



Test Report issued under the responsibility of:

**TEST REPORT**

IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006
Information technology equipment – Safety –
Part 1: General requirements

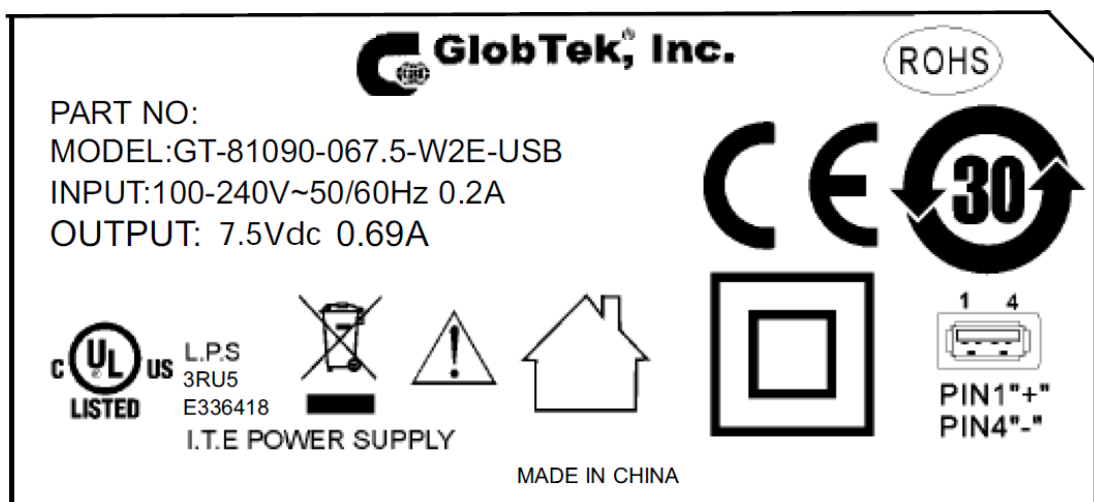
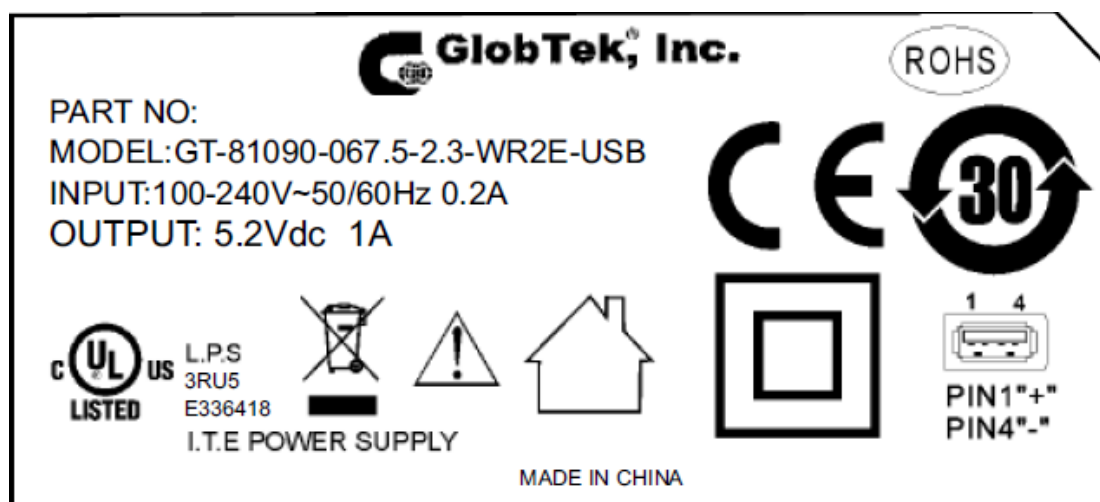
Report Reference No.	32105
Date of issue	October 11, 2011
Total number of pages	97 pages
CB/CCA Testing Laboratory	emitel (Shenzhen) Limited
Address	Building 2, 171 Meihua Road, Futian District, Shenzhen, China P.C: 518049
Applicant's name	GlobTek, Inc.
Address	186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer's name	Same as applicant
Address	Same as applicant
Factory's name	See page 7
Address	See page 7
Test specification:	CB/CE
Standard	<input checked="" type="checkbox"/> IEC 60950-1:2005 (2nd Edition) and/or <input checked="" type="checkbox"/> EN 60950-1:2006
Test procedure	CB scheme
Non-standard test method	N/A
Test Report Form No.	IECEN60950_1C (4_F510_40_Rev2_0)
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2007-06
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Test item description	Switching Adapter
Trade Mark	 GlobTek, Inc.
Manufacturer	Same as applicant
Model/Type reference	GT-81090-WWVV-X.X-W2Z-USB/GT-81090-WWVV-X.X-WR2Z-USB (for details see Model Designation on page 7)
Ratings	Input: 1) 100-240Vac; 2) 200-240Vac; 3) 100-120Vac. 50/60Hz, 0.2A; Output: see Model Designation on page 7

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

Summary of testing:	
Tests performed (name of test and test clause): <ul style="list-style-type: none"> - 1.6.2 Input Current Test - 1.7.11 Durability of Marking Test - 2.1.1.5 Energy Hazard in Operator Access Area - 2.2.2 SELV Limits for Normal Conditions - 2.2.3 SELV Limits for Abnormal Conditions - 2.4.2 Limited Current Circuit Test - 2.5 Limited Power Source - 2.9.2 Humidity Conditioning - 2.10.2 Working Voltage over Insulation - 2.10.3 Clearance Measurement - 2.10.4 Creepage Distance Measurement - 4.2.2 Steady Force Test, 10N - 4.2.4 Steady Force Test, 250N - 4.2.6 Drop Test - 4.2.7 Stress Relief Test - 4.3.6 Torque Test - 4.5.2 Maximum Temperature Test - 4.5.5 Ball Pressure Test - 5.1.6 Touch Current Test - 5.2 Electric Strength Test - 5.3 Fault Condition Test <p>Remark:</p> <p>The models GT-81090-067.5-2.3-WR2E-USB and GT-81090-067.5-W2E-USB have been selected for multiple testing, if not specified, the model GT-81090-067.5-W2E-USB is the selected model for the tests.</p>	Testing location: <p>emitel (Shenzhen) Limited</p> <p>Building 2, 171 Meihua Road, Futian District, Shenzhen, China P.C: 518049</p>
Summary of compliance with National Differences: <p>CH, DE, DK, ES, FI, GB, IE, KR, NO, SE.</p> <p>CH=Switzerland, DE=Germany, DK=Denmark, ES=Spain, FI=Finland, GB=United Kingdom, IE=Ireland, KR=Republic of Korea, NO=Norway, SE=Sweden.</p>	

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 7.

Test item particulars	
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input checked="" 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 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)	0.2A
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. 0.08
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	Aug. 01, 2011
Date(s) of performance of tests	Aug. 01, 2011 – Aug. 19, 2011
General remarks:	
<p>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.</p> <p>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. Throughout this report a comma (point) is used as the decimal separator.</p>	

All national differences of EU group were considered according to EN 60950-1:2006 and A11, Annex ZA, Annex ZB and Annex ZC on pages 34-41; Australian national differences were considered according to AS/NZS 60950.1:2003+A1+A2+A3 on pages 57-63; Korean national differences were considered according to K60950 on page 57.

The European plug was evaluated according to EN50075:1990 (see Appendix II page 64); the British plug was evaluated according to BS1363-1:1995+A1+A2+A3 (see Appendix II pages 65-67); the Australian plug was evaluated according to AS/NZS 3112:2004+A1 (see Appendix II pages 68-75).

All contents are come from TÜV Rheinland CB Report No. 10621923001 (dated on February 02, 2010) and No. 10621923002 (dated on Apr. 27, 2010) with CB Certificate JPTUV-030814-M1 except the followings:

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

All product photos are shown in pages 76-97.

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 product models GT-81090-WWVV-X.X-W2Z-USB / GT-81090-WWVV-X.X-WR2Z-USB are Switching Adapter (direct plug-in type) used for DC supply of IT or office equipment.
2. No output cord used within the equipment. The output port is USB.
3. The power supply's top enclosure is secured to bottom enclosure by ultrasonic welding.
4. The test items are pre-production samples without serial numbers.
5. The power pin parts of European plug was fixed into the enclosure of plug portion by a screw. It is impossible to remain in the mains socket-outlet after removal of the adapter, details see photos.
6. The maximum ambient temperature 50°C.

Differences between models:

1. GT-81090-WWVV-X.X-WR2Z-USB uses a coupler and the plug is replaceable, while the plug of other models are fixed plug. Details see photo document;
2. C1, C2, Q1, C3, D7, C8, C9, L2, RL, R13, R14, R12, R15, R18, R6, R4, R5, R10, R11, R1, R2, R3, R9, R17, R16, C7, Z1: the parameter of these components depend on output current and output voltage.


Model Designation:

GT-81090-WWVV-X.X-W2Z-USB / GT-81090-WWVV-X.X-WR2Z-USB:

- WW is the standard output wattage, with a maximum value of "6";
- VV is the standard rated output voltage designation, with a maximum value of "7.5";
- -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" designates type of plug and can be E for European plug, U for British plug, blank for North American / Japan plug/Taiwan plug, C for Chinese plug, I for India plug, A for Australia plug, K for Korea plug, AR for Argentina plug¹⁾

Remark: ¹⁾ only the European, British and Australian plug portion have been subjected to plug portion test, other plug types must be evaluated during national approval.

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 the primary and secondary circuits capacitors subclass Y1 according to IEC60384-14/1993+A1 with 21 days damp heat test.	P
1.5.7	Resistors bridging insulation	Fusible resistor used	P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Fusible resistor used as functional insulation	P
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 component	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9	Surge suppressors	No such component	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
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	See below	P
	Rated voltage(s) or voltage range(s) (V)	See front page	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)	0.2A	P
	Manufacturer's name or trade-mark or identification mark	GlobTek	P
	Model identification or type reference	See model designation	P
	Symbol for Class II equipment only		P
	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

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	General	User's manual provided that contains information regarding the Max. ambient temperature.	P
1.7.2.2	Disconnect devices	The plug is regarded as disconnect device and it is incorporated with adapter during normal use	N/A
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	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No such device	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Marking adjacent to fusible resistor: F1: 10Ω, 2W	P
1.7.7	Wiring terminals	See below	N/A
1.7.7.1	Protective earthing and bonding terminals	Class II product without earth connection.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	Direct plug-in product.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Not DC 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	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 RAL	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_{peak} or V_{rms}); 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
2.1.1.7	Discharge of capacitors in equipment	No X capacitor provided	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured voltage (V); time-constant (s)..... :		—
2.1.1.8	Energy hazards – d.c. mains supply	Connected to AC 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 _{peak} or 60V _{dc} are not exceeded.	P
2.2.3	Voltages under fault conditions (V) .. :	Single fault did not cause excessive voltage in accessible SELV circuits.	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
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		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.4.1	General requirements		P
2.4.2	Limit values		P
	Frequency (Hz)	See appended table 2.4.2	—
	Measured current (mA)	See appended table 2.4.2	—
	Measured voltage (V)	See appended table 2.4.2	—
	Measured circuit capacitance (nF or μ F)	2200pF	—
2.4.3	Connection of limited current circuits to other circuits	No direct connection between SELV and any primary circuits.	P
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		N/A
2.6.1	Protective earthing	Class II product	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG		—
	Protective current rating (A), cross-sectional area (mm^2), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)		N/A
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

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 fusible resistor or current fuse.	P
2.7.5	Protection by several devices	Only one fusible resistor provided	N/A
2.7.6	Warning to service personnel :	No service work necessary	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
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., 25°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		P
2.10.1.2	Pollution degrees	P2	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

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.2	Determination of working voltage	<p>The rms and peak voltage were measured on the direct plug-in adapter.</p> <p>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.</p> <p>(Results see appended table 2.10.2)</p>	P
2.10.2.1	General	See above	P
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	<p>(see appended table 2.10.3 and 2.10.4)</p> <p>Annex F and Min. clearances considered.</p>	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
2.10.5.2	Distances through insulation	Enclosure 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 around transformer body was used as double insulation.	P
2.10.5.7	Separable thin sheet material		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	516V _{peak} , 253V _{rms}	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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.1	Current rating and overcurrent protection	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 or fusible resistor.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges which could damage the insulation and cause hazard.	P
3.1.3	Securing of internal wiring	The internal wiring are 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 are 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	A mains plug is part of direct plug-in product	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	Direct plug-in product	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets	Direct plug-in product	N/A
3.2.5	Power supply cords	No power cord	N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), 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
	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	Direct plug-in product	N/A
3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Direct plug-in product	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 ²)		—
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	Disconnect device provided	P
3.4.2	Disconnect devices	Direct plug-in product, the integral plug used as disconnect device	P
3.4.3	Permanently connected equipment	Not such equipment	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.4	Parts which remain energized	There is no parts remained with hazardous voltage or energy in the product when SPS is separated from AC mains.	P
3.4.5	Switches in flexible cords	No flexible cords	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The mains plug 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	Without switch	N/A
3.4.9	Plugs as disconnect devices	Direct plug-in product	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	Interconnection circuits of SELV through the connector. No ELV interconnection circuits.	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		N/A
	Angle of 10°	Direct plug-in product	N/A
	Test force (N)		N/A

4.2	Mechanical strength		P
4.2.1	General	See below. After tests, unit complies 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

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.4	Steady force test, 250 N	250N applied to outer enclosure. No energy or other hazards.	P
4.2.5	Impact test	Direct plug-in product.	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)	No hazard as result from drop test.	P
4.2.7	Stress relief test	After 7 hours at temperature of 93°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)	Direct plug-in product	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	The prevention of imposing to undue strain on the socket-outlet was done by construction of the plug of adaptor.	P
	Torque	For European plug: 0.02Nm	—
	Compliance with the relevant mains plug standard	See attached partial test reports	P
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
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 radiation emits	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

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Clause	Requirement + Test	Result - Remark	Verdict
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 4.5.2)	P
4.5.4	Touch temperature limits	(see appended table 4.5.2)	P
4.5.5	Resistance to abnormal heat :	(see appended table 4.5.5)	P
4.6	Openings in enclosures		N/A
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 bottommm, 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"> - components in primary; - components in secondary; - components having unenclosed arcing parts at hazardous voltage or energy level; - insulating wire. The fire enclosure is required.	P

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Clause	Requirement + Test	Result - Remark	Verdict
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
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) ..		—

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Clause	Requirement + Test	Result - Remark	Verdict
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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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

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Clause	Requirement + Test	Result - Remark	Verdict
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
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).....		—

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Clause	Requirement + Test	Result - Remark	Verdict
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	T1	—
	Manufacturer	Amphenol 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

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Clause	Requirement + Test	Result - Remark	Verdict
G.4.3	Combination of transients		N/A
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)		N/A
	a) Preferred climatic categories	No VDRs used	N/A
	b) Maximum continuous voltage		N/A
	c) Pulse current		N/A
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 and 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		—

IEC/EN 60950-1			
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

IEC/EN 60950-1															
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-F2".</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 ^{a)}</td><td></td></tr> <tr> <td> Over 6 up to and including 10</td><td>(0,75) ^{b)}</td><td>1,0</td><td></td></tr> <tr> <td> Over 10 up to and including 16</td><td>(1,0) ^{c)}</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 ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6		0,75 ^{a)}		Over 6 up to and including 10	(0,75) ^{b)}	1,0		Over 10 up to and including 16	(1,0) ^{c)}	1,5			N/A
Up to and including 6		0,75 ^{a)}													
Over 6 up to and including 10	(0,75) ^{b)}	1,0													
Over 10 up to and including 16	(1,0) ^{c)}	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												

IEC/EN 60950-1			
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 μSv/h (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)		—
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ZB	SPECIAL NATIONAL CONDITIONS (UPDATED ACCORDING TO A11: 2009)		P
1.2.4.1	In Denmark , 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 Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In Finland , Norway and Sweden , 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 Norway , 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 Finland , Norway and Sweden , 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 Finland, Norway and Sweden, 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 Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>In Norway and Sweden, 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 Denmark, 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 Norway , 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 Finland , Norway and Sweden 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 Norway , 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 United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the United Kingdom , 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 Finland , Norway and Sweden , 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 Switzerland, 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> <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 Denmark, 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 Spain, 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 United Kingdom, 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 Ireland, 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 Switzerland , 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 United Kingdom , a power supply cord with conductor of 1,25 mm ² 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 United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , 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 Ireland , 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 Finland, Norway and Sweden 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 Finland, Norway and Sweden , add the following text between the first and second paragraph of the compliance clause: <div style="text-align: right;">If</div> 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

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A</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"> - 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; - the additional testing shall be performed on all the test specimens as described in EN 132400; - 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. 		N/A
6.1.2.2	In Finland, Norway and Sweden , 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 Finland, Norway and Sweden , 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 Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
	In Norway , for installation conditions see EN 60728-11:2005.		N/A
ZC	A-DEVIATIONS (informative) (updated according to A11:2009)		P
1.5.1	Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A
1.5.1	Switzerland (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>Denmark (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

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>Germany (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>Denmark (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>Switzerland (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>Denmark (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 ¹⁾	
Transformer (T1)	Á Globtek	90E5PFC05- xxx, (“xxx” to denote the part number, can be any alphanumeric character for marketing purpose only)	Pri. winding (pin 1-2): \varnothing 0.17mm x 145Ts; Auxiliary primary winding (pin 3-4): \varnothing 0.12mm x 30Ts; Sec. winding (pin 5- 8): \varnothing 0.55mm x 1p 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-B or TEX- E	130°C, Class B	IEC/EN 60950-1	VDE 006735	
- Alt.	Cosmolink	TIW-M	130°C, Class B	IEC/EN 60950-1	VDE 138053	
- Alt.	YongChang	STW-B	130°C, Class B	IEC/EN 60950-1	VDE 40013359	
- Alt.	Great leoflon	TRW (B)	130°C, Class B	IEC/EN 60950-1	VDE 136581	
- Insulation tape	Four Pillar (SYMBIO)	35660Y/35660/ MY130	130°C			
Fusible resistor (F1)	TZAI YUAN	KNF	10 Ω , 2W	IEC60950-1	Tested with appliance	
Alt.	VIS Electronics Ltd.	FRT	10 Ω , 2W	IEC60950-1	Tested with appliance	
Alt.	Jiangsu Xinyang Electronics Ltd.	RF10	10 Ω , 2W	IEC60950-1	Tested with appliance	
Alt.	Chien Tung Electronics	FKN	10 Ω , 2W	IEC60950-1	Tested with appliance	
Alt.	Shenzhen Great	RXF series	10 Ω , 2W	IEC60950-1	Tested with appliance	
Alt.	Shenzhen Kayocota	FRKNP series	10 Ω , 2W	IEC60950-1	Tested with appliance	
Alt.	Hua Sheng Electronics (Dongguan) Co., Ltd.	FKN	10 Ω , 2W	IEC60950-1	Tested with appliance	
Y capacitor (CY1) (Optional)	TDK	CD	Max. 2200pF, 250Vac, 25/125/56/B, Y1	IEC/EN 60384- 14	VDE 124321	

IEC/EN 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	Murata	KX	Max. 2200pF, 250Vac, 25/125/21/C, Y1	IEC/EN 60384-14	VDE 40002831
Alt.	Success	SE	Max. 2200pF, 250Vac, 30/125/56/C, Y1	IEC/EN 60384-14	VDE 126596
Alt.	Success	SB	Max. 2200pF, 250Vac, 30/125/56/C, Y1	IEC/EN 60384-14	VDE 128833
Alt.	JYA-NAY	JN	Max. 2200pF, 250Vac, 25/125/21, Y1	IEC/EN 60384-14	VDE 40001831
Alt.	Welson	WD	Max. 2200pF, 250Vac, 25/125/21/C, Y1	IEC/EN 60384-14	VDE 115455
Alt.	Nanjing Yuyue	CT7 (X1Y1)	Max. 2200pF, 250Vac, 25/125/21/C, Y1	IEC/EN 60384-14	VDE 115455
Bridge diode (D1-D4)	Various	Various	Min. 1A, Min. 500Vac	--	--
Storage Cap. (C1, C2)	Various	Various	2.2-10.0μF, Min. 200Vdc, Min. 105°C	--	--
Transistor (Q1)	Various	Various	Min. 0.5A, Min. 400Vac	--	--
Choke(L1)	Á Globtek	30D007520-XXX ("XXX" to denote the part number, can be any alphanumeric character for marketing purpose only)	φ0.09mm x 520Ts; 130°C, Min. 2.0mH	--	Tested with appliance
European plug (fixed or replaceable)	Á Globtek	DVE	2.5A, 250Vac	EN50075	TÜV Rheinland (J 2156136)
- Plug holder	Sabic Innovative Plastics	SE1X	PPE+PS, V-1, 105°C	--	UL E161759
BS plug (replaceable)	Á Globtek	DVE-UK	0.2A, 250Vac	BS 1363+A1+A2+A3	Tested with appliance
- Pin sleeving of BS plug	Nan Ya Plastics Corp.	6410G5	PA66, V-0, 130°C	--	UL E130155
Australian plug (replaceable)	Á Globtek	DVE-AU	0.2A, 250Vac	AS/NZS 3112+A1	Tested with appliance

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
- Pin sleeving of Australian plug	Dupont	FR50	PA66, 130°C, V-0	--	UL E41938
Enclosure	Sabic Innovative Plastics	SE1X	PPE+PS, V-1, Min. 105°C, Min. thickness 2.0mm	--	UL E161759
Alt	Asahi Kasei	540V	PPE+PS, V-1, Min. 105°C, Min. thickness 2.0mm	--	UL E82268
Alt	Asahi Kasei	540Z	PPE+PS, V-1, Min. 105°C, Min. thickness 2.0mm	--	UL E82268
PCB	Wuzhou	WZ-2	V-0 or better, Min. 130°C	--	UL E170968
Alt.	Various	Various	V-0 or better, Min. 130°C	--	UL
Primary lead wire	Dong Ju	1007	Min. 24AWG, VW-1, 80°C, 300V	--	UL E189674
Alt.	Various	Various	Min. 24AWG, VW-1, 80°C, 300V	--	UL
Shrinkable tube	Shenzhen Woer	RSFR	VW-1, 125°C, 600V	--	UL E203950
Alt.	Various	Various	VW-1, 125°C, 600V	--	Alt.
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 (mA)	I _{rated} (mA)	P (W)	Fuse #	I _{fuse} (mA)	Condition/status
Model GT-81090-067.5-2.3-WR2E-USB						
90	146	--	7.5	F1	146	Rated load at 50Hz
90	138	--	7.5	F1	138	Rated load at 60Hz
100	130	200	7.3	F1	130	Rated load at 50Hz
100	127	200	7.2	F1	127	Rated load at 60Hz
240	51	200	7.2	F1	51	Rated load at 50Hz
240	60	200	7.3	F1	60	Rated load at 60Hz
264	49	--	7.3	F1	49	Rated load at 50Hz
264	58	--	7.3	F1	58	Rated load at 60Hz
Model GT-81090-067.5-W2E-USB						
90	147	--	7.6	F1	147	Rated load at 50Hz
90	139	--	7.6	F1	139	Rated load at 60Hz
100	131	200	7.4	F1	131	Rated load at 50Hz
100	128	200	7.5	F1	128	Rated load at 60Hz
240	51	200	7.2	F1	51	Rated load at 50Hz
240	62	200	7.2	F1	62	Rated load at 60Hz
264	49	--	7.3	F1	49	Rated load at 50Hz
264	59	--	7.3	F1	59	Rated load at 60Hz
Supplementary information: --						

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

1.6.2	TABLE: Electrical data (in normal conditions) (for alternative constructions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
Model GT-81090-067.5-2.3-WR2E-USB						
90	0.14	--	7.86	F1	0.14	Rated load at 50Hz
90	0.14	--	7.85	F1	0.14	Rated load at 60Hz
100	0.13	0.2	7.77	F1	0.13	Rated load at 50Hz
100	0.13	0.2	7.77	F1	0.13	Rated load at 60Hz
240	0.06	0.2	7.81	F1	0.06	Rated load at 50Hz
240	0.07	0.2	7.88	F1	0.07	Rated load at 60Hz
264	0.06	--	7.95	F1	0.06	Rated load at 50Hz
264	0.06	--	8.01	F1	0.06	Rated load at 60Hz
Model GT-81090-067.5-W2E-USB						
90	0.15	--	8.33	F1	0.15	Rated load at 50Hz
90	0.15	--	8.26	F1	0.15	Rated load at 60Hz
100	0.14	0.2	8.16	F1	0.14	Rated load at 50Hz
100	0.13	0.2	8.10	F1	0.13	Rated load at 60Hz
240	0.06	0.2	8.03	F1	0.06	Rated load at 50Hz
240	0.06	0.2	8.08	F1	0.06	Rated load at 60Hz
264	0.06	--	8.15	F1	0.06	Rated load at 50Hz
264	0.06	--	8.18	F1	0.06	Rated load at 60Hz
240	0.06	0.2	7.90	F1	0.06	Rated load at 60Hz
264	0.06	--	7.86	F1	0.06	Rated load at 50Hz
264	0.06	--	7.98	F1	0.06	Rated load at 60Hz
Supplementary information:						

2.1.5	TABLE: Max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (Max.) (V)	Current (Max.) (A)	VA (Max.) (VA)	
Model GT-81090-067.5-2.3-WR2E-USB					
5.2	1.0	5.00	1.15	5.1	
Model GT-81090-067.5-W2E-USB					
7.5	0.69	7.48	1.16	8.0	
Supplementary information: Test voltage: 240V Test frequency: 60Hz					

2.2.2	TABLE: Hazardous voltage measurement	P
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IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Transformer	Location	Max. Voltage		Voltage Limitation Component
		Vpeak	Vdc	
Model GT-81090-067.5-W2E-USB				
T1	Pin A-B	30.20	--	T1
	Output	--	7.48	D7
Supplementary information: Test voltage: 240V Test frequency: 60Hz				

2.2.3	TABLE: SELV Voltage Measurement			N/A
Location		Voltage measured (V)	Comments	
--		--	--	
--		--	--	
Supplementary information: Refer to table 2.2.2				

2.4.2	TABLE: limited current circuit measurement					P
Location		Voltage (mV)	Current (mV)	Freq. (Hz)	Limit (mA)	Comments
Model GT-81090-067.5-W2E-USB						
CY1		0.14	0.28	60	0.7	CY1=2200pF
Supplementary information: Test with instrument of Annex D1.						

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.5	TABLE: limited power source measurement		P
	Limits	Measured	Verdict
Model GT-81090-067.5-W2E-USB			
Uoc=7.48V (measured under no load conditions)			
According to Table 2B (normal condition)			
Current (in A)	≤8	1.16	P
Apparent power (in VA)	≤100	8.00	P
According to Table 2B (R14 short-circuited)			
Current (in A)	≤8	0 (Fusible resistor opened immediately, Q1 damaged)	P
Apparent power (in VA)	≤100	0 (Fusible resistor opened immediately, Q1 damaged)	P
Model GT-81090-067.5-2.3-WR2E-USB			
Uoc=5.2V (measured under no load conditions)			
According to Table 2B (normal condition)			
Current (in A)	≤8	1.15	P
Apparent power (in VA)	≤100	5.10	P
According to Table 2B (R14 short-circuited)			
Current (in A)	≤8	0 (Fusible resistor opened immediately, Q1 damaged)	P
Apparent power (in VA)	≤100	0 (Fusible resistor opened immediately, Q1 damaged)	P
Supplementary information: --			

2.10.2	TABLE: Working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
Model GT-81090-067.5-W2E-USB				
T1	pin 1-A	213	372	
	pin 2-A	248	504	
	pin 3-A	233	380	
	pin 4-A	233	416	
	Pin 1-B	214	348	
	pin 2-B	253	516	Highest working voltage
	pin 3-B	233	372	
	pin 4-B	236	440	
	CY1	230	372	
Supplementary information: Test voltage: 240V Test frequency: 60Hz				

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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:							
Line to Neutral trace before F1		420	250	1.5	2.6	2.5	2.6
PCB trace under F1		420	250	1.5	2.6	2.5	2.6
Line to Circuit after F1		420	250	1.5	5.0	2.5	5.0
Basic/supplementary:							
--		--	--	--	--	--	--
Reinforced:							
Primary components to accessible enclosure		420	250	4.0	5.5	5.0	5.5
Unit: core of T1 (with 10N) → secondary components (with 10N)		516	253	4.4	6.0	5.2	6.0
T1 core to C8							
PCB: primary → secondary traces under transformer		516	253	4.4	6.0	5.2	6.0
PCB: primary → secondary traces under CY1		420	250	4.0	6.0	5.0	6.0
PCB: primary → secondary traces under ESD copper		420	250	4.0	5.0	5.0	6.0
Supplementary information:							
1. The transformer core is considered as primary circuits;							
2. Concentric windings on EF-16 size bobbin, 2 layers of insulation tape between primary (enameled copper wire) and secondary windings (triple insulation wire), 2 layers insulation on outer winding. Winding ends additionally fixed with tape, outer winding is primary;							
3. The fusible resistor was wrapped with heat shrinkable tube;							
4. Internal wire was double fixed by soldering and glue;							
5. Unless otherwise specified, the worst conditioning of Cl. & Cr. In above mentioned location have been considered and listed.							

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Clause	Requirement + Test	Result - Remark	Verdict

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	3000Vac	0.4	2.0
Supplementary information:						
1. Further details are provided in table 1.5.1;						
2. Test voltages are AC.						

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:								
- Chemical leaks								Verdict
- 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 _{min} (°C)	50.0	50.0	--	—		
	Ambient T _{max} (°C)	50.0	50.0	--	—		
Maximum measured temperature T of part/at::		T (°C)				Allowed T _{max} (°C)	
--		H	V	H	V	--	--
Model GT-81090-067.5-W2E-USB							
Plug holder		61.7	61.6	58.3	58.0	--	--
Primary lead wire		77.6	77.4	64.2	64.3	--	80
L1 winding		88.8	89.3	70.4	70.0	--	130
PCB under D1		92.0	92.3	70.7	70.9	--	130
Electrolytic cap. C1		85.4	85.9	71.0	70.9	--	105
T1 winding		106.0	107.0	94.7	94.8	--	110
T1 core		105.0	106.0	93.9	94.1	--	110
PCB under Q1		115.0	116.0	92.7	93.2	--	130
PCB under D7		90.8	91.4	87.4	87.1	--	130
Y cap. CY1		86.8	83.2	75.9	76.1	--	125
Electrolytic cap. C8		81.5	82.2	75.9	76.1	--	105
Enclosure (inside)		82.4	82.5	72.9	73.5	--	105
Enclosure (outside)		70.9	70.9	66.2	67.2	--	80
Ambt.		50.0	50.0	50.0	50.0	--	--
Model GT-81090-067.5-2.3-WR2E-USB							
Plug holder		59.4	57.6	57.7	58.9	--	--
Primary lead wire		75.2	75.6	68.0	69.1	--	80
L1 winding		88.9	88.2	75.0	77.2	--	130
PCB under D1		85.7	87.7	73.4	73.9	--	130
Electrolytic cap. C1		82.3	83.0	74.9	76.2	--	105
T1 winding		97.5	99.0	97.8	97.6	--	110
T1 core		95.0	97.4	94.8	94.0	--	110
PCB under Q1		103.1	104.5	97.0	97.0	--	130
PCB under D7		92.8	93.8	94.7	93.9	--	130
Y cap. CY1		84.8	84.4	84.3	85.6	--	125
Electrolytic cap. C8		79.2	82.3	81.3	79.9	--	105
Enclosure (inside)		80.3	83.0	80.4	79.1	--	105

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Clause	Requirement + Test				Result - Remark		Verdict
Enclosure (outside)		69.1	73.0	72.2	69.7	--	80
Ambt.		50.0	50.0	50.0	50.0	--	--
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
<p>Supplementary information:</p> <p>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.</p> <p>With a rated maximum ambient temperature of 50°C, all tests were performed in room temperature and converted to 50°C, the maximum temperature rises are calculated as follows:</p> <p><u>Winding components providing safety isolation:</u></p> <p>- Class B → T_{max}=120°C - 10°C=110°C (10°C decreased by thermocouple method)</p> <p><u>Components with maximum absolute temperature of:</u></p> <p>- Primary lead wire 80°C</p> <p>- Line filter (L1) winding 130°C</p> <p>- PCB 130°C</p> <p>- Electrolytic Capacitor (E1, E4) 105°C</p> <p>- Y Capacitor (CY1) 125°C</p> <p>- Enclosure (inside) 105°C</p> <p><u>Operator touchable surface with maximum temperature rise of:</u></p> <p>- 95°C</p>							

4.5.5	TABLE: Ball pressure test of thermoplastic parts			P
	Allowed impression diameter (mm): ≤ 2 mm			—
Part		Test temperature (°C)	Impression diameter (mm)	
UK plug pin sleeving		125	1.0	
EU plug pin holder		125	1.5	
Australian plug pin sleeving		125	0.9	
Enclosure (Sabic/SEX1)		125	0.9	
Enclosure (Asahi Kasei/540V)		125	1.2	
Enclosure (Asahi Kasei/540Z)		125	1.2	
Supplementary information:				
The bobbin material of T1 is phenolic, no test is required.				

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Clause	Requirement + Test	Result - Remark	Verdict

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

5.1.6	TABLE: touch current measurement				P
Condition	L → terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments	
System ON	0.10	0.10	0.25	Test location: output connector	
System ON	0.01	0.01	0.25	Test location; enclosure wrapped with metal foil	
Supplementary information:					
Test voltage: 264Vac					
Test frequency: 60Hz					
Capacitance: CY1=2200pF					

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 open)		AC	1500	No
Basic/supplementary:				
--		--	--	--
--		--	--	--
Reinforced:				
Unit: primary circuit to secondary circuit		AC	3000	No
Unit: primary circuit to accessible 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	
5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)				50°C, 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
Model GT-81090-067.5-W2E-USB						
D1	s-c	264	1s	F1	--	Fusible resistor opened immediately. No hazard. Repeated 10 times with same result.
D1	s-c	264	1s	F1	--	Fusible resistor opened immediately. No hazard. Repeated 10 times with same result.
C3	s-c	264	30min	F1	0.01	Unit shut down immediately and recoverable, no hazard.
D5	s-c	264	30min	F1	0.01	Unit shut down immediately and recoverable, no hazard.
T1 pin1-2	s-c	264	30min	F1	0.01	Unit shut down immediately and recoverable, no hazard.
T1 pin3-4	s-c	264	30min	F1	0.01	Unit shut down immediately and recoverable, no hazard.
T1 pin A-B	s-c	264	60s	F1	0.08	Input current increased to 0.08A in 60s, and then fusible resistor opened. No hazard. Repeated 10 times with same result.
Q1 G-S	s-c	264	30min	F1	0.01	Unit shut down immediately and recoverable, no hazard.
Q1 G-D	s-c	264	1s	F1	--	Fusible resistor opened immediately, R13, R14 damaged. No hazard. Repeated 10 times with same result.
Q1 S-D	s-c	264	1s	F1	--	Fusible resistor opened immediately, R13, R14 damaged. No hazard. Repeated 10 times with same result.
R14	s-c	264	1s	F1	--	Fusible resistor opened immediately, Q1 damaged. No hazard. Repeated 10 times with same result.
output	s-c	264	30min	F1	0.01	Unit shut down immediately and recoverable, no hazard.

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Clause	Requirement + Test				Result - Remark	Verdict
output	o-l	264	4hrs 5min	F1	0.09	Output current overload to 1.1A, temperature was stable, no component damaged, T1 winding=118.8°C, T1 core=122.3°C at ambient temperature 50°C, no hazards.
Model GT-81090-067.5-2.3-WR2E-USB						
Output	s-c	264	30min	F1	0.01	Unit shut down immediately, no hazard.
Output	o-l	264	4hrs 9min	F1	0.09	Output current overload to 1.15A, temperature was stable, no component damaged, T1 winding=103.5°C, T1 core=99.5°C at ambient temperature 50°C, no hazards.
Supplementary information: in fault column, where s-c=short-circuited, o-l=over-loaded, o-c=open-circuited.						

Appendix I: Other Country National Differences

KOREA NATIONAL DIFFERENCES			
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).	To be evaluated in the national approval.	N/A
8 : EMC	The apparatus shall comply with the relevant CISPR standards	To be evaluated in the national approval.	N/A

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
Annex ZZ Variations			
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. Shall be evaluated during national approval for models	N/A
2.1	Delete the Note	Deleted	P
3.2.3	Delete Note 2.	Deleted	N/A
3.2.5	Modify Table 3B as followings:	Replaced	N/A

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AUSTRALIAN NATIONAL DIFFERENCES					
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Clause	Requirement + Test			Result - Remark	Verdict
Annex ZZ Variations					
	Rated current of equipment A	Nominal Cross-sectional area mm ²	AWG or kcmil (cross-sectional area in mm ²) 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]		
	Replace footnote 1) with the following: 1) This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliances, and the entry to the plug does not exceed 2m (0.5 ² 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.			See attached partial plug report	P
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			Enclosure, PCB, bobbin	P

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Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
	<p>propagate flames originating from inside the apparatus, or the following:</p> <p>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.</p> <p>The following parts which would contribute negligible fuel to a fire:</p> <p>Small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings;</p> <p>Small electrical components, such as capacitors with a volume not exceeding 1750mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material flammability category FV-1 or better according to AS/NZS 4695.707</p> <p>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.</p> <p>Compliance is checked by tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5.</p> <p>For the base materials of printed boards, compliance is checked by the test of 4.7.201.5.</p> <p>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.</p> <p>These tests are not carried out on internal wiring.</p>		
4.7.201.2	<p>Parts of non-metallic material are subjected to glow wire test of AS/NZS 4695.2.11, which is carried out at 550°C.</p> <p>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.</p>	Enclosure	P
4.7.201.3	<p>Testing of insulating materials</p> <p>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.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3,, of</p>	PCB, bobbin	P

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Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
	<p>the connection.</p> <p>NOTE – Contacts in components such as switch contacts are considered to be connections.</p> <p>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.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications:</p> <p>5 Severities</p> <p>Replace with:</p> <p>The duration of application of the test flame shall be 30s±1s.</p> <p>8 Test procedure</p> <p>8.2 Modification:</p> <p>Replace the first sentence with:</p> <p>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:</p> <p>The first paragraph does not apply.</p> <p>Addition:</p> <p>If possible, the flame shall be applied at least 10mm from a corner.</p> <p>8.5 Replacement:</p> <p>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</p> <p>Replace with:</p> <p>The duration of burning (tb) shall not exceed 30s. However, for printed circuit boards, it shall not exceed 15s.</p> <p>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	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	Added	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
	<p>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 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.</p>		
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,</p>	Added	N/A

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	having openings only for connecting wires fill the openings completely. Compliance is determined using the smallest thickness of the material. 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.		
6.2.2	Add the following after the first paragraph: 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. Delete the note.	No TNV	N/A
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 μ 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 does 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	Not connected to cable distribution system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
	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.		
Annex M.2	Delete the second and third equations and replace with: $I_{t2} = \frac{t_1 - 600}{600} \times \frac{I_{sp}}{2\sqrt{2}} + \frac{1200 - t_1}{600} \times \frac{I_p}{\sqrt{2}} \quad \text{for } (600 \text{ ms} < t_1 < 1200 \text{ ms})$ $I_{t2} = \frac{I_{sp}}{2\sqrt{2}} \quad \text{for } (t_1 \geq 1200 \text{ ms})$	No TNV	N/A
Annex P	Add the following Normative References to Annex P: IEC 60065, Audio, Video and similar electronic apparatus – Safety requirements 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	Added	P
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

Appendix II: Plug Portion (Partial)

EN 50075 (Partial)				
Clause	Requirement + Test		Result - Remark	Verdict
7	Dimensions			P
	Plug shall comply with Standard Sheet 1			P
	Between two pins (pin base)	18.0 – 19.2mm	18.4mm	P
	Between two pins (pin top)	17.0 – 18.0mm	17.3mm	P
	Diameter of pin (metallic part)	4 ± 0.06mm	4.0mm	P
	Diameter of pin (pin base)	Max. 4.0mm	3.8mm	P
	Diameter of pin (middle part)	Max. 3.8mm	3.5mm	P
	Pin length	19 ± 0.5mm	19.4mm	P
	Length of pin except metal part	10 ± 1.0mm	10.3mm	P
	Shape of pin top		Round shape	P
	Length of plug base	35.3 ± 0.7mm	35.5mm	P
	Width of plug base	13.7 ± 0.7mm	13.8mm	P
	Diagonal dimension of plug base within a distance of 18mm	< 26.1 ± 0.5mm < 26.1 ± 0.5mm	26.4mm 26.3mm	P

Note: only the dimensions of Euro-plug have been measured and recorded since it is a certified plug (see Table 1.5.1).

Appendix II: Plug Portion

BS 1363 (Partial)				
Clause	Requirement + Test		Result - Remark	Verdict
12	Construction			P
12.1	Disposition of the pins is same as Fig. 4			P
12.2	Plugs shall comply with Fig. 4			P
	Disposition of pins			P
	Between E and left plane	Max. 25.37mm	24.55mm	P
	Between E and right plane	Max. 25.37mm	24.55mm	P
	Between E and L	11.05 – 11.18mm	11.08mm	P
	Between E and N	11.05 – 11.18mm	11.08mm	P
	Between L or N and top plane	Max. 34.6	31.0mm	P
	Between E and L, N	22.10 – 22.36mm	22.20mm	P
	Radius of top right corner	Min. 15mm	15.50mm	P
	Radius of top left corner	Min. 15mm	15.50mm	P
	Shape of earth pin			P
	Length	22.23 – 23.23mm	22.30mm	P
	Width	7.80 – 8.05mm	8.00mm	P
	Thickness	3.90 – 4.05mm	4.00mm	P
	Length of chamfer	1.35 – 1.85mm	1.40mm	P
	Angle of chamfer	58° - 62°	59°	P
	Shape of L and N pin			P
	Length	17.20 – 18.20mm	17.80mm	P
	Width	6.22 – 6.48mm	6.30mm	P
	Thickness	3.90 – 4.05mm	4.00mm	P
	Length of insulating material	Max. 9.5mm	9.36mm	P
	Length of conductive material	Max. 9.2mm	8.44mm	P
	Length of chamfer	1.35 - 1.85mm	1.60mm	P
	Angle of chamfer	58° - 62°	59°	P
	Maintenance of these dimensions not rely on the terminal screws			P
	The plug portion should enter the gauge fully with a force less than 10N was applied to the centre of the sample at right angle.		Complied, sample was entered into the gauge fully with a force of 10N	P

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BS 1363 (Partial)			
Clause	Requirement + Test	Result - Remark	Verdict
12.3	No part of a line or neutral pin shall be less than 9.5mm from the periphery of the plug measured along the engagement surface.	Complied, both line and neutral pin are measured larger than 9.5mm	P
12.9	Plug pins were constructed of brass	Complied	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to a forced of 1100N, the pin portion could fit the relevant gauge.	P
12.9.5	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to 5000 insertions and withdraws, the shutters of the socket-outlet can operate satisfactorily and the socket contact is safely shielded.	P
12.9.6	Each pin of the adaptor was subjected to a torque of 1Nm for 60s as specified in the standard.	Complied. After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in the standard. After being placed in an oven at 70cC for 1 hour, each pin of the samples was subjected for 60s to a pull of 100N in the oven.	Complied. After the above test, no plug pin was detached and the plug pins could fit the relevant gauge.	P
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1	Complied. During the test, no declination was observed to the plug pins (limit: Max. 3°30')	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Complied. Both line and neutral pins were fitted with insulating sleeves.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied	P
12.17.2	Electric strength test applied between the metal part of plug pin and the sleeve (1250 ± 30V)	Complied. No breakdown and flashover occur.	P
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	Complied. After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2	P

Appendix II: Plug Portion

BS 1363 (Partial)			
Clause	Requirement + Test	Result - Remark	Verdict
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 200°C and tested according to the standard for 120min.	Complied. After the tests, the thickness of sleeve of plug pins (line and neutral) remaining at the impression point were reduced by less than 5%.	P

Notes: clauses 12.4, 12.5, 12.6, 12.7, 12.8, 12.9.2, 12.9.3, 12.10, 12.13, 12.14, 12.15 were not applicable.

Appendix II: Plug Portion

AS/NZS 3112 (Partial)			
Clause	Requirement + Test	Result - Remark	Verdict
The Australian plug was tested according to Annex J of AS/NZS 3112 + A1.			
J1	Scope		P
	This Appendix applies to only the plug portion of equipment with integral pins and shall be read in conjunction with section 2 contained in the body of this standard. Where the term "plug" is used in section 2 it shall be taken to mean the plug portion of equipment with integral pins.	Plug portion with integrated pins.	P
J2	Requirements for plug portion		P
J2.1	Definition		P
J2.2	Requirements	See below	P
J2.2.1	Plug pins of plug portions		P
	Material for pins	Copper alloy containing 60% copper	P
	Assembly of pins		P
	Form of pin		P
	Insulation of plug pin		P
J2.2.2	Ratings and dimensions for low voltage plug portions	Comply with 10A, 250V two-pin plug	P
	General		P
	Compliance with dimensional requirements of Figure 2.1	See attached dimension table	P
J2.2.3	Internal connections for plug portions	No earthing pin.	N/A
J2.2.4	Arrangement of earthing connections for plug portion	No earthing pin	N/A
J2.2.5	Configuration of plug portions		P
J2.2.6.1	General		P
J2.2.6.2	High voltage test (3112.2.13.3)		P
	The plug shall withstand without failure an a.c. voltage of the value indicated in Table 2.3, applied between the parts set out in Items (a) and (c) of Clause 2.13.2 for 1 min in each case.		P
	The plug shall further withstand, without failure, a voltage of 3500Vac applied between the parts set out in Items (b) and (d) of Clause 2.13.2 for 1min in each case.		P
	The insulation of insulated pin plugs shall withstand a voltage of 1250Vac for 1min applied in accordance with Clause 2.13.2(e).		P
J2.2.6.3	Mechanical strength of pin tests		P
J2.2.6.3.1	Tumbling barrel test (3112.2.13.7.1)		P
	The tumbling barrel test is applied to determine the mechanical strength of the plug pins.		P
	Three samples which have not been subjected to any		P

Appendix II: Plug Portion

AS/NZS 3112 (Partial)			
Clause	Requirement + Test	Result - Remark	Verdict
	previous test are tested to the requirements of Clause 2.13.7 however, the test is modified for plug portions of equipment with integral pins as follows:		
	A sample of equipment with integral pins is dropped -		P
	a) 500 times if the mass of the specimen does not exceed 250g. The pins being straightened after 100 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, B1 or F1; and	Weight: 70g	P
	b) 250 times if the mass of the specimen exceeds 250g. The pins being straightened after 25 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, B1 or F1		N/A
J2.2.6.3.2	Pin bending test		P
	The pins of the plug portion of three samples not subjected to any previous tests shall be tested for compliance with the pin bending test of Clause 2.13.7.2.		P
	All flat-pins of plugs rated up to and including 15A shall be subjected to a pin bending test.		P
	<p>Three sample plugs not subjected to any previous tests shall be tested as follows:</p> <p>Pins of assembled plugs shall be tested by clamping the plug in a rigid holding block and applying a bending force, as shown in Figure 2.8, to the pin under test.</p> <p>The pins shall be straight at the beginning of the test. If there is any doubt about the straightness of the pin, it shall be checked by the appropriate plug gauge shown in Appendices A, B or F.</p> <p>The point of application of the force shall be 14 ± 0.5mm from the force of the plug.</p> <p>Active and neutral pins shall be forced towards the centered of the plug and then back to the starting point. On the first sample plug, any earth pin shall be forced but in one direction only and then back to the starting point. On the second sample plug, any earth pin shall be forced in the opposite direction to that used for testing the first sample plug. On the third sample plug, any earth pin shall be forced in the direction that gave the least favorable result during testing of the first two sample plugs.</p> <p>NOTE: This is intended to simulate damage that may occur when a plug is walked on and bent pins are straightened.</p> <p>The distance moved from the point of application shall be 7.5 ± 0.3mm, and then the pin shall be forced back to the starting point. Any "spring-back" is ignored.</p> <p>NOTE: "Spring-back" means that the pin is allowed to</p>		P

Appendix II: Plug Portion

AS/NZS 3112 (Partial)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>move back to a position less than the travel distance, when the force is removed.</p> <p>The travel from the starting point, to the end point (7.5mm), and back to the starting point is one cycle (i.e. one cycle is two separate movements).</p> <p>The speed of deflections shall be a maximum of 50mm/s, without intentional delay between consecutive movements within each cycle.</p> <p>The interval between successive cycles shall be a minimum of 10s.</p> <p>The duration of one cycle shall be a maximum of 60s.</p> <p>The pins shall be tested for 20 complete cycles. After the tests the pins shall be inspected with normal or corrected to normal vision.</p>		
	<p>The pin shall not be broken off.</p> <p>NOTE: Cracking of the pin, less than full thickness is not deemed to be broken off.</p> <p>If in doubt pins shall be disassembled from the plug and any insulation removed.</p> <p>NOTE: In some cases the break may be below the face of the plug or the insulation may hold the broken pieces together, retaining electrical contact.</p>		P
J2.2.6.4	Temperature rise test (3112.2.13.8)	The test current have been specified and tested with the integral adaptor.	P
	2.13.8 Temperature rise test		P
	<p>Plugs shall be so constructed that they comply with the following temperature rise test:</p> <p>Non-rewireable plugs are tested as delivered (specially prepared sample with access to terminals for temperature measurement).</p> <p>Rewireable plugs are fitted with polyvinyl chloride flexible cords with conductors having the minimum cross-section area specified in the manufacturer's instructions.</p>	Non-rewireable plugs	P
	<p>The terminal screws or nuts are tightened with a torque equal to two-thirds of that specified in test No.5.</p> <p>NOTE: To ensure normal cooling of the terminals, the conductors connected to plugs should have a length of at least 1m.</p>	No screws or nuts used.	P
	The test socket shall consist of a fixed socket outlet of a	Direct plug-in	N/A

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	type complying with this standard. NOTE: in the case of a dispute, the test should be repeated using a new socket outlet.	equipment.	
	The fixed socket outlet shall be mounted in an appropriate metal-wall box installed in a draught free position, and fitted with PVC insulated conductors at least 2.5mm long, having nominal cross-sectional areas as shown in Table 3.4.	Direct plug-in equipment.	N/A
	The cables supplying the socket outlet shall be enclosed for a distance of 1m in conduit terminated at the wall box.	Direct plug-in equipment.	N/A
	The plug is inserted into the socket outlet and an alternating current of 1.1 times rated current is passed for 1h.		P
	The temperature of the flexible cord terminal is determined by means of melting particles, color changing indicators or thermocouples, so chosen and positioned that they have negligible effect on the temperature being determined.	Direct plug-in equipment.	N/A
	The temperature rise of the terminals shall not exceed 45K.	Temp. rise: 2.7K (plug pins)	P
J2.2.6.5	Securement of pins (3112.2.13.9)		P
	Movement of pins (2.13.9.1)		P
	Plugs shall be tested for pin movement by clamping the pin or pins not under test in a rigid holding block positioned 5±0.5mm from the plug face and applying a force of 18±1N to the pin under test. The design of the block shall be such that the pin under test shall not come into contact with the block during the test.		P
	Except for non-rewireable plugs, the test shall be carried out without a cord attached to the plug, and with the terminal screws loosened sufficiently to allow a 1mm ² conductor to be connected.		N/A
	The plug and test equipment shall be preconditioned at a temperature of 40±1°C for 1h, without the test force applied. Throughout the test, all parts of the plug and test equipment shall be maintained at this temperature.		P
	For all plugs, the point of application of the force of the plug along the pins, and the direction of the force shall be a) in both directions along the line perpendicular to the plane of the pin, and passing through the centre of the pin; and b) in that plane in both directions along a line at right angles to that specified in Item (a).		P
	Over a period of 10s, the force shall be gradually applied to each of the pins in the manner prescribed in Items (a) and (b), maintained at its maximum value for 10s, and then released. The deflection of the pins shall be measured along the line of force relative to the face of the rigid holding block during the period when the force is applied. The maximum deflection shall not exceed		P

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	2.0mm.		
	Following the test on all pins of a plug conforming to Figure 2.1, any distortion 5 min after the completion of the test on the last pin shall be such that it will not prevent the plug from being inserted in the appropriate standard gauges shown in Appendix A, Appendix B and Appendix F without the application of undue force.		P
	For other types of plugs, any distortion after 5 min shall be such as will not prevent the plug being inserted into an appropriate socket-outlet without the application of undue force.		P
	Fixing of pins (2.13.9.2)		P
	A separate sample of a plug shall be heated to a temperature of $50 \pm 20^{\circ}\text{C}$ for 1h and maintained at that temperature during the whole of tests, including the 5 min period after removal of the test load.		P
	The plug shall be held firmly in such a manner that there will be no undue squeezing or distortion of the body, and the means of holding shall not assist in maintaining the pins in their original position.		P
	Each pin, in turn, shall have applied to it a force which, over a period of 10s, shall be increased steadily to $60 \pm 0.6\text{N}$ and held at this value for 10min.		P
	Two tests on each pin shall be conducted, one with the direction of force along the length of the pin towards the body of the plug, and the other with the direction of force along the length of the pin away from the body.		P
	The attachment of pins shall be considered inadequate if any pin is displaced relative to the adjacent material of the body by more than 2.4mm at any time during these tests, or if any pin fails to return to within 0.8mm of its nominal length specified in Figure 2.1 within 5 min of the removal of the test force.		P
J2.2.6.6	Additional tests for plugs with insulated pins (3112.2.13.13)		P
	2.13.13 Additional tests on the insulation material of insulated pin plugs		P
	2.13.13.1 General		P
	The material of the pin-insulation shall be resistant to the stresses to which it may be subjected at the high temperature likely to occur in conditions approaching the bad connection conditions and at low temperatures in particular conditions of service.		P
	Compliance shall be checked by the tests of Clause 2.13.13.2 to 2.13.13.5		P
	(a) Pressure test at high temperature (2.13.13.2)		P
	A specimen of one insulated pin only shall be subjected to the following test by means of the apparatus shown in Figure 2.2. This apparatus shall have a blade having a round shape with a diameter of 6mm and a thickness of		P

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	0.7mm.		
	The specimen shall be placed in position as shown in the Figure 2.5 and a force of 2.5N shall be applied through the blade to specimen.		P
	The apparatus, with the specimen in position, shall be maintained for 2 h in a heating cabinet at a temperature of $160 \pm 5^\circ\text{C}$. The specimen shall then be removed from the apparatus and within 10s, cooled by immersion in cold water.		P
	The thickness within the area of the impression shall be not less than 50% of the thickness measured before the test.	Part 1: thickness before test: 0.55 mm; thickness after test: 0.50 mm; length of insulation after test: 8.72 mm Part 2: thickness before test: 0.60 mm; thickness after test: 0.55 mm; length of insulation test: 8.85 mm	P
	Visual inspection shall be made and no cracks on the insulation material shall be visible with normal, or corrected to normal, vision without additional magnification, and the dimension of the insulating material shall not have changed below the minimum size shown in Figure 2.4.		P
	b) Static damp heat test (2.13.13.3)		P
	An insulated pin plug shall be subjected to two damp heat cycles in accordance with IEC 60068-2-30. Db (12 ± 12 h cycle), 95% relative humidity, lower temperature $25 \pm 3^\circ\text{C}$ and upper temperature 40°C .		P
	After this treatment and after recovery to room temperature, the specimen shall be subjected to – The insulation resistance test in accordance with CLAUSE 2.13.2 (E); High voltage test in accordance with Clause 2.13.3 and; Abrasion test in accordance with Clause 2.13.13.6. NOTE: at the manufacturer's option, the same sample may be used for this test and the low temperature test (see Clause 2.13.13.4) and a single abrasion test may be done.		P
	c) Low temperature test (2.13.13.4)		P
	An insulated pin plug shall be maintained at $-15 \pm 2^\circ\text{C}$ for at least 24h and returned to room temperature.		P
	The specimen shall be subjected to – The insulation resistance test in accordance with Clause 2.13.2(e); High voltage test in accordance with Clause 2.13.3 and; Abrasion test in accordance with Clause 2.13.13.6. NOTE: at the manufacturer's option, the same sample		P

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	may be used for this test and the static damp heat test (see Clause 2.13.13.3) and a single abrasion test may be done.		
	d) Impact test at low temperature (2.13.13.5)		P
	A specimen of one insulated pin only shall be subjected to an impact test by means of the apparatus shown in Figure 2.6. The mass of the falling weight shall be 100 + 1g.		P
	The apparatus, on a sponge rubber pad 40mm thick, together with the specimen, shall be maintained at -15 + 20 °C for at least 24h.		P
	At the end of this period, the specimen shall be placed in position, as shown in Figure 2.6, and the falling weight shall be allowed to fall from a height of 100mm. Four impacts shall be applied successively to the same specimen. Rotating it through 90° between impacts.		P
	At the test the specimen shall be allowed to return to room temperature and then examined, no cracks of the insulating material shall be visible with normal, or corrected to normal, vision without additional magnification. NOTE: the cooling period of 14h includes the time necessary to cool down the apparatus.		P
	e) Abrasion test (2.13.13.6)		P
	An insulated pin of an insulated pin plug shall be subjected to the following test by means of an apparatus as shown in Figure 2.7.		P
	The test apparatus comprises a horizontally disposed beam, which shall be pivoted about its centre point. A short length of steel wire, 1mm in diameter and bent into a U-shape, the base of the U being straight, shall be rigidly attached, at both ends, to one end of the beam, so that the straight part projects below the beam and shall be parallel to the axis of the beam pivot.		P
	The plug shall be held in a suitable clamp in such a position that the straight part of the steel wire rests on the major axis face of the plug pin, at right angles to it. The pin shall slope downwards at an angle of 10° to the horizontal.		P
	The beam shall be loaded so that the wire exerts a force of 4N on the pin.		P
	The plug shall be moved backwards and forwards in horizontal direction in the plane of the axis of the beam, so that the wire rubs along the pin. The length of the pin thus abraded shall be approximately 9mm, of which approximately 7mm shall be over the insulation.		P
	The number of movements shall be 20 000 (10 000 in each direction) and the rate of operation shall be 30 movements per min.		P
	After the test, the pins shall show no damage which may affect safety or impair the further use of the plug, in		P

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	particular, the insulating sleeve shall not have punctured or racked up.		
J2.2.6.7	Equipment with integral pins intended to be supported by the contacts of a socket-outlet.	Torque: 0.03Nm	P

<p>Standard sheet Figure 2.1 (a1) or 2.1(c)</p> <p>Maximum projection (shape not specified)</p> <p>Shape is specified (see Figure 2.1(e) and Note 1)</p> <p>(c) Two-pin plugs (up to 10 A, 250 V)</p>			<p>Standard sheet Figure 2.1 (e) and fig 2.4</p> <p>(h) Flat pin with radius on the end with side bevels</p>		
Symbol	Required (mm)	Measured (mm)	Position	Required (mm)	Measured (mm)
A	6.2-6.6	6.29	L	>8.6	8.66
C	1.58-1.78	1.62	M	R21.0 max.	19.25
D	7.92	7.92	M'	R19.0-21.0	19.52
F	16.66-17.46	17.21	N	<R1.0	0.6
G	<21.9 or >27.0	19.53	P	8.2-9.2	8.74
H	<21.9 or >27.0	19.62	S	0.90±0.10	0.95
I	<21.9 or >27.0	18.68	V	6.0	6.0
J	<21.9 or >27.0	20.06	R	0.35±0.05	0.35
K	60°	60°			
The distance between a live pin of any plug and the edge of the moulding of the plug				Min. 9	10.17