TÜV

CB TEST REPORT

IEC 60950

Globtek Incorporated

Power Supply Adapter

E2071146.01

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TEST REPORT

IEC 60950

Safety of information technology equipment

Report reference No..... :	E2071146.01
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Date of issue ..... :	July 11, 2000
Testing laboratory..... :	TUV Rheinland of North America, Inc.
Address..... :	12 Commerce Rd, Newtown, CT 06470 USA
Testing location..... :	TUV Rheinland of North America, Inc.
	12 Commerce Rd, Newtown, CT 06470 USA
Applicant..... :	GlobTek, Inc.
Address..... :	186 Veterans Dr, Northvale, NJ 07647 USA
Standard ..... :	IEC 60950:1991 + A1:1992 + A2:1993 + A3:1995 + A4:1996
	EN 60950:1992 + A1:1993 + A2:1993 + A3:1995 + A4:1997 + A11:1997
	EMKO-TSE (74-SEC)207/94, C22.2 No. 950 3rd edition, UL 1950
Test Report Form No..... :	I950__D/97-06
TRF originator. ..... :	FIMKO
Master TRF..... :	reference No. I950 D, dated 97-02
Copyright blank test report ..... :	the bodies participating in the Committee of Certification Bodies (CCB) and/or the CENELEC Certification Agreement (CCA). This report is based on a blank test report that was prepared by KEMA using information obtained from the TRF originator.
Test procedure ..... :	CB Scheme
Procedure deviation ..... :	Group and national differences for AT, CA, CH, DE, FI, FR, NO, SE, US.
Non-standard test method ..... :	N.A.

This report is not valid as a CB Test Report unless appended to a CB Test Certificate issued by a NCB, in accordance with IECEE 02

Type of test object ..... :	Power Supply Adapter.
Trademark ..... :	GlobTek trade mark.
Model/type reference ..... :	GT-21088-x-W2y (x=0303, 0312, 0315, 0503, 0505, 0605, 0606, 0609, 0610, 0612, 0615, 0805, 0806, 0808, 0909, 1010, 1012 or 1015; y=E, N or blank)
Manufacturer ..... :	As applicant.
Factory ..... :	As applicant.
Rating ..... :	i/p: AC 100-240V, 47-63Hz, 0.5A
	o/p: See page 3 for details.

Test item particulars:	
Equipment mobility ..... :	Direct plug-in equipment.
Operating condition ..... :	Continuous.
Tested for IT power systems..... :	No
IT testing, phase-phase voltage (V)..... :	N.A.
Class of equipment..... :	Class II.
Mass of equipment (kg)..... :	<0.5kg
Protection against ingress of water..... :	IPX0
Possible test case verdicts:	
- test case does not apply to the test object ..... :	**N**(.A.)
- test object does meet the requirement ..... :	**P**(ass)
- test object does not meet the requirement..... :	**F**(ail)

General remarks:

"(see remark #)" refers to a remark 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.

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 testing laboratory.

This report demonstrates compliance to the national standards of AT, BE, CA, CH, CN, CZ, DE, ES, FI, FR, GR, HU, IE, IL, IN, IT, NL, NO, PL, RU, SE, SL, SK, US, ZA.

Comments:

Brief description of the test sample:

The equipment models GT-21088-x-W2y are a series of switching power supply adaptors for DC supply of information technology equipment (scanner, notebook PC, ..., etc.). In the model name, "x" could be 0303, 0312, 0315, 0503, 0505, 0605, 0606, 0609, 0610, 0612, 0615, 0805, 0806, 0808, 0909, 1010, 1012 or 1015 to represent the output voltage and power, "y" could be E, N or blank to represent the plug type with E indicating the European common plug type , N indicating the China plug type and blank indicating the North American plug type.

All models are identical except for model name, plug type, output rating, main transformer (4 types are used) and ratings of R23, R2, R5, R11, R4, R25, R6/R7, C2/C3, D8, ZD1, L1 and some component ratings in the control PCB. The adaptor's top enclosure is secured to the bottom enclosure by 6 integral tabs.

Note:

The adaptor series was also tested as limited power source. Results see sub-clause 2.11.

Model	DC Output Voltage	DC Output Current	Maximum Output Power
GT-21088-0303-W2y	+3.3V	1.0A	3.3W
GT-21088-0312-W2y	+12.0V	0.25A	3.0W
GT-21088-0315-W2y	+15.0V	0.2A	3.0W
GT-21088-0503-W2y	+3.3V	1.5A	5.0W
GT-21088-0505-W2y	+5.0V	1.0A	5.0W
GT-21088-0605-W2y	+5.0V	1.2A	6.0W
GT-21088-0606-W2y	+6.0V	1.0A	6.0W
GT-21088-0609-W2y	+9.0V	0.67A	6.0W
GT-21088-0610-W2y	+10.0V	0.6A	6.0W
GT-21088-0612-W2y	+12.0V	0.5A	6.0W
GT-21088-0615-W2y	+15.0V	0.4A	6.0W
GT-21088-0805-W2y	+5.0V	1.5A	7.5W
GT-21088-0806-W2y	+6.0V	1.33A	8.0W
GT-21088-0808-W2y	+7.5V	1.0A	7.5W
GT-21088-0909-W2y	+9.0V	1.0A	9.0W
GT-21088-1010-W2y	+10.0V	1.0A	10.0W
GT-21088-1012-W2y	+12.0V	0.8A	9.6W
GT-21088-1015-W2y	+15.0V	0.63A	9.5W

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	Comply with IEC 60950 or relevant component standard	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards (see appended tables).	P
1.5.2	Evaluation and testing components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
	Dimensions (mm) of mains plug for direct plug-in .....:	The dimension of the injection parts are in accordance with EN 50075 (GT-21088-x-W2E), GB 1002-1996 (GT-21088-x-W2N) respectively IEC 60083 (GT-21088-x-W2).	P
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)	≤0.25Nm	P
1.5.3	Transformers	Transformer used are suitable for their intended application and comply with the relevant requirements of the standard and particularly Annex C.	P
1.5.4	High voltage components (component; manufacturer; flammability) .....:	No high voltage components used.	N
1.5.5	Interconnecting cables	Secondary interconnection cable for DC output is carrying only SELV voltages on an energy level below 240VA. Except for the insulation material, there are no further requirements to the interconnection cables.	P
1.5.6	Mains Capacitors	X2 capacitor according to IEC 60384-14:1981 with 2.5kV pulse test (by SEV	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
		certificate or IEC 60384-14:1993 with 21 days damp heat test.	

1.6	Power interface		P
1.6.1	Steady state input current	Highest load according to 1.2.2.1 for this equipment is the operation with the maximum specified DC-load. Results see appended table.	P
	Current deviation during normal operating cycle	< +10%	P
1.6.2	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	N
1.6.3	Neutral conductor insulated from earth and body	Class II equipment. Phase conductors separated to body by reinforced insulation.	P
1.6.4	Components in equipment intended for IT power system	Equipment was not applied for the IT power system.	N
1.6.5	Mains supply tolerance (V) .....:	±10% (manufacturers declaration) Documentation specifies a rating of AC 100-240V at 47-63Hz. Relevant tests were done with the range of 90-264V at 47-63Hz.	P

1.7	Marking and instructions		P
1.7.1	Rated voltage (V) .....:	*100-240V~*	P
	Symbol of nature of supply for d.c. .....:	Mains from AC source.	N
	Rated frequency (Hz) .....:	*47-63Hz*	P
	Rated current (A) .....:	*0.5A*	P
	Manufacturer .....:	*GlobTek, Inc.*	P
	Trademark .....:	GlobTek trade mark	P
	Type/model .....:	*GT-21088-x-W2y* (x=0303, 0312, 0315, 0503, 0505, 0605, 0606, 0609, 0610, 0612, 0615, 0805, 0806, 0808, 0909, 1010, 1012 or 1015; y=E, N or blank)	P
	Symbol of Class II .....:	Class II symbol provided.	P
	Certification marks .....:	*TÜV Rheinland GS* mark (GT-21088-x-W2E).	N

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Clause	Requirement – Test	Result - Remark	Verdict
		UL, CUL (SYS1088-x-W2).	
1.7.2	Safety instructions	Safety instructions in German and English language. Other languages will be provided when submitted for the national approval.	P
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N
1.7.4	Marking for voltage setting/frequency setting ..:	Full voltage range.	N
1.7.5	Marking at power outlets .....:	No outlet.	N
1.7.6	Marking at fuseholders .....:	Reference marking as: *F1 T1A 250V*	P
1.7.7.1	Protective earthing terminals	Class II equipment.	N
1.7.7.2	Terminal for external primary power supply conductors	Direct plug in type, no terminal for external power supply conductor.	N
1.7.8.1	Identification and location of switches and controls .....:	No switch or control used.	N
1.7.8.2	Colours of controls and indicators .....:	No indicator.	N
1.7.8.3	Symbols according to IEC 60417 .....:		N
1.7.8.4	Figures used for marking .....:		N
1.7.8.5	Location of markings and indications for switches and controls .....:		N
1.7.9	Isolation of multiple power sources .....:	Only one supply from the mains.	N
1.7.10	Instructions for installation to IT power system	Equipment was not applied for IT power system.	N
1.7.11	Instructions when protection relies on building installation	Pluggable equipment type A	N
1.7.12	Marking when leakage current exceeds 3,5 mA	Class II equipment.	N
1.7.13	Indication at thermostats and regulating devices	No adjustable thermostats.	N
1.7.14	Language of safety markings/instructions	Equipment markings in English and safety warnings in German and English. Other languages will be provided when submitted for the national approval.	P
	Language .....:	English and German	—
1.7.15	Durability and legibility	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15s and then again for	P

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Clause	Requirement – Test	Result - Remark	Verdict
		15s with the cloth soaked with HEXANE. After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting of the label edge.	
1.7.16	Removable parts	No removable parts.	P
1.7.17	Warning text for replaceable lithium batteries	No lithium battery.	N
	Language .....:		-
1.7.18	Operator access with a tool .....:	No operator access with a tool.	N
1.7.19	Equipment for restricted access locations .....:	No restricted access locations.	N
2	FUNDAMENTAL DESIGN REQUIREMENTS		P
2.1	Protection against electric shock and energy hazards		P
2.1.1	Access to energized parts	See below	P
2.1.2	Protection in operator access areas	No access with test finger to any parts with only basic insulation to ELV or hazardous voltage. The test pin can not touch hazardous voltage through any seams within the appliance.	P
	Test by inspection .....:	dto.	P
	Test with test finger .....:	dto.	P
	Test with test pin .....:	dto.	P
2.1.3.1	Insulation of internal wiring in an ELV circuit accessible to operator	No ELV wiring in operator accessible area.	N
	Working voltage (V); distance (mm) through insulation .....:		N
2.1.3.2	Operator accessible insulation of internal wiring at hazardous voltage	No hazardous voltage wiring in operator accessible area.	N
2.1.4.1	Protection in service access areas	No maintenance work in operation mode necessary.	N
2.1.4.2	Protection in restricted access locations	The unit is not intended to be used in restricted locations	N
2.1.5	Energy hazard in operator access area	Energy does not exceed 240VA between any two points in accessible parts of	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
		output connector of secondary circuit. Results see appended table.	
2.1.6	Clearances behind conductive enclosures	No conductive enclosure.	N
2.1.7	Shafts of manual controls	None at ELV or hazardous voltage.	N
2.1.8	Isolation of manual controls	No shafts or knobs etc. in the adaptor.	N
2.1.9	Conductive casings of capacitors	Casings of capacitors are considered as if directly connected to the respective circuitry. None at hazardous voltage accessible.	P
2.1.10	Risk of electric shock from stored charge on capacitors connected to mains circuit	No risk of electric shock, see below.	P
	Time-constant (s); measured voltage (V) .....:	<1s (see appended table)	—
2.2	Insulation		P
2.2.1	Methods of insulation	The insulation materials provided in the equipment with adequate thickness and adequate creepage distance over their surface and clearance distance through air.	P
2.2.2	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used	P
2.2.3	Humidity treatment	Total time elapsed: 48 hours	P
	Humidity (%) .....:	93% R.H.	—
	Temperature (°C) .....:	25°C	—
2.2.4	Requirements for insulation	Please refer to 5.3, 2.9 and 5.1.	P
2.2.5	Insulation parameters	Both parameters were considered.	P
2.2.6	Categories of insulation	The adequate levels of safety insulation is provided and maintained to comply with the requirements of this standard.	P
2.2.7	Determination of Working voltage	The rms and the peak voltage were measured on the switching power supply at its rated load. The unit was connected to a 240V TN power system and secondary	P

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Clause	Requirement – Test	Result - Remark	Verdict
		ground was connected to neutral during test. Results see appended table.	
2.2.7.1	General rules for working voltages	Considered.	P
2.2.7.2	Clearances in primary circuits	Considered.	P
2.2.7.3	Clearances in secondary circuits	Considered.	P
2.2.7.4	Creepage distances	Considered.	P
2.2.7.5	Electric strength tests	Considered.	P
2.2.8	Double or reinforced insulation bridged by components	Primary and secondary bridged by one capacitor (CY1).	P
2.2.8.1	Bridging capacitors	Capacitors CY1 used were certified as Y1- capacitor according to IEC 60384-14 2nd, 1993.	P
2.2.8.2	Bridging resistors	No bridging resistors.	N
2.2.8.3	Accessible parts	The adaptor's secondary output circuit is designed as limited current circuit.	P

2.3	Safety extra-low voltage (SELV) circuits		P
2.3.1	Voltage (V) of SELV circuits under normal operating conditions and after a single fault ....:	42.4V peak or 60V DC are not exceeded in SELV circuit under normal operation or single fault condition.	—
2.3.2	Voltage (V) between any two conductors of SELV circuit(s) and for Class I equipment between any conductor of SELV circuit and equipment protective earthing terminal under normal operating conditions .....:	Between any SELV circuits 42.4V peak or 60V DC are not exceeded.	P
2.3.3	Voltage (V) of SELV in the event of a single failure of basic or supplementary insulation or of a component .....:	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V DC were not exceed and SELV limits not for longer than 0.2s, see abnormal results 5.4.6.	—
	Method used for separation .....:	Method 1.	P
2.3.4	Additional constructional requirements	IEC 60083 and IEC 60320 connectors are not used in SELV.	P
2.3.5	Connection of SELV circuits to other circuits	See 2.3.2 and 2.3.3. No direct connection	N

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
		between SELV and any primary circuits.	

2.4	Limited current circuits *The output connector is accessible to the user and connected to the primary circuit by one bridging capacitor (CY1). Therefore, the circuit must be designed as limited current circuit.*		P
2.4.2	Frequency (Hz) .....:	See below.	—
	Measured current (mA) .....:	The peak drop voltage was measured with a scope at a 2kΩ resistor. The maximum measured voltages are listed below: Neutral to output (+): measured as 0.96V at 63Hz ⇒ 0.48mA (limit = 0.7mA) Neutral to output (-): measured as 0.94V at 63Hz ⇒ 0.47mA (limit = 0.7mA)	P
2.4.3	Measured voltage (V) .....:	180Vpeak	—
	Measured capacitance (μF) .....:	<0.1μF	P
2.4.4	Measured voltage (V) .....:	<450Vpeak	—
	Measured charge (μC) .....:		N
2.4.5	Measured voltage (V) .....:	<450Vpeak	—
	Measured energy (mJ) .....:		N
2.4.6	Limited current circuit supplied from or connected to other circuits .....:		P

2.5	Provisions for earthing		P
2.5.1	Class I equipment	Class II equipment.	N
	Warning label for service personnel		N
2.5.2	Protective earthing in Class II equipment	Secondary functional ground separated to primary by reinforced or double insulation.	P
2.5.3	Switches/fuses in earthing conductors	Class II equipment.	N
2.5.4	Assured earthing connection for Class I equipment in systems comprising Class I and Class II equipment	Class II equipment.	N
2.5.5	Green/yellow insulation	No green/yellow wire.	N

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Clause	Requirement – Test	Result - Remark	Verdict
2.5.6	Continuity of earth connections	Class II equipment.	N
2.5.7	Making and breaking of protective earthing connections	Class II equipment.	N
2.5.8	Disconnection protective earthing connections	Class II equipment.	N
2.5.9	Protective earthing terminals for fixed supply conductors or for non-detachable power supply cords	Class II equipment.	N
2.5.10	Corrosion resistance	Class II equipment.	N
2.5.11	Resistance (Ω) of protective earthing conductors ≤ 0,1 Ω	Class II equipment.	N
	Test current (A) .....:		—
2.6	Primary power isolation		P
2.6.1	General requirements	The equipments plug is considered to be the disconnect device.	P
2.6.2	Type of disconnect device .....:	Plug (injection part).	P
2.6.3	Disconnect device in permanently connected equipment	Pluggable equipment type A.	N
2.6.4	Parts of disconnect device which remain energized	When plug is disconnected no remaining parts with hazardous voltage in the equipment.	P
2.6.5	Switches in flexible cords	No isolation switch provided.	N
2.6.6	Disconnection of both poles simultaneously for single-phase equipment	The plug disconnects both poles simultaneously.	P
2.6.7	Disconnection of all phase conductors of supply in three-phase equipment	Single phase.	N
2.6.8	Marking of switch acting as disconnect device	See 1.7.8.	N
2.6.9	Installation instructions if plug on power supply cord acts as disconnect device	See 1.7.2.	N
	Language .....:		—
2.6.11	Interconnected equipment	Interconnection to other devices by secondary output cable only.	N
2.6.12	Multiple power sources	Only one supply connection provided.	N
2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment relies on 16A rated fuse or circuit breaker of the wall outlet installation	P

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Clause	Requirement – Test	Result - Remark	Verdict
		protection of the building installation in regard to L to N short circuit. Overcurrent protection is provided by the built-in fuse.	
2.7.2	Protection against faults not covered in 5.4	The protection devices are well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	Pluggable equipment type A, the building installation is considered as providing short circuit protection.	P
2.7.4	Number and location of protective devices .....:	Overcurrent protection by one built-in fuse.	P
2.7.5	Protection by several devices	Only one fuse.	N
2.7.6	Warning to service personnel	No service work necessary.	N

2.8	Safety interlock *No operator accessible areas which presents hazards in the meaning of this standard.*		N
2.8.2	Design		N
2.8.3	Protection against inadvertent reactivation		N
2.8.4	Reliability		N
2.8.5	Overriding an interlock		N
2.8.6.1	Contact gap (m) .....:		N
2.8.6.2	Switch performing 50 cycles		N
2.8.6.3	Electric strength test: test voltage (V) .....:		N
2.8.7	Protection against overstress		N

2.9	Clearances, creepage distances and distances through insulation		P
	Nominal voltage (V) .....:	AC 100-240V	—
	General		P
2.9.2	Clearances	See below.	P
2.9.2.1	Clearances in primary circuits	(See appended table 2.9.2 and 2.9.3).	P
2.9.2.2	Clearances in secondary circuits	(See appended table 2.9.2 and 2.9.3).	P
2.9.3	Creepage distances	(See appended table 2.9.2 and 2.9.3).	P
	CTI tests .....:	CTI rating for all materials of minimum 100.	—

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Clause	Requirement – Test	Result - Remark	Verdict
2.9.4.1	Minimum distances through insulation	(See appended table 2.9.4).	P
2.9.4.2	Thin sheet material	No thin material used.	N
	Number of layers (pcs) .....:		N
	Electrical strength test: test voltage (V) .....:		N
2.9.4.3	Printed boards	Not applied for.	N
	Distance through insulation .....:	(See appended table 2.9.4).	N
	Electric strength test at voltage (V) for thin sheet insulating material .....:	(See appended table 5.3).	N
	Number of layers (pcs) .....:		N
2.9.4.4	Wound components without interleaved insulation	Triple insulated wire used in T1 (see appended table 2.9.4 and Annex U).	P
	Number of layers (pcs) .....:	3 layers.	P
	Two wires in contact inside component; angle between 45° and 90°	Prevented by teflon tube and insulation tape.	P
	Routine testing for finished component	Approved wire.	P
2.9.5	Distances (mm) on coated printed boards .....:	No coated printed wiring boards (see appended table 2.9.4).	N
	Routine testing for electric strength		N
2.9.6	Enclosed and sealed parts	No hermetically sealed components (see appended table 5.3).	N
	Temperature T1 (°C) .....:		N
	Humidity % .....:		N
2.9.7	Spacings filled by insulating compound	Photo couplers are approved components. Other components not applied for (see appended table 2.9.4 and 5.3).	P
	Temperature T1 (°C) .....:		N
	Humidity % .....:		N
2.9.8	Component external terminations	(See appended table 2.9.2 and 2.9.3).	P
2.9.9	Insulation with varying dimensions	Insulation kept homogenous (see appended table 2.9.2, 2.9.3 and 2.9.4).	N

2.10	Interconnection of equipment		P
2.10.1	General requirements	The power supply adaptor is not considered for	N

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Clause	Requirement – Test	Result - Remark	Verdict
		connection to TNV.	
2.10.2	Type of interconnection circuits .....:	Interconnection circuits of SELV through secondary output cable. No ELV interconnection circuits.	P
2.10.3	ELV circuits as interconnection circuits	No ELV interconnection.	N
2.11	Limited power source		P
	Use of limited power source .....:	Tested as limited power source. See appended table 2.11 for details.	P
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Cross-sectional area of internal wiring/interconnecting cables	The output cable are UL recognised wiring that is PVC insulated. Its gauge is suitable for current intended to be carried (see appended table 5.1).	P
	Protection of internal wiring and interconnecting cables	No internal wire for primary power distribution.	N
3.1.2	Wireways	Wires do not touch sharp edges and heat sinks which could damage the insulation and cause hazard.	P
3.1.3	Fixing of internal wiring	No internal wire.	N
3.1.4	Fixing of uninsulated conductors	Securely held on PCB. No hazard.	P
3.1.5	Insulation of internal wiring	The insulation of the individual conductors are suitable for the application and the working voltage. For the insulation material see 3.1.1.	P
3.1.6	Wires coloured green/yellow only for protective earth connection	See 2.5.5.	N
3.1.7	Fixing of beads and similar ceramic insulators	Not used.	N
3.1.8	Required electrical contact pressure		N
3.1.9	Reliable electrical connections	All current carrying connections are metal to metal.	P
3.1.10	End of stranded conductor	No risk of stranded	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
		conductors coming loose.	
3.1.11	Use of spaced thread screws/thread-cutting screws	No self tapping screws are used.	P

3.2	Connection to primary power		P
3.2.1	Type of connection .....:	The adaptor provides an integral mains plug.	P
	Design of product with more than one supply connection .....:	Only one connection to the mains.	P
3.2.2	Provision for permanent connection .....:	See clause 3.2.1.	N
	Size (mm) of cables and conduits .....:		N
3.2.3	Appliance inlet	No appliance inlet.	N
3.2.4	Type and cross-sectional area (mm²) of power supply cord .....:	Direct plug-in equipment.	N
3.2.5	Cord anchorage	*see clause 3.2.1*	N
	Test: 25 times; 1 s; pull (N) .....:		—
	Longitudinal displacement ≤ 2 mm .....:		N
3.2.6	Protection of power supply cord	No parts under this unit likely to damage the power supply cord. No sharp edges	P
3.2.7	Cord guard	*see clause 3.2.1*	N
	D (mm) .....:		—
	Test: mass (g) .....:		—
	Radius of curvature of the cord ≤ 1,5 D		N
3.2.8	Supply wiring space		N

3.3	Wiring terminals for external power supply conductors *Direct plug-in equipment.*		N
3.3.1	Terminals		N
3.3.2	Special non-detachable cord		N
	Type of connection .....:		—
	Pull test at 5 N		N
3.3.3	Screws and nuts		N
3.3.4	Fixing of conductors		N
3.3.5	Connection of connectors		N
3.3.6	Size of terminals		N
	Nominal thread diameter (mm) .....:		N
3.3.7	Protection against damage of conductors		N

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
3.3.8	Terminal location		N
3.3.9	Test with 8 mm stranded wire		N
4	PHYSICAL REQUIREMENTS		P
4.1	Stability and mechanical hazards		P
4.1.1	Stability tests		N
	Angle of 10°	Not applicable for direct plug in type.	N
	Test: force (N) .....:	Not floor standing.	N
4.1.2	Protection against personal injury	No moving parts.	P
4.1.3	Warning and means provided for stopping the moving part .....:	No moving parts.	N
4.1.4	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.1.5	Enclosure of a high pressure lamp	No lamp with cold pressure of 0.2MPa or hot pressure of 0.4MPa.	N
4.2	Mechanical strength and stress relief		P
4.2.1	General	See below.	P
4.2.2	Internal enclosures 30 N ± 3 N; 5 s	No internal enclosure.	N
4.2.3	External enclosures 250 N ± 10 N; 5 s	250N applied to outer enclosure. No energy or other hazards.	P
4.2.4	Steel ball tests		N
	Fall test	Direct plug in unit.	N
	Swing test	Direct plug in unit.	N
4.2.5	Drop test	The adaptor is subjected to three drops from 1m height to hard wood surface. After test, no damage to insulation, no energy hazards or damage to the enclosure integration.	P
4.2.6	Heat test for enclosures of moulded or formed thermoplastic materials: 7 h; T (°C) .....:	After 7 hours at 70°C and cooling down to room temperature, no shrinkage , distortion or loosening any enclosure part was noticeable on the adaptor. The test was done for all sources of	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
		enclosure material.	
4.2.7	Compliance criteria	Complied.	P
4.2.8	Mechanical strength of cathode ray tubes	Unit does not employ a cathode ray tube	N
4.3	Construction details		P
4.3.1	Changing of setting for different power supply voltages	Full range circuit design, no necessary adjustment.	P
4.3.2	Adjustment of accessible control devices	None that would cause hazard.	P
4.3.4	Prevention of dangerous concentration of dust, powder, liquid and gas	Equipment in intended use not considered to be exposed to these.	N
4.3.5	Fixing of knobs, grips, handles, levers		N
	Test: force (N) .....:		N
4.3.6	Driving belts/couplings shall not ensure electrical insulation	Not used for insulation.	N
4.3.7	Retaining of sleeves		N
4.3.9	Protection of loosening parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection, solder pins, cable ties and heat shrunk tubing are used	P
4.3.11	Resistance to oil and grease	Insulation not in contact with oil or grease	N
4.3.12	Protection against harmful concentration of ionizing radiation, ultraviolet light, LED, laser or flammable gases (for LED and laser see IEC 60825-1)	No ionizing radiation, ultraviolet light, LED, laser or flammable liquids present.	N
4.3.13	Securing of screwed connections	No connection likely to be exposed to mechanical stress are provided in unit.	P
4.3.15	Openings in the top of enclosure	No openings.	P
	Dimensions (mm) .....:		—
4.3.16	Openings in the sides of enclosure	No openings.	P
	Dimensions (mm) .....:		—
4.3.17	Interchangeable plugs and sockets	No interchangeable plugs or connectors.	N
4.3.18	Torque test for direct plug-in equipment		P
	Additional torque (Nm) .....:	≤0.25Nm	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
4.3.19	Protection against excessive pressure		N
4.3.20	Protection of heating elements in Class I equipment	No heating elements.	N
4.3.21	Protection of lithium batteries		N
	Construction of protection circuit .....:	No lithium battery.	N
4.3.22	Ageing of barrier/screen secured with adhesive		N
	Day 1: temperature (°C); time (weeks) .....:		N
	Day 8/22/57: a) temperature (°C) for 1 h b) temperature (°C) for 4 h c) temperature (°C) over 8 h .....:		N
	Day 9/23/58: a) relative humidity (%) for 72 h b) temperature (°C) for 1 h c) temperature (°C) for 4 h d) temperature (°C) over 8 h .....:		N
4.4	Resistance to fire		P
4.4.1	Methods of achieving resistance to fire	Use of materials with the required flammability classes.	P
4.4.2	Minimizing the risk of ignition	Electrical parts are not likely to ignite nearby materials. Parts not protected against overheating under fault conditions. Temperatures see 5.1.	P
	Printed board: manufacturer; type; flammability :	See 1.5.1 appended table.	P
4.4.3.2	Material and component: manufacturer; type; flammability .....:	Internal components except small parts are V-2, HF-2 or better.	P
4.4.3.3	Exemptions .....:	Considered.	P
4.4.3.4	Wiring harnesses: manufacturer; flammability ..:	Insulating material consists of PVC.	P
4.4.3.5	Cord anchorage bushings: manufacturer; flammability .....:	No cord anchorage bushings.	N
4.4.3.6	Air filter assemblies: manufacturer; flammability :	No air filter assemblies.	N
4.4.4	Enclosures and decorative parts: manufacturer; flammability .....:	Protective enclosure with no decorative parts. Enclosure of this unit (direct plug in equipment) with flammability	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
		class V-1.	
4.4.5	Conditions for fire enclosures	With having the following components: • components with windings • semiconductor devices, transistors, diodes, integrated circuits • resistors, capacitors, inductors the fire enclosure is required.	P
4.4.5.1	Components which require fire enclosure: manufacturer; flammability .....:	See above.	P
4.4.5.2	Components not requiring fire enclosure .....:	See 4.4.5.1.	N
4.4.6	Fire enclosure construction	Protection against emission of flame, molten metal, flaming or glowing particles or drops by fire enclosure. There are no openings at bottom of enclosure.	P
4.4.7	Doors and covers	No door or cover.	N
4.4.8	Flammable liquids	No flammable liquids in this unit.	N
5	THERMAL AND ELECTRICAL REQUIREMENTS		P
5.1	Heating		P
	Heating tests	(See appended table).	P
5.2	Earth leakage current		P
5.2.1	General	The leakage current was measured from supply to conductive parts (DC output connector) and to 10cm by 20cm metal foil wrapped on accessible non-conductive parts (plastic enclosure).	P
5.2.2	Leakage current	(See attached table).	P
	Test voltage (V) .....:	(See attached table).	—
	Measured current (mA) .....:	(See attached table).	—
	Max. allowed current (mA) .....:	0.25mA	—
5.2.3	Single-phase equipment	See 5.2.2.	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
	Test voltage (V) .....:		—
	Measured current (mA) .....:		—
	Max. allowed current (mA) .....:		—
5.2.4	Three-phase equipment	Single phase equipment.	N
	Test voltage (V) .....:		—
	Measured current (mA) .....:		—
	Max. allowed current (mA) .....:		—
5.2.5	Equipment with earth leakage current exceeding 3,5 mA	Class II equipment.	N
	Test voltage (V) .....:		—
	Measured current (mA) .....:		—
	Max. allowed current (mA) .....:		—
	Cross-sectional area (mm²) of internal protective earthing conductor .....:		—
	Warning label		N

5.3	Electric strength		P
5.3.1	General	All tests voltages were applied for 60s in the chamber after the humidity test of 2.3.2 and in warm conditions after the heating test of 5.1. No isolation breakdown was observed (results see appended tables).	P
5.3.2	Test procedure	(See appended table).	P

5.4	Abnormal operating and fault conditions		P
5.4.2	Motors	No motor.	N
5.4.3	Transformers	With the shorted output of the transformer, the unit damaged or shut down. No high temperature of the transformer to be expected or observed. Result of the short tests see 5.4.6 appended table.	P
5.4.4	Compliance of operational insulation		P
	Method used .....:	Short circuit tests Results see 5.4.6 appended	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
		table.	
5.4.5	Electromechanical components in secondary circuits	No electromechanical components.	**N**
5.4.6	Other components and circuits	The power supply is protected by the following means: • OCP protection by build-in device fuse F1 • OCP by T1 feedback windings to control PCB to shut down the unit • OVP by ZD1 to trigger OCP Results see appended table.	**P**
5.4.7	Test in any expected condition and foreseeable misuse	Output overload test: results see appended table. No other foreseeable misuse likely to happen.	**P**
5.4.8	Unattended use of equipment having thermostats, temperature limiters etc.	None of them are used.	**N**
5.4.9	Compliance	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test primary to SELV was passed.	**P**
5.4.10	Ball-pressure test of thermoplastic parts; impression shall not exceed 2 mm	Results see 5.4.10 table.	**P**

6	CONNECTION TO TELECOMMUNICATION NETWORKS *Equipment is not intended be connected to TNV.*	**N**

6.1	General		**N**
6.2	TNV circuits		**N**
6.2.1.1	Limits of the TNV circuits		**N**
6.2.1.1 a)	TNV-1 circuits		**N**
6.2.1.1 b)	TNV-2 and TNV-3 circuits		**N**
6.2.1.2	Separation from other circuits and from accessible parts		**N**
	Voltage (V) in SELV circuits, TNV-1 circuits and accessible conductive parts in event of single insulation fault or component failure .....:		**N**
6.2.1.3	Operating voltages generated externally		**N**

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
	Voltage (V) in SELV circuit, TNV-1 circuit or accessible conductive part .....:		N
6.2.1.4	Separation from hazardous voltages .....:		N
	Insulation between TNV circuit and circuit at hazardous voltage		N
	Method used .....:		N
6.2.1.5	Connection of TNV circuits to other circuits		N
	TNV circuit supplied conductively from a secondary circuit .....:		N
6.2.2.1	Protection against contact with bare conductive parts of TNV-2 and TNV-3 circuits		N
	Test with test finger		N
	Test with test probe		N
6.2.2.2	Battery compartments		N
	Marking next to door/on door		N
6.3	Protection of telecommunication network service personnel, and users of other equipment connected to the telecommunication network, from hazards in the equipment		N
6.3.1	Protection from hazardous voltages		N
6.3.2	Use of protective earthing		N
	Language of installation instructions .....:		N
6.3.3.1	Insulation between TNV circuit and parts or circuitry that may be earthed		N
6.3.3.2	Exclusions .....:		N
6.3.4.1	Limitation of leakage current (mA) to telecommunication network .....:		N
6.3.4.2	Summation of leakage currents from telecommunication network .....:		N
6.4	Protection of the equipment user from voltages on the telecommunication network		N
6.4.1	Separation requirements		N
6.4.2	Test procedure		N
6.4.2.1	Impulse test: separation between TNV-1 circuits/TNV-3 circuits and:		N
6.4.2.1 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 2,5 kV		N
6.4.2.1 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that		N

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
	cannot be touched by test probe; test at 1,5 kV		
6.4.2.1 c)	circuitry which is provided for connection of other equipment; test at 1,5 kV		N
6.4.2.2	Electric strength test: separation between TNV-1 circuits/TNV-3 circuits and:		N
6.4.2.2 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 1,5 kV		N
6.4.2.2 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,0 kV		N
6.4.2.2 c)	circuitry which is provided for connection of other equipment; test at 1,0 kV		N
6.4.2.3	Compliance criteria		N

6.5	Protection of telecommunication wiring system from overheating		N
	Maximum continuous output current (A) .....:		N

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		P
A.1	Flammability test for fire enclosures of moveable equipment having a total mass exceeding 18 kg, and of stationary equipment		N
A.2	Flammability test for fire enclosures of moveable equipment having a total mass not exceeding 18 kg, and for materials located within fire enclosures		P
A.3	High current arcing ignition test		N
A.3.6	Number of arcs .....:		N
A.4	Hot wire ignition test		N
A.4.6	Ignition time (s) .....:		N
A.5	Hot flaming oil test		N
A.6	Flammability test for classifying materials V-0, V-1 or V-2		N
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HBF		N
A.8	Flammability test for classifying materials HB		N
A.9	Flammability test for classifying materials 5V		N
A	Tested material		N
	Preconditioning: 7 days (168 h); temperature (°C) .....:		—
	Mounting of samples during test .....:		—
	Wall thickness .....:		—
	Sample 1 burning time .....:		N

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
	Sample 2 burning time .....:		N
	Sample 3 burning time .....:		N
	Material: compliance with the requirements		N
	Manufacturer of tested material .....:		—
	Type of tested material .....:		—
	Additional information .....:		—
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS		N
B.1	General requirements		N
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated voltage (V) or current (A) .....:		—
B.2	Test conditions		N
B.3	Maximum temperatures		N
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days) .....:		—
	Electric strength test: test voltage (V) .....:		—
B.6	Running overload test for DC motor in secondary circuits		N
B.7	Locked-rotor overload test for DC motor in secondary circuits		N
B.7.2	Test time (h) .....:		N
B.7.3	Test time (h) .....:		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors		N
	Test voltage (V) .....:		—
C	ANNEX C, TRANSFORMERS		P
	Position .....:	T1	—
	Manufacturer .....:	SYN	—
	Type .....:	04-B166, 04-B168, 04-B177, 04-B178	—
	Rated values .....:	Isolation class E.	—
	Temperatures	(See appended table 5.4).	P

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict
	Thermal cut-out	(See appended table 5.1).	N
C.1	Overload test	(See 5.4.3).	P
	Conventional transformer		N
C.2	Insulation		P
	Precautions .....:	(See transformer construction check next page).	P
	Retaining of end turns of all windings	dto.	P
	Earthing test at 25 A	dto.	N
C.3	Electric strength test	(See 5.3).	P

C.2	Safety isolation transformer		P
	Construction details:		
Transformer T1			
Mfr.: SYN			
Type : a) 04-B166; b) 04-B168; c) 04-B177; d) 04-B178			
All types transformer are identical in construction except for turn ratio and gauge of NP1, NS and NP2			
Recurring peak voltage		432V 0-p	
Required clearance for reinforced			
insulation (from table 3 and 4)		4.0mm + 0.2mm	
Effective voltage rms		248V	
Required creepage for reinforced			
insulation (from table 6)		5mm	
Measured minimum creepages			
Location		inside (mm)	outside (mm)
primary-secondary		Triple insulated wire.	>5.0
primary-core		%	%
secondary-core		Triple insulated wire.	>5.0
primary-primary		%	%
Measured minimum clearances			
Location		inside (mm)	outside (mm)
primary-secondary		Triple insulated wire.	>5.0

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

primary-core	%	%
secondary-core	Triple insulated wire.	>5.0
primary-primary	%	%
Construction:		
Concentric windings on EE-16 type bobbin, one layer insulation between primary (enamelled copper wire) and secondary windings (triple insulated wire). Winding ends additionally fixed with tape, outer winding is primary. Teflon tube provided on winding exit ends (pins A, B). Outer metal shielding is connected to pin 1 and kept reinforced insulation to secondary. Two layers (width 16mm) of insulation tape wrapped on outside of transformer. Details of triple insulated wire used, see appended table 1.5.1.		
Pin numbers		
Primary	2-4-3, 5-1	
Secondary	A-B	
Bobbin		
Material	Chang Chun, Phenolic, type T373J, V-0	
Thickness	≥0.8mm	
Electric strength test		
With AC 3000V after humidity treatment		
Result	Pass.	

H	ANNEX H, IONIZING RADIATION		**N**
	Ionizing radiation		**N**
	Measured radiation .....:		—
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
	Certified by .....:		—
	Standard used .....:		—

U	ANNEX U, INSULATED WINDING WIRES FOR USE AS MULTIPLE LAYER INSULATION		**P**
	See separate test report	VDE and TÜV approved component.	**P**

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

1.5.1	TABLE: list of critical components				P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity[1])
Enclosure	Chi Mei	PA-765A	V-1	UL 94	UL
	GE	SE-100	V-1	UL 94	UL
Plug holder	GE	SE1	V-1, 110°C	UL 94	UL
Fuse F1	Bel	MRT	T1A, 250V	IEC 60127-3	VDE
	ELU	166 000	T1A, 250V	IEC 60127-3	VDE
	Wickmann-Werke	19372	T1A, 250V	IEC 60127-3	VDE
	Sleek	36SGL	T1A, 250V	-	UL, CSA
	Sleek	36ES	T1A, 250V	IEC 60127-3	VDE
	Walter	TAP	T1A, 250V	-	UL
Bleeder resistors R8, R9	-	SMD type	470kΩ, 1/4W	-	-
X-capacitor CX1	Arcotronics	MKT 1.40.00	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
	Carli	MPX	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
	Iskra	KNB 1530	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
	LCC	DX	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
	Okay	PA, RE	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
	Philips	335 1...	maximum 0.22µF, 250V	IEC 60384-14	VDE, SEV, S, FI, UL
	Philips	336 1...	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
	Pilkor	PCX2 335	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
	Rifa	PHE 830...	maximum 0.22µF, 250V	IEC 60384-14	VDE, SEV, S, FI, UL
	SSE	SX1	maximum 0.22µF, 275V	IEC 60384-14	VDE, S, FI, UL
	Taishing	MEX	maximum 0.22µF, 250V	IEC 60384-14	VDE, SEV, S, FI, UL
	Teapo	XG-H	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

	Tenta	MEX	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
	UTX	HQX	maximum 0.22µF, 275V	IEC 60384-14	VDE, SEV, S, FI, UL
Line filter LF1	SYN	04-A064	105°C	-	-
Y-capacitor CY1	Murata	KX	maximum 2200pF, 250V	IEC 60384-14/ 1993	VDE, SEV, S, FI, UL
	Sam Hwa	SD	maximum 2200pF, 250V	IEC 60384-14/ 1993	VDE, SEV, S, FI, UL
	Samsung	AD	maximum 2200pF, 250V	IEC 60384-14/ 1993	VDE, SEV, S, FI, UL
	TDK	CD	maximum 2200pF, 250V	IEC 60384-14/ 1993	VDE, SEV, S, FI, UL
Bulk capacitor C9	-	electrolytic can type	22µF, 400V, 85°C	-	-
Transistor U2 (for PCB no. HB046 only)	Power Integrations	TOP201	700V, 1.17A	-	-
Optical isolator U1	LITEON	LTV-817	di ≥0.4mm	VDE 0884, IEC 60950	TÜV, UL FI
	Matsushita	ON 3171..	di =0.6mm	VDE 0884, IEC 60950	TÜV, UL FI
	NEC	PS2561..-.	di >0.4mm	VDE 0884, IEC 60950	TÜV, UL FI
	Sharp	PC 817	di >0.4mm	VDE 0884, IEC 60950	TÜV, UL FI
	Telefunken	TCET1101	di =0.6mm	VDE 0884, IEC 60950	TÜV, UL FI
GT-21088-x-W2y (x=0303, 0312, 0315, 0503, 0505, 0605, 0606, 0609, 0610, 0612, 0615, 0805, 0806, 0808, 0909, 1010, 1012 or 1015; y=E, N or blank)	Toshiba	TLP 721	di =0.8mm	VDE 0884, IEC 60950	TÜV, UL FI
Transformer T1 (GT-21088-x-W2y (x=0805))	SYN	04-B166	isolation class E, isolation class B*)	-	UL*)
Transformer T1 (GT-21088-x-	SYN	04-B168	isolation class E, isolation	-	UL*)

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

W2y (x=0312, 0315, 0612, 0615, 1012 or 1015))			class B*)		
Transformer T1 (GT-21088-x-W2y (x= 0303, 0503, 0505, 0605 or 0606))	SYN	04-B177	isolation class E, isolation class B*)	-	UL*)
Transformer T1 (GT-21088-x-W2y (x=0609, 0610, 0808, 0909 or 1010))	SYN	04-B178	isolation class E, isolation class B*)	-	UL*)
Triple insulated wire in T1	Furukawa	TEX-E	class 120°C, class 105°C*)	IEC 60950	TÜV, VDE, UL*), CSA, N, BSI
PCB	-	-	V-1 or better, minimum 105°C	UL 94	UL

*) Triple insulated wire Furukawa TEX-E only UL approved for 105°C, but transformer insulation system UL approved for isolation class B.

1.6	TABLE: electrical data (in normal conditions)					P
fuse #	Irated (A).	U (V)	P (W)	I (A).	Ifuse (A).	condition/status
Model GT-21088-0303-W2E						
F1	-	90V/47Hz	5.5	0.110	0.110	Rated DC output load (3.3V/1A).
F1	-	90V/63Hz	5.7	0.115	0.115	dto.
F1	0.5	100V/47Hz	5.5	0.103	0.103	dto.
F1	0.5	100V/63Hz	5.7	0.108	0.108	dto.
F1	0.5	240V/47Hz	6.4	0.068	0.068	dto.
F1	0.5	240V/63Hz	6.8	0.074	0.074	dto.
F1	-	264V/47Hz	6.8	0.064	0.064	dto.
F1	-	264V/63Hz	7.2	0.070	0.070	dto.
Model GT-21088-0312-W2E						

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

F1	-	90V/47Hz	5.0	0.103	0.103	Rated DC output load (12V/0.25A).
F1	-	90V/63Hz	5.0	0.104	0.104	dto.
F1	0.5	100V/47Hz	5.2	0.099	0.099	dto.
F1	0.5	100V/63Hz	5.2	0.099	0.099	dto.
F1	0.5	240V/47Hz	9.1	0.087	0.087	dto.
F1	0.5	240V/63Hz	9.2	0.088	0.088	dto.
F1	-	264V/47Hz	9.9	0.085	0.085	dto.
F1	-	264V/63Hz	10.2	0.083	0.083	dto.
Model GT-21088-0315-W2E						
F1	-	90V/47Hz	5.4	0.109	0.109	Rated DC output load (15V/0.2A).
F1	-	90V/63Hz	5.5	0.111	0.111	dto.
F1	0.5	100V/47Hz	5.8	0.104	0.104	dto.
F1	0.5	100V/63Hz	5.7	0.108	0.108	dto.
F1	0.5	240V/47Hz	9.8	0.092	0.092	dto.
F1	0.5	240V/63Hz	11.1	0.098	0.098	dto.
F1	-	264V/47Hz	10.9	0.094	0.094	dto.
F1	-	264V/63Hz	11.3	0.091	0.091	dto.
Model GT-21088-0503-W2E						
F1	-	90V/47Hz	8.3	0.156	0.156	Rated DC output load (3.3V/1.5A).
F1	-	90V/63Hz	8.4	0.157	0.157	dto.
F1	0.5	100V/47Hz	8.2	0.144	0.144	dto.
F1	0.5	100V/63Hz	8.7	0.149	0.149	dto.

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Clause	Requirement – Test	Result - Remark	Verdict

F1	0.5	240V/47Hz	9.2	0.086	0.086	dto.
F1	0.5	240V/63Hz	9.5	0.090	0.090	dto.
F1	-	264V/47Hz	9.3	0.083	0.083	dto.
F1	-	264V/63Hz	10.4	0.085	0.085	dto.
Model GT-21088-0505-W2E						
F1	-	90V/47Hz	7.4	0.141	0.141	Rated DC output load (5V/1A).
F1	-	90V/63Hz	7.4	0.148	0.148	dto.
F1	0.5	100V/47Hz	7.5	0.132	0.132	dto.
F1	0.5	100V/63Hz	7.5	0.136	0.136	dto.
F1	0.5	240V/47Hz	8.4	0.082	0.082	dto.
F1	0.5	240V/63Hz	9.2	0.088	0.088	dto.
F1	-	264V/47Hz	8.6	0.079	0.079	dto.
F1	-	264V/63Hz	9.8	0.083	0.083	dto.
Model GT-21088-0605-W2E						
F1	-	90V/47Hz	9.0	0.170	0.170	Rated DC output load (5V/1.2A).
F1	-	90V/63Hz	8.9	0.172	0.172	dto.
F1	0.5	100V/47Hz	8.9	0.156	0.156	dto.
F1	0.5	100V/63Hz	8.8	0.160	0.160	dto.
F1	0.5	240V/47Hz	9.5	0.093	0.093	dto.
F1	0.5	240V/63Hz	9.5	0.094	0.094	dto.
F1	-	264V/47Hz	9.7	0.090	0.090	dto.
F1	-	264V/63Hz	9.7	0.091	0.091	dto.

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

Model GT-21088-0606-W2E						
F1	-	90V/47Hz	9.0	0.170	0.170	Rated DC output load (6V/1A).
F1	-	90V/63Hz	9.1	0.172	0.172	dto.
F1	0.5	100V/47Hz	9.1	0.158	0.158	dto.
F1	0.5	100V/63Hz	9.2	0.161	0.161	dto.
F1	0.5	240V/47Hz	10.3	0.096	0.096	dto.
F1	0.5	240V/63Hz	10.1	0.099	0.099	dto.
F1	-	264V/47Hz	10.6	0.093	0.093	dto.
F1	-	264V/63Hz	11.3	0.099	0.099	dto.
Model GT-21088-0609-W2E						
F1	-	90V/47Hz	7.5	0.145	0.145	Rated DC output load (9V/0.67A).
F1	-	90V/63Hz	7.6	0.150	0.150	dto.
F1	0.5	100V/47Hz	7.4	0.134	0.134	dto.
F1	0.5	100V/63Hz	7.5	0.138	0.138	dto.
F1	0.5	240V/47Hz	7.6	0.078	0.078	dto.
F1	0.5	240V/63Hz	7.6	0.079	0.079	dto.
F1	-	264V/47Hz	7.7	0.074	0.074	dto.
F1	-	264V/63Hz	7.7	0.076	0.076	dto.
Model GT-21088-0610-W2E						
F1	-	90V/47Hz	8.9	0.164	0.164	Rated DC output load (10V/0.6A).
F1	-	90V/63Hz	8.7	0.166	0.166	dto.
F1	0.5	100V/47Hz	8.8	0.152	0.152	dto.
F1	0.5	100V/63H	8.7	0.153	0.153	dto.

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

		z				
F1	0.5	240V/47Hz	9.0	0.088	0.088	dto.
F1	0.5	240V/63Hz	10.0	0.090	0.090	dto.
F1	-	264V/47Hz	9.6	0.086	0.086	dto.
F1	-	264V/63Hz	10.4	0.090	0.090	dto.
Model GT-21088-0612-W2E						
F1	-	90V/47Hz	7.8	0.147	0.147	Rated DC output load (12V/0.5A).
F1	-	90V/63Hz	7.9	0.152	0.152	dto.
F1	0.5	100V/47Hz	7.6	0.136	0.136	dto.
F1	0.5	100V/63Hz	7.8	0.140	0.140	dto.
F1	0.5	240V/47Hz	8.6	0.084	0.084	dto.
F1	0.5	240V/63Hz	9.2	0.086	0.086	dto.
F1	-	264V/47Hz	8.9	0.080	0.080	dto.
F1	-	264V/63Hz	10.1	0.081	0.081	dto.
Model GT-21088-0615-W2E						
F1	-	90V/47Hz	7.7	0.148	0.148	Rated DC output load (15V/0.4A).
F1	-	90V/63Hz	7.9	0.151	0.151	dto.
F1	0.5	100V/47Hz	7.8	0.139	0.139	dto.
F1	0.5	100V/63Hz	8.0	0.145	0.145	dto.
F1	0.5	240V/47Hz	8.1	0.080	0.080	dto.
F1	0.5	240V/63Hz	9.3	0.088	0.088	dto.
F1	-	264V/47Hz	8.3	0.079	0.079	dto.

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

F1	-	264V/63Hz	10.1	0.088	0.088	dto.
Model GT-21088-0805-W2E						
F1	-	90V/47Hz	10.7	0.197	0.197	Rated DC output load (5V/1.5A).
F1	-	90V/63Hz	10.8	0.203	0.203	dto.
F1	0.5	100V/47Hz	10.6	0.181	0.181	dto.
F1	0.5	100V/63Hz	10.7	0.186	0.186	dto.
F1	0.5	240V/47Hz	10.6	0.101	0.101	dto.
F1	0.5	240V/63Hz	10.6	0.103	0.103	dto.
F1	-	264V/47Hz	10.7	0.096	0.096	dto.
F1	-	264V/63Hz	10.7	0.098	0.098	dto.
Model GT-21088-0806-W2E						
F1	-	90V/47Hz	12.2	0.215	0.215	Rated DC output load (6V/1.33A).
F1	-	90V/63Hz	11.9	0.216	0.216	dto.
F1	0.5	100V/47Hz	12.0	0.197	0.197	dto.
F1	0.5	100V/63Hz	11.9	0.200	0.200	dto.
F1	0.5	240V/47Hz	11.8	0.108	0.108	dto.
F1	0.5	240V/63Hz	13.0	0.112	0.112	dto.
F1	-	264V/47Hz	12.0	0.103	0.103	dto.
F1	-	264V/63Hz	13.1	0.109	0.109	dto.
Model GT-21088-0808-W2E						
F1	-	90V/47Hz	10.0	0.188	0.188	Rated DC output load (7.5V/1A).
F1	-	90V/63Hz	10.0	0.191	0.191	dto.

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

F1	0.5	100V/47Hz	9.9	0.172	0.172	dto.
F1	0.5	100V/63Hz	9.9	0.176	0.176	dto.
F1	0.5	240V/47Hz	9.8	0.096	0.096	dto.
F1	0.5	240V/63Hz	9.8	0.097	0.097	dto.
F1	-	264V/47Hz	9.9	0.091	0.091	dto.
F1	-	264V/63Hz	9.9	0.092	0.092	dto.
Model GT-21088-0909-W2E						
F1	-	90V/47Hz	12.3	0.217	0.217	Rated DC output load (9V/1A).
F1	-	90V/63Hz	12.1	0.220	0.220	dto.
F1	0.5	100V/47Hz	12.0	0.198	0.198	dto.
F1	0.5	100V/63Hz	12.0	0.201	0.201	dto.
F1	0.5	240V/47Hz	12.0	0.107	0.107	dto.
F1	0.5	240V/63Hz	12.0	0.112	0.112	dto.
F1	-	264V/47Hz	12.2	0.102	0.102	dto.
F1	-	264V/63Hz	12.7	0.109	0.109	dto.
Model GT-21088-1010-W2E						
F1	-	90V/47Hz	13.3	0.239	0.239	Rated DC output load (10V/1A).
F1	-	90V/63Hz	13.2	0.241	0.241	dto.
F1	0.5	100V/47Hz	13.1	0.217	0.217	dto.
F1	0.5	100V/63Hz	13.0	0.221	0.221	dto.
F1	0.5	240V/47Hz	12.7	0.119	0.119	dto.
F1	0.5	240V/63Hz	12.5	0.117	0.117	dto.
F1	-	264V/47H	12.8	0.113	0.113	dto.

IEC 60 950						
Clause	Requirement – Test			Result - Remark		Verdict
		z				
F1	-	264V/63Hz	12.7	0.112	0.112	dto.
Model GT-21088-1012-W2E						
F1	-	90V/47Hz	12.2	0.222	0.222	Rated DC output load (12V/0.8A).
F1	-	90V/63Hz	12.2	0.225	0.225	dto.
F1	0.5	100V/47Hz	12.1	0.203	0.203	dto.
F1	0.5	100V/63Hz	12.1	0.207	0.207	dto.
F1	0.5	240V/47Hz	12.1	0.113	0.113	dto.
F1	0.5	240V/63Hz	12.2	0.114	0.114	dto.
F1	-	264V/47Hz	12.1	0.107	0.107	dto.
F1	-	264V/63Hz	12.2	0.108	0.108	dto.
Model GT-21088-1015-W2E						
F1	-	90V/47Hz	12.1	0.217	0.217	Rated DC output load (12V/0.8A).
F1	-	90V/63Hz	12.1	0.220	0.220	dto.
F1	0.5	100V/47Hz	12.0	0.199	0.199	dto.
F1	0.5	100V/63Hz	12.0	0.202	0.202	dto.
F1	0.5	240V/47Hz	12.3	0.111	0.111	dto.
F1	0.5	240V/63Hz	12.8	0.118	0.118	dto.
F1	-	264V/47Hz	12.4	0.108	0.108	dto.
F1	-	264V/63Hz	13.0	0.114	0.114	dto.

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

2.1.5	TABLE: energy hazard				P
Voltage (Rated) (V)	Current (Rated) (A)	Voltage (Max) (V)	Current (Max.) (A)	VA (Max.) (VA)	
Model GT-21088-0606-W2E					
6	1	6.0	2.6	13.0	
Model GT-21088-0806-W2E					
6	1.33	6.0	3.9	21.0	
Model GT-21088-1010-W2E					
10	1	10.0	2.1	22.0	
Model GT-21088-1012-W2E					
12	0.8	12.0	1.7	20.0	

2.1.10	TABLE: discharge test			P
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	comments
system on	0.2068	0.16	<1	Vo=324V, 37%×Vo=120V
Overall capacity : C=CX1=0.22μF				
Discharge resistor : R=R8+R9=470kΩ+470kΩ=940kΩ				

2.2.7	Table: working voltage measurement		P
Location	RMS Voltage (V)	Peak Voltage (V)	Comments
Model GT-21088-0606-W2E			
T1 1-A	218	352	
T1 2-A	***244***	***416***	
T1 3-A	224	376	
T1 5-A	208	352	
T1 1-B	218	344	
T1 2-B	243	416	

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Clause	Requirement – Test	Result - Remark	Verdict

T1 3-B	213	360	
T1 5-B	218	352	
Model GT-21088-0806-W2E			
T1 1-A	214	352	
T1 2-A	236	424	
T1 3-A	213	376	
T1 5-A	218	352	
T1 1-B	208	344	
T1 2-B	***248***	***424***	
T1 3-B	213	352	
T1 5-B	218	368	
Model GT-21088-1010-W2E			
T1 1-A	211	356	
T1 2-A	***241***	416	
T1 3-A	213	392	
T1 5-A	219	352	
T1 1-B	218	344	
T1 2-B	239	***432***	
T1 3-B	213	360	
T1 5-B	218	376	
Model GT-21088-1015-W2E			
T1 1-A	215	360	
T1 2-A	234	416	
T1 3-A	218	408	
T1 5-A	219	352	
T1 1-B	219	344	
T1 2-B	***243***	***424***	
T1 3-B	213	360	
T1 5-B	218	368	

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

Notes:

BOLD/ITALIC indicates highest measurements.

Input voltage: 240V, 63Hz.

2.9.2 and 2.9.3	TABLE: clearance and creepage distance measurements					P
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)
Primary components (with 10N) to secondary components (with 10N)	<420	<250	4.0	↓	5.0	↓
• D8 body to C3 on HB046 PCB				4.1		≥8.0
• bonding surface to hazardous voltage parts				≥4.0		≥5.0
Primary traces to secondary traces	<420	<250	4.0	↓	5.0	↓
• under CY1 with cut groove				4.0		≥8.0
• below U1				6.0		6.0
Primary traces to secondary traces	<432	<250	4.2	↓	5.0	↓
• below T1				6.2		6.2
• below T1 with cut groove				4.7		5.8

Notes:

- Operational insulation shorted, see 5.4.4.
- C2, CY1 further covered with heat shrinkable tubing.
- C9 fixed in position by non-chemical bonding glue.
- Wires at PCB fixed by non-chemical bonding glue.
- Wiresat injection part fixed by heat shrinkable tubing.

2.9.4.1	TABLE: distance through insulation measurements			P
distance through insulation di at/of:	U r.m.s. (V)	test voltage (V)	required di (mm)	di (mm)
Photo coupler U1 (reinforced insulation)	250	3000	0.4	approved comp.
Enclosure	250	3000	0.4	≥0.4

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Clause	Requirement – Test	Result - Remark	Verdict

For distance through insulation, see appended table 1.5.1 for details.

2.11	TABLE: limited power source measurement		P

- The output of the power adaptor is isolated from mains with an isolation transformer.
- The output is limited to the limits of table 8 under normal and single fault conditions.

a) U_{oc} = 3.43V (measured under no load conditions for model SYS1088-0503-W2E)

b) U_{oc} = 5.05V (measured under no load conditions for model SYS1088-0605-W2E)

c) U_{oc} = 5.03V (measured under no load conditions for model SYS1088-0805-W2E)

d) U_{oc} = 6.07V (measured under no load conditions for model SYS1088-0806-W2E)

e) U_{oc} = 10.08V (measured under no load conditions for model SYS1088-1010-W2E)

f) U_{oc} = 12.24V (measured under no load conditions for model SYS1088-1012-W2E)

According to Table 8	Limits	Measured	Verdict
with the maximum load conditions			
current (in A)	≤8A	a) 2.74	ok
		b) 2.40	
		c) 5.10	
		d) 4.14	
		e) 2.96	
		f) 2.45	
power (in VA)	≤5xUoc, a) 17.15	a) 7.00	ok
	b) 25.25	b) 9.92	
	c) 25.15	c) 20.66	
	d) 30.35	d) 21.69	
	e) 50.40	e) 28.92	
	f) 61.20	f) 27.12	
with R22 shorted (OPP device)			
current (in A)	≤8A	a) 3.42	ok
		b) 2.81	
		c) 3.44	
		d) 3.45	
		e) N/A	
		f) N/A	
power (in VA)	≤5xUoc, a) 17.15	a) 8.11	ok
	b) 25.25	b) 12.76	

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Clause	Requirement – Test	Result - Remark	Verdict

	c) 25.15	c) 14.20	
	d) 30.35	d) 17.43	
	e) 50.40	e) N/A	
	f) 61.20	f) N/A	
with ZD1 opened (OVP device)			
current (in A)	≤8A	a) 2.74	ok
		b) 2.40	
		c) 5.10	
		d) 4.14	
		e) 2.96	
		f) 2.45	
power (in VA)	≤5xUoc, a) 17.15	a) 8.12	ok
	b) 25.25	b) 10.04	
	c) 25.15	c) 22.67	
	d) 30.35	d) 21.81	
	e) 50.40	e) 28.45	
	f) 61.20	f) 29.03	

4.3.14/15 & 4.4.6	Table: enclosure openings	P

Location	Size (mm)	Comments
Bottom	-	No openings.
Side	-	No openings.
Top	-	No openings.

5.1	TABLE: temperature rise measurements		P
	test voltage (V) .....:	100V-10%/240V+10%	
	t1 (°C) .....:		
	t2 (°C) .....:		

temperature rise dT of part/at:	dT (K)	required dT (K)
Model GT-21088-0605-W2E		
LF1 coil	46/40	65

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Clause	Requirement – Test	Result - Remark	Verdict

T1 coil	57/62	65 (70)*)
T1 core	55/50	65 (70)*)
C9 body (85°C)	42/38	45
Input wire (105°C)	30/25	65
Output wire (80°C)	21/26	40
Top enclosure	26/30	55
Room ambient at	21°C/23°C	-
Model GT-21088-0806-W2E		
LF1 coil	32/25	65
T1 coil	39/38	65 (70)*)
T1 core	46/46	65 (70)*)
C9 body (85°C)	31/27	45
Input wire (105°C)	24/20	65
Output wire (80°C)	24/23	40
Top enclosure	28/26	55
Room ambient at	24°C/24°C	-
Model GT-21088-1010-W2E		
LF1 coil	46/26	65
T1 coil	57/47	65 (70)*)
T1 core	55/47	65 (70)*)
C9 body (85°C)	42/27	45
Input wire (105°C)	30/19	65
Output wire (80°C)	21/16	40
Top enclosure	26/16	55
Room ambient at	21°C/21°C	-
Model GT-21088-1012-W2E		
LF1 coil	35/25	65
T1 coil	37/40	65 (70)*)
T1 core	31/35	65 (70)*)
C9 body (85°C)	29/25	45
Input wire (105°C)	21/17	65
Output wire (80°C)	14/16	40

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Clause	Requirement – Test	Result - Remark	Verdict

Top enclosure	24/21	55
Room ambient at	24°C/24°C	-

*) Transformer insulation system UL approved for isolation class B.

temperature rise dT of winding:	R_1 (Ω)	R_2 (Ω)	dT (K)	required dT (K)	insulation class

Comments:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.1 at voltages as described in 1.6.5.

With a specified ambient temperature of 40°C, the maximum temperature rise is calculated as follows:

- Winding components:
  - ♦ class E: dTmax = 90K-10K-(40K-25K) = 65K
  - ♦ class B: dTmax = 95K-10K-(40K-25K) = 70K
- Electrolyte capacitor or components with:
  - ♦ maximum absolute temperature of 85°C: dTmax = 85K-40K = 45K
  - ♦ maximum absolute temperature of 105°C: dTmax = 105K-40K = 65K
- User touchable surface with:
  - ♦ maximum tempearture rise of 70K: dTmax = 70K-(40K-25K) = 55K

5.2	TABLE: leakage current measurement		P
Condition	current L→accessible part (mA)	current N→accessible part (mA)	comments
System On	0.12	0.13	At output connector (+).
System On	0.12	0.13	At output connector (-).
System On	0.004	0.011	At metal foil on enclosure.

Input voltage : 264V

Input frequency : 63Hz

Overall capacity : CY1 = 2200pF

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Clause	Requirement – Test	Result - Remark	Verdict

5.3	TABLE: electric strength measurements		P
test voltage applied between:		test voltage (V)	breakdown
primary and secondary		DC 4242V	No
primary and foil outside enclosure		DC 4242V	No
T1 primary and secondary (all types)		AC 3000V	No
T1 secondary and core (all types)		AC 3000V	No

5.4	TABLE: fault condition tests		P
	ambient temperature (°C) .....:	25°C	—
	model/type of power supply .....:	See below.	—
	manufacturer of power supply .....:	SYN Electronics Co., Ltd.	—
	rated markings of power supply .....:	See labels at pages 4 to 6.	—

No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
Model GT-21088-0503-W2E							
01	HB1 pin 3-4	s-c	240	3s	F1	0	Fuse opened, unit damaged, no hazards.
02	HB1 pin 2-4	s-c	240	3s	F1	0	Fuse opened, unit damaged, no hazards.
Model GT-21088-0505-W2E							
03	T1 pin A-B	s-c	240	30s	F1	0.074	Unit ceased to operate with components damaged, T1:37°C, no hazards.
Model GT-21088-0605-W2E							
04	U3 pin B-E	s-c	240	1s	F1	0	Fuse opened, U3, R22, R12, R21, R15 damaged, no hazards.
05	U3 pin C-E	s-c	240	1s	F1	0	Fuse opened, U3, R22, R12, R21 damaged, no hazards.
06	T1 pin A-B winding	over-load	240	3h	F1	0.145	With the winding current overloaded to 2.25A, temperature stable at T1 coil:112°C, T1 core:107°C, no hazards.

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Clause	Requirement – Test					Result - Remark	Verdict
07	Output (+)-(-)	s-c	240	13min	F1	0	Fuse opened, components damaged, maximum T1:112°C, no hazards.
08	Output	over-load	240	3h 30min	F1	0.14	With the output overloaded to 4.8V/2.5A, temperature stable at T1:115°C, no hazards.
Model GT-21088-0615-W2E							
09	D4	s-c	240	1s	F1	0	Fuse opened, no hazards.
10	C9	s-c	240	1s	F1	0	Fuse opened, no hazards.
11	U1 pin 3-4	s-c	240	2h	F1	0.087↔ 0.092	Unit in cycling protection, T1:70°C, no hazards.
12	U1 pin 1-2	s-c	240	45min	F1	0.006↔ 0.072	Unit in cycling protection, T1:49°C, no hazards.
13	HB1 pin 2-4	s-c	240	3s	F1	0	Fuse opened, unit damaged, no hazards.
Model GT-21088-0806-W2E							
14	T1 pin A-B	s-c	240	30min	F1	0.004↔ 0.014	Unit in cycling protection, T1:37°C, no hazards.
15	T1 pin A-B winding	over-load	240	3h	F1	0.128	With the winding current overloaded to 1.7A, temperature stable at T1 coil:92°C, T1 core:87°C, no hazards.
16	Output	over-load	240	4h 30min	F1	0.13	With the output overloaded to 5.8V/1.7A, temperature stable at T1:94°C, no hazards.
Model GT-21088-1010-W2E							
17	T1 pin A-B	s-c	240	30min	F1	0.005↔ 0.016	Unit in cycling protection, T1:40°C, no hazards.
18	T1 pin A-B winding	over-load	240	3h	F1	0.155	With the winding current overloaded to 1.35A, temperature stable at T1 coil:112°C, T1 core:108°C, no hazards.
19	Output (+)-(-)	s-c	240	10min	F1	0.005↔ 0.021	Unit in cycling protection, T1:40°C, no hazards.
20	Output	over-load	240	3h	F1	0.157	With the output overloaded to 9.66V/1A, temperature stable at

IEC 60 950			
Clause	Requirement – Test	Result - Remark	Verdict

							T1:115°C, no hazards.
21	D8	s-c	240	-	F1	-	Unit shut down, no output, no hazards.
Model GT-21088-1012-W2E							
22	T1 pin A-B	s-c	240	30min	F1	0.004↔0.019	Unit in cycling protection, T1:41°C, no hazards.
23	T1 pin A-B winding	over-load	240	3h	F1	0.139	With the winding current overloaded to 1A, temperature at T1 coil:93°C, T1 core:90°C, no hazards.
24	Output (+)-(-)	s-c	240	10min	F1	0.005↔0.011	Unit in cycling protection, T1:35°C, no hazards.
25	Output	over-load	240	3h 30min	F1	0.14	With the output overloaded to 11.88V/1A, temperature stable at T1:94°C, no hazards.
Model GT-21088-1015-W2E							
26	D8	s-c	240	-	F1	-	Unit shut down, no output, no hazards.

Notes:

For fuse opened conditions, same result came out for each source of fuse.

In fault column, where s-c = short-circuited, dis = disconnected.

5.4.10	TABLE: ball pressure test of thermoplastics		P
	required impression diameter (mm) .....:	≤ 2 mm	—
part		test temperature (°C)	impression diameter (mm)
Bobbin material of T1		125	<2
Bobbin material of LF1		125	<2
Plug holder material (GE, type SE1)		125	1.0

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict

APPENDIX	EN 60950:1992+A1:1993:+A2:1993+A3:1995+A4:1997+A11:1997 TEST REPORT (IEC Publication 60950 2nd edition, 1991+Amd.1,1992+Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996) CENELEC common modification, Special National condition, Nation deviation and other information		P
EXPLANATION FOR ABBREVIATIONS C=CENELEC common modification, S=Special National condition, D=National deviation, F=Other information, AT=Austria, GB=Great Britain, CH=Switzerland, DE=Germany, DK=Denmark, FI=Finland, FR=France, NO=Norway, SE=Sweden. P=Pass, F=Fail, N=Not applicable. place in the column to the right.			
1.2.4.1 S	(DK). Certain types of Class I appliances (see § 3.2.1) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets.	~~Direct plug-in equipment.~~ Not applied for	N
1.5.1 D	(SE). Add the following: NOTE: Switches containing mercury such as thermostats, relay and level controllers are not allowed.	No such switch.	N
1.7.2 S	(NO). If separation between the mains and a communication system/network, other than public telecommunication networks, relies upon connection to safety earth, the equipment shall have a marking stating that is must be connected to an earthed mains socket-outlet. NOTE: For requirements for equipment to be connected to a public telecommunication network: See 6.2.1.4.	Class II equipment.	N
1.7.2 S	(SE). If the separation between the mains and a SELV terminal relies upon connection to the safety earth, the apparatus shall have a marking stating that it must be connected to an earthed mains socket-outlet when a SELV circuit is connected to network passing both unearthed and earthed electrical environment. The marking text shall be in Swedish and as follows: "Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk".	Class II equipment.	N
1.7.2 D	(DK). Supply cords of Class I appliances, which are delivered without a plug, must be provided with a visible tag with the following text: "Vigtigt. Lederen med grøn/gul isolation mä Kun tilsluttes en klemme mærket eller". If essential for the safety of the appliance, the tag must in addition be provided with a diagram, which shows the connection of the other conductors,	~~Direct plug-in equipment.~~	N

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Clause	Requirement – Test	Result - Remark	Verdict
	or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning".		
1.7.2 C	Delete note 4.	Deleted.	N
1.7.5 S	(DK). Socket-outlets for providing power to other appliances 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 appliances of Class I.	No socket outlet.	N
1.7.5 D	(DK). Class II appliances shall not be fitted with socket-outlets for providing power to other appliances.	No socket outlet.	N
1.7.14 D	(DE). Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labor equipment, also for imported technical labor equipment shall be written in German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	No technical labor equipment.	N
1.7.17 D	(CH). Annex 4.10 of SR 814.013 (ordinance on environmentally hazardous substances) applies for batteries.	No battery.	N
2.1.3.1 C	Table 0, first column, replace "Over 50" by "Over 350".	Replaced.	N
2.3.3 C	Delete Method 4 and the line in note 1 relating to this method	Deleted.	N
2.3.6 S	(FR). Method 3 is not acceptable.	Method 1 used.	P
2.3.6 C	Delete the note.	Deleted.	N
2.3.7 C	Replace the text of this sub-clause by: Void.	Replaced.	N
2.3.9 S	(NO). Marking and insulation requirements according to this annex, subclauses 1.7.02 and 6.2.01.4 b) apply.	No marking required.	N
2.5.2 S	(DK, NO) add after the first paragraph: " The above exception is not acceptable in Pluggable equipment type A "	No exception applied.	N
2.5.2 C	Delete the note.	Deleted.	N
2.7.1 C	Replace the text of this sub-clause by: Basic requirements: To protect against excess current, short-circuits and earth faults in primary circuits, protective devices shall be included ether as integral parts of the equipment or as a part of the building installation, subject to all of the following a), b), c) and d): (a) Except as detailed in (b) and (c), protective devices necessary to comply with the requirements of Sub-clause 5.4 shall be	Replaced.	P

CENELEC common modification, Special National condition, Nation deviation and other information.

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	included as integral parts of the equipment. (b) For components in series with the mains input to the equipment such as the supply cord, appliance coupler, RFI filter and switch, short circuit and earth fault protection may be provided with protective devices in the installation. (c) It is permitted for equipment with rated current exceeding 16A, which is 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 breaker, is fully specified in the installation instruction (d) If reliance is placed on protection in the building installation, the installation instructions shall comply with Sub-clause 1.7.11 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 and 1.7.11 does not apply.		
2.7.2 C	Replace the text of this sub-clause by: Void.	Replaced.	N
2.8.4 C	Delete the note.	Deleted.	N
2.9.1 S	(NO). Due to the IT power systems used, the mains supply voltage is considered to be equal to the phase-to-phase voltage.	Mains voltage as reference voltage.	P
2.11 C	Delete notes 1,2 and 3.	Deleted.	N
3.2.1 S	(DK). Supply cords of single phase appliances having a rated current not exceeding 10 A shall be provided with a plug according to the Heavy Current Regulations Section 107-2-D1. Class I equipment provided with socket-outlets with earth contacts 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. If poly-phase equipment and single-phase equipment having a rated current exceeding 10A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations Section 107-1-D1 or EN 60309-2.	Direct plug-in equipment.	N
3.2.1 S	(CH). Supply cords of equipment having a rated current not exceeding 10A shall be provided with a plug complying with SEV	Direct plug-in equipment.	N

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	1011 or IEC 60884-1 and one of the following dimension sheets SEV 6532-2,1991 Plug type 15 3P+N+PE 250/400V, 10A SEV 6533-2,1991 Plug type 11 L+N 250V, 10A SEV 6534-2,1991 Plug type 12 L+N+PE 250V, 10A EN 60 309 applies for plugs for currents exceeding 10A		
3.2.1 S	(GB). Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS1363 by means of that flexible cable or cord and plug, shall be fitted with a "standard plug" in accordance with Statutory Instrument 1788:1994 - The Plugs and Sockets etc. (safety) Regulations 1994, unless exempted by those regulations.	Not applied for.	N
3.2.2 C	Delete the note and in table 10, delete the value in parentheses.	Deleted.	N
3.2.4 S	(GB). A power supply cord with conductor of 1.25 mm² is allowed for equipment with rated current over 10 A and up to and including 13 A.	Not applied for.	N
3.2.4 C	Replace "245 IEC 60053" by "H05 RR-F", "227 IEC 60052" by "H03 VV-F or H03 VVH2-F" and "227 IEC 60053" by "H05 VV-F or H05 VVH2-F". In table 11, replace the first four lines by the following: Up to and including 6 0.75" Over 6 up to and including 10 1.0 (0.75)" Over 10 up to and including 16 1.5 (1.0)" In the conditions applicable to table 11, delete the words "in some countries" in condition 1). In the note delete the second sentence.	Direct plug-in equipment.	N
3.2.5 S	(GB). The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10 A and up to and including 13 A is: 1.25 mm² to 1.5 mm² nominal cross-sectional area.	Not applied for.	N
3.3.5 C	In table 13, replace the fourth and the fifth lines by : Over 10 up to and including 16 1.5 to 2.5 1.5 to by 4	Direct plug-in equipment.	N

CENELEC common modification, Special National condition, Nation deviation and other information.

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
4.3.12 C	Amend the third compliance paragraph as follows: For equipment using LEDs or lasers, compliance is checked according to EN 60825-1. Add a note: NOTE: If equipment falling within the scope of EN 60950 is inherently a class 1 laser product i.e. it contains no embedded laser or LED of a higher class number, then a laser warning label or other laser warning statement is not required (see 1.1 of EN 60825-1)	See report IEC 60950.	N
4.3.18 S	(GB). This test should be performed using an appropriate socket-outlet with an earthing contact.	Not applied for.	N
4.4.4 C	Delete note 2.	Deleted.	N
5.4.9 S	(NO). The electric strength test after the tests of 5.4.4, 5.4.5, 5.4.6, 5.4.7 and 5.4.8 includes testing of basic insulation in Class I equipment.	Considered.	P
6.1 S	(CH).Protective means in the equipment shall not prevent transient surge protection in the telecommunication network from operating properly (d.c. spark-over voltage of the surge suppressor installed in the telecommunication network: approx. 245V.)	No connection to TNV.	N
6.2.1.2 C 6.2.1.3 C	Add at the end of each sub-clause: This sub-clause only applies to TNV circuits normally operating in excess of the limits of SELV circuits.	No connection to TNV.	N
6.2.1.4b S	(NO). Insulation between parts conductively connected to the supply mains and parts connected to a public telecommunication network shall comply with the requirements for double or reinforced insulation.	No connection to TNV.	N
6.2.1.4b S	(FI). This method is only permitted for permanently connected equipment or for pluggable equipment type B.	No connection to TNV.	N
6.2.1.4 C	Delete notes.	Deleted.	N
6.2.1.5 S	(NO). Requirements in 6.2.1.4, Note 2, apply	No connection to TNV.	N
6.3.3. S	(NO). 6.3.3 is applicable for pluggable equipment type A and B and for permanently connected equipment	No connection to TNV.	N
6.4.1 C	Delete note 2.	Deleted.	N
6.4.2.1 C	Delete note 2.	Deleted.	N
6.4.2.1 D	(AT). Equipment shall comply with Uc =	No connection to TNV.	N

CENELEC common modification, Special National condition, Nation deviation and other information.

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	2.0KV in cases b) and c).		
Annex H. D	(DE) a) A license is required by those who operate an X-ray emission source. b) A license in accordance with clause 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 1) the local dose rate at a distance of 0.1m from the surface does not exceed 1MSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 KV , if 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 i) X-ray are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local does rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. d) Furthermore, a license in accordance with clause 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 1) the X-rays are generated only intrinsically safety CRTs complying with Enclosure III, No.6, 2) the values stipulated in accordance with Enclosure III, bi, 6.2 are limited by technical	No CRT.	**N**
Annex P C	Replace the text of this annex by: See annex ZA.	Replaced.	**N**

CENELEC common modification, Special National condition, Nation deviation and other information.

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
Annex Q C	Add for IEC 60529: Note: Endorsed by EN 60529:1991 (not modified) Add for IEC 60707 Note: Endorsed by HD441:1983 (not modified) Add for IEC 61058-1: Note: Endorsed by EN 61058:1992 (not modified).	Added.	N

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict

APPENDIX	EMKO-TSE(74-SEC)207/94 TO EN 60950:1992+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997 TEST REPORT (IEC Publication 60950 2nd edition, 1991+Amd.1, 1992+Amd.2, 1993+Amd.3, 1995+Amd.4, 1996) Nordic Explanations, and other information not covered by Appendix EN 60950:1992, +A1:1993+A2:1993+A3:1995+A4:1997+A11:1997.		P
EXPLANATION FOR ABBREVIATIONS NF = Nordic Explanations and other information. DK = Denmark, FI = Finland, NO = Norway, SE = Sweden. P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
1.2.02.01 NF	(DK, FI, NO, SE). The heating test of separate power supplies of personal computers is carried out according to their rated output values marked on the power supplies.	Power supply unit heating test was performed according to the marked ratings.	P
1.5.01 NF	(DK, FI, NO, SE). The following capacitors are accepted across the mains: 1) X1 capacitor which complies with Publication IEC 60384-14. 2) X2 capacitor which complies with Publication IEC 60384-14 and which has been subjected to a pulse test according to § 12.11.2, except the value of the voltage is reduced to 2.5 KV. 3) X2 capacitor which complies with Publication IEC 60384-14 in case the endurance test of § 12.11.2 has been modified so that the resistor of 220Ω through which the voltage of 1000 V rms is applied to the capacitor under test, is short circuited. 4) Capacitor which complies with Publication HD 195 S6, § 14.2.	Complied.	P
1.5.02 NF	(DK, FI, NO, SE). Transient protection components shall be installed in such a way that insulation for protection against electric shock will not be bridge. This means that transient protection components must not be connected to safety earthed parts in pluggable equipment or to other accessible parts.	Class II equipment.	P
	-3.2.3 (DK,FI,NO,SE). Interconnection couplers in accordance with EN 60 320-2-2 are accepted. Outlets of non-standard types are not accepted.	No AC outlet.	N
1.7.01 NF	-1st dash (DK). When supplied in Denmark the appliances shall be set to 230 V .	Included in the voltage range.	P

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	-5th dash (DK). The equipment may instead be provided with a marking indicating name, trade-mark or identify of the responsible vendor.	Refer to CB report page 4 to 6.	P
2.1.04 NF	(DK, FI, NO, SE). For monitors, warning label is not required for repairing area, neither the partial shielding against contact although the voltage is> 42.4 V peak or > 60 V d.c.	No monitor.	N
2.5.11 NF	(DK, FI, NO, SE). Due to installation fuses of 16A, the earth resistance shall always be controlled at 25 A.	Considered.	P
2.6.06 NF	(DK, FI, NO, SE). The plug is regarded to be a disconnect device and therefore a single pole mains switch is acceptable (TC 74-WG 8's recommendation).	No power switch.	N
2.6.11 NF	(DK, FI, NO). The warning label on an appliance with two or several supply connections shall be in the official language of the country in question.	Only one supply from the mains.	N
	(DK, FI, NO). UPS-appliances can be fitted with a signal lamp instead of a warning label, under the condition that the function and location of the signal lamp is correct. Audible signal is not acceptable as warning.	No UPS.	N
2.7.03 NF	(DK, FI, NO, SE). A single-pole protective device is acceptable.	Only one fuse on live phase.	P
2.9.01 NF	(DK, FI, NO, SE). Pollution Degree 3 is considered applicable for the following equipment which is within the scope of this standard: Document Shredder Machines.	No shredding machine.	N
4.2.07 NF	(DK, FI, NO, SE). If there are visible cracks on the apparatus after the mechanical strength test, the apparatus is not rejected, if it still complies with the other requirements of sub-clause 4.2.7.	Complied.	P
4.4.04 NF	(DK,FI). Fire enclosure is required if the available power exceeds the values of a limited power source. The limited power source shall incorporate an isolating transformer and shall comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Supplied from the mains.	N
	(NO). A fire enclosure is not required in spots of the equipment where the available power	Supplied from the mains.	N

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	does not exceeded 50 VA and the available voltage 42.4 V (peak) or 60 V d.c.		
5.4.06 NF	(DK, FI, NO, SE). Faults need not to be carried out in circuits which are supplied by an isolating transformer and which comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Supplied from the mains.	N

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict

APPENDIX	Canadian Deviation (IEC Publication 60950 2nd edition, 1991+Amd.1, 1992+Amd.2, 1993+Amd.3, 1995+Amd.4, 1996)	**P**

EXPLANATION FOR ABBREVIATIONS

P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.

1.1.1	All equipment installations are required to be in accordance with the Canadian Electrical Code (CEC). Part 1, CAN/CSA C22.1.	Complied.	**P**
1.7	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3 wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extended into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than specified "Normal Operating Condition," unless it is part of a range that extends into the "Normal Operating Conditions."	Single phase equipment.	**N**
2.5.9	Terminals for permanent wiring are required to be suitable for U.S./Canadian wire gauge sizes anf be rated 125 percent of the equipment rating.	Direct plug-in equipment.	**N**
2.5.11	The capacity of the connection between the earthing terminal and parts required to be earthed is required to comply with CAN/CSA C22.2 No. 0.4.	Class II equipment.	**N**
2.6.2	Motor control devices are required for cord-connected equipment with a motor if the motor (a) has a nominal voltage rating greater than 120V, (b) in rated more than 12 A, or (c) is rated more than 1/3 hp (locked rotor current over 43 A).	Not motor control device.	**N**
2.6.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No vertically-mounted disconnect switch or circuit breaker.	**N**
2.6.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote	No battery.	**N**

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	power off circuit.		
2.7.1	Suitable NEC/CEC branch circuit protection is required for all standard supply outlets and medium-base or smaller lampholders if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10KVA or more, required transformer overcurrent protection. Panelboards provided as part of information technology equipment are required to have suitable overcurrent protection.	No outlet.	N
2.7.6	Fuses provided in the earthed circuit conductor (neutral) are only permitted for equipment rated 125V. 15 A.	No fuse in neutral or earth conductors.	N
3.1.12	For lengths exceeding 2 m, external interconnecting flexible cord and cable assemblies are required to be suitable cable type (e.g. DP, CLZ) described in the NEC.	Direct plug-in equipment.	N
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC and CEC.	Direct plug-in equipment.	N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Direct plug-in equipment.	N
3.2.2	Permanent connection of equipment to the mains by a power supply cord is not permitted.	Direct plug-in equipment.	N
3.2.4	Power supply cords are required to be not longer than 4.5 m in length. Flexible power supply cords are required to be compatible with article 400 of the NEC and Table 12 of the CEC.	Direct plug-in equipment.	N
3.2.8	Permanently connected equipment is required to have a suitable wiring compartment and wiring bending space.	Direct plug-in equipment.	N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CAN/CSA No. 0.	No wire binding screws.	N
3.3.3	Wiring binding screws are not permitted to attach conductors larger than 10 AWG (5.3mm²).	No wire binding screws.	N
4.3.12	Equipment with lasers is required to meet Code of Federal Regulations 21 CFR 1040 and Canadian Radiation Emitting Devices Act, REDR C 1370.	No laser.	N

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National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
4.4.1	For computer room application, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	No automated information storage system.	**N**
4.4.4	For computer room applications, enclosures with combustible material measuring greater than 0.9 m^2 or a single dimension greater than 1.8 m, are required to have flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Enclosure with smaller dimensions.	**N**
4.4.8	The maximum quantity of flammable liquid stored in equipment is required to meet NFPA 30.	No liquid.	**N**
	Other differences		
1.5	Components of equipment must be suitable for the application, and must comply with the requirements of the equipment standard and the Canadian or U.S. components standards, as far as they may apply. The acceptance will be based on the following: A) A component certified by a Canadian or U.S. NCB to a Canadian or U.S. component standard will be checked for correct application and use in accordance with its specified rating. Where necessary, it will also be subjected to the applicable tests of the equipment standard. B) A component which has a CB Test Certificate for compliance with a relevant IEC component standard will be checked for correct application and use in accordance with its specified ratings. Where necessary, it will also be subjected to the applicable tests of the equipment standard, and to the applicable tests of the Canadian and U.S. component standard, under the conditions occurring in the equipment. C) A component which has no approval as in A) or B) above or which is used not in accordance its specified ratings, will be subjected to the applicable tests of the equipment standard, and to the applicable tests of the Canadian or U.S. component standard, under the conditions occurring in the	Components UL/CSA approved, see component list 1.5.1.	**P**

Canadian Deviation

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	equipment. D) Some components may require annual re-testing which may be carried out by the manufacturer, CSA or another laboratory.		
3.4	Equipment connected to a centralized d.c. power system is required to meet special earthing wiring and marking requirements.	No connection to centralized d.c. power system.	N
4.1.6	Wall and ceiling mounted equipment is required to comply with special loading tests.	No wall or ceiling mounted equipment.	N
4.1.7	Equipment with handles is required to comply with special loading tests.	No handles.	N
4.2.9	Enclosures around C.R.T´s having a diagonal dimension of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	N
4.3.18	Direct plug-in equipment is required to comply with UL 1310 or CAN/CSA C22.2 No. 223 mechanical assembly requirements.	Complied.	P
6.2.1.1	The maximum acceptable TNV circuit levels for other than ringing signals are: normal condition- (Uac/42.4 + Udc/42.4 <=1 for Udc <=21.2 (Uac/32.8 + Ude/60)<= 1 for Udc >21.2 abnormal conditions- (Uac < 770.0 + Udc/120) <=1	No connection to TNV.	N
6.4.3	Equipment connected to a telecommunications network and supplied with an earphone intended to be held against the ear is required to comply with special acoustic pressure tests.	No connection to TNV.	N
6.4.4	Equipment intended to receive telecommunication ringing signals is required to comply with special leakage current measurement tests.	No connection to TNV.	N
6.5	Equipment intended to provided power over the telecommunication wiring system is required to limit output current to values which will not damage the telecommunication wiring system.	No connection to TNV.	N
6.6	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage.	No connection to TNV.	N

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict

APPENDIX	National deviations US for IEC 60950 (1991) 2nd Addition, Amendment No.1 (1992), Amendment No. 2 (1993), Amendment No. 3 (1995) and Amendment No. 4 (1996) The following US national deviations are based on the requirements of the US National Electrical Code (NEC) ANSI/NFPA 75.		P
EXPLANATION FOR ABBREVIATIONS P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
1.1.1	All equipment installations are required to be in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	P
1.7.1	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240V, 3-wire) require a special marking format for electrical rating. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions". Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions", unless it is part of a range that extends into the "Normal Operating Conditions".	Single phase.	N
2.5.9	Terminals for permanent wiring are required to be suitable for U.S./Canadian wire gauge sizes and be rated 125 percent of the equipment rating.	Direct plug-in equipment.	N
2.5.11	The capacity of the connection between the earthing terminal and parts required to be earthed is required to comply with CAN/CSA C22.2 No. 0.4.	Class II equipment.	N
2.6.2	Motor control devices are required for cord-connected equipment with a motor if the motor (a) has a nominal voltage rating greater than 120V, (b) is rated more than 12A, or (c) is rated more than 1/3 hp (locked rotor current over 43A).	No motor control device.	N
2.6.8	Vertically mounted disconnect switches and circuit breakers are required to have the position indicated by the handle in the up position	No vertically-mounted disconnect switch or circuit breaker.	N
2.6.11	For computer room applications, equipment	No battery.	N

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	with battery systems capable of supplying 750VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		
2.7.1	Suitable NEC branch circuit protection is required for all standard supply outlets and medium-base or smaller lampholders within information technology equipment if the supply branch-circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10kVA or more, require transformer overcurrent protection. Panelboards provided as part of information technology equipment are required to have suitable overcurrent protection.	No standard supply outlets or medium-base or smaller lampholders.	N
2.7.6	Fuses provided in the earthed circuit conductor (neutral) are only permitted for equipment rated 125V, 15A.	No fuse in neutral or earth conductors.	N
3.1.12	For lengths exceeding 2m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g. DP, CL2) described in the NEC.	Direct plug-in equipment.	N
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC and CEC.	Direct plug-in equipment.	N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Direct plug-in equipment.	N
3.2.2	Permanent connection of equipment to the mains by a power supply cord is not permitted.	Direct plug-in equipment.	N
3.2.4	Power supply cords are required to be no longer than 4.5m in length. Flexible power supply cords are required to be of a type per Article 400 of the NEC.	Direct plug-in equipment.	N
3.2.8	Permanently connected equipment is required to have a suitable wiring compartment and wiring bending space.	Direct plug-in equipment.	N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	No wiring terminals.	N
3.3.3	Wire binding screws are not permitted to attach supply conductors larger than 10 AWG (5.3mm^2).	No wire binding screws.	N
4.3.12	Equipment with lasers is required to meet Code of Federal Regulations 21CFR 1040 and	No laser.	N

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	Canadian Radiation Emitting Devices Act, REDR C1370.		
4.4.1	For computer room applications, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	No automated information storage system.	N
4.4.4	For computer room applications, enclosures with combustible material greater than 0.93mm² or having a single dimension greater than 1.8m are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Enclosure with smaller dimensions.	N
4.4.8	The maximum quantity of flammable liquid stored in equipment is required to meet NFPA 30.	No liquid.	N
The following US national deviations are based on the requirements other than national regulatory requirements:			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, cathode ray tubes, circuit breakers, communication circuit accessories, cord sets and power supply cords, enclosures (outdoor), flexible cords and cables, fuses, fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, lampholders, limit controls, printed wiring, protectors for communication circuits, receptacles, solid state controls, supplementary protectors, surge suppressors, switches, thermal cutoffs, thermostats, tubing, wire connectors, and wire and cables.	See component list clause 1.5.1.	P
3.4	Equipment connected to a centralized d.c. power system is required to meet special earthing, wiring and marking requirements.	No connection to centralized d.c. power system.	N
4.1.6	Wall and ceiling mounted equipment is required to comply with special loading tests.	No wall or ceiling mounted equipment.	N
4.1.7	Equipment with handles is required to comply with special loading tests.	No handles.	N
4.2.9	Enclosures around CRT's with a face area of 160mm or more are required to reduce the risk	No CRT.	N

National Deviation			
Clause	Requirement – Test	Result - Remark	Verdict
	of injury due to the implosion of the CRT.		
4.3.18	Direct plug-in equipment's required to comply with UL 1310 or CAN/CSA C22.2 No. 223 mechanical assembly requirements.	Complied.	P
6.2.1.1	The maximum acceptable TNV circuit levels for other than ringing signals are: normal conditions: $(U_{ac}/42.4 + U_{dc}/42.4) <= 1$ for $U_{dc} <= 21.2$ $(U_{ac}/32.8 + U_{dc}/60) <= 1$ for $U_{dc} <= 21.2$ abnormal conditions: $(U_{ac}/70.7 + U_{dc}/120) <= 1$	No connection to TNV.	N
6.4.3	Equipment connected to a telecommunication network and supplied with an earphone intended to be held against the ear is required to comply with special acoustic pressure tests.	No connection to TNV.	N
6.4.4	Equipment intended to receive telecommunication ringing signals is required to comply with special leakage current measurement tests.	No connection to TNV.	N
6.5	Equipment intended to provide power over the telecommunication wiring system is required to limit output current to values which will not damage the telecommunication wiring system.	No connection to TNV.	N
6.6	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage.	No connection to TNV.	N