

## **COVER PAGE FOR TEST REPORT**

Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
Product Category CCN:	QQGQ, QQGQ7
Test Procedure:	Listing
Product:	Switching Adapter
Model/Type Reference:	GT-51084-12N12
Rating(s):	Input: 120Vac, 60Hz, 0.95A/230Vac, 50Hz, 1.05A; Output unit is marked Pin 1: +12Vdc 0.25A; Pin 3: -12Vdc 0.25A; Pin 4: common.
Standards:	UL 60950-1, 1st Edition, 2006-07-07 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Applicant Name and Address:	GLOBTEK INC 186 VETERANS DR NORTHVALE NJ 07647
This Report includes the following parts, in addition to this cover page:	
<ol style="list-style-type: none"><li>1. Specific Inspection Criteria</li><li>2. Specific Technical Criteria</li><li>3. Clause Verdicts</li><li>4. Critical Components</li><li>5. Test Results</li><li>6. National Differences</li><li>7. Enclosures</li></ol>	

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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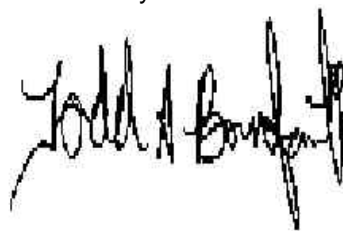
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Test Report By:



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Reviewed By:





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## SPECIFIC INSPECTION CRITERIA

BA1.0	<b>Special Instructions to UL Representative</b>
BA1.1	N/A

BB1.0	<b>Supporting Documentation</b>
BB1.1	<p>The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:</p> <p>A. Authorization - The Authorization page may include additional Factory Identification Code markings.</p> <p>B. Generic Inspection Instructions -</p> <ol style="list-style-type: none"> <li>i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.</li> <li>ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.</li> <li>iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.</li> </ol>

BC1.0	<b>Markings and instructions</b>	
BC1.1	The following markings and instructions are provided as indicated.	
BC1.2	All clause references are from UL 60950-1, 1st Edition, 2006-07-07 (Information Technology Equipment - Safety - Part 1: General Requirements).	
Standard Clause	Clause Title	Marking or Instruction Details
1.7.1	Power rating - Ratings	Ratings (voltage, frequency/dc, current)
	Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
	Power rating - Model	Model Number
1.7.8.3	Symbols - On/Off switch	All other controls to be marked with  symbol for "ON" (60417-2-IEC-5007) and  symbol for "OFF" (60417-2-IEC-5008)
Other	Annex NAA, clause 1.5.5: Output other than	Unit is marked Pin 1: +12Vdc 0.25A; Pin 3: -12Vdc 0.25A; Pin 4: common.

	TNV or LPS shall be marked with circuit characteristics.	
	V select sw	marked "115" or "230" or "120" or "240" depending on v select setting

BD1.0	<b>Production-Line Testing Requirements</b>						
BD1.1	Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.						
	Model	Component	Removable Parts	Test probe location	Test Potential		
					V rms	V dc	Test Time, s
	N/A						
BD1.2	Earthing Continuity Test Exemptions - This test is not required for the following models:						
BD1.3	Electric Strength Test Exemptions - This test is not required for the following models:						
BD1.4	Electric Strength Test Component Exemptions - The following solid-state components may disconnected from the remainder of the circuitry during the performance of this test:						

BE1.0	<b>Sample and Test Specifics for Follow-Up Tests at UL</b>					
BE1.1	Model	Component	Material	Test	Sample(s)	Test Specifics
	N/A					

## SPECIFIC TECHNICAL CRITERIA

<b>UL 60950-1, First Edition Information technology equipment - Safety- Part 1: General Requirements</b>	
Report Reference No .....	E170507-A20-UL-1
Compiled by .....	Juan Calderon
Reviewed by .....	Todd Bonfanti
Date of issue .....	2008-01-08
Standards .....	UL 60950-1, 1st Edition, 2006-07-07 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Test procedure .....	Listing
Non-standard test method .....	N/A
<b>Test item</b> description .....	Switching Adapter
Trademark .....	None
Model and/or type reference .....	GT-51084-12N12
Rating(s) .....	Input: 120Vac, 60Hz, 0.95A/230Vac, 50Hz, 1.05A; Output unit is marked Pin 1: +12Vdc 0.25A; Pin 3: -12Vdc 0.25A; Pin 4: common.

<b>Particulars: test item vs. test requirements</b>	
Equipment mobility .....	movable
Operating condition .....	continuous
Mains supply tolerance (%) .....	+6%, -10% for when rated 120 and 230vac +10%, -10% for when rated
Tested for IT power systems .....	No
IT testing, phase-phase voltage (V) .....	N/A
Class of equipment .....	Class I (earthed)
Mass of equipment (kg) .....	0.5
Protection against ingress of water .....	IP X0

<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	N / A
- test object does meet the requirement .....	Pass
- test object does not meet the requirement .....	Fail (acceptable only if a corresponding, less stringent national requirement is "Pass")

**General remarks:**

- "(see Enclosure #)" refers to additional information appended to the Test Report
- "(see appended table)" refers to a table appended to the Test Report
- Throughout the Test Report a point is used as the decimal separator

<b>GENERAL PRODUCT INFORMATION:</b>	
CA1.0	<b>Report Summary</b>
CA1.1	N/A
CB1.0	<b>Product Description</b>
CB1.1	The product covered by this report is a cord-connected type power supply intended to be used for information technology equipment in TN power systems and are for indoor use only. It consists of an isolated transformer with electronic circuitry housed in a thermoplastic enclosure. It is also provided with appliance inlet and a length of output cord (located in SELV) terminated with a molded-on non-standard polarized output connector for output connection. The unit is provided with a voltage selector switch.
CC1.0	<b>Model Differences</b>
CC1.1	N/A
CD1.0	<b>Additional Information</b>
CD1.1	N/A
CE1.0	<b>Technical Considerations</b>
CE1.2	The product was submitted and tested for use at the maximum ambient temperature (T <sub>ma</sub> ) permitted by the manufacturer's specification of: 40°C
CE1.3	The means of connection to the mains supply is: Detachable power cord, Pluggable A
CE1.4	The product is intended for use on the following power systems: TN
CE1.5	The equipment disconnect device is considered to be: Appliance inlet
CE1.14	The following are available from the Applicant upon request: Specific data sheets for LED indicators that are class I and operate at wavelength in the 400-710 nm range and, Installation (Safety) Instructions / Manual
CE2.0	The output of this unit is SELV less than 240VA

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	<b>GENERAL</b>		Pass
1.5	Components		Pass
1.5.1	General		Pass
	Comply with IEC 60950 or relevant component standard	(See Critical Component List)	Pass
1.5.2	Evaluation and testing of components	<p>Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this Standard.</p> <p>Components not certified are used in accordance with their ratings and they comply IEC 60950-1 and the relevant component Standard.</p> <p>Components, for which no relevant IEC Standard exist, have been tested under the condition occurring in the equipment, using applicable parts of IEC 60950-1.</p>	Pass
1.5.3	Thermal controls		Pass
1.5.4	Transformers	Transformers comply with relevant requirements including Annex C.	Pass
1.5.5	Interconnecting cables	(See Critical Component List)	Pass
1.5.6	Capacitors in primary circuits .....	No such components.	N/A
1.5.7	Double insulation or reinforced insulation bridged by components	No such components.	N/A
1.5.7.1	General		N/A
1.5.7.2	Bridging capacitors		N/A
1.5.7.3	Bridging resistors		N/A
1.5.7.4	Accessible parts		N/A
1.5.8	Components in equipment for IT power systems	Not for use on IT power systems.	N/A
1.6	<b>Power interface</b>		Pass



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.1	AC power distribution systems	AC power distribution systems are classified as TN.	Pass
1.6.2	Input current	The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under NORMAL LOAD. See Test Record for details.	Pass
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment .	N/A
1.6.4	Neutral conductor	Neutral conductor is insulated from secondary circuitry as if it were a line conductor.	Pass

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

1.7	<b>Marking and instructions</b>		Pass
1.7.1	Power rating	Rating marking readily visible to operator.	Pass
	Rated voltage(s) or voltage range(s) (V) .....	120Vac, 60Hz/ 230Vac, 50Hz	Pass
	Symbol for nature of supply, for d.c. only .....	AC source	N/A
	Rated frequency or rated frequency range (Hz) ....	60/50 Hz	Pass
	Rated current (mA or A).....	0.95 at 120vac; 1.05 at 230vac	Pass
	Manufacturer's name or trademark or identification mark .....	Globtek Inc.	Pass
	Type/model or type reference.....	GT-51084-12N12	Pass
	Symbol for Class II equipment only .....		N/A
	Other symbols.....	Additional marking may be provided when submitted for national approval.	Pass
	Certification marks .....	UL, c-UL.	Pass
1.7.2	Safety instructions	Operating/safety instructions made available to the user.	Pass
1.7.3	Short duty cycles	Continuous operation.	N/A
1.7.4	Supply voltage adjustment.....	Marked "115 or 230" depending on the orientation of the switch	Pass
1.7.5	Power outlets on the equipment .....	No standard power outlets are provided.	N/A
1.7.6	Fuse identification .....	No such components.	N/A
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals .....		N/A
1.7.7.2	Terminal for a.c. mains supply conductors	Not Permanently connected equipment	N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		Pass
1.7.8.1	Identification, location and marking .....	No indicator, control affecting safety provided.	N/A
1.7.8.2	Colours.....		N/A
1.7.8.3	Symbols according to IEC 60417 .....	The mains switch is marked with the symbols: "0" and "I" (60417-1-IEC-5007 and IEC-	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

		5008).	
1.7.8.4	Markings using figures..... :	Figures are not used for indicating different positions of controls.	N/A
1.7.9	Isolation of multiple power sources ..... :	There is only one connection to hazardous voltages.	N/A
1.7.10	IT power distribution systems	Not intended to use IT Power System	N/A
1.7.11	Thermostats and other regulating devices	No thermostats or similar regulating devices intended to be adjusted during installation or in normal use.	N/A
1.7.12	Language..... :	Reviewed only English markings/instructions.	-
1.7.13	Durability	All markings provided on UL Recognized Component labels suitable for surface they are applied upon and meet the durability test.	Pass
1.7.14	Removable parts	Marking is not placed on removable parts.	Pass
1.7.15	Replaceable batteries	No batteries provided.	N/A
	Language..... :		-
1.7.16	Operator access with a tool ..... :	No operator access areas require the use of a tool.	N/A
1.7.17	Equipment for restricted access locations..... :		N/A

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

2	<b>PROTECTION FROM HAZARDS</b>		Pass
2.1	Protection from electric shock and energy hazards		Pass
2.1.1	Protection in operator access areas		Pass
2.1.1.1	Access to energized parts	See below	Pass
	Test by inspection..... :	Unit is fully enclosed with openings less than 1mm in width	N/A
	Test with test finger..... :	The test finger was unable to contact bare hazardous parts, basic insulation, or ELV circuits.	Pass
	Test with test pin..... :	The test pin cannot touch hazardous voltage through and openings or seams of the hole enclosure.	Pass
	Test with test probe ..... :	No TNV present.	N/A
2.1.1.2	Battery compartments..... :		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V); minimum distance (mm) through insulation ..... :	See 2.10.3 and 2.10.4 Table of clearance and creepage distance measurements.	-
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards..... :	The output of the power supply is not an energy hazard.	Pass
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	The unit does not employ line to line capacitors.	N/A
	Time-constant (s); measured voltage (V) ..... :		-
2.1.2	Protection in service access areas	Hazardous bare parts are guarded and unintentional contact with such parts is unlikely during servicing operations involving other parts of the equipment.	Pass
2.1.3	Protection in restricted access locations		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

2.3	<b>TNV circuits</b>		N/A
2.3.1	Limits	No such circuits.	N/A
	Type of TNV circuits .....		-
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed.....		-
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....		-
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....		-
2.3.5	Test for operating voltages generated externally		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.4	<b>Limited current circuits</b>		N/A
2.4.1	General requirements	No such circuits.	N/A
2.4.2	Limit values		N/A
	Frequency (Hz) .....		-
	Measured current (mA) .....		-
	Measured voltage (V) .....		-
	Measured capacitance (mF) .....		-
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	<b>Limited power sources</b>		N/A
	Inherently limited output	No such circuits.	N/A
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition		N/A
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (V), output current (A), apparent power (VA): .....		-
	Current rating of overcurrent protective device (A):		-

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Clause	Requirement + Test	Result - Remark	Verdict

2.6	<b>Provisions for earthing and bonding</b>		Pass
2.6.1	Protective earthing	Functional earthing only. See 2.6.2 for more details.	N/A
2.6.2	Functional earthing	Unit not provided with Protective Bonding only Functional earthing, separated from Hazardous voltage by reinforced insulation.	Pass
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		-
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		-
2.6.3.4	Resistance (Ohm) of earthing conductors and their terminations, test current (A) .....		N/A
2.6.3.5	Colour of insulation .....		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type and nominal thread diameter (mm) .....		-
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

<b>2.7</b>	<b>Overcurrent and earth fault protection in primary circuits</b>		Pass
2.7.1	Basic requirements	Protection provided as part of the building installation.	Pass
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3		N/A
2.7.3	Short-circuit backup protection	Building installation is considered as providing short-circuit backup protection.	Pass
2.7.4	Number and location of protective devices..... :	One protective device in the "LIVE" phase	Pass
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel .....		N/A

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



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Clause	Requirement + Test	Result - Remark	Verdict

2.9	<b>Electrical insulation</b>		Pass
2.9.1	Properties of insulating materials	Natural rubber, hygroscopic materials and materials containing asbestos are not used as insulating materials. Electric strength test was conducted after the humidity treatment. See below.	Pass
2.9.2	Humidity conditioning	Humidity treatment performed to 48 hrs.	Pass
	Humidity (%) .....	30C	-
	Temperature (°C).....	30°C	-
2.9.3	Grade of insulation	Primary to Secondary: Reinforced;	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

2.10	<b>Clearances, creepage distances and distances through insulation</b>		Pass
2.10.1	General	Pollution degree 2 applicable.	Pass
2.10.2	Determination of working voltage		Pass
2.10.3	Clearances	See appended table.	Pass
2.10.3.1	General	Measured distances are adequate.	Pass
2.10.3.2	Clearances in primary circuit	See appended table.	Pass
2.10.3.3	Clearances in secondary circuits		Pass
2.10.3.4	Measurement of transient voltage levels		N/A
2.10.4	Creepage distances	See appended table.	Pass
	CTI tests.....: Material Group I.		-
2.10.5	Solid insulation	Solid (Transformer Bobbin) insulation having adequate thickness are provided.	Pass
2.10.5.1	Minimum distance through insulation	See appended table.	Pass
2.10.5.2	Thin sheet material	Two layers used, each of which complies with the required electric strength test.	Pass
	Number of layers (pcs) .....: Two layers of polyester tape provided as outer wrap on primary and secondary winding of transformer.		-
	Electric strength test .....: Electric strength conducted on one layer of tape at 3000 Vac.		-
2.10.5.3	Printed boards	PWB is not used as reinforced or supplementary insulation.	N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material .....: -		-
	Number of layers (pcs) .....: N/A		N/A
2.10.5.4	Wound components	No such component.	N/A
	Number of layers (pcs) .....: N/A		N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....: N/A		N/A
2.10.6	Coated printed boards	No coated printed wiring boards.	N/A
2.10.6.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C) .....		N/A
2.10.6.5	Electric strength test .....		-
2.10.6.6	Abrasion resistance test		N/A
	Electric strength test .....		-
2.10.7	Enclosed and sealed parts .....		N/A
	Temperature T1=T2 = Tma - Tamb +10K (°C).....		N/A
2.10.8	Spacings filled by insulating compound.....	No such component.	N/A
	Electric strength test .....		-
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3	<b>WIRING, CONNECTIONS AND SUPPLY</b>		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection	All internal wiring used in the distribution of primary power protected against overcurrent and short circuit by suitably rated protective devices.	Pass
3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	Pass
3.1.3	Securing of internal wiring	The wires are positioned in such a manner that prevents excessive strain, loosening of terminal connections and damage of conductor insulation.	Pass
3.1.4	Insulation of conductors	Insulation on internal conductors considered to be of adequate quality and suitable for the application and working voltages involved.	Pass
3.1.5	Beads and ceramic insulators	The equipment does not have any beads or similar insulators.	N/A
3.1.6	Screws for electrical contact pressure	The equipment does not have any screw-type connections.	N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections. Machine screws only.	N/A
3.1.9	Termination of conductors		Pass
	10 N pull test		N/A
3.1.10	Sleeving on wiring	Sleeving is not used as supplementary insulation. Sleeving is used to retain wiring terminations.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.2	<b>Connection to an a.c. mains supply or a d.c. mains supply</b>		Pass
3.2.1	Means of connection	The unit is provided with an appliance inlet.	Pass
3.2.1.1	Connection to an a.c. mains supply	The equipment is provide with an appliance inlet for connection of a DETACHABLE POWER SUPPLY CORD;	Pass
3.2.1.2	Connection to a d.c. mains supply	For connection to the AC mains only.	N/A
3.2.2	Multiple supply connections	Single mains supply	N/A
3.2.3	Permanently connected equipment	The equipment is not permanently connected.	N/A
	Number of conductors, diameter (mm) of cable and conduits..... :		-
3.2.4	Appliance inlets	See critical componet list for details.	Pass
3.2.5	Power supply cords	See critical componet list for details.	Pass
3.2.5.1	AC power supply cords	See critical componet list for details.	Pass
	Type..... :	SVT or SJT	-
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG..... :	minimum 18AWG.	-
3.2.5.2	DC power supply cords	Not for connection to the DC mains.	N/A
3.2.6	Cord anchorages and strain relief	The equipment employs a detachable power supply cord.	N/A
	Mass of equipment (kg), pull (N)..... :		-
	Longitudinal displacement (mm)..... :		-
3.2.7	Protection against mechanical damage	The equipment employs a detachable power supply cord.	N/A
3.2.8	Cord guards	The equipment employs a detachable power supply cord. Cord guards not required.	N/A
	D (mm); test mass (g)..... :		-
	Radius of curvature of cord (mm)..... :		-
3.2.9	Supply wiring space	The equipment employs a detachable power supply cord.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.3	<b>Wiring terminals for connection of external conductors</b>		N/A
3.3.1	Wiring terminals	Not permanently connected equipment.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ) .....		-
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type and nominal thread diameter (mm) .....		-
3.3.6	Wiring terminals design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.4	<b>Disconnection from the mains supply</b>		Pass
3.4.1	General requirement		Pass
3.4.2	Disconnect devices	Appliance inlet.	Pass
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	No parts remain energized when the disconnect device is removed.	N/A
3.4.5	Switches in flexible cords	No isolating switch in the cord set.	N/A
3.4.6	Single-phase equipment and d.c. equipment	Disconnect device disconnects all poles simultaneously.	Pass
3.4.7	Three-phase equipment	The equipment is single-phased.	N/A
3.4.8	Switches as disconnect devices	A switch is not considered the disconnect device.	N/A
3.4.9	Plugs as disconnect devices	The plug on the power cord is not considered the disconnect device.	N/A
3.4.10	Interconnected equipment	No interconnection of hazardous voltages.	N/A
3.4.11	Multiple power sources	One power source only.	N/A

3.5	<b>Interconnection of equipment</b>		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits .....	Interconnection circuits are SELV CIRCUITS.	Pass
3.5.3	ELV circuits as interconnection circuits		N/A

4	<b>PHYSICAL REQUIREMENTS</b>		Pass
4.1	Stability		Pass
	Angle of 10°	Due to low center of gravity Test was waived.	Pass
	Test: force (N) .....	The equipment is not floor-standing or does not weigh over 25 kg. Test was waived.	N/A

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

4.2	<b>Mechanical strength</b>		Pass
4.2.1	General	See below	Pass
4.2.2	Steady force test, 10 N	Based on construction, the test was deemed not necessary.	Pass
4.2.3	Steady force test, 30 N	The equipment does not have any internal enclosures.	N/A
4.2.4	Steady force test, 250 N	No hazards as a result of the 250 N test.	Pass
4.2.5	Impact test	No hazards as a result of the Impact test.	Pass
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test	Unit is not hand-held, direct plug-in, or transportable.	N/A
4.2.7	Stress relief test	No indication of shrinkage or distortion on enclosures due to the stress relief test (102°C/7 h). See enclosed test record.	Pass
4.2.8	Cathode ray tubes	The equipment does not have any CRT's	N/A
	Picture tube separately certified .....		N/A
4.2.9	High pressure lamps	The equipment does not have any high pressure lamps.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....		N/A



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Clause	Requirement + Test	Result - Remark	Verdict

4.3	<b>Design and construction</b>		Pass
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N) .....		N/A
4.3.3	Adjustable controls	The voltage selector is recessed so that a tool must be used.	Pass
4.3.4	Securing of parts	All hazardous parts are fixed to retain position in event of termination failure.	Pass
4.3.5	Connection of plugs and sockets	The equipment does not have any interchangeable plugs/sockets.	N/A
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Dimensions (mm) of mains plug for direct plug-in . :		N/A
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N) .....		N/A
4.3.7	Heating elements in earthed equipment	The equipment does not have any heating elements.	N/A
4.3.8	Batteries	The equipment does not have any batteries.	N/A
4.3.9	Oil and grease	The insulation of the internal wiring is not exposed to oil, grease, etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce or employ powders, liquids, or gases.	N/A
4.3.11	Containers for liquids or gases	The equipment does not contain liquid.	N/A
4.3.12	Flammable liquids..... :	The equipment does not use any flammable liquids.	N/A
	Quantity of liquid (l)..... :		N/A
	Flash point (°C)..... :		N/A
4.3.13	Radiation; type of radiation	Ionising radiation or laser or in which similar hazards are not presents.	N/A
4.3.13.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....		-
	Measured high-voltage (kV).....		-
	Measured focus voltage (kV) .....		-
	CRT markings .....		-
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification .....		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation.....		N/A
4.3.13.5	Laser (including LEDs)		N/A
	Laser class.....		-
4.3.13.6	Other types .....		N/A

4.4	<b>Protection against hazardous moving parts</b>		N/A
4.4.1	General	The equipment does not employ any hazardous moving part.	N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A

4.5	<b>Thermal requirements</b>		Pass
4.5.1	Maximum temperatures	The equipment and its component parts did not attain excessive temperatures during normal operation.	Pass
	Normal load condition per Annex L .....	See appended table for details.	Pass
4.5.2	Resistance to abnormal heat	Bobbin RTI is rated min 130 deg C, based on this test not necessary	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.6	<b>Openings in enclosures</b>		Pass
4.6.1	Top and side openings	Openings above hazardous parts do not exceed 1mm in width.	N/A
	Dimensions (mm)..... :	<1mm in width	-
4.6.2	Bottoms of fire enclosures	Openings of 40 mm <sup>2</sup> only under materials of class V-1 or HF-1 minimum.	Pass
	Construction of the bottom..... :	<1mm in width under a V-1 PWB with no components above these openings ( or within a 5 deg projection)	-
4.6.3	Doors or covers in fire enclosures	The equipment does not have any doors or covers.	N/A
4.6.4	Openings in transportable equipment	Unit not transportable.	N/A
4.6.5	Adhesives for constructional purposes	Adhesives not used for securement of internal barriers or screens.	N/A
	Conditioning temperature (°C)/time (weeks) ..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict

4.7	<b>Resistance to fire</b>		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Method 1: Selection and application of components and materials which minimize the possibility of ignition and spread of flame.	Pass
	Method 1, selection and application of components wiring and materials		Pass
	Method 2, application of all of simulated fault condition tests	Method 1	N/A
4.7.2	Conditions for a fire enclosure		Pass
4.7.2.1	Parts requiring a fire enclosure	Components in primary and secondary circuits are provided with fire enclosure.	Pass
4.7.2.2	Parts not requiring a fire enclosure	Fire enclosure covers all parts.	Pass
4.7.3	Materials		Pass
4.7.3.1	General	See below.	Pass
4.7.3.2	Materials for fire enclosures	Equipment is moveable with mass less than 18 kg. Fire enclosure material is V-1 minimum.	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures	Decorative parts and parts outside of the fire enclosure are made of minimum HB material.	Pass
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated V-2 or better or are mounted on a PWB rated V-1 or better.	Pass
4.7.3.5	Materials for air filter assemblies	No air filter assemblies.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components	N/A

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

5	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General	Touch current levels did not exceed limits of Table 5A.	Pass
5.1.2	Equipment under test (EUT)	Single mains connection.	Pass
5.1.3	Test circuit	Test circuit of Figure 5A used.	Pass
5.1.4	Application of measuring instrument	Measuring circuit of Annex D used.	Pass
5.1.5	Test procedure	Touch current was measured from primary to enclosure and primary to output.	Pass
5.1.6	Test measurements	RMS value measured.	Pass
	Test voltage (V) .....	254Vac	-
	Measured touch current (mA) .....	0.005mA	-
	Max. allowed touch current (mA) .....	0.25mA	-
	Measured protective conductor current (mA) .....		-
	Max. allowed protective conductor current (mA) ...		-
5.1.7	Equipment with touch current exceeding 3.5 mA ..		N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks	No TNV circuit.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system	No TNV circuit.	N/A
	Test voltage (V) .....		-
	Measured touch current (mA) .....		-
	Max. allowed touch current (mA) .....		-
5.1.8.2	Summation of touch currents from telecommunication networks .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	<b>Electric strength</b>		Pass
5.2.1	General	Based on the electric strength test the use of the insulating materials within the equipment is satisfactory.	Pass
5.2.2	Test procedure	No insulation breakdown detected during the test.	Pass

5.3	<b>Abnormal operating and fault conditions</b>		Pass
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	Pass
5.3.2	Motors	The equipment does not have any motors.	N/A
5.3.3	Transformers	Transformers are protected by thermal protection integral to the transformer.	Pass
5.3.4	Functional insulation .....	Functional insulation complies with the requirements (a) or (c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults	See appended table.	Pass
5.3.7	Unattended equipment	The equipment is not intended for unattended use.	N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal or deformation was noted during the tests. Electric Strength tests performed after abnormal and fault tests.	Pass

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

6	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	No TNV circuit.	N/A
	Test voltage (V) .....		-
	Current in the test circuit (mA) .....		-
6.1.2.2	Exclusions.....		N/A

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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



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Clause	Requirement + Test	Result - Remark	Verdict

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

<b>C</b>	<b>Annex C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		Pass
	Position .....	T1	-
	Manufacturer.....	HER-48-324	-
	Type.....	Linear	-
	Rated values.....	See critical component list	-
	Method of protection .....	Thermal protection provided as an integral part of the primary wiring.	-
C.1	Overload test		Pass
C.2	Insulation	Insulation complies with Clauses 2.10 and 5.2.2.	Pass
	Protection from displacement of windings.....	three piece Split bobbin construction.	Pass

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

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

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

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

L	<b>Annex L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)</b>		Pass
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	One output loaded to +12Vdc, 0.25A and other to -12Vdc, 0.25A	Pass

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

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

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

P	<b>Annex P, NORMATIVE REFERENCES</b>		Pass
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Q	<b>Annex Q, BIBLIOGRAPHY</b>		Pass
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R	<b>Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		N/A
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R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N/A
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R.2	Reduced clearances (see 2.10.3)		N/A
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S	<b>Annex S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		N/A
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S.1	Test equipment		N/A
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S.2	Test procedure		N/A
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S.3	Examples of waveforms during impulse testing		N/A
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T	<b>Annex T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		N/A
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U	<b>Annex U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		N/A
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	<b>TABLE: list of critical components</b>					Pass
Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
Enclosure	SABIC INNOVATIVE PLASTICS US L L C	SE 100 or SE 100H	Rated V-1, 2.7mm thick minimum.	QMFZ2	UL	
Appliance Inlet	Inalways	0711	Rated 15A, 250Vac, 90C, secured to chassis by locking tabs.	AXUT2	UL	
Appliance Inlet - Alternate -	Rong Feng	SS-120	Rated 15A, 250Vac, 105C, secured to chassis by locking tabs.	AXUT2	UL	
Output Cord	Lumberg	RSMV 3-657/2M	Style 2661, rated min 60vdc, 105C, for external interconnection of electronic equipment.	AVLV2	UL	
Output Cord Strain Relief	Various	Various	Molder onto Output Cord. See diagram 2 for details. Mounted on a rectangular hole measuring approx. 7.3mm by 9.8mm	--	--	
Internal Wire	Various	Various	Rated minimum 80°C, 300V. PVC, TFE, PTFE, FEP, surface marked VW-1. All internal wire is "J" hooked and shrink tubing.	AVLV, AVLV2	--	
Functional Earthing Conductor	Various	Various	Green or green/yellow wire, minimum No. 18 AWG, secured to core via screw, nut and lock washer	AVLV, AVLV2	UL	
Insulating Tubing/Sleeving	Various	Various	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; rated 105°C, 300 V.	UZFT2, YDPU2, YDRY2, YDTU2	---	
Printed Wiring Board	Various	Various	Rated minimum V-1, 105°C.	ZPMV2	UL	

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

Transformer (T1)	Globtek	HER-48-324	Split bobbin construction. Class B. See diagram 1 for details	--	--	
Transformer Thermal Fuse	Joint Force Metal Research and Co., Ltd.	L33	Rated 1A/250Vac; 2.5A/125vac, TH: 100C; TF: 130C; TM: 165C	XCMQ2	UL	
Insulation System	Globtek	Viking B-2	Class B	OBJY2	UL	
Core (T1)	Various	Various	Silicon Stamping H1850A	--	--	
Bobbin (T1)	E I DUPONT DE NEMOURS & CO INC	101L	type "Zytel" , rated V2, 130C, 0.85 min. thick.	QMFZ2	UL	
Insulating Tape (T1)	3M	1350 or 1350F-1 or 1 or 1350T	Polyester tape, 0.056 mm thick, rated 130°C.	OANZ2	UL	
Insulating Tape (T1) – alternate -	Various	Various	Polyester tape, min. 0.025 mm thick, rated 130°C.	OANZ2	UL	
Hest Sink for IC2 and IC3	Globtek	HEA-48-3X	Aluminum, minimum 2 mm thick. See enclosure for detailed dimensions . See diagram 3 for details	--	--	
Label	Various	Various	60 °C, for mounting on plastic materials.	PGDQ2	UL	
Voltage Regulator (IC2)	KEC	KIA7805P/PI	TO-220 package, secured to heatsink via screw, nut and lock washer, output rated +12Vdc, 1A	--	--	
Voltage Regulator (IC2)	Various	Various	TO-220 package, secured to heatsink via screw, nut and lock washer, output rated +12Vdc, 1A.	--	--	
Voltage Regulator (IC3)	STMicroeletronics	L7921ACV	TO-220 package, secured to heatsink via screw, nut and lock washer, output rated -12Vdc, 1.5A	--	--	
Voltage Regulator (IC3) - Alternate	Various	Various	TO-220 package, secured to heatsink via screw, nut and lock	--	--	



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Clause	Requirement + Test	Result - Remark	Verdict

			washer, output rated -12Vdc, 1.5A			
Switch	Various	Various	Rated 250vac, 2 Amps. Secured to chassis via pressure (snap) fit.	WOYR2	UL	
Voltage Selector Switch	Legions Electronic Co. Inc.	VS34	Rated 12A, 125/250Vac, 60Hz, 55°C, secured to chassis via two screws. One on each end.	WOYR2	UL	
Voltage Selector Switch – Alternate -	Various	Various	Rated 12A, 125/250Vac, 60Hz, 55°C, secured to chassis via two screws. One on each end.	WOYR2	UL	
Power supply cord (molded-on fittings)	Various	Various	Type SVT, SJT AWG, 125V, 18AWG, max 4.5 m long; One end with NEMA 5-15P. Other end (with appliance coupler) (connected to unit)	ELBZ	UL	
Diode (D4-D7)	Various	Various	Schottky Diode, rated 1A, max. RMS 28V, forward voltage 0.60V	--	--	

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Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: electrical data (in normal conditions)						Pass
fuse #	I rated (A)	U (V)	P (W)	I (mA)	I fuse (mA)	condition/status	
-	-	108/60Hz	10.3	115.3	-	Maximum normal load	
-	0.95	120/60Hz	11.7	121.6	-	Maximum normal load	
-	-	128/60Hz	12.7	127.6	-	Maximum normal load	
-	-	207/50Hz	10.1	62.0	-	Maximum normal load	
-	1.05	230/50Hz	11.6	72.3	-	Maximum normal load	
-	-	253/50Hz	13.8	95.7	-	Maximum normal load	
supplementary information:							
Max normal load=Output unit is marked Pin 1: +12Vdc 0.25A; Pin 3: -12Vdc 0.25A; Pin 4: common.							

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements						Pass
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)	
Transformer model HER-48-324	-	-	-	-	-	-	
Pin 4 to 3S	9.6	6.28	4mm	Min measured 4mm	5mm	Min measured 5mm	
Pin 4 to 3TP	6.4	3.66	4mm	Min measured 4mm	5mm	Min measured 5mm	
Pin 4 to 3F	4.0	1.79	4mm	Min measured 4mm	5mm	Min measured 5mm	
Pin 2 to 3S	168	115.9	4mm	Min measured 4mm	5mm	Min measured 5mm	
Pin 2 to 3TP	168	116.6	4mm	Min measured 4mm	5mm	Min measured 5mm	
Pin 2 to 3F	168	117.1	4mm	Min measured 4mm	5mm	Min measured 5mm	
Pin 1 to 3S	328	232.7	4mm	Min measured 4mm	6.8mm	Min. measured 6.8mm	
Pin 1 to 3TP	328	233.4	4mm	Min measured 4mm	6.8mm	Min. measured 6.8mm	
Pin 1 to 3F	328	234.0	4mm	Min measured	6.8mm	Min. measured	

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Clause	Requirement + Test	Result - Remark	Verdict

pri to selv	328	250	4mm	4mm Min measured 4mm	5mm	6.8mm Min. measured 5mm
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supplementary information:

For working voltages less than the input rated voltage the input rated voltage was used to determine clearance and creepage values. (JC/10.29.07)

2.10.5	TABLE: distance through insulation measurements				Pass
distance through insulation di at/of:	Up (V)	test voltage (V)	required di (mm)	di (mm)	
Transformer model HER-48-324	-	-	-	-	-
Pin 4 to 3S	6.28	253Vac	0.4mm	0.9mm (bobbin)	
Pin 4 to 3TP	3.66	253Vac	0.4mm	0.9mm (bobbin)	
Pin 4 to 3F	1.79	253Vac	0.4mm	0.9mm (bobbin)	
Pin 2 to 3S	115.9	253Vac	0.4mm	0.9mm (bobbin)	
Pin 2 to 3TP	116.6	253Vac	0.4mm	0.9mm (bobbin)	
Pin 2 to 3F	117.1	253Vac	0.4mm	0.9mm (bobbin)	
Pin 1 to 3S	232.7	253Vac	0.4mm	0.9mm (bobbin)	
Pin 1 to 3TP	233.4	253Vac	0.4mm	0.9mm (bobbin)	
Pin 1 to 3F	234.0	253Vac	0.4mm	0.9mm (bobbin)	
supplementary information:					
Split bobbin construction.					

4.5	TABLE: temperature rise measurements					Pass
test voltage (V) .....	See below	See below	See below	See below	See below	—
t1 (°C).....	-	-	-	-	-	—
t2 (°C).....	-	-	-	-	-	—

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Clause	Requirement + Test	Result - Remark	Verdict

maximum temperature T of part/at:	T (°C)					allowed Tmax (°C)
	108/60Hz	128/60hz	208/50hz	253/50hz	253V/253V (50hz all)	
-						-
Ambient	23.0	23.0	23.0	23.0	23.0/23.0	-
2 Inside of top enclosure above IC3 heatsink	30.9	40.6	31.2	47.8	47.1/46.6	80
3 Transformer primary coil	52.9	64.6	47.9	80.2	80.5/80.0	95
4 Transformer secondary coil	52.9	64.7	48.6	77.6	77.6/77.5	95
5 Transformer core	51.8	61.9	46.8	74.2	74.1/73.7	95
6 C3 case	37.6	51.6	38.4	61.3	60.8/60.3	105
7 PCB near IC3	39.5	55.4	40.3	65.8	65.5/65.0	90
8 Outside of enclosure in between AC inlet and switch	28.0	30.3	26.5	33.4	33.8/33.2	80
9 PCB underneath C8	47.7	61.2	46.8	71.8	71.8/71.2	90
10 Sleeving over LED wire	37.7	51.2	38.1	60.5	60.5/59.2	-
11 Switch's PCB	33.1	37.2	31.2	43.2	43.5/43.1	90
12 Middle of inlet inside the unit	35.3	39.9	33.0	46.7	46.9/46.6	90
13 Inside of top enclosure above T1 core	52.6	62.6	47.6	75.2	75.4/74.9	80
14 PWB near D4	51.2	63.2	49.3	74.0	74.2/73.6	90
15 Outside enclosure directly above IC2 heatsink	30.2	37.7	31.2	45.3	45.2/41.9	80
temperature T of winding:		R <sub>1</sub> (Ω)	R <sub>2</sub> (Ω)	T (°C)	allowed Tmax (°C)	insulation class
-		-	-	-	-	-
supplementary information:						
Allowed Tmax limit adjusted to 40C TMRA. see input test for maximum normal loading						

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

4.7	<b>TABLE: resistance to fire</b>			Pass
part	manufacturer of material	type of material	thickness(mm)	flammability class
Top and bottom	SABIC INNOVATIVE	SE 100 or SE 100H	2.7mm	V-1 minimum

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Clause	Requirement + Test	Result - Remark	Verdict

enclosure	PLASTICS US L L C		
supplementary information:			
-			

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests	Pass
test voltage applied between:	test voltage (V) a.c./d.c.	breakdown Yes / No
Primary to secondary (output of power supply) – After Humidity condition	3000	No
Primary to core – After humidity condition	3000	No
Two layers of insulation (Split bobbin construction) – After Transformer/Insulation Electric Strength Test	3000	No
Primary winding to SELV winding – After Transformer/Insulation Electric Strength Test	3000	No
Primary winding to core – After Transformer/Insulation Electric Strength Test	3000	No
Bobbin wall – After Transformer/Insulation Electric Strength Test	3000	No
Primary / Output of power supply After Electric strength test	3000	No
Primary / core – After Electric strength test	3000	No
Primary to secondary (output of power supply) – After C8 component failure	3000	No
Primary to core – After C8 component failure	3000	No
Primary to secondary (output of power supply) – After C5 component failure	3000	No
Primary to core – After C5 component failure	3000	No
Primary to secondary (output of power supply) – After C4 component failure	3000	No
Primary to core – After C4 component failure	3000	No
Primary to secondary (output of power supply) – After IC2 (short input to output) component failure	3000	No
Primary to core – After IC2 (short input to output) component failure	3000	No
Primary to secondary (output of power supply) – After top vents blocked abnormal operation test	3000	No
Primary to core – After top vents blocked abnormal operation test	3000	No
Primary to secondary (output of power supply) – After bottom vents blocked abnormal operation test	3000	No
Primary to core – After bottom vents blocked abnormal operation test	3000	No
Primary to secondary (output of power supply) – After voltage selector set to 115Vac input voltage 230Vac abnormal operation test	3000	No
Primary to core – After voltage selector set to 115Vac input voltage 230Vac abnormal operation test	3000	No

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Clause	Requirement + Test	Result - Remark	Verdict
	Primary to secondary – After transformer abnormal operation Short Winding #1B with winding 1A loaded to -12Vdc, 0.25A.	3000	No
	Primary to core – After transformer abnormal operation Short Winding #1B with winding 1A loaded to -12Vdc, 0.25A.	3000	No
	Primary to secondary – After transformer abnormal operation Short Winding #1A with winding 1A loaded to -12Vdc, 0.25A.	3000	No
	Primary to core – After transformer abnormal operation Short Winding #1A with winding 1A loaded to -12Vdc, 0.25A.	3000	No
	Primary to secondary – After transformer abnormal operation Overload Winding #1B with winding 1A loaded to -12Vdc, 0.25A.	3000	No
	Primary to core – After transformer abnormal operation Overload Winding #1B with winding 1A loaded to -12Vdc, 0.25A.	3000	No
	Primary to secondary – After transformer abnormal operation Overload Winding #1A with winding 1A loaded to -12Vdc, 0.25A.	3000	No
	Primary to core – After power supply output short-circuit/overload test Short -12Vdc	3000	No
	Primary to secondary – After power supply output short-circuit/overload test Short - 12Vdc	3000	No
	Primary to core – After power supply output short-circuit/overload test short +12Vdc.	3000	No
	Primary to secondary – After power supply output short-circuit/overload test Short +12Vdc.	3000	No
	Primary to core – After power supply output short-circuit/overload test Overload +12Vdc.	3000	No
	Primary to secondary – After power supply output short-circuit/overload test Overload +12Vdc.	3000	No
	Primary to core – After power supply output short-circuit/overload test Overload -12Vdc.	3000	No
	Primary to secondary – After power supply output short-circuit/overload test Overload -12Vdc.	3000	No
supplementary information:			
-			

5.3	TABLE: fault condition tests	Pass
	ambient temperature (°C) ..... : 23C	—
	model/type of power supply ..... : GT-51084-12N12	—
	manufacturer of power supply ..... : Globtek Inc	—
	rated markings of power supply ..... : Input: 120Vac, 60Hz/230Vac, 50Hz	—

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Clause	Requirement + Test	Result - Remark	Verdict

component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
Component failure test	-	-	-	-	-	-
C8	Short	240Vac/50Hz	0:01:20	-	-	NC,NT,NB open primary fuse on transformer  8/21/07 23.0(C 52%RH 1003mb MaxT1 temps: T1 pri winding101.3Deg C T1 sec winding63.5Deg C T1 core winding50.2Deg C
C5	Short	240Vac/50Hz	0:02:00	-	-	NC,NT,NB open primary fuse on transformer.  8/27/07 22.5(C 51%RH 1003mb MaxT1 temps: T1 pri winding127.6Deg C T1 sec winding88.4Deg C T1 core winding52.1Deg C
Abnormal operation Test	-	-	-	-	-	-
Top vents	Blocked	253Vac, 50Hz	4hr	-	-	NT,NC,NB  See also heating test for temp results
Bottom vents	Blocked	253Vac, 50Hz	4hr	-	-	NT,NC,NB  See also heating test for temp results
Voltage Selector	set 115vac	240Vac, 50Hz	1hr	-	-	8/27/07 22.5(C 51%RH 1003mb NT,NC,NB In addition, please measure the following: +12Vdc to -12Vdc 0-0.2S max V_4.0/12.0 Vdc, after 0.2 S max V4.0/12.0Vdc  Sample output = 0.0 after 10s
Transformer abnormal operation	-	-	-	-	-	-

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Clause	Requirement + Test	Result - Remark	Verdict

test						
Winding #1B	Short with winding 1A loaded to -12Vdc, 0.25A. #4	240Vac, 50 hz	10min.	-	-	NT,NC,NB Tran. Fuse open. MaxT1 temps: T1 pri winding119.8Deg C T1 sec winding99.4Deg C T1 core winding81.5Deg C
Winding #1A	Short with winding 1B loaded to +12Vdc, 0.25A. #5	240Vac, 50 hz	7min	-	-	NC,NT,NB Tran. Fuse open.  MaxT1 temps: T1 pri winding119.8Deg C T1 sec winding90.8Deg C T1 core winding76.6Deg C
Winding #1B	Overload with winding 1A loaded to -12Vdc, 0.25A.	240Vac, 50 hz	2hr	-	-	MaxT1 temps: T1 pri winding113.7Deg C T1 sec winding84.6Deg C T1 core winding106.0Deg C T1 between thermal fuse and winding132.4 Deg. C max overload current 1.19A NC,NT,NB
Winding #1A	Overload with winding 1B loaded to +12Vdc, 0.25A. #5	240Vac, 50 hz	2hr	-	-	MaxT1 temps: T1 pri winding111.8Deg C T1 sec winding81.7Deg C T1 core winding104.3Deg C T1 between thermal fuse and winding130.5 Deg. C max overload current 1.23A NC,NT,NB
Power supply output short-circuit/overload test	-	-	-	-	-	-
-12Vdc output	Short #3	240Vac, 50 hz	1hr	-	-	MaxT1 temps: T1 pri winding65.2Deg C T1 sec winding95.3Deg C T1 core winding78.6Deg C  max overload current 1.5A NC,NT,NB
+12Vdc output	Short #3	240Vac, 50 hz	1hr	-	-	MaxT1 temps: T1 pri winding53.1Deg C T1 sec winding79.3Deg C T1 core winding63.2Deg C NC,NT,



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Clause	Requirement + Test	Result - Remark	Verdict

						max short circuit current 1.2A NC,NT,NB
-12Vdc output	Overload	240Vac, 50 hz	2hr	-	-	MaxT1 temps: T1 pri winding131.8Deg C T1 sec winding112.8Deg C T1 core winding120.2Deg C T1 between thermal fuse and winding134.5 Deg. C max short circuit current 0.76A  NC,NT,NB
+12Vdc output	Overload	240Vac, 50 hz	2hr	-	-	MaxT1 temps: T1 pri winding113.4Deg C T1 sec winding88.7Deg C T1 core winding107.3Deg C T1 between thermal fuse and winding131.7Deg. C max overload current 1.0A NC,NT,NB

supplementary information:

Results Key: IP = Internal protection operated (component indicated) CT = Constant temperatures were obtained TW = Transformer winding opened CD = Components damaged (damaged components indicated) NB = No indication of dielectric breakdown pri to selv 3000VAC, YB = Dielectric breakdown (time and location indicated) NC = Cheesecloth remained intact YC = Cheesecloth charred or flamed NT = Tissue paper remained intact YT = Tissue paper charred or flamed

**Enclosure**  
**National Differences**

**USA / Canada**

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

<b>USA / Canada - Differences to IEC 60950-1:2001, First Edition</b>			
1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part1, and when applicable, the National Electrical Safety Code, IEEE C2.		Pass
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.		Pass
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.	No such equipment.	N/A
1.1.2	Special requirements apply to equipment intended for use outdoors.	Not for outdoor use.	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20 A.	20A assumed.	Pass
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of CSA and UL component standards in Annex P.1.	(See Critical Component List)	Pass
1.5.1	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of CSA and UL component standards in Annex P.2.	(See Critical Component List)	Pass
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.	(See Critical Component List)	Pass
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.	Power supply is marked Pin 1: +12Vdc, 0.25A; Pin 3 -12Vdc, 0.25A; Pin 4: Common.	Pass
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC and CEC.	Cable less than 3.05m.	N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable.	Non-detachable.	N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.		N/A
1.5.5	Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233.	No such wire.	N/A
1.6.1.2	Equipment intended for connection to a d.c. power	For direct connection to AC	N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	(mains) distribution system is subject to special circuit classification requirements (e.g., TNV-2)	mains supply.	
1.6.1.2	Earthing of d.c. powered equipment provided.		N/A
1.7	Lamp replacement information indicated on lampholder in operator access area.		N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor.		N/A
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions.		N/A
1.7.6	Special fuse replacement marking for operator accessible fuses.		N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor.	See 2.6.2.	N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.		N/A
1.7.7	Marking located adjacent to terminals and visible during wiring.		N/A
2.1.1	Screw shell of Edison-base lampholder tied to the neutral conductor.		N/A
2.1.1.1	Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover.		N/A
2.3.1.b	Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4.		N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the maximum current limit through a 2000 Ohm or greater resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions.		N/A
2.3.1.b	Limits for measurements across 5000 ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.		N/A
2.3.2	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and		N/A

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

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SubClause	Difference + Test	Result - Remark	Verdict
3.1.1	Permissible combinations of internal wiring/external cable sizes for overcurrent and short circuit protection.		N/A
3.1.1	All interconnecting cables protected against overcurrent and short circuit.		N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1.		Pass
3.2.1	Permitted use for flexible cords and plugs.		Pass
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.	Plug rated 15A, maximum equipment is rated 1.05A.	Pass
3.2.1	Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.	The equipment is not provided with a outlet.	N/A
3.2.1.2	Equipment intended for connection to DC mains supply power systems complies with special wiring requirements (e.g., no permanent connection to supply by flexible cord).	For connection to the AC mains only.	N/A
3.2.1.2	Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing		N/A
3.2.1.2	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.		N/A
3.2.1.2	Special markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to earthing conductor at the equipment.		N/A
3.2.1.2	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment.		N/A
3.2.1.2	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.		N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system	The equipment is not permanently connected.	N/A

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

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



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	readily visible.		
4.3.13.5	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370).		N/A
4.7	Automated information storage equipment intended to contain more than 0.76 m <sup>3</sup> of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.		N/A
4.7.3.1	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics. Low smoke-producing characteristics evaluated according to UL 2043. Equipment for installation in space used for environmental air as described in Sec. 300-22(c) of the NEC provided with instructions indicating suitability for installation in such locations.		N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m <sup>2</sup> or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications.		N/A
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent.		Pass
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.	No TNV circuit.	N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.		N/A
5.3.6	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.	See appended table	Pass
5.3.6	Tests interrupted by opening of a component repeated two additional times.		N/A
5.3.8.1	Test interrupted by opening of wire or trace subject to certain conditions.	No opening of wire or trace	N/A
6	Specialized instructions provided for telephones that may be connected to a telecommunications network.	No TNV circuit.	N/A
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.		N/A

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

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