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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. .....:	32103
Date of issue .....:	October 11, 2011
Total number of pages	93 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.....:	☒ IEC 60950-1:2005 (2nd Edition) and/or ☒ 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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This report is not valid as a CCA Test Report unless signed by an approved CCA Testing Laboratory and appended to a CCA Test Certificate issued by an NCB in accordance with CCA

Test item description .....:	Switching Adapter
Trade Mark .....:	GlobTek, Inc.
Manufacturer .....:	Same as applicant
Model/Type reference .....:	GT-81087-WWVV-X.X-W2Z (for details see Model Designation on page 7)
Ratings .....:	Input 100-240V~, 50/60Hz, 0.7A; Output: see Model Designation on page 7

Testing procedure and testing location:		
☒	**CB/~~CCA~~ Testing Laboratory**:	emitel (Shenzhen) Limited
Testing location/ address ..... :		Building 2, 171 Meihua Road, Futian District, Shenzhen, China P.C: 518049
☐	**Associated CB Laboratory:**	N/A
Testing location/ address ..... :		N/A
	Tested by (name + signature)..... :	Stella Young
	Approved by (name+ signature) . :	Ivan Toa

Summary of testing:

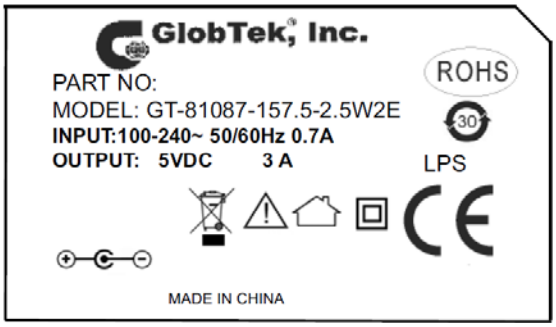
Tests performed (name of test and test clause):	Testing location:
- 1.6.2 Input Current Test - 1.7.11 Durability of Marking Test - 2.1.1.5 Energy Hazard in Operator Access Area - 2.1.1.7 Discharge of Capacitor - 2.2.2 SELV Limits for Normal Conditions - 2.2.3 SELV Limits for Abnormal Conditions - 2.4.2 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 Remark: The models GT-81087-157.5-2.5W2E, GT-81087-2012-1.8-W2E, GT-81087-2012-W2E (with D7A heat sink) and GT-81087-2018-W2E (without D7 heat sink) have been selected for multiple testing. If no specify, model GT-81087-2018-W2E (without D7 heat sink) was the selected model for testing.	emitel (Shenzhen) Limited Building 2, 171 Meihua Road, Futian District, Shenzhen, China P.C: 518049

Summary of compliance with National Differences:

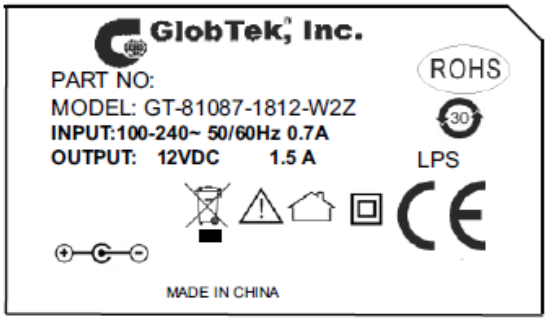
CH, DE, DK, ES, FI, GB, IE, NO, SE

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

Copy of marking plate



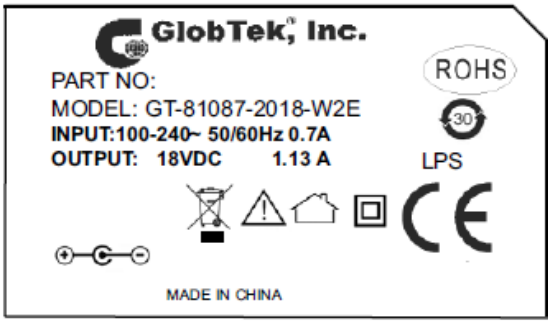
GT-81087-157.5-2.5W2E



GT-81087-1812-W2Z



GT-81087-2012-1.8-W2E



GT-81087-2018-W2E

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 ..... :	[] movable [] hand-held [] transportable [] stationary [] for building-in [√] direct plug-in
Connection to the mains ..... :	[√] pluggable equipment [√] type A [] type B [] permanent connection [] detachable power supply cord [] non-detachable power supply cord [] not directly connected to the mains
Operating condition ..... :	[√] continuous [] rated operating / resting time:
Access location ..... :	[√] operator accessible [] restricted access location
Over voltage category (OVC) ..... :	[] OVC I [√] OVC II [] OVC III [] OVC IV [] other:
Mains supply tolerance (%) or absolute mains supply values ..... :	±10% (as the client requested)
Tested for IT power systems ..... :	[√] Yes (only for Norway) [] No
IT testing, phase-phase voltage (V) ..... :	230 (only for Norway)
Class of equipment ..... :	[] Class I [√] Class II [] Class III [] Not classified
Considered current rating (A) ..... :	0.7A
Pollution degree (PD) ..... :	[] PD 1 [√] PD 2 [] PD 3
IP protection class ..... :	IPX0
Altitude during operation (m) ..... :	Up tp 2000
Altitude of test laboratory (m) ..... :	Below 2000
Mass of equipment (kg) ..... :	Approx. 0.13
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. 16, 2011
General remarks:	
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. **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.	

All national differences of EU group were considered according to EN 60950-1:2006 and A11, Annex ZA, Annex ZB and Annex ZC on page 35-42.
Australian national difference were considered according to AS/NZS 60950.1:2003+A1+A2+A3 on pages 68-70;
The European plug was evaluated according to EN 50075:1990 (see appended table on page 71); the British plug was evaluated according to BS1363-1:1995+A1+A2+A3 (see appended table on page 72-74);
The Australia plug was evaluated according to AS/NZS 3112:2004+A1 (see appended table on page 75-80);
The product photos were shown on pages 81-93.

All contents are come from TÜV Rheinland CB Report No. 16021346001 (dated on Jan. 11, 2010) and No. 16021346002 (dated on Jul. 02, 2010) with CB Certificate JPTUV-030408-M1 except the followings:

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

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

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

General product information:

Brief description of the test sample:
1, The equipment models GT-81087-WWVV-X.X-W2Z are switching adapters (direct plug-in) used for DC supply of information technology equipment;
2, The adapter's top enclosure is secured to the bottom enclosure by ultrasonic weld;
3, The test samples are pre-production samples without serial numbers;
4, There are two kinds of construction for the output cord inside enclosure, one is used 80℃ UL approved cord, another is 60 UL approved cord wrapped with heat shrinkable tube.
5, The power pin parts of European plug was fixed into the enclosure of plug portion by a screw. The power pin parts of British plug and Australian plug were molded into the enclosure of plug portion. It is impossible to remain in the mains socket-outlet after removal of the adapter, details see photo document.
6, Specified maximum ambient temperature is 40℃.

Difference between models:
1, Transformer: the adapter with different output voltage has different secondary winding of transformer.
2, R9A, R9B, R9C, R1, D7, C7, C8, R13, R14, R16, R21 and T1: the parameter of these components depends on output power and output voltage.
3, There are three kinds of heat sink construction of D7:
a. When the output current is equal to or exceeding 1.5A, heat-sink D7B used;
b. When the output current is less than 1.5A, heat-sink D7A or D7B used;
c. When the output current is no more than 1.13 A, heat-sink of D7 is optional.
For details of heat-sink refer to photo documents.

Model Designation:

GT-81087-WWVV-X.X:

- WW is the standard output wattage, with a maximum value of "20.4";
- VV is the standard rated output voltage designation, with a maximum value of "18";
- -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, A for Australia plug, K for Korea plug,

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

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	No such components	N/A
1.5.9	Surge suppressors		P
1.5.9.1	General	Optional approved surge supressor (MOV1) used between L and N. For details see appended table 1.5.1	P
1.5.9.2	Protection of VDRs	The current fuse F1 privides the protection	P
1.5.9.3	Bridging of functional insulation by a VDR	See 1.5.9.1	P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		P
1.6.1	AC power distribution systems	IT power system for Norway only, TN power system for others.	P
1.6.2	Input current	(see appended table 1.6.2) The highest load according to 1.2.2.1 for this product is the operation with the Max. specified DC load.	P
1.6.3	Voltage limit of hand-held equipment	Not hand-held product	N/A
1.6.4	Neutral conductor	Double or Reinforce insulation for rated voltage between enclosure and primary phases.	P
1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V) ..... :	100-240Vac	P
	Symbol for nature of supply, for d.c. only ..... :	Mains from AC source	N/A
	Rated frequency or rated frequency range (Hz) ... :	50/60Hz	P
	Rated current (mA or A) ..... :	0.7A	P
	Manufacturer's name or trade-mark or identification mark ..... :	GlobTek	P
	Model identification or type reference ..... :	GT-81087-WWVV-X.X-W2Z	P
	Symbol for Class II equipment only ..... :	Double square symbol provided	P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Other markings and symbols ..... :	Additional symbols or marking does not give rise to misunderstanding	P
1.7.2	Safety instructions and marking	See below	P
1.7.2.1	General	User's manual provided that contains information regarding the Max. ambient temperature.	P
1.7.2.2	Disconnect devices	Appliance inlet is used as disconnect device	P
1.7.2.3	Overcurrent protective device	Not such product	N/A
1.7.2.4	IT power distribution systems	Only for Norway	P
1.7.2.5	Operator access with a tool	No operator accessible area that needs to be accessed by the use of a tool.	N/A
1.2.7.6	Ozone	Not such product	N/A
1.7.3	Short duty cycles	Continuous operation	N/A
1.7.4	Supply voltage adjustment ..... :	No such device used	N/A
	Methods and means of adjustment; reference to installation instructions ..... :		N/A
1.7.5	Power outlets on the equipment ..... :	No such device used	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :	The rating "F1 T2AL250VAC" is marked on PCB adjacent to the fuse.	P
1.7.7	Wiring terminals	See below	N/A
1.7.7.1	Protective earthing and bonding terminals ..... :	Class II equipment without earth connection	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	Direct plug-in equipment	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	No d.c. mains supply	N/A
1.7.8	Controls and indicators	No safety related switch or indicator.	N/A
1.7.8.1	Identification, location and marking ..... :		N/A
1.7.8.2	Colours ..... :		N/A
1.7.8.3	Symbols according to IEC 60417 ..... :		N/A
1.7.8.4	Markings using figures ..... :		N/A
1.7.9	Isolation of multiple power sources ..... :	Only one supply	N/A
1.7.10	Thermostats and other regulating devices ..... :	No such device used	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.11	Durability	The label was subjected to the testing. The label was rubbed with cloth soaked with water for 15s, and then again for 15s, with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
1.7.12	Removable parts	No removable part	N/A
1.7.13	Replaceable batteries ..... :	No battery provided	N/A
	Language(s) ..... :		—
1.7.14	Equipment for restricted access locations ..... :	Not limited for use in restricted access locations	N/A
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	No access with test finger and test pin to any parts with only basic insulation to hazardous voltage.	P
2.1.1.1	Access to energized parts	See above	P
	Test by inspection ..... :	See above	P
	Test with test finger (Figure 2A) ..... :	See above	P
	Test with test pin (Figure 2B) ..... :	See above	P
	Test with test probe (Figure 2C) ..... :	No TNV circuits.	N/A
2.1.1.2	Battery compartments	No battery compartment	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring can be accessed by operator.	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	N/A
2.1.1.5	Energy hazards ..... :	Energy does not exceed 240VA between any two points in accessible parts (o/p connector of secondary circuit). Results see appended table 2.1.1.5, no energy hazard in operator access area.	P
2.1.1.6	Manual controls	No such device	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.7	Discharge of capacitors in equipment	CX1 = 0.22µF	P
	Measured voltage (V); time-constant (s)..... :	(see appended table)	—
2.1.1.8	Energy hazards – d.c. mains supply	Connected to a.c. mains	N/A
	a) Capacitor connected to the d.c. mains supply .. :		N/A
	b) Internal battery connected to the d.c. mains supply ..... :		N/A
2.1.1.9	Audio amplifiers ..... :	Product without audio amplifier	N/A
2.1.2	Protection in service access areas	No operator accessible area that needs to be accessed by the use of a tool.	N/A
2.1.3	Protection in restricted access locations	Not intended for use in RAL.	N/A
2.2	SELV circuits		P
2.2.1	General requirements	The secondary circuits were tested as SELV, see 2.2.1 to 2.2.4	P
2.2.2	Voltages under normal conditions (V) ..... :	Between any conductors of the SELV circuits 42.4Vpeak or 60Vdc are not exceeded. See appended table 2.2.2.	P
2.2.3	Voltages under fault conditions (V) ..... :	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71Vpeak and 120Vd.c. were not exceeded within 0.2s and limits 42.4Vpeak and 60Vd.c. were not exceeded for longer than 0.2s.	P
2.2.4	Connection of SELV circuits to other circuits ..... :	See 2.2.2 and 2.2.3	P
2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuits	N/A
	Type of TNV circuits..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed ..... :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed ..... :		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	Limited current circuits		P
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 µF) ..... :	Max. 2200pF	—
2.4.3	Connection of limited current circuits to other circuits	See 2.2.2 and 2.2.3. No direct connection between SELV and primary circuit.	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 equipment	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	The power supply cord is not provided along with the equipment. Evaluation of this clause should be made in the final assembly.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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..... :		N/A
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
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

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Clause	Requirement + Test	Result - Remark	Verdict
2.7.2	Faults not simulated in 5.3.7	The protective device is well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	Pluggable equipment type A, building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices ..... :	Overcurrent protection by one built-in fuse.	P
2.7.5	Protection by several devices	Only one fuse provided	N/A
2.7.6	Warning to service personnel ..... :	No service work necessary	N/A
2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlink used	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
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	120 hours (as client requested)	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

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.1	General	See 2.10.3, 2.10.4 and 2.10.5	P
2.10.1.1	Frequency ..... :		P
2.10.1.2	Pollution degrees ..... :	2	P
2.10.1.3	Reduced values for functional insualtion		N/A
2.10.1.4	Intervening unconnected conductive parts	No such part	N/A
2.10.1.5	Insulation with varying dimensions	No such transformer used	N/A
2.10.1.6	Special separation requirements	No TNV	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such circuit	N/A
2.10.2	Determination of working voltage	The rms and peak voltage were measured on the adapter. The unit was connected to a 240Vac power supply and floating secondary circuits was assumed to be earthed at the point by which the highest working voltage is obtained. (Results see appended table 2.10.2)	P
2.10.2.1	General	See above	P
2.10.2.2	RMS working voltage	Results see appended table 2.10.2	P
2.10.2.3	Peak working voltage	Results see appended table 2.10.2	P
2.10.3	Clearances	See below and advantage of Annex G is not considered	P
2.10.3.1	General	See below, Annex G was not considered.	P
2.10.3.2	Mains transient voltages	See below	P
	a) AC mains supply ..... :	Normal transient voltage considered (Overvoltage category II for primary circuit)	P
	b) Earthed d.c. mains supplies ..... :	AC mains	N/A
	c) Unearthed d.c. mains supplies ..... :		N/A
	d) Battery operation ..... :		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4) Annex F and Min. clearances considered.	P
2.10.3.4	Clearances in secondary circuits	See 5.3.4	P
2.10.3.5	Clearances in circuits having starting pulses	No such circuits	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 suplply		N/A
	For an a.c. mains supply .....:		N/A
	For a d.c. mains supply .....:		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	See below	P
2.10.4.1	General	See appended table 2.10.3 and 2.10.4	P
2.10.4.2	Material group and caomparative 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, opto-coupler and mylar sheet are provided (see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation	No such component	N/A
2.10.5.4	Semiconductor devices	No such component	N/A
2.10.5.5.	Cemented joints	No such construction	N/A
2.10.5.6	Thin sheet material – General	Thin sheet material was not used as insulation	N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs).....:		—
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		N/A
	Electric strength test		—
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Working voltage .....:	476Vpeak, 274Vrms	P
	a) Basic insulation not under stress .....:		N/A
	b) Basic, supplemetary, reinforced insulation .....:		N/A
	c) Compliance with Annex U .....:	Approved source of triple insulated wire used in T1 secondary winding for reinforced insulation	P
	Two wires in contact inside wound component; angle between 45° and 90° .....:	By insulation tape	P
2.10.5.13	Wire with solvent-based enamel in wound components	No such construction	N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No such construction	N/A
	Working voltage .....:		N/A
	- Basic insulation not under stress .....:		N/A
	- Supplemetary, 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

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.12	Enclosed and sealed parts	No hermetically sealed component.	N/A
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Secondary output cable is UL recognized wiring which is PVC insulated, rated VW-1, Min. 80˚C, 300 V, or 60 ˚C wire covered with heat shrinkable tube. Internal wiring is PVC insulated, the wiring gauge is suitable for current intended to be carried. Internal wiring for primary power distribution protected by built-in current fuse.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges which could damage the insulation and cause hazard.	P
3.1.3	Securing of internal wiring	The internal wiring is secured by solder pins or glue so that loosening of the terminal connection is unlikely.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for application and the working voltage. For the insulation material see 3.1.1 (See appended table 5.2)	P
3.1.5	Beads and ceramic insulators	Not used	N/A
3.1.6	Screws for electrical contact pressure	No such screws provided	N/A
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal	N/A
3.1.8	Self-tapping and spaced thread screws	Not used	N/A
3.1.9	Termination of conductors	All conductors are reliable secured.	P
	10 N pull test	Force of 10N applied to the termination points of the conductors.	P
3.1.10	Sleeving on wiring	No sleeving used to provide supplementary insulation.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2	Connection to a mains supply		P
3.2.1	Means of connection	Mains plug	P
3.2.1.1	Connection to an a.c. mains supply	See above	P
3.2.1.2	Connection to a d.c. mains supply	AC source	N/A
3.2.2	Multiple supply connections	Only one mains source	N/A
3.2.3	Permanently connected equipment	Not permanently connected equipment	N/A
	Number of conductors, diameter of cable and conduits (mm) ..... :		—
3.2.4	Appliance inlets	Direct plug-in equipment	N/A
3.2.5	Power supply cords	No power cord provided	N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		—
	Rated current (A), cross-sectional area (mm^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	Not permanent connection nor non-detachable power cord type	N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Direct plug-in equipment	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P
3.4.2	Disconnect devices	Mains plug is provided as disconnect device	P
3.4.3	Permanently connected equipment	Not such equipment	N/A
3.4.4	Parts which remain energized	There is no parts remained with hazardous voltage or energy in the equipment when SPS is separated from AC mains	P
3.4.5	Switches in flexible cords	No such cord provided	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The 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	See Cl. 3.4.2	N/A
3.4.9	Plugs as disconnect devices	See Cl. 3.4.2	N/A
3.4.10	Interconnected equipment	No interconnections using hazardous voltage	N/A
3.4.11	Multiple power sources	Only one power source	N/A
3.5	Interconnection of equipment		P
3.5.1	General requirements	This power supply is not considered for connection to TNV	P
3.5.2	Types of interconnection circuits ..... :	Interconnection circuits of SELV through the connector. No ELV interconnection circuits.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection	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 equipment	N/A
	Test force (N) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.2	Mechanical strength		P
4.2.1	General	See below. After test, the unit comply with 2.1.1, 2.10 and 4.4.1	P
4.2.2	Steady force test, 10 N	10N applied to components other than parts serving as an enclosure.	P
4.2.3	Steady force test, 30 N	No internal enclosure	N/A
4.2.4	Steady force test, 250 N	250N applied to outer enclosure. No energy or other hazards.	P
4.2.5	Impact test	Direct plug-in equipment	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 84°C and cooling down to room temperature, no shrinkage, distortion or loosening any enclosure part was noticeable on the adaptor. Test was performed for all source of enclosure material.	P
4.2.8	Cathode ray tubes	No CRT provided	N/A
	Picture tube separately certified ..... :		N/A
4.2.9	High pressure lamps	No high pressure lamps provided	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ..... :	Not intended to be mounted on a wall or ceiling	N/A

4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and/ or smoothed.	P
4.3.2	Handles and manual controls; force (N)..... :	No handles or controls provided	N/A
4.3.3	Adjustable controls	No controls provided	N/A
4.3.4	Securing of parts	No connection likely to be exposed to mechanical stress is provided in unit.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.5	Connection by plugs and sockets	No mismating 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 adapter	P
	Torque ..... :	For European plug: 0.05Nm; For British plug: 0.05 Nm; For Australian plug: 0.05Nm	—
	Compliance with the relevant mains plug standard ..... :	For European plug, British plug and Australian plug, see attached partial test report	P
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A
4.3.8	Batteries	No batteries provided	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No such material	N/A
4.3.10	Dust, powders, liquids and gases	Product in intended use not considered to be exposed to these	N/A
4.3.11	Containers for liquids or gases	No container for liquid or gas	N/A
4.3.12	Flammable liquids ..... :	No such flammable liquid	N/A
	Quantity of liquid (l) ..... :		N/A
	Flash point (°C) ..... :		N/A
4.3.13	Radiation	No such radiation	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) ..... :		—
	Measured high-voltage (kV) ..... :		—
	Measured focus voltage (kV) ..... :		—
	CRT markings ..... :		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification ..... :		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.5	Laser (including LEDs)		N/A
	Laser class ..... :		—
4.3.13.6	Other types ..... :		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No moving parts	N/A
4.4.2	Protection in operator access areas ..... :		N/A
4.4.3	Protection in restricted access locations ..... :		N/A
4.4.4	Protection in service access areas		N/A
4.5	Thermal requirements		P
4.5.1	General	See below	P
4.5.2	Temperature tests	(see appended table 4.5.2)	P
	Normal load condition per Annex L ..... :	(see appended table 1.6.2)	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat ..... :	(see appended table 4.5.5)	P
4.6	Openings in enclosures		N/A
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 bottomm, 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

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Clause	Requirement + Test	Result - Remark	Verdict
	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: - components in primary; - components in secondary; - components having unenclosed arcing parts at hazardous voltage or energy level; - Insulated wire. The fire enclosure is required.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	Parts are mounted on PCB of flammability class V-0 or better.	P
4.7.3.2	Materials for fire enclosures	The fire enclosure is V-1 or better material.	P
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)	EUT 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

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.4	Application of measuring instrument	Using measuring instrument in Annex D	P
5.1.5	Test procedure	The touch current was measured from mains to DC output connector and to a 100 mm x 200 mm metal foil wrapped on accessible non-conductive parts (plastic enclosure)	P
5.1.6	Test measurements	See below	P
	Supply voltage (V) ..... :	See appended table 5.1.6	—
	Measured touch current (mA) ..... :	See appended table 5.1.6	—
	Max. allowed touch current (mA) ..... :	See appended table 5.1.6	—
	Measured protective conductor current (mA) ..... :		—
	Max. allowed protective conductor current (mA) .. :		—
5.1.7	Equipment with touch current exceeding 3,5 mA	Neither stationary permanently connected nor stationary pluggable type B product.	N/A
5.1.7.1	General ..... :		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.1	Protection against overload and abnormal operation	Output overload test, the most unfavorable load test. (see appended table 5.3)	P
5.3.2	Motors	No motor	N/A
5.3.3	Transformers	With the shorted o/p of the transformer, no high temperature of the transformer was recorded. Results of the short-circuit tests see appended table 5.3 and Annex C.	P
5.3.4	Functional insulation ..... :	Method c). Test results see appended table 5.3	P
5.3.5	Electromechanical components	No such component	N/A
5.3.6	Audio amplifiers in ITE ..... :	No such device	N/A
5.3.7	Simulation of faults	Results see appended table	P
5.3.8	Unattended equipment	None of the listed components was provided	N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A) ..... :	No TNV	—
	Current limiting method ..... :		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	Not connected to cable distribution system	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
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)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material ..... :	Certified source of material used.	—
	Wall thickness (mm) ..... :		—
A.2.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.2.3	Mounting of samples ..... :		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C ..... :		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	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) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) ..... :		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ..... :		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) ..... :		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position ..... :	T1	—
	Manufacturer ..... :	GlobTek	—
	Type ..... :	See appended table 1.5.1	—
	Rated values ..... :	Class B	—
	Method of protection ..... :	By protective circuits design	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended table 5.2)	P
	Protection from displacement of windings ..... :	By insulation tape	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P

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Clause	Requirement + Test	Result - Remark	Verdict
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances	This method was not considered	N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply ..... :		N/A
G.2.2	Earthed d.c. mains supplies ..... :		N/A
G.2.3	Unearthed d.c. mains supplies ..... :		N/A
G.2.4	Battery operation ..... :		N/A
G.3	Determination of telecommunication network transient voltage (V) ..... :		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks .... :		N/A
G.4.2	Transients from telecommunication networks ..... :		N/A
G.4.3	Combination of transients		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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 unfaborable way of operation given in the operating instructions.	P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
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		—

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Clause	Requirement + Test	Result - Remark	Verdict

Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	a) Preferred climatic categories ..... :		P
	b) Maximum continuous voltage ..... :		P
	c) Pulse current ..... :		P

R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)	No coated PCB used	N/A
R.2	Reduced clearances (see 2.10.3)	Not inspected	N/A

S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment	Not such equipment	N/A
S.2	Test procedure	Not such equipment	N/A
S.3	Examples of waveforms during impulse testing	Not such equipment	N/A

T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
		See separate test report	—

U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Approved TIW used in T1	—

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	TN, IT	P
V.2	TN power distribution systems		P

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits	Not connect to telecommunication networks	N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

BB	ANNEX BB, CHANGES IN THE SECOND EDITION	—

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

2.7.1	Replace the subclause as follows: Basic requirements 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): 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; 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; 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. 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
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	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: | 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 | In the conditions applicable to Table 3B delete the words "in some countries" in condition [a)]. In NOTE 1, applicable to Table 3B, delete the second sentence.	N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: | Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4 | Delete the fifth line: conductor sizes for 13 to 16 A.	N/A
4.3.13.6	Add the following NOTE: 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.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Annex H	Replace the last paragraph of this annex by: 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. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	N/A
Biblio-graphy	Additional EN standards.	—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS (UPDATED ACCORDING TO A11: 2009)	—

ZB	SPECIAL NATIONAL CONDITIONS (UPDATED ACCORDING TO A11: 2009)	P
1.2.4.1	In **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	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. The marking text in the applicable countries shall be as follows: In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	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. 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. 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: “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).” 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. 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.” 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.”	N/A
1.7.5	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. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.	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

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	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: 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 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: 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		N/A
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 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.		N/A
3.2.1.1	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. 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. 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. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A
	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. NOTE ‘Standard plug’ is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
	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.		N/A
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.		N/A

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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: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - 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	**Denmark** (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller 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.”	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.7.2.1	**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.	N/A
1.7.5	**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.	N/A
1.7.13	**Switzerland** (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.	N/A
5.1.7.1	**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.	N/A

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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)	GlobTek	90E20PFE5-xxx ("xxx" to denote the part number, can be any alphanumeric character for marketing purpose only)	Pri. winding (pin 1-2): φ0.32mm x 84Ts; Aux. winding (pin 3-4): φ0.30mm x 13Ts; Sec. winding (pin B-A): φ0.55mm x 3p x 6Ts. Class B	Applicable part of IEC60950-1 and according to IEC60085	Tested with appliance
	GlobTek	90E20PF12-xxx ("xxx" to denote the part number, can be any alphanumeric character for marketing purpose only)	Pri. winding (pin 1-2): φ0.32mm x 84Ts; Aux. winding (pin 3-4): φ0.30mm x 12Ts; Sec. winding (pin B-A): φ0.6mm x 2p x 9Ts. Class B	Applicable part of IEC60950-1 and according to IEC60085	Tested with appliance
	GlobTek	90E20PF15-xxx ("xxx" to denote the part number, can be any alphanumeric character for marketing purpose only)	Pri. winding (pin 1-2): φ0.32mm x 84Ts; Aux. winding (pin 3-4): φ0.30mm x 12Ts; Sec. winding (pin B-A): φ0.75mm x 1p x 15Ts. 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	130˚C, Class B	IEC/EN 60950-1	VDE
- Alt.	Furukawa Electric Co., Ltd.	TIW-E	130˚C, Class B	IEC/EN 60950-1	VDE
- Alt.	YongChang	STW-B	130˚C, Class B	IEC/EN 60950-1	VDE
- Alt.	Great Ieoflon	TRW (B)	130˚C, Class B	IEC/EN 60950-1	VDE
- Alt.	Cosmolink	TIW-M	130˚C, Class B	IEC/EN 60950-1	VDE
- Insulation tape	Four Pillars (SYMBIO)	35660Y/35660/ MY130	130˚C	-	UL
- Alt.	Various	Various	130˚C,	-	UL

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Common mode Choke(LF1) (optional)	GlobTek	30C025095-XXX (“XXX” to denote the part number, can be any alphanumeric character for marketing purpose only)	Pin 1-3: φ0.27mm x 95Ts; pin 2-4: φ0.27mm x 95Ts; 130˚C	--	Tested with appliance
X capacitor (CX1) (optional)	Chiefcon	CKX	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	UTX	HQX	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	PILKOR	PCX2 335M, PCX2 337	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	ISKRA	KNB1560 KNB1530	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	Carli	MPX	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	Okaya	PA or RE	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	SSE	SX1	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	Taishing	MPX	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	Teapo	XG-H	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	Strong	MPX	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	Xinhua	MPX	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	Shenzhen Jinghao	CBB62B	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	JOEY	MPX	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Alt.	Yuon Yu	MPX	Max. 0.22μF, Min.AC 275 V, X2, 40/100/21/C	IEC/EN 60384-14	VDE
Varistor (MOV1) (optional)	Uppermost	V07K300, V10K300, V14K300	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	JYA-NAY	7D471K, 10D471K, 14D471K	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Centra Science	CNR07D471K, CNR10D471K, CNR14D471K	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Joyin	JVR07N471K, JVR10N471K, JVR14N471K	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Walsin	VZ7D471KBS, VZ10D471KBS, VZ14D471KBS	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Song Long	SAS-471KD07, SAS-471KD10, MOV-471KD07, MOV-471KD10, SAS-471KD14, MOV-471KD14	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Matsushita	07DK471U, 10DK471U, 14DK471U	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Thinking	TVR07471, TVR10471, TVR14471	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Alt.	Fenghua	FNR-07K471, FNR-10K471, FNR-14K471	300 VAC, 385 VDC	IEC/EN 61051-1, IEC/EN 61051-2	VDE
Fuse (F1)	Wickmann	SPT series	T2AL, 250Vac, sub-miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Alt.	Walter	ICP	T2AL, 250Vac, sub-miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Alt.	Littelfuse	875, 877	T2AL, 250Vac, sub-miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	Conquer	PTU	T2AL, 250Vac, sub-miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Alt.	Better	334	T2AL, 250Vac, sub-miniature fuse	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Y capacitor (CY1) (Optional)	TDK	CD	Max. 2200pF, 250Vac, 25/125/56/B, Y1	IEC/EN 60384-14	VDE
Alt.	Murata	KX, KY	Max. 2200pF, 250Vac, 25/125/21/C, Y1	IEC/EN 60384-14	VDE
Alt.	Success	SE, SB	Max. 2200pF, 250Vac, 30/125/56/C, Y1	IEC/EN 60384-14	VDE
Alt.	JYA-NAY	JN, JY	Max. 2200pF, 250Vac, 25/125/21, Y1	IEC/EN 60384-14	VDE
Alt.	Welson	WD	Max. 2200pF, 250Vac, 25/125/21/C, Y1	IEC/EN 60384-14	VDE
Alt.	Samwha	SD	Max. 2200pF, 250Vac, 25/125/21, Y1	IEC/EN 60384-14	VDE
Alt.	Yuyue	CT7 (X1Y1)	Max. 2200pF, 400Vac, 25/125/21, Y1	IEC/EN 60384-14	VDE
Alt.	Yuyue	CT7 (X1Y2)	Max. 2200pF, 250Vac, 25/125/21, Y1	IEC/EN 60384-14	VDE
Thermistor (NTC1) (optional)	Various	Various	Min. 5Ω, Min. 3A	--	--
Storage cap. (C1, C3)	Various	Various	4.7μF-47μF, min. 400Vdc, 105˚C	--	--
Bleeding resistor (RA, RB)	Various	Various	1M Ω±5%; 1/8W	--	--
Bridge Diode (D1-D4)	Various	Various	Min. 1A; Min. 500V	--	--
MOSFET (Q1)	Various	Various	Min. 4A; Min. 400V	--	--

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Current sense resistor (R9A, R9B, R9C)	--	--	Min. 1.0 Ω; 1/8W	--	--
Optocoupler (U2)	Sharp	PC817; PC123	Cr.=Min. 4.8 mm; Dti.>0.4 mm	IEC/EN 60950-1	VDE
Alt.	Lite-on	LTV-817	Cr.=Min. 5.2 mm; Dti.=0.8 mm	IEC/EN 60950-1	VDE
Alt.	Cosmo	K1010; KP1010	Cr.=Min. 5.3 mm; Dti.=0.5 mm	IEC/EN 60950-1	VDE
Alt.	Everlight	EL817	Cr.=Min. 5.0 mm; Dti.>0.48 mm	IEC/EN 60950-1	VDE
Alt.	NEC	PS2561	Cr.=Min. 4 mm; Dti.=0.4 mm	IEC/EN 60950-1	VDE
Alt.	(QT) Fairchild	H11A817	Cr.=Min. 7 mm; Dti.=1 mm	IEC/EN 60950-1	VDE
Alt.	Bright	BPC817B, BPC817C	Cr.=Min. 7.62 mm; Dti.=0.5 mm	IEC/EN 60950-1	VDE
European plug	GlobTek	DVE	2.5A, 250Vac	EN 50075	TUV Rheinland (J2156136)
- Plug holder	SABIC Inc.	SE1X	PPE+PS, V-1, 105□	--	UL (E161759)
British plug	GlobTek	DVE-UK	0.7A, 250Vac	BS1363	Tested with appliance
- Pin sleeve of British plug	Nan Ya Plastic Corp.	6410G5	PA66, V-0, 130□	--	UL (E130155)
Australian plug	GlobTek	DVE-AU	0.7A, 250Vac	AS/NZS 3112	Tested with appliance
- Pin sleeve of AU plug	Dupont	FR50	PA66, V-0, 130□	--	UL (E41938)
Enclosure	Sabic Innovative Plastics	SE1X	PPE+PS, V-1, Min. 105˚C, Min. thickness 2.0mm	--	UL
Primary lead wire	Dong Ju	1007	80 ˚C, VW-1, min. 24AWG, 300V	--	UL (E189674)
Alt.	Various	Various	80 ˚C, VW-1, min. 24AWG, 300V	--	UL

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Output Cord	Xin Ya	2468	80 ˚C, VW-1, min. 24AWG	--	UL
Alt.	Various	Various	80 ˚C, VW-1, min. 24AWG	--	UL
Output cord (if the part in enclosure covered with heat shrinkable tube)	Various	Various	60 ˚C, VW-1, min. 24AWG	--	UL
Heat shrinkable tube	Shenzhen Woer	RSFR	125 ˚C, VW-1, 600V	--	UL
Alt.	Various	Various	125 ˚C, VW-1, 600V	--	UL
Mylar sheet	Sumitomo Bakelite Co., Ltd.	AM-DP 901	PC, V-0, thickness min.: 0.4 mm, min. 105˚C	--	UL (E41429)
Alt.	Sabic	FR700	PC, V-0, thickness min.: 0.4 mm; min.: 105˚C	--	UL
PCB	Wu Zhou	WZ-2	V-0 or better, Min. 130˚C	--	UL
Alt.	Various	Various	V-0 or better, Min. 130˚C	--	UL
[1]) An asterisk indicates a mark which assures the agreed level of surveillance					
Supplementary information: --					

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Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (mA)	Irated (mA)	P (W)	Fuse #	Ifuse (A)	Condition/status
GT-81087-157.5-2.5W2E						
90	404	--	19.7	F1	404	Rated load at 50Hz
90	359	--	19.6	F1	359	Rated load at 60Hz
100	355	700	19.5	F1	355	Rated load at 50Hz
100	323	700	19.4	F1	323	Rated load at 60Hz
240	158	700	19.6	F1	158	Rated load at 50Hz
240	174	700	19.7	F1	174	Rated load at 60Hz
264	141	--	19.7	F1	141	Rated load at 50Hz
264	159	--	19.8	F1	159	Rated load at 60Hz
GT-81087-2012-1.8-W2E						
90	521	--	25.9	F1	521	Rated load at 50Hz
90	464	--	25.8	F1	464	Rated load at 60Hz
100	468	700	25.7	F1	468	Rated load at 50Hz
100	414	700	25.4	F1	414	Rated load at 60Hz
240	199	700	25.1	F1	199	Rated load at 50Hz
240	217	700	25.2	F1	217	Rated load at 60Hz
264	175	--	25.3	F1	175	Rated load at 50Hz
264	200	--	25.4	F1	200	Rated load at 60Hz
GT-81087-2012-W2E						
90	438	--	22.3	F1	438	Rated load at 50Hz
90	422	--	22.2	F1	422	Rated load at 60Hz
100	441	700	22.2	F1	441	Rated load at 50Hz
100	380	700	21.8	F1	380	Rated load at 60Hz
240	160	700	21.8	F1	160	Rated load at 50Hz
240	191	700	21.8	F1	191	Rated load at 60Hz
264	156	--	22.1	F1	156	Rated load at 50Hz
264	181	--	22.0	F1	181	Rated load at 60Hz
GT-81087-2018-W2E						
90	496	--	25.3	F1	496	Rated load at 50Hz
90	447	--	24.8	F1	447	Rated load at 60Hz
100	452	700	25.0	F1	452	Rated load at 50Hz
100	399	700	24.6	F1	399	Rated load at 60Hz
240	198	700	24.8	F1	198	Rated load at 50Hz

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Clause	Requirement + Test	Result - Remark	Verdict

240	209	700	24.6	F1	209	Rated load at 60Hz
264	175	--	25.0	F1	175	Rated load at 50Hz
264	195	--	24.9	F1	195	Rated load at 60Hz
Supplementary information: --						

2.1.1.5	TABLE: Max. V, A, VA test			P
Voltage (rated) (V)	Current (rated) (A)	Voltage (Max.) (V)	Current (Max.) (A)	VA (Max.) (VA)
Model GT-81087-157.5-2.5W2E				
5.0	3.0	5.2	4.4	18.5
Model GT-81087-2012-1.8-W2E				
10.2	2.0	10.4	2.6	25.5
Model GT-81087-2012-W2E				
12.0	1.49	12.1	2.6	29.0
Model GT-81087-2018-W2E				
18.0	1.13	7.9	1.7	28.8
Supplementary information: Test voltage: 264V Test frequency: 60Hz				

2.1.1.7	TABLE: discharge test			P
Condition	Tau calculated (s)	Tau measured (s)	t u -> 0V	Comments
Model GT-81087-2018-W2E				
System on/off	0.44	0.41	2.42	--
Note(s): 1. Overall capacity: CX1=0.22μF 2. Discharge resistor: RA=RB=1MΩ				

2.2.2	TABLE: Hazardous voltage measurement			P
Transformer	Location	Max. Voltage		Voltage Limitation Component
		Vpeak	Vdc	
Model GT-81087-2018-W2E				
Transformer	Pin A-B	72.0	--	--
	Output	--	20.4	D7
Supplementary information: Test voltage: 264V Test frequency: 60Hz				

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Clause	Requirement + Test	Result - Remark	Verdict

2.2.3	TABLE: SELV Voltage Measurement	P

Location	Voltage measured (V)	Comments
Model GT-81087-2018-W2E		
Output	0 (unit shut down)	Short D7
Supplementary information: Test voltage: 264V Test frequency: 60Hz		

2.4.2	TABLE: Limited current circuit measurement				P
Condition	Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments
for GT-81087-2018-W2E					
CY1	0.27	0.54	60	0.7	CY1=1000pF
Supplementary information: Test voltage: 264V Test frequency: 60Hz Tested with annex D1					

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Clause	Requirement + Test	Result - Remark	Verdict

2.5	TABLE: limited power source measurement		P
	Limits	Measured	Verdict
Model GT-81087-157.5-2.5W2E			
Uoc=5.2V (measured under no load conditions)			
According to Table 2B (normal condition)			
Current (in A)	≤8	4.4	P
Apparent power (in VA)	≤100	18.5	P
According to Table 2B (U2 pin1-2 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin1 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3-4 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (R9A short-circuited)			
Current (in A)	≤8	0 (fuse opened immediately)	P
Apparent power (in VA)	≤100	0 (fuse opened immediately)	P
Model GT-81087-2012-1.8-W2E			
Uoc=10.4V (measured under no load conditions)			
According to Table 2B (normal condition)			
Current (in A)	≤8	2.6	P
Apparent power (in VA)	≤100	25.5	P
According to Table 2B (U2 pin1-2 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin1 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3-4 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (R9A short-circuited)			

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Clause	Requirement + Test	Result - Remark	Verdict

Current (in A)	≤8	0 (fuse opened immediately)	P
Apparent power (in VA)	≤100	0 (fuse opened immediately)	P
Model GT-81087-2012-W2E			
Uoc=12.1V (measured under no load conditions)			
According to Table 2B (normal condition)			
Current (in A)	≤8	2.6	P
Apparent power (in VA)	≤100	29.0	P
According to Table 2B (U2 pin1-2 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin1 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3-4 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (R9A short-circuited)			
Current (in A)	≤8	0 (fuse opened immediately)	P
Apparent power (in VA)	≤100	0 (fuse opened immediately)	P
Model GT-81087-2018-W2E			
Uoc=12.1V (measured under no load conditions)			
According to Table 2B (normal condition)			
Current (in A)	≤8	1.7	P
Apparent power (in VA)	≤100	28.8	P
According to Table 2B (U2 pin1-2 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin1 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3-4 short-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (U2 pin3 open-circuited)			
Current (in A)	≤8	0 (unit shut down immediately)	P
Apparent power (in VA)	≤100	0 (unit shut down immediately)	P
According to Table 2B (R9A short-circuited)			
Current (in A)	≤8	0 (fuse opened immediately)	P

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Clause	Requirement + Test	Result - Remark	Verdict

Apparent power (in VA)	≤100	0 (fuse opened immediately)	P
Supplementary information: --			

2.10.2	TABLE: Working voltage measurement		P
Location	RMS voltage (V)	Peak voltage (V)	Comments
Model GT-81087-2018-W2E			
T1 pin 1-A	**476**	274	The highest working voltage
pin 2-A	386	206	
pin 3-A	408	**225**	
pin 4-A	360	224	
Pin 1-B	452	255	
pin 2-B	400	211	
pin 3-B	360	224	
pin 4-B	380	226	
CY1	336	207	
U2 pin 1-3	372	236	
U2 pin 2-3	374	240	
U2 pin 1-4	376	238	
U2 pin 2-4	375	239	
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	2.6	2.5	2.6
Basic/supplementary:						
--	--	--	--	--	--	--
Reinforced:						
Primary components to accessible enclosure	420	250	4.0	5.2	5.0	5.2
Primary winding to secondary winding	476	274	4.2	7.5	5.5	7.5
PCB: primary -> secondary traces under transformer	476	274	4.2	6.0	5.5	6.0
PCB: primary -> secondary traces under optocoupler	420	250	4.0	6.0	5.0	6.0
PCB: primary -> secondary traces under CY1	420	250	4.0	4.8	5.0	5.4
Transformer core to secondary pin of optocoupler	476	274	4.2	5.6	5.5	5.6
Primary component (C2) to secondary component (D7 heat-sink) (30N applied)	420	250	4.0	5.5	5.0	5.5

Supplementary information:

1. The transformer core is considred as primary circuit.
2. Amylar sheet is used as reinforced insulation to separate the transformer and secondary components.
3. Concentric wire on EF-25 size bobbin. 2 layers of insulation tape between primary (enamelled copper wire) and secondary winding (triple insulated wire), 2 layers on outer winding. Winding ends additionally fixed with tape, outer winding is primary. The body of transformer was wrapped with mylar sheet.
4. Unless otherwise specified, the worst condition of Cl. & Cr. In above mentioned locations have been considered and listed.

IEC/EN 60950-1			
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	AC 3000	0.4	2.0
Optocoupler	420	250	AC 3000	0.4	1)
Mylar sheet	420	250	AC 3000	0.4	1)
Supplementary information: 1. Further details are provided in table 1.5.1. 2. Test voltages are a.c.					

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

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

4.5	TABLE: Thermal requirements					P
	Supply voltage (V) .....:	90V, 60Hz	264V, 50Hz	--		—
	Ambient T_{min} (°C) .....:	40.0	40.0	--		—
	Ambient T_{max} (°C) .....:	40.0	40.0	--		—
Maximum measured temperature T of part/at::		T (°C)				Allowed T_{max} (°C)
Model GT-81087-157.5-2.5W2E						
--		H	V	H	V	--	--
plug holder		47.1	49.1	47.7	49.6	--	--
primary lead wire		61.5	61.8	57.5	58.9	--	80
CX1		79.4	80.1	70.1	69.6	--	100
LF1		82.1	84.9	70.8	72.1	--	130
PCB under D1		85.8	86.5	70.4	70.1	--	130
E-cap. C1		78.7	80.1	67.5	67.9	--	105
E-cap. C3		79.7	82.7	73.9	75.7	--	105
T1 winding		82.5	85.1	84.0	86.3	--	110
T1 core		81.9	84.2	83.9	85.9	--	110
PCB under Q1		91.8	93.0	86.5	86.9	--	130
CY1		82.4	86.7	79.8	83.3	--	125
Optocoupler		76.3	79.1	78.1	80.1	--	100
Insulation sheet (between transformer and secondary components)		87.7	90.9	88.9	91.7	--	105
PCB under D5		96.4	100.1	96.4	99.5	--	130
E-cap. C7		81.4	85.7	81.6	85.1	--	105
Output cord		59.7	63.2	60.1	63.0	--	80
Enclosure inside		72.2	73.9	71.6	73.4	--	105
Enclosure outside		62.0	63.2	61.2	63.0	--	95
Ambt.		40.0	40.0	40.0	40.0	--	--
Model GT-81087-2012-1.8-W2E							
plug holder		50.1	52.4	47.2	49.0	--	--
primary lead wire		65.5	68.5	58.3	62.1	--	80
CX1		86.6	90.9	71.0	75.8	--	100
LF1		94.7	94.5	76.1	77.0	--	130
PCB under D1		93.4	97.0	72.7	76.7	--	130
E-cap. C1		87.8	90.6	70.6	74.4	--	105
E-cap. C3		90.6	89.1	79.9	79.7	--	105

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Clause	Requirement + Test	Result - Remark	Verdict

T1 winding	92.1	91.2	93.0	94.2	--	110
T1 core	85.4	85.0	86.8	88.1	--	110
PCB under Q1	106.9	108.4	94.2	97.5	--	130
CY1	90.6	88.5	85.9	84.9	--	125
Optocoupler	83.1	82.8	84.1	85.0	--	100
Insulation sheet (between transformer and secondary components)	89.1	87.3	90.6	89.8	--	105
PCB under D5	96.0	93.7	96.8	95.8	--	130
E-cap. C7	83.5	81.2	84.1	82.6	--	105
Output cord	61.5	61.1	61.5	62.0	--	80
Enclosure inside	69.5	67.3	69.4	68.1	--	105
Enclosure outside	62.2	60.4	60.3	60.1	--	95
Ambt.	40.0	40.0	40.0	40.0	--	--
Model GT-81087-2012-W2E						
plug holder	48.4	48.4	48.0	47.9	--	--
primary lead wire	74.1	76.9	67.7	65.4	--	80
CX1	82.6	85.1	74.1	72.2	--	100
LF1	88.5	88.0	76.4	76.9	--	130
PCB under D1	85.6	87.1	72.5	71.2	--	130
E-cap. C1	81.8	83.1	71.1	70.1	--	105
E-cap. C3	83.5	82.4	76.6	77.3	--	105
T1 winding	90.3	89.0	93.2	94.0	--	110
T1 core	87.8	86.5	90.8	91.8	--	110
PCB under Q1	99.6	99.6	94.9	94.1	--	130
CY1	85.7	83.9	82.7	83.8	--	125
Optocoupler	81.9	80.6	84.0	84.9	--	100
Insulation sheet (between transformer and secondary components)	90.5	88.0	92.2	94.5	--	105
PCB under D5	102.0	98.7	103.1	106.2	--	130
E-cap. C7	88.3	85.0	88.7	91.8	--	105
Output cord	60.7	59.1	60.9	62.0	--	80
Enclosure inside	68.8	67.2	68.0	69.3	--	105
Enclosure outside	61.5	60.1	61.1	62.4	--	95
Ambt.	40.0	40.0	40.0	40.0	--	--
Model GT-81087-2018-W2E						
plug holder	49.5	48.7	49.4	47.9	--	--
primary lead wire	68.7	65.4	65.1	61.5	--	80

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

CX1	88.3	85.0	75.9	72.0	--	100
LF1	91.6	93.9	75.4	75.7	--	130
PCB under D1	93.0	90.5	75.9	72.9	--	130
E-cap. C1	85.9	85.6	71.7	70.0	--	105
E-cap. C3	85.0	88.1	77.3	78.3	--	105
T1 winding	90.5	91.7	96.3	97.0	--	110
T1 core	85.3	86.3	91.2	92.0	--	110
PCB under Q1	104.5	104.1	97.0	94.9	--	130
CY1	77.6	80.8	76.7	78.5	--	125
Optocoupler	76.3	76.9	80.3	79.7	--	100
Insulation sheet (between transformer and secondary components)	86.5	88.3	92.9	96.5	--	105
PCB under D5	101.7	104.4	109.2	115.9	--	130
E-cap. C7	81.1	83.3	86.6	91.6	--	105
Output cord	61.5	62.0	64.5	65.2	--	80
Enclosure inside	68.6	69.7	71.0	73.3	--	105
Enclosure outside	61.5	62.0	62.4	64.3	--	95
Ambt.	40.0	40.0	40.0	40.0	--	--

Supplementary information: --

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

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

Supplementary information:

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

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

Winding components providing safety isolation:

- Class B →Tmax=120°C - 10°C=110°C (10°C deceased by thermocouple method)

Components with maximum absolute temperature of:

- Output cord	80°C
- Line filter (LF1) winding	130°C
- PCB	130°C
- Electrolytic Capacitor (C1, C2, C7)	105°C
- Primary lead wire	80°C
- Optocoupler U2	100°C
- Y Capacitor (CY1)	125°C
- X Capacitor (CX1)	100°C
- Enclosure (inside)	105°C

Operator touchable surface with maximum temperature sire of:

- 95°C

4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm) .....:	≤ 2 mm	—

Part	Test temperature (°C)	Impression diameter (mm)
Pin sleeves of UK plug	125	1.3
Pin sleeves of AU plug	125	1.3
Plug holder for European plug (SABIC SE1X)	125	1.2

Supplementary information:

1, The bobbin material of T1 and LF1 are phenolic, no test is required;

2, The material of plug holder of European plug is same with enclosure.

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

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict

5.1.6	TABLE: touch current measurement				P
Condition	L → terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments	
System ON	0.15	0.15	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 broke)	AC	1500	No
Basic/supplementary:			
--	--	--	--
--	--	--	--
Reinforced:			
Unit: primary circuit to secondary circuit	AC	3000	No
Unit: primary circuit to enclosure	AC	3000	No
Transformer: primary winding to secondary winding	AC	3000	No
Transformer: core to secondary winding	AC	3000	No
Mylar sheet	AC	3000	No
Supplementary information: Core of transformer T1 is considred as primary circuit.			

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Clause	Requirement + Test	Result - Remark	Verdict

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C) .....:	40, unless otherwise specified	—
	Power source for EUT: Manufacturer, model/type, output rating .....:	--	—

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
With model GT-81087-2018-W2E						
MOV1	SC	264	1s	F1	--	Fuse opened immediately, no hazard.
D1	SC	264	1s	F1	--	Fuse opened immediately, no hazard.
C1	SC	264	1s	F1	--	Fuse opened immediately, no hazard.
D5	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
D7	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
T1 pin 1-2	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
T1 pin 3-4	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
T1 pin A-B	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
Q1 S-G	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
Q1 S-D	SC	264	1s	F1	--	Fuse opened immediately, U1, Q1, R9A, R9B, R9C damaged, no hazard.
Q1 D-G	SC	264	1s	F1	--	Fuse opened immediately, U1, Q1, R9A, R9B, R9C damaged, no hazard.
U2 pin 3	OC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
U2 pin 3-4	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
U2 pin 1-2	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
U2 pin 1	OC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
U1 pin 3-6	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.

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Clause	Requirement + Test				Result - Remark	Verdict

U1 pin 2-6	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
Output	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
Output	OL	264	9 hrs 13 mins	F1	0.24	Output current overload to 1.7A, temperature was stable, no component damaged, max. T1 winding=123.7□, T1 core=116.9□, ambt. temperature=40□, no hazards.
With model GT-81087-157.5-2.5W2E						
Output	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
Output	OL	264	6 hrs 10 mins	F1	0.19	Output current overload to 3.9A, temperature was stable, no component damaged, max. T1 winding=104.7□, T1 core=97.8□, ambt. temperature=40□, no hazards.
With model GT-81087-2012-1.8-W2E						
Output	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
Output	OL	264	6 hrs 13 mins	F1	0.24	Output current overload to 1.7A, temperature was stable, no component damaged, max. T1 winding=110.7□, T1 core=104.3□, ambt. temperature=40□, no hazards.
With model GT-81087-2012-W2E						
Output	SC	264	30 mins	F1	0.01	Unit shuf down immediately, recoverable, no hazard.
Output	OL	264	9 hrs 26 mins	F1	0.23	Output current overload to 2.0A, temperature was stable, no component damaged, max. T1 winding=108.8□, T1 core=101.1□, ambt. temperature=40□, no hazards.
Supplementary information: SC=Short circuit; OC=Open circuit; OL=Over Load.						

AUSTRALIAN NATIONAL DIFFERENCES

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<table>
<tr><td colspan="4">This national differences according to CB Bulletin No. 112A, December 2006 (AS/NZS 60950.1:2003+A1+A2+A3)
(IEC Publication 60950-1:2001)</td></tr>
<tr><td>Clause</td><td>Requirement + Test</td><td>Result - Remark</td><td>Verdict</td></tr>
<tr><td colspan="4">Annex ZZ Variations</td></tr>
<tr><td>1.2</td><td>Between the definitions for “Person, service” and “Range, rated frequency” insert the following:

Potential ignition source 1.2.12.201</td><td>Inserted</td><td>P</td></tr>
<tr><td>1.2.12.15</td><td>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.</td><td>Added</td><td>P</td></tr>
<tr><td>1.5.1</td><td>Add the following to the end of first paragraph:
“or the relevant Australian/New Zealand Standard.”</td><td>Added</td><td>P</td></tr>
<tr><td>1.5.2</td><td>Add the following to the end of first and third dash items:
“or the relevant Australian/New Zealand Standard.”</td><td>Should be evaluated during national approval</td><td>N/A</td></tr>
<tr><td>2.1</td><td>Delete the Note</td><td>Deleted</td><td>P</td></tr>
<tr><td>3.2.3</td><td>Delete Note 2.</td><td>Deleted</td><td>N/A</td></tr>
<tr><td>3.2.5</td><td>Modify Table 3B as followings:

<table>
<tr><td>Rated current of equipment A</td><td>Nominal Cross-sectional area mm^2</td><td>AWG or kcmil (cross-sectional area in mm^2) see note 2</td></tr>
<tr><td>Over 0.2 up to and including 3</td><td>0.51)</td><td>18 [0.8]</td></tr>
<tr><td>Over 3 up to end including 7.5</td><td>0.75</td><td>16 [1.3]</td></tr>
<tr><td>Over 7.5 up to and including 10</td><td>(0.75)2) 1.00</td><td>16 [1.3]</td></tr>
<tr><td>Over 10 up to and including 16</td><td>(1.0)3) 1.50</td><td>14 [2.0]</td></tr>
</table>

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</td><td>Replaced</td><td>N/A</td></tr>
</table>

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Clause	Requirement + Test	Result - Remark	Verdict
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	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.	Not direct plug-in equipment	N/A
4.3.13.5	Add the following to the end of the first paragraph: ", or AS/NZS 2211.1"	Added	P
4.7	Add the following paragraph: For alternative tests refer to clause 4.7.201.	Added	P
4.7.201	Add the following after clause 4.7.3.6: 4.7.201 Resistance to fire – Alternative tests	Added	P
4.7.201.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following: Components that are contained in an enclosure having a flammability category of FV-0 according to AS/NZS 4695.707 and having openings only for the connecting wires filling the openings completely, and for the ventilation not exceeding 1mm in width regardless of the length. The following parts which would contribute negligible fuel to a fire: Small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; Small electrical components, such as capacitors with a volume not exceeding 1750mm^3, 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 NOTE – In considering how to minimize propagation of	Enclosure, PCB, bobbin	P

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Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
	fire and what “small parts” are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance is checked by tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base materials of printed boards, compliance is checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material, which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation, as they would be in normal use. These tests are not carried out on internal wiring.		
4.7.201.2	Parts of non-metallic material are subjected to glow wire test of AS/NZS 4695.2.11, which is carried out at 550˚C. Parts for which the glow-wire test can not be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of materials classified at least FH-3 according to ISO 9772 provided that the sample was not thicker than the relevant part.	Enclosure	P
4.7.201.3	Testing of insulating materials Parts of insulating materials supporting potential ignition sources shall be subject to the glow-wire test of AS/NZS 4695.2.11, which is carried out at 750˚C. The test shall be also carried out on other parts of insulating material which are within a distance of 3,, of the connection. NOTE – Contacts in components such as switch contacts are considered to be connections. For parts, which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20mm and a height of 50mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications: 5 Severities Replace with: The duration of application of the test flame shall be 30s±1s. 8 Test procedure 8.2 Modification: Replace the first sentence with:	PCB, bobbin	P

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Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
	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. 8.4 Modification: The first paragraph does not apply. Addition: If possible, the flame shall be applied at least 10mm from a corner. 8.5 Replacement: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test. 10 Evaluation of test results Replace with: The duration of burning (tb) shall not exceed 30s. However, for printed circuit boards, it shall not exceed 15s. The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to IEC 60695-11-10, provided that the sample tested was not thicker than the relevant part.		
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 shielded by a separate barrier which meets the needle-flame test need not to be tested. 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. 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. 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.	Added	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
4.7.201.5	Testing of printed boards 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. The test is not carried out if the – Printed board does not carry any potential ignition source; 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 Base material of printed boards, on which the available apparatus power at a connection exceeds 15VA operating at a voltage exceeding 400Vpeak a.c. or d.c. under normal operating conditions, and base material printed boards supporting spark gaps which provide protection against overvoltages, is of flammability category FV-09 according to AS/NZS 4695.707 or the printed boards are contained in a metal enclosure, having openings only for connecting wires fill the openings completely. 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.	Added	N/A
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	No TNV	N/A

Appendix I: National Differences

AUSTRALIAN NATIONAL DIFFERENCES			
This national differences according to CB Bulletin No. 112A, December 2006 (AS/NZS 60950.1:2003+A1+A2+A3) (IEC Publication 60950-1:2001)			
Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
	generator of annex N for 10/700 µs impulses. The interval between successive impulses is 60s and the initial voltage, Uc, is: - for 6.2.1 a): 7.0KV for hand-held telephones and for headsets and 2.5KV for other equipment; and - for 6.2.1 b) and 6.2.1 c): 1.5KV NOTE 201 – The 7KV impulse simulates lighting surges on typical rural and semi-rural network lines. NOTE 202 – The 2.5KV impulse for 6.2.1 a) was chosen to ensure adequacy of the insulation concerned and dose not necessarily simulate likely overvoltages.		
6.2.2.2	Delete the note. Add the following after the second paragraph: In Australia (this variation does not apply in New Zealand), the a.c. test voltage is: - for 6.2.1 a): 3KV; and - for 6.2.1 b) and 6.2.1 c): 1.5KV. NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 – The 3KV and 1.5KV values have been determined considering the low frequency induced voltages from the power supply distribution system.	No TNV	N/A
7.2	Add the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.	Not connected to cable distribution system.	N/A
Annex M.2	Delete the second and third equations and replace with: $I_{TS} = \frac{t_1 - 600}{600} \times \frac{I_{pp}}{2\sqrt{2}} + \frac{1200 - t_1}{600} \times \frac{I_p}{\sqrt{2}}$ for (600 ms < t_1 < 1 200 ms) $I_{TS} = \frac{I_{pp}}{2\sqrt{2}}$ for (t_1 ≥ 1 200 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	Added	P

Appendix I: National Differences

AUSTRALIAN NATIONAL DIFFERENCES			
This national differences according to CB Bulletin No. 112A, December 2006 (AS/NZS 60950.1:2003+A1+A2+A3) (IEC Publication 60950-1:2001)			
Clause	Requirement + Test	Result - Remark	Verdict
Annex ZZ Variations			
	determination of the flammability of solid electrical insulating materials when exposed to an igniting source		
Annex ZZ.2	Add the following after Clause 3.2.5.1: 4.1.201 Add the following after the last Paragraph of Clause 4.1: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7Kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.	No such device	N/A
	Add the following after Clause 6.2.2.2: 7.2 Add the following before the first paragraph: Equipment provides functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided in the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.	Not connected to cable distribution system.	N/A

Appendix II: Plug portion

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	18.4 mm	P
	Between two pins (pin top)	17.0 – 18.0mm	17.3 mm	P
	Diameter of pin (metallic part)	4 ± 0.06mm	4.0 mm	P
	Diameter of pin (pin base)	Max. 4.0mm	3.8 mm	P
	Diameter of pin (middle part)	Max. 3.8mm	3.5 mm	P
	Pin length	19 ± 0.5mm	19.4 mm	P
	Length of pin except metal part	10 ± 1.0mm	10.3 mm	P
	Shape of pin top		Round shape	P
	Length of plug base	35.3 ± 0.7mm	35.5 mm	P
	Width of plug base	13.7 ± 0.7mm	13.8 mm	P
	Diagonal dimension of plug base within a distance of 18mm	< 26.1 ± 0.5mm < 26.1 ± 0.5mm	26.4 mm 26.3 mm	P

Note: Only the dimensions of European 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**	**Comply**
12.1	Dimensions (Checked according to figure 4)		P
12.2	Outline of plug shall not exceed the dimension shown in Figure 4 for a distance of not less than 6.35 mm from the engagement surface		P
	Pin disposition, length and body outline shall be checked by use of the gauge shown in Figure 5		N/A
12.3	L/N pin was more than 9.5 mm from the periphery of the plug measured along the engagement surface	Complied, both line and neutral pins are measured and larger than 9.5 mm	P
12.9	After the temperature rise test (clause 16). Use test probe 11 of BS EN 61032:1998 is applied a force 30 -50 N During and after the test, it was not possible to touch the live parts	Complied	P
12.9.1	Exposed surface of plug pins were smooth and free from burs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters	Complied	P
12.9.4	The adapter plug pins were tested as specified in the standard	Complied. After being subjected to a force of 1100N, the pin portion could fit the relevant gauge	P
12.9.5	The adapter 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	
12.9.6	Each pin of the adapter 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	Adaptor plug pins shall be constructed of brass, except for sleeves of pins as specified in 12.18	Complied. After the above test, no plug pin was detachable and the plug pins could fit the	P

Appendix II: Plug portion

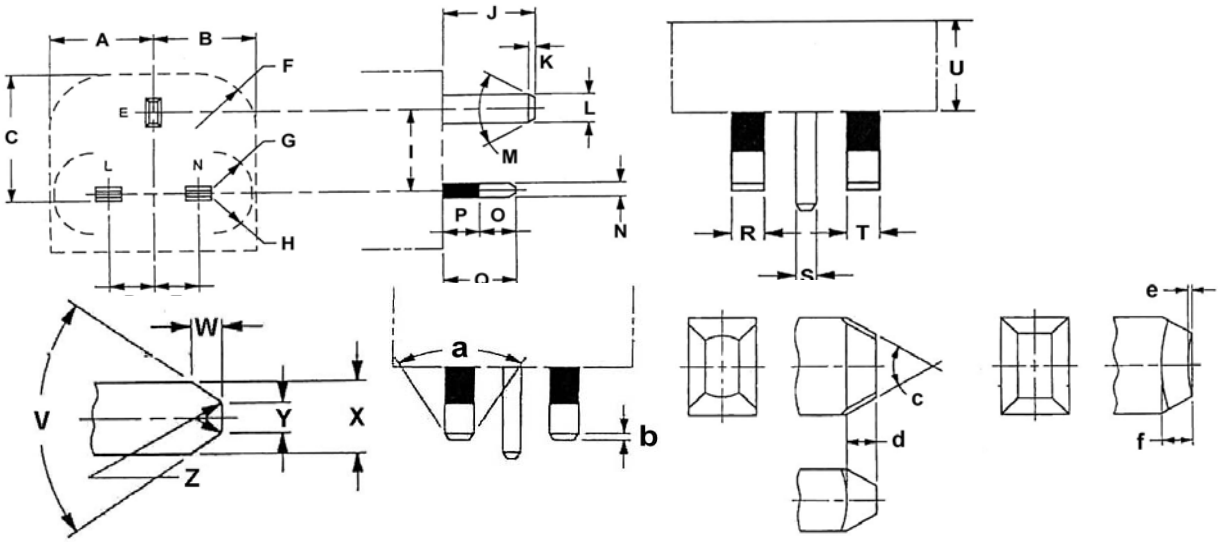
BS 1363 (Partial)			
		relevant gauge.	
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1	Complied. During the test, no declination was observed to the plug pins (limit: max.: 3°30')	P
12.16	Line and neutral plug pins shall be fitted with insulating sleeves. 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 comply 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 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	P
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 200□ and tested according to the standard for 120 mins.	Complied. After the tests, the thickness of sleeve of plug pins (L and N) 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.

UK Plug Checking Form according to Figure 4 of BS1363-3

TRF No. IECEN60950_1C

Appendix II: Plug portion



Symbol	Requirement (mm)	Measured (mm)	Symbol	Requirement (mm)	Measured (mm)
A	25.37 max.	24.55	Q	17.2-18.2	17.8
B	25.37 max.	24.55	R	6.22-6.48	6.30
C	34.6 max.	32.9	S	3.90-4.05	4.00
D	11.05-11.18	11.08	T	6.22-6.48	6.30
E	11.05-11.18	11.08	U	6.35 min.	--
F	R 15 min.	15.50	V	60°-80°	--
G	R 9.5 min.	--	W	1.35-1.85	1.60
H	R 9.5 min.	--	X	3.90-4.05	3.92
I	22.10-22.36	22.20	Y	1.2-2.0	--
J	22.23-23.23	22.23	Z	R 0.1-1.0	--
K	1.35-1.85	1.40	a	58°-62°	59
L	7.80-8.05	8.00	b	1.35-1.85	1.44
M	58°-62°	59	c	58°-62°	59
N	3.90-4.05	4.00	d	1.35-1.85	1.60
O	9.2 max.	8.44	e	0.2 max.	--
P	9.5 max.	9.36	f	1.35-1.85	1.40

AS/NZS 3112 (Partial)

Appendix II: Plug portion

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 portion		P
	Material of pins	Copper alloy containing 60% copper	P
	Assembly of pins		P
	Form of pin		P
	Insulation of pin		P
J2.2.2	Rating and dimensions for low voltage plug portion	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 connection for plug portions		N/A
J2.2.4	Arrangement of earthing connections for plug portion		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 3500V a.c. complied between the parts set out in items (b) and (d) of clauses 2.13.2 for 1 min. in each case		P
	The insulation of insulated pin plugs shall withstand a voltage of 1250V a.c. for 1 min. applied in accordance		P

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.			
	with clause 2.13.2 (e)		
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 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:		P
	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: 130g	P
	b) 250 times if the mass of the specimen exceeds 250g. The pins being straightened after 250 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, B1 or F1		P
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 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
	The sample plugs not subjected to any previous tests shall be tested as follows: 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. 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. The point of application of the force shall be 14 ±0.5 mm from the face of the plug. The direction of the force shall be along a line parallel to the face of the plug.		P

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.			
	Active and neutral pins shall be forced towards the centroid of the plug and then back to the starting point. Any earth pins shall be forced but in one direction only and then back to the starting point. Note: This is intended to simulate damage that may occur when a plug is walked on and bent pins are straightened. The distance moved from the point of application shall be 7.5±0.3 mm, and then the pin shall be forced back to the starting point. Any “spring-back” is ignored. Note: “Spring-back” means that the pin is allowed to move back to a position less than the travel distance, when the force is removed. The travel from the starting point, to the end point (7.5 mm), and back to the starting point is one cycle (i.e. one cycle is two separate movements). The speed of deflections shall be a maximum of 50mm/s, without intentional delay between consecutive movements within each cycle. The interval between successive cycles shall be a minimum of 10s. The duration of one cycle shall be a maximum of 60 s. The pins shall be tested for 20 complete cycles. After the tests the pins shall be inspected with normal or corrected to normal vision.		
	The pin shall not be broke off. Note: Cracking of the pin, less than full thickness, is not deemed to be broke off. If in doubt pins shall be disassembled from the plug and any insulation removed. Note: In some cases the break may be below the face of the plug or the insulation may hold the broken pieces together, relating electrical contact.		P
J2.2.6.4	Temperature rise test		P
	Test current is specified in the relevant product standard. The temperature rise of the terminals shall not exceed 45 K.		P

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.			
J2.2.6.5	Securement of pins of the plug portion		P
	Movement of pins: clamped 5±0.5 mm and applying 18±1 N to the pin at 14±0.5 mm.		P
	The maximum deflection shall not exceed 2.0 mm.		P
	Fixing of pins: maintained 50±2°C for 1 h. 60±0.6 N for 10 min.		P
	The attachment of pins shall be not more than 2.4 mm or if any pin fails to return to within 0.8 mm of its nominal length specified in Figure 2.1 within 5 min of the removal of the test force.		P
J2.2.6.6	Tests on the insulation material of insulated pin plug portions		P
	Pressure test at high temperature		P
	maintained at 160±5 °C for 2 h. Force 2,5 N applied through the blade		P
	Thickness within the area of impression ≥ 50 %. no cracks	2%	P
	Static damp heat test		P
	Two damp heat cycles in accordance with AS 60068.2.30. Db (12+12h cycle), 95% relative humidity, low temperature 25±3°C and upper temperature 40°C, after this treatment and recovery to room temperature, the specimen subjected to:		P
	(a) the insulation resistance test in accordance with Clause 2.13.2(e);		P
	(b) high voltage test in accordance with Clause 2.13.3 and;		P
	(c) abrasion test in accordance with Clause 2.13.13.6.		P
	Low temperature test		P
	Maintained at -15±2°C for at least 24 h and returned to room temperature, the specimen shall be subjected to:		P
	(a) the insulation resistance test in accordance with Clause 2.13.2(e);		P
	(b) high voltage test in accordance with Clause 2.13.3 and;		P
	(c) abrasion test in accordance with Clause 2.13.13.6.		P

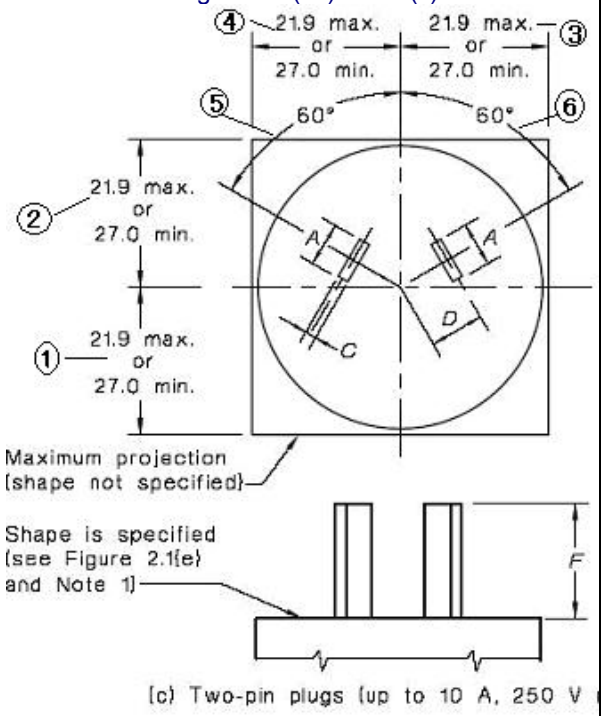
Appendix II: Plug portion

AS/NZS 3112 (Partial)			
Clause	Requirement + Test	Result - Remark	Verdict
The Australian plug was tested according to Annex J of AS/NZS 3112 + A1.			
	Impact test at low temperature		P
	maintained at -15±2°C for at least 24 h. subjected to an impact test by means of the apparatus shown in Figure 2.6, the mass of falling weight be 100±1g , fall from a height of 100 mm. Four impacts. Return to room temperature. No cracks of the insulating material be visible with normal, or corrected to normal, vision without additional magnification.		P
	Abrasion test		P
	Plug pins provided with insulating sleeves: 20000 movements, 4 N (apparatus shown in Fingure 2.7 No damage, the insulating sleeve shall not have punctured or rucked up.		P
J 2.2.6.7	Equipment with integral pins intended to be supported by the contacts of socket-outlets shall not impose undue strain on those socket-outlets.		P
	The additional torque, which has to be applied to the socket-outlet to maintain the engagement face in the vertical plane, shall not exceed 0.25 N.m.	Torque: 0.04 Nm	P

Appendix II: Plug portion

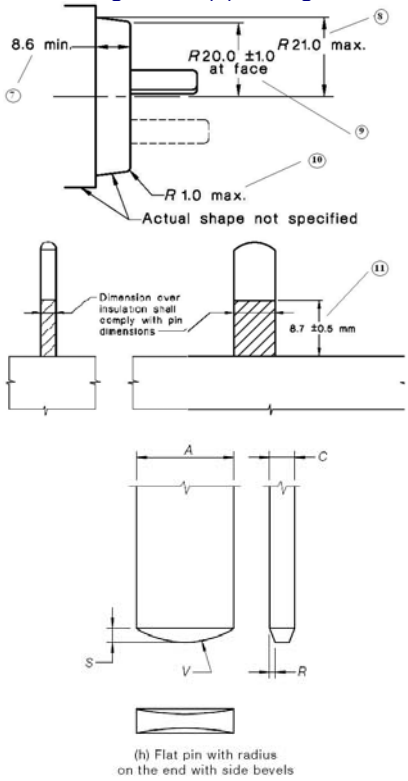
Dimension measurement for 2-pin plug:

Standard sheet Figure 2.1 (a1) or 2.1(c)



(c) Two-pin plugs (up to 10 A, 250 V

Standard sheet Figure 2.1 (e) and fig 2.4



(h) Flat pin with radius on the end with side bevels

Symbol	Required (mm)	Measured (mm)	Position	Required (mm)	Measured (mm)
A	6.2-6.6	6.40	L	>8.6	8.88
C	1.58-1.78	1.68	M	R21.0 max.	19.57
D	7.92	7.92	M'	R19.0-21.0	19.70
F	16.66-17.46	16.72	N	<R1.0	0.9
G	<21.9 or >27.0	19.56	P	8.2-9.2	8.62
H	<21.9 or >27.0	19.56	S	0.90±0.10	0.95
I	<21.9 or >27.0	19.56	V	6.0	6.0
J	<21.9 or >27.0	43.65	R	0.35±0.05	0.37
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