





Test Report issued under the responsibility of:



<b>TEST REPORT</b>	
<b>IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006</b>	
<b>Information technology equipment – Safety –</b>	
<b>Part 1: General requirements</b>	
<b>Report Reference No.</b> .....	32101
<b>Date of issue</b> .....	October 12, 2011
<b>Total number of pages</b> .....	98 pages
<b>CB/CCA Testing Laboratory</b> .....	emitel (Shenzhen) Limited
<b>Address</b> .....	Building 2, 171 Meihua Road, Futian District, Shenzhen, China P.C: 518049
<b>Applicant's name</b> .....	GlobTek, Inc.
<b>Address</b> .....	186 Veterans Dr. Northvale, NJ 07647 USA
<b>Manufacturer's name</b> .....	Same as applicant
<b>Address</b> .....	Same as applicant
<b>Factory's name</b> .....	See page 6
<b>Address</b> .....	See page 6
<b>Test specification:</b>	CB/CE
<b>Standard</b> .....	<input checked="" type="checkbox"/> IEC 60950-1:2005 (2nd Edition) and/or <input checked="" type="checkbox"/> EN 60950-1:2006
<b>Test procedure</b> .....	CB scheme
<b>Non-standard test method</b> .....	N/A
<b>Test Report Form No.</b> .....	IECEN60950_1C (4_F510_40_Rev2_0)
<b>Test Report Form(s) Originator</b> .....	SGS Fimko Ltd
<b>Master TRF</b> .....	Dated 2007-06
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<b>This report is not valid as a CCA Test Report unless signed by an approved CCA Testing Laboratory and appended to a CCA Test Certificate issued by an NCB in accordance with CCA</b>	
<b>Test item description</b> .....	Switching Adapter
<b>Trade Mark</b> .....	GlobTek, Inc.
<b>Manufacturer</b> .....	Same as applicant
<b>Model/Type reference</b> .....	GT-81091-WWVV-X.X-TZ (see Model Designation on page 6)
<b>Ratings</b> .....	Input 100-240V  50/60Hz, 1.5A; Output: see Model Designation on page 6

Testing procedure and testing location:	
<input checked="" type="checkbox"/> <b>CB/CCA-Testing Laboratory:</b>	emitel (Shenzhen) Limited
Testing location/ address .....	Building 2, 171 Meihua Road, Futian District, Shenzhen, China P.C: 518049
<input type="checkbox"/> <b>Associated CB Laboratory:</b>	N/A
Testing location/ address .....	N/A
Tested by (name + signature).....:	Stella Young 
Approved by (name+ signature) .:	Ivan Toa 

<b>Summary of testing:</b>	
<p><b>Tests performed (name of test and test clause):</b></p> <ul style="list-style-type: none"> <li>- 1.6.2 Input Current Test</li> <li>- 1.7.11 Durability of Marking Test</li> <li>- 2.1.1.5 Energy Hazard in Operator Access Area</li> <li>- 2.1.1.7 Discharge of Capacitor</li> <li>- 2.2.2 SELV Limits for Normal Conditions</li> <li>- 2.2.3 SELV Limits for Abnormal Conditions</li> <li>- 2.5 Limited Power Source</li> <li>- 2.6.3.4 Resistance to Earthing Circuit</li> <li>- 2.9.2 Humidity Conditioning</li> <li>- 2.10.2 Working Voltage over Insulation</li> <li>- 2.10.3 Clearance Measurement</li> <li>- 2.10.4 Creepage Distance Measurement</li> <li>- 4.1 Stability Test</li> <li>- 4.2.2 Steady Force Test, 10N</li> <li>- 4.2.4 Steady Force Test, 250N</li> <li>- 4.2.5 Impact Test</li> <li>- 4.2.6 Drop Test</li> <li>- 4.2.7 Stress Relief Test</li> <li>- 4.5.2 Maximum Temperature Test</li> <li>- 4.5.5 Ball Pressure Test</li> <li>- 5.1.6 Touch Current Test</li> <li>- 5.2 Electric Strength Test</li> <li>- 5.3 Fault Condition Test</li> </ul> <p><b>Remark:</b></p> <p>1, The models GT-81091-6024-T3, GT-81091-6024-5.0-T3 and GT-81091-6012-T3 have been selected for multiple testing. If no specify, model GT-81091-6024-T3 was the selected model for testing.</p> <p>2, All the tests were done with the sample within common choke (LF1) inside except for the input test.</p>	<p><b>Testing location:</b></p> <p>emitel (Shenzhen) Limited            Building 2, 171 Meihua Road, Futian District,            Shenzhen, China P.C: 518049</p>

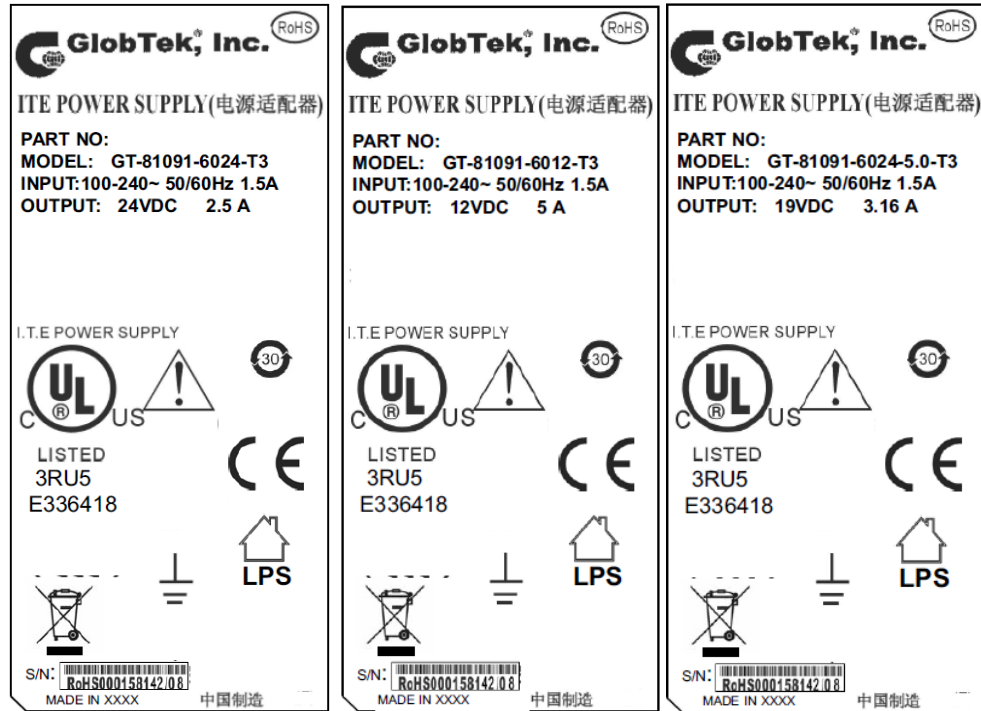
**Summary of compliance with National Differences:**

**CH, DE, DK, ES, FI, GB, IE, KR, NO, SE**

**CH=Switzerland, DE=Germany, DK=Denmark, ES=Spain, FI=Finland, GB=United Kingdom, IE=Ireland, KR=Republic of Korea, NO=Norway, SE=Sweden**

**All the national difference see Appendix I – Other Country National Differences.**

**Copy of marking plate**



This is a representative label. The others are identical with it except the model number and output ratings as listed in the Model Designation on page 6.

<b>Test item particulars</b> .....	
Equipment mobility .....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains .....	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition .....	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location .....	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC) .....	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values .....	±10% (as the client requested)
Tested for IT power systems .....	<input checked="" type="checkbox"/> Yes (only for Norway) <input type="checkbox"/> No
IT testing, phase-phase voltage (V) .....	230 (only for Norway)
Class of equipment .....	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating (A) .....	1.5A
Pollution degree (PD) .....	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class .....	IPX0
Altitude during operation (m) .....	Up to 2000
Altitude of test laboratory (m) .....	Below 2000
Mass of equipment (kg) .....	Approx. 0.3
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	N/A
- test object does meet the requirement .....	P (Pass)
- test object does not meet the requirement .....	F (Fail)
<b>Testing</b> .....	
Date of receipt of test item .....	Aug. 01, 2011
Date(s) of performance of tests .....	Aug. 01, 2011 – Aug. 19, 2011
<b>General remarks:</b>	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
<b>Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.</b> Throughout this report a comma (point) is used as the decimal separator.	

All national differences of EU group were considered according to EN 60950-1:2006 and A11, Annex ZA, Annex ZB and Annex ZC on page 35-42.

Australian national difference were considered according to AS/NZS 60950.1:2003+A1+A2+A3 on pages 64-70; Chinese national difference were considered according to GB4943-2001 on pages 85; Japanese national differences were considered according to J60950(H19) on page 71-84; Korea national differences were considered according to K60950-1 on page 85.

All contents are come from TÜV Rheinland CB Report No. 16022316001 (dated on March 10, 2010) and No. 16022316002 (dated on September 29, 2009) with CB Certificate JPTUV-031209-M1 except the followings:

1. Applicant and Manufacturer, factories list;
2. Model name and its description;
3. Marking.

Factories:

1. GlobTek, Inc.  
186 Veterans Dr. Northvale, NJ 07647 USA
2. GlobTek (Suzhou) Co., Ltd  
Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China.

Remark: the samples submitted for evaluation are representative of the products from each factory.

#### **General product information:**

Brief description of the test sample:

- 1, The apparatus is a Class I switching adapter (desktop type) used for DC supply of information technology equipment, output cord is non-detachable;
- 2, The adapter's top enclosure is secured to the bottom enclosure by ultrasonic weld;
- 3, The test samples are pre-production samples without serial numbers;
- 4, Specified maximum ambient temperature is 40°C.

Difference between models:

E1, R2, R2A, R3, R3A, R4, R4A-R4C, R5, R5A, R6, R10, R12, R12A-C, R14, R15, R15, R15A, C9, Q2, Q3, R21 and R22: The parameters of these components depend on output current.

#### **Model Designation:**

GT-81091-WWVV-X.X-TZ:

- WW is the standard output wattage, with a maximum value of "60";
- VV is the standard rated output voltage designation, with a maximum value of "24";
- -X.X is optional or blank and denotes the output voltage differentiator, subtracting or adding X.X volts from standard output voltage VV in 0.1V increments, blank is to indicate the no voltage different;
- "Z "presents different inlets, where "3" presents C14, "3A" presents C6.

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards.	P
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
1.5.3	Thermal controls	No thermal controls provided.	N/A
1.5.4	Transformers	Transformer used are suitable for their intended applicable and comply with the relevant requirements of the standard and particularly Annex C.	P
1.5.5	Interconnecting cables	Interconnection o/p cable to other device is carrying only SELV on an energy level below 240VA. → Except for the insulation material, there are no further requirements for the o/p interconnection cable.	P
1.5.6	Capacitors bridging insulation	Between line and neutral: X2 capacitor (CX1, CX2), complied with IEC 60384-14 with 21 days damp heat test.  Between the pri. and sec. circuits Y1 capacitor (CY1) used, complied with IEC 60384-14 with 21 days damp heat test.  Between the pri. and earthing circuits Y1 capacitors (CY2, CY3) used and complied with IEC60384-14 with 21 days damp heat test.	P
1.5.7	Resistors bridging insulation	No such resistors	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	No such components	N/A
1.5.9	Surge suppressors		P
1.5.9.1	General	Optional approved surge suppressor (MOV1) used between L and N. For details see appended table 1.5.1	P
1.5.9.2	Protection of VDRs	The current fuse F1 provides the protection	P
1.5.9.3	Bridging of functional insulation by a VDR	See 1.5.9.1	P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		P
1.6.1	AC power distribution systems	IT power system for Norway only, TN power system for others.	P
1.6.2	Input current	(see appended table 1.6.2) The highest load according to 1.2.2.1 for this product is the operation with the Max. specified DC load.	P
1.6.3	Voltage limit of hand-held equipment	Not hand-held product	N/A
1.6.4	Neutral conductor	Double or Reinforce insulation for rated voltage between enclosure and primary phases.	P
1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V) .....	100-240Vac	P
	Symbol for nature of supply, for d.c. only .....	Mains from AC source	N/A
	Rated frequency or rated frequency range (Hz) ...	50/60Hz	P
	Rated current (mA or A) .....	1.5A	P
	Manufacturer's name or trade-mark or identification mark .....	GlobTek	P



IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Model identification or type reference .....	GT-81091-WWVV-X.X-TZ	P
	Symbol for Class II equipment only .....	Class I equipment	N/A
	Other markings and symbols .....	Additional symbols or marking does not give rise to misunderstanding	P
1.7.2	Safety instructions and marking	See below	P
1.7.2.1	General	User's manual provided that contains information regarding the Max. ambient temperature.	P
1.7.2.2	Disconnect devices	Appliance inlet is used as disconnect device	P
1.7.2.3	Overcurrent protective device	Not such product	N/A
1.7.2.4	IT power distribution systems	Only for Norway	P
1.7.2.5	Operator access with a tool	No operator accessible area that needs to be accessed by the use of a tool.	N/A
1.2.7.6	Ozone	Not such product	N/A
1.7.3	Short duty cycles	Continuous operation	N/A
1.7.4	Supply voltage adjustment .....	No such device used	N/A
	Methods and means of adjustment; reference to installation instructions .....		N/A
1.7.5	Power outlets on the equipment .....	No such device used	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....	The rating "T3.15AL250V" is marked on PCB adjacent to the fuse F1.	P
1.7.7	Wiring terminals	See below	N/A
1.7.7.1	Protective earthing and bonding terminals .....	Appliance inlet used	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	Appliance inlet used	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	No d.c. mains supply	N/A
1.7.8	Controls and indicators	No safety related switch or indicator.	N/A
1.7.8.1	Identification, location and marking .....		N/A
1.7.8.2	Colours .....		N/A
1.7.8.3	Symbols according to IEC 60417 .....		N/A
1.7.8.4	Markings using figures .....		N/A
1.7.9	Isolation of multiple power sources .....	Only one supply	N/A
1.7.10	Thermostats and other regulating devices .....	No such device used	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.11	Durability	The label was subjected to the testing. The label was rubbed with cloth soaked with water for 15s, and then again for 15s, with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
1.7.12	Removable parts	No removable part	N/A
1.7.13	Replaceable batteries .....	No battery provided	N/A
	Language(s) .....		—
1.7.14	Equipment for restricted access locations .....	Not limited for use in restricted access locations	N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	No access with test finger and test pin to any parts with only basic insulation to hazardous voltage.	P
2.1.1.1	Access to energized parts	See above	P
	Test by inspection .....	See above	P
	Test with test finger (Figure 2A) .....	See above	P
	Test with test pin (Figure 2B) .....	See above	P
	Test with test probe (Figure 2C) .....	No TNV circuits.	N/A
2.1.1.2	Battery compartments	No battery compartment	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring can be accessed by operator.	N/A
	Working voltage (V <sub>peak</sub> or V <sub>rms</sub> ); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	N/A
2.1.1.5	Energy hazards .....	Energy does not exceed 240VA between any two points in accessible parts (o/p connector of secondary circuit). Results see appended table 2.1.1.5, no energy hazard in operator access area.	P
2.1.1.6	Manual controls	No such device	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s)..... :	(see appended table)	—
2.1.1.8	Energy hazards – d.c. mains supply	Connected to a.c. mains	N/A
	a) Capacitor connected to the d.c. mains supply .. :		N/A
	b) Internal battery connected to the d.c. mains supply .. :		N/A
2.1.1.9	Audio amplifiers .. :	Product without audio amplifier	N/A
2.1.2	Protection in service access areas	No operator accessible area that needs to be accessed by the use of a tool.	N/A
2.1.3	Protection in restricted access locations	Not intended for use in RAL.	N/A
2.2	SELV circuits		P
2.2.1	General requirements	The secondary circuits were tested as SELV, see 2.2.1 to 2.2.4	P
2.2.2	Voltages under normal conditions (V) .. :	Between any conductors of the SELV circuits 42.4V <sub>peak</sub> or 60V <sub>dc</sub> are not exceeded. See appended table 2.2.2.	P
2.2.3	Voltages under fault conditions (V) .. :	Single fault did not cause excessive voltage in accessible SELV circuits.  Limits of 71V <sub>peak</sub> and 120V <sub>d.c.</sub> were not exceeded within 0.2s and limits 42.4V <sub>peak</sub> and 60V <sub>d.c.</sub> were not exceeded for longer than 0.2s.	P
2.2.4	Connection of SELV circuits to other circuits .. :	See 2.2.2 and 2.2.3	P
2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuits	N/A
	Type of TNV circuits..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .. :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
2.4	Limited current circuits		N/A
2.4.1	General requirements	Output connects to earth, no test is necessary.	N/A
2.4.2	Limit values		N/A
	Frequency (Hz) .....		—
	Measured current (mA) .....		—
	Measured voltage (V) .....		—
	Measured circuit capacitance (nF or $\mu$ F) .....		—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	See appended table 2.5	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....	See appended table 2.5	—
	Current rating of overcurrent protective device (A) ..		—
2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	Parts connected to protective earthing reliably.	P
2.6.2	Functional earthing	Secondary functional earthing is separated from pri. by RI or DI. No green/yellow wire used at the secondary.	P
2.6.3	Protective earthing and protective bonding conductors	See below	P
2.6.3.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.2	Size of protective earthing conductors	The power supply cord is not provided along with the equipment. Evaluation of this clause should be made in the final assembly.	N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG..... :		—
2.6.3.3	Size of protective bonding conductors	Evaluation by test, see 2.6.3.4.	P
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG..... :		—
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG..... :		N/A
2.6.3.4	Resistance of earthing conductors and their terminations; resistance ( $\Omega$ ), voltage drop (V), test current (A), duration (min)..... :	(See appended table 2.6.3.4)	P
2.6.3.5	Colour of insulation..... :	No green/yellow wire used	N/A
2.6.4	Terminals	See below	N/A
2.6.4.1	General	Appliance inlet soldered on PCB directly	N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, 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	See below	P
2.6.5.1	Interconnection of equipment	This unit has its own earthing connection. Any other units connected via the output shall be provided SELV only	P
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device in protective earthing or bonding conductor	P
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect earth without disconnect mains as an appliance inlet is used	P
2.6.5.4	Parts that can be removed by an operator	Appliance inlet is used, earthing connected before and disconnected after hazardous voltage. No other operator removable parts.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.5	Parts removed during servicing	It is not necessary to disconnect earthing except for the removing of the earthed part itself.	P
2.6.5.6	Corrosion resistance	All safety earthing connections in compliance with annex J	P
2.6.5.7	Screws for protective bonding	No self-tapping screws are used	P
2.6.5.8	Reliance on telecommunication network or cable distribution system	No TNV	N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Product relies on 16A rated fuse or circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short circuit. Overcurrent protection is provided by the fusible resistor or current fuse.	P
	Instructions when protection relies on building installation	Not applicable for pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7	The protective device is well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	Pluggable equipment type A, building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices .....	Overcurrent protection by one built-in fuse.	P
2.7.5	Protection by several devices	Only one fuse provided	N/A
2.7.6	Warning to service personnel .....	No service work necessary	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlink used	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

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Clause	Requirement + Test	Result - Remark	Verdict
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

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic material are not used.	P
2.9.2	Humidity conditioning	48 hours	P
	Relative humidity (%), temperature (°C) .....	93% R.H., 30°C	—
2.9.3	Grade of insulation	Insulation complies with 2.10, 4.5.1 and 5.2	P
2.9.4	Separation from hazardous voltages	Reinforced insulation	P
	Method(s) used .....	Method 1 used	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below	P
2.10.1.1	Frequency .....	Less than 30MHz	P
2.10.1.2	Pollution degrees .....	2	P
2.10.1.3	Reduced values for functional insulation		N/A
2.10.1.4	Intervening unconnected conductive parts	No such part	N/A
2.10.1.5	Insulation with varying dimensions	No such transformer used	N/A
2.10.1.6	Special separation requirements	No TNV	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such circuit	N/A
2.10.2	Determination of working voltage	The rms and peak voltage were measured on the adapter.  The unit was connected to a 240Vac power supply and floating secondary circuits was assumed to be earthed at the point by which the highest working voltage is obtained.  (Results see appended table 2.10.2)	P
2.10.2.1	General	See above	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.2	RMS working voltage	Results see appended table 2.10.2	P
2.10.2.3	Peak working voltage	Results see appended table 2.10.2	P
2.10.3	Clearances	See below and advantage of Annex G is not considered	P
2.10.3.1	General	See below, Annex G was not considered.	P
2.10.3.2	Mains transient voltages	See below	P
	a) AC mains supply .....	Normal transient voltage considered (Overvoltage category II for primary circuit)	P
	b) Earthed d.c. mains supplies .....	AC mains	N/A
	c) Unearthed d.c. mains supplies .....		N/A
	d) Battery operation .....		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4) Annex F and Min. clearances considered.	P
2.10.3.4	Clearances in secondary circuits	See 5.3.4	P
2.10.3.5	Clearances in circuits having starting pulses	No such circuits	N/A
2.10.3.6	Transients from a.c. mains supply .....	See 2.10.3.2	N/A
2.10.3.7	Transients from d.c. mains supply .....	AC mains	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....	No TNV circuits	N/A
2.10.3.9	Measurement of transient voltage levels	See 2.10.3.6	N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply .....		N/A
	For a d.c. mains supply .....		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	See below	P
2.10.4.1	General	See appended table 2.10.3 and 2.10.4	P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests .....	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation		P
2.10.5.1	General	See below	P



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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.2	Distances through insulation	Enclosure, opto-coupler and mylar sheet are provided (see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation	No such component	N/A
2.10.5.4	Semiconductor devices	No such component	N/A
2.10.5.5.	Cemented joints	No such construction	N/A
2.10.5.6	Thin sheet material – General	Insulation tape provided as reinforced insulation. 2 layers wrapped transformer T1 body	P
2.10.5.7	Separable thin sheet material	See above and Cl. 5.2	P
	Number of layers (pcs)..... :	2 layers	—
2.10.5.8	Non-separable thin sheet material	No such material	N/A
2.10.5.9	Thin sheet material – standard test procedure	Not use such method	N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		P
	Electric strength test	(see appended table 5.2)	—
2.10.5.11	Insulation in wound components	Approved source of triple insulated wire used in T1 secondary winding for reinforced insulation	P
2.10.5.12	Wire in wound components	See above	P
	Working voltage .....	504Vpeak, 272Vrms	P
	a) Basic insulation not under stress .....		N/A
	b) Basic, supplementary, reinforced insulation .....		N/A
	c) Compliance with Annex U .....	Approved source of triple insulated wire used in T1 secondary winding for reinforced insulation	P
	Two wires in contact inside wound component; angle between 45° and 90° .....	By insulation tape	P
2.10.5.13	Wire with solvent-based enamel in wound components	No such construction	N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No such construction	N/A
	Working voltage .....		N/A
	- Basic insulation not under stress .....		N/A
	- Supplementary, reinforced insulation .....		N/A
2.10.6	Construction of printed boards	See below	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards	No coated PCB	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	No multi-layer PCBs provided	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board	No multi-layer PCBs provided	N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) ..... :	Single layer PCB	N/A
2.10.7	Component external terminations	No such components	N/A
2.10.8	Tests on coated printed boards and coated components	No such boards and components	N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts	No hermetically sealed component.	N/A
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Secondary output cable is UL recognized wiring which is PVC insulated, rated VW-1, Min. 80°C, 300 V, or 60 °C wire covered with heat shrinkable tube. Internal wiring is PVC insulated, the wiring gauge is suitable for current intended to be carried.  Internal wiring for primary power distribution protected by built-in current fuse.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges which could damage the insulation and cause hazard.	P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.3	Securing of internal wiring	The internal wiring is secured by solder pins or glue so that loosening of the terminal connection is unlikely.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for application and the working voltage. For the insulation material see 3.1.1 (See appended table 5.2)	P
3.1.5	Beads and ceramic insulators	Not used	N/A
3.1.6	Screws for electrical contact pressure	No such screws provided	N/A
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal	N/A
3.1.8	Self-tapping and spaced thread screws	Not used	N/A
3.1.9	Termination of conductors	All conductors are reliable secured.	P
	10 N pull test	Force of 10N applied to the termination points of the conductors.	P
3.1.10	Sleeving on wiring	No sleeving used to provide supplementary insulation.	N/A

3.2	Connection to a mains supply		P
3.2.1	Means of connection	Appliance inlet was used	P
3.2.1.1	Connection to an a.c. mains supply	See above	P
3.2.1.2	Connection to a d.c. mains supply	AC source	N/A
3.2.2	Multiple supply connections	Only one mains source	N/A
3.2.3	Permanently connected equipment	Not permanently connected equipment	N/A
	Number of conductors, diameter of cable and conduits (mm) .....		—
3.2.4	Appliance inlets		P
3.2.5	Power supply cords	No power cord 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	AC source	N/A
3.2.6	Cord anchorages and strain relief	No power cord	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Mass of equipment (kg), pull (N) .....		—
	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards	No cord guard provided	N/A
	Diameter or minor dimension D (mm); test mass (g) .....		—
	Radius of curvature of cord (mm) .....		—
3.2.9	Supply wiring space	Not permanent connection nor non-detachable power cord type	N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Appliance inlet used, the earthing shield was soldered on PCB directly	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, nominal thread diameter (mm) .....		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P
3.4.2	Disconnect devices	Appliance inlet was used as disconnect device	P
3.4.3	Permanently connected equipment	Not such equipment	N/A
3.4.4	Parts which remain energized		P
3.4.5	Switches in flexible cords	No such cord provided	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The appliance inlet disconnects both poles simultaneously	P
3.4.7	Number of poles - three-phase equipment	Single phase product	N/A
3.4.8	Switches as disconnect devices	See Cl. 3.4.2	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.9	Plugs as disconnect devices	See Cl. 3.4.2	N/A
3.4.10	Interconnected equipment	No interconnections using hazardous voltage	N/A
3.4.11	Multiple power sources	Only one power source	N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements	This power supply is not considered for connection to TNV	P
3.5.2	Types of interconnection circuits .....	SELV, or LCC	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuits	N/A
3.5.4	Data ports for additional equipment	No such port	N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°		P
	Test force (N) .....	Not floor standing appliance	N/A

4.2	Mechanical strength		P
4.2.1	General	See below. After test, the unit comply with 2.1.1, 2.6.1, 2.10 and 4.4.1	P
4.2.2	Steady force test, 10 N	10N applied to components other than parts serving as an enclosure.	P
4.2.3	Steady force test, 30 N	No internal enclosure	N/A
4.2.4	Steady force test, 250 N	250N applied to outer enclosure. No energy or other hazards.	P
4.2.5	Impact test	No hazard as result from steel sphere ball impact test	P
	Fall test		P
	Swing test		P
4.2.6	Drop test; height (mm) .....	No hazard as result from drop test.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.7	Stress relief test	After 7 hours at temperature of 100°C and cooling down to room temperature, no shrinkage, distortion or loosening any enclosure part was noticeable on the adaptor. Test was performed for all source of enclosure material.	P
4.2.8	Cathode ray tubes	No CRT provided	N/A
	Picture tube separately certified .....		N/A
4.2.9	High pressure lamps	No high pressure lamps provided	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....	Not intended to be mounted on a wall or ceiling	N/A

4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and/ or smoothed.	P
4.3.2	Handles and manual controls; force (N).....	No handles or controls provided	N/A
4.3.3	Adjustable controls	No controls provided	N/A
4.3.4	Securing of parts	No connection likely to be exposed to mechanical stress is provided in unit.	P
4.3.5	Connection by plugs and sockets	No mismatching of connectors, plugs or sockets possible.	P
4.3.6	Direct plug-in equipment	Not direct plug-in equipment	N/A
	Torque .....		—
	Compliance with the relevant mains plug standard .....		N/A
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A
4.3.8	Batteries	No batteries provided	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No such material	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.10	Dust, powders, liquids and gases	Product in intended use not considered to be exposed to these	N/A
4.3.11	Containers for liquids or gases	No container for liquid or gas	N/A
4.3.12	Flammable liquids .....	No such flammable liquid	N/A
	Quantity of liquid (l) .....		N/A
	Flash point (°C) .....		N/A
4.3.13	Radiation	No such radiation	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....		—
	Measured high-voltage (kV) .....		—
	Measured focus voltage (kV) .....		—
	CRT markings .....		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification .....		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....		N/A
4.3.13.5	Laser (including LEDs)		N/A
	Laser class .....		—
4.3.13.6	Other types .....		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No moving parts	N/A
4.4.2	Protection in operator access areas .....		N/A
4.4.3	Protection in restricted access locations .....		N/A
4.4.4	Protection in service access areas		N/A
4.5	Thermal requirements		P
4.5.1	General	See below	P
4.5.2	Temperature tests	(see appended table 4.5.2)	P
	Normal load condition per Annex L .....	(see appended table 1.6.2)	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat .....	(see appended table 4.5.5)	P
4.6	Openings in enclosures		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.1	Top and side openings	No any openings	N/A
	Dimensions (mm) .....		—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom, dimensions (mm) .. :		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks) .....		—
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below	P
4.7.2.1	Parts requiring a fire enclosure	With having the following parts: <ul style="list-style-type: none"> <li>- components in primary;</li> <li>- components in secondary;</li> <li>- components having unenclosed arcing parts at hazardous voltage or energy level;</li> <li>- Insulated wire.</li> </ul> The fire enclosure is required.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	Parts are mounted on PCB of flammability class V-0 or better.	P
4.7.3.2	Materials for fire enclosures	The fire enclosure is V-1 or better material.	P



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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.3	Materials for components and other parts outside fire enclosures	No part outside fire enclosure	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are V-2 or better	P
4.7.3.5	Materials for air filter assemblies	No air filters	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage components	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	See below	P
5.1.2	Configuration of equipment under test (EUT)	Product has only one mains connection.	P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Figure 5A used	P
5.1.4	Application of measuring instrument	Using measuring instrument in Annex D	P
5.1.5	Test procedure	The touch current was measured from mains to DC output connector and to a 100 mm x 200 mm metal foil wrapped on accessible non-conductive parts (plastic enclosure)	P
5.1.6	Test measurements	See below	P
	Supply voltage (V) .....	See appended table 5.1.6	—
	Measured touch current (mA) .....	See appended table 5.1.6	—
	Max. allowed touch current (mA) .....	See appended table 5.1.6	—
	Measured protective conductor current (mA) .....		—
	Max. allowed protective conductor current (mA) ..		—
5.1.7	Equipment with touch current exceeding 3,5 mA	Neither stationary permanently connected nor stationary pluggable type B product.	N/A
5.1.7.1	General .....		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No TNV	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....		—
	Measured touch current (mA) .....		—
	Max. allowed touch current (mA) .....		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	Output overload test, the most unfavorable load test. (see appended table 5.3)	P
5.3.2	Motors	No motor	N/A
5.3.3	Transformers	With the shorted o/p of the transformer, no high temperature of the transformer was recorded. Results of the short-circuit tests see appended table 5.3 and Annex C.	P
5.3.4	Functional insulation .....	Method c). Test results see appended table 5.3	P
5.3.5	Electromechanical components	No such component	N/A
5.3.6	Audio amplifiers in ITE .....	No such device	N/A
5.3.7	Simulation of faults	Results see appended table	P
5.3.8	Unattended equipment	None of the listed components was provided	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire propagated beyond the product, no molten metal was emitted. Electric strength test between Pri. and SELV was passed.	P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	No TNV	N/A
	Supply voltage (V) .....		—
	Current in the test circuit (mA) .....		—
6.1.2.2	Exclusions .....		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements	No TNV	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	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A) .....	No TNV	—
	Current limiting method .....		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	Not connected to cable distribution system	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)	Not such equipment	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 (see IEC 60695-11-3)		N/A
	Flame A, B, C or D .....		—
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).....		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material .....	Certified source of material used.	—
	Wall thickness (mm) .....		—
A.2.2	Conditioning of samples; temperature (°C) .....		N/A
A.2.3	Mounting of samples .....		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C .....		—
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 60695-11-5, cl. 5 and 9		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	No motor provided	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.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) .....		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) .....		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position .....	T1	—
	Manufacturer .....	GlobTek	—
	Type .....	See appended table 1.5.1	—
	Rated values .....	Class B	—
	Method of protection .....	By protective circuits design	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended table 5.2)	P
	Protection from displacement of windings .....	By insulation tape	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances	This method was not considered	N/A
G.1.1	General		N/A
G.1.2	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	Earthed d.c. mains supplies .....		N/A
G.2.3	Unearthed d.c. mains supplies .....		N/A
G.2.4	Battery operation .....		N/A
G.3	Determination of telecommunication network transient voltage (V) .....		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks .....		N/A
G.4.2	Transients from telecommunication networks .....		N/A
G.4.3	Combination of transients		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances .....		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used .....	No such metal(s) used	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity	No thermal controls used	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
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
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	The equipment is operated according to the most unfavorable way of operation given in the operating instructions.	P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.1	Introduction	No telephone signal	N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) .....		—
M.3.1.2	Voltage (V) .....		—
M.3.1.3	Cadence; time (s), voltage (V) .....		—
M.3.1.4	Single fault current (mA) .....		—
M.3.2	Tripping device and monitoring voltage .....		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) .....		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators	Not such equipment	N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	a) Preferred climatic categories .....		P
	b) Maximum continuous voltage .....		P
	c) Pulse current .....		P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)	No coated PCB used	N/A
R.2	Reduced clearances (see 2.10.3)	Not inspected	N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment	Not such equipment	N/A
S.2	Test procedure	Not such equipment	N/A
S.3	Examples of waveforms during impulse testing	Not such equipment	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
		See separate test report	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Approved TIW used in T1	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	TN, IT	P
V.2	TN power distribution systems		P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits	Not connect to telecommunication networks	N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current	Not considered	N/A
X.2	Overload test procedure	Not considered	N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus .....	No such device	N/A
Y.2	Mounting of test samples .....		N/A
Y.3	Carbon-arc light-exposure apparatus .....		N/A
Y.4	Xenon-arc light exposure apparatus .....		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—

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Clause	Requirement + Test	Result - Remark	Verdict

EN 60950-1:2006 – CENELEC COMMON MODIFICATIONS			
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations		P
General	Delete all the “country” notes in the reference document according to the following list: 1.4.8 Note 2                    1.5.1 Note 2 & 3                    1.5.7.1 Note 1.5.8 Note 2                    1.5.9.4 Note                    1.7.2.1 Note 4, 5 & 6 2.2.3 Note                    2.2.4 Note                    2.3.2 Note 2.3.2.1 Note 2                    2.3.4 Note 2                    2.6.3.3 Note 2 & 3 2.7.1 Note                    2.10.3.2 Note 2                    2.10.5.13 Note 3 3.2.1.1 Note                    3.2.4 Note 3.                    2.5.1 Note 2 4.3.6 Note 1 & 2                    4.7 Note 4                    4.7.2.2 Note 4.7.3.1 Note 2                    5.1.7.1 Note 3 & 4                    5.3.7 Note 1 6 Note 2 & 5                    6.1.2.1 Note 2                    6.1.2.2 Note 6.2.2 Note 6.                    2.2.1 Note 2                    6.2.2.2 Note 7.1 Note 3                    7.2 Note                    7.3 Note 1 & 2 G.2.1 Note 2                    Annex H Note 2		N/A
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure  The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones.  NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		P
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss		N/A

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Clause	Requirement + Test	Result - Remark	Verdict												
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		P												
2.7.2	This subclause has been declared 'void'.		N/A												
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A												
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table border="1"> <tr> <td>  Up to and including 6</td> <td></td> <td>0,75<sup>a)</sup></td> <td> </td> </tr> <tr> <td>  Over 6 up to and including 10</td> <td>(0,75)<sup>b)</sup></td> <td>1,0</td> <td> </td> </tr> <tr> <td>  Over 10 up to and including 16</td> <td>(1,0)<sup>c)</sup></td> <td>1,5</td> <td> </td> </tr> </table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition<sup>a)</sup>.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6		0,75 <sup>a)</sup>		Over 6 up to and including 10	(0,75) <sup>b)</sup>	1,0		Over 10 up to and including 16	(1,0) <sup>c)</sup>	1,5			N/A
Up to and including 6		0,75 <sup>a)</sup>													
Over 6 up to and including 10	(0,75) <sup>b)</sup>	1,0													
Over 10 up to and including 16	(1,0) <sup>c)</sup>	1,5													
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <table border="1"> <tr> <td>  Over 10 up to and including 16</td> <td>1,5 to 2,5</td> <td>1,5 to 4</td> <td> </td> </tr> </table> <p>Delete the fifth line: conductor sizes for 13 to 16 A.</p>	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4			N/A								
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4													
4.3.13.6	<p>Add the following NOTE:</p> <p>NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.</p>		N/A												



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Clause	Requirement + Test	Result - Remark	Verdict
Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 <math>\mu\text{Sv/h}</math> (0,1 mR/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows:</p> <p>NOTE These values appear in Directive 96/29/Euratom.</p> <p>Delete NOTE 2.</p>		N/A
Bibliography	Additional EN standards.		—
ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS (UPDATED ACCORDING TO A11: 2009)		—
ZB	SPECIAL NATIONAL CONDITIONS (UPDATED ACCORDING TO A11: 2009)		P
1.2.4.1	In <b>Denmark</b> , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14	In <b>Norway</b> and <b>Sweden</b> , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In <b>Finland, Norway</b> and <b>Sweden</b> , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In <b>Norway</b> , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		P
1.5.9.4	In <b>Finland, Norway</b> and <b>Sweden</b> , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	<p>In <b>Finland, Norway</b> and <b>Sweden</b>, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In <b>Finland</b>: "Laitte on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In <b>Norway</b>: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In <b>Sweden</b>: "Apparaten skall anslutas till jordat uttag"</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>In <b>Norway</b> and <b>Sweden</b>, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).”</p> <p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):  “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”</p> <p>Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p>		N/A
1.7.5	<p>In <b>Denmark</b>, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>		N/A
2.2.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In <b>Finland, Norway</b> and <b>Sweden</b> there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the <b>United Kingdom</b> , the current rating of the circuit shall be taken as 13 A, not 16 A.		P
2.7.1	In the <b>United Kingdom</b> , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In <b>Finland, Norway</b> and <b>Sweden</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A

IEC/EN 60950-1															
Clause	Requirement + Test	Result - Remark	Verdict												
3.2.1.1	<p>In <b>Switzerland</b>, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <table border="0"> <tr> <td>SEV 6532-2.1991</td> <td>Plug Type 15</td> <td>3P+N+PE</td> <td>250/400 V, 10 A</td> </tr> <tr> <td>SEV 6533-2.1991</td> <td>Plug Type 11</td> <td>L+N</td> <td>250 V, 10 A</td> </tr> <tr> <td>SEV 6534-2.1991</td> <td>Plug Type 12</td> <td>L+N+PE</td> <td>250 V, 10 A</td> </tr> </table> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25, 3L+N+PE 230/400 V, 16 A  SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A  SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>	SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A	SEV 6533-2.1991	Plug Type 11	L+N	250 V, 10 A	SEV 6534-2.1991	Plug Type 12	L+N+PE	250 V, 10 A		N/A
SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A												
SEV 6533-2.1991	Plug Type 11	L+N	250 V, 10 A												
SEV 6534-2.1991	Plug Type 12	L+N+PE	250 V, 10 A												
3.2.1.1	<p>In <b>Denmark</b>, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A												
3.2.1.1	<p>In <b>Spain</b>, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A												
	<p>In the <b>United Kingdom</b>, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A												
	<p>In <b>Ireland</b>, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.</p>		N/A												
3.2.4	In <b>Switzerland</b> , for requirements see 3.2.1.1 of this annex.		N/A												

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	In the <b>United Kingdom</b> , a power supply cord with conductor of 1,25 mm <sup>2</sup> is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the <b>United Kingdom</b> , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm <sup>2</sup> to 1,5 mm <sup>2</sup> nominal cross-sectional area.		N/A
4.3.6	In the <b>United Kingdom</b> , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
	In <b>Ireland</b> , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In <b>Finland, Norway and Sweden</b> TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that ○ is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and ○ has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and ○ is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A
6.1.2.1	In <b>Finland, Norway and Sweden</b> , add the following text between the first and second paragraph of the compliance clause: <p style="text-align: right;">If</p> this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. <span style="float: right;">A</span></p> <p>capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 132400;</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN132400.</li> </ul>		N/A
6.1.2.2	In <b>Finland, Norway and Sweden</b> , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In <b>Finland, Norway and Sweden</b> , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In <b>Norway and Sweden</b> , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
	In <b>Norway</b> , for installation conditions see EN 60728-11:2005.		N/A
ZC	A-DEVIATIONS (informative) (updated according to A11:2009)		P
1.5.1	<b>Sweden</b> (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A
1.5.1	<b>Switzerland</b> (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.2.1	<p><b>Denmark</b> (Heavy Current Regulations)</p> <p>Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text:</p> <p style="text-align: center;">Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket</p> <p style="text-align: center;"> eller </p> <p>If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p><b>Germany</b> (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.</p>		N/A
1.7.5	<p><b>Denmark</b> (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.</p>		N/A
1.7.13	<p><b>Switzerland</b> (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.</p>		N/A
5.1.7.1	<p><b>Denmark</b> (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.</p>		N/A

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>	
Transformer (T1)	GlobTek	90E336024-xxx ("xxx" to denote the part number, can be any alphanumeric character for marketing purpose only)	Pri. winding (pin 1-2): $\phi$ 0.45mm x 2p x 37Ts; Aux. winding (pin 4-5): $\phi$ 0.30mm x 2p x 8Ts; Sec. winding (pin 8.9-7.6): $\phi$ 0.7mm x 2p x 10Ts. Class B	Applicable part of IEC60950-1 and according to IEC60085	Tested with appliance	
- Triple insulated wire for secondary winding	Furukawa Electric Co., Ltd.	TEX-E	130°C, Class B	IEC/EN 60950-1	VDE	
- Alt.	Furukawa Electric Co., Ltd.	TIW-E	130°C, Class B	IEC/EN 60950-1	VDE	
- Alt.	YongChang	STW-B	130°C, Class B	IEC/EN 60950-1	VDE	
- Alt.	Great leoflon	TRW (B)	130°C, Class B	IEC/EN 60950-1	VDE	
- Alt.	Cosmolink	TIW-M	130°C, Class B	IEC/EN 60950-1	VDE	
- Insulation tape	Four Pillars (SYMBIO)	35660Y/35660/ MY130	130°C	-	UL	
- Alt.	Various	Various	130°C,	-	UL	
Common mode Choke(LF1) (optional)	GlobTek	30R200010- XXX ("XXX" to denote the part number, can be any alphanumeric character for marketing purpose only)	Pin 1-3: $\phi$ 0.60mm x 10Ts; pin 2-4: $\phi$ 0.60mm x 10Ts; 130°C, Min. 100 $\mu$ H	--	Tested with appliance	
Common mode Choke(LF2)	GlobTek	30R200055- XXX ("XXX" to denote the part number, can be any alphanumeric character for marketing purpose only)	Pin 1-3: $\phi$ 0.45mm x 55Ts; pin 2-4: $\phi$ 0.45mm x 55Ts; 130°C, Min. 10mH	--	Tested with appliance	
X capacitor (CX1)	Yimanfeng	MPX/MKP	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384- 14	VDE	

IEC/EN 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	Chiefcon	CKX	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	UTX	HQX	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	PILKOR	PCX2 335M, PCX2 337	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	ISKRA	KNB1560 KNB1530	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Carli	MPX	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Okaya	PA or RE	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	SSE	SX1	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Taishing	MPX	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Teapo	XG-H	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Strong	MPX	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Xinhua	MPX	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Shenzhen Jinghao	CBB62B	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	JOEY	MPX	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Yuon Yu	MPX	Max. 0.33 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
X capacitor (CX2 optional)	Chiefcon	CKX	Max. 0.15 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	UTX	HQX	Max. 0.15 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	PILKOR	PCX2 335M, PCX2 337	Max. 0.15 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	ISKRA	KNB1560 KNB1530	Max. 0.15 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Carli	MPX	Max. 0.15 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Okaya	PA or RE	Max. 0.15 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	SSE	SX1	Max. 0.15 $\mu$ F, AC 275 V, X2	IEC/EN 60384-14	VDE

IEC/EN 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	Taishing	MPX	Max. 0.15µF, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Teapo	XG-H	Max. 0.15µF, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Strong	MPX	Max. 0.15µF, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Xinhua	MPX	Max. 0.15µF, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Shenzhen Jinghao	CBB62B	Max. 0.15µF, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	JOEY	MPX	Max. 0.15µF, AC 275 V, X2	IEC/EN 60384-14	VDE
Alt.	Yuon Yu	MPX	Max. 0.15µF, AC 275 V, X2	IEC/EN 60384-14	VDE
Varistor (MOV1) (optional)	Brightking	07D471K, 10D471K	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Uppermost	V07K300, V10K300	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	JYA-NAY	7D471K, 10D471K	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Centra Science	CNR07D471K, CNR10D471K	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Joyin	JVR07N471K, JVR10N471K	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Walsin	VZ7D471KBS, VZ10D471KBS	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Song Long	SAS-471KD07, SAS-471KD10, MOV-471KD07, MOV-471KD10	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Matsushita	07DK471U, 10DK471U	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Thinking	TVR07471, TVR10471	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Fenghua	FNR-07K471, FNR-10K471	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Fuse (F1)	Wickmann	392	T3.15AL, 250Vac, sub- miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Alt.	Walter	2010 series	T3.15AL, 250Vac, sub- miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Alt.	Lanson	SMT	T3.15AL, 250Vac, sub- miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Alt.	Conquer	MST	T3.15AL, 250Vac, sub- miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Alt.	Bussmann	SS-5	T3.15AL, 250Vac, sub- miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Alt.	Belfuse	RST	T3.15AL, 250Vac, sub- miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Y capacitor (CY2, CY3) (Optional)	TDK	CD	Max. 470pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	Murata	KX, KY	Max. 470pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	Success	SE, SB	Max. 470pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	JYA-NAY	JN, JY	Max. 470pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	Welson	WD	Max. 470pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	Samwha	SD	Max. 470pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	Yuyue	CT7	Max. 470pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Y capacitor (CY1) (Optional)	TDK	CD	Max. 2200pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	Murata	KX, KY	Max. 2200pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	Success	SE, SB	Max. 2200pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	JYA-NAY	JN, JY	Max. 2200pF, 250Vac, Y1	IEC/EN 60384- 14	VDE
Alt.	Welson	WD	Max. 2200pF, 250Vac, Y1	IEC/EN 60384- 14	VDE

IEC/EN 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	Samwha	SD	Max. 2200pF, 250Vac, Y1	IEC/EN 60384-14	VDE
Alt.	Yuyue	CT7	Max. 2200pF, 250Vac, Y1	IEC/EN 60384-14	VDE
Thermistor (NTC1) (optional)	Various	Various	Min. 1.5Ω, Min. 3A	--	UL
Storage cap. (E1)	Various	Various	56μF-200μF, min. 400Vdc, 105°C	--	--
Optocoupler	Sharp	PC817; PC123	Cr.=Min. 4.8 mm; Dti.>0.4 mm	IEC/EN 60950-1	VDE
Alt.	Lite-on	LTV-817	Cr.=Min. 5.2 mm; Dti.=0.8 mm	IEC/EN 60950-1	VDE
Alt.	Cosmo	K1010; KP1010	Cr.=Min. 5.3 mm; Dti.=0.5 mm	IEC/EN 60950-1	VDE
Alt.	Everlight	EL817	Cr.=Min. 5.0 mm; Dti.>0.48 mm	IEC/EN 60950-1	VDE
Alt.	NEC	PS2561	Cr.=Min. 4 mm; Dti.=0.4 mm	IEC/EN 60950-1	VDE
Alt.	(QT) Fairchild	H11A817	Cr.=Min. 7 mm; Dti.=1 mm	IEC/EN 60950-1	VDE
Alt.	Bright	BPC817B, BPC817C	Cr.=Min. 7.62 mm; Dti.=0.5 mm	IEC/EN 60950-1	VDE
Inlet (CN1)	Rong Feng	SS-120	10A, 250Vac, C14 type	IEC/EN 60320-1	VDE
Alt.	Rong Feng	RF-190	2.5A, 250Vac, C6 type	IEC/EN 60320-1	VDE
Alt.	Sun Fair	S-03	10A, 250Vac, C14 type	IEC/EN 60320-1	VDE
Alt.	Sun Fair	S-02	2.5A, 250Vac, C6 type	IEC/EN 60320-1	VDE
Alt.	Tecx-Unions Tech.	TU-301	10A, 250Vac, C14 type	IEC/EN 60320-1	VDE
Alt.	Tecx-Unions Tech.	TU-333	2.5A, 250Vac, C6 type	IEC/EN 60320-1	VDE
Alt.	Bei Er Jia	ST-A01 Series	10A, 250Vac, C14 type	IEC/EN 60320-1	VDE

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt.	Bei Er Jia	ST-A04 Series	2.5A, 250Vac, C6 type	IEC/EN 60320-1	VDE
Enclosure	Sabic Innovative Plastics	SE1X	PPE+PS, V-1, Min. 105°C, Min. thickness 2.0mm	--	UL
Alt.	Asahi	540V	PPE+PS, V-1, Min. 105°C, Min. thickness 2.0mm	--	UL
Alt.	Asahi	540Z	PPE+PS, V-1, Min. 105°C, Min. thickness 2.0mm	--	UL
Yellow/Green wire	Xin Ya	1015	105 °C, VW-1, min. 18AWG	--	UL
Alt.	Various	Various	105 °C, VW-1, min. 18AWG	--	UL
Output Cord	Licheng	1571	80 °C, VW-1, min. 20AWG	--	UL
Alt.	Various	Various	80 °C, VW-1, min. 20AWG	--	UL
Output cord (if the part in enclosure covered with heat shrinkable tube)	Various	Various	60 °C, VW-1, min. 20AWG	--	UL
Heat shrinkable tube	Shenzhen Woer	RSFR	125 °C, VW-1, 600V	--	UL
Alt.	Various	Various	125 °C, VW-1, 600V	--	UL
PCB	Wu Zhou	WZ-2	V-0 or better, Min. 130°C	--	UL
Alt.	Various	Various	V-0 or better, Min. 130°C	--	UL
1) An asterisk indicates a mark which assures the agreed level of surveillance					
Supplementary information: --					



IEC/EN 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I <sub>rated</sub> (mA)	P (W)	Fuse #	I <sub>fuse</sub> (A)	Condition/status
GT-81091-6012-T3 (with common choke LF1)						
90	1327	--	69.0	F1	1327	Rated load at 50Hz
90	1250	--	69.4	F1	1250	Rated load at 60Hz
100	1223	1500	68.6	F1	1223	Rated load at 50Hz
100	1126	1500	68.6	F1	1126	Rated load at 60Hz
240	520	1500	66.7	F1	520	Rated load at 50Hz
240	591	1500	66.9	F1	591	Rated load at 60Hz
264	465	--	66.6	F1	465	Rated load at 50Hz
264	535	--	67.0	F1	535	Rated load at 60Hz
GT-81091-6012-T3 (without common choke LF1)						
90	1325	--	68.8	F1	1325	Rated load at 50Hz
90	1245	--	69.2	F1	1245	Rated load at 60Hz
100	1219	1500	68.3	F1	1219	Rated load at 50Hz
100	1120	1500	68.5	F1	1120	Rated load at 60Hz
240	518	1500	66.7	F1	518	Rated load at 50Hz
240	590	1500	66.6	F1	590	Rated load at 60Hz
264	465	--	66.7	F1	465	Rated load at 50Hz
264	534	--	66.9	F1	534	Rated load at 60Hz
GT-81091-6024-T3 (with common choke LF1)						
90	1160	--	67.8	F1	1160	Rated load at 50Hz
90	1112	--	67.5	F1	1112	Rated load at 60Hz
100	1034	1500	67.3	F1	1034	Rated load at 50Hz
100	1012	1500	66.9	F1	1012	Rated load at 60Hz
240	523	1500	67.1	F1	523	Rated load at 50Hz
240	551	1500	66.8	F1	551	Rated load at 60Hz
264	468	--	67.3	F1	468	Rated load at 50Hz
264	496	--	67.1	F1	496	Rated load at 60Hz
GT-81091-6024-T3 (without common choke LF1)						
90	1150	--	66.8	F1	1150	Rated load at 50Hz
90	1108	--	66.4	F1	1108	Rated load at 60Hz
100	1028	1500	6.9	F1	1028	Rated load at 50Hz
100	1006	1500	65.8	F1	1006	Rated load at 60Hz
240	518	1500	66.9	F1	518	Rated load at 50Hz

IEC/EN 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
240	546	1500	67.0	F1	546	Rated load at 60Hz
264	458	--	66.7	F1	458	Rated load at 50Hz
264	492	--	66.5	F1	492	Rated load at 60Hz
GT-81091-6024-5.0-T3 (with common choke LF1)						
90	1192	--	69.4	F1	1192	Rated load at 50Hz
90	1150	--	69.8	F1	1150	Rated load at 60Hz
100	1052	1500	68.8	F1	1052	Rated load at 50Hz
100	1031	1500	69.3	F1	1031	Rated load at 60Hz
240	535	1500	68.1	F1	535	Rated load at 50Hz
240	544	1500	68.3	F1	544	Rated load at 60Hz
264	480	--	68.4	F1	480	Rated load at 50Hz
264	500	--	68.8	F1	500	Rated load at 60Hz
GT-81091-6024-5.0-T3 (without common choke LF1)						
90	1186	--	68.3	F1	1186	Rated load at 50Hz
90	1145	--	68.9	F1	1145	Rated load at 60Hz
100	1040	1500	69.0	F1	1040	Rated load at 50Hz
100	1027	1500	68.9	F1	1027	Rated load at 60Hz
240	530	1500	67.9	F1	530	Rated load at 50Hz
240	543	1500	68.2	F1	543	Rated load at 60Hz
264	497	--	68.1	F1	497	Rated load at 50Hz
264	498	--	68.5	F1	498	Rated load at 60Hz
Supplementary information: --						

2.1.1.5	TABLE: Max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (Max.) (V)	Current (Max.) (A)	VA (Max.) (VA)	
Model GT-81091-6024-T3					
24	2.5	24.0	3.48	81.2	
Model GT-81091-6024-5.0-T3					
19	3.16	19.5	3.68	70.1	
Model GT-81091-6012-T3					
12	5	12.2	6.69	79.1	
Supplementary information: Test voltage: 264V Test frequency: 60Hz					

2.1.1.7	TABLE: discharge test	P

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

Condition	Tau calculated (s)	Tau measured (s)	t u -> 0V	Comments
Model GT-81091-6024-T3				
System on	0.96	0.81	2.95	Vo=352 V, 37%Vo=130V, Vtc=112V
Note(s): 1. Overall capacity: CX1=0.33 $\mu$ F, CX2=0.15 $\mu$ F 2. Discharge resistor: 2M $\Omega$ (RA=RB=1M $\Omega$ )				

2.2.2	TABLE: Hazardous voltage measurement			P
Transformer	Location	Max. Voltage		Voltage Limitation Component
		Vpeak	Vdc	
Model GT-81091-6024-T3				
Transformer	Pin 6-9	114	--	--
	Output	--	24.0	Q2
Supplementary information: Test voltage: 264V Test frequency: 60Hz				

2.2.3	TABLE: SELV Voltage Measurement		P
Location		Voltage measured (V)	Comments
Model GT-81091-6024-T3			
Output		0 (unit shut down)	Short Q2 pin D-S
Supplementary information: Test voltage: 264V Test frequency: 60Hz			

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.5	TABLE: limited power source measurement		P
		Limits	Measured
Model GT-81091-6024-T3			
Uoc=24.0V (measured under no load conditions)			
According to Table 2B (normal condition)			
Current (in A)	≤8	3.48	P
Apparent power (in VA)	≤100	81.2	P
According to Table 2B (U2 pin1-2 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin1 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3-4 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (R12 short-circuited)			
Current (in A)	≤8	0 (fuse opened immediately)	P
Apparent power (in VA)	≤100	0 (fuse opened immediately)	P
Model GT-81091-6024-5.0-T3			
Uoc=19.5V (measured under no load conditions)			
According to Table 2B (normal condition)			
Current (in A)	≤8	3.68	P
Apparent power (in VA)	≤100	70.1	P
According to Table 2B (U2 pin1-2 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin1 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3-4 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (R12 short-circuited)			

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Current (in A)	≤8	0 (fuse opened immediately) P
	Apparent power (in VA)	≤100	0 (fuse opened immediately) P
Model GT-81091-6012-T3			
Uoc=12.2V (measured under no load conditions)			
According to Table 2B (normal condition)			
	Current (in A)	≤8	6.69 P
	Apparent power (in VA)	≤100	79.1 P
According to Table 2B (U2 pin1-2 short-circuited)			
	Current (in A)	≤8	0 (unit shut down immediately) P
	Apparent power (in VA)	≤100	0 (unit shut down immediately) P
According to Table 2B (U2 pin1 open-circuited)			
	Current (in A)	≤8	0 (unit shut down immediately) P
	Apparent power (in VA)	≤100	0 (unit shut down immediately) P
According to Table 2B (U2 pin3-4 short-circuited)			
	Current (in A)	≤8	0 (unit shut down immediately) P
	Apparent power (in VA)	≤100	0 (unit shut down immediately) P
According to Table 2B (U2 pin3 open-circuited)			
	Current (in A)	≤8	0 (unit shut down immediately) P
	Apparent power (in VA)	≤100	0 (unit shut down immediately) P
According to Table 2B (R12 short-circuited)			
	Current (in A)	≤8	0 (fuse opened immediately) P
	Apparent power (in VA)	≤100	0 (fuse opened immediately) P
Supplementary information: Test voltage: 264V Test frequency: 60Hz			

2.6.3.4	TABLE: Ground continuity test		P
Location		Resistance measured (mΩ)	Comments
Output ground to inlet ground		10	32A, 2 mins
Supplementary information: --			

IEC/EN 60950-1				
Clause	Requirement + Test	Result - Remark	Verdict	
2.10.2	TABLE: Working voltage measurement		P	
Location		RMS voltage (V)	Peak voltage (V)	Comments
Model GT-81091-6024-T3				
T1	pin 1-6	<b>264</b>	460	The max. RMS voltage
	pin 2-6	193	336	
	pin 4-6	252	<b>552</b>	The max. Peak voltage
	pin 5-6	245	464	
	Pin 1-9	239	432	
	pin 2-9	189	312	
	pin 4-9	245	452	
	pin 5-9	242	380	
	CY1	223	356	
	U2 pin 1-3	240	384	
	U2 pin 2-3	240	376	
	U2 pin 1-4	238	376	
	U2 pin 2-4	237	376	
Model GT-81091-6012-T3				
T1	pin 1-6	<b>272</b>	<b>504</b>	Highest working voltage
	pin 2-6	203	344	
	pin 4-6	230	496	
	pin 5-6	234	412	
	Pin 1-9	257	484	
	pin 2-9	201	336	
	pin 4-9	235	448	
	pin 5-9	233	372	
	CY1	224	360	
	U2 pin 1-3	214	356	
	U2 pin 2-3	214	356	
	U2 pin 1-4	214	356	
	U2 pin 2-4	214	356	
Supplementary information: Test voltage: 240V Test frequency: 60Hz				

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

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:							
PCB trace under F1	420	250	1.5	2.8	2.5	2.8	
Line trace to neutral trace	420	250	1.5	2.8	2.5	2.8	
Basic/supplementary:							
Primary circuit to earth before F1	420	250	2.0	6.0	2.5	6.0	
Reinforced:							
Primary components to accessible enclosure	420	250	4.0	6.0	5.0	6.0	
PCB traces under T1	504	272	4.4	6.0	5.8	6.0	
PCB traces under U1	420	250	4.0	7.0	5.0	7.0	
Two pins between CY1	420	250	4.0	6.0	5.0	7.0	
T1 primary winding/core to secondary pin	504	272	4.4	6.0	5.8	6.0	
T1 core to secondary component (LF3)	420	250	4.0	4.5	5.0	6.0	
Supplementary information:							
<ol style="list-style-type: none"> <li>The transformer core is considered as primary circuit.</li> <li>The earthing wire connected to secondary circuit was wrapped by heat shrinkable tube.</li> <li>Concentric wire on POT3319 size bobbin. 2 layers of insulation tape between primary (enamelled copper wire) and secondary winding (triple insulated wire), 2 layers on outer winding. Winding ends additionally fixed with tape, outer winding is primary. 2 layers insulation tape wrapped on transformer core, 2 layers insulation tape on body of transformer.</li> <li>Unless otherwise specified, the worst condition of Cl. &amp; Cr. In above mentioned locations have been considered and listed.</li> </ol>							

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
Enclosure	420	250	AC 3000	0.4	2.0	
Optocoupler	420	250	AC 3000	0.4	1)	
Supplementary information:						
<ol style="list-style-type: none"> <li>Further details are provided in table 1.5.1.</li> <li>Test voltages are a.c.</li> </ol>						

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

4.3.8	TABLE: Batteries							N/A	
The tests of 4.3.8 are applicable only when appropriate battery data is not available									
Is it possible to install the battery in a reverse polarity position?									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:								Verdict	
- Chemical leaks									
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information:									



IEC/EN 60950-1						
Clause	Requirement + Test	Result - Remark				Verdict
4.5	TABLE: Thermal requirements					P
	Supply voltage (V) .....	90V, 60Hz	264V, 50Hz	--	--	---
	Ambient T <sub>min</sub> (°C) .....	40.0	40.0	--	--	---
	Ambient T <sub>max</sub> (°C) .....	40.0	40.0	--	--	---
Maximum measured temperature T of part/at::		T (°C)				Allowed T <sub>max</sub> (°C)
Model GT-81091-6024-T3						
--		Label up	label down	Label up	label down	--
Inlet (near pin)		64.0	63.4	56.3	55.9	-- 70
PCB under BD1		100.7	97.6	78.5	76.3	-- 130
X capacitor CX1		82.8	81.9	73.8	73.3	-- 100
Varistor		78.6	78.7	69.2	69.4	-- 85
T1 winding		101.8	99.4	95.2	93.7	-- 110
T1 core		96.9	93.0	88.5	85.9	-- 110
Linear filter winding LF1		93.4	92.1	78.1	78.0	-- 130
Linear filter winding LF2		102.9	100.0	80.4	78.2	-- 130
PCB under Q1		96.7	93.6	83.5	81.2	-- 130
PCB under Q2		83.2	83.4	84.0	84.6	-- 130
Electrolytic capacitor E1		93.7	90.3	81.5	78.9	-- 105
Electrolytic capacitor E4		76.4	75.2	77.0	76.6	-- 105
Y capacitor CY1		88.6	84.2	80.7	77.4	-- 125
Y capacitor CY2		88.7	84.6	79.5	76.4	-- 125
PE wire		76.6	72.6	64.8	62.1	-- 125
Optocoupler U2		85.1	84.8	82.3	82.5	-- 100
Output cord		64.7	61.5	62.6	60.0	-- 80
Enclosure (inside)		89.5	82.2	79.8	74.0	-- 105
Enclosure (outside)		83.0	71.1	74.4	65.3	-- 95
Ambient		40.0	40.0	40.0	40.0	-- --
Model GT-81091-6024-5.0-T3						
Inlet (near pin)		63.5	63.2	57.9	58.8	-- 70
PCB under BD1		99.1	97.6	76.5	75.7	-- 130
X capacitor CX1		90.7	91.3	78.6	77.8	-- 100
Varistor		79.2	78.9	72.1	72.0	-- 85
T1 winding		103.5	103.3	92.9	91.7	-- 110
T1 core		101.2	97.1	84.8	82.2	-- 110

IEC/EN 60950-1						
Clause	Requirement + Test		Result - Remark			Verdict
Linear filter winding LF1	97.6	96.9	79.2	78.8	--	130
Linear filter winding LF2	102.4	101.2	80.5	79.8	--	130
PCB under Q1	103.5	101.7	84.7	83.7	--	130
PCB under Q2	97.3	95.8	92.4	91.7	--	130
Electrolytic capacitor E1	97.6	98.6	85.3	84.2	--	105
Electrolytic capacitor E4	85.0	82.9	79.9	78.9	--	105
Y capacitor CY1	95.4	92.6	80.8	79.2	--	125
Y capacitor CY2	78.9	76.9	65.0	64.4	--	125
PE wire	98.5	98.1	95.5	95.9	--	125
Optocoupler U2	92.9	93.2	87.6	87.2	--	100
Output cord	67.9	67.3	62.6	62.9	--	80
Enclosure (inside)	97.6	94.5	85.2	81.1	--	105
Enclosure (outside)	88.8	76.1	77.0	67.9	--	95
Ambient	40.0	40.0	40.0	40.0	--	--
Model GT-81091-6012-T3						
Inlet (near pin)	67.1	68.6	56.8	57.3	--	70
PCB under BD1	100.0	108.7	81.3	81.7	--	130
X capacitor CX1	91.3	91.4	76.4	76.8	--	100
Varistor	83.2	83.4	73.8	73.0	--	85
T1 winding	108.7	108.7	102.7	102.9	--	110
T1 core	108.4	107.7	100.7	100.9	--	110
Linear filter winding LF1	108.5	106.9	90.6	90.0	--	130
Linear filter winding LF2	105.7	104.3	95.3	96.2	--	130
PCB under Q1	104.6	104.1	85.7	85.8	--	130
PCB under Q2	98.0	97.8	90.8	90.1	--	130
Electrolytic capacitor E1	97.1	96.4	77.0	76.6	--	105
Electrolytic capacitor E4	101.5	103.7	77.8	78.8	--	105
Y capacitor CY1	91.1	90.5	79.8	79.2	--	125
Y capacitor CY2	84.4	84.7	67.0	67.2	--	125
PE wire	97.0	98.7	85.3	84.3	--	125
Optocoupler U2	96.9	97.4	89.8	90.2	--	100
Output cord	74.6	74.0	68.0	69.1	--	80
Enclosure (inside)	89.8	94.7	70.0	75.4	--	105
Enclosure (outside)	73.1	84.6	60.1	64.7	--	95
Ambient	10.0	40.0	40.0	40.0	--	--
Supplementary information: --						

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

Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Supplementary information:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.

With a rated maximum ambient temperature of 40°C, all tests were performed in room temperature and converted to 40°C, the maximum temperature rises are calculated as follows:

Winding components providing safety isolation:

- Class B → T<sub>max</sub>=120°C - 10°C=110°C (10°C decreased by thermocouple method)

Components with maximum absolute temperature of:

- Output cord	80°C
- Line filter (LF1, LF2) winding	130°C
- PCB	130°C
- Electrolytic Capacitor (C1, C2, C9)	105°C
- Optocoupler U2	100°C
- Y Capacitor (CY1, CY2)	125°C
- X Capacitor (CX1)	100°C
- Enclosure (inside)	105°C
- PE wire (wrapped with heat-shrinkable tube)	125°C
- Varistor (MOV1)	85°C
- Appliance inlet	70°C

Operator touchable surface with maximum temperature rise of:

- 95°C

4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm) .....	≤ 2 mm	—
Part	Test temperature (°C)	Impression diameter (mm)	
PCB	125	0.9	
<u>Supplementary information:</u>			

4.7	TABLE: Resistance to fire					N/A
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	

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

Supplementary information:

5.1.6	TABLE: touch current measurement			P
Condition	L → terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments
System ON	0.01	0.01	0.25	To accessible enclosure wrapped with metal foil
System ON	0.21	0.21	0.25	To output terminal
System ON	0.21	0.21	3.5	To protective earth
Supplementary information: Test voltage: 264Vac Test frequency: 60Hz Capacitance: CY1=2200pF; CY2=CY3=470pF				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No	
Functional:				
Line to Neutral (fuse broke)	AC	1500	No	
Basic/supplementary:				
Line to Earth	AC	1500	No	
Neutral to Earth	AC	1500	No	
Reinforced:				
Unit: primary circuit to secondary circuit	AC	3000	No	
Unit: primary circuit to enclosure	AC	3000	No	
Transformer: primary winding to secondary winding	AC	3000	No	
Transformer: core to secondary winding	AC	3000	No	
One layer of insulation tape	AC	3000	No	
Supplementary information: Core of transformer T1 is considered as primary circuit.				

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

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C) .....				40, unless otherwise specified	—
	Power source for EUT: Manufacturer, model/type, output rating .....				--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
With model GT-81091-6024-T3						
MOV1	SC	264	1s	F1	--	Fuse opened immediately, no hazard.
E1	SC	264	1s	F1	--	Fuse opened immediately, no hazard.
BD1	SC	264	1s	F1	--	Fuse opened immediately, no hazard.
RA	SC	264	30 mins	F1	0.50	Normal operation. No hazard.
R12	SC	264	1s	F1	--	Fuse opened immediately, Q1, U1 damaged, no hazard.
R10	SC	264	30 mins	F1	0.50	Normal operation. No hazard.
C2	SC	264	30 mins	F1	0.05	Unit shuf down immediately, recoverable, no hazard.
D1	SC	264	30 mins	F1	0.54	The input power increased to 70W, temperature was stable, no component damaged. Max. T1 winding = 139.8°, T1 core = 125.5°, ambt. temperature = 40°, no hazard.
T1 pin 1-2	SC	264	30 mins	F1	0.04	Unit shuf down immediately, recoverable, no hazard.
T1 pin 4-5	SC	264	4 mins	F1	0.75	The input power increased to 106.5 W for 4 mins and then fuse opened. No hazard.
T1 pin 6-9	SC	264	30 mins	F1	0.05	Unit shuf down immediately, U4 damaged, no hazard.
Q1 S-G	SC	264	30 mins	F1	0.04	Unit shuf down immediately, recoverable, no hazard.
Q1 G-D	SC	264	1s	F1	--	Fuse opened immediately, U1, Q1, R12, R12A, R12B, R12C damaged, no hazard.
Q1 S-D	SC	264	1s	F1	--	Fuse opened immediately, U1, Q1, R12, R12A, R12B, R12C damaged, no hazard.
Q2 S-G	SC	264	30 mins	F1	0.50	Normal operation, no hazard.

IEC/EN 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
Q2 G-D	SC	264	30 mins	F1	0.04	Unit shut down immediately, Q2 damaged, no hazard.
Q2 S-D	SC	264	30 mins	F1	0.04	Unit shut down immediately, Q2 damaged, no hazard.
Q3 S-G	SC	264	3 hrs	F1	0.50	Normal operation, no hazard.
Q3 G-D	SC	264	30 mins	F1	0.04	Unit shut down immediately, Q2 damaged, no hazard.
Q3 S-D	SC	264	30 mins	F1	0.04	Unit shut down immediately, Q2 damaged, no hazard.
U2 pin 1-2	SC	264	30 mins	F1	0.07	Unit shuf down immediately, recoverable, no hazard.
U2 pin 1	OC	264	30 mins	F1	0.06	Unit shuf down immediately, recoverable, no hazard.
U2 pin 3-4	SC	264	30 mins	F1	0.06	Unit shuf down immediately, recoverable, no hazard.
U2 pin 3	OC	264	30 mins	F1	0.06	Unit shuf down immediately, recoverable, no hazard.
D2	SC	264	30 mins	F1	0.05	Unit shuf down immediately, Q2 damaged, no hazard.
U1 pin 4-5	SC	264	30 mins	F1	0.04	Unit shuf down immediately, recoverable, no hazard.
Output	SC	264	30 mins	F1	0.05	Unit shuf down immediately, recoverable, no hazard.
Output	OL	264	7 hrs	F1	0.63	Output current overload to 3.2A, temperature was stable, no component damaged, max. T1 winding=103.7□, T1 core=101.8□, ambt. temperature=40□, no hazards.
With model GT-81091-6024-5.0-T3						
Output	SC	264	30 mins	F1	0.06	Unit shuf down immediately, recoverable, no hazard.
Output	OL	264	7 hrs	F1	0.57	Output current overload to 3.46A, temperature was stable, no component damaged, max. T1 winding=101.0□, T1 core=98.9□, ambt. temperature=40□, no hazards.
With model GT-81091-6012-T3						
Output	SC	264	30 mins	F1	0.06	Unit shuf down immediately, recoverable, no hazard.

IEC/EN 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
Output	OL	264	7 hrs	F1	0.61	Output current overload to 7.0A, temperature was stable, no component damaged, max. T1 winding=122.2□, T1 core=120.1□, ambt. temperature=40□, no hazards.
Supplementary information: SC=Short circuit; OC=Open circuit; OL=Over Load.						

## Appendix I: Other Country National Differences

AUSTRALIAN NATIONAL DIFFERENCES																		
This national differences according to CB Bulletin No. 112A, December 2006 (AS/NZS 60950.1:2003+A1+A2+A3) (IEC Publication 60950-1:2001)																		
Clause	Requirement + Test	Result - Remark	Verdict															
<b>Annex ZZ Variations</b>																		
1.2	Between the definitions for "Person, service" and "Range, rated frequency" insert the following:  Potential ignition source 1.2.12.201	Inserted	P															
1.2.12.15	After the definition of 1.2.12.15, add the following: 1.2.12.201 Potential ignition source: Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50Vpeak a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards. NOTE 201: An electronic protection circuit may be used to prevent such a fault from becoming a potential ignition source. NOTE 202: This definition is from AS/NZS 60065:2003.	Added	P															
1.5.1	Add the following to the end of first paragraph: "or the relevant Australian/New Zealand Standard."	Added	P															
1.5.2	Add the following to the end of first and third dash items: "or the relevant Australian/New Zealand Standard."	Added	P															
2.1	Delete the Note	Deleted	N/A															
3.2.3	Delete Note 2.	Deleted	N/A															
3.2.5	Modify Table 3B as followings: <table border="1" data-bbox="462 1306 1075 1772"> <thead> <tr> <th>Rated current of equipment A</th> <th>Nominal Cross-sectional area mm<sup>2</sup></th> <th>AWG or kcmil (cross-sectional area in mm<sup>2</sup>) see note 2</th> </tr> </thead> <tbody> <tr> <td>Over 0.2 up to and including 3</td> <td>0.51)</td> <td>18 [0.8]</td> </tr> <tr> <td>Over 3 up to end including 7.5</td> <td>0.75</td> <td>16 [1.3]</td> </tr> <tr> <td>Over 7.5 up to and including 10</td> <td>(0.75)2) 1.00</td> <td>16 [1.3]</td> </tr> <tr> <td>Over 10 up to and including 16</td> <td>(1.0)3) 1.50</td> <td>14 [2.0]</td> </tr> </tbody> </table> Replace footnote 1) with the following: 1) This nominal cross-sectional area is only allowed for	Rated current of equipment A	Nominal Cross-sectional area mm <sup>2</sup>	AWG or kcmil (cross-sectional area in mm <sup>2</sup> ) see note 2	Over 0.2 up to and including 3	0.51)	18 [0.8]	Over 3 up to end including 7.5	0.75	16 [1.3]	Over 7.5 up to and including 10	(0.75)2) 1.00	16 [1.3]	Over 10 up to and including 16	(1.0)3) 1.50	14 [2.0]	Replaced	N/A
Rated current of equipment A	Nominal Cross-sectional area mm <sup>2</sup>	AWG or kcmil (cross-sectional area in mm <sup>2</sup> ) see note 2																
Over 0.2 up to and including 3	0.51)	18 [0.8]																
Over 3 up to end including 7.5	0.75	16 [1.3]																
Over 7.5 up to and including 10	(0.75)2) 1.00	16 [1.3]																
Over 10 up to and including 16	(1.0)3) 1.50	14 [2.0]																



## Appendix I: Other Country National Differences

<b>AUSTRALIAN NATIONAL DIFFERENCES</b>			
This national differences according to CB Bulletin No. 112A, December 2006 (AS/NZS 60950.1:2003+A1+A2+A3) (IEC Publication 60950-1:2001)			
Clause	Requirement + Test	Result - Remark	Verdict
<b>Annex ZZ Variations</b>			
	Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliances, and the entry to the plug does not exceed 2m (0.5 <sup>2</sup> three-core supply flexible cords are not permitted; see AS/NZS 3191). Delete Note 1.		
4.1.201	Add the following after the last Paragraph of Clause 4.1: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7Kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.	No such device	N/A
4.3.6	Replace paragraph three with: Equipment with a plug portion, suitable for insertion into a 10A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.	Not direct plug-in equipment	N/A
4.3.13.5	Add the following to the end of the first paragraph: “, or AS/NZS 2211.1”	Added	N/A
4.7	Add the following paragraph: For alternative tests refer to clause 4.7.201.	Added	P
4.7.201	Add the following after clause 4.7.3.6: 4.7.201 Resistance to fire – Alternative tests	Added	P
4.7.201.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following: Components that are contained in an enclosure having a flammability category of FV-0 according to AS/NZS 4695.707 and having openings only for the connecting wires filling the openings completely, and for the ventilation not exceeding 1mm in width regardless of the length. The following parts which would contribute negligible fuel to a fire: Small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; Small electrical components, such as capacitors with a volume not exceeding 1750mm <sup>3</sup> , integrated circuits, transistors and optocoupler packages, if these components are mounted on material flammability	Enclosure, PCB, bobbin	P

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<b>Annex ZZ Variations</b>			
	category FV-1 or better according to AS/NZS 4695.707 NOTE – In considering how to minimize propagation of fire and what “small parts” are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance is checked by tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base materials of printed boards, compliance is checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material, which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation, as they would be in normal use. These tests are not carried out on internal wiring.		
4.7.201.2	Parts of non-metallic material are subjected to glow wire test of AS/NZS 4695.2.11, which is carried out at 550°C. Parts for which the glow-wire test can not be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of materials classified at least FH-3 according to ISO 9772 provided that the sample was not thicker than the relevant part.	Enclosure	P
4.7.201.3	Testing of insulating materials Parts of insulating materials supporting potential ignition sources shall be subject to the glow-wire test of AS/NZS 4695.2.11, which is carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3,, of the connection. NOTE – Contacts in components such as switch contacts are considered to be connections. For parts, which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20mm and a height of 50mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications: 5 Severities Replace with: The duration of application of the test flame shall be 30s±1s.	PCB, bobbin	P

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Clause	Requirement + Test	Result - Remark	Verdict
<b>Annex ZZ Variations</b>			
	<p>8 Test procedure</p> <p>8.2 Modification: Replace the first sentence with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1.</p> <p>8.4 Modification: The first paragraph does not apply.</p> <p>Addition: If possible, the flame shall be applied at least 10mm from a corner.</p> <p>8.5 Replacement: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test.</p> <p>10 Evaluation of test results Replace with: The duration of burning (tb) shall not exceed 30s. However, for printed circuit boards, it shall not exceed 15s. The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to IEC 60695-11-10, provided that the sample tested was not thicker than the relevant part.</p>		
4.7.201.4	<p>Testing in the event of non-extinguishing material if parts, other than enclosures, do not withstand the glow-wire tests of 4.7.201.3, by failure to extinguish within 30s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 is made on all parts of non-metallic material which are within a distance of 50mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not to be tested.</p> <p>NOTE 1 – If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirement of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 2 – If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burring or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 3 – Parts likely to be impinged upon by the flame are considered to be those within the envelope of</p>	Added	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>Annex ZZ Variations</b>			
	a vertical cylinder having a radius of 10mm and a height equal to the height of the flame, positioned above the point of the material supporting in contact with or in close proximity to connections.		
4.7.201.5	<p>Testing of printed boards</p> <p>The base material of printed boards is subjected to needle-flame test to Clause 4.7.201.3. The flame is applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3mm for a potential ignition source.</p> <p>The test is not carried out if the –</p> <p>Printed board does not carry any potential ignition source;</p> <p>Base material of printed boards, on which the available apparent power at a connection exceeds 15VA operating at a voltage exceeding 50V and equal or less than 400Vpeak a.c. or d.c. under normal operating conditions, is of flammability category FV-1 or better according to AS/NZS 4695.707, or the printed boards are protected by an enclosure meeting the flammability category FV-0 according to AS/NZS 4695.707, or made of metal, having openings only for connecting wires which fill the opening completely, or</p> <p>Base material of printed boards, on which the available apparatus power at a connection exceeds 15VA operating at a voltage exceeding 400Vpeak a.c. or d.c. under normal operating conditions, and base material printed boards supporting spark gaps which provide protection against overvoltages, is of flammability category FV-09 according to AS/NZS 4695.707 or the printed boards are contained in a metal enclosure, having openings only for connecting wires fill the openings completely.</p> <p>Compliance is determined using the smallest thickness of the material.</p> <p>NOTE – Available apparent power is the maximum apparent power, which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.</p>	Added	N/A
6.2.2	<p>Add the following after the first paragraph:</p> <p>In Australia (this variation does not apply in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2.</p> <p>Delete the note.</p>	No TNV	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>Annex ZZ Variations</b>			
6.2.2.1	Delete Note 2. Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of annex N for 10/700 $\mu$ s impulses. The interval between successive impulses is 60s and the initial voltage, $U_c$ , is: - for 6.2.1 a): 7.0KV for hand-held telephones and for headsets and 2.5KV for other equipment; and - for 6.2.1 b) and 6.2.1 c): 1.5KV NOTE 201 – The 7KV impulse simulates lighting surges on typical rural and semi-rural network lines. NOTE 202 – The 2.5KV impulse for 6.2.1 a) was chosen to ensure adequacy of the insulation concerned and dose not necessarily simulate likely overvoltages.	No TNV	N/A
6.2.2.2	Delete the note. Add the following after the second paragraph: In Australia (this variation does not apply in New Zealand), the a.c. test voltage is: - for 6.2.1 a): 3KV; and - for 6.2.1 b) and 6.2.1 c): 1.5KV. NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 – The 3KV and 1.5KV values have been determined considering the low frequency induced voltages from the power supply distribution system.	No TNV	N/A
7.2	Add the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.	Not connected to cable distribution system.	N/A
Annex M.2	Delete the second and third equations and replace with: $I_{1st} = \frac{t_1 - 600}{600} \times \frac{I_{sp}}{2\sqrt{2}} + \frac{1200 - t_1}{600} \times \frac{I_p}{\sqrt{2}} \quad \text{for } (600 \text{ ms} < t_1 < 1200 \text{ ms})$ $I_{1st} = \frac{I_{sp}}{2\sqrt{2}} \quad \text{for } (t_1 \geq 1200 \text{ ms})$	No TNV	N/A
Annex P	Add the following Normative References to Annex P: IEC 60065, Audio, Video and similar electronic apparatus – Safety requirements	Added	P

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Clause	Requirement + Test	Result - Remark	Verdict
<b>Annex ZZ Variations</b>			
	AS/NZS 3191, Approval and test specification – Electric flexible cords AS/NZS 3112, Approval and test specification – Plugs and socket-outlets AS/NZS 4695.707, Fire hazard testing of electrotechnical products – Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source		
Annex ZZ.2	Add the following after Clause 3.2.5.1: 4.1.201 Add the following after the last Paragraph of Clause 4.1: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7Kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.	No such device	N/A
	Add the following after Clause 6.2.2.2: 7.2 Add the following before the first paragraph: Equipment provides functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided in the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.	Not connected to cable distribution system.	N/A

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Japanese National Differences according to CB Bulletin Bo. 112A, December 2006 (J 60950(H19))			
IEC Publication 60950:1999			
J 60950(H19):2007 Test report			
(Deviations from IEC 60950 3 rd edition, 1999)			
Special National conditions, National deviation and other information according to MITI Ordinance No. 85.			
Clause	Requirement + Test	Result - Remark	Verdict
1.2	Add the following terms. Equipment, Class 01      1.2.4.101 Material, VTM              1.2.12.101	Added	P
1.2.4.101	Add this sub-clause: CLASS 01 EQUIPMENT: Equipment where protection against electric shock is achieved by: a) using BASIC INSULATION, and b) providing a means of connecting to the protective earthing conductor in the building wiring those conductive parts that are otherwise capable of assuming HAZARDOUS VOLTAGES if the BASIC INSULATION fails, and c) using a supply cord without earthing conductor and a plug without earthing wire although the equipment has externally an earth terminal or a lead wire for earthing. Equipment provided with a cord set having a teo-pin type plug with a lead wire for earthing is also regarded as Class 01. NOTE – Class 01 equipment may have a part constructed with Double Insulation or Reinforced Insulation as well as an operating part as SELV circuit.	Added	N/A
	Replace the first sentence of this Sub-Clause by: FLAMMABILITY CLASSIFICATION OF MATERIALS: The recognition of the burning behavior of materials and their ability to extinguish if ignited. Materials are classified as in 1.2.12.2 to 1.2.12.9, and 1.2.12.101 when tested in accordance with Annex A.	Replaced	N/A
	Add the following NOTE 3: NOTE3 – Similarly, for thin MATERIALS, VTM-0 Class materials are regarded as better than those of VTM-1 Class, and VTM-1 better than VTM-2.	Added	P

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IEC Publication 60950:1999			
J 60950(H19):2007 Test report			
(Deviations from IEC 60950 3 rd edition, 1999)			
Special National conditions, National deviation and other information according to MITI Ordinance No. 85.			
Clause	Requirement + Test	Result - Remark	Verdict
	Add this sub-clause: VTM CLASS MATERIAL: Thin MATERIALS fulfill the specified conditions during the test of Sub-Clause A.101 applied for materials that the test and evaluation of clauses A.6 to A.10 is different to execute. Materials are classified to three classifications as VTM-0, VTM-1 and VTM-2 according to the state after the removal of the test flame.	Added	N/A
1.7.101	Add this sub-clause: Marking for CLASS 01 EQUIPMENT For CLASS 01 EQUIPMENT, the following instruction shall be indicated on the visible place of the mains plug or the main body: "Provide an earthing connection" <i>Example in Japanese:</i> <b>必ず接地接続を行って下さい</b> Moreover, for CLASS 01 EQUIPMENT, the following instruction shall be indicated on the visible place of the main body or written in the operating instructions: "Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains." <i>Example in Japanese:</i> 接地接続は必ず、電源プラグを電源につなぐ前に行ってください。又、接地接続を外す場合は、必ず電源プラグを電源から切り離してから行って下さい。	Class I equipment	N/A
2.1.1.1	In the Item b) of this Sub-Clause, replace "IEC 60083" to "IEC 60083 or JIS C 8303".	Not direct plug-in equipment	N/A
2.6.3.1	Add the following after 1 <sup>st</sup> paragraph of this Sub-Clause. This also applies to the conductor of lead wire for protective earthing of CLASS 01 EQUIPMENT.	Added	N/A
2.6.4.1	Replace the second sentence in the first paragraph of this Sub-Clause by: For CLASS I EQUIPMENT with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is	Replaced	P



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Japanese National Differences according to CB Bulletin Bo. 112A, December 2006 (J 60950(H19))			
IEC Publication 60950:1999			
J 60950(H19):2007 Test report (Deviations from IEC 60950 3 rd edition, 1999)			
Special National conditions, National deviation and other information according to MITI Ordinance No. 85.			
Clause	Requirement + Test	Result - Remark	Verdict
	regarded as the main protective earthing terminal.		
2.6.5.4	Replace the first sentence of this Sub-Clause by: Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:	Replaced	P
2.6.101	Add this Sub-Clause: Earthing of CLASS 01 EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 01 EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external where easily visible.	Not such equipment	N/A
3.2.5	Delete 1) in Table 3B.	Deleted	N/A
4.2.8	Add the following informative remark after the last sentence. Remark – IEC 61965 is also applicable instead of IEC 60065.	Added	N/A
4.5.1	In the right column of "Table 4A – Temperature rise limits, Part 1", add a suffix symbol 7) to "50" (K), corresponding to "- without T – marking" in the left column, so as to become "50 <sup>7)</sup> ".	Added	P
	Add the following to Suffix 5) of Table 4A (part one and part two). With regard to "Table 4A – Temperature rise limits, Part 1", insulating materials complying with Japanese requirements (see Attachment below) are also acceptable.	Added	P
	Added the following to Suffix 7) in Table 4A (part one and part two). 7) This value shall apply only to wiring or cords complying with relevant IEC standards. Others shall comply with Japanese requirements (see Attachment below)	Added	P

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## Attachment

The insulating materials shall not be exposed to the temperature exceeding the values when the appliance is operated at rated voltage and normal operating condition.

These values may be increased by;

- 8 degrees for Duty 2 appliance, and
- 16 degrees for Duty 3 appliance.

In order to classify the appliances, following assumptions are to be used.

- Duty 1 appliances: considered to be connected to supply mains throughout the years such as refrigerators
- Duty 2 appliances: considered to be connected to be in between Duty 1 and Duty 3 such as room heaters
- Duty 3 appliances: considered to be connected to supply mains when it is operated for rather short time such as portable coffee mill.

## Permissible temperature limits of insulating materials

Natural materials	
Material	Permissible temperature limit (°C)
Bituminous compound for filter	75, (105) 1)
Paper, cotton, silk, other natural fiber and wood	90, (105) 2)
Oil denatured natural resin	105
Silica powder	500
Mica (Hard)	500, (600) 3)
(Soft)	650, (850) 3)

Notes: 1) Value applies to thermal insulating materials.

2) Value applies to materials impregnated with varnish.

3) Value in parenthesis is applied when mechanical external force is absent.

## Mica splittings and untreated mica papers

Lining	Adhesive							Permissible Temperature Limit (°C)
	a	b	c	d	e	f	g	

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None	X	X	X	X						130 155 180; 450, (700) <sup>1)</sup> ; 600, (800) <sup>2)</sup> 600, (700) <sup>1)</sup> ; 700, (850) <sup>2)</sup>
Paper	X	X	X	X						130
Polyethylene terephthalate film				X						130
Glass fabric				X						130 155 180
Polyester nonwoven fabric, Polyester woven, and Polyethylene naphthalate film				X						130 155
Polyamide-imide film, Aramide film, and Polyimide film								X	X	155 180

a: with asphalt base

b: with natural resin or denatured natural resin base

c: with ceramic base

d: with oil-denatured synthetic resin, alkyd orthophthalate resin or cross-linked polyester base.

e: with silicon-denatured synthetic resin, isophthalate alkyd resin, telephthalate alkyd resin or epoxy resin.

f: with silicon resin.

g: inorganic

Notes: 1) value applies to hard mica-made heating substrate.

2) value applies to soft mica-made heating substrate.

Remarks: value in parenthesis is applied when mechanical external force is absent.

## Organic materials (Thermosetting Resins)

Material	Permissible temperature limit (°C)
laminated melamine resin mixed with glass fiber	75, (100) <sup>1)</sup>
moulded melamine resin mixed with:	
cellulose	120
inorganics	140
laminated phenol resin with:	
cotton fiber base	115, (85) <sup>2)</sup>
paper base	120, (70) <sup>3)</sup>
polyamide cloth base	75
inorganics	140
moulded phenol resin with:	
inorganics	150, (160) <sup>1)</sup>
others	140, (150) <sup>1)</sup>
moulded melamine phenol resin with the gravity of less than 1.55	130

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moulded urea resin mixed with cellulose	90
unsaturated polyester-casting	120
laminated unsaturated polyester mixed with inorganics	140
moulded unsaturated polyester mixed with:	
other than organics	120
inorganic powder	140
glass fiber	155
epoxy resin-casting	120
laminated epoxy resin mixed with:	
inorganic	130, (140) <sup>1)</sup>
other than inorganics	110, (90) <sup>3)</sup>
moulded epoxy resin mixed with inorganics	130
laminated diallyl phthalate resin mixed with inorganics	140
moulded diallyl phthalate resin mixed with:	
other than inorganics	130
inorganic powder	150
glass fiber	155
xylene resin-casting	140
polyamide-imide film	180
laminated silicone resin mixed with inorganics	180, (220) <sup>1)</sup>
moulded silicon resins mixed with inorganics	180, (240) <sup>4)</sup>
polyimide film	210
laminated polyimide	190
polybutadiene-casting	120
moulded polybutadiene mixed with inorganics	130
laminated diphenyl oxide mixed with inorganics	180

Notes: 1) Values apply to thermal insulating materials.

2) Values apply to materials with a thickness less than 0.8 mm.

3) Values apply to materials with a thickness less than 0.8 mm when treated to retard flame.

4) Values apply to materials used for thermal insulation and to seal outlets of sheathed heating wires.

## Organic materials (Thermoplastic Resins)

Material	Permissible temperature limit (°C)
methacrylic resin, cellulose resin, cellulose acetate butylate resin, vulcanise, polyethylene	50
foamed polyethylene compound for insulated conductors, polyvinyl chloride	60
polyethylene compound for insulated conductors, heat-resistant polyvinyl chloride, cross-linked polyvinyl chloride compound for insulated conductors	75
cross-linked polyethylene, chlorinated polyethylene compound for insulated conductors	90
acrylonitrile acrylic rubber styrene resin, acrylonitrile chlorinated polyethylene styrene resin	55
acrylonitrile styrene resin, acrylonitrile butadiene resin,	

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acrylonitrile butadiene chlorinated polyethylene resin	
: general	55
: reinforced with glass fiber	80
polypropylene	
: general	105, (85) <sup>3)</sup>
: reinforced with glass fiber	110
denatured polyphenyle oxide	
: general	75
: reinforced with glass fiber	100
Polystyrene	50, (70) <sup>1)</sup>
polyacetal	
: general	100
: reinforced with glass fiber	120
polyamide	
: general	90
: reinforced with glass fiber	120
polycarbonate	
: general	110
: reinforced with glass fiber	120
polyethylene terephthalate	
: general	120
: reinforced with glass fiber	130
polybutylene terephthalate	
: general	120
: reinforced with glass fiber	135
heat resistant polyethylene terephthalate film	135
fluorinated polyvinylidene compound for insulated conductors, polychlorotrifluoroethylene (ethylene-trifluoride resin), ethylene-tetrafluoroethylene copolymer for insulated conductors	150
tetrafluoroethylene hexafluoropropylene resin	200
polytetrafluoroethylene(ethylene-tetrafluoride), perfluoroalkoxy compound for insulated conductors	250
aramide(aromatic polyamide paper)	220
Polysulfone	140, (150) <sup>2)</sup>
polyethylene naphthalate	155
polyallylate	
: general	120
: reinforced with glass fiber	130

Notes : 1) Values apply to capacitor dielectrics.

2) Values apply to thermal insulating material

3) Values apply to materials with a thickness of less than 0.8 mm

4) Inorganic materials

## Inorganic materials

Material	Permission temperature limit (°C)
glass fiber (only alkaline free)	300
lead glass	380
borosilicate glass	490
quartz glass	800
ceramic	800, (1000) <sup>1)</sup>

Note: 1) Value apply to materials used as electric heating elements

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## Rubber compounds

Material	Permission temperature limit (°C)
natural rubber, polyurethane rubber, ebonite	60
nitrile rubber, styrene butadiene rubber, chloroprene rubber	75
butyl rubber	80
ethylene propylene (diene) rubber, chlorosulfonated polyethylene rubber	90
silicone rubber	180, (200) <sup>1)</sup>

Note : 1) Value apply to thermal insulating material and sealing compounds for sheathed heating elements.

## Sleeves, Cloth, Tapes and like

Material	Impergnat or coating	Permission temperature limit (°C)
rayon, cellulose acetate, vinylon	adhesive, oil varnish	105
paper, cotton fabric, silk fabric, polyamide, polyester fabric, polyester nonwoven fabric	oil varnish	105
polyester fabric, polyester nonwoven fabric	alkyd resin varnish	120
glass fabric	(ditto)	130
paper	Iso or terephtalate alkyd resin varnish, epoxy resin varnish, alkyd resin varnish	105
polyester fabric, polyester nonwoven fabric	(ditto)	120
glass fabric, aramide paper	Iso or terephtalate, alkyd resin varnish, epoxy resin varnish	155
	silicone resin varnish, silicone rubber	180
vulcanised fiber		105
heat resistant fiber		120

4.7.3.2	Add the following in 7 <sup>th</sup> paragraph of this Sub-Clause. - for thin materials, e.g., flexible printed boards, ect., used inside equipment, be of FLAMMABILITY CLASS VTM-2 or better.	Added	N/A
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5.1.6	Replace Table 5A of this Sub-Clause by:	Information considered	P																													
	<p style="text-align: center;">Table 5A – Maximum current</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Type of equipment</th> <th style="width: 25%;">Terminal A of measuring instrument connected to:</th> <th style="width: 25%;">Maximum TOUCH CURRENT mA r.m.s. <sup>1)</sup></th> <th style="width: 25%;">Maximum PROTECTIVE CONDUCTOR CURRENT</th> </tr> </thead> <tbody> <tr> <td>ALL equipment</td> <td>Accessible parts and circuits not connected to protective earth</td> <td style="text-align: center;">0,25</td> <td style="text-align: center;">-</td> </tr> <tr> <td>HAND-HELD</td> <td rowspan="4" style="vertical-align: middle;">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td> <td style="text-align: center;">0,75</td> <td style="text-align: center;">-</td> </tr> <tr> <td>MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT</td> <td style="text-align: center;">3,5</td> <td style="text-align: center;">-</td> </tr> <tr> <td>STATIONARY, PLUGGABLE TYPE A</td> <td style="text-align: center;">3,5</td> <td style="text-align: center;">-</td> </tr> <tr> <td>ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td> <td style="text-align: center;">3,5 -</td> <td style="text-align: center;">- 5 % of input current</td> </tr> <tr> <td>HAND-HELD</td> <td>Equipment main protective earthing terminal</td> <td style="text-align: center;">0,5</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Others</td> <td>(if any) CLASS 0I EQUIPMENT</td> <td style="text-align: center;">1,0</td> <td style="text-align: center;">-</td> </tr> </tbody> </table> <p><sup>1)</sup> If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.</p>	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. <sup>1)</sup>	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	Accessible parts and circuits not connected to protective earth	0,25	-	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-	MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT	3,5	-	STATIONARY, PLUGGABLE TYPE A	3,5	-	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	3,5 -	- 5 % of input current	HAND-HELD	Equipment main protective earthing terminal	0,5	-	Others	(if any) CLASS 0I EQUIPMENT	1,0	-		
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5.3.8.2	Replace 3 <sup>rd</sup> Item of the Sub-Clause by: - BASIC INSULATION between the PRIMARY CIRCUIT and accessible conductive parts of CLASS I or 0I EQUIPMENT;	Replaced	P																													
Annex A	Add this Sub-Clause: <i>Flammability tests for classifying materials VTM</i>	Added	N/A																													

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	Thin sheet materials shall comply with ISO 9773.														
Annex G	Add the following new note below Table G.1: 2. In Japan, MAINS TRANSIENT VOLTAGE for equipment with a Nominal AC MAINS SUPPLY VOLTAGE of 100V is to be decided based on the column where Nominal AC MAINS SUPPLY VOLTAGE in Table G.1 is 150V.	Alternative Annex G not considered.	N/A												
Annex P	Add "IEC 61965:2000, Mechanical Safety for Cathode Ray Tubes".	Added	N/A												
Annex U	Replace the second paragraph by: This annex covers to round winding wires having diameters between 0.05mm and 5.00mm.	Replaced	P												
U.2.1	Replace the text of this Sub-Clause by: The test sample is prepared according to IEC 60851-5:1996, 4.4.1 (for a twisted pair). The sample is then subjected to the test of 5.2.2 of this standard, with a test voltage not less than twice the appropriate voltage in Table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 3000V, or; - for REINFORCED INSULATION, 6000V.	Replaced	P												
U.2.2	Replace this Sub-Clause by: Test 8 of IEC 60851-3:1996, 5.1.1, using the mandrel diameters of Table U.1. The test sample is then examined in accordance with IEC 60851-3:1996, 5.1.1.4, followed by the test of 5.2.2 of this standard except applying the test voltage between the wire and the mandrel. A test voltage shall be the appropriate voltage in Table 5B (see 5.2.2) of this standard. However, the minimum values shall be as followings: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500V, or; - for REINFORCED INSULATION, 3000V. <b>Table U.1 Table U.1 - Mandrel diameter</b>	Replaced	P												
<table border="1"> <thead> <tr> <th>Nominal Conductor diameter mm</th> <th>Mandrel diameter mm <math>\pm</math> 0,2 mm</th> </tr> </thead> <tbody> <tr> <td>0,05 – 0,34</td> <td>4,0</td> </tr> <tr> <td>0,35 – 0,49</td> <td>6,0</td> </tr> <tr> <td>0,50 – 0,74</td> <td>8,0</td> </tr> <tr> <td>0,75 – 2,49</td> <td>10,0</td> </tr> <tr> <td>2,50 – 5,00</td> <td>4 times of the diameter of conductor <sup>1)</sup></td> </tr> </tbody> </table>		Nominal Conductor diameter mm	Mandrel diameter mm $\pm$ 0,2 mm	0,05 – 0,34	4,0	0,35 – 0,49	6,0	0,50 – 0,74	8,0	0,75 – 2,49	10,0	2,50 – 5,00	4 times of the diameter of conductor <sup>1)</sup>		
Nominal Conductor diameter mm	Mandrel diameter mm $\pm$ 0,2 mm														
0,05 – 0,34	4,0														
0,35 – 0,49	6,0														
0,50 – 0,74	8,0														
0,75 – 2,49	10,0														
2,50 – 5,00	4 times of the diameter of conductor <sup>1)</sup>														
<sup>1)</sup> in compliance with IEC 60317-43. The tension to be applied to the wire during															



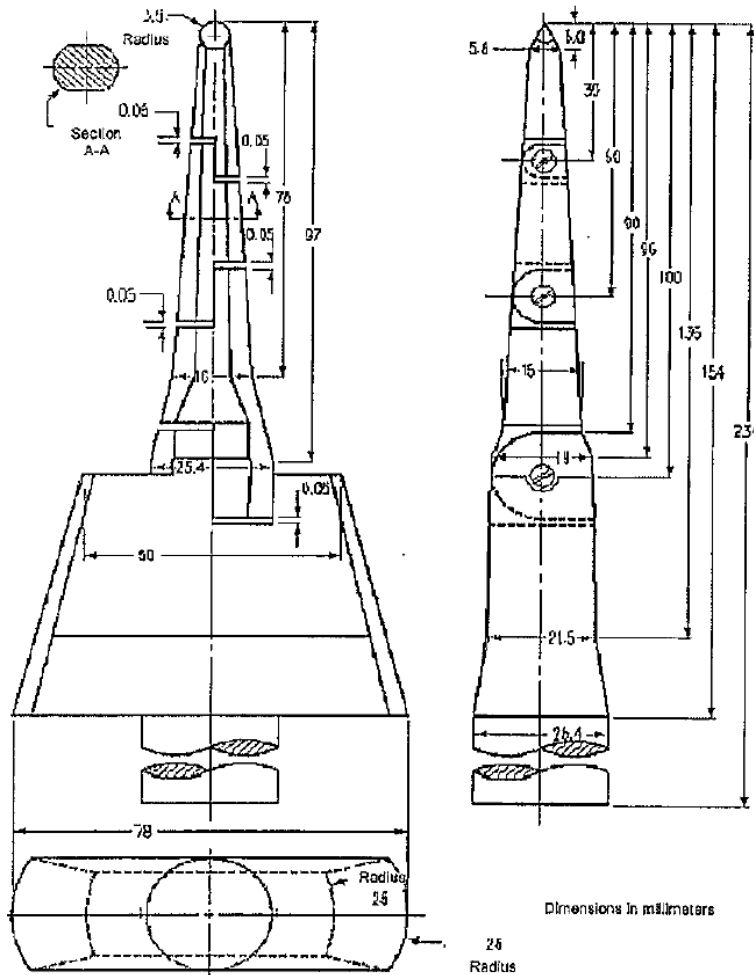
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	winding on the mandrel is calculated from the wire diameter to be equivalent to 118Mpa $\pm$ 10% (118N/mm <sup>2</sup> $\pm$ 10%)		
U.2.3	Replace the first paragraph of this Sub-Clause by: Test 9 of IEC 60851-6:1996, followed by the electric strength test of 5.2.2 of this standard except applying the test voltage between the wire and the mandrel. A test voltage shall be the appropriate voltage in Table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULTINO or SUPPLEMENTARY INSULATION, 1500, or; - for REINFORCED INSULATION, 3000V.	Replaced	P
U.2.4	Replace the third paragraph of this Sub-Clause, which is describing the test voltage, by: The test voltage shall not be less than the appropriate voltage in Table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500V, or; - for REINFORCED INSULATION, 3000V It is applied between the shot and the conductor.	Replaced	P
U.3.1	Replace the text of this Sub-Clause by: The test voltage for ROUTINE TESTING shall be the appropriate voltage in Table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500Vrms or 2100Vpeak, or; - for REINFORCED INSULATION, 3000Vrms or 4200Vpeak.	Replaced	P
U.3.2	Replace the text of this Sub-Clause by: Twisted pair samples shall be tested in accordance with IEC 60851-5:1996, 4.4.1. The minimum breakdown voltage shall not be less than twice the appropriate voltage in Table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 3000Vrms or 4200Vpeak, or; - for REINFORCED INSULATION, 6000Vrms or 8400Vpeak.	Replaced	P
Annex JA	Add Annex JA (Document shredding machines)  Document shredding machines shall also comply with the requirements of this Annex except those of ATATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.	Not such product	-

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JA.1	<p>Markings and instructions</p> <p>In the easily visible part near the document-slot, by a method capable to make out clearly and not easily disappeared, and by easily understandable wording, shall indicate the symbol of:</p>  <p>And, also the following precautions for use:</p> <ul style="list-style-type: none"> <li>- that use by an infant/child may cause a hazard of injury ect.;</li> <li>- that a hand can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- that clothes can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- that hairs can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- In case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.</li> </ul>		N/A
JA.2	<p>INADVERTENT REACTIVATION</p> <p>Any safety interlock which can be operated by means of the test finger, Figure JA.1, is considered to cause reactivation of the hazard.</p> <p>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1.</p>		N/A

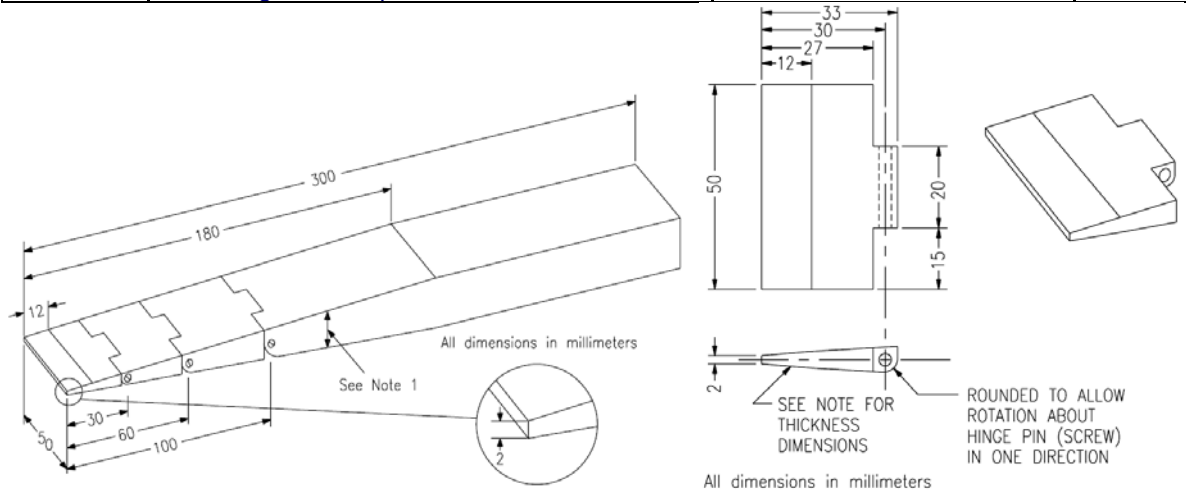
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<p>JA.3</p>	<p><b>ISOLATING SWITCH</b></p> <p>Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.</p> <p>If two-position switch, the position for “ON” and “OFF” shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for “OFF” shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols.</p> <p>Compliance is checked by inspection.</p>		<p>N/A</p>
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<p>JA.4</p>	<p><b>PROTECTION IN OPERATOR ACCESS AREAS</b></p> <p>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>Document shredding machines shall comply with the following requirements.</p> <p>Push the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying additional force. It shall not be possible to touch hazardous moving parts with the test finger. The document shredding machine is installed as intended, and all face of MECHANICAL ENCLOSURES are subjected to this test. Before testing with the test finger, remove the parts detachable without a tool.</p> <p>Push the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45N shall apply to the probe, and 90N if cross-cutting type. In this case, the weight of the probe shall not influence the test. Before testing with the test finger, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shredding, with the probe.</p>		<p>N/A</p>
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**(Details of the top of wedge)**

Distance from probe tip	Probe thickness
0 mm	2 mm
12 mm	4 mm
180 mm	24 mm

Note 1 – The probe shall be of changing the thickness linearly. However, the slope shall be changed at the respective points shown in the table.

Note 2 – The allowable dimensional tolerance of the probe is +/- 0.127mm.

**Figure JA.2 Wedge-probe**

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<b>KOREA NATIONAL DIFFERENCES</b>			
Korean National Differences according to CB Bulletin No. 112A, December 2006 (K 60950-1)			
IEC Publication 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	Not direct plug-in equipment	N/A
8 : EMC	The apparatus shall comply with the relevant CISPR standards	To be evaluated in the national approval.	N/A

<b>Chinese NATIONAL DIFFERENCES</b>			
Chinese National Differences according to CB Bulletin No. 112A, December 2006 (GB4943-2001)			
IEC Publication 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
1.4.5	If the equipment is intended for direct connection to an AC MAINS SUPPLY, the tolerance on RATED VOLTAGE shall be taken as +10% and -10%, unless	Considered	P
1.7.1	When single rated voltage is given, it should be marked 220V; when a rating voltage range is given, the voltage range shall have hyphen (-) between the minimum and maximum RATED VOLTAGES and should cover 220V; When multiple RATED VOLTAGES are given, they shall be separated by a solidus (/) and one of them must be 220V and also factory default setting should be 220V.  RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or cover 50Hz, unless the equipment is designed for d.c. only;	The input voltage range is 100-240V	P
1.7.2	Instructions and equipment marking related to safety shall be written in simplified Chinese in which the equipment is to be installed	Should be evaluated during national approval	N/A
3.2.1	Plugs of apparatus which are intended for the connection of the mains supply should comply with requirement of GB1002	Should be evaluated during national approval	N/A