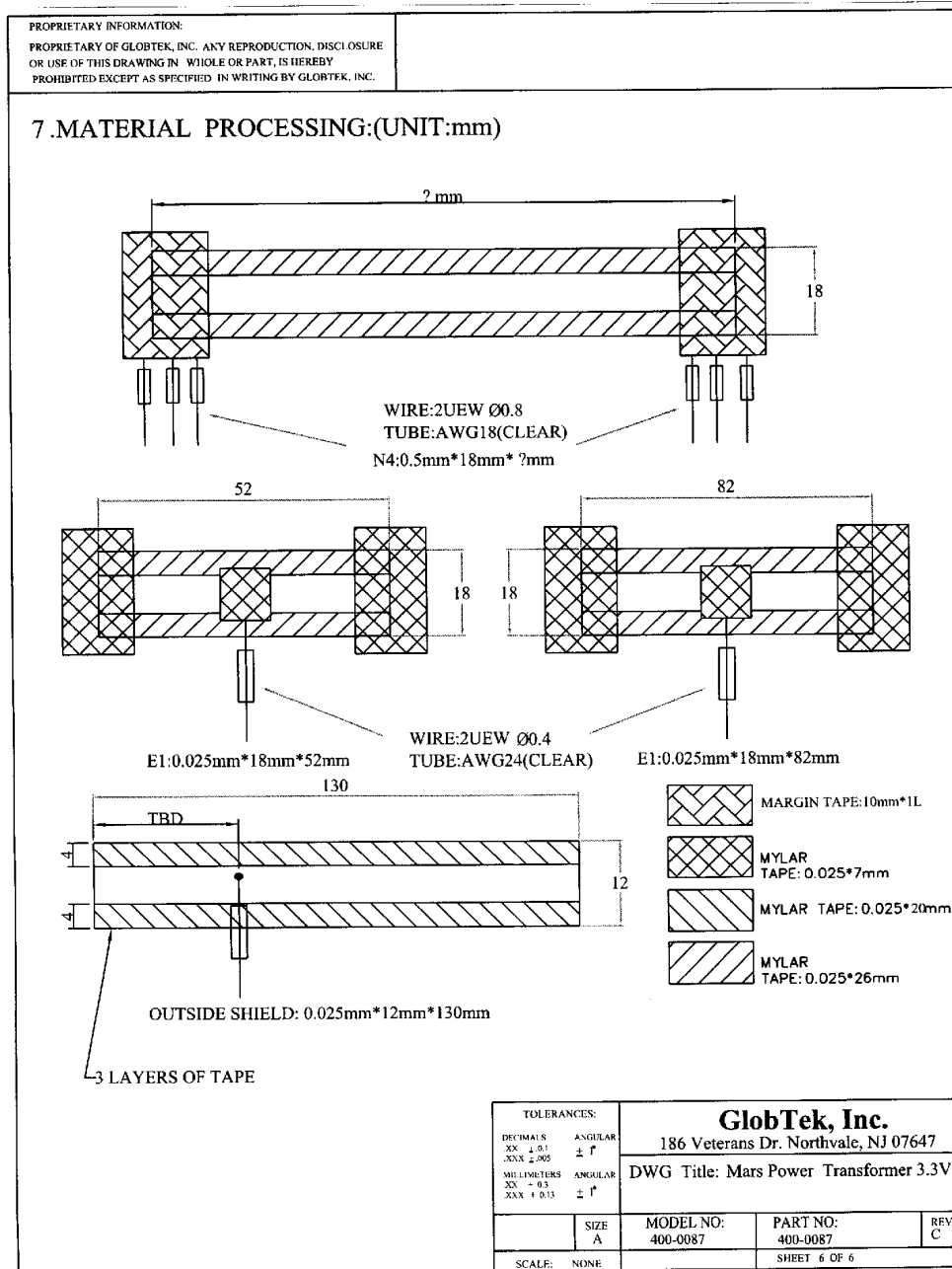
REV.

C

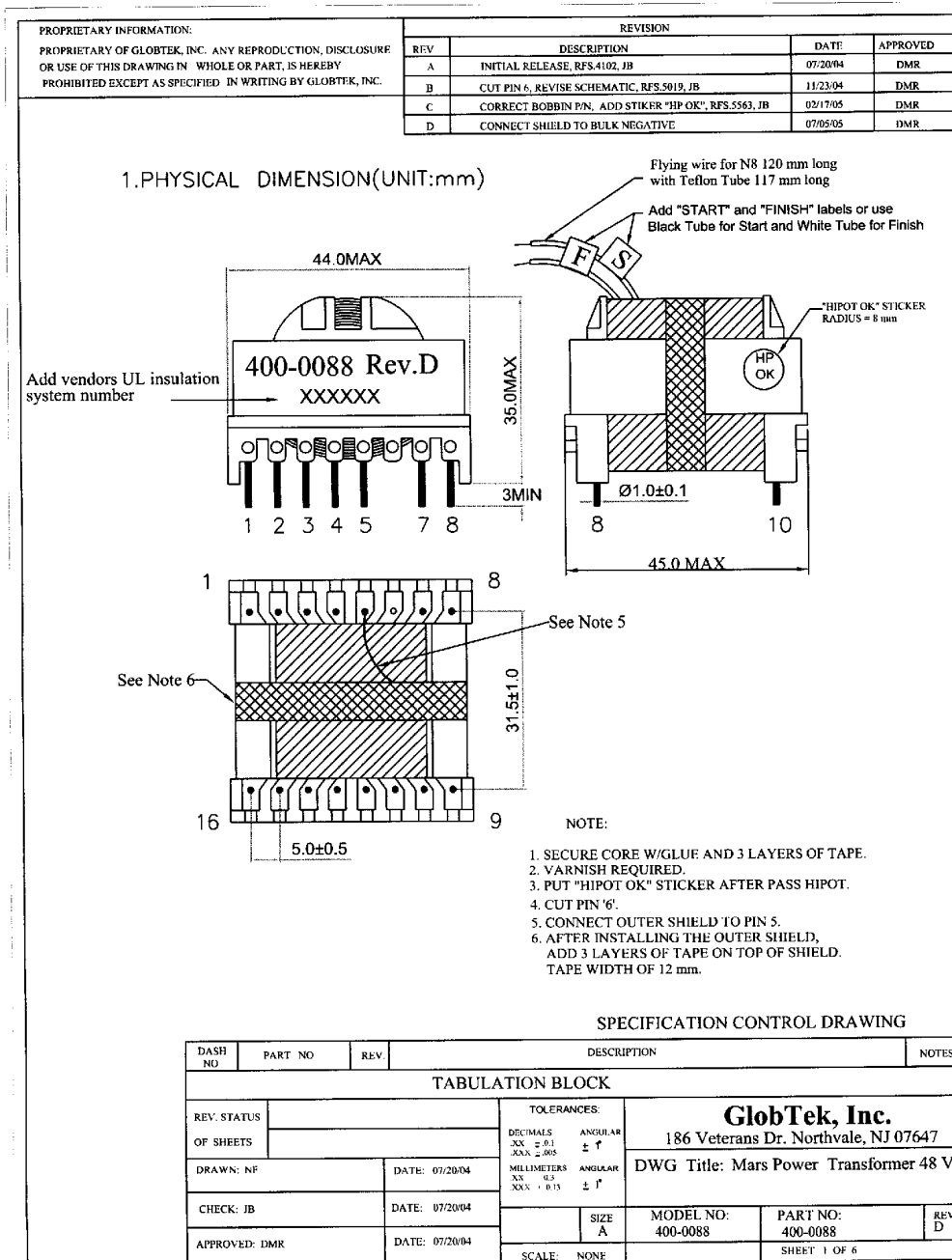
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SHEET 5 OF 6

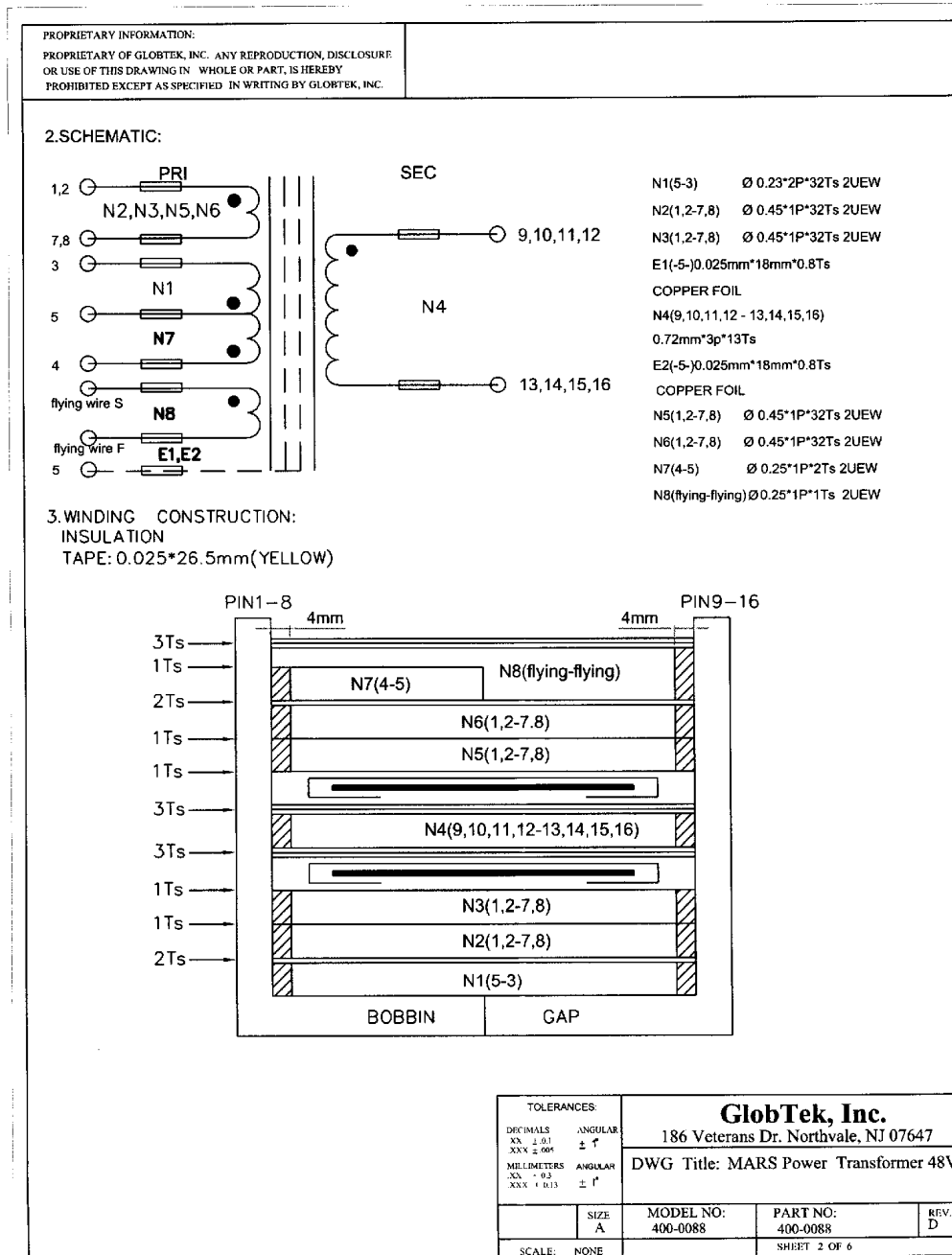
Diagrams ID 4-02



Diagrams ID 4-03



Diagrams ID 4-03



Diagrams ID 4-03

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4. MATERIAL LIST:

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2	CORE	FERRITE CORE ETD39/20 3C90 OR PC40ETD39-Z	FERROXCUBE TDK	
3	WIRE	POLYURETHANE ENAMELLED COPPER WIRE 2UEW	WAN MON INDUSTRIAL CORP	E104091(S)
4	INSULATION TAPE	POLYESTER FILM TAPE CT-280	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	E165111
5	MARGIN TAPE	POLYESTER FILM TAPE WF-2902	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CL.LTD.	E165111
6	TUBE	TEFLON TUBE	FLUO TECH INDUSTRIES CO.,LTD	E175982(S)
7	COPPER FOIL	0.025*12mm 0.025*18mm	DIANQIANG MATERIAL CO.,LTD.	
8	VARNISH	WA-238A	HITACHI CHEMICAL CO.,LTD	E72979
9	SOLDER	BAR 63/37	SOLNET METAL INDUSTRY CO.,LTD.	

TOLERANCES:

DIM (IN) ANGULAR
XX ± 0.1
XXX ± 0.005
MILLIMETERS ANGULAR
XX ± 0.1
XXX ± 0.13

SIZE
A**GlobTek, Inc.**

186 Veterans Dr. Northvale, NJ 07647

DWG Title: Mars Power Transformer 48V

MODEL NO:
400-0088PART NO:
400-0088REV.
D

SCALE: NONE

SHEET 3 OF 6

Diagrams ID 4-03

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5.ELECTRICAL CHARACTERISTIC:

TEST ITEM	TEST CONDITION	RESULT
INDUCTANCE	@1KHz 0.25V (1,2-7,8)	2.8 mH \pm 20%
LEAKAGE INDUCTANCE	@1KHz 0.25V (1,2-7,8) SHORTED PIN3,4,5,9, 10,11,12,13,14,15,16	15uH MAX
D.C.RESISTANCE	@25°C (1,2-7,8) (5-3) (4-5) (9,10,11,12- 13,14,15 ,16)	450 m Ω MAX 700 m Ω MAX 85 m Ω MAX 75 m Ω MAX
HI-POT	@10mA 1MIN	P-S 4000VAC P-C 1500VAC S-C 1500VAC

TOLERANCES:

DECIMALS ANGULAR
XX \pm 0.1 \pm f
XXX \pm 0.05
MILLIMETERS ANGULAR
XX \pm 0.3 \pm f
XXX \pm 0.15

SIZE
A

SCALE: NONE

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647

DWG Title: Mars Power Transformer 48V

MODEL NO:
400-0088

PART NO:
400-0088

REV.
D

SHEET 4 OF 6

Diagrams ID 4-03

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6.WINDING TABLE:

Winding No.	Margin Tape	Pin	Copper Wire	Turns	Winding Method	Tape Turns	Tube
N1	4mm×2L/4mm×2L	5-3	∅0.23×2P	32Ts	CLOSED	2Ts	26L×17mm/26L×17mm
N2	4mm×2L/4mm×2L	1,2-7,8	∅0.45×1P	32Ts	CLOSED	1Ts	26L×17mm/26L×17mm
N3	4mm×2L/4mm×2L	1,2-7,8	∅0.45×1P	32Ts	CLOSED	1Ts	26L×17mm/26L×17mm
E1	0	-5-	0.025×18mm	0.8Ts	COPPER FOIL	3Ts	-24L×12mm-
N4	4mm×2L/4mm×2L	9,10,11,12 -13,14,15,16	0.72mm×3P	13Ts	CLOSED	3Ts	18L×14mm/18L×14mm
E2	0	-5-	0.025×18mm	0.8Ts	COPPER FOIL	1Ts	-24L×12mm-
N5	4mm×2L/4mm×2L	1,2-7,8	∅0.45×1P	32Ts	CLOSED	1Ts	23L×12mm/23L×12mm
N6	4mm×2L/4mm×2L	1,2-7,8	∅0.45×1P	32Ts	CLOSED	2Ts	23L×12mm/23L×12mm
N7	4mm×2L/0	4-5	∅0.25×1P	2Ts	CLOSED	1Ts	28L×12mm/28L×12mm
N8	0/4mm×2L	fly- ing- fly- ing	∅0.25×1P	1Ts	CLOSED	3Ts	28L×117mm/28L×117mm

TOLERANCES:

DECIMALS

XX ± 0.1

XXX ± 0.05

MILLIMETERS

XX - 0.3

XXX - 0.15

ANGULAR

± f'

ANGULAR

± f'

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647

DWG Title: Mars Power Transformer 48V

SIZE

A

MODEL NO:

400-0088

PART NO:

400-0088

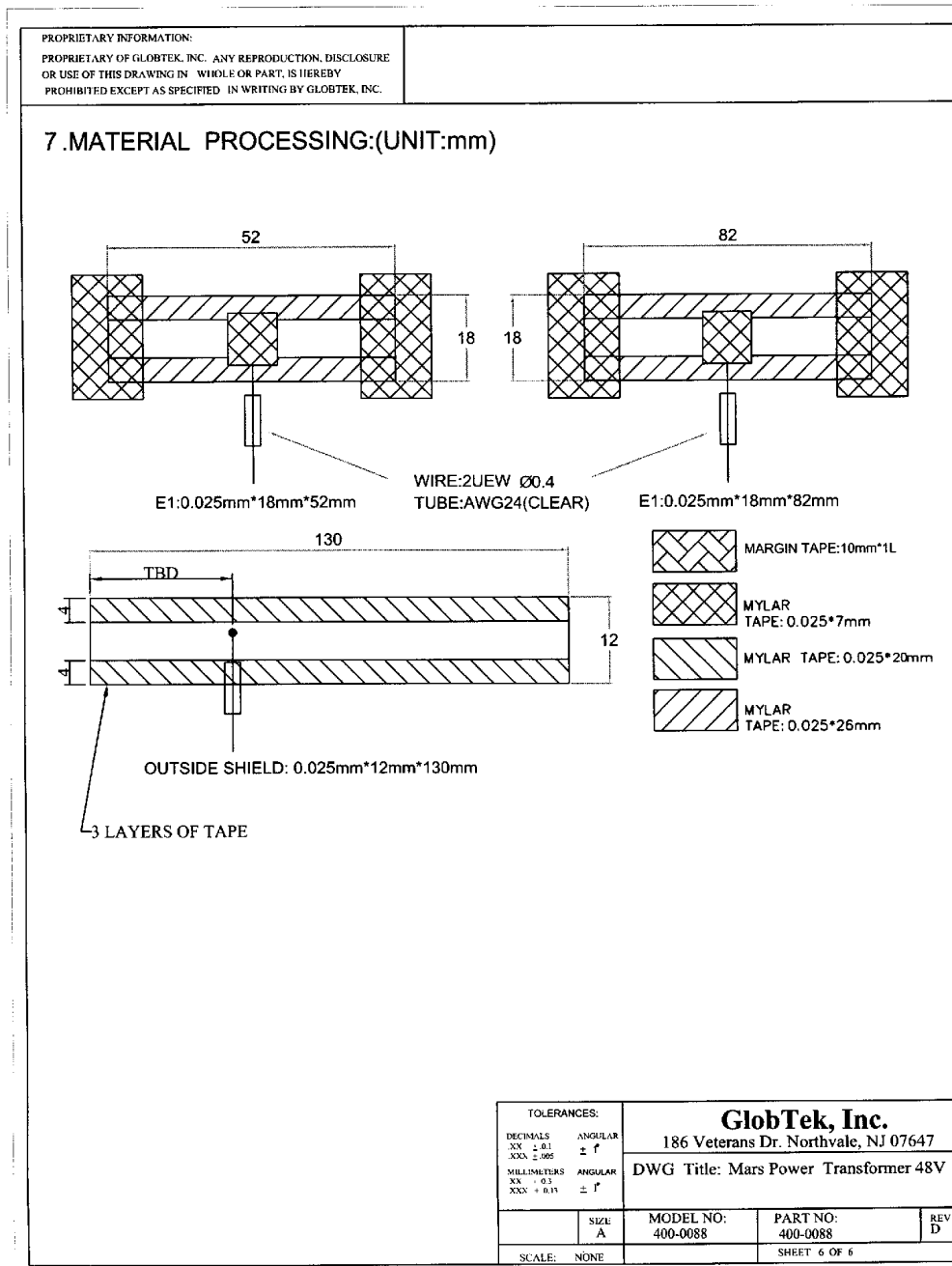
REV.

D

SCALE: NONE

SHEET 5 OF 6

Diagrams ID 4-03



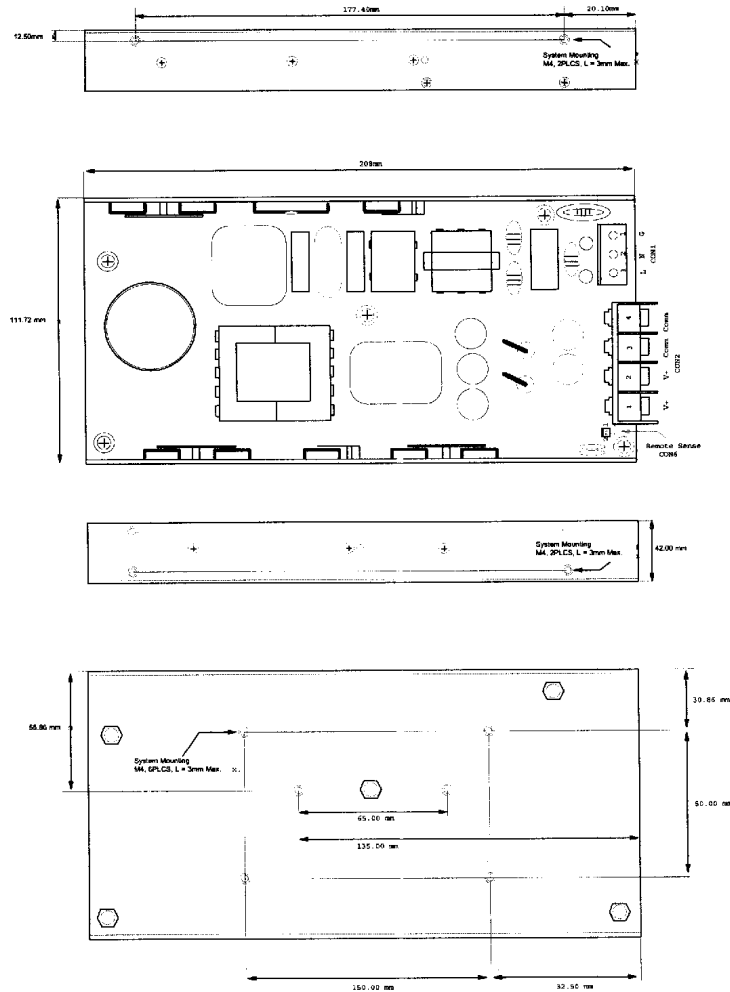
Diagrams ID 4-04

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2. MECHANICAL SPECIFICATION

SIZE: 111.72 mm x 208.0 mm x 42.00 mm (4.4" x 9.1" x 1.65")



GlobTek, Inc.
www.globtek.com

186 Veterans Dr. Northvale, NJ 07647
Tel. 201-784-1000 Fax 201-784-0111

DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER
UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I

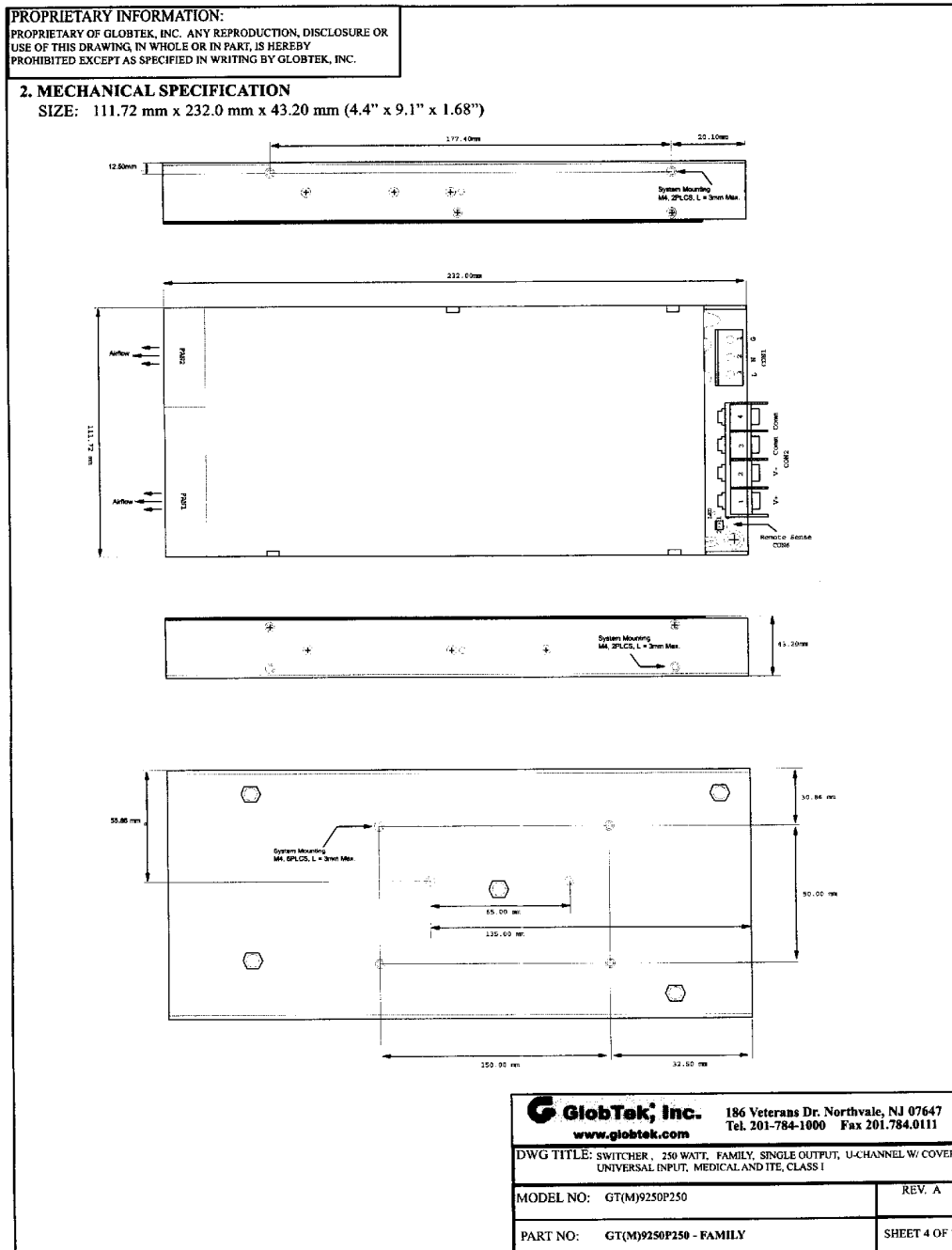
MODEL NO: GT(M)9250P150

REV. A

PART NO: GT(M)9250P150 - FAMILY

SHEET 4 OF 7

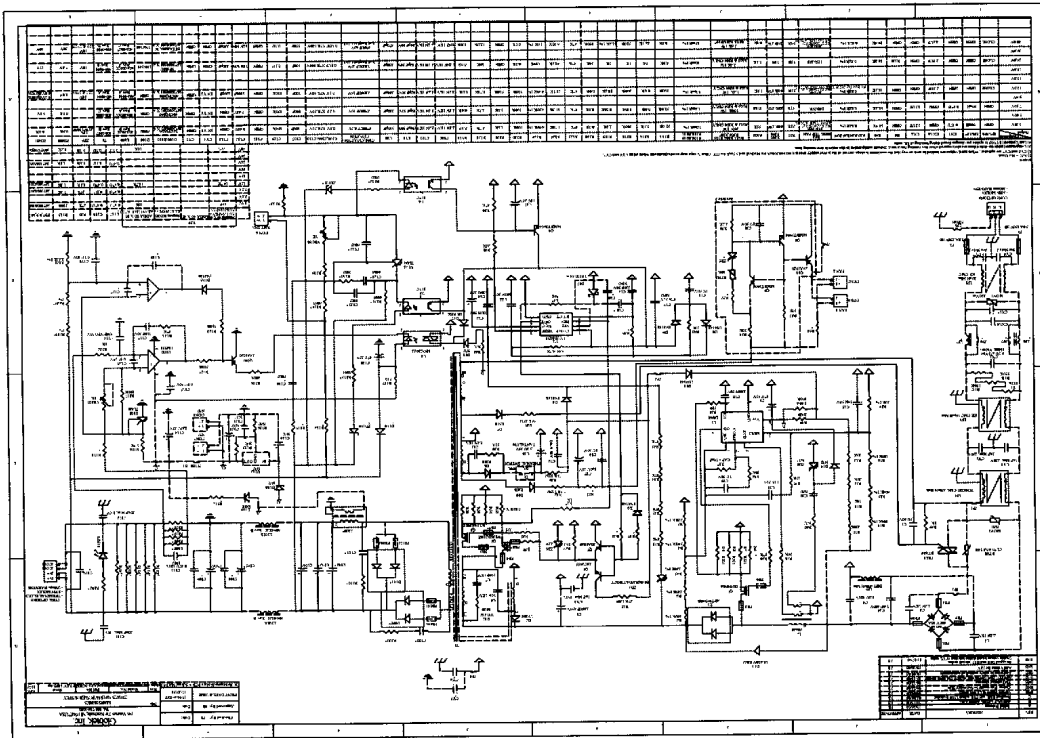
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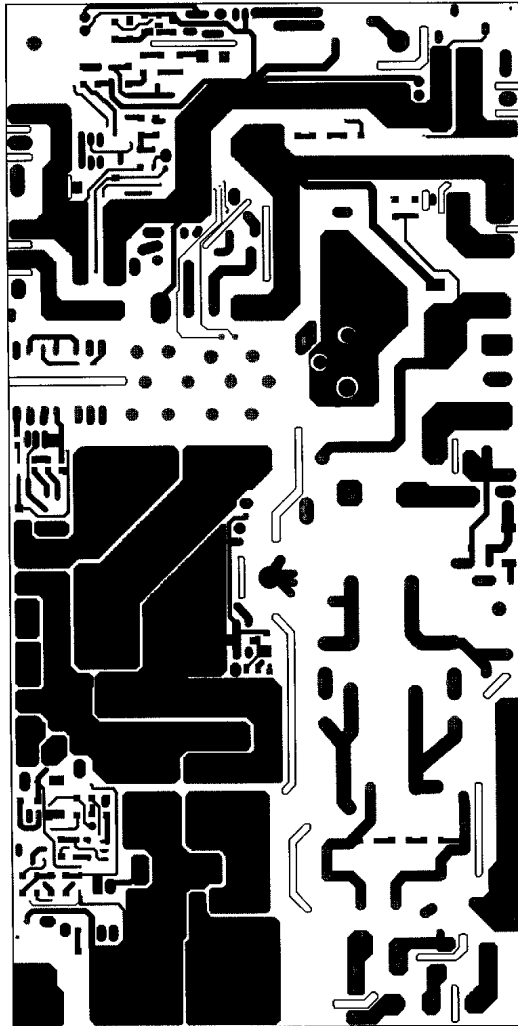
Enclosure**Schematics + PWB**

Supplement Id	Description
5-01	Schematics
5-02	Printed Wiring Board

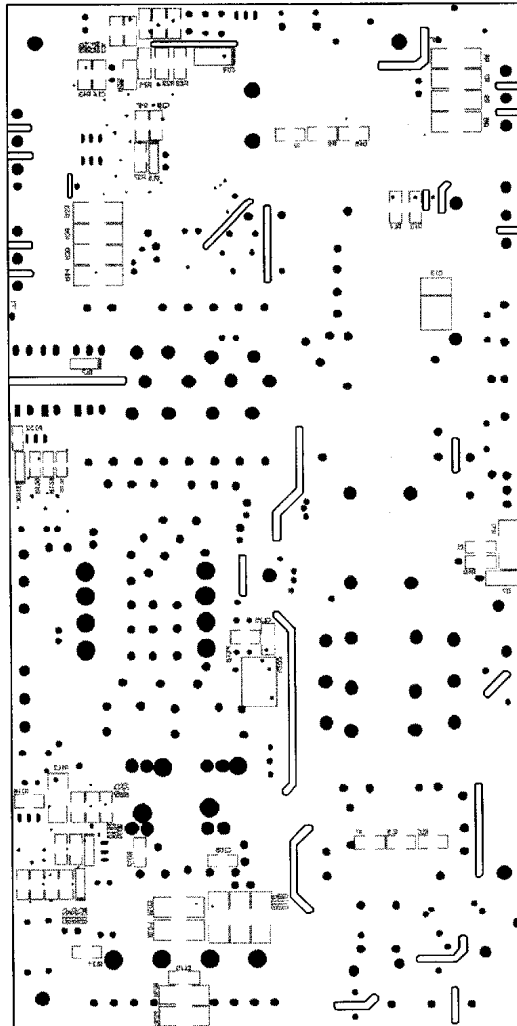
Schematics ID 5-01



Schematics ID 5-02



Schematics ID 5-02



Enclosure**Miscellaneous**

Supplement Id	Description
7-01	IEC 60601 Additional Requirements
7-02	150 W Spec
7-03	250 W Spec
7-04	270 W Spec
7-05	GTM9250P1203 Label
7-06	GTM9250P1502 Label
7-07	GTM9250P27048 Label
7-08	Overall Specification

Misc ID 7-01

Issue Date:

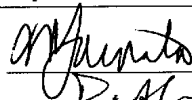
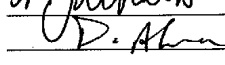
Page 1 of 23

Report Reference #

E172861-A12-CB-1

Draft

2006-03-10

TEST REPORT IEC 60601-1 Medical Electrical Equipment Part 1: General requirements for safety	
Report Reference No	E172861-A12-CB-1
Compiled by (+ signature)	Michael Lavorata 
Reviewed by (+ signature)	David Alma 
Date of issue	March 10, 2006
CB Testing Laboratory	Underwriters Laboratories, Inc.
Address	1285 Walt Whitman Rd. Melville, NY 11747
Testing location/procedure	CBTL <input checked="" type="checkbox"/> SMT <input type="checkbox"/> TMP <input type="checkbox"/> WMT <input type="checkbox"/>
Address	1285 Walt Whitman Road, Melville, NY 11747
Applicant's name	GlobTek, Inc.
Address	186 Veterans Drive Northvale, NJ 07647 USA
Test specification:	
Standard	IEC 60601-1:1988 + A1:1991 + A2:1995
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC60601_1C/97-04
TRF originator	Underwriters Laboratories Inc.
Master TRF	dated 97-04
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Test item description	Switchmode Power Supply
Trade Mark	Globtek Inc
Model/Type reference	GT-9250P and GTM9250P Series
Manufacturer	GlobTek, Inc. 186 Veterans Drive Northvale, NJ 07647 USA
Rating	100-240 V, 4.0 A max., 50-60 Hz

Marking Plate - Refer to Enclosure titled Miscellaneous for copy.

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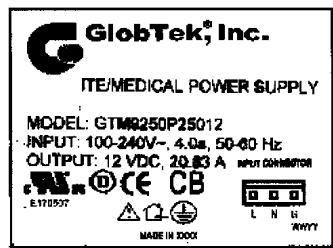
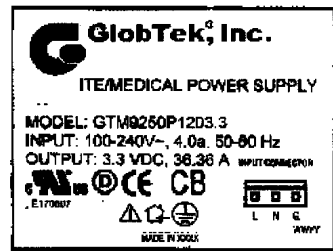
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These sample labels represent the entire GTM9250 Series.



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Issue Date:

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2006-03-10

GENERAL INFORMATION			
Test item particulars (see also clause 5):			
Classification of installation and use	For building-in		
Supply connection	For building-in		
Accessories and detachable parts included in the evaluation	None		
Options included	None		
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)		
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:			
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by a NCB in accordance with IEC 60384-14.			
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 testing laboratory.			
List of test equipment must be kept on file and be available for review.			
"(see Enclosure #)" refers to additional information appended to the report.			
"(see appended table)" refers to a table appended to the report.			
Throughout this report a point is used as the decimal separator.			
General Product Information:			
Report Summary			
All applicable tests according to the referenced standard(s) have been carried out.			
Product Description			
Model GT-9250P and GTM9250P Series are switch-mode power supply sub-assemblies incorporating semiconductor components. Each unit is provided with an isolation transformer and associated circuitry mounted on a printed wiring board. In addition, there are input and output connector headers which are mated to connectors and/or wiring within the end-use equipment.			

Misc ID 7-01

Issue Date:

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Model Differences	
N/A	
Additional Information	
N/A	
Engineering Conditions	
The product was investigated to the following additional standards:	EN 60601-1:1990 + A1:1993 + A2:1995 + A13:1996, (except EMC limitations, EN 60601-2, Biocompatibility, EN 10993-1, Programmable Electronic Systems, IEC 60601-1-4)
The product was not investigated to the following standards or clauses:	Clause 52.1, Programmable Electronics systems (IEC 601-1-4), Clause 48, Biocompatibility (ISO 10993-1), Clause 36, Electromagnetic Compatibility (IEC 601-1-2)
The product is Classified only to the following hazards:	Shock, Fire, Casualty
The degree of protection against harmful ingress of water is:	Ordinary
The mode of operation is:	Continuous
Engineering Conditions of Acceptability	
When installed in an end-product, consideration must be given to the following:	
DI/RI is provided between the primary and output of the power supply. DI/RI is also provided between the primary and the enclosure.	
The power supplies covered by this report are components, which are intended for use in end-use products used in a hospital or related health care facility, evaluated to the Standard for Medical Equipment.	
The power supplies have been evaluated as Class I, continuous operation, ordinary equipment and have not been evaluated for use in the presence of a flammable anaesthetic mixture with air, oxygen or nitrous oxide.	
The power supplies have not been evaluated for patient connection (Type B, BF or CF).	
Leakage current, temperature and dielectric strength testing should be repeated as part of the end-use product evaluation.	
These products require electrical and fire enclosures as part of the end product.	
Since this unit is for building-in to an end product, the connectors within the end product provide the method of disconnection from the input source.	
This unit utilizes both input/output connectors and output terminal blocks. The input/output connectors are not acceptable for field connections and are only intended for connection to mating connectors of internal	

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Issue Date:

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Draft

2006-03-10

insulating materials and temperatures should be considered.

The input circuit includes only one fuse in the line input. A second fuse must be included in the neutral input in the end-product, per consideration of Sub-clause 57.6 of UL 60601-1.

Testing to IEC 60601-1-2 was not conducted by UL and no supporting evidence of compliance has been presented. When submitting this Test Report to another 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.

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Report Reference #

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2006-03-10

3	GENERAL REQUIREMENTS	N/A
3.1	Equipment when transported, stored, installed, operated in normal use and maintained according to the instructions of the manufacturer, causes no safety hazard which could reasonably be foreseen and which is not connected with its intended application in normal condition (N.C.) and in single fault condition (S.F.C.)	N/A
3.4	An alternative means of construction is used to that detailed in this standard and it can be demonstrated that an equivalent degree of safety is obtained	N/A

5	CLASSIFICATION	Pass
5.1	Type of protection against electric shock	Pass
	Class I equipment	Pass
	Class II equipment	Not Class II Equipment
	Internally powered equipment	N/A
5.2	Degree of protection against electric shock	N/A
	Type B applied part	N/A
	Type BF applied part	N/A
	Type CF applied part	N/A
	Not classified - no applied parts	Pass
5.3	Classification according to the degree of protection against ingress of water as detailed in the current edition of IEC 529 (see 6.1.1)	N/A
5.4	Methods of sterilization or disinfection	N/A
5.5	Equipment not suitable for use in the presence of flammable mixtures	N/A
	Category AP equipment	N/A
	Category APG equipment	N/A
5.6	Mode of operation:	Pass
	-continuous operation	Pass
	-short-time operation, specified operation; period ..	
	-intermittent operation, specified operation; rest period	
	-continuous operation with short-time, stated permissible loading time	
	-continuous operation with intermittent, stated permissible loading/rest time	

Misc ID 7-01

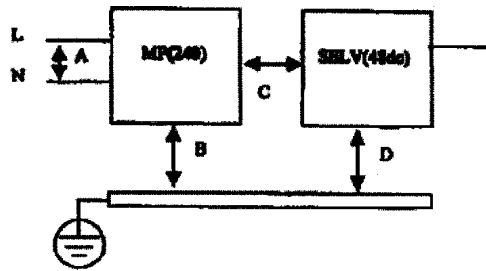
Issue Date:
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2006-03-10

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Report Reference #

E172861-A12-CB-1

INSULATION DIAGRAM

Misc ID 7-01

Issue Date:

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Report Reference #

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Draft

2006-03-10

TABLE: to insulation diagram							
Area	Insulation type: operational / basic / supplementary / double / reinforced	Reference voltage (V)	Required creepage (mm)	Required clearance (mm)	Measured creepage (mm)	Measured clearance (mm)	Remarks
A	Operational	264	3.0	1.6	5.0	5.0	Intended to be evaluated in accordance with sub-clause 57.10.b in end-use product.
B	Basic	264	4.0	2.5	10.0	6.5	Pass
C	Reinforced	264	8.0	5.0	12.0	5.0	Pass
D	Basic	264	4.0	2.5	4.5	3.0	Pass

INSULATION DIAGRAM CONVENTIONS

Insulation diagram is a graphical representation of equipment insulation barriers, protective impedance and protective earthing. If feasible, use the following conventions to generate the diagram:

1. All isolation barriers are identified by letters between separate parts of diagram, for example separate transformer windings, optocouplers, wire insulation, creepage and clearance distances.
2. Parts connected to earth with large dots are protectively earthed. Other connections to earth are functional.
3. Applied parts are extended beyond the equipment enclosure and terminated with an arrow.
4. Parts accessible to the operator only are extended outside of the enclosure, but are not terminated with an arrow.
5. Blocks containing the letter "Z" indicate protective impedance.
6. Operational Insulation (OP) - indicates insulation that may be required for function of the equipment, but is not required or relied on for compliance with the requirements of clauses 17, 20 and 57.

6	IDENTIFICATION, MARKING AND DOCUMENTS		No Verdict
6.1	Markings on the outside of equipment or equipment parts		Pass
6.1c	Markings of the specific power supply affixed	Marking affixed to visible component	Pass
6.1d	If marking is not practicable due to size or nature of enclosure, information is included in accompanying documents		N/A
6.1e	Name and/or trademark of the manufacturer or supplier	Same as Applicant	Pass
6.1f	Model or type reference	GT-9250P/GTM9250P Series	Pass
6.1g	Rated supply voltages or voltage range(s)	100-240 V	Pass
	Number of phases	Single	N/A
	Type of current	AC	Pass
6.1h	Rated frequency or rated frequency range(s) (Hz)	50-60	Pass
6.1j	Rated power input (VA, W or A)	4.0 A	Pass

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6.1k	Power output of auxiliary mains socket - outlets		N/A
6.1l	Class II symbol		N/A
	Symbol for degree of protection against ingress of water provided		N/A
	Symbol for protection against electric shock		N/A
	If equipment has more than one applied part with different degrees of protection, the relevant symbols are clearly marked on such applied parts, or on or near relevant outlets		N/A
	Symbol for protection of defibrillation-proof applied parts		N/A
	Symbol 14 from Table DI for defibrillation-proof with protection partly in patient cable		N/A
6.1m	Mode of operation (if no marking, suitable for continuous operation)		N/A
6.1n	Types and rating of external accessible fuses.....		N/A
6.1p	Ratings of external output:.....		N/A
6.1q	Symbol for physiological effect(s):		
	- attention, consult accompanying documents		N/A
	- non-ionizing radiation, or symbols as adopted by ISO or IEC 417		N/A
6.1r	Anaesthetic-proof symbol: AP or APG		N/A
6.1s	Dangerous voltage symbol		N/A
6.1t	Special cooling requirements		N/A
6.1u	Limited mechanical stability	Component for building-in	N/A
6.1v	Protective packing requirement(s)		N/A
	- Marking(s) for unpacking safety hazard(s)		N/A
	- Equipment or accessories supplied sterile, marked as sterile		N/A
6.1y	Potential equalization terminal		N/A
	- Functional earth terminal		N/A
6.1z	Removable protective means		N/A
	Durability of marking test		N/A
6.2	Marking on the inside of equipment or equipment parts		Pass
6.2a	Nominal voltage of permanently installed equipment		N/A
6.2b	Maximum power loading for heating elements or holders for heating lamps		N/A
6.2c	Dangerous voltage symbol		N/A
6.2d	Type of battery and mode of insertion		N/A

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	- Marking referring to accompanying documents used for battery not intended to be changed by the operator		N/A
6.2e	Fuses accessible with a tool identified either by type and rating or by a reference to diagram	Fuse ratings silk screened on PWB (rating dependent upon model input current; marking of 5A maximum for this series)	Pass
6.2f	Protective earth terminal	The earth terminal is marked with the standard earth symbol (IEC 417 No. 5017) near the terminal.	Pass
6.2g	Functional earth terminal		N/A
6.2h	Supply neutral conductor in permanently installed equipment (N)		N/A
6.2j	Markings required in 6.2 f), h), k), and l) remain visible after connection and are not affixed to parts which have to be removed		N/A
	- Markings comply with IEC 445		N/A
6.2k	For permanently connected devices the supply connections are clearly marked adjacent to the terminals (or in accompanying documents for small equipment)		N/A
6.2l	Statement for suitable wiring materials at temperatures over 75°C		N/A
6.2n	Capacitors and/or circuit parts marked as required in Sub-clause 15c		N/A
6.3	Marking of controls and instruments		N/A
6.3a	Mains switch clearly identified		N/A
	- ON and OFF positions marked according to Symbols 15 and 16 of table D1 or indicated by an adjacent indicator light		N/A
6.3b	Indication of different positions of control devices and switches		N/A
6.3c	Indication of the direction in which the magnitude of the function changes, or an indicating device		N/A
6.3f	The functions of operator controls and indicators are identified		N/A
6.3g	Numeric indications of parameters are in SI units except for units listed in Am. 2		N/A
6.4	Symbols		N/A
	Used symbols comply with Appendix D or IEC 417 and/or IEC 878 or ISO publications (if applicable)		N/A
6.5	Colors of the insulation of conductors		N/A
6.5a	Protective earth conductor has green/yellow insulation		N/A

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6.5b	All insulations of internal protective earth conductors are green/yellow at least at their terminations		N/A
6.5c	Only protective or functional earthing, or potential equalization conductors are green/yellow		N/A
6.5d	Color of neutral conductor		N/A
6.5e	Colors of phase conductor(s).....		N/A
	- Compliance with IEC 227 and IEC 245		N/A
6.5f	Additional protective earthing in multi-conductor, cords are marked green/yellow at the ends of the additional conductors		N/A
6.6	Medical gas cylinders and connections		N/A
6.6a	In accordance with ISO ISO/R 32		N/A
6.6b	Identification of connection point		N/A
6.7	Indicator lights and push-buttons		N/A
6.7a	Red indicator lights used exclusively to indicate a warning of danger and/or a need for urgent action		N/A
	- Yellow used to indicate caution or attention required		N/A
	- Green used to indicate ready for action		N/A
6.7b	Color red used only for push-buttons by which a function is interrupted in case of emergency		N/A
6.8	ACCOMPANYING DOCUMENTS		Pass
6.8.1	Equipment accompanied by documents containing at least instructions for use, a technical description and an address to which the user can refer	There are no indicators or controls in the equipment. It is provide with a specification sheet.	Pass
	Classifications specified in Clause 5 included in both the instructions for use and the technical description		N/A
	Markings specified in Sub-clause 6.1 included in the accompanying documents if they have not been permanently affixed to equipment		N/A
	Warning statements and the explanation of warning symbols provided in the accompanying documents		N/A
6.8.2	Instructions for use		Pass
6.8.2a	General information provided in instructions for use		Pass
	- state the function and intended application of the equipment		N/A
	- include an explanation of: the function of controls, displays and signals		N/A
	- the sequence of operation		N/A

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	- the connection and disconnection of detachable parts and accessories		N/A
	- the replacement of material which is consumed during operation		N/A
	- information regarding potential electromagnetic or other interference and advice regarding avoidance		N/A
	- include: indications of recognized accessories, detachable parts and materials, if the use of other parts or materials can degrade minimum safety		N/A
	- instructions concerning cleaning, preventive inspection and maintenance to be performed including the frequency of such maintenance		N/A
	General information provided in instructions:		N/A
	- information for the safe performance or routine maintenance		N/A
	- parts on which preventive inspection and maintenance shall be performed by other persons including the periods to be applied		N/A
	- explanation of figures, symbols, warning statements and abbreviations on the equipment		N/A
6.8.2c	Signal output or signal input parts intended only for connection to specified equipment described		N/A
6.8.2d	Details about acceptable cleaning, disinfection or sterilization methods included		N/A
6.8.2e	Warning statement for mains operated equipment with additional power source		N/A
6.8.2f	A warning to remove primary batteries if equipment is not likely to be used for some time		N/A
6.8.2g	Instructions to ensure safe use and adequate maintenance of rechargeable batteries		N/A
6.8.2h	Identification of specified external power supplies or battery chargers necessary to ensure compliance with the requirements of IEC 601-1		N/A
6.8.2j	Identification of any risks associated with the disposal of waste products, residues, etc.		N/A
	- Advice in minimizing these risks		N/A
6.8.3	Technical description		N/A
6.8.3a	All characteristics essential for safe operation provided		N/A
6.8.3b	Required type and rating of fuses utilized in the mains supply circuit external to permanently installed equipment		N/A
	- Instructions for replacement of interchangeable and/or detachable parts which are subject to deterioration during normal use		N/A

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6.8.3c	Instructions or reference information for repair of equipment parts designated by the manufacturer as repairable provided		N/A
6.8.3d	Environmental conditions for transport and storage specified in accompanying documents and marked on packaging		N/A

19	CONTINUOUS LEAKAGE CURRENTS AND PATIENT AUXILIARY CURRENTS		Pass
19.1b	Leakage currents		Pass
	- earth leakage current		Pass
	- enclosure leakage current		N/A
	- patient leakage current		N/A
	- patient auxiliary current		N/A

20	DIELECTRIC STRENGTH		Pass
	Overall compliance with Clause 20		Pass

36	ELECTROMAGNETIC COMPATIBILITY		N/A
	Equipment complies with IEC 601-1-2		N/A

42	EXCESSIVE TEMPERATURES		Pass
42.1	Equipment does not attain temperatures exceeding the values given in Table Xa over the range of ambient temperatures per Clause 10.2.1		Pass
42.2	Equipment does not attain temperatures exceeding the values given in Table Xb at 25°C ambient		Pass
42.3	Applied parts not intended to supply heat have surface temperatures not exceeding 41°C		N/A
42.5	Guards to prevent contact with hot surfaces removable only with a tool		N/A

57	MAINS PARTS, COMPONENTS AND LAYOUT		Pass
57.1	Isolation from supply mains		Pass
57.1a	Equipment provides means to isolate its circuits electrically from the supply mains on all poles simultaneously		N/A

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	Means for isolation incorporated in equipment or, if external, specified in the accompanying documents		
57.1d	Switches used to comply with Sub-clause 57.1a comply with the creepage distances and air clearances as specified in IEC Publication 328		N/A
57.1f	Mains switches not incorporated in a power supply cord		N/A
57.1h	Appliance couplers and flexible cords with mains plugs provide compliance with Sub-clause 57.1a		N/A
57.1m	Fuses and semiconductor devices not used as isolating devices		N/A
57.2	Mains connectors and appliance inlets		N/A
57.2e	Auxiliary mains socket-outlets on non-permanently installed equipment of a type that cannot accept a mains plug		N/A
57.2g	Unless functional earth needs to be provided, Class I appliance inlet is not used in Class II equipment		N/A
57.3	Power supply cords		
57.3a	Not more than one connection to a particular supply mains		N/A
	If alternative supply allowed, no safety hazards when more than one connection is made simultaneously		N/A
	The mains plug has only one power supply cord		N/A
	Non-permanently connected equipment provided with power supply cord or appliance inlet		N/A
57.3b	Power supply cords sufficiently robust to comply with the requirements of IEC 227, designation 53 and IEC 245, designation 53		N/A
	Polyvinyl chloride insulated power supply cords not used for equipment having external metal parts with a temperature exceeding 75°C		N/A
57.3c	Nominal cross-sectional area of conductors of power supply cords not less than in Table XV		N/A
57.3d	Stranded conductors not soldered if fixed by any clamping means		N/A
57.4	Connection of power supply cords		N/A
57.4a	Cord anchorages		N/A
	Equipment provided with power supply cords has cord anchorages such that the conductors are relieved from strain, including twisting		N/A
	Tying the cord into a knot or tying the ends with string not used		N/A

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	Cord anchorages made of insulating material or metal insulated from unearthed accessible metal parts by supplementary insulation		N/A
	Cord anchorages made of metal provided with an insulating lining		N/A
	Clamping screws do not bear directly on the cord insulation		N/A
	Screws associated with cable replacement are not used to secure other components		N/A
	Conductors of the power supply cord arranged that the protective earth conductor is not subject to strain as long as the phase conductors are in contact with their terminals		N/A
57.4b	Power supply cord protected against excessive bending		N/A
57.4c	Adequate space inside equipment to allow the supply cable conductors to be introduced and connected		N/A
57.5	Mains terminal devices and wiring of mains part		N/A
	Mains connected equipment other than those with a detachable supply cord provided with mains terminals, where connections are made with screws, nuts or equally effective methods		N/A
	If a conductor breaks away, barriers are provided such that creepage distances and air clearances cannot be reduced		N/A
	Screws and nuts which clamp external conductors not serve to fix any other component		N/A
57.5b	Terminals closely grouped with any protective earth terminal		N/A
	Mains terminal devices accessible only with use of a tool		N/A
	Mains terminal devices located or shielded that, should a wire of a stranded conductor escape when the conductors are fitted, there is no risk of accidental contact		N/A
57.5c	Internal wiring not subjected to stress when the means for clamping the conductors are tightened or loosened		N/A
57.5d	Cord terminals not require special preparation of the conductor		N/A
57.6	Mains fuses and overcurrent releases		Pass
	Fuses or over-current releases provided accordingly for Class I and Class II		Pass
	Current rating of mains fuses and over-current	Fuse rating: 5A	Pass

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	operating current		
	Protective earth conductor not fused		N/A
	Neutral conductor not fused for permanently installed equipment		N/A
57.8	Wiring of the mains part		N/A
57.8a	Individual conductor in the mains part with insulation not at least electrically equivalent to that of the individual conductors of flexible supply cords complying with IEC Publications 227 or 245, treated as bare conductor		N/A
57.8b	Cross-sectional area of conductors up to protective device not less than the minimum required for the power supply cord		N/A
	Cross-sectional area of other wiring and the sizes of tracks on printed wiring circuits sufficient to prevent any fire hazard		N/A
57.9	Mains supply transformers		Pass
57.9.1	Overheating		Pass
	External to the transformer protective devices connected in such a way that failure of any component cannot render the protective devices inoperative		Pass
57.9.1a	Short-circuit of secondary windings not caused excessive temperature		Pass
57.9.1b	Overload of secondary windings not caused excessive temperature		Pass
57.9.2	The dielectric strength of the electrical insulation of a mains supply transformer such that it passes tests		Pass
57.9.4	Construction		Pass
57.9.4a	Separation of primary and secondary windings		Pass
	- separate bobbins or formers		N/A
	- one bobbin with insulating partition		Pass
	- one bobbin with concentric windings and having copper screen with a thickness of not less than 0.13 mm		N/A
	- concentrically wound on one bobbin with windings separated by double insulation		Pass
57.9.4c	Means provided to prevent displacement of end turns		Pass
57.9.4d	Insulated overlap of not less than 3 mm if a protective earthed screen has only one turn		N/A
57.9.4e	Insulation between the primary and secondary in transformers with double insulation		Pass

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	- 1 insulation layer having a thickness of at least 1 mm		N/A
	- at least 2 insulation layers with a total thickness of at least 0.3 mm		N/A
	- three layers provided that each combination of two layers can withstand the dielectric strength test for reinforced insulation		N/A
57.9.4g	Exit of the wires of toroidal transformers provided with double sleeving complying with requirements for double insulation and having total thickness at least 0.3 mm extending at least 20 mm outside the winding		N/A
57.10	Creepage distances and air clearances		Pass
57.10a	Values: compliance with at least the values of Table XVI		Pass
	Creepage distances for slot insulation of motors at least 50% of the specified values		N/A
57.10b	Minimum creepage distances and air clearances in the mains part between parts of opposite polarity not required if short-circuiting does not produce a safety hazard		Pass
57.10c	Creepage distances or clearances of at least 4 mm are maintained between defibrillation-proof applied parts and other parts		N/A

6.1	TABLE: marking durability	N/A
Marking tested	Remarks	
supplementary information: Unit for building-in		

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7	TABLE: power input					Pass
Operating condition	Voltage (V)	Frequency (Hz)	Current (mA)	Power (W)	Remarks	
Model GTM9250P753.3	-	-	-	-	-	
Rated Load	90	60	1256	113.0	Test Passed	
Rated Load	100	60	1120	112.0	Test Passed	
Rated Load	120	60	924	110.8	Test Passed	
Rated Load	132	60	607	108.6	Test Passed	
Rated Load	200	60	499	108.0	Test Passed	
Rated Load	240	60	460	107.6	Test Passed	
Rated Load	264	60	506	107.3	Test Passed	
Model GTM9250P1203.3	-	-	-	-	-	
Rated Load	90	60	2014	181.2	Test Passed	
Rated Load	100	60	1792	179.0	Test Passed	
Rated Load	120	60	1471	176.2	Test Passed	
Rated Load	132	60	960	172.4	Test Passed	
Rated Load	200	60	782	171.0	Test Passed	
Rated Load	240	60	716	170.3	Test Passed	
Rated Load	264	60	765	170.0	Test Passed	
Model GTM9250P1503.3	-	-	-	-	-	
Rated Load	90	60	2581	232.1	Test Passed	
Rated Load	100	60	2288	228.8	Test Passed	
Rated Load	120	60	1874	224.8	Test Passed	
Rated Load	132	60	1217	218.9	Test Passed	
Rated Load	200	60	987	216.4	Test Passed	
Rated Load	240	60	902	215.4	Test Passed	
Rated Load	264	60	865	214.5	Test Passed	
Model GTM9200P15012	-	-	-	-	-	
Rated Load	90	60	2067	186.0	Test Passed	
Rated Load	100	60	1841	184.0	Test Passed	
Rated Load	120	60	1518	181.8	Test Passed	
Rated Load	132	60	1000	178.9	Test Passed	
Rated Load	200	60	823	178.0	Test Passed	
Rated Load	240	60	760	177.7	Test Passed	
Rated Load	264	60	787	177.5	Test Passed	
Model GTM9200P15048	-	-	-	-	-	
Rated Load	90	60	2111	189.5	Test Passed	
Rated Load	100	60	1875	187.2	Test Passed	
Rated Load	120	60	1539	184.4	Test Passed	
Rated Load	132	60	1016	181.2	Test Passed	
Rated Load	200	60	836	180.0	Test Passed	
Rated Load	240	60	773	179.6	Test Passed	
Rated Load	264	60	800	179.3	Test Passed	
Model GTM9200P25012	-	-	-	-	-	
Rated Load	90	60	3573	321.4	Test Passed	
Rated Load	100	60	3131	313.0	Test Passed	
Rated Load	120	60	2539	304.7	Test Passed	
Rated Load	132	60	1652	296.3	Test Passed	
Rated Load	200	60	1346	294.0	Test Passed	
Rated Load	240	60	1232	293.1	Test Passed	
Rated Load	264	60	1122	291.9	Test Passed	

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Model GTM9200P25048	-	-	-	-	-
Rated Load	90	60	3446	309.8	Test Passed
Rated Load	100	60	3042	303.7	Test Passed
Rated Load	120	60	2478	297.1	Test Passed
Rated Load	132	60	1617	290.0	Test Passed
Rated Load	200	60	1318	288.0	Test Passed
Rated Load	240	60	1208	287.1	Test Passed
Rated Load	264	60	1100	286.3	Test Passed
Model GTM9200P27012	-	-	-	-	-
Rated Load	90	60	3858	346.7	Test Passed
Rated Load	100	60	3384	338.0	Test Passed
Rated Load	120	60	2754	330.0	Test Passed
Rated Load	132	60	1787	320.4	Test Passed
Rated Load	200	60	1456	317.9	Test Passed
Rated Load	240	60	1334	316.8	Test Passed
Rated Load	264	60	1214	315.7	Test Passed
Model GTM9200P27048	-	-	-	-	-
Rated Load	90	60	3818	343.1	Test Passed
Rated Load	100	60	3350	334.1	Test Passed
Rated Load	120	60	2730	326.1	Test Passed
Rated Load	132	60	1778	316.7	Test Passed
Rated Load	200	60	1451	314.1	Test Passed
Rated Load	240	60	1333	313.1	Test Passed
Rated Load	264	60	1217	312.2	Test Passed

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19	TABLE: leakage current			Pass
Test 2 - Leakage current with mains on the applied parts (normal condition and single fault condition)	Supply voltage (V)	Supply frequency (Hz)	Measured max. value (µA)	Remarks
Model GTM9250P753.3	-	-	-	-
Normal Condition (Normal Polarity)	240	60	230	Test Passed
Normal Condition (Reverse Polarity Polarity)	240	60	240	Test Passed
Single Fault Condition (Normal Polarity)	240	60	440	Test Passed
Single Fault Condition (Reverse Polarity)	240	60	440	Test Passed
Model GTM9250P27048	-	-	-	-
Normal Condition (Normal Polarity)	240	60	265	Test Passed
Normal Condition (Reverse Polarity Polarity)	240	60	264	Test Passed
Single Fault Condition (Normal Polarity)	240	60	505	Test Passed
Single Fault Condition (Reverse Polarity)	240	60	489	Test Passed
supplementary information:				
ER - Earth leakage current EN - Enclosure leakage current P - Patient leakage current PM - Patient leakage current with mains on the applied parts PA - Patient auxiliary current Fig. 15 - refers to Fig. 15 in IEC601-1 MD - Measuring device A - After humidity conditioning B - Before humidity conditioning 1 - Switch closed or set to normal polarity 0 - Switch open or set to reversed polarity NC - Normal condition SFC - Single fault condition				

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20	TABLE: dielectric strength				Pass
Insulation type (see note on test diagram)	Insulation type (OP-operational/Basic/GR-supplementary/GR-reinforced)	Reference voltage (V)	Test voltage (V)	Remarks	
Model GTM9250P753.3	-	-	-	-	-
A	Operational	264	2121	Test Passed	
B	Basic	264	2121	Test Passed	
C	Reinforced	264	5656	Test Passed	
D	Basic	60	707	Test Passed	
Model GTM9250P1203.3	-	-	-	-	-
A	Operational	264	2121	Test Passed	
B	Basic	264	2121	Test Passed	
C	Reinforced	264	5656	Test Passed	
D	Basic	60	707	Test Passed	
Model GTM9250P15012	-	-	-	-	-
A	Operational	264	2121	Test Passed	
B	Basic	264	2121	Test Passed	
C	Reinforced	264	5656	Test Passed	
D	Basic	60	707	Test Passed	
Model GTM9250P25012	-	-	-	-	-
A	Operational	264	2121	Test Passed	
B	Basic	264	2121	Test Passed	
C	Reinforced	264	5656	Test Passed	
D	Basic	60	707	Test Passed	
Model GTM9250P27048	-	-	-	-	-
A	Operational	264	2121	Test Passed	
B	Basic	264	2121	Test Passed	
C	Reinforced	264	5656	Test Passed	
D	Basic	60	707	Test Passed	
Supplementary information:					

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42	TABLE: normal temperature	Pass
Supply voltage: 264 v, 60 Hz		Test Condition: Rated Load
Ambient temperature: 25		
Measuring location	Measured temperature (°C)	Remarks
Model GTM9250P753.3	-	-
Ambient	25.4	Test Passed
T1 Winding	95.1	Test Passed
T1 Core	106.3	Test Passed
D100 Casing	68.7	Test Passed
L100 Winding	84.7	Test Passed
C102 Casing	67.0	Test Passed
PCB at input inductor	72.1	Test Passed
LF4 Winding	58.2	Test Passed
Q1 Casing	57.9	Test Passed
BD1 Casing	62.1	Test Passed
L1 Winding	75.9	Test Passed
Model GTM9250P1203.3	-	-
Ambient	25.1	Test Passed
T1 Winding	50.4	Test Passed
T1 Core	55.5	Test Passed
D100 Casing	48.6	Test Passed
L100 Winding	59.4	Test Passed
C102 Casing	43.3	Test Passed
PCB at input inductor	66.0	Test Passed
LF4 Winding	30.8	Test Passed
Q1 Casing	37.8	Test Passed
BD1 Casing	33.7	Test Passed
L1 Winding	38.5	Test Passed
Model GTM9250P15012	-	-
Ambient	25.9	Test Passed
T1 Winding	80.0	Test Passed
T1 Core	83.6	Test Passed
D100 Casing	62.8	Test Passed
L100 Winding	93.8	Test Passed
C102 Casing	70.3	Test Passed
PCB at input inductor	40.2	Test Passed
LF4 Winding	59.9	Test Passed
Q1 Casing	54.0	Test Passed
BD1 Casing	59.5	Test Passed
L1 Winding	65.7	Test Passed
Model GTM9250P25012	-	-
Ambient	25.9	Test Passed
T1 Winding	50.8	Test Passed
T1 Core	52.3	Test Passed
D100 Casing	54.6	Test Passed
L100 Winding	82.5	Test Passed
C102 Casing	46.1	Test Passed
PCB at input inductor	49.3	Test Passed

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Issue Date:

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Report Reference #

E172861-A12-CB-1

Draft


2006-03-10

LF4 Winding	36.5	Test Passed
Q1 Casing	40.5	Test Passed
BD1 Casing	46.4	Test Passed
L1 Winding	45.9	Test Passed
Model GTM9250P27012	-	-
Ambient	25.9	Test Passed
T1 Winding	49.3	Test Passed
T1 Core	53.3	Test Passed
D100 Casing	54.3	Test Passed
L100 Winding	78.1	Test Passed
C102 Casing	42.2	Test Passed
PCB at input inductor	47.9	Test Passed
LF4 Winding	36.9	Test Passed
Q1 Casing	45.8	Test Passed
BD1 Casing	46.9	Test Passed
L1 Winding	47.5	Test Passed
-	-	-
Relative Humidity	19%	-
supplementary information:		

52.5.9		TABLE: Output overload/short circuit					Pass
Comp.	Fault	Duration	Output Initial (V)	Output Initial (A)	Output Initial (V)	Output Initial (A)	Max. Temp.
-	-	-	-	-	-	-	Model GTM9250P753.3
T1	Output Overload	2 hr.	3.3	22.72	3.1	25.7	108°C, NB, NC, NT, F1 = 0.504 A
-	-	-	-	-	-	-	Model GTM9250P25048
T1	Output Overload	1 hr.	48.0	5.21	45.6	6.25	46.3°C, NB, NC, NT, F1 = 0.35 A
T1	Short Circuit	20 min.	48.0	5.21	0	0	56.3°C, NB, NC, NT, F1 = 1.22 A
supplementary information:							

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		A	INITIAL RELEASE, RFS.7491, JB	11/16/05	DMR

 **PRELIMINARY**

MAIN FEATURES

- UNIVERSAL INPUT WITH ACTIVE POWER FACTOR CORRECTION
- MEDICAL AND ITE GRADE VERSIONS
- EN55022 CLASS B COMPLIANT
- EN55011 CLASS B COMPLIANT
- EN61000-4-2, -3, -4, -5, -6 COMPLIANT
- BUILT-IN EMI FILTER
- REMOTE OUTPUT SENSING OPTION
- OVERVOLTAGE PROTECTION
- OVERLOAD PROTECTION
- THERMAL OVERLOAD PROTECTION
- CONFIGURABLE OUTPUT FROM 3.3V TO 48V IN 0.1V INCREMENTS
- COMPACT 111.72 mm x 208.0 mm x 42.00 mm (4.4" x 9.1" x 1.65") SIZE, FITS 1U APPLICATIONS
- LONGER HOLD-UP TIME


1. ELECTRICAL SPECIFICATIONS:

INPUT

INPUT RANGE:	90-264 VAC
INPUT LINE FREQUENCY:	47-63Hz
INPUT CURRENT:	< 4A RMS @ 90VAC FULL LOAD
INRUSH CURRENT:	40A TYPICAL, COLD START @ 25°C AT 115V
EFFICIENCY:	80% TYPICAL AT FULL LOAD NOMINAL LINE
POWER FACTOR:	0.99 TYPICAL AT FULL LOAD NOMINAL LINE
TURN-ON DELAY:	3 SECOND TYPICAL @ 115VAC
INPUT LINE PROTECTION:	MOV TRANSIENT PROTECTED. INPUT LINE FUSE PROVIDED ON-BOARD
SOFT START:	STANDARD ON ALL MODELS

OUTPUT

MAXIMUM POWER:	150 WATTS WITH NATURAL CONVECTION
ADJUSTMENT RANGE:	± 5% FROM NOMINAL VOLTAGE
LOAD REGULATION:	± 2% MEASURED AT THE OUTPUT CONNECTOR SIDE
LINE REGULATION:	± 0.5% MEASURED AT THE OUTPUT CONNECTOR SIDE
HIGH FREQUENCY RIPPLE:	1% OF OUTPUT VOLTAGE, PEAK TO PEAK
TURN ON/OFF OVERSHOOT:	5% MAXIMUM, 1mS RECOVERY TIME
HOLD-UP TIME:	30 mS @ FULL LOAD, NOMINAL LINE
TRANSIENT RESPONSE:	1mS RECOVERY TO WITHIN 1% OF THE REGULATION BAND WITH NO MORE THAN 5% OUTPUT VOLTAGE DEVIATION @ 25% LOAD STEP, 0.1A/mS SLEW RATE

Foot Note: Globtek Inc. will not be liable for the safety and performance of these power supplies if unauthorized access and repair occurs. End user should consult applicable UL, CSA or EN standards for proper installation instructions.		DASH NO.	PART NO.	REV.	DESCRIPTION	NOTES
TABULATION BLOCK						
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		DECIMALS: ±0.1 ANGULAR: ±1° MILLIMETERS: ±0.13 ANGULAR: ±0.13				
INIT. BY: JB	DATE: 11/16/05	FSCN No.: G Y	SIZE: A	MODEL NO: GT(M)9250P150		REV. A
DRAWN: NF	DATE: 11/16/05	SCALE: NONE		PART NO: GT(M)9250P150 - FAMILY		SHEET 1 OF 7
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OVERLOAD PROTECTION: SHORT CIRCUIT: OVERVOLTAGE: INDICATOR: REMOTE SENSE OPTION:	PROTECTED @ 120-150% OF FULL LOAD RATING, AUTORECOVER HICCUP, AUTORECOVER UPON REMOVAL OF SHORT 10% TO 50% ABOVE NOMINAL OUTPUT, AUTORECOVER GREEN LED FOR OUTPUT PRESENCE COMPENSATE FOR UP TO 500 mV DROP ON OUTPUT CABLE, WILL OPERATE WITHOUT REMOTE SENSE CONNECTION	

MODEL NUMBER	OUTPUT VOLTAGE	MAXIMUM LOAD
GT(M)9250P753.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	3.3V	22.72A
GT(M)9250P1005.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	5V	20.00A
GT(M)9250P1007.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	7.5V	13.33A
GT(M)9250P1509.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	9V	16.67A
GT(M)9250P15012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	12V	12.50A
GT(M)9250P15015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	15V	15.00A
GT(M)9250P15018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	18V	8.33A
GT(M)9250P15024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	24V	6.25A
GT(M)9250P15036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	36V	4.17A
GT(M)9250P15048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	48V	3.12A

MODEL DESCRIPTION:

GT(M)9250P753.3 TO 15048-X.X

GT: GLOBTEK SERIES CODE

M: MEDICAL GRADE; REPLACE WITH "-" (DASH) FOR I.T.E. GRADE

9250P: SERIES DESIGNATOR

753.3 TO 15048: 75W 3.3V TO 150W 48V, DESCRIBES OUTPUT POWER AND OUTPUT VOLTAGE

-X.X: USE ONLY TO SPECIFY OUTPUT VOLTAGE DEVIATION FROM STANDARD MODEL BY SUBTRACTING X.X VOLTS FROM STANDARD OUTPUT VOLTAGE
 EXAMPLE; REQUIRED VOLTAGE IS 10V; MODEL: GTM9250P25012-2.0
 -X.X IS NOT REQUIRED FOR STANDARD OUTPUT VOLTAGES

F-: FAN CONTROL OPTION; ADD "F-" IF FAN CONTROL IS DESIRED.

S: STANDARD CONFIGURATION; INPUT HEADER ON BOARD AND OUTPUT TERMINAL BLOCK

M: INPUT AND OUTPUT HEADER ON BOARD

HIXXX: INPUT WIRE HARNESS AND OUTPUT TERMINAL BLOCK. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm.


HOXXX: INPUT HEADER ON BOARD AND OUTPUT WIRE HARNESS. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm.

HIOXXX: INPUT AND OUTPUT WIRE HARNESS. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm .

HIIHXXX: INPUT WIRE HARNESS AND OUTPUT HEADER ON BOARD

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DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I	
MODEL NO: GT(M)9250P150	REV. A
PART NO: GT(M)9250P150 - FAMILY	SHEET 2 OF 7

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ENVIRONMENTAL							
TEMPERATURE COEFFICIENT:	± 0.05% PER °C, TYPICAL						
OPERATING TEMPERATURE:	0° TO 40°C						
STORAGE TEMPERATURE	-40° TO 85°C						
RELATIVE HUMIDITY:	OPERATING; 0-90% NON-CONDENSING						
ALTITUDE:	UP TO 10000 FEET						
RANDOM VIBRATION/ TRANSIENT DROP:	MIL-STD 810E						
MTBF:	>100,000 HOURS @ 25° AMBIENT TEMPERATURE, FULL LOAD, 230Vac, MIL-217 STD.						
SAFETY							
HIPOT (PRI-SEC):	4242 VDC FOR ITE VERSION 5656 VDC FOR MEDICAL VERSION						
EARTH LEAKAGE:	< 0.3mA @ 50/60Hz, 264 VAC INPUT						
APPROVAL							
ITE VERSION (PENDING):	UL60950-1 (3RD EDITION), CUL TO 22.2 NO. 60950-1, CB REPORT, DEMKO TO EN60950-1						
MEDICAL VERSION(PENDING):	UL60601-1, CUL TO 22.2 NO. 60601-1, CB REPORT, DEMKO TO EN60601-1						
EMI/CE MARK:	EN55022 CLASS B AND FCC PART 15, TESTED WITH RESISTIVE LOAD. EN61000-3-2, EN61000-3-3 AND EN50082-1 INCLUDING EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11 LEVEL 4						
<div>GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 Tel. 201-784-1000 Fax 201-784-0111 www.globtek.com</div> <table border="1"><tr><td colspan="2">DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I</td></tr><tr><td>MODEL NO: GT(M)9250P150</td><td>REV. A</td></tr><tr><td>PART NO: GT(M)9250P150 - FAMILY</td><td>SHEET 3 OF 7</td></tr></table>		DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I		MODEL NO: GT(M)9250P150	REV. A	PART NO: GT(M)9250P150 - FAMILY	SHEET 3 OF 7
DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I							
MODEL NO: GT(M)9250P150	REV. A						
PART NO: GT(M)9250P150 - FAMILY	SHEET 3 OF 7						

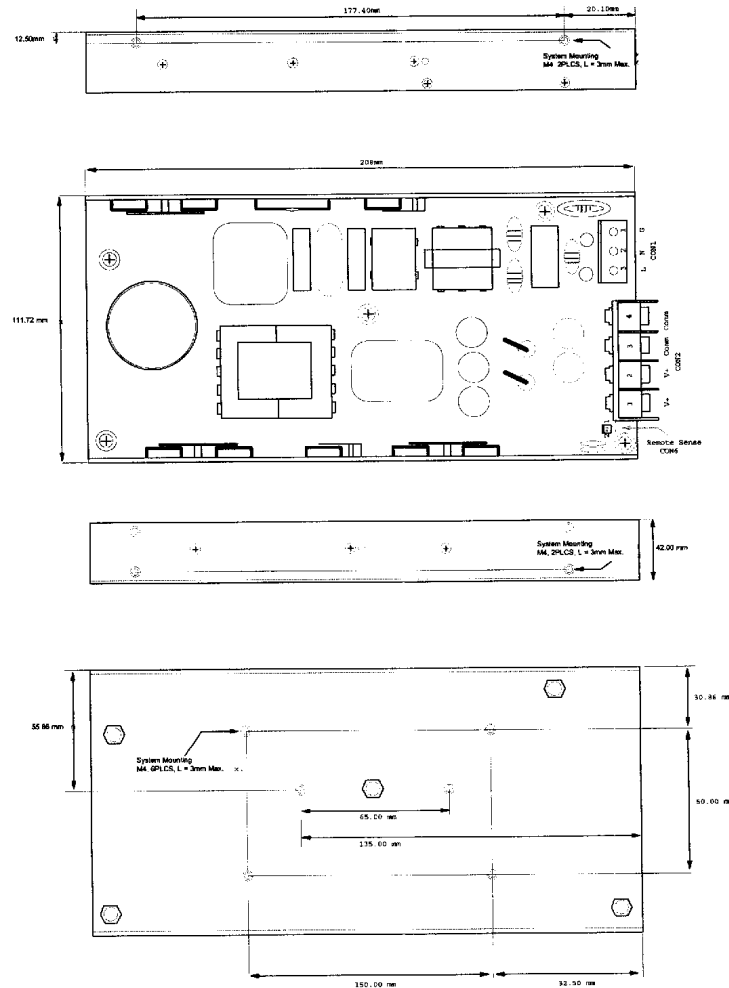
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2. MECHANICAL SPECIFICATION

SIZE: 111.72 mm x 208.0 mm x 42.00 mm (4.4" x 9.1" x 1.65")



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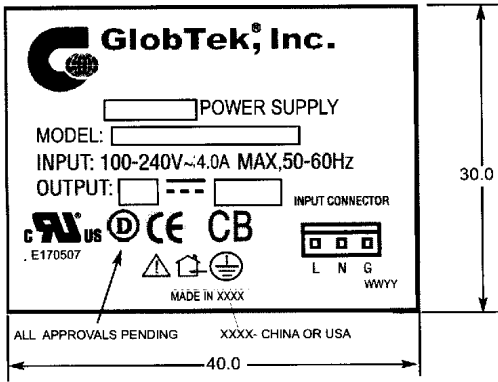
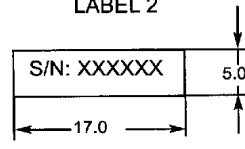
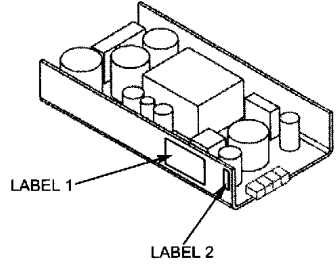
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REV. A

PART NO: GT(M)9250P150 - FAMILY

SHEET 4 OF 7

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PIN ASSIGNMENTS:									
CON1: INPUT CONNECTOR, PIN 1: EARTH GROUND, PIN 2: NEUTRAL, PIN 3: LIVE MOLEX P/N 26-604050 WITH 2 PINS REMOVED(FOR S AND HOXXX VERSIONS)									
CON2: OUTPUT CONNECTOR, 4 PIN TERMINAL BLOCK (FOR S AND HIXXX VERSIONS) DINKLE TERMINAL BLOCK P/N: DT-45-B14W, PIN 1,2: V+, PIN 3,4: COM MOLEX P/N 26-60-4100 WITH PINS 5 & 6 REMOVED (FOR M AND HIHXXX VERSIONS)									
CON6: OPTIONAL REMOTE SENSE, MOLEX P/N: 22-23-2021, PIN1: +, PIN2: -									
3. LABEL:									
1. MATERIAL: PET (105°C) OR EQUIVALENT									
2. THICKNESS: 25#									
LABEL 1	LABEL 2								
									
									
<table border="1"><tr><td colspan="2">GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 Tel. 201-784-1000 Fax 201-784-0111 www.globtek.com</td></tr><tr><td colspan="2">DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I</td></tr><tr><td>MODEL NO: GT(M)9250P150</td><td>REV. A</td></tr><tr><td>PART NO: GT(M)9250P150 - FAMILY</td><td>SHEET 5 OF 7</td></tr></table>		GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 Tel. 201-784-1000 Fax 201-784-0111 www.globtek.com		DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I		MODEL NO: GT(M)9250P150	REV. A	PART NO: GT(M)9250P150 - FAMILY	SHEET 5 OF 7
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MODEL NO: GT(M)9250P150	REV. A								
PART NO: GT(M)9250P150 - FAMILY	SHEET 5 OF 7								

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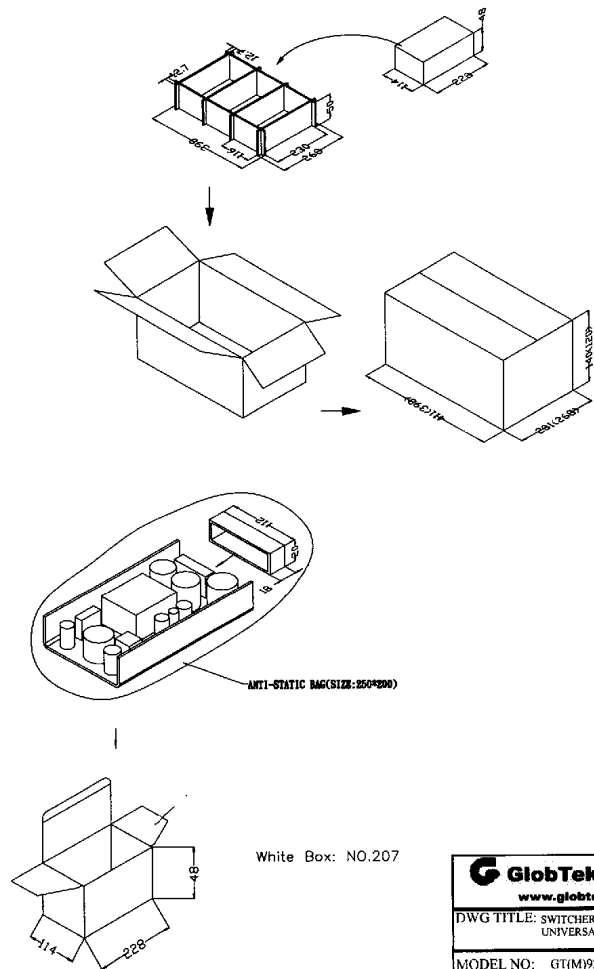
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4. PACKING :

MATERIAL: CORRUGATED FIBERBOARD, F-FLUTE, DOUBLE WALL CONSTRUCTION.
LOCKING TABS ON BOTH SIDES OF BOX. NO PRINTING ON THE OUTSIDE OF BOX.

CARTON SIZE: 411X281X140mm
PARTITION BOARD: 398X268X6mm(3PCS)
CROSS-CONNECTING BOARD: 398X50X6mm(4PCS)
CROSS-CONNECTING BOARD: 268X50X6mm(8PCS)
Q'TY: 6pcs(3x2)



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DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER
UNIVERSAL INPUT, MEDICAL AND ITE, CLASS 1

MODEL NO: GT(M)9250P150

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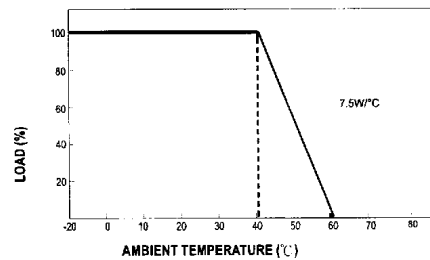
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5. OUTPUT DERATING CURVE:**NOTES:**

1. MEDICAL VERSION IS DESIGNED NOT TO BE USED IN SYSTEM WITH DIRECT PATIENT CONTACT.
2. ALL MEASUREMENTS ARE MADE DIRECTLY AT THE TERMINALS OF THE SUPPLY.
3. OUTPUT RIPPLE AND SPIKE ARE MEASURED DIRECTLY AT THE OUTPUT TERMINALS OF THE POWER SUPPLY WITH 10 μ F TANTALUM AND 0.1 μ F CERAMIC CAPACITORS CONNECTED IN PARALLEL. PEAK-TO-PEAK METERING EQUIPMENT MUST HAVE A 20 MHz FREQUENCY RESPONSE WITH PROBES AND CABLES THAT MAINTAIN A FREQUENCY RESPONSE OF 20Hz TO 20MHz.
4. CONDUCTED AND RADIATED EMI WERE PERFORMED WITH RESISTIVE LOAD SET TO FULL. PSU AND RESISTIVE LOAD WERE MOUNTED TOGETHER IN A 30 x 30 x 3 mm ALUMINUM PLATE.
5. WHEN REMOTE SENSE IS USED, THE REMOTE SENSE WIRE SHOULD BE TWISTED TOGETHER.
6. ALL MEASUREMENTS ARE MADE AT 25°C AMBIENT TEMPERATURE AND ARE TYPICAL.
7. MOUNTING MAXIMUM INSERTION DEPTH IS 3 mm.
8. DURING TRANSIENT RESPONSE TEST, 25% STEP LOAD CANNOT GO BELOW 5% OF RATED LOAD.
9. GLOBTEK PRODUCTS ARE NOT AUTHORIZED TO BE USED AS MISSION CRITICAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CEO OF GLOBTEK INC.
10. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

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DWG TITLE: SWITCHER, 150 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER
UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I

MODEL NO: GT(M)9250P150

REV.
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PART NO: GT(M)9250P150 - FAMILY

SHEET 7 OF 7

Misc ID 7-03

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		A	INITIAL RELEASE, RFS.7484, JB	11/16/05	DMR

⚠ PRELIMINARY

MAIN FEATURES

- UNIVERSAL INPUT WITH ACTIVE POWER FACTOR CORRECTION
- MEDICAL AND ITE GRADE VERSIONS
- EN55022 CLASS B COMPLIANT
- EN55011 CLASS B COMPLIANT
- EN61000-4-2, -3, -4, -5, -6 COMPLIANT
- BUILT-IN EMI FILTER
- REMOTE OUTPUT SENSING OPTION
- BUILT-IN INTERNAL FANS
- FAN CONTROL OPTION
- OVERVOLTAGE PROTECTION
- OVERLOAD PROTECTION
- THERMAL OVERLOAD PROTECTION
- CONFIGURABLE OUTPUT FROM 3.3V TO 48V IN 0.1V INCREMENTS
- COMPACT 111.72 mm x 232.0 mm x 43.20 mm (4.4" x 9.1" x 1.68") SIZE, FITS 1U APPLICATIONS
- LONGER HOLD-UP TIME

1. ELECTRICAL SPECIFICATIONS:

INPUT


INPUT RANGE:	90-264 VAC
INPUT LINE FREQUENCY:	47-63Hz
INPUT CURRENT:	< 4A RMS @ 90VAC FULL LOAD
INRUSH CURRENT:	40A TYPICAL, COLD START @ 25°C AT 115V
EFFICIENCY:	80% TYPICAL AT FULL LOAD NOMINAL LINE
POWER FACTOR:	0.99 TYPICAL AT FULL LOAD NOMINAL LINE
TURN-ON DELAY:	3 SECOND TYPICAL @ 115VAC
INPUT LINE PROTECTION:	MOV TRANSIENT PROTECTED. INPUT LINE FUSE PROVIDED ON-BOARD
SOFT START:	STANDARD ON ALL MODELS

OUTPUT

MAXIMUM POWER:	250 WATTS WITH 2 BUILT-IN FANS
ADJUSTMENT RANGE:	± 5% FROM NOMINAL VOLTAGE
LOAD REGULATION:	± 2% MEASURED AT THE OUTPUT CONNECTOR SIDE
LINE REGULATION:	± 0.5% MEASURED AT THE OUTPUT CONNECTOR SIDE
HIGH FREQUENCY RIPPLE ¹ :	1% OF OUTPUT VOLTAGE, PEAK TO PEAK
TURN ON/OFF OVERSHOOT:	5% MAXIMUM, 1mS RECOVERY TIME
HOLD-UP TIME:	30 mS @ FULL LOAD, NOMINAL LINE
TRANSIENT RESPONSE ² :	1mS RECOVERY TO WITHIN 1% OF THE REGULATION BAND WITH NO MORE THAN 5% OUTPUT VOLTAGE DEVIATION @ 25% LOAD STEP, 0.1A/mS SLEW RATE

Foot Note: Globtek Inc. will not be liable for the safety and performance of these power supplies if unauthorized access and repair occurs. End user should consult applicable UL, CSA or EN standards for proper installation instructions.	DASH NO.	PART NO.	REV.	DESCRIPTION	NOTES
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	INT.BY: FB	DATE: 11/16/05	DWG TITLE: SWITCHER, 250 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I		
Contents of this document are subject to change without prior notice	DRAWN: NF	DATE: 11/16/05	PSCN No.: G.Y	SIZE A	MODEL NO: GT(M)9250P250
	APRVD: DMR	DATE: 11/16/05	SCALE: NONE	PART NO: GT(M)9250P250 - FAMILY	REV. A
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Misc ID 7-03

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OVERLOAD PROTECTION: PROTECTED @ 120-150% OF FULL LOAD RATING, AUTORECOVER SHORT CIRCUIT: HICCUP, AUTORECOVER UPON REMOVAL OF SHORT OVERVOLTAGE: 10% TO 50% ABOVE NOMINAL OUTPUT, AUTORECOVER INDICATOR: GREEN LED FOR OUTPUT PRESENCE REMOTE SENSE OPTION: COMPENSATE FOR UP TO 500 mV DROP ON OUTPUT CABLE, WILL OPERATE WITHOUT REMOTE SENSE CONNECTION FAN CONTROL OPTION: FAN WILL LATCHED "ON" ONLY WHEN SET TEMPERATURE IS REACHED		
MODEL NUMBER	OUTPUT VOLTAGE	MAXIMUM LOAD
GT(M)9250P1203.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	3.3V	36.36A
GT(M)9250P1505.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	5V	30.00A
GT(M)9250P1807.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	7.5V	24.00A
GT(M)9250P2009.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	9V	22.00A
GT(M)9250P25012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	12V	20.83A
GT(M)9250P25015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	15V	16.66A
GT(M)9250P25018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	18V	13.88A
GT(M)9250P25024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	24V	10.41A
GT(M)9250P25036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIIHXXX]	36V	6.94A
MODEL DESCRIPTION: GT(M)9250P1203.3 TO 25048-X.X GT: GLOBTEK SERIES CODE M: MEDICAL GRADE; REPLACE WITH "-" (DASH) FOR I.T.E. GRADE 9250P: SERIES DESIGNATOR 1203.3 TO 25048: 120W 3.3V TO 250W 48V, DESCRIBES OUTPUT POWER AND OUTPUT VOLTAGE -X.X: USE ONLY TO SPECIFY OUTPUT VOLTAGE DEVIATION FROM STANDARD MODEL BY SUBTRACTING X.X VOLTS FROM STANDARD OUTPUT VOLTAGE EXAMPLE; REQUIRED VOLTAGE IS 10V; MODEL: GTM9250P25012-2.0 -X.X IS NOT REQUIRED FOR STANDARD OUTPUT VOLTAGES F-: FAN CONTROL OPTION; ADD "F-" IF FAN CONTROL IS DESIRED. S: STANDARD CONFIGURATION; INPUT HEADER ON BOARD AND OUTPUT TERMINAL BLOCK M: INPUT AND OUTPUT HEADER ON BOARD HIXXX: INPUT WIRE HARNESS AND OUTPUT TERMINAL BLOCK. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm. HOXXX: INPUT HEADER ON BOARD AND OUTPUT WIRE HARNESS. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm. HIOXXX: INPUT AND OUTPUT WIRE HARNESS. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm . HIIHXXX: INPUT WIRE HARNESS AND OUTPUT HEADER ON BOARD		
 GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 www.globtek.com Tel. 201-784-1000 Fax 201.784.0111		
DWG TITLE: SWITCHER, 250 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I		
MODEL NO: GT(M)9250P250	REV. A	
PART NO: GT(M)9250P250 - FAMILY	SHEET 2 OF 7	

Misc ID 7-03

PROPRIETARY INFORMATION:
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PIN ASSIGNMENTS:

CON1: INPUT CONNECTOR, PIN 1: EARTH GROUND, PIN 2: NEUTRAL, PIN 3: LIVE
MOLEX P/N 26-604050 WITH 2 PINS REMOVED(FOR S AND HOXXX VERSIONS)

CON2 : OUTPUT CONNECTOR, 4 PIN TERMINAL BLOCK (FOR S AND HIXXX VERSIONS)
DINKLE TERMINAL BLOCK P/N: DT-45-B14W, PIN 1,2: V+, PIN 3,4: COM
MOLEX P/N 26-60-4100 WITH PINS 5 & 6 REMOVED (FOR M AND HIHXXX VERSIONS)

CON6: OPTIONAL REMOTE SENSE, MOLEX P/N: 22-23-2021, PIN1: +, PIN2: -

3. LABEL:

1. MATERIAL: PET (105°C) OR EQUIVALENT
2. THICKNESS: 25#

LABEL 1

LABEL 2

V+ 1	V+ 2	COM 3	COM 4
------	------	-------	-------

LABEL 3

LABEL 3

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DWG TITLE: SWITCHER, 250 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER
UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I

MODEL NO: GT(M)9250P250	REV. A
PART NO: GT(M)9250P250 - FAMILY	SHEET 5 OF 7

Misc ID 7-03

PROPRIETARY INFORMATION:
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4. PACKING :
MATERIAL: CORRUGATED FIBERBOARD, F-FLUTE, DOUBLE WALL CONSTRUCTION.
LOCKING TABS ON BOTH SIDES OF BOX. NO PRINTING ON THE OUTSIDE OF BOX.

CARTON SIZE: 411X306X140mm
PARTITION BOARD: 398X293X6mm(3PCS)
CROSS-CONNECTING BOARD: 398X50X6mm(4PCS)
CROSS-CONNECTING BOARD: 293X50X6mm(8PCS)
Q'TY: 6pcs(3x2)

ANTI-STATIC BAG(SIZE: 300*200)

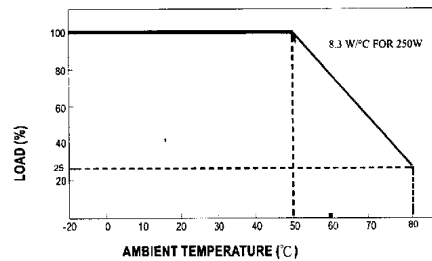
White Box: NO.206

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DWG TITLE: SWITCHER, 250 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS 1	
MODEL NO: GT(M)9250P250	REV. A
PART NO: GT(M)9250P250 - FAMILY	SHEET 6 OF 7

Misc ID 7-03

PROPRIETARY INFORMATION:

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5. OUTPUT DERATING CURVE:**NOTES:**

1. MEDICAL VERSION IS DESIGNED NOT TO BE USED IN SYSTEM WITH DIRECT PATIENT CONTACT.
2. ALL MEASUREMENTS ARE MADE DIRECTLY AT THE TERMINALS OF THE SUPPLY.
3. OUTPUT RIPPLE AND SPIKE ARE MEASURED DIRECTLY AT THE OUTPUT TERMINALS OF THE POWER SUPPLY WITH 10 μ F TANTALUM AND 0.1 μ F CERAMIC CAPACITORS CONNECTED IN PARALLEL. PEAK-TO-PEAK METERING EQUIPMENT MUST HAVE A 20 MHz FREQUENCY RESPONSE WITH PROBES AND CABLES THAT MAINTAIN A FREQUENCY RESPONSE OF 20Hz TO 20MHz.
4. CONDUCTED AND RADIATED EMI WERE PERFORMED WITH RESISTIVE LOAD SET TO FULL. PSU AND RESISTIVE LOAD WERE MOUNTED TOGETHER IN A 30 x 30 x 3 mm ALUMINUM PLATE.
5. WHEN REMOTE SENSE IS USED, THE REMOTE SENSE WIRE SHOULD BE TWISTED TOGETHER.
6. ALL MEASUREMENTS ARE MADE AT 25°C AMBIENT TEMPERATURE AND ARE TYPICAL.
7. MOUNTING MAXIMUM INSERTION DEPTH IS 3 mm.
8. DURING TRANSIENT RESPONSE TEST, 25% STEP LOAD CANNOT GO BELOW 5% OF RATED LOAD.
9. GLOBTEK PRODUCTS ARE NOT AUTHORIZED TO BE USED AS MISSION CRITICAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CEO OF GLOBTEK INC.
10. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

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Tel. 201-784-1000 Fax 201-784-0111

DWG TITLE: SWITCHER, 250 WATT, FAMILY, SINGLE OUTPUT, OPEN FRAME
UNIVERSAL INPUT, MEDICAL AND ITE, CLASS 1

MODEL NO: GT(M)9250P250

REV.
A

PART NO: GT(M)9250P250 - FAMILY

SHEET 7 OF 7

Misc ID 7-04

PROPRIETARY INFORMATION: PROPRIETARY OF GLOBTEK, INC. ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IN WHOLE OR IN PART IS HEREBY PROHIBITED EXCEPT AS SPECIFIED IN WRITING BY GLOBTEK, INC.		REVISION			
		REV	DESCRIPTION	DATE	APPROVED
		A	INITIAL RELEASE, RFS.7490, JB	11/18/05	DMR

⚠ PRELIMINARY

MAIN FEATURES

- UNIVERSAL INPUT WITH ACTIVE POWER FACTOR CORRECTION
- MEDICAL AND ITE GRADE VERSIONS
- EN55022 CLASS B COMPLIANT
- EN55011 CLASS B COMPLIANT
- EN61000-4-2, -3, -4, -5, -6 COMPLIANT
- BUILT-IN EMI FILTER
- REMOTE OUTPUT SENSING OPTION
- BUILT-IN INTERNAL FAN
- FAN CONTROL OPTION
- OVERVOLTAGE PROTECTION
- OVERLOAD PROTECTION
- THERMAL OVERLOAD PROTECTION
- CONFIGURABLE OUTPUT FROM 3.3V TO 48V IN 0.1V INCREMENTS
- COMPACT 111.72 mm x 208.0 mm x 78.0 mm (4.4" x 8.19" x 3.0") SIZE, FITS 1U APPLICATIONS
- LONGER HOLD-UP TIME

1. ELECTRICAL SPECIFICATIONS:

INPUT

INPUT RANGE: 90-264 VAC

INPUT LINE FREQUENCY: 47-63Hz

INPUT CURRENT: < 4A RMS @ 90VAC FULL LOAD

INRUSH CURRENT: 40A TYPICAL, COLD START @ 25°C AT 115V

EFFICIENCY: 80% TYPICAL AT FULL LOAD NOMINAL LINE

POWER FACTOR: 0.99 TYPICAL AT FULL LOAD NOMINAL LINE

TURN-ON DELAY: 3 SECOND TYPICAL @ 115VAC

INPUT LINE PROTECTION: MOV TRANSIENT PROTECTED. INPUT LINE FUSE PROVIDED ON-BOARD

SOFT START: STANDARD ON ALL MODELS

OUTPUT

MAXIMUM POWER: 270 WATTS WITH BUILT-IN TOP FAN

ADJUSTMENT RANGE: ± 5% FROM NOMINAL VOLTAGE

LOAD REGULATION: ± 2% MEASURED AT THE OUTPUT CONNECTOR SIDE

LINE REGULATION: ± 0.5% MEASURED AT THE OUTPUT CONNECTOR SIDE

HIGH FREQUENCY RIPPLE¹: 1% OF OUTPUT VOLTAGE, PEAK TO PEAK

TURN ON/OFF OVERSHOOT: 5% MAXIMUM, 1mS RECOVERY TIME

HOLD-UP TIME: 30 mS @ FULL LOAD, NOMINAL LINE

TRANSIENT RESPONSE²: 1mS RECOVERY TO WITHIN 1% OF THE REGULATION BAND WITH NO MORE THAN 5% OUTPUT VOLTAGE DEVIATION @ 25% LOAD STEP, 0.1A/mS SLEW RATE

Foot Note: Globtek Inc. will not be liable for the safety and performance of these power supplies if unauthorized access and repair occurs. End user should consult applicable UL, CSA or EN standards for proper installation instructions.		DASH NO.	PART NO.	REV.	DESCRIPTION	NOTES
TABULATION BLOCK						
Limitation of Use: Globtek product are not authorized for use as mission critical components in life support, hazardous environment, nuclear or aircraft applications without prior written approval from the CEO of Globtek Inc.		TOLERANCES: DECIMALS: .XX ±0.01 ANGULAR: ±1° MILLIMETERS: .XX ±0.3 ANGULAR: ±1° .XXX ±0.013		GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 Tel. 201-784-1000 Fax 201-784-0111 www.globtek.com		
		INIT.BY: FB DATE: 11/16/05 DRAWN: NF DATE: 11/16/05 APRVD: DMR DATE: 11/16/05	FSCN No.: G Y SIZE: A SCALE: NONE	DWG TITLE: SWITCHER, 270 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I MODEL NO: GT(M)9250P270 PART NO: GT(M)9250P270 - FAMILY		REV: A SHEET 1 OF 7

Misc ID 7-04

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OVERLOAD PROTECTION:	PROTECTED @ 120-150% OF FULL LOAD RATING, AUTORECOVER	
SHORT CIRCUIT:	HICCUP, AUTORECOVER UPON REMOVAL OF SHORT	
OVERVOLTAGE:	10% TO 50% ABOVE NOMINAL OUTPUT, AUTORECOVER	
INDICATOR:	GREEN LED FOR OUTPUT PRESENCE	
REMOTE SENSE OPTION:	COMPENSATE FOR UP TO 500 mV DROP ON OUTPUT CABLE, WILL OPERATE WITHOUT REMOTE SENSE CONNECTION	
FAN CONTROL OPTION:	FAN WILL LATCHED "ON" ONLY WHEN SET TEMPERATURE IS REACHED	

MODEL NUMBER	OUTPUT VOLTAGE	MAXIMUM LOAD
GT(M)9250P1503.3F- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	3.3V	45.45A
GT(M)9250P2205.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	5V	44.00A
GT(M)9250P2207.5-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	7.5V	29.33A
GT(M)9250P2709.0-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	9V	30.00A
GT(M)9250P27012-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	12V	22.50A
GT(M)9250P27015-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	15V	18.0A
GT(M)9250P27018-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	18V	15.0A
GT(M)9250P27024-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	24V	11.75A
GT(M)9250P27036-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	36V	7.5A
GT(M)9250P27048-X.XF- [S or M or HIXXX or HOXXX or HIOXXX or HIHXXX]	48V	5.63A

MODEL DESCRIPTION:

GT(M)9250P1503.3 TO 27048-X.X

GT: GLOBTEK SERIES CODE

M: MEDICAL GRADE; REPLACE WITH "-" (DASH) FOR I.T.E. GRADE

9250P: SERIES DESIGNATOR

1503.3 TO 27048: 150W 3.3V TO 270W 48V, DESCRIBES OUTPUT POWER AND OUTPUT VOLTAGE

-X.X: USE ONLY TO SPECIFY OUTPUT VOLTAGE DEVIATION FROM STANDARD MODEL BY SUBTRACTING X.X VOLTS FROM STANDARD OUTPUT VOLTAGE
EXAMPLE; REQUIRED VOLTAGE IS 10V; MODEL: GTM9250P25012-2.0
-X.X IS NOT REQUIRED FOR STANDARD OUTPUT VOLTAGES

F-: FAN CONTROL OPTION; ADD "F-" IF FAN CONTROL IS DESIRED.

S: STANDARD CONFIGURATION; INPUT HEADER ON BOARD AND OUTPUT TERMINAL BLOCK


M: INPUT AND OUTPUT HEADER ON BOARD

HIXXX: INPUT WIRE HARNESS AND OUTPUT TERMINAL BLOCK. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm.


HOXXX: INPUT HEADER ON BOARD AND OUTPUT WIRE HARNESS. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm.

HIOXXX: INPUT AND OUTPUT WIRE HARNESS. XXX IS THE MAXIMUM HARNESS LENGHT OF 200mm .

HIHXXX: INPUT WIRE HARNESS AND OUTPUT HEADER ON BOARD

 GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 www.globtek.com Tel. 201-784-1000 Fax 201-784-0111	
DWG TITLE: SWITCHER, 270 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I	
MODEL NO: GT(M)9250P270	REV. A
PART NO: GT(M)9250P270 - FAMILY	SHEET 2 OF 7

Misc ID 7-04

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ENVIRONMENTAL					
TEMPERATURE COEFFICIENT:	± 0.05% PER °C, TYPICAL				
OPERATING TEMPERATURE:	0° TO 50°C				
STORAGE TEMPERATURE	-40° TO 85°C				
RELATIVE HUMIDITY:	OPERATING; 0-90% NON-CONDENSING				
ALTITUDE:	UP TO 10000 FEET				
RANDOM VIBRATION/ TRANSIENT DROP:	MIL-STD 810E				
MTBF:	>100,000 HOURS @ 25° AMBIENT TEMPERATURE, FULL LOAD, 230Vac, MIL-217 STD.				
SAFETY					
HIPOT (PRI-SEC):	4242 VDC FOR ITE VERSION 5656 VDC FOR MEDICAL VERSION				
EARTH LEAKAGE:	< 0.3mA @ 50/60Hz, 264 VAC INPUT				
APPROVAL					
ITE VERSION (PENDING):	UL60950-1 (3RD EDITION), CUL TO 22.2 NO. 60950-1, CB REPORT, DEMKO TO EN60950-1				
MEDICAL VERSION(PENDING):	UL60601-1, CUL TO 22.2 NO. 60601-1, CB REPORT, DEMKO TO EN60601-1				
EMI/CE MARK:	EN55022 CLASS B AND FCC PART 15, TESTED WITH RESISTIVE LOAD. EN61000-3-2, EN61000-3-3 AND EN50082-1 INCLUDING EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11 LEVEL 4				
<div> GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 Tel. 201-784-1000 Fax 201.784.0111 www.globtek.com</div> <div>DWG TITLE: SWITCHER, 270 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER UNIVERSAL INPUT, MEDICAL AND ITE, CLASS 1</div> <table border="1"><tr><td>MODEL NO: GT(M)9250P270</td><td>REV. A</td></tr><tr><td>PART NO: GT(M)9250P270 - FAMILY</td><td>SHEET 3 OF 7</td></tr></table>		MODEL NO: GT(M)9250P270	REV. A	PART NO: GT(M)9250P270 - FAMILY	SHEET 3 OF 7
MODEL NO: GT(M)9250P270	REV. A				
PART NO: GT(M)9250P270 - FAMILY	SHEET 3 OF 7				

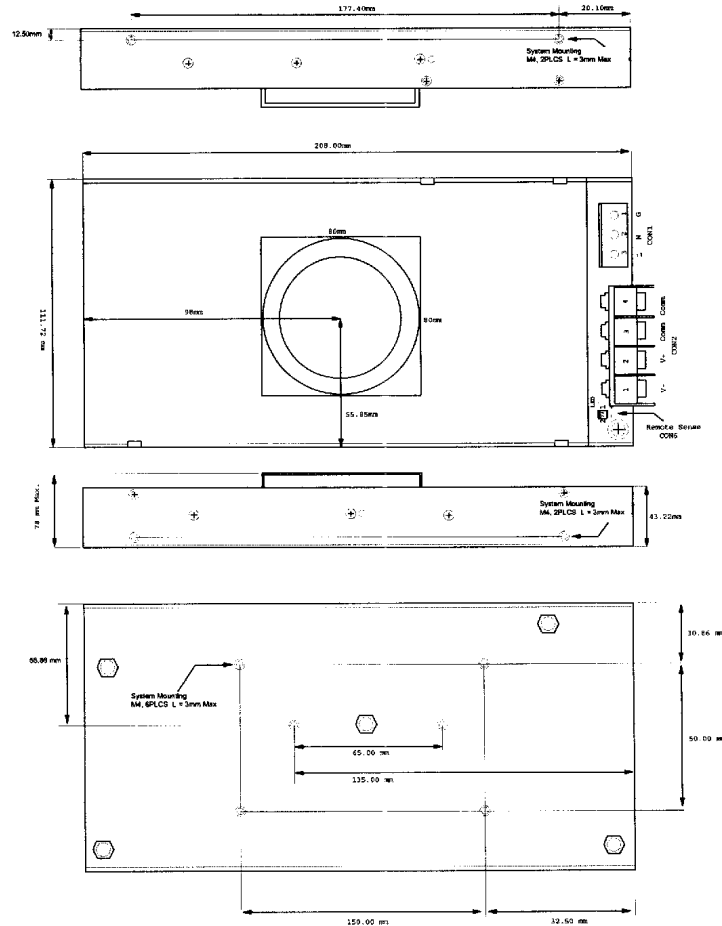
Misc ID 7-04

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2. MECHANICAL SPECIFICATION

SIZE: 111.72 mm x 208.0 mm x 78.0 mm (4.4" x 8.19" x 3.0")



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Tel. 201-784-1000 Fax 201-784-0111

DWG TITLE: SWITCHER, 270 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER
UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I

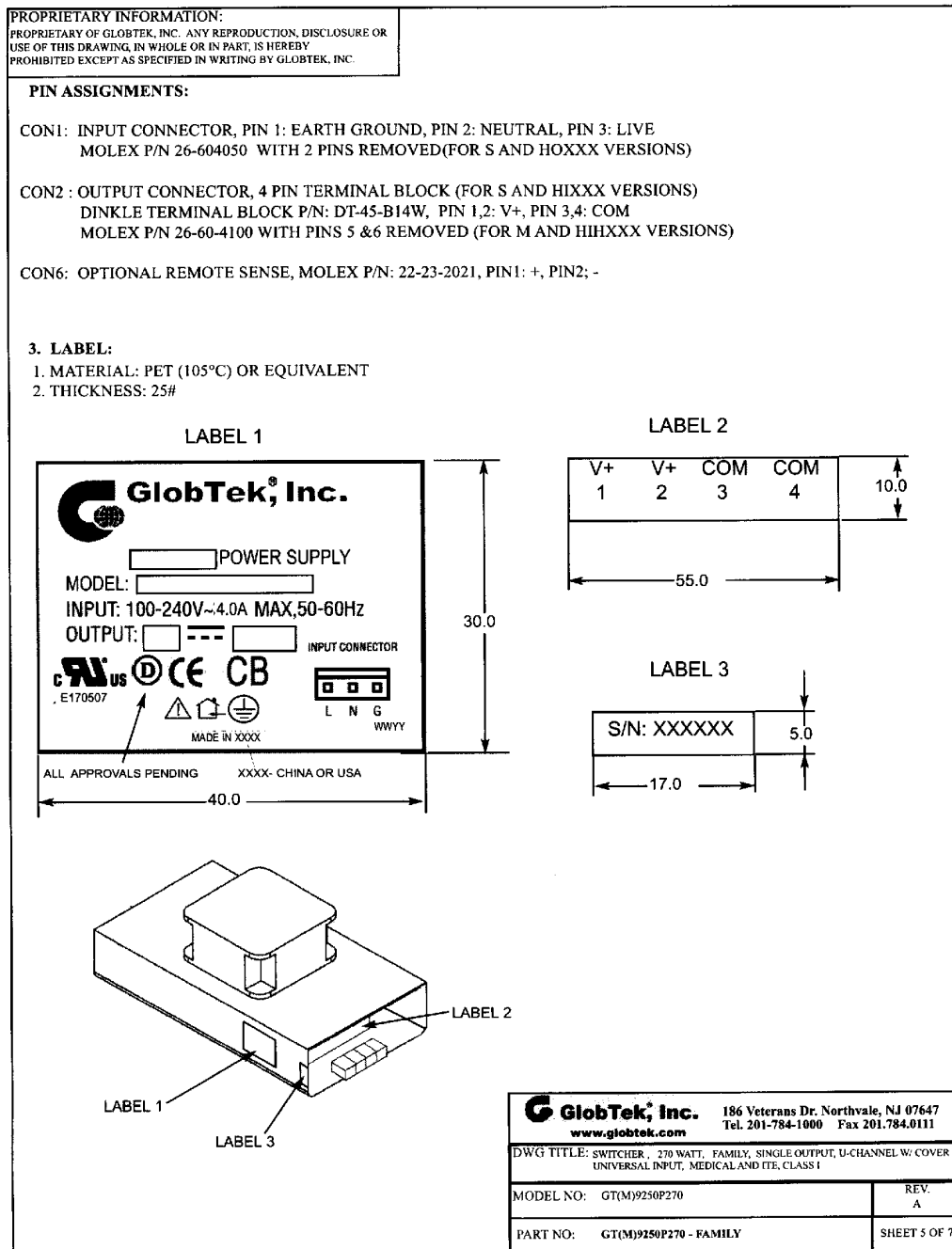
MODEL NO: GT(M)9250P270

REV. A

PART NO: GT(M)9250P270 - FAMILY

SHEET 4 OF 7

Misc ID 7-04



Misc ID 7-04

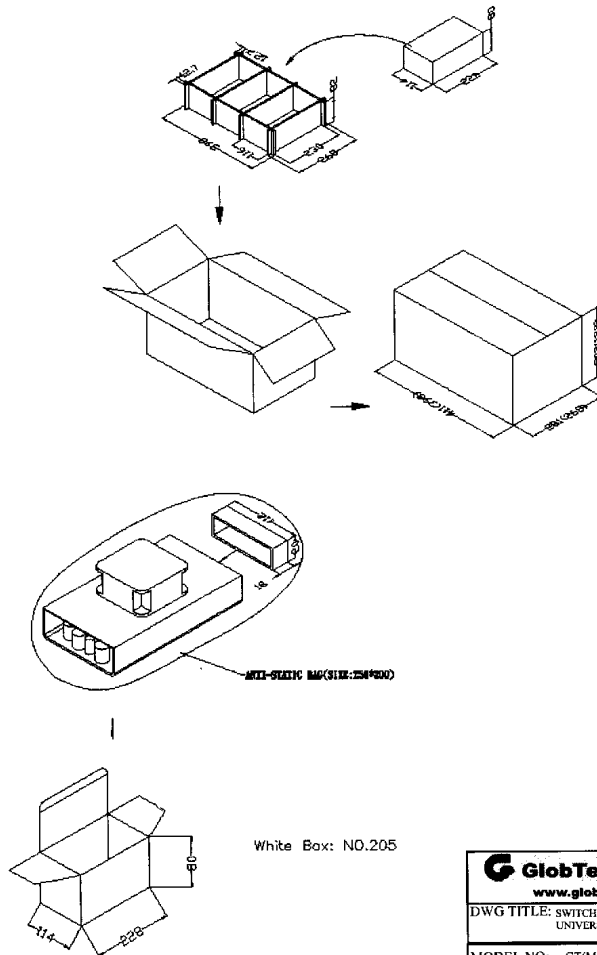
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4. PACKING :

MATERIAL: CORRUGATED FIBERBOARD, F-FLUTE, DOUBLE WALL CONSTRUCTION.
LOCKING TABS ON BOTH SIDES OF BOX. NO PRINTING ON THE OUTSIDE OF BOX.

CARTON SIZE: 411X281X202mm
PARTITION BOARD: 398X288X6mm (3PCS)
CROSS-CONNECTING BOARD: 398X288X6mm (4PCS)
CROSS-CONNECTING BOARD: 288X288X6mm (8PCS)
Q'TY: 6pcs (3x2)



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DWG TITLE: SWITCHER, 270 WATT, FAMILY, SINGLE OUTPUT, U-CHANNEL W/ COVER
UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I

MODEL NO: GT(M)9250P270

REV.
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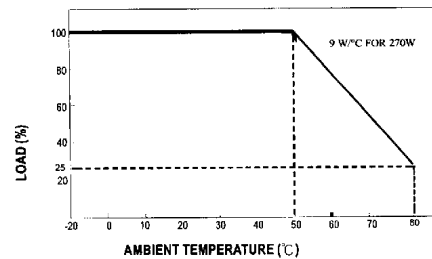
PART NO: GT(M)9250P270 - FAMILY

SHEET 6 OF 7

Misc ID 7-04

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5. OUTPUT DERATING CURVE:**NOTES:**

1. MEDICAL VERSION IS DESIGNED NOT TO BE USED IN SYSTEM WITH DIRECT PATIENT CONTACT.
2. ALL MEASUREMENTS ARE MADE DIRECTLY AT THE TERMINALS OF THE SUPPLY.
3. OUTPUT RIPPLE AND SPIKE ARE MEASURED DIRECTLY AT THE OUTPUT TERMINALS OF THE POWER SUPPLY WITH 10 μ F TANTALUM AND 0.1 μ F CERAMIC CAPACITORS CONNECTED IN PARALLEL. PEAK-TO-PEAK METERING EQUIPMENT MUST HAVE A 20 MHz FREQUENCY RESPONSE WITH PROBES AND CABLES THAT MAINTAIN A FREQUENCY RESPONSE OF 20Hz TO 20MHz.
4. CONDUCTED AND RADIATED EMI WERE PERFORMED WITH RESISTIVE LOAD SET TO FULL. PSU AND RESISTIVE LOAD WERE MOUNTED TOGETHER IN A 30 x 30 x 3 mm ALUMINUM PLATE.
5. WHEN REMOTE SENSE IS USED, THE REMOTE SENSE WIRE SHOULD BE TWISTED TOGETHER.
6. ALL MEASUREMENTS ARE MADE AT 25°C AMBIENT TEMPERATURE AND ARE TYPICAL.
7. MOUNTING MAXIMUM INSERTION DEPTH IS 3 mm.
8. DURING TRANSIENT RESPONSE TEST, 25% STEP LOAD CANNOT GO BELOW 5% OF RATED LOAD.
9. GLOBTEK PRODUCTS ARE NOT AUTHORIZED TO BE USED AS MISSION CRITICAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CEO OF GLOBTEK INC.
10. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

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DWG TITLE: SWITCHER, 270 WATT, FAMILY, SINGLE OUTPUT, OPEN FRAME
UNIVERSAL INPUT, MEDICAL AND ITE, CLASS I

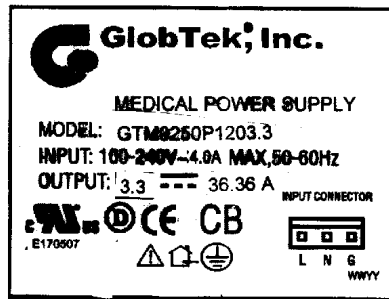
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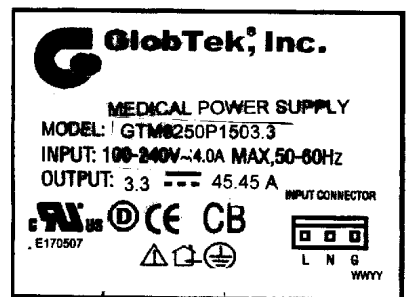
PART NO: GT(M)9250P270 - FAMILY

SHEET 7 OF 7

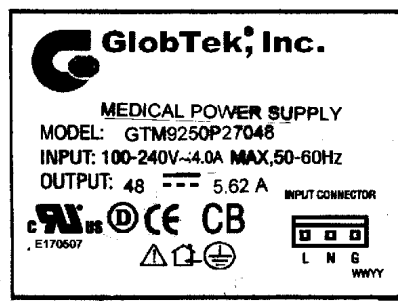
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Misc ID 7-06



Misc ID 7-07



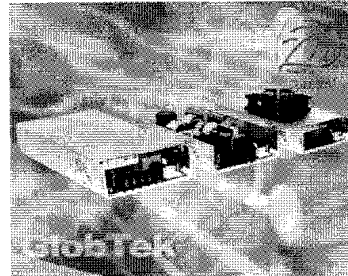
Misc ID 7-08

GlobTek, Inc.**GT(M)9250 150W to 270W Single Output Switchers****Main Features:**

- 270W & 250 Watts with Forced Air and 150 Watts Convection Cooled
- Medical and TIE-Grade Switchers
- Active Power Factor Correction Compliant to IEC 3000-3-2
- 1 U Aluminum Chassis with Optional Top Cover
- Over Voltage, Over Current, Over Temperature and Output Short Circuit Protection
- EN55022 and EN55011 Conducted and Radiated EMI, Class B
- EN6100-4-2, -3, -4, -5, -6 Immunity Requirements Compliant
- Configurable Output from 3.3V to 48V in 0.1V Increments
- No Minimum Load Current Required to Maintain Regulation
- Remote Sense Option for Tight Output Regulation

Applications:

- Non-patient Contact Medical and Dental Systems
- Scanner, Printers and Copiers
- Cable Modem, POS Terminals, Routers and Hubs
- Medium Power Data and Computer Networking Systems

**Electrical Specifications****Input Section**

Input Voltage Range:	Universal Input from 100VAC to 240VAC
Input Current:	4.0A Maximum
Input Frequency Range:	47Hz to 63Hz
Inrush Current:	30A Maximum at 120Vac and 60A Maximum at 230Vac
Input Protection:	Line and Neutral Fusing for Medical, Line Fusing for I.T.E.
Power Factor:	0.97 at 115Vac Full Load & 0.95 at 230Vac Full Load

Output Section**270 Watts Model Number
(With Built-in Fans)**

	Output Voltage	Output Current
GT(M)9250P1503.3	3.3 VOLTS	45.45 AMPERES
GT(M)9250P2205.0	5.0 VOLTS	44.00 AMPERES
GT(M)9250P2207.5	7.5 VOLTS	29.33 AMPERES
GT(M)9250P2709.0	9.0 VOLTS	30.00 AMPERES
GT(M)9250P2710.2	12.0 VOLTS	22.50 AMPERES
GT(M)9250P2710.15	15.0 VOLTS	18.00 AMPERES
GT(M)9250P2710.18	18.0 VOLTS	15.00 AMPERES
GT(M)9250P2710.24	24.0 VOLTS	11.25 AMPERES
GT(M)9250P2710.36	36.0 VOLTS	7.50 AMPERES
GT(M)9250P2710.48	48.0 VOLTS	5.62 AMPERES

**250 Watts Model Number
(With Built-in Fans)**

	Output Voltage	Output Current
GT(M)9250P1203.3	3.3 VOLTS	36.36 AMPERES
GT(M)9250P1505.0	5.0 VOLTS	30.00 AMPERES
GT(M)9250P1807.5	7.5 VOLTS	24.00 AMPERES
GT(M)9250P2009.0	9.0 VOLTS	22.00 AMPERES
GT(M)9250P25012	12.0 VOLTS	20.83 AMPERES
GT(M)9250P25015	15.0 VOLTS	16.66 AMPERES
GT(M)9250P25018	18.0 VOLTS	13.88 AMPERES
GT(M)9250P25024	24.0 VOLTS	10.41 AMPERES
GT(M)9250P25036	36.0 VOLTS	6.94 AMPERES
GT(M)9250P25048	48.0 VOLTS	5.21 AMPERES



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Output Voltage	Output Current
3.3 VOLTS	22.72 AMPERES
5.0 VOLTS	20.00 AMPERES
7.5 VOLTS	13.33 AMPERES
9.0 VOLTS	16.67 AMPERES
12.0 VOLTS	12.50 AMPERES
15.0 VOLTS	15.00 AMPERES
18.0 VOLTS	8.33 AMPERES
24.0 VOLTS	6.25 AMPERES
36.0 VOLTS	4.17 AMPERES
48.0 VOLTS	3.12 AMPERES

Model Number Description:

1503.3: 150W 3.3V, describes output power and output voltage
-XX: Use only to specify output voltage deviation from standard model
By subtracting XX volts from standard output voltage
Example: Required voltage is 10V; Model: GTM9250P25012-2.0
-XX is not required for standard output voltages

Power Supply Parameters:

+/- 2% measured at output connector end
+/- 1.0% output measured at output connector
Maximum output deviation of +/-5% of nominal output for a 25% to 50% step load, 500ms typical response time
Output limited between 120%-150% of nominal, hiccup mode
Hiccup mode with auto recovery once fault disappears
Power supply is output power limited, hiccup mode
78% typical at full load 115V, depending on output voltage
16mS minimum at full load
100 kHz typical
Less than 1% of output voltage, typical
0°C to 50°C, derate output at 3% per degree from 50°C to 70°C
+/- 0.02%/C typical

Safety

Less than 300uA at 264Vac
Primary to secondary: 5656Vdc
Primary to Earth: 212Vdc
Dual fusing, line and neutral for medical grade and line fusing for ITE grade
EN60950, UL60950, EN60601 and UL60601, CB Report and CE Mark
IPX0
Continuous
Power supply cannot be used in the presence of flammable anesthetic

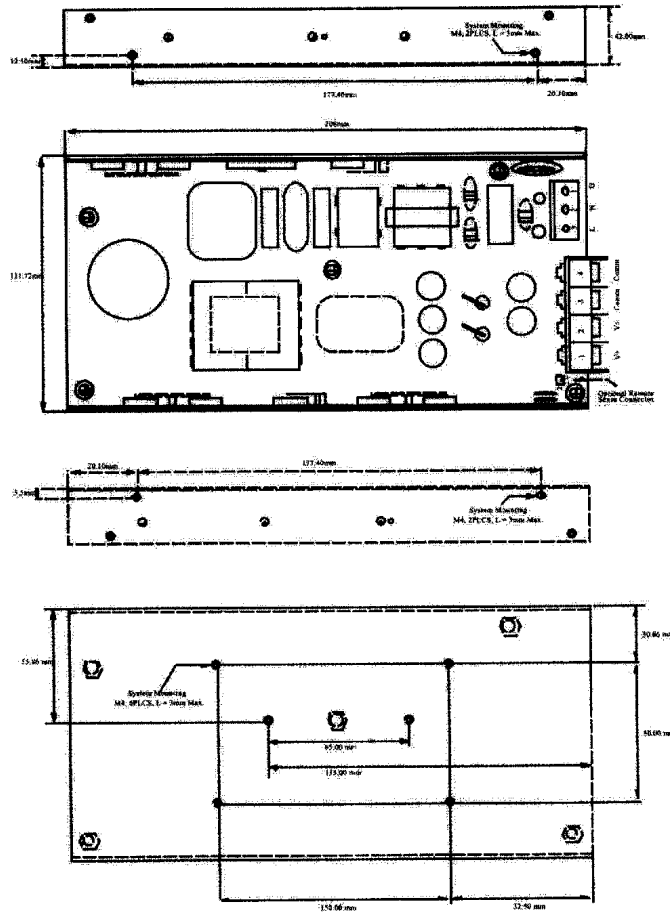
General Specifications:

Non-condensing, 5% to 90% RH
25 lbs maximum
100K hrs 25C full load, 115V input voltage

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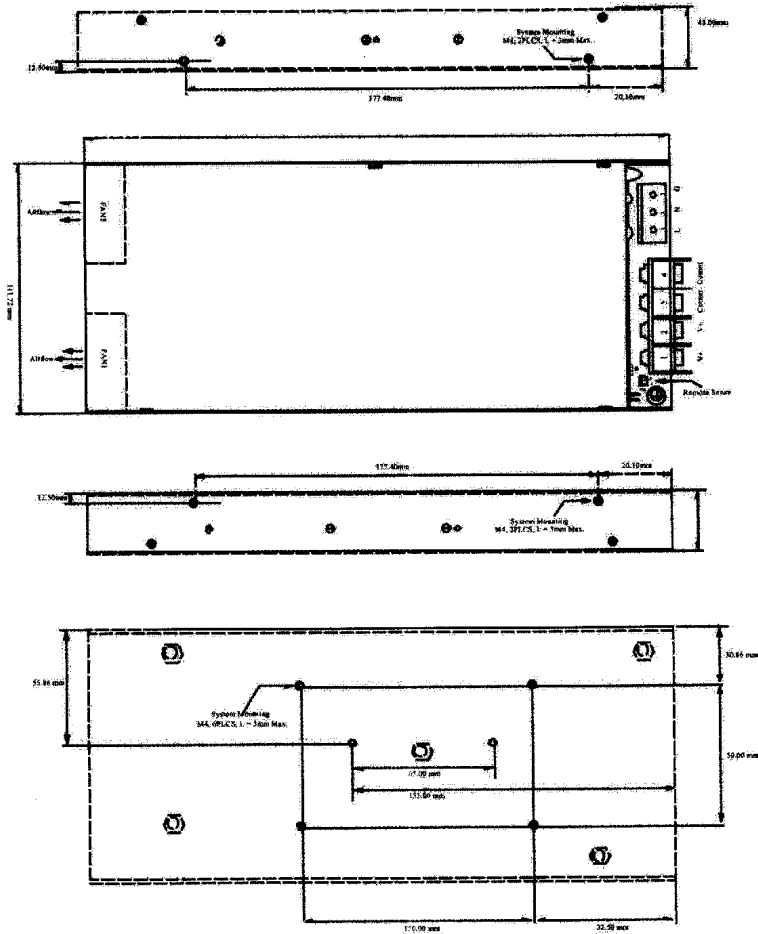
Mechanical:

**150W Version, Free Air Convection
(No Top Cover Required)**

Misc ID 7-08

Mechanical:

250W Version



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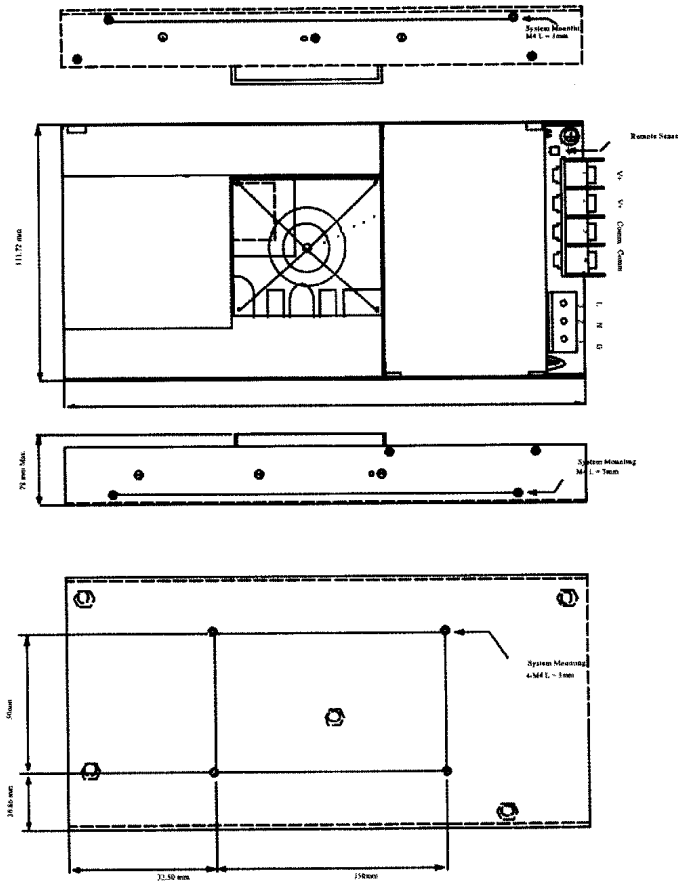
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Mechanical:

270W Version



Input and Output Connector:

Input Connector (CON1)
3 pin Molex friction lock header
Molex pin: 26-60-4050 with 2 pins removed
Pin 1: Ground
Pin 2: AC Neutral
Pin 3: AC Line

Output Connector (CON2)
4 pin terminal block
Dinkle PN: DT-45-B14W
Pin 1, 2: V+
Pin 3, 4: Comm
Con 6: Remote sense connector, Molex 22-28-0020 mates with
Molex PN: 22-01-2021
Pin 1: +Sense; Pin 2: -Sense



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Label:

Label is thermal transfer, imprintable, white or gray polyester sheet with black nomenclature. **Manufacturer:** Steven Label, material type: MHI2821(N), UL Material Designation File No. GHW332RL. Optional label material can be substituted provided material is in accordance with applicable safety requirements.

Individual Packaging:

Product is contained in a sealed polyester bubble wrap bag.
The product is mounted on a printed circuit board, F-flute 0.8 (2.0) thick, double wall construction.
The box is white, coated with gloss finish (aqueous or varnish). Style: tuck sides with locking sides of box. No printing on outside of box.

Notes:

Product is designed not to be used in system with direct patient contact applications.
Performance measurements are made across a 20 MHz bandwidth with 10UF tantalum capacitor and 0.1UF ceramic capacitor connected at the output connector.
Performance measurements were performed with resistive loads set to full load, nominal lines. External filtering may be required for system compliance.
The part of the heatsink should exceed 120°C and no semiconductor case should exceed 130°C.
If the product is used, the remote sense wire should be twisted at 2 twists per inch to avoid oscillation of the power supply.
Product changes without prior notice.

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