

## **COVER PAGE FOR TEST REPORT**

Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment		
Product Category CCN:	QQGQ2, QQGQ8		
Test Procedure:	Component Recognition		
Product:	Switching Power Supplies		
Model/Type Reference:	1096 Family: GT-21096-1003-A.B-CC GT-21096-1505-A.B-CC GT-21096-1506-A.B-CC GT-21096-1509-A.B-CC GT-21096-1512-A.B-CC GT-21096-1815-A.B-CC GT-21096-1818-A.B-CC GT-21096-1824-A.B-CC		
	The models listed here are the standard models which the custom versions are based on. Custom units are obtained using the optional "A.B" modifier. The "CC" modifier describes type of input connection. See Model Differences for details.		
Rating(s):	Input (all models): 100-240 V ac, 60/50 Hz, 0.5 A max		
	Output:		
	1096 Model	Vdc	A
	GT-21096-1003-A.B-CC	3.3	2.6
	GT-21096-1505-A.B-CC	5.0	2.6
	GT-21096-1506-A.B-CC	6.0	2.5
	GT-21096-1509-A.B-CC	9.0	1.7
	GT-21096-1512-A.B-CC	12.0	1.25
	GT-21096-1815-A.B-CC	15.0	1.2
	GT-21096-1818-A.B-CC	18.0	1.0
	GT-21096-1824-A.B-CC	24.0	0.75
	See Model Differences for further details.		
Standards:	UL 60950-1:2003, First Edition CSA C22.2 No. 60950-1-03 1st Ed. April 1, 2003		
Applicant Name and Address:	GLOBTEK INC 186 VETERANS DR NORTHVALE NJ 07647		

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

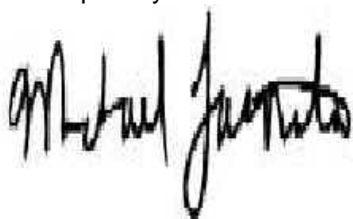
1. Specific Inspection Criteria
2. Specific Technical Criteria
3. Clause Verdicts
4. Critical Components
5. Test Results
6. National Differences
7. Enclosures

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.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

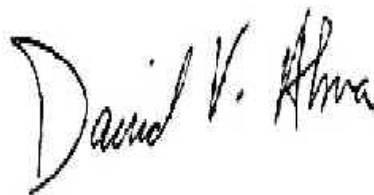
UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Test Report By:



Michael Lavorata  
Senior Project Engineer  
Underwriters Laboratories Inc.

Reviewed By:



Charles Comparetto  
Senior Project Engineer  
Underwriters Laboratories Inc.

## **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> <ul 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> </ul>

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 60950-1:2003, First Edition.	
Standard Clause	Clause Title	Marking or Instruction Details
Other	Output connector polarity	Positive and negative of barrel connector are indicated
	1.7.1 Power rating - Ratings	Ratings (voltage, frequency/dc, current)
	1.7.1 Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File
	1.7.1 Power rating - Model	Model Number
	1.7.1 Power rating - Class II symbol	Symbol for Class II construction

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.						
					Test Potential		
	Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
	None	--	--	--	--	--	--
BD1.2	Earthing Continuity Test Exemptions - This test is not required for the following models:			None			
BD1.3	Electric Strength Test Exemptions - This test is not required for the following models:			None			
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:			None			

BE1.0	<b>Sample and Test Specifics for Follow-Up Tests at UL</b>					
BE1.1	Model	Component	Material	Test	Sample(s)	Test Specifics
	None	--	--	--	--	--

## **SPECIFIC TECHNICAL CRITERIA**

<b>UL 60950-1, First Edition</b> <b>Information technology equipment - Safety-</b> <b>Part 1: General Requirements</b>																													
Report Reference No .....	E170507-A2-UL-2																												
Compiled by .....	Michael Lavorata																												
Reviewed by .....	Charles Comparetto																												
Date of issue .....	2005-04-11																												
Standards .....	UL 60950-1:2003, First Edition CSA C22.2 No. 60950-1-03 1st Ed. April 1, 2003																												
Test procedure .....	Component Recognition																												
Non-standard test method .....	N/A																												
<b>Test item</b> description .....	Switching Power Supplies																												
Trademark .....																													
Model and/or type reference .....	1096 Family: GT-21096-1003-A.B-CC GT-21096-1505-A.B-CC GT-21096-1506-A.B-CC GT-21096-1509-A.B-CC GT-21096-1512-A.B-CC GT-21096-1815-A.B-CC GT-21096-1818-A.B-CC GT-21096-1824-A.B-CC  The models listed here are the standard models which the custom versions are based on. Custom units are obtained using the optional "A.B" modifier. The "CC" modifier describes type of input connection. See Model Differences for details.																												
Rating(s) .....	Input (all models): 100-240 V ac, 60/50 Hz, 0.5 A max  Output: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">1096 Model</th> <th style="text-align: left;">Vdc</th> <th style="text-align: left;">A</th> </tr> </thead> <tbody> <tr> <td>GT-21096-1003-A.B-CC</td> <td>3.3</td> <td>2.6</td> </tr> <tr> <td>GT-21096-1505-A.B-CC</td> <td>5.0</td> <td>2.6</td> </tr> <tr> <td>GT-21096-1506-A.B-CC</td> <td>6.0</td> <td>2.5</td> </tr> <tr> <td>GT-21096-1509-A.B-CC</td> <td>9.0</td> <td>1.7</td> </tr> <tr> <td>GT-21096-1512-A.B-CC</td> <td>12.0</td> <td>1.25</td> </tr> <tr> <td>GT-21096-1815-A.B-CC</td> <td>15.0</td> <td>1.2</td> </tr> <tr> <td>GT-21096-1818-A.B-CC</td> <td>18.0</td> <td>1.0</td> </tr> <tr> <td>GT-21096-1824-A.B-CC</td> <td>24.0</td> <td>0.75</td> </tr> </tbody> </table>		1096 Model	Vdc	A	GT-21096-1003-A.B-CC	3.3	2.6	GT-21096-1505-A.B-CC	5.0	2.6	GT-21096-1506-A.B-CC	6.0	2.5	GT-21096-1509-A.B-CC	9.0	1.7	GT-21096-1512-A.B-CC	12.0	1.25	GT-21096-1815-A.B-CC	15.0	1.2	GT-21096-1818-A.B-CC	18.0	1.0	GT-21096-1824-A.B-CC	24.0	0.75
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See Model Differences for further details.

**Particulars: test item vs. test requirements**

Equipment mobility .....: for building-in  
Operating condition .....: continuous  
Mains supply tolerance (%) .....: +10%, -10%  
Tested for IT power systems .....: No  
IT testing, phase-phase voltage (V) .....: N/A  
Class of equipment .....: Class I or Class II  
Mass of equipment (kg) .....: 0.08  
Protection against ingress of water .....: IP X0

**Possible test case verdicts:**

- test case does not apply to the test object .....: N / A
- test object does meet the requirement .....: 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 unit intended to provide power to and intended for use with Information Technology equipment.
CC1.0	<b>Model Differences</b>
CC1.1	<p>Differences within the families are limited to minor component changes to determine output voltage and current.</p> <p>The 1096 Family models are represented by the following nomenclature:</p> <p>GT-21096-YYZZ-A.B-CC</p> <p>where:</p> <p>GT-2 designates versions with UL 60950-1, 1st Ed.;</p> <p>1096 is the family designation;</p> <p>YYZZ output parameter designations as seen in the standard model list for both families;</p> <p>A.B designates the optional deviation, subtracted from standard output voltage in 0.1 volt increments;</p> <p>CC designates physical configuration and input plug configuration - F = open-frame, Class I input, FW = open-frame, Class II input (See Note 1).</p> <p>Note 1 - Class I and Class II Input connectors are identical except that the Earth pin is removed on the Class II units.</p>
CD1.0	<b>Additional Information</b>
CD1.1	<p>Units were tested to comply with IEC/UL 60950-1 1st Edition and IEC/UL 60601-1 1st Edition levels. Where test procedures or acceptable limits were more stringent in one standard, data taken was considered acceptable for both standards' requirements.</p> <p>All testing was performed on the GlobTek 1089 Family of power supplies and is considered acceptable for the 1096 Family; which are electrically identical to the 1096 Family; the differences are as follows:</p> <p>1) The 1089 Family is provided with an enclosure; the 1096 Family is open-frame.</p> <p>2) The 1089 Family is provided with an appliance inlet; the 1096 Family is provided with Molex connectors for input and output connections.</p>
CE1.0	<b>Technical Considerations</b>
CE2.0	The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tmra) of: 30°C



CE2.1	The product is intended for use on the following systems: TN
CE2.2	The equipment disconnect device is considered to be: To be determined in the end-product.
CE2.3	The following circuit locations (with circuit/schematic designation) were investigated as a limited power source: Output, all units in family
CE2.4	The power supply means are: Pluggable A
CE2.5	The following "D3" deviations from the Standard were applied for the purposes of US/Canada certification: Limited Power measurement (Table 2B/C Note 3)
CF1.0	<b>Engineering Conditions of Acceptability</b>
CF1.1	For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.  When installed in an end-product, consideration must be given to the following:
CF2.0	Consideration shall be given to performing the following tests in the end product evaluation: a) Touch Current Measurements, b) Temperature Tests, and c) Dielectric Voltage Withstand Tests.
CF2.1	The following Production-Line tests are conducted for this product: Electric Strength, Earthing Continuity
CF2.2	The end-product Electric Strength Test is to be based upon a maximum working voltage of: 173.5Vrms, 400.0Vpk
CF2.3	The following secondary output circuits are SELV: All outputs, all units in family
CF2.4	The power supply terminals and/or connectors are: Not investigated for field wiring
CF2.5	The maximum investigated branch circuit rating is: 20 A
CF2.6	The investigated Pollution Degree is: 2
CF2.7	An investigation of the bonding terminals as protective earthing terminals has: Been conducted
CF2.8	The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): T1 (Class B, 130°C)
CF2.9	The following end-product enclosures are required: Mechanical, Fire, Electrical

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

1	<b>GENERAL</b>		Pass
1.5	Components		Pass
1.5.1	General		N/A
	Comply with IEC 60950 or relevant component standard		Pass
1.5.2	Evaluation and testing of components		Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers		Pass
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors in primary circuits .....	Line-to-line capacitors are subclass X1 or X2.	Pass
1.5.7	Double insulation or reinforced insulation bridged by components		Pass
1.5.7.1	General		Pass
1.5.7.2	Bridging capacitors	A single capacitor complying with IEC 60384-14:1993, subclass Y1 is employed.	Pass
1.5.7.3	Bridging resistors		N/A
1.5.7.4	Accessible parts	To be determined in the end-product.	N/A
1.5.8	Components in equipment for IT power systems	Not evaluated for use in an IT power system.	N/A

1.6	<b>Power interface</b>		Pass
1.6.1	AC power distribution systems		Pass
1.6.2	Input current	(see appended table 1.6.2)	Pass
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		Pass

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

1.7	<b>Marking and instructions</b>		Pass
1.7.1	Power rating		N/A
	Rated voltage(s) or voltage range(s) (V) .....	100-240Vac	Pass
	Symbol for nature of supply, for d.c. only .....		N/A
	Rated frequency or rated frequency range (Hz).....	50/60	Pass
	Rated current (mA or A) .....	1.0A	Pass
	Manufacturer's name or trademark or identification mark.....	GlobTek Inc.	Pass
	Type/model or type reference .....	1096 Family: GT-21096-1003-A.B-CD GT-21096-1505-A.B-CD GT-21096-1506-A.B-CD GT-21096-1509-A.B-CD GT-21096-1512-A.B-CD GT-21096-1815-A.B-CD GT-21096-1818-A.B-CD GT-21096-1824-A.B-CD	Pass
	Symbol for Class II equipment only .....	60417-1-IEC-5172 symbol marked.	Pass
	Other symbols .....	Output connector pinout provided.	Pass
	Certification marks.....		N/A
1.7.2	Safety instructions	Safety instructions not provided.	N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment .....	Equipment is auto-ranging.	N/A
1.7.5	Power outlets on the equipment.....		N/A
1.7.6	Fuse identification.....		N/A
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals.....	Unit is intended for building-in; to be investigated in the end-use product.	N/A
1.7.7.2	Terminal for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking .....		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.8.2	Colours .....		N/A
1.7.8.3	Symbols according to IEC 60417 .....		N/A
1.7.8.4	Markings using figures.....		N/A
1.7.9	Isolation of multiple power sources .....		N/A
1.7.10	IT power distribution systems	Unit not investigated for use in IT system.	N/A
1.7.11	Thermostats and other regulating devices	No thermostats or other regulating devices employed.	N/A
1.7.12	Language.....	No safety instructions or equipment markings are required.  Reviewed only English markings.	-
1.7.13	Durability		N/A
1.7.14	Removable parts	No removable parts employed.	N/A
1.7.15	Replaceable batteries	No replaceable batteries employed.	N/A
	Language.....		-
1.7.16	Operator access with a tool .....	Unit is intended for building-in; to be investigated in the end-use product.	N/A
1.7.17	Equipment for restricted access locations.....	Unit is intended for building-in; to be investigated in the end-use product.	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	Unit is intended for building-in; to be investigated in the end-use product.	N/A
	Test by inspection..... :		N/A
	Test with test finger ..... :		N/A
	Test with test pin..... :		N/A
	Test with test probe ..... :		N/A
2.1.1.2	Battery compartments ..... :		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V); minimum distance (mm) through insulation ..... :		-
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards ..... :	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		Pass
	Time-constant (s); measured voltage (V) ..... :	The Maximum voltage obtained after testing Models GT-21089-1305-T3, GT-21089-1818-T3, and GT-21089-1524-T3, from Line to Neutral, Line to Earth, and Neutral to Earth was 24.6V.	-
2.1.2	Protection in service access areas	Unit is intended for building-in; to be investigated in the end-use product.	N/A
2.1.3	Protection in restricted access locations	Not evaluated for use in restricted access locations.	N/A

IEC 60950-1			
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 71V peak and 120Vdc and do not exceed 42.4V peak or 60V dc for more than 0.2 sec.	Pass
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)		Pass
2.2.3.2	Separation by earthed screen (method 2)		N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N/A
2.2.4	Connection of SELV circuits to other circuits .....		N/A

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

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

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

2.5	<b>Limited power sources</b>		Pass
	Inherently limited output		Pass
	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) .....	5V models: 5.20Vdc, 4.75A, 23.0W 24V models: 23.61Vdc, 1.85A, 43.3W	-
	Current rating of overcurrent protective device (A) :		-

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6	<b>Provisions for earthing and bonding</b>		N/A
2.6.1	Protective earthing	Unit is intended for building-in; earthing arrangement to be investigated in the end-use product.	N/A
2.6.2	Functional earthing		N/A
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
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable		N/A



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

	distribution system		
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2.7	<b>Overcurrent and earth fault protection in primary circuits</b>		Pass
2.7.1	Basic requirements		Pass
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3		Pass
2.7.3	Short-circuit backup protection		Pass
2.7.4	Number and location of protective devices ..... :	1 Fuse (1A, 250V), provided in the Line side of the supply.	Pass
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel..... :		N/A

2.8	<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

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

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

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

2.10	<b>Clearances, creepage distances and distances through insulation</b>		Pass
2.10.1	General		Pass
2.10.2	Determination of working voltage	173.5 V rms, 400.0 V peak	Pass
2.10.3	Clearances	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.3.1	General		Pass
2.10.3.2	Clearances in primary circuit		Pass
2.10.3.3	Clearances in secondary circuits		Pass
2.10.3.4	Measurement of transient voltage levels		N/A
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	Pass
	CTI tests .....		-
2.10.5	Solid insulation		Pass
2.10.5.1	Minimum distance through insulation	(see appended table 2.10.5)	Pass
2.10.5.2	Thin sheet material		Pass
	Number of layers (pcs) .....	3 layers, primary to secondary	-
	Electric strength test .....	(see appended table 5.2)	-
2.10.5.3	Printed boards		N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material .....		-
	Number of layers (pcs) .....		N/A
2.10.5.4	Wound components		N/A
	Number of layers (pcs) .....		N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....		N/A
2.10.6	Coated printed boards		N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C) .....		N/A
2.10.6.5	Electric strength test .....		-

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.6.6	Abrasion resistance test		N/A
	Electric strength test .....		-
2.10.7	Enclosed and sealed parts .....		N/A
	Temperature $T_1=T_2 = T_{ma} - T_{amb} + 10K (^{\circ}C)$ .....		N/A
2.10.8	Spacings filled by insulating compound .....		N/A
	Electric strength test .....		-
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A

3	<b>WIRING, CONNECTIONS AND SUPPLY</b>		N/A
3.1	General		N/A
3.1.1	Current rating and overcurrent protection		N/A
3.1.2	Protection against mechanical damage		N/A
3.1.3	Securing of internal wiring		N/A
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

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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>		N/A
3.2.1	Means of connection	Unit is intended for building-in; to be investigated in the end-use product.	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter (mm) of cable and conduits .....		-
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords	Supply cord not provided.	N/A
3.2.5.1	AC power supply cords		N/A
	Type.....		-
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		-
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....		-
	Longitudinal displacement (mm) .....		-
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	D (mm); test mass (g).....		-
	Radius of curvature of cord (mm) .....		-
3.2.9	Supply wiring space		N/A

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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		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

3.4	<b>Disconnection from the mains supply</b>		N/A
3.4.1	General requirement	Unit is intended for building-in; to be investigated in the end-use product.	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Single-phase equipment and d.c. equipment		N/A
3.4.7	Three-phase equipment		N/A
3.4.8	Switches as disconnect devices	No switches employed.	N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

4	<b>PHYSICAL REQUIREMENTS</b>		Pass
4.1	Stability		N/A
	Angle of 10°	Unit is intended for building-in; to be investigated in the end-use product.	N/A
	Test: force (N)..... :	Not a floor standing unit.	N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

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



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Clause	Requirement + Test	Result - Remark	Verdict

	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		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		Pass
	Normal load condition per Annex L .....	Maximum continuous operation is as defined under the Models and Ratings table.	Pass
4.5.2	Resistance to abnormal heat		N/A

4.6	<b>Openings in enclosures</b>		N/A
4.6.1	Top and side openings	Unit is intended for building-in; to be investigated in the end-use product. Overall enclosure to be investigated in the end-use product.	N/A
	Dimensions (mm) .....		-
4.6.2	Bottoms of fire enclosures	Overall enclosure to be investigated in the end-use product. Unit is intended for building-in; to be investigated in the end-use product.	N/A
	Construction of the bottom .....		-
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C)/time (weeks) .....		-

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

5	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General		Pass
5.1.2	Equipment under test (EUT)		Pass
5.1.3	Test circuit		Pass
5.1.4	Application of measuring instrument		Pass
5.1.5	Test procedure		Pass
5.1.6	Test measurements		Pass
	Test voltage (V) .....	264 Vac, 50 Hz	-
	Measured touch current (mA).....	<3.5mA - Class I units; <0.25 for Class II units	-
	Max. allowed touch current (mA).....	3.5 mA (Class I units); 0.25 (Class II units)	-
	Measured protective conductor current (mA).....		-
	Max. allowed protective conductor current (mA) ...		-
5.1.7	Equipment with touch current exceeding 3.5 mA..		N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		N/A
	Test voltage (V) .....		-
	Measured touch current (mA).....		-
	Max. allowed touch current (mA).....		-
5.1.8.2	Summation of touch currents from telecommunication networks .....		N/A

5.2	<b>Electric strength</b>		Pass
5.2.1	General		Pass
5.2.2	Test procedure		Pass

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Clause	Requirement + Test	Result - Remark	Verdict

5.3	<b>Abnormal operating and fault conditions</b>		Pass
5.3.1	Protection against overload and abnormal operation		Pass
5.3.2	Motors		N/A
5.3.3	Transformers		Pass
5.3.4	Functional insulation..... :		N/A
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults		Pass
5.3.7	Unattended equipment		N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions		Pass

6	<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		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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

C	<b>Annex C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		Pass
	Position .....	Transformer T1	-
	Manufacturer .....	See Critical Components Table.	-
	Type.....	Switching	-
	Rated values.....	See Critical Components Table.	-
	Method of protection.....	Fuse, F1 in primary input	-
C.1	Overload test	Test performed as part of the Power Supply Output Overload Test.	N/A
C.2	Insulation	See Diagrams Enclosure for details.	Pass
	Protection from displacement of windings.....	Margin tape provided on each end of each winding. See Diagrams Enclosure for details.	Pass

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

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

G	<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

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

M	<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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

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

U	<b>Annex U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		N/A
	..... :		-

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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
X Capacitor (CX1)	Pilcor	PCX2	0.22uf, 275V, X2	FOKY2, or FOWX2	UL/cUL R/C	
X Capacitor (CX1) - Alternate	Ultra Tech	HQX	0.22uf, 275V, X2	FOKY2, or FOWX2	UL/cUL R/C	
X Capacitor (CX1) - Alternate	Dain	MPX	0.22uf, 275V, X2	FOKY2, or FOWX2	UL/cUL R/C	
X Capacitor (CX1) - Alternate	Eurotronic	MPX	0.22uf, 275V, X2	FOKY2, or FOWX2	UL/cUL R/C	
Bulk Capacitor (C9)	--	--	47uF, 400V, 105(C	--	--	
Capacitor, bridging (CY1)	TDK	CD	4700pf (max), 250V, Y1	FOKY2, or FOWX2	UL/cUL R/C	
Capacitor, bridging (CY1) - Alternate	Pan Overseas	PY	4700pf (max), 250V, Y1	FOKY2, or FOWX2	UL/cUL R/C	
Capacitor, bridging (CY1) - Alternate	Welson	WD	4700pf (max), 250V, Y1	FOKY2, or FOWX2	--	
Capacitor, bridging (CY1) - Alternate	Chyun Fuh	CE	4700pf (max), 250V, Y1	FOKY2, or FOWX2	UL/cUL R/C	
Capacitor, bridging (CY1) - Alternate	Samsung	SEM	4700pf (max), 250V, Y1	FOKY2, or FOWX2	UL/cUL R/C	
Fuse (F1)	Littlefuse	228	250V, 1A	JDYX2	UL/cUL R/C	
Fuse (F1) - Alternate	Wickman	195	250V, 1A	JDYX2	UL/cUL R/C	
Fuse (F1) - Alternate	Walter	TAP	250V, 1A	JDYX2	UL/cUL R/C	
Fuse (F1) - Alternate	Hollyland	31S	250V, 1A	JDYX	UL/cUL	
Insulating Tape	--	Mylar	1 layers, 0.06 mm/layer thick	OANZ2	UL/cUL R/C	
Insulator - Silpad	--	--	Around D8; 0.5mm thick, covered by 1 layer of Mylar Insulating tape.	QMFZ2	UL/cUL R/C	

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Clause	Requirement + Test	Result - Remark	Verdict

Insulator – Heat sink	--	Formex-18	Min 0.4mm thick; L-shaped, measuring 26 by 51 mm overall (flat)	QMFZ2	UL/cUL R/C	
Optical isolator (U1)	Sharp	PC817	5000 Vac isolation; 0.4mm insulation thickness inside and out (Reinforced)	FPQU2	UL/cUL R/C	
Optical isolator (U1) -- Alternate	Liton	LTV-817	5000 Vac isolation; 0.4mm insulation thickness inside and out (Reinforced)	FPQU2	UL/cUL R/C	
Optical isolator (U1) -- Alternate	Matsushita	ON 3171	5000 Vac isolation; 0.4mm insulation thickness inside and out (Reinforced)	FPQU2	UL/cUL R/C	
Printed wiring board	Cheerful	03	Min V-1, 105°C	ZPMV2		
Alternate, PWB	Wan Nien	03V0	Min V-1, 105°C	ZPMV2		
Resistor, bleeding (R8, R9)	--	--	470K, 1/8W, carbon	--	--	
Transformer (T1)	--	See Diagrams Enclosure for details.	Employs R/C OBJY2 Class B insulation system. See Diagrams Enclosure for details.	--	--	4-03
Heat Sink	--	--	Copper, L-shaped. Top dimensions 36 mm by 40 mm, 1.0 mm thick. Side dimensions 24mm by 25mm, 1.0 mm thick. Secured to printed wiring board by soldering. Rear edge covered in 1 layer, 8.0mm of R/C OANZ2 Mylar tape on both top and bottom.	--	--	
Diode Bridge (DB1)	--	--	Rated 600V, 3A.	--	--	
Transistor (Q1)	--	--	Rated 500V, 2A min. Secured to heatsink by metal screw.	--	--	
Zener Diode (ZD1)	--	--	Clamping diode., 500 mW dissipation See Table of Zener	--	--	4-04

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Clause	Requirement + Test	Result - Remark	Verdict

			clamping voltages in Diagrams Enclosure.			
Zener Diode (ZD2)	--	--	Rated Zener voltage of 22V, 500mW dissipation.	--	--	
Insulation System	Sunny Electronics Corp.	ST-2804	Class B (130°C)	OBJY2	--	
Input connector (J1)	Molex	09-65-2038	Rated min 250V, min 1A; 3 pin version for Class I units, 3rd pin cut for Class 2 units, material rated V-2	ECBT2	UL R/C, CUL R/C	
Input connector (J1) - ALTERNATE	Weli Sheng	M2/3-I39601	Rated min 250V, 7A; 3 pin version for Class I units, 3rd pin cut for Class 2 units, material rated V-2	ECBT2	UL R/C, CUL R/C	
Alternate Heat Sink	--	--	Aluminum or Copper, L-shaped. Top dimensions 36 mm by 40 mm, 1.0 mm thick. Side dimensions 24mm by 25mm, 1.0 mm thick. Secured to printed wiring board by soldering. Rear edge covered in 1 layer, 8.0mm of R/C OANZ2 Mylar tape on both top and bottom.	--	--	
Alternate Fuse (F1)	Walter Electronic Co. Ltd.	TAP	1 A, 250 V	JDYX	UL/cUL R/C	
Alternate Fuse (F1)	Sun Electronic Co. Ltd.	5R	1 A, 250 V	JDYX	UL/cUL R/C	
Alternate Fuse (F1)	Wickmann-Werke Gmbh	191 or 19191	1 A, 250 V	JDYX	UL/cUL R/C	
Optical isolator (U1) Alternate	Everlight Electronics Co. Ltd.	EL817	5000 Vac isolation; 0.4mm insulation thickness inside and out (Reinforced)	FPQU2	UL/cUL R/C	
Optical isolator (U1)	Cosmo Electronics	KPC817	5000 Vac isolation; 0.4mm	FPQU2	UL/cUL R/C	

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Alternate	Corp.		insulation thickness inside and out (Reinforced)			
Optical isolator (U1) Alternate	Bright Led Electronics Corp.	BPC817	5000 Vac isolation; 0.4mm insulation thickness inside and out (Reinforced)	FPQU2	UL/cUL R/C	
Capacitor (CY1) Alternate	Pan Oversea Electronic Co. Ltd.	AC	2200pf, 250V, Y1	FOWX2 or FOKY2	UL/cUL R/C	
Capacitor (CY1) Alternate	Murata Mfg. Co. Ltd.	KX	2200pf, 250V, Y1	FOWX2 or FOKY2	UL/cUL R/C	
Output Cord	--	--	Style No. 1185, AWM, No. 22 AWG min., VW-1, 80 degrees C, 300 V, one end is soldered to pwb; other end molded with connector barrel type.	AVLV2	UL R/C, cUL R/C	
Output Cord (Alternate)	--	--	Same as above except cable, Style # SPT-1, 18 AWG min.; VW-1, 105 degrees C.	AVLV2	UL R/C, cUL R/C	
Output Cord (Alternate)	--	--	Same as above except cable, Style # 2468, 22 AWG min.; VW-1, 105 degrees C.	AVLV2	UL R/C, cUL R/C	
Output Cord (Alternate)	--	--	Same as above except cable, Style # 2464, 20 AWG min.; VW-1, 80 degrees C, 300 V.	AVLV2	UL R/C, cUL R/C	
Switch (Optional for Output Cord)	Openwise	Series 303fb-12, -22, -23	250 V, 2 A 120 V, 3 A, V-2	WNVW2	UL R/C, cUL R/C	
Alternate Switch (Optional for Output Cord)	Teilbar	Series 303	250 V, 2 A 120 V, 3 A, V-2	WNVW2	UL R/C, cUL R/C	
Alternate Output Cord	--	--	Same as above except cable, AWM, 20 AWG or greater; XT, 80 degrees C, 300 V.	AVLV2	UL R/C, cUL R/C	

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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	
--	0.5	90, 60 Hz	19.4	0.396	--	Model GT-21089-1305-T3, Rated load	
--	0.5	100, 60 Hz	19.2	0.356	--	Model GT-21089-1305-T3, Rated load	
--	0.5	110, 60 Hz	19.2	0.370	--	Model GT-21089-1305-T3, Rated load	
--	0.5	120, 60 Hz	19.0	0.328	--	Model GT-21089-1305-T3, Rated load	
--	0.5	132, 60 Hz	18.8	0.306	--	Model GT-21089-1305-T3, Rated load	
--	0.5	210, 50 Hz	19.1	0.220	--	Model GT-21089-1305-T3, Rated load	
--	0.5	220, 50 Hz	19.1	0.226	--	Model GT-21089-1305-T3, Rated load	
--	0.5	230, 50 Hz	18.9	0.218	--	Model GT-21089-1305-T3, Rated load	
--	0.5	240, 50 Hz	18.9	0.214	--	Model GT-21089-1305-T3, Rated load	
--	0.5	264, 50 Hz	19.1	0.204	--	Model GT-21089-1305-T3, Rated load	
--	0.5	90, 60 Hz	18.9	0.356	--	Model GT-21089-1524-T3, Rated load	
--	0.5	100, 60 Hz	18.7	0.326	--	Model GT-21089-1524-T3, Rated load	
--	0.5	110, 60 Hz	18.5	0.315	--	Model GT-21089-1524-T3, Rated load	
--	0.5	120, 60 Hz	18.5	0.307	--	Model GT-21089-1524-T3, Rated load	
--	0.5	132, 60 Hz	18.4	0.308	--	Model GT-21089-1524-T3, Rated load	
--	0.5	200, 50 Hz	18.5	0.209	--	Model GT-21089-1524-T3, Rated load	
--	0.5	210, 50 Hz	18.6	0.202	--	Model GT-21089-1524-T3, Rated load	
--	0.5	220, 50 Hz	18.6	0.196	--	Model GT-21089-1524-T3, Rated load	
--	0.5	230, 50 Hz	18.7	0.190	--	Model GT-21089-1524-T3, Rated load	
--	0.5	240, 50 Hz	18.8	0.184	--	Model GT-21089-1524-T3, Rated load	
--	0.5	264, 50 Hz	19.1	0.173	--	Model GT-21089-1524-T3, Rated load	
--	0.5	90, 60 Hz	21.7	0.402	--	Model GT-21089-1818-T3, Rated load	

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Clause	Requirement + Test				Result - Remark	Verdict
--	0.5	100, 60 Hz	22.4	0.379	--	Model GT-21089-1818-T3, Rated load
--	0.5	110, 60 Hz	22.2	0.356	--	Model GT-21089-1818-T3, Rated load
--	0.5	120, 60 Hz	22.8	0.344	--	Model GT-21089-1818-T3, Rated load
--	0.5	132, 60 Hz	22.6	0.340	--	Model GT-21089-1818-T3, Rated load
--	0.5	200, 50 Hz	22.5	0.244	--	Model GT-21089-1818-T3, Rated load
--	0.5	210, 50 Hz	22.4	0.236	--	Model GT-21089-1818-T3, Rated load
--	0.5	220, 50 Hz	22.5	0.229	--	Model GT-21089-1818-T3, Rated load
--	0.5	230, 50 Hz	22.6	0.222	--	Model GT-21089-1818-T3, Rated load
--	0.5	240, 50 Hz	22.8	0.216	--	Model GT-21089-1818-T3, Rated load
--	0.5	264, 50 Hz	23.1	0.204	--	Model GT-21089-1818-T3, Rated load
supplementary information:						
U (V) - Input test voltage P (W) - Measured Avg Power I (mA) - Measured Input current; measured in Amps (not mA as stated in column header)						

2.10.3 and 2.10.4	<b>TABLE: clearance and creepage distance measurements</b>						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)	
Input to Output/Funtional Earth	400.0	173.5	4.0	>4.0	4.0	>4.0	
supplementary information:							
Input to Output/Funtional Earth - Reinforced/Double insulation Input to Enclosure - Reinforced/Double insulation							

2.10.5	<b>TABLE: distance through insulation measurements</b>				Pass
distance through insulation di at/of:	Up (V)	test voltage (V)	required di (mm)	di (mm)	
Transformer, T1	173.5	4242 dc	0.4	>0.4	
supplementary information:					
--					

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Clause	Requirement + Test	Result - Remark	Verdict

4.5	<b>TABLE: temperature rise measurements</b>						Pass
	test voltage (V).....	Tests A,C,E : 90Vac, 60Hz Tests B,D,F: 264Vac, 50Hz					—
	t1 (°C).....	See below					—
	t2 (°C).....	See below					—
maximum temperature T of part/at:		T (°C)					allowed Tmax (°C)
Model GT-21089-1305-T3		Test A/Test B					--
LF1		41.8/40.8					--
DB1		54.8/63.2					--
T1 Coil		71.1/80.0					85
T1 Core		69.7/75.1					85
L1		67.4/69.9					--
Enclosure, top		29.0/42.9					70
Enclosure, bottom		-- / -- (See Note 1.)					70
PWB near T1		60.2/65.6					80
Ambient		24.4/24.3 (See Note 2.)					--
--		--					--

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Clause	Requirement + Test	Result - Remark	Verdict

Model GT-21089-1524-T3	Test C/Tes t D					--
LF1	50.7/3 7.3					--
DB1	53.1/4 6.1					--
T1 Coil	65.0/5 9.6					85
T1 Core	-- / -- (See Note 1.)					85
L1	22.0/1 6.5					--
Enclosure, top	37.3/3 2.1					70
Enclosure, bottom	38.5/3 9.6					70
PWB near T1	51.4/- - (See Note 1.)					80
Ambient	23.3/2 3.5 (See Note 2.)					--
--	--					--
Model GT-21089-1818-T3	Test E/Tes t F					--
LF1	54.2/3 5.6					--
DB1	59.5/4 7.4					--
T1 Coil	74.0/6 3.8					85
T1 Core	-- / -- (See Note 1.)					85
L1	25.9/1 5.9					--
Enclosure, top	38.5/3 1.7					70
Enclosure, bottom	43.7/3 9.5					70

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Clause	Requirement + Test	Result - Remark	Verdict

PWB near T1	58.2/5 5.8					80
Ambient	23.2/2 3.5 (See Note 2.)					--
temperature T of winding:		R <sub>1</sub> (Ω)	R <sub>2</sub> (Ω)	T (°C)	allowed Tmax (°C)	insulation class
--		--	--	--	--	--
supplementary information:						
Test duration: A - 2.0 Hrs B - 2.5 Hrs C - 3.0 Hrs D - 2.75 Hrs E - 3.0 Hrs F - 2.75 Hrs  Note 1 - No reading was attained due to a defect in or loosening of a thermocouple at this location. Thermocouples were applied by the manufacturer before sonically welding the enclosure due to the sensitive nature of the supplies.  Note 2 - Ambient temperature shown is actual measurement taken in °C.						

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	<b>TABLE: electric strength tests, impulse tests and voltage surge tests</b>		Pass
test voltage applied between:		test voltage (V) a.c./d.c.	breakdown Yes / No
Input to Output/Functional Earth		4242	No
supplementary information:			
--			

5.3	<b>TABLE: fault condition tests</b>						Pass
	ambient temperature (°C) .....					See below.	—
	model/type of power supply .....					See below.	—
	manufacturer of power supply .....					GlobTek, Inc.	—
	rated markings of power supply.....					See below.	—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result	
GT-21089-1524-T3, U1	Short circuit, pins 1 to 2	264 Vac, 50Hz	<1s	--	--	Fuse F1 clears immediately; IP, CD, NT, NC, NB	
GT-21089-1524-T3, D8	Short circuit, anode to cathode	264 Vac, 50Hz	<2min	--	--	Fuse F1 clears at approx 2min; IP, CD, NT, NC, NB	
GT-21089-1524-T3, ZD1	Short circuit, anode to cathode	264 Vac, 50Hz	2hr, 10min	--	--	0V, 0A final output, max Transformer temp =113.1°C, Ambient = 21.3°C; CT, NC, NT, NB	
GT-21089-1818-T3, DB1	Short circuit, a.c. to d.c.	264 Vac, 50Hz	<1s	--	--	Fuse F1 clears immediately; IP, CD, NT, NC, NB	
GT-21089-1818-T3, Q3	Short circuit, C to E	264 Vac, 50Hz	<1s	--	--	Fuse F1 clears immediately; IP, CD, NT, NC, NB	
GT-21089-1524-T3, output	overload	264 Vac, 50Hz	2hr, 15min	--	--	Max transformer temp = 145.4°C, ambient = 21.6°C; CT, NC, NT, NB	
GT-21089-1524-T3, output	Short circuit	264 Vac, 50Hz	<1s	--	--	Fuse F1 clears immediately; IP, CD, NT, NC, NB	
GT-21089-1305-T3, output	overload	264 Vac, 50Hz	40 min	--	--	Unit shutdown after 40 min, Max transformer temp = 115.5°C, ambient = 23.2°C; IP, CD, NC, NT, NB	
GT-21089-1305-T3,	Short circuit	264 Vac, 50Hz	Approx 20s	--	--	Fuse F1 clears immediately; IP, CD, NT, NC, NB	

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output						
GT-21089-1818-T3, output	overload	264 Vac, 50Hz	7 hrs	--	--	Max transformer temp = 133.3°C, ambient = 20.9°C; CT, NC, NT, NB
GT-21089-1818-T3, output	Short circuit	264 Vac, 50Hz	2hr, 15min	--	--	Max transformer temp = 107.9°C, ambient = 21.9°C; CT, NC, NT, NB
supplementary information:						
Results Key: IP - Internal protection operated (list component) CT - Constant temperatures were obtained TW - Transformer winding opened CD - Components damaged NB - No indication of dielectric breakdown YB - Dielectric breakdown (indicate time and location) NC - Cheesecloth remained intact YC - Cheesecloth charred or flamed NT - Tissue paper remained intact YT - Tissue paper charred or flamed						

**Enclosure**  
**National Differences**

(Total 10 Pages including this Cover Page)

**USA / Canada**



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

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

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SubClause	Difference + Test	Result - Remark	Verdict
	circuit classification requirements (e.g., TNV-2)		
1.6.1.2	Earthing of d.c. powered equipment provided.		N/A
1.7	Lamp replacement information indicated on lampholder in operator access area.	No accessible lamps in accessible area.	N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor.		N/A
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions.		N/A
1.7.6	Special fuse replacement marking for operator accessible fuses.		N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor.		N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.		N/A
1.7.7	Marking located adjacent to terminals and visible during wiring.		N/A
2.1.1	Screw shell of Edison-base lampholder tied to the neutral conductor.		N/A
2.1.1.1	Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover.		N/A
2.3.1.b	Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4.		N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the maximum current limit through a 2000 Ohm or greater resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions.		N/A
2.3.1.b	Limits for measurements across 5000 ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.		N/A
2.3.2	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and routine testing.		N/A

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SubClause	Difference + Test	Result - Remark	Verdict

2.3.2	In the event of a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.		N/A
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting in accordance with the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable.		N/A
2.6	Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.		N/A
2.6.3.3	For Pluggable Equipment Type A, if neither a) or b) are applicable, the current rating of the circuit is taken as 20 A.		N/A
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.		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.		N/A
2.7.1	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring.		N/A
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards.		N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.		N/A
2.10.5.4	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.4 and Annex U.		N/A
3.1.1	Permissible combinations of internal wiring/external		N/A

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

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SubClause	Difference + Test	Result - Remark	Verdict

	Part 1.		
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm <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.		N/A
3.2.5	Conductors in power supply cords sized according to NEC and CEC, Part I.		N/A
3.2.5	Power supply cords and cord sets incorporate flexible cords suitable for the particular application.		N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.		N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.		N/A
3.2.9	Equipment intended solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system. A method of securing wiring or instructions provided to ensure the wiring is protected from abuse.		N/A
3.3	Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3.		N/A
3.3	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than those specified in 3.3 if wiring is reliably separated.		N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means.		N/A
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm <sup>2</sup> ) or smaller conductor if provided with upturned lugs, cupped		N/A

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	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.		N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion.		N/A
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg tested at four times the weight of the unit.		N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310 or CSA 223 mechanical assembly requirements.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with ANSI/NFPA 30(Table NAE.6).		N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.		N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible.		N/A

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4.3.13.5	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370).		N/A
4.7	Automated information storage equipment intended to contain more than 0.76 mm <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.		N/A
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.		N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.		N/A
5.3.6	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.		Pass
5.3.6	Tests interrupted by opening of a component repeated two additional times.		Pass
5.3.8.1	Test interrupted by opening of wire or trace subject to certain conditions.		N/A
6	Specialized instructions provided for telephones that may be connected to a telecommunications network.		N/A
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.		N/A
6.2.1	Special requirements for enameled wiring used as electrical separation provided between parts		N/A

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



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