IEC IECEE CB SCHEME

Ref. Certif. No.

JPTUV-058441

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	AC ADAPTER
Name and address of the applicant Nom et adresse du demandeur	Asian Power Devices Inc. No. 5, Lane 83, Lung-Sou St. Taoyuan City 330 Taiwan
Name and address of the manufacturer Nom et adresse du fabricant	Asian Power Devices Inc. No. 5, Lane 83, Lung-Sou St. Taoyuan City 330 Taiwan
Name and address of the factory Nom et adresse de l'usine	See additional page(s)
Ratings and principal characteristics Valeurs nominales et charactéristiques principales	Input : AC 100-240V; 50-60Hz; 0.4A Max.; Class II Output: DC 5V; 2A
Trademark (if any) Marque de fabrique (si elle existe)	APD
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A
Model / Type Ref. Ref. de type	WB-10G05Fy, WB-10G05R
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	For model differences, refer to the test report.
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2005+A1+A2 National differences see test report
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	17041543 001

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

TÜVRheinland®

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Global Technology Assessment Center
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Date: 10.09.2014

Signature: Tim Feng

IEC IECEE CB SCHEME	Ref. Certif. No.
	JPTUV-058441

1. Yang Ming Industrial
   1#, 2# Room,
   No. 10, Maliu Road, Henggang Street,
   Long Gang District, Shen Zhen
   P.R. China

2. APD Shenzhen DK Inc.
   1-5/F, No. 1, Fengwei Street
   Dakang Community, Henggang
   Subdistrict, Longgang District
   Shenzhen, P.R. China

Additional information (if necessary)
Information complémentaire (si nécessaire)

Report Ref. No.: 17041543 001

Date: 10.09.2014

Signature: Tim Feng

IEC IECEE CB SCHEME

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Name and address of the factory Nom et adresse de l'usine	See additional page(s)
Ratings and principal characteristics Valeurs nominales et charactéristiques principales	Input : AC 100-240V; 50-60Hz; 0.4A Max.; Class II Output: DC 5V; 2A
Trademark (if any) Marque de fabrique (si elle existe)	clover
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A
Model / Type Ref. Ref. de type	WB-10G05Fy, WB-10G05R
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	For model differences, refer to the test report.
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2005+A1+A2 National differences see test report
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10/061 CB 05.12

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Additional information (if necessary)
Information complémentaire (si nécessaire)

Report Ref. No.: 17041543 001

Tim Feng

Date: 10.09.2014 Signature: Tim Feng

Test Report issued under the responsibility of:

TEST REPORT

IEC 60950-1
Information technology equipment – Safety – Part 1: General requirements

Report Number. ..... :	17041543 001
Date of issue ..... :	Sep. 09, 2014
Total number of pages	103
Applicant's name ..... :	Asian Power Devices Inc.
Address ..... :	No. 5, Lane 83, Lung-Sou St. Taoyuan City 330 Taiwan
Test specification:	
Standard ..... :	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60950_1F
Test Report Form(s) Originator .... :	SGS Fimko Ltd
Master TRF ..... :	Dated 2014-02

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	AC ADAPTER
Trade Mark ..... :	APD, clover
Manufacturer..... :	Same as applicant
Model/Type reference ..... :	WB-10G05Fy, WB-10G05R (for definition of variable **y** see page 8 for details)
Ratings ..... :	Input: 100-240V AC, 50-60Hz, 0.4A Max. Output: 5Vdc, 2A

Testing procedure and testing location:

☒	**CB Testing Laboratory:**	TÜV Rheinland (Shenzhen) Co., Ltd.	
Testing location/ address ..... :		3&4 F, Cybio Technology Building No. 1, Langshan No. 2 Road South, 5th Industrial Area, High-Tech Industry Park North, Nanshan District, 518057 Shenzhen China.	
☐	**Associated CB Testing Laboratory:**	N/A	
Testing location/ address ..... :		N/A	
Tested by (name + signature) ..... :		Wayne Wang	Wayne Wang
Approved by (name + signature) ..... :		Sommy Chen	Sommy Chen
☐	**Testing procedure: TMP/CTF Stage 1:**	N/A	
Testing location/ address ..... :		N/A	
Tested by (name + signature) ..... :			
Approved by (name + signature) ..... :			
☐	**Testing procedure: WMT/CTF Stage 2:**	N/A	
Testing location/ address ..... :		N/A	
Tested by (name + signature) ..... :			
Witnessed by (name + signature) ..... :			
Approved by (name + signature) ..... :			
☐	**Testing procedure: SMT/CTF Stage 3 or 4:**	N/A	
Testing location/ address ..... :		N/A	
Tested by (name + signature) ..... :			
Witnessed by (name + signature) ..... :			
Approved by (name + signature) ..... :			
Supervised by (name + signature)..... :			

List of Attachments (including a total number of pages in each attachment):

Photo documentation (20 pages)
Attachment 1: Contact resistance test (1 page)
Attachment 2: Non-detachable European plug test report (5 pages)
Attachment 3: Detachable European plug test report (5 pages)
Attachment 4: Non-detachable UK plug test report (5 pages)
Attachment 5: Detachable UK plug test report (5 pages)
Attachment 6: Detachable Australian plug test report (10 pages)
Attachment 7: Non-detachable Japanese plug test report (4 pages)
Attachment 8: Detachable Japanese plug test report (4 pages)
Attachment 9: Non-detachable Argentine plug test report (2 pages)
Attachment 10: Detachable Argentine plug test report (3 pages)

Summary of testing:

Tests performed (name of test and test clause):

1. Following tests performed during evaluation

Clause(s)	Test(s)
1.6.2	Input Current Test
1.7.11	Durability of Marking Test
2.1.1.1	Access to energized parts
2.1.1.5	Energy Hazard in Operator Access Area
2.2.2	SELV limits for Normal Conditions
2.2.3	SELV limits for Abnormal Conditions
2.4.2	Limit Current Circuits
2.5	Limited Power Sources
2.9.2	Humidity Conditioning
2.10.2	Working Voltage over Insulation
2.10.3 & 2.10.4	Clearance and creepage distance measurements
4.2.3	Steady force test 30 N
4.2.4	Steady force test
4.2.6	Drop test
4.2.7	Stress relief test
4.3.6	Torque Test (direct-plug in)
4.5	Maximum Temperature Test
4.5.5	Ball pressure test
5.1.6	Touch Current and PE current
5.2	Electric Strength Test
5.3	Fault Condition Test

If not otherwise specified, tests were performed on model WB-10G05FG to represent other similar models.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2

Summary of compliance with National Differences:

EU Group Differences, EU Special National Conditions, AT, AU#, BE, CA#, CH, CN*, CZ, DE, DK, FI, FR, GB, GR, HU, IL, IT, JP, KR#, NL, NO, PL, SE, SI, SK, US

Explanation of used codes: AT=Austria, AU=Australia, BE=Belgium, CA=Canada, CH=Switzerland, CN=China, CZ=Czech Republic, DE=Germany, DK=Denmark, FI=Finland, FR=France, GB=United Kingdom, GR=Greece, HU=Hungary, IL=Israel IT=Italy, JP=Japan, KR=Korea, NL=The Netherlands, NO=Norway, PL=Poland, SE=Sweden, SI=Slovenia, SK=Slovakia, US=United States of America.

For National Differences see end of this test report.

* National differences to IEC 60950-1:2005 evaluated.

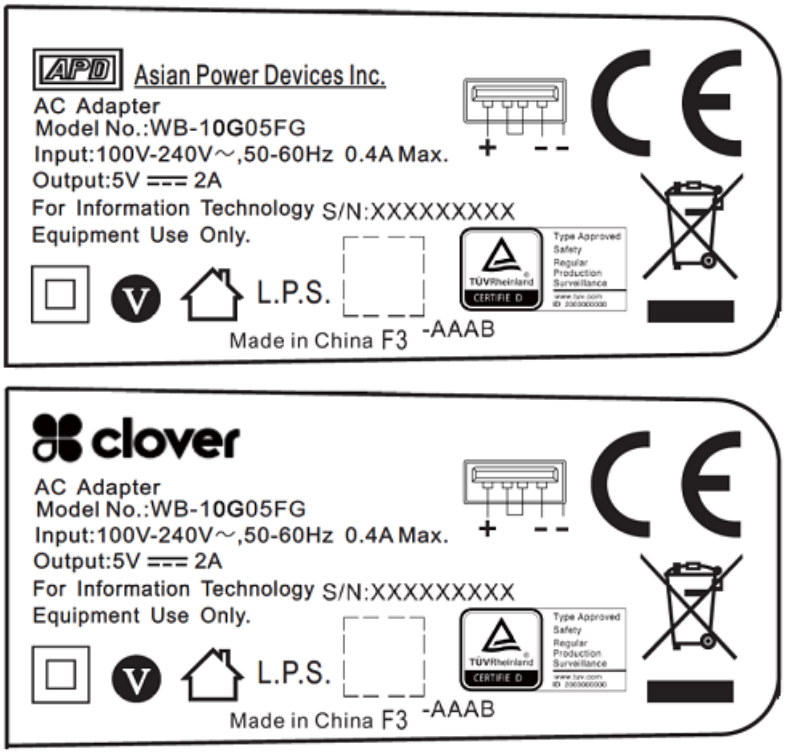
National differences to IEC 60950-1:2005+A1 evaluated.

Also Japanese national deviation evaluated according to IEC 60950-1:2001.

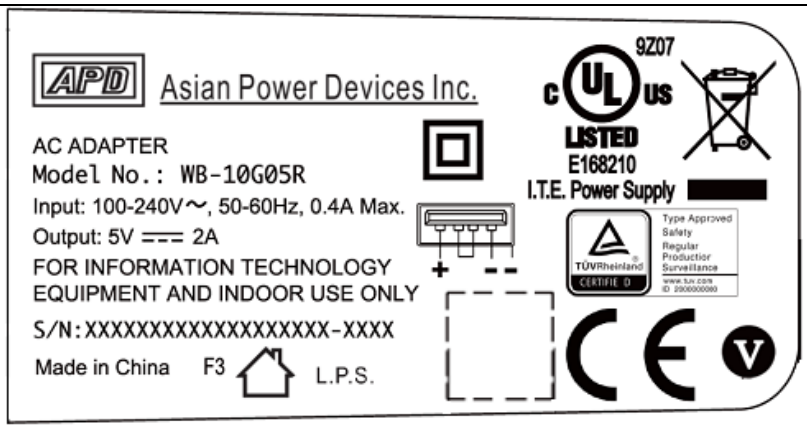
☒ The product fulfils the requirements of EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

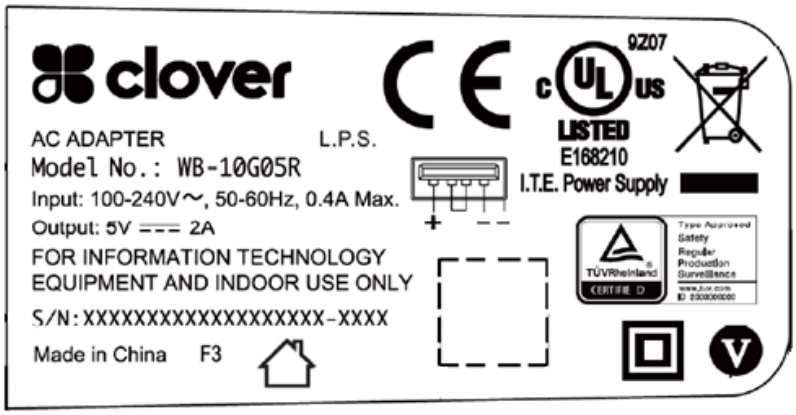
Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



WB-10G05FG





WB-10G05R

Notes: Since similar label used, only label for models above listed to represent other similar ones.

Test item particulars.....:	
Equipment mobility.....:	[] movable [] hand-held [] transportable [] stationary [] for building-in [x] direct plug-in
Connection to the mains.....:	[x] pluggable equipment [x] type A [] type B [] permanent connection [] detachable power supply cord [] non-detachable power supply cord [] not directly connected to the mains
Operating condition.....:	[x] continuous [] rated operating / resting time:
Access location .....:	[x] operator accessible [] restricted access location
Over voltage category (OVC) .....:	[] OVC I [x] OVC II [] OVC III [] OVC IV [] other:
Mains supply tolerance (%) or absolute mains supply values .....:	±10% (requested by client)
Tested for IT power systems .....:	[x] Yes (only for Norway) [] No
IT testing, phase-phase voltage (V) .....:	230V
Class of equipment .....:	[] Class I [x] Class II [] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) .....:	16A
Pollution degree (PD) .....:	[] PD 1 [x] PD 2 [] PD 3
IP protection class .....:	IP20
Altitude during operation (m) .....:	Up to 5000m
Altitude of test laboratory (m) .....:	Below 2000m
Mass of equipment (kg) .....:	Approx. 0.063

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 .....:	Jul. 17, 2014
Date (s) of performance of tests.....:	Aug., 2014

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☒ **Yes** ☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... :	**Yang Ming Industrial** 1#, 2# Room, No.10, Maliu Road, Henggang Street, Long Gang District, Shen Zhen, China **APD Shenzhen DK Inc.** 1-5/F, No. 1, Fengwei Street, Dakang Community, Henggang Subdistrict, Longgang District, Shenzhen, P.R. China

General product information:

1. The products WB-10G05R and WB-10G05Fy (for variable y, see below) are direct plug-in type switching adapter for use with information technology equipment.
2. The bottom enclosure is secured to top enclosure by ultrasonic welding.
3. Mode WB-10G05R is identical to model WB-10G05Fy except for type designation and plug provide. WB-10G05Fy is provided with fixe plug. WB-10G05R is provided with detachable plug. The detachable plug can be Argentine plug, American plug, Japanese plug, UK plug, Chinese plug, European plug, Korean plug, Australian plug and Brazil plug.
4. The specified Max. ambient temperature is +45°C
5. There are two types of PCB layout (type A and type B). Both types are identical to each other except for primary line filter provided. Type A PCB is provided with common mode choke LF1, while type B PCB is provided with line choke L1.
6. The components DC1, RC1, RC2, CF3, DT, NTC, RT, RL are optional. If not otherwise specified, the optional components are provided during the test which is considered more strictly.
7. Reliability test of detachable plug also evaluated. After 200 cycles mechanical operation test, contact resistance is in compliance with the requirement of IEC 61984. See attachment 2 for details.
8. European plug (for both detachable plug and non-detachable plug) provided in the equipment has been tested according to EN 50075:1990 (See attachment 2 and attachment 3). UK plug (for both detachable plug and non-detachable plug) provided in the equipment has been tested according to BS 1363-1+A4 (See attachment 4 and attachment 5). Detachable Australian plug provided in the equipment has been tested according to AS/NZS 3112+A1+A2 (See attachment 6). Japanese plug (for both detachable plug and non-detachable plug) provided in the equipment has been tested according to JIS C8303 (See attachment 7 and attachment 8). Argentine plug (for both detachable plug and non-detachable plug) provided in the equipment has been tested according to IRAM 2063 (See attachment 9 and attachment 10). The plugs for other countries shall be evaluated when submitted to national approval.
9. For models with non-detachable plug, the plug in part is fixed to the enclosure and the plug portions (incorporate pins) are moulded together with enclosure that effectively prevents any disintegration or conductive parts remaining in the socket. For models with detachable plug, the plugs are fixed with enclosure by mechanical method that effectively prevents any disintegration or conductive parts remaining in the socket
10. The power supply is used for the altitude up to 5000m, only clearance for functional insulation, basic insulation, reinforced or double insulation of the EUT are evaluated according to IEC 60664-1 table A.2, other aspects shall be evaluated during national approval.

Table A: Definition of variables:		
Variable:	Range of variable:	Content:
y	A, B, C, G, K or U	'y' is one letter indicates fixed plug of different countries. A denotes Argentine plug, B denotes Brazil plug, C denotes Chinese plug, G denotes European plug, K denotes UK plug, U denotes American plug and Japanese plug.

Abbreviations used in the report:

- normal conditions	**N.C**.	- single fault conditions	**S.F.C**
- functional insulation	**OP**	- basic insulation	**BI**
- double insulation	**DI**	- supplementary insulation	**SI**
- between parts of opposite polarity	**BOP**	- reinforced insulation	**RI**

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		P
1.5	**Components**		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 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.	N/A
1.5.4	Transformers	Transformers used are suitable for their intended application and comply with the relevant requirements of the standard and particularly Annex C.	P
1.5.5	Interconnecting cables	SELV output cable provided as part of this equipment and no higher energy levels than 240VA, it's not possible to present a hazard.	N/A
1.5.6	Capacitors bridging insulation	Between primary and secondary: Y1 capacitor (CY1) according to IEC 60384-14	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
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		N/A
1.5.9	Surge suppressors	No surge suppressors Provided	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR	No such construction	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR	No such construction	N/A
1.6	**Power interface**		P
1.6.1	AC power distribution systems	TN power system	P
1.6.2	Input current	Highest load according to 1.2.2.1 for this equipment is the operation with the maximum specified by the manual instruction. (see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	This appliance is not hand-held equipment.	N/A
1.6.4	Neutral conductor	The neutral conductor insulated from earth and from the body throughout the equipment as if it were a line conductor	P
1.7	**Marking and instructions**		P
1.7.1	Power rating and identification markings	See below	P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:	Single power source	P
	Rated voltage(s) or voltage range(s) (V) .....:	100-240V~	P
	Symbol for nature of supply, for d.c. only.....:	AC source	N/A
	Rated frequency or rated frequency range (Hz) ...:	50-60Hz	P
	Rated current (mA or A) .....:	0.4A Max	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark .....:	**APD**, **clover**	P
	Model identification or type reference .....:	WB-10G05Fy, WB-10G05R	P
	Symbol for Class II equipment only .....:	60417-1-IEC-5172 symbol marked.	P
	Other markings and symbols .....:	Additional symbol or marking does not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2	Safety instructions and marking	English and German version provided. (Version in other language will be provided when submitted for national approval)	P
1.7.2.1	General		P
1.7.2.2	Disconnect devices	AC plug serves as disconnect device.	N/A
1.7.2.3	Overcurrent protective device	Not such equipment.	N/A
1.7.2.4	IT power distribution systems		N/A
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
1.7.2.6	Ozone	Not such equipment.	N/A
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment .....:	No voltage selector.	N/A
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:	No power outlets provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....:	Fusible resistor used, marking provided on PCB: FS1 1W 1Ω/3.3Ω/10Ω	P
1.7.7	Wiring terminals	See below.	N/A
1.7.7.1	Protective earthing and bonding terminals .....:	Class II equipment.	P
1.7.7.2	Terminals for a.c. mains supply conductors	AC plug used	P
1.7.7.3	Terminals for d.c. mains supply conductors	No such terminals.	N/A
1.7.8	Controls and indicators	No controls and indicators.	N/A
1.7.8.1	Identification, location and marking .....:	No switches and controls.	N/A
1.7.8.2	Colours ....:		N/A
1.7.8.3	Symbols according to IEC 60417.....:	No symbols used.	N/A
1.7.8.4	Markings using figures .....:	No indicators for different positions.	N/A
1.7.9	Isolation of multiple power sources .....:	Single power source	N/A
1.7.10	Thermostats and other regulating devices .....:	Such devices not used.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.11	Durability	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. 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 except for detachable plug provided for model WB-10G05R.	P
1.7.13	Replaceable batteries ..... :	No battery provided.	N/A
	Language(s) ..... :		—
1.7.14	Equipment for restricted access locations ..... :	Not intended 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 hazardous parts.	P
2.1.1.1	Access to energized parts	See above.	P
	Test by inspection ..... :		P
	Test with test finger (Figure 2A) ..... :		P
	Test with test pin (Figure 2B) ..... :		P
	Test with test probe (Figure 2C) ..... :		N/A
2.1.1.2	Battery compartments	No battery compartment.	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)	(see appended table 2.10.5)	—
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 ..... :	The energy does not exceed 240VA between any two points in accessible connector of secondary circuit. (see appended table 2.1.1.5.)	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.6	Manual controls	No manual controls.	N/A
2.1.1.7	Discharge of capacitors in equipment	No capacitors used before bridge diode	N/A
	Measured voltage (V); time-constant (s) ..... :		—
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 ..... :	Not such equipment.	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 restricted access locations.	N/A
2.2	**SELV circuits**		P
2.2.1	General requirements	The secondary circuits were tested as SELV. See 2.2.2 to 2.2.4.	P
2.2.2	Voltages under normal conditions (V) ..... :	Between any conductors of the SELV circuits 42.4 V peak or 60 V d.c. are not exceeded. See appended table 2.2.	P
2.2.3	Voltages under fault conditions (V) ..... :	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V d.c. were not exceeded within 0.2 seconds and limits 42.4V peak and 60V d.c. were not exceeded for longer than 0.2 seconds.	P
2.2.4	Connection of SELV circuits to other circuits .....:	See sub-clauses 2.2.2 and 2.2.3. and 2.4.2	P
2.3	**TNV circuits**		N/A
2.3.1	Limits		N/A
	Type of TNV circuits ..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions ..... :		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed..... :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed..... :		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		P
2.4.1	General requirements	The peak drop voltage was measured with an oscilloscope at a 2kΩ non-inductive resistor.	P
2.4.2	Limit values	(see appended table 2.4.2)	P
	Frequency (Hz) ..... :	(see appended table 2.4.2)	—
	Measured current (mA)..... :	Results see appended table 2.4.2.	—
	Measured voltage (V) ..... :	<450Vpeak	—
	Measured circuit capacitance (nF or µF)..... :	CY1= 2200pF	—
2.4.3	Connection of limited current circuits to other circuits	Output circuit as limited current circuit connected to primary via one bridging capacitor (CY1).	P
2.5	**Limited power sources**		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	A regulating network limits the output in compliance with table 2B both under normal operating conditions and after any single fault.	P
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output	(see appended table 2.5)	—
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :		—
	Current rating of overcurrent protective device (A) .:	No such IC used	N/A

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2.6	**Provisions for earthing and bonding**	*class II equipment*	N/A
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing .....:		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
	Protective current rating (A), cross-sectional area (mm^2), AWG..... :		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) ..... :		N/A
2.6.3.5	Colour of insulation ..... :		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
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

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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	The equipment relies on fuse or circuit breaker of the wall outlet protection of the building installation in regard to L to N short-circuits and earth fault condition. A build-in fusible resistor provided as overcurrent protection device (see 5.3)	P
	Instructions when protection relies on building installation	Pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7	The protection devices are well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	Building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices ..... :	Overcurrent protection by one built-in fusible resistor.	P
2.7.5	Protection by several devices	Protection provided by one fusible resistor only	N/A
2.7.6	Warning to service personnel ..... :	No service work necessary.	N/A
2.8	**Safety interlocks**	*No safety interlocks used*	N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....:		N/A
2.8.7.2	Overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 not used.	P
2.9.2	Humidity conditioning	Performed at 40°C, 95% R.H. for 120 h (requested by manufacturer). Test was performed on product with each source of transformer listed in table 1.5.1	P
	Relative humidity (%), temperature (°C) ..... :	See above.	—
2.9.3	Grade of insulation	See above.	
2.9.4	Separation from hazardous voltages	The adequate levels of safety insulation provided and maintained to comply with the requirements of this standard.	P
	Method(s) used ..... :	SELV separated from primary by reinforced or double insulation.	—
2.10	**Clearances, creepage distances and distances through insulation**		P
2.10.1	General	See 2.10.3, 2.10.4 and 2.10.5.	P
2.10.1.1	Frequency .....:	30-60kHz generated internally	P
2.10.1.2	Pollution degrees .....:	2	P
2.10.1.3	Reduced values for functional insulation	Considered	P
2.10.1.4	Intervening unconnected conductive parts	Considered	P
2.10.1.5	Insulation with varying dimensions	Insulation kept homogenous.	N/A
2.10.1.6	Special separation requirements	Not applied.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such circuit.	N/A
2.10.2	Determination of working voltage		P
2.10.2.1	General	The rms and the peak voltage were measured with unit connected to a 240V TN power system. Pollution Degree 2 and Overvoltage Category II considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.2	RMS working voltage	(See appended table 2.10.2)	P
2.10.2.3	Peak working voltage	(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	Considered.	P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply .....:	240V a.c. and Overvoltage Category II	P
	b) Earthed d.c. mains supplies .....:		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)	P
2.10.3.4	Clearances in secondary circuits	Sub-clause 5.3.4 considered.	P
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply .....:	Normal transient voltage considered (overvoltage category II for primary circuit).	N/A
2.10.3.7	Transients from d.c. mains supply .....:		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....:		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply .....:		N/A
	For a d.c. mains supply .....:		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	See appended table 2.10.3 and 2.10.4.	P
2.10.4.1	General	CTI rating for all materials of minimum 100.	P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests .....:	Material group IIIb is assumed to be used.	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation		P
2.10.5.1	General	See below.	P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P

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2.10.5.3	Insulating compound as solid insulation	No such construction used.	N/A
2.10.5.4	Semiconductor devices	Approved opto-coupler used	P
2.10.5.5.	Cemented joints	No such construction.	N/A
2.10.5.6	Thin sheet material – General		P
2.10.5.7	Separable thin sheet material	Used in and around transformer T1.	P
	Number of layers (pcs) .....:	2 layers	—
2.10.5.8	Non-separable thin sheet material	Not such material.	N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	(see appended table 5.2)	P
	Electric strength test		—
2.10.5.11	Insulation in wound components	Approved triple insulated wire used in T1	P
2.10.5.12	Wire in wound components		P
	Working voltage .....:		P
	a) Basic insulation not under stress .....:		N/A
	b) Basic, supplementary, reinforced insulation .....:	Wire complies to Annex U, three layers insulation.	P
	c) Compliance with Annex U .....:		P
	Two wires in contact inside wound component; angle between 45° and 90° .....:	Physical separation provided by insulation tape folded back and insulating tube	P
2.10.5.13	Wire with solvent-based enamel in wound components	No such construction.	N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No such construction.	N/A
	Working voltage .....:		N/A
	- Basic insulation not under stress .....:		N/A
	- Supplementary, reinforced insulation .....:		N/A
2.10.6	Construction of printed boards	See below.	P
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 printed boards.	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	(see appended table 2.10.3 and 2.10.4)	P
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	Approved opto-coupler used	P
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	No internal wire provided except for secondary winding of transformer.	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 wires are secured by soldering and glue so that a loosening of the terminal connection is unlikely.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors suitable for the application and the working voltage. For the insulation Material see 3.1.1.	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

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.8	Self-tapping and spaced thread screws	Not used.	N/A
3.1.9	Termination of conductors	All conductors are reliably 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 on wiring for supplementary insulation.	N/A
3.2	**Connection to a mains supply**		P
3.2.1	Means of connection	See below.	P
3.2.1.1	Connection to an a.c. mains supply	AC plug provided.	P
3.2.1.2	Connection to a d.c. mains supply	Only a.c. mains supply.	N/A
3.2.2	Multiple supply connections	Only for one mains connection.	N/A
3.2.3	Permanently connected equipment	Unit is not a 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	Not 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		N/A
	Mass of equipment (kg), pull (N) .....:		—
	Longitudinal displacement (mm) .....:		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) .....:		—
	Radius of curvature of cord (mm) .....:		—
3.2.9	Supply wiring space		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) .....:		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) .....:		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	**Disconnection from the mains supply**		P
3.4.1	General requirement	See below.	P
3.4.2	Disconnect devices	AC plug used.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	When AC plug is disconnected no remaining parts with hazardous voltage in the equipment.	P
3.4.5	Switches in flexible cords	None	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The AC plug disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment	Single phase equipment.	N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment	Not interconnected equipment.	N/A
3.4.11	Multiple power sources	Only one supply connection provided.	N/A
3.5	**Interconnection of equipment**		P
3.5.1	General requirements	This power supply is not considered for connection to TNV.	P

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Clause	Requirement + Test	Result - Remark	Verdict
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 ports	N/A
4	**PHYSICAL REQUIREMENTS**		P
4.1	**Stability**		N/A
	Angle of 10°	<7.0kg	N/A
	Test force (N) .....:		N/A
4.2	**Mechanical strength**		P
4.2.1	General	See below. Tested with each source of plastic material used for enclosure. After tests, unit complies with the requirements of sub-clauses 2.1.1 and 2.10.	P
	Rack-mounted equipment.	(See Annex DD)	N/A
4.2.2	Steady force test, 10 N	10 N applied to all internal components.	P
4.2.3	Steady force test, 30 N	No internal enclosure.	N/A
4.2.4	Steady force test, 250 N	250 N applied to outer enclosure. No energy or other hazards.	P
4.2.5	Impact test	Direct plug in equipment	N/A
	Fall test	Performed	N/A
	Swing test	Performed	N/A
4.2.6	Drop test; height (mm) .....:	Subjected to three drops from 1m height to hard wood surface. After the test, no damage to insulation, no energy hazards or damage to the enclosure integrity was observed (evaluated as requested by manufacturer).	P
4.2.7	Stress relief test	After the test at temperature of 101°C, no shrinkage, distortion or loosening of any enclosure part was noticeable on the equipment. (All enclosure material considered.)	P
4.2.8	Cathode ray tubes	No CRT in the unit.	N/A

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	Picture tube separately certified .....:		N/A
4.2.9	High pressure lamps	No high pressure lamp provided.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....:	Not wall or ceiling mounted equipment.	N/A
4.3	**Design and construction**		P
4.3.1	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.3.2	Handles and manual controls; force (N) .....:	No handles or controls provided.	N/A
4.3.3	Adjustable controls	No such controls provided.	N/A
4.3.4	Securing of parts	Mechanical fixings in such a way designed that they will withstand mechanical stress occurring in normal use.	P
4.3.5	Connection by plugs and sockets	Mismatch of connectors either not possible or does not result in any hazard.	P
4.3.6	Direct plug-in equipment	See below	P
	Torque .....:	0.025Nm Max. for all type of plugs	—
	Compliance with the relevant mains plug standard .....:	The dimension and construction of the injection part of plugs are in accordance with: For European plug: EN 50075:1990. For UK plug: BS 1363-1:1995 +A4:2012. For Australian plug: AS/NZS 3112: 2011+A1+A2 For Argentine plug: IRAM 2063: 2009. For Japanese plug: JIS C8303: 2007 The plug for other countries shall be evaluated when submitted for national approval.	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

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.9	Oil and grease	No oil or grease.	N/A
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N/A
4.3.11	Containers for liquids or gases	No container for liquid or gas.	N/A
4.3.12	Flammable liquids .....:	No such flammable liquid.	N/A
	Quantity of liquid (l) .....:		N/A
	Flash point (°C) .....:		N/A
4.3.13	Radiation	No radiation	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....:		—
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification .....:		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....:		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	No LEDs provided	N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class .....:		—
4.3.13.5.2	Light emitting diodes (LEDs)		—
4.3.13.6	Other types .....:		N/A
4.4	**Protection against hazardous moving parts**	No moving parts	N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas .....:		N/A
	Household and home/office document/media shredders	(see Annex EE)	N/A
4.4.3	Protection in restricted access locations .....:		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)……:		N/A
	Is considered to cause pain, not injury. b) ……..:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Considered to cause injury. c) ……:		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning ……..:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……..:		N/A
4.5	**Thermal requirements**		P
4.5.1	General	Equipment loaded with rated output current.	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L .....:	(see appended table 4.5)	—
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 .....:	Phenolic bobbin material used in T1 and LF1 which is acceptable without test. For other parts see appended table 4.5.5.	P
4.6	**Openings in enclosures**		P
4.6.1	Top and side openings	The opening at the side of the enclosure is not more than 1mm in width or is filled with USB connecter which is enclosed by metal.	P
	Dimensions (mm) .....:		—
4.6.2	Bottoms of fire enclosures	No openings	P
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	No excessive temperatures. No easily burning materials employed. Fire enclosure provided.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Fire enclosure provided.	P
4.7.2.1	Parts requiring a fire enclosure	With having the following parts ▪ Components in primary ▪ Components having unenclosed arcing parts at hazardous voltage or energy level ▪ Insulated wiring 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	See below	P
4.7.3.2	Materials for fire enclosures	Min.V-1 fire enclosure used.	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	PCB rated V-1 or better. See appended table 1.5.1. Internal components except small parts are V-2 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filters provided.	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		**P**
5.1	**Touch current and protective conductor current**		P
5.1.1	General	See sub-clauses 5.1.2 to 5.1.6.	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	Equipment of figure 5A used.	P
5.1.4	Application of measuring instrument	Using measuring instrument in annex D.	P
5.1.5	Test procedure	The touch current was measured from mains to DC output connector and to a 100 mm × 200 mm metal foil wrapped on accessible non-conductive parts (plastic enclosure).	P
5.1.6	Test measurements	(see appended table 5.1.6)	P
	Supply voltage (V) ..... :		—
	Measured touch current (mA) ..... :		—
	Max. allowed touch current (mA) ..... :		—
	Measured protective conductor current (mA) ..... :		—
	Max. allowed protective conductor current (mA) .. :		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	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

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Clause	Requirement + Test	Result - Remark	Verdict
	a) EUT with earthed telecommunication ports ..... :		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	**Electric strength**		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P
5.3	**Abnormal operating and fault conditions**		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	No motors.	N/A
5.3.3	Transformers	(see appended Annex C and table 5.3)	P
5.3.4	Functional insulation ..... :	By short-circuited, results see appended table 5.3.	P
5.3.5	Electromechanical components	No electromechanical component.	N/A
5.3.6	Audio amplifiers in ITE ..... :	Audio amplifiers not used.	N/A
5.3.7	Simulation of faults	(see appended table 5.3.)	P
5.3.8	Unattended equipment	No such equipment.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.2	After the tests	No reduction of clearance and creepage distance. Electric strength test is made on basic, supplementary and reinforced insulation after test.	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		N/A
	Supply voltage (V) ..... :		—
	Current in the test circuit (mA) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of the telecommunication wiring system from overheating**		N/A
	Max. output current (A) ..... :		—
	Current limiting method ..... :		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	**General**		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

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Clause	Requirement + Test	Result - Remark	Verdict

A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		P
A.1	**Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)**		N/A
A.1.1	Samples ..... :		—
	Wall thickness (mm)..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.1.3	Mounting of samples ..... :		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D ..... :		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2	**Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)** *UL recognized material V-1 or better enclosure used.*		P
A.2.1	Samples, material ..... :		—
	Wall thickness (mm)..... :		—
A.2.2	Conditioning of samples; temperature (°C) ..... :		
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

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Clause	Requirement + Test	Result - Remark	Verdict
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**		N/A
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
B.2	**Test conditions**		N/A
B.3	**Maximum temperatures**		N/A
B.4	**Running overload test**		N/A
B.5	**Locked-rotor overload test**		N/A
	Test duration (days) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	**Running overload test for d.c. motors in secondary circuits**		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) ..... :		N/A
B.7	**Locked-rotor overload test for d.c. motors in secondary circuits**		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ..... :		N/A
B.8	**Test for motors with capacitors**		N/A
B.9	**Test for three-phase motors**		N/A
B.10	**Test for series motors**		N/A
	Operating voltage (V) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		P
	Position ..... :	T1	—
	Manufacturer ..... :	See table 1.5.1	—
	Type ..... :	See table 1.5.1	—
	Rated values ..... :	See table 1.5.1	—
	Method of protection ..... :	By protection circuit	—
C.1	**Overload test**	(see appended table 5.3)	P
C.2	**Insulation**	See below	P
	Protection from displacement of windings ..... :	By bobbin and insulation tape	P
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		P
D.1	**Measuring instrument**		P
D.2	**Alternative measuring instrument**		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		P
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	**Clearances**		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	**Determination of mains transient voltage (V)**		N/A
G.2.1	AC mains supply ..... :		N/A
G.2.2	Earthed d.c. mains supplies ..... :		N/A
G.2.3	Unearthed d.c. mains supplies ..... :		N/A
G.2.4	Battery operation ..... :		N/A
G.3	**Determination of telecommunication network transient voltage (V) ..... :**		N/A
G.4	**Determination of required withstand voltage (V)**		N/A
G.4.1	Mains transients and internal repetitive peaks ..... :		N/A
G.4.2	Transients from telecommunication networks ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	**Measurement of transient voltages (V)**		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	**Determination of minimum clearances .....:**		N/A
H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N/A
J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		N/A
	Metal(s) used .....:		—
K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) .....:		N/A
K.3	Thermostat endurance test; operating voltage (V) .....:		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....:		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation	(see appended table 5.3)	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	(See 1.6.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict

M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		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		N/A
N.2	IEC 60065 impulse test generator		N/A

P	**ANNEX P, NORMATIVE REFERENCES**		—

Q	**ANNEX Q, Voltage dependent resistors (VDRs)**	*No VDRs used*	N/A
	- Preferred climatic categories ..... :		N/A
	- Maximum continuous voltage ..... :		N/A
	- Combination pulse current ..... :		N/A
	Body of the VDR Test according to IEC60695-11-5.....:		N/A
	Body of the VDR. Flammability class of material (min V-1).....:		N/A

R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

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

T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see1.1.2)**		N/A
			—

U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		P
			—

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

W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		N/A
Y.1	Test apparatus .....:		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

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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**	—

CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		N/A
CC.1	General		N/A
CC.2	Test program 1……:		N/A
CC.3	Test program 2……:		N/A
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A

DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N……..:		N/A
DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……:		N/A

EE	**ANNEX EE, Household and home/office document/media shredders**		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols……:		N/A
	Information of user instructions, maintenance and/or servicing instructions……:		N/A
EE.3	Inadvertent reactivation test……:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols……:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A) ……:		N/A
	Test with wedge probe (Figure EE1 and EE2) ……:		N/A

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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])
Enclosure and plug portion	Sabic	945(GG)	Min. 120°C, V-0 or better Min. thickness 1.5 mm	UL 94	UL
(Alternative)	Sabic	SE1X(GG)(f1)	Min. 105°C, V-1 or better Min. thickness 1.5 mm	UL 94	UL
(Alternative)	STYRON (HONG KONG) LTD	CELEX 3600(a)	Min. 125°C, V-0 or better Min. thickness 2.0mm	UL 94	UL
(Alternative)	SILVER AGE ENGINEERING PLASTICS CO LTD	PC2330	Min. 115°C, V-0 or better Min. thickness 1.5mm	UL 94	UL
European plug (fixed)	Asian Power Devices Inc	WB-10G05FG	2.5A, 250V	EN 50075	Tested with appliance
European plug (Detachable)	Asian Power Devices Inc	WB-10G05R-EU	2.5A, 250V	EN 50075	Tested with appliance
Australian plug (Detachable)	Asian Power Devices Inc	WB-10G05R-AU	10A, 250V	AS/NZS 3112	Tested with appliance
UK plug (fixed)	Asian Power Devices Inc	WB-10G05FK	13A, 250V	BS 1363-1:1995+A4.	Tested with appliance
UK plug (Detachable)	Asian Power Devices Inc	WB-10G05R-UK	13A, 250V	BS 1363-1:1995+A4	Tested with appliance
Argentine plug (fixed)	Asian Power Devices Inc	WB-10G05FA	2.5A, 250V	IRAM 2063:2009	Tested with appliance
Argentine plug (detachable)	Asian Power Devices Inc	WB-10G05R-AR	2.5A, 250V	IRAM 2063:2009	Tested with appliance
Japanese plug (fixed plug)	Asian Power Devices Inc	WB-10G05FU	2.5A, 250V	JIS C8303:2007	Tested with appliance
Japanese plug (detachable)	Asian Power Devices Inc	WB-10G05R-US	2.5A, 250V	JIS C8303:2007	Tested with appliance
Plug pin holder materials for detachable European, UK, Australian plug	E I DUPONT DE NEMOURS & CO INC	FR530	Min. 120°C, Min.thickness . 0.4mm, V-0	UL 94, UL 746C	UL

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(Alternative)	KINGFA SCI.&TECH. CO.,LTD	RPG25	V-0, Min. 115°C, Min. thickness 0.8mm.	UL 94	UL
(Alternative)	KINGFA SCI.&TECH. CO.,LTD	NPG25	V-0, Min. 115°C, Min. thickness 0.8mm.	UL 94	UL
Plug pin holder materials for detachable Australian plug	Sabic	945(GG)	Min. 120°C, V-0 or better Min. thickness. 1.5 mm	UL 94	UL
Plug pin holder materials for fixed European, UK plug	KINGFA SCI.&TECH. CO.,LTD	RPG25	V-0, Min. 115°C, Min. thickness 0.8mm.	UL 94	UL
Plug pin holder material for fixed and detachable Brazil, Chinese American, Japanese, Argentine plugs	Sabic	945(GG)	Min. 120°C, V-0 or better Min. thickness 1.5 mm	UL 94	UL
(Alternative)	Sabic	SE1X(GG)(f1)	Min. 105°C, V-1 or better Min. thickness 1.5 mm	UL 94	UL
(Alternative)	STYRON (HONG KONG) LTD	CELEX 3600(a)	Min. 125°C, V-0, or better Min. thickness 2.0mm	UL 94	UL
(Alternative)	SILVER AGE ENGINEERING PLASTICS CO LTD	PC2330	Min. 115°C, V-0, or better Min. thickness 1.5mm	UL 94	UL
(Alternative)	E I DUPONT DE NEMOURS & CO INC	FR530	Min. 120°C, Min.thickness . 0.4mm, V-0	UL 94, UL 746C	UL
(Alternative)	KINGFA SCI.&TECH. CO.,LTD	RPG25	V-0, Min. 115°C, Min. thickness 0.8mm.	UL 94	UL
(Alternative)	KINGFA SCI.&TECH. CO.,LTD	NPG25	V-0, Min. 115°C, Min. thickness 0.8mm.	UL 94	UL
fusible resistor(FS1)	Shenzhen Great Electronics Co., Ltd.	RXF	1W, 1Ω or 1W, 3.3 Ω or 1W, 10 Ω	--	Tested with appliance

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(Alternative)	YAGEO COMPONENTS (SUZHOU) CO LTD	FKN-1WS	1W, 1Ω or 1W, 3.3 Ω or 1W, 10 Ω	--	Tested with appliance
(Alternative)	Tzai Yuan Enterprise Co Ltd	KNP	1W, 1Ω or 1W, 3.3 Ω or 1W, 10 Ω	--	Tested with appliance
Opto-Coupler (PC1)	Lite-on Technology Corp	LTV-817	Ext.Dcr&Cl: =7.8mm, 110°C	IEC/EN 60747-5-5, UL 1577	VDE, FIMKO, UL
(Alternative)	Cosmo Electronics Corp	K1010, KP1010	Ext. Dcr&Cl: =8.0mm, 115°C	IEC/EN 60747-5-5, UL 1577	VDE, FIMKO, UL
(Alternative)	Everlight Electronics Co Ltd	EL817	Ext. Dcr&Cl: =7.7mm, 110°C	IEC/EN 60747-5-5, UL 1577	VDE, NEMKO, UL
Line choke (LF1) (For type A PCB only)	Asian Power Devices Inc	082-18036	Min. 130°C	--	Tested with appliance.
Line choke (L1) (For type B PCB only)	Asian Power Devices Inc	082-50008	Min. 130°C	--	Tested with appliance.
Bridge Cap. (CY1)	Panasonic Corporation	NS-A	Min. 250Vac, max. 2200pF, min. 125°C, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE, UL
(Alternative)	TDK Corporation Capacitors Group	CD	Min. 250Vac, max. 2200pF, min. 125°C, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE, UL
(Alternative)	Murata Manufacturing Co., Ltd	KX	Min. 250Vac, max. 2200pF, min. 125°C, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE, UL
(Alternative)	Walsin Technology Corp.	AH	Min. 250Vac, max. 2200pF, min. 125°C, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE, UL
(Alternative)	Success Electronics Co., Ltd	SE, SB	Min. 250Vac, max. 2200pF, min. 125°C, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE, UL

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(Alternative)	Jya-Nay Co., Ltd	JN	Min. 250Vac, max. 2200pF, min. 125°C, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE, UL
Transformer (T1)	Asian Power Devices Inc	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	Yang Ming Industrial	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	APD Shenzhen DK Inc.	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	ZHONGTAI ELECTRONICS (HUBEI)CO.,LTD	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	Liweixing Electronics (Shenzhen) Co Ltd	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	Zeal Electronic Co Ltd	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	Dongguan Readore Electronics Co Ltd	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	GANZHOUCITY CHAOYUE PRECISION ELECTRONICS CO., LTD	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	JIA SHENG YUAN ELECTRONICS CO LTD	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	LIGHTION ELECTRONIC CO	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.

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Clause	Requirement + Test	Result - Remark	Verdict

(Alternative)	Jepuls Technology (shenzhen) Co. LTD	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	JIA ZHI ELECTRONICS CO LTD	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
(Alternative)	Dongguan LIMINDA Electronics Co Ltd	080-80708	Class B	IEC/EN 60950-1 and evaluated acco. to IEC 60085	Tested with appliance.
-Triple Insulated Wire of T1	Ta Ya Electric Wire & Cable Co Ltd	TILW-B，TILW-E	130°C	IEC/EN 60950-1, UL 2353	VDE, UL
-Bobbin of T1 and LF1	Chang Chun Plastics Co Ltd	T375J	Phenolic, V-0, 150°C. min thickness. 0.9mm	UL 94	UL
(Alternative)	Sumitomo Bakelite Co Ltd	PM-9820, PM-9830, PM-9850, PM-9630, PM-8375,	Phenolic, V-0, 150°C. min thickness. 0.9mm	UL 94	UL
-Insulation Tape of T1	3M	1350F-1, 1318-1, 1350T-1	130°C	UL 510	UL
(Alternative)	Nitto Denko	31CT-1, 31CT-2	130°C	UL 510	UL
(Alternative)	Symbio Inc	35660, 35661	130°C	UL 510	UL
(Alternative)	Jingjiang Yahua	CT, PZ , WF	130°C	UL 510	UL
-Tube of T1	Zeus Industrial Products Inc	TFE-LW-150, TFE-TW-300	200°C, VW-1	UL 224	UL
(Alternative)	Great Holding Industrial Co Ltd	TFL, TFT，TFS	200°C, VW-1	UL 224	UL
-Varnish of T1	Elantas Electrical Insulation Elantas PDG Inc	468-2(x)	180°C	UL 1446	UL
(Alternative)	John C Dolph Co	BC-346A, BC-346B	200°C	UL 1446	UL

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(Alternative)	QUALIPOLY CHEMICAL CORP	1032HOK	130°C	UL 1446	UL
Mylar sheet	Mianyang Longhua Film Co Ltd	PP-BK17, PP-BK18	V-0, 100°C, Min. thickness. 0.4mm	UL 94	UL
(Alternative)	Sabic Innovative Plastics US LLC	FR1(E)(GG)	VTM-0, 125°C, Min. thickness. 0.4 mm	UL 94	UL
(Alternative)	Sabic Innovative Plastics US LLC	FR700(GG), FR25A	V-0, 125°C, Min. thickness. 0.4 mm	UL 94	UL
(Alternative)	Formex, Div of IL Tool Works Inc, Frmrly Fastex, Div of IL Tool Works Inc	FORMEX GK-(a)(b)(f2), FORMEX-(a)(b)(f1), FORMEX-(a)(b)(f2)	V-0, 115°C, Min. thickness. 0.4 mm	UL 94	UL
PCB	Interchangeable	Interchangeable	V-1 or better, min.130°C	UL 94	Tested with appliance
Resistors (RS1, RS2)	Interchangeable	Interchangeable	Min. 1.2Ω, Min.1/4W	--	Tested with appliance
Bridge Diodes (BD1)	Interchangeable	Interchangeable	Min. 0.8A, Min. 600V	--	Tested with appliance
Bulk Capacitor (CK1, CK2)	Interchangeable	Interchangeable	3.2-33µF, min. 400V, 105°C	--	Tested with appliance
Transistor (Q1)	Interchangeable	Interchangeable	1.0-12A, Min. 600V	--	Tested with appliance
-Magnet Wire of T1	Interchangeable	MW28 &MW75(UEW-2&UEW)	130°C	UL 1446	Tested with appliance
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 (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
Tested with L1 provided						
90/50Hz	0.23	--	13.2	FS1	0.23	Load with 5Vdc/2A
90/60Hz	0.21	--	13.1	FS1	0.21	Same as above
100/50Hz	0.21	0.4	13.0	FS1	0.21	Same as above
100/60Hz	0.21	0.4	13.0	FS1	0.21	Same as above
240/50Hz	0.12	0.4	13.0	FS1	0.12	Same as above
240/60Hz	0.12	0.4	13.0	FS1	0.12	Same as above
264/50Hz	0.11	--	12.9	FS1	0.11	Same as above
264/60Hz	0.11	--	12.9	FS1	0.11	Same as above
Tested with LF1 provided						
90/50Hz	0.22	--	13.1	FS1	0.22	Load with 5Vdc/2A
90/60Hz	0.22	--	13.0	FS1	0.22	Same as above
100/50Hz	0.21	0.4	13.0	FS1	0.21	Same as above
100/60Hz	0.21	0.4	12.9	FS1	0.21	Same as above
240/50Hz	0.12	0.4	12.8	FS1	0.12	Same as above
240/60Hz	0.12	0.4	12.8	FS1	0.12	Same as above
264/50Hz	0.11	--	12.8	FS1	0.11	Same as above
264/60Hz	0.11	--	12.8	FS1	0.11	Same as above
Supplementary information: Tested with FS1 provided with 10Ω						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test	P

Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
5	2	5.1	3.1	15.81
supplementary information:				
Supplied by 240V/60Hz				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits		P
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
T1 pin F1 to F2	26.40	--	T1

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DE1	--	5.02	--

Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)
With DE1 shorted	0
supplementary information:	
Supplied by 240V/60Hz	

2.4.2	TABLE: limited current circuit measurement				P
Location	Voltage (V)	Current (mA)	Freq. (KHz)	Limit (mA)	Comments
CY1	23.4	11.7	67.8	47.46	CY1=2200pF
Note(s): supplied with 264V, 60Hz. Measurements using the 2000 Ω non-inductive resistor					

2.5	TABLE: limited power source measurement		P
	Limits	Measured	Comments
The output voltage (Uoc) without load: Uoc= 5.1 V			
According to Table 2B/2C (under normal load condition)			
current (in A)	≤8A	3.1	P
Apparent power (in VA)	≤100VA	15.81	P
According to Table 2B (PC1 secondary shorted)			
Output current (in A)	8.0	0	P
Apparent output power (in VA)	100	0	P
Remark: Unit shut down, no hazard.			
According to Table 2B (PC1 pin 2 opened)			
Output current (in A)	8.0	0	P
Apparent output power (in VA)	100	0	P
Remark: Unit shut down, no hazard.			
According to Table 2B (PC1 primary shorted)			
Output current (in A)	8.0	0	P
Apparent output power (in VA)	100	0	P
Remark: Unit shut down, no hazard.			
According to Table 2B (PC1 pin 3 opened)			
Output current (in A)	8.0	0	P

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Apparent output power (in VA)	100	0	P
Remark: Unit shut down, no hazard.			
According to Table 2B (RS1 shorted)			
Output current (in A)	8.0	0	P
Apparent output power (in VA)	100	0	P
Remark: Unit shut down, no hazard.			
According to Table 2B (RF3 shorted)			
Output current (in A)	8.0	0	P
Apparent output power (in VA)	100	0	P
Remark: Unit shut down, no hazard.			
Note(s): Input 240Vac, 60Hz.			

2.10.2	**Table: working voltage measurement**	**P**

Location	RMS voltage (V)	Peak voltage (V)	Comments
T1 Pin F1 to Pin 1	200	368	
Pin F1 to Pin 6	199	356	
Pin F1 to Pin 7	217	416	
Pin F1 to Pin 10	246	508	
Pin F2 to Pin 1	220	352	
Pin F2 to Pin 6	195	352	
Pin F2 to Pin 7	221	448	
Pin F2 to Pin 10	**257**	**520**	**Maximum Vrms & Vpeak value**
PC1 pin 1 to pin 3	222	356	
pin 1 to pin 4	219	352	
pin 2 to pin 3	220	356	
pin 2 to pin 4	220	352	
CY1 primary to secondary	220	352	
supplementary information:			
Input 240V 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)
For both WB-10G05Fy and WB-10G05R						
Trace between L and N (F)*	420	250	2.3	6.5	2.5	6.5
Trace before FS1 to trace or RS1 (F)*	420	250	2.3	3.3	2.5	3.3
Primary to secondary trace under opto-coupler PC1 (R)*	420	250	6.0	8.5	6.0	8.5
Primary to secondary trace under CY1(R)*	420	250	6.0	6.4	6.0	6.4
Trace of T1 primary pin to secondary trace crossing edge of PCB (R)*	520	257	6.6	6.9	6.6	6.9
PC1 primary pin to T1 secondary terminal F2 (R)*	520	257	6.6	9.3	6.6	9.3
CY1 primary pin to T1 secondary terminal F2 (R)*	520	257	6.6	9.5	6.6	9.5
Core of T1 to secondary pin of PC1(R)*	520	257	6.6	7.1	6.6	7.1
Core of T1 to USB connector (R)*	520	257	6.6	9.0	6.6	9.0
For WB-10G05Fy only						
Trace of RG3 to outside of enclosure(R)*	420	250	6.0	6.1	6.0	6.1
For WB-10G05R only						
Trace of FS1 to outside of enclosure(R)*	420	250	6.0	8.2	6.0	8.2
Live pin under detachable plug to accessible enclosure when plug disconnected with enclosure (R)*	420	250	6.0	6.3	6.0	6.3
Live part of plug pin to accessible part (R)*	420	250	6.0	16.3	6.0	16.3

Supplementary information: * F=Functional insulation, R=Reinforced insulation.

1. T1 secondary wire and CY1 are additional fixed by glue.
2. 2 layers of insulation tape is wrapped around secondary of transformer as reinforced insulation, Triple insulated wire used for secondary winding of the transformer.
3. A mylar sheet with dimension 21mm*(7.5mm+7.5mm) insert into PCB from component side to trace side between T1 and secondary components.
4. Calculated clearance based on up to 5000m, factor of 1.48 applied according to IEC60664-1 table A.2.

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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)
Plastic enclosure (reinforced insulation)	420	250	AC 3000	0.4	≥1.5
Bobbin of T1	420	250	AC 3000	0.4	≥0.9
Supplementary information:					

4.5	TABLE: Thermal requirements					P
	Supply voltage (V)	Test A: 264V, 50Hz horizontal Test B: 264V, 50Hz vertical Test C: 90V, 60Hz horizontal Test D: 90V, 60Hz vertical				—
	Ambient T_{min} (°C)	--	--	--	--	—
	Ambient T_{max} (°C)	--	--	--	--	—
Maximum measured temperature T of part/at.....:		T (°C)				Allowed T_{max} (°C)
Plug pin holder		60.1	63.6	62.2	67	105
L1 coil		83.0	85.6	90.4	93.8	130
L1 core		81.4	83.9	88.6	91.9	130
CK1 body		78.1	81.3	86.6	90.6	105
T1 coil		104.0	106.3	101.4	104.1	110
T1 core		97.2	99.9	95.7	98.9	110
CY1 body		82.0	83.2	82.9	84.6	125
PC1 body		88.8	90.4	89.1	91.2	110
PCB near BD1		74.5	77.5	87.1	91.1	130
PCB near Q1		96.0	99.0	95.5	99.1	130
PCB near DE1		118.9	118.4	113.2	112.7	130
Enclosure inside above T1		78.1	81.2	76.3	80.0	105
Enclosure outside above T1		68.4	74.1	67.5	73.6	95
Enclosure inside under T1		85.1	88.7	83.3	87.4	105
Enclosure outside under T1		73.8	78.5	72.8	78.2	95
Ambient		45.5	43.5	45.3	43.3	--
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

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Supplementary information:

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

The maximum ambient temperature permitted by the manufacturer's specification is 45°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)
Enclosure and plug pin holder material: (945)	125	1.1
Enclosure and plug pin holder material: (SE1X)	125	1.2
Enclosure and plug pin holder material: (CELEX 3600(a))	125	1.0
Enclosure and plug pin holder material: (PC2330)	125	1.1
Plug pin holder/sleeving material: (FR530)	125	1.0
Plug pin holder/sleeving material: (RPG25)	125	1.1
Plug pin holder/sleeving material: (NPG25)	125	1.0
Supplementary information: Phenolic bobbin material used in T1 and LF1, which is acceptable without test.		

4.7	TABLE: Resistance to fire				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
--	--	--	--	--	--
Supplementary information: See table 1.5.1					

5.1	TABLE: touch current measurement		P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
To output	0.14	0.25	CY1=2200pF
To enclosure (with metal foil)	0.01	0.25	CY1=2200pF
supplementary information:			
Supplied with 264V/60Hz.			

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)	Break-down Yes / No	
L to N (fuse opened)	AC	1500	No	
Unit primary to secondary (output)	AC	3000	No	
Unit primary to plastic enclosure(with metal foil)	AC	3000	No	

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Primary to secondary of transformer T1	AC	3000	No
Secondary to core of transformer T1	AC	3000	No
Primary to secondary of opto-coupler PC1	AC	3000	No
Insulation tape used in and around transformer T1 and on heatsink (single layer)	AC	3000	No
Mylar Sheet used between T1 and secondary components.	AC	3000	No
Supplementary information: Test after humidity treatment, heating test, and for the first 3 reinforced insulation items after each fault condition test. Test were performed on product with each source of transformer and each source of insulation tape used in and around transformer listed in table 1.5.1			

5.3	**TABLE: Fault condition tests**		**P**
	Ambient temperature (°C) ..... :	See below	—
	Power source for EUT: ManuFacturer, model/type, output rating ..... :	--	—

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Output	s-c	264	10min	FS1	0.11 to 0.01	Unit shut-down immediately, recoverable, no hazard.
Output	o-l	264	4h	FS1	0.11 to 0.12 to 0.01	Overload to: 2.2A T1 winding: 110.0 °C; T1 core: 101.0 °C; Ambient 42.9°C, no hazard
CK1	s-c	264	1S	FS1	0.11 to 0	FS1 opened immediately, BD1, U1 damaged, no hazard.
BD1 Pin 1 to Pin 3	s-c	264	1S	FS1	0.11 to 0	FS1 opened immediately, BD1, U1damaged, no hazard.
Q1 G-D	s-c	264	1S	FS1	0.11 to 0	FS1 opened immediately, Q1, BD1, RS1, U1 damaged, no hazard.
Q1 G-S	s-c	264	10min	FS1	0.11 to 0.01	Unit shutdown immediately, recoverable, no hazard.
Q1 D-S	s-c	264	1S	FS1	0.11 to 0	FS1 opened immediately, Q1, BD1, RS2, U1 damaged, no hazard.

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RS1	s-c	264	10min	FS1	0.11 to 0.01	Unit shutdown immediately, recoverable, no hazard.
Pin F1 to Pin F2 of transformer T1	s-c	264	10min	FS1	0.11 to 0.01	Unit shutdown immediately, recoverable, no hazard.
DE1	s-c	264	10min	FS1	0.11 to 0.01	Unit shutdown immediately, recoverable, no hazard.
U1 Pin 1 and Pin 5	s-c	264	1S	FS1	0.11 to 0	The unit shutdown immediately. U1 damaged, no hazard. Repeat 3 times as the same result
U1 Pin 2 and Pin 5	s-c	264	1S	FS1	0.11 to 0	The unit shutdown immediately. U1 damaged, no hazard. Repeat 3 times as the same result
PC1 primary pin3	o-c	264	10min	FS1	0.11 to 0.01	The unit shutdown immediately. Recoverable. No damage, no hazards.
PC1 primary pins	s-c	264	10min	FS1	0.11 to 0.01	The unit shutdown immediately. Recoverable. No damage, no hazards.
PC1 secondary pin4	o-c	264	10min	FS1	0.11 to 0.01	The unit shutdown immediately. Recoverable . No damage, no hazards.
PC1 secondary pins	s-c	264	10min	FS1	0.11 to 0.01	The unit shutdown immediately. Recoverable. No damage, no hazards.
RF1	s-c	264	10min	FS1	0.11 to 0.01	The unit shutdown immediately. Recoverable. No damage, no hazards.

Notes: The unit passed 3000V hi-pot test between primary and accessible output connector after single fault test above.

1. In fault column, S-C=short-circuited, O-C=open-circuited, O-L=over-loaded.
2. For transformer winding overload, the secondary winding was loaded after the rectifier.
3. Transformer winding and core temperature limit is 165°C (175-10)
4. The tests where fusible resistor opened were repeated 10 times with each source and with same result observed.
5. All test items, test with 32A external fuse according to clause 2.7.1 of UK deviation without that fuse opening.

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Clause	Requirement + Test	Result - Remark	Verdict

C.2	Safety isolation transformer		**P**
	Construction details:		
Transformer part name: T1 (080-80708)			
Manufacturer: See table 1.5.1			
Type: See table 1.5.1			
Recurring peak voltage		520Vpeak	
Required clearance for reinforced			
insulation (from table 2H and 2J)		6.6mm	Calculated clearance based on up to 5000m, factor of 1.48 applied according to IEC60664-1 table A.2.
Effective voltage rms		257Vrms	
Required creepage distance for reinforced			
insulation (from table 2L)		6.6 mm	Distance limit of clearance distance
Measured min. creepage distance			
Location		inside (mm)	outside (mm)
Primary-secondary		Triple insulated wire used.	17.1mm (between soldering pin of sec. winding and pri. metal shielding)*
Primary-core		Core considered as primary	Core considered as primary
Secondary-core		Triple insulated wire used.	17.1mm (between soldering pin of sec. winding and core)*
Primary-primary		--	--
Measured min. clearances			
Location		inside (mm)	outside (mm)
Primary-secondary		Triple insulated wire used.	17.1mm (between soldering pin of sec. winding and pri. metal shielding)*

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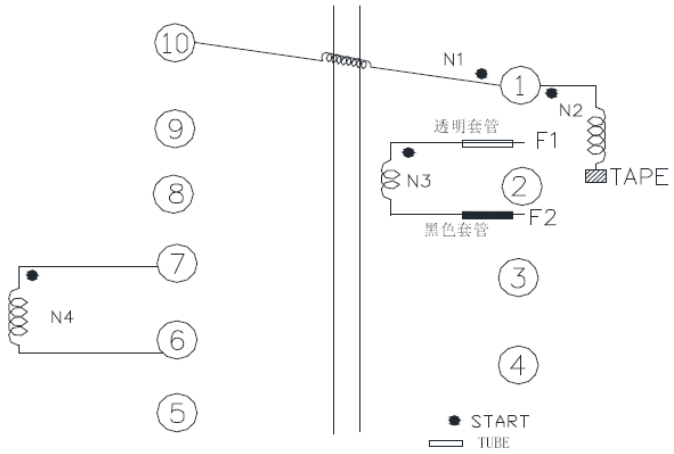
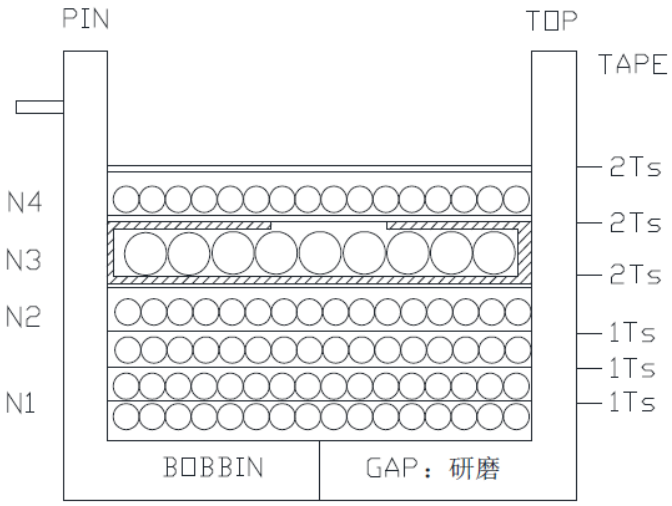
Primary-core	Core considered as primary	Core considered as primary
Secondary-core	Triple insulated wire used.	17.1mm (between soldering pin of sec. winding and core)*
Primary-primary	--	--
Note: Tested with transformer on PCB		
Construction:		

2. SCHEMATICS: (线路图)



3.WINDINGS: (剖面图)



Concentric windings on single bobbin. Two layers of insulation tape wrapped around bottom and secondary of transformer. The secondary windings are triple insulated wire. Core is considered as primary. Insulating tape folded back and insulating tube used to separate primary winding and secondary winding where they are crossing. The lead pins soldered to primary windings were directly moulded in bobbin, the secondary winding terminals are soldered to PCB and additional fixed by glue

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Pin numbers	
Prim.	1→10(N1), 7→6(N4), copper shielding (N2)
Sec.	F1→F2 (N3)
Bobbin	
Material	See appended table 1.5.1
Thickness	See appended table 1.5.1
Electric strength test	
With AC 3000V after humidity treatment	
Result	Pass
Note: All sources of transformer listed in table 1.5.1 are considered and same construction provided.	

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....:	EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013
Attachment Form No.....:	EU_GD_IEC60950_1F
Attachment Originator .....:	SGS Fimko Ltd
Master Attachment .....:	Date 2014-02

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EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		--
Contents (A2:2013)	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005) 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 4.7.3.1Note 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		P
General (A1:2010)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

General (A2:2013)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		N/A
1.1.1 (A1:2010)	**Replace** the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		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.	Not such equipment.	N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010	Deleted.	N/A
1.5.1 (Added info*)	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. New Directive 2011/65/11 *	Added.	P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.	Added.	N/A
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.	Replaced.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Zx Protection against excessive sound pressure from personal music players		N/A
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: -is designed to allow the user to listen to recorded or broadcast sound or video; and -primarily uses headphones or earphones that can be worn in or on or around the ears; and -allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: -while the personal music player is connected to an external amplifier; or -while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: -hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.	Not such equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	-analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		N/A
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: -equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and -a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and	Not such equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.	Not such equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: -the symbol of Figure 1 with a minimum height of 5 mm; and -the following wording, or similar: "To prevent possible hearing damage, do not listen at high volume levels for long periods." **Figure 1 – Warning label (IEC 60417-6044)** Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.	Not such equipment.	N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed "programme simulation noise" described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.	Not such equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.	Not such equipment.	N/A
	Zx.4.3 Wireless listening devices In wireless mode: - with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and -respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and -with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.	Not such equipment.	N/A
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.	Not such equipment.	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;	Replaced	P
	c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. 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.		N/A
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.	Deleted.	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.	Replaced.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		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	Deleted.	N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: 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, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation).	Added.	N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
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.	Replaced	N/A
Bibliography	Additional EN standards.		—

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Clause	Requirement + Test	Result - Remark	Verdict

ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**	—

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Evaluated during national approval	N/A
1.2.13.14 (A11:2009)	In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	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.	No such construction	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
1.7.2.1 (A11:2009)	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 isa l koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV is, kan forårsake brannfare. For å unngå dette isa lle ved tilkopling av utstyret til kabel-TV nettet isa llers 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 isa 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
1.7.2.1 (A2:2013)	In **Denmark**, 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 **Denmark** shall be as follows: In **Denmark**: "Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord."		N/A
1.7.5 1.7.5 (A11:2009)	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.	No socket-outlet provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c	No socket-outlet provided.	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.	No TNV.	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.	No TNV.	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.	No TNV.	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.	See table 5.3	P
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.	No TNV.	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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2:2013)	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-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 a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Justification the Heavy Current Regulations, 6c		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
3.2.1.1	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

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	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
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 mm2 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.	See clause 4.3.6, attachment 4 and attachment 5 for details.	P
4.3.6	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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Not exceed 3.5mA	N/A
6.1.2.1 (A1:2010)	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. Alternatively for components, there is no distance through insulation requirements 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.	No TNV.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, 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 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		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.	No TNV	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.	Not connected to cable distribution system.	N/A
7.3 (A11:2009)	In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.	Not connected to cable distribution system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Annex ZD
(informative)

IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Korean National Differences		P
	Corresponding National Standard: K 60950-1		P
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	AC plug provided	P
8	Addition: EMC The apparatus shall comply with the relevant CISPR standards.	To be evaluated when submitted for national approval.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
AUSTRALIA and NEW ZEALAND NATIONAL DIFFERENCES
Information technology equipment – Safety –
Part 1: General requirements

Differences according to.....: AS/NZS 60950.1:2011 and Amendment No. 1

1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE 1.2.12	Inserted.	P
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: **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 50 V (peak) 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 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202 This definition is from AS/NZS 60065:2003.	Added.	P
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand Standard.' 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'	Added.	P
1.5.2	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard'	Added.	P

IEC60950_1F - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	Modify Table 3B as follows: 1. Delete the first four rows and replace with the following: <table><tr><td rowspan="2">RATED CURRENT of equipment A</td><td colspan="2">Minimum conductor sizes</td></tr><tr><td>Nominal cross-sectional area mm²</td><td>AWG or kcmil [cross-sectional area in mm²] see Note 2</td></tr><tr><td>Over 0.2 up to and including 3 Over 3 up to and including 7.5 Over 7.5 up to and including 10 Over 10 up to and including 16</td><td>0,5 [a] 0,75 (0,75) [b] 1,00 (1,0) [c] 1,5</td><td>18 [0,8] 16 [1,3] 16 [1,3] 14 [2]</td></tr></table> 2. Delete NOTE 1. 3. Delete Footnote [a] and replace with the following: [a] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0,5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).	Replaced	N/A
4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: **4.1.201 Display devices used for television purposes** Display devices which may be used for television purposes, with a mass of 7 kg 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	Delete the third paragraph and replace with the following: *Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flatpin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.*	See attachment 6	P
4.3.13.5.1	Add the following to the end of the first paragraph: 'or AS/NZS 2211.1'	Changed by A1 to AS/NZS 60950.1:2011 to read 'or AS/NZS 60825.1 and AS/NZS 60825.2' and the relevant clause to 4.13.5.1.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	Add the following new paragraph to the end of the clause: 'For alternate tests refer to Clause 4.7.201.'	Added.	P
4.7.201	Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows: **4.7.201 Resistance to fire – Alternative tests**	Added. Alternative tests not applied for.	N/A
4.7.201.1	**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 from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length. (b) 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 1,750 mm^3, integrated circuits, transistors and optocoupler packages, if these components are mounted on Material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base Material of printed boards, compliance shall be 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.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

4.7.201.2	**4.7.201.2 Testing of non-metallic Materials** Parts of non-metallic Material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550 °C. Parts for which the glow-wire test cannot 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 Material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.		N/A
4.7.201.3	**4.7.201.3 Testing of insulating Materials** Parts of insulating Material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be 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 mm 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 20 mm and a height of 50 mm 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 60695.11.5 with the following modifications:		N/A

Clause of AS/NZS 60695.11.5	Change
9 Test procedure	
9.2 Application of needleflame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s ±1 s.

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	9.3 Number of test specimens: Replace with: 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 withstand the test. 11 Evaluation of test results: Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. The needle-flame test shall not be carried out on parts of Material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.		
4.7.201.4	**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 30 s after the removal of the glowwire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic Material which are within a distance of 50 mm 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 be tested. NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements 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 burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements 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 10 mm 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.		N/A
4.7.201.5	**4.7.201.5 Testing of printed boards** The base Material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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 3 mm from 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 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base Material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base Material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. Compliance shall be 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 maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.2.2	For Australia only, delete the first paragraph and Note, and replace with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.	No TNV.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	For Australia only, delete the first paragraph including the Notes, and replace with the following: *In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, Uc, is:* *(i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and* *(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.* NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.	No TNV.	N/A
6.2.2.2	For Australia only, delete the second paragraph including the Note, and replace with the following: *In Australia only, the a.c. test voltage is:* *(i) for 6.2.1 a): 3 kV; and* *(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.* NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.	No TNV.	N/A
7.3	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 P	Normative references (List of relevant Australia/New Zealand Standards that have been inserted in place of some of the International Standards)	Added.	P

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
CANADA NATIONAL DIFFERENCES
Information technology equipment – Safety –
Part 1: General requirements

Differences according to .....:	CAN/CSA-C22.2 NO. 60950-1A-07
Attachment Form No. .....:	CA_ND_IEC60950_1F
Attachment Originator .....:	TÜV SÜD Product Service GmbH
Master Attachment .....:	Date (2012-08)

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	Special national conditions		
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.	Complied.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.	USB output connector provided.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.	See above	P
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Single-phase equipment.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A
	A voltage rating is not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and “Class 2” or equivalent.	No wiring terminals.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.	No such fuses.	N/A
2.6.3.3	Modify first column on Table 2D to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No such components provided.	N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements.	No connection to a centralized d.c. power system.	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Pluggable equipment type A.	N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.	Pluggable equipment.	N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.	Pluggable equipment type A.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.	No wiring terminals.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm2).	No wire binding screws.	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are	Pluggable equipment type A.	N/A
	- rated 125 percent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

3.3.5	Revise first column of Table 3E to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,	Equipment is not such a device.	N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.	No such devices incorporated.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not such an application.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	No liquids provided.	N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No laser provided.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m^3 (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not such an application.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m^2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.	Not such an application.	N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Not such an application.	N/A
Annex H	Equipment that produces ionizing radiation comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	No ionizing radiation.	N/A
	Other National Differences		**P**
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	(See appended table 1.5.1)	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.	No connection to the DC Mains Supply.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

	This maximum operating voltage includes consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuits.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	No TNV circuits.	N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	Class II equipment.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.	No CRTs.	N/A
4.3.2	Equipment with handles complies with special loading tests.	No handle on equipment.	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.	No TNV circuits.	N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded.		N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary	Considered.	P
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuits.	N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.	Not such equipment.	N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuits.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.	No TNV circuits.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
U.S.A. NATIONAL DIFFERENCES
Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: UL 60950-1-07

Attachment Form No.....: US_ND_IEC60950_1E
Attachment Originator.....: TÜV SÜD Product Service GmbH
Master Attachment.....: Date (2012-08)

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	Special national conditions		
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.	Complied	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Complied	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.	USB output connector provided.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.	See above	N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	See above.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A
	A voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and “Class 2” or equivalent.	No wiring terminals	N/A
	- Marking is located adjacent to the terminals		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.	No such fuses.	N/A
2.6.3.3	Modify first column on Table 2D to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No such components provided.	N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.		P
3.2.1	Attachment plugs of power supply cords are rated not less than 125 per cent of the rated current of the equipment.	No power supply cord provided	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements.	No connection to a centralized d.c. power system.	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Pluggable equipment type A.	N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.	No power supply cord provided	N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.	Pluggable equipment type A.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.	No such terminals provided.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm2).	No wire binding screws	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are	No such terminals provided.	N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

3.3.5	Revise first column of Table 3E to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,	Equipment is not such a device.	N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.	No such devices incorporated.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not such an application.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	No liquids provided.	N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No laser provided.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m3 (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not such an application.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.	Not such an application.	N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No ionizing radiation.	N/A
	Other National Differences		P
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	(See appended table 1.5.1)	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.	No connection to the DC mains supply.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

	This maximum operating voltage includes consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuits.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	No TNV circuits	N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.	No CRT.	N/A
4.3.2	Equipment with handles complies with special loading tests.	No handle on equipment.	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.	No TNV circuits	N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded.		N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary		P
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuits.	N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuits.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.	No TNV circuits.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

J 60950-1 (H22) : 2010 TEST REPORT (Deviations from IEC 60950-1:2001, first edition) Special National conditions, National deviation and other information according to MITI Ordinance No. 85. *Japanese unique deviations* in J60950-1(H22):2010(=JIS C 6950-1:2009)			
1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.	Added. The equipment is "Protection Class I"	N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation circuit.	Added. The equipment is "Protection Class I"	N/A
1.3.2	Add the following notes after first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.	Added.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
1.5.1	Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1. Replace Note 1 with the following: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.	Added.	P
1.5.2	Replace first sentence in the first dashed paragraph with the following: - a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. Add a note after the first dashed paragraph as follows: Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A. Replace first sentence in the third dashed paragraph as follows: - where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment.	Added.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.1	Replace fifth dashed parapgaph with the following: - manufacturer's or responsible company's name or trade-mark or identification mark;	Added. The responsible company's name is list on the marking plate.	P
1.7.5A	Add the following new clause. after 1.7.5 1.7.5A Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction. " Use only designated cord set attached in this equipment"	Added.	N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese.	Replaced. Safety instructions in Japanese language.	P
1.7.17A	Add the following new clause. after 1.7.17 1.7.17A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: "Provide an earthing connection" Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: "Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains."	Added. The equipment is "Protection Class I"	N/A
2.6.3.2	Add the following after 1st paragraph. This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.	Class I equipment.	N/A
2.6.4.2	Replace 1st paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance nlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.	Class I equipment.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.5.4	Replace 1st sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:	Added.	N/A
2.6.5.8A	Add the following new clause. after 2.6.5.8A 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.	Added. The equipment is “Protection Class I”	N/A
3.2.3	Add the following after Table 3A: Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.	Added.	N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Delete 1) in Table 3B.	Added.	N/A
3.3.4	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.	Added.	N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earting terminal of Class 0I equipment.	Added. The equipment is “Protection Class I”	N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.	Added. The equipment is “Protection Class I”	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.	Added. Single phase power distribution system used.	N/A
5.1.6	Replace Table 5A. as follows	Replaced. The equipment is ”Protection Class I”.	N/A

Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. 1)	Maximum PROTECTIVE CONDUCTOR CURRENT
ALL equipment	ALL equipment Accessible parts and circuits not connected to protective earth	0,25	-
HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-
MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT		3,5	-
STATIONARY, PLUGGABLE TYPE A		3,5	-
ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7		3.5 -	- 5 % of input current
HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5	-
Others		1.0	-
1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.			

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
7.2	Add the following after the paragraph: However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply: − the circuit under consideration is a TNV-1 CIRCUIT; and – the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and – the screen of the coaxial cable is intended to be connected to earth in the building installation	Added.	N/A
W.1	Replace second and third sentence in the first paragraph with the following: This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.	Added.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
Annex JA	Add a new annex JA with the following contents. Annex JA (normative) Document shredding machines Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.	Added. Not Document shredding machines.	N/A
JA.1	**Markings and instructions** The symbol (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.	Added. Not Document shredding machines.	N/A
JA.2	**Inadvertent reactivation** Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1	Added. Not Document shredding machines.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
JA.3	**Disconnection from the mains supply** Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used. If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection.	Added. Not Document shredding machines.	N/A
JA.4	**Protection against hazardous moving parts** Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended . Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.	Added. Not Document shredding machines.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

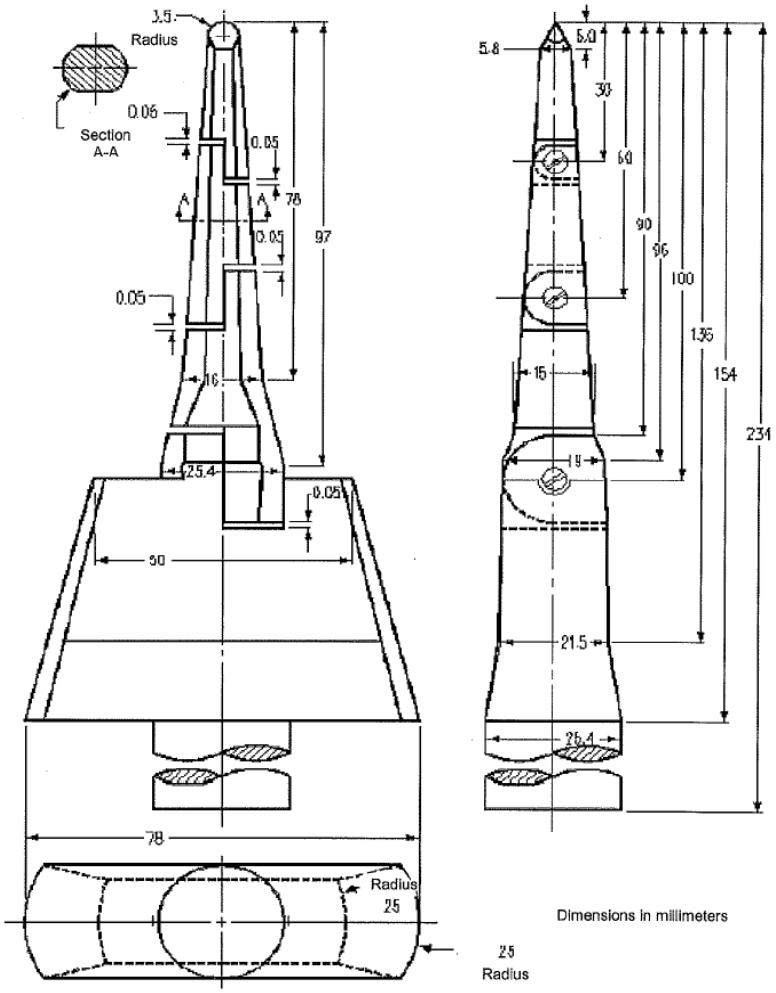
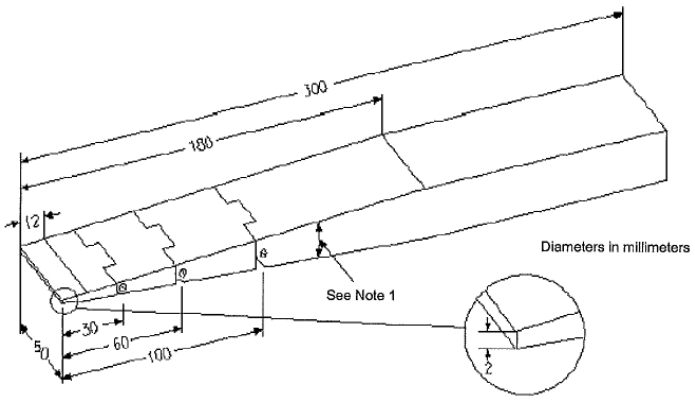
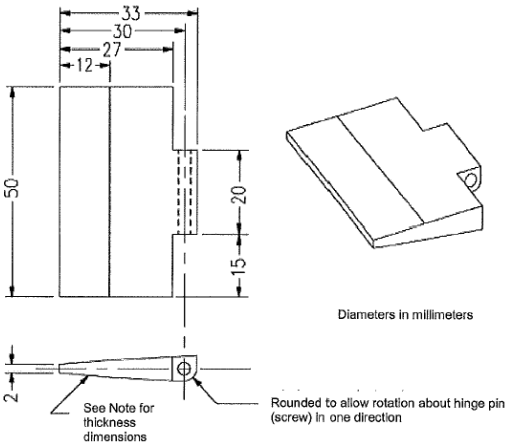


Figure JA.1 Test finger

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict





(Details of the top of wedge)

Distance from the top	Thickness of probe
0	2
12	4
180	24

Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.

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

Figure JA.2 Wedge-probe

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 **CHINA NATIONAL DIFFERENCES** Information technology equipment Safety – Part 1: General requirements
Differences according to.....: GB 4943.1--2011
Attachment Form No.....: CN_ND_IEC60950_1F **Attachment Originator .....**: CQC **Master Attachment**.....: Date 2012-10
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	China National Differences		
1.5. 2	Add a note behind the first dashed paragraph. Note: A component used shall comply with related requirements corresponding altitude of 5000m.	Added. Shall be provided accordingly during national approval.	N/A
1.7	Add a paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	Added. Shall be provided accordingly during national approval.	N/A
1.7.1	Amend dashed paragraph at the fifth paragraph : The RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.	Considered. See section “copy of marking plate” in IEC 60950-1 test report.	P

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.2.1	Add requirements of warning for equipment intended to be used at altitude not exceeding 2000m or at non-tropical climate regions: For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m." For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions." If only the symbol used, the explanation of the symbol shall be contained in the instruction manual. The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.	The product is applied for 5000m attitude and tropical climate regions.	N/A
2.7.1	Amended the first paragraph as: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3. Delete note of Clause 2.7.1.	Amended and deleted. Compliance checked.	P

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
2.9.2	First section of Clause 2.9.2 amended as two sections: Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature 40±2℃ and a relative humidity of (93±3)%. During this conditioning the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of (93±3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur. Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.	Tropical climatic is tested and evaluated see clause 2.9.2	P
2.10.3.1	Amend the third paragraph of Clause 2.10.3.1 to be: These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.	The product is considered up to 5000m and appropriate clearance applied.	P
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K、2L and 2M.		P

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1（ IEC 60664-1）. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.	The product is considered up to 5000 m, see appended table 2.10.3 & 2.10.4.	P
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.	Added. No power supply cord provided.	N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.	No CRT.	N/A
Annex E	Amend last section: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. Add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.	Amended.	N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.	Changed. The alternative method was not considered.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
Annex DD (normative)	Added annex DD: Instructions for the new safety warning labels. DD.1 Altitude warning label Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m. DD.2 Climate warning label Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.	The product is applied for 5000m altitude and tropical climate regions..	N/A
Annex EE (informative)	Added annex EE: Illustration relative to safety explanation in normative Chinese、Tibetan、Mongolian、Zhuang Language and Uighur.	Added. Shall be provided accordingly during national approval.	N/A

	Special national conditions		
1.1.2	GB4943.1-2011 applies to equipment used at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Revise the third dashed paragraph of 1.1.2 as: ——equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;	Amended. Considered.	P
1.4.5	Amend the second paragraph by the following: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10% and -10%.	Added. Considered.	P
1.4.12.1	Tma: The maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, Tma is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.	Amended. Considered.	P

Additional test	**TABLE: Contact resistance test**	**P**
Condition		Comments
Contact resistance before mechanical operation	Contact resistance after mechanical operation	--
32.0mΩ	33.3mΩ	

Note: 1. Tested according to IEC 61984 Table11, test phase B4.

2. After 200 times mechanical operation (one times operation means detach and install the plug) the change of contact resistance shall be no more than 50% of the reference value or no more than 5mΩ. The higher value is permissible.

3. Tested on European plug to represent other countries plug due to same construction of connection.

EN 50075 (partially)			
Clause	Requirement – Test	Result – Remark	Verdict

6	**Marking**		**P**
	Appliances shall be marked as follows:		—
	Rated current in amperes (A)	Refer to marking label of final appliance.	**N/A**
	Rated Voltage in volts (V)	As above	**N/A**
	Symbol for nature of supply (~)	As above	**N/A**
	Name, trade mark or identification mark of manufacturer or responsible vendor	European plug of Adapter models: WB-10G05FG	**P**
	Type reference	Incorporated plug portion of adaptor	**P**

7	**Dimensions**			**P**
	Plugs shall comply with Standard Sheet 1		(see attached drawing)	—
	Between two pins (pin base)	18.0 - 19.2 mm	18.28 mm	**P**
	Between two pins (pin top)	17.0 - 18.0 mm	17.96 mm	**P**
	Diameter of pin (metallic part)	$4^{\pm 0.06}$ mm	3.98 mm	**P**
	Diameter of pin (pin base)	max. 4.0 mm	3.82 mm	**P**
	Diameter of pin (middle part)	max. 3.8 mm	3.43 mm	**P**
	Pin length	$19^{\pm 0.5}$ mm	19.14 mm	**P**
	Length of pin except metal part	$10^{+1/-0}$ mm	10.27 mm	**P**
	Shape of pin top		Round shape	**P**
	Length of plug base	$35.3^{\pm 0.7}$ mm	34.73 mm	**P**
	Width of plug base	$13.7^{\pm 0.7}$ mm	13.18 mm	**P**
	Diagonal dimension of plug base	$26.1^{\pm 0.5}$ mm	25.73 mm	**P**
	within a distance of 18mm	≥18 mm	18.23 mm	**P**
	Angle	45°	45 °	**P**
	Radius	R 5 -0, +1 mm	5.02 mm	**P**

8.	**Protection against electric shock**		**P**
8.1	Live parts of the plug not accessible (standard test finger)	Protected by enclosure of the equipment	**P**
8.2	No connection between one plug-pin and socket outlet	Checked by gauge of Fig.4	**P**
8.3	External parts of insulating material	External parts except pins are insulating material.	**P**

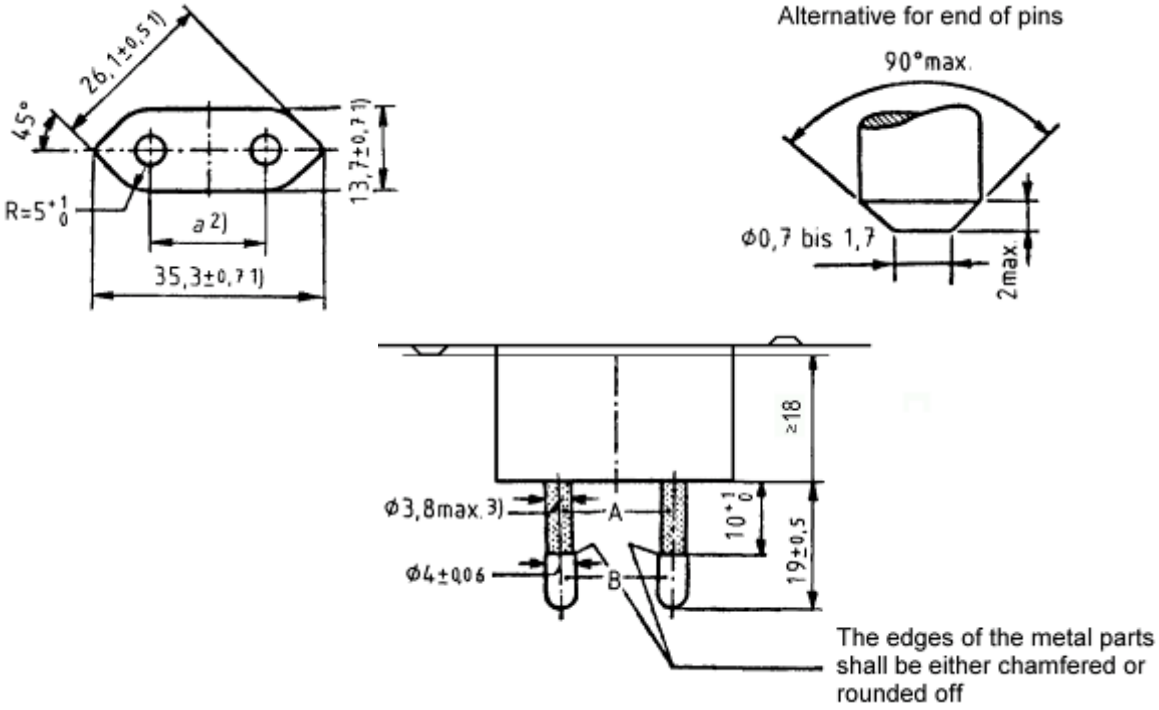
EN 50075 (partially)			
Clause	Requirement – Test	Result – Remark	Verdict
9	**Construction**		**P**
9.1	Plugs not replaceable	Not replaceable	**P**
9.2	Switches, fuses, lampholders not incorporated	Not incorporated	**P**
9.3	Solid pins	See clause 13	**P**
	Adequate mechanical strength	As above	**P**
9.4	Pins locked against rotation	See clause 13.1 and 13.4	**P**
	Adequate fixed into the body	Each pin shaft is designed with ridges to lock into the pin holder	**P**
9.5	Kind of connection	Leads are soldered to the plug pin terminal	**P**
9.6	Easily to be withdrawn from socket-outlet	The equipment provides sufficient gripping surface	**P**
10	**Resistance to humidity**		**P**
	-Humidity treatment for 48 hours	Tested with the equipment for 120h at 40°C and 95%RH (All material have been considered)	**P**
11	**Insulation resistance and electric strength**		**P**
11.1	Insulation resistance (500 V, min 5 MΩ)	Pins against body: 100MΩ Each pin against body: 100MΩ Required: 7MΩ Pin against Pin: 100MΩ Required: 2MΩ	**P**
11.2	Electric strength (2,000 V)	Pins against body: 2000V Each pin against body: 2000V Pin against Pin: 2000V	**P**
13	**Mechanical strength**		**P**
13.1	Pressed with 150 N for 5 min	No deformation or deviation from the dimensions for all material of plug portion	**P**
13.2	Tumbling barrel according to Figure 8	Test was performed and evaluated according to standard EN 50075, DIN VDE 0620-2-1:2013, sub-clause 24.2, DIN VDE, 0620-101: 1992 clause 7, figure 2. Weight of product with output cable cut to 100mm: 60g Number of falls: 1000 times	**P**
	No damages after the test		**P**

EN 50075 (partially)			
Clause	Requirement – Test	Result – Remark	Verdict
	Requirements of clause 7 and 8.2 still fulfilled	Deformations allowed according to the equipment standard	**P**
13.3	Rubbing test of plug-pins: 10,000 cycles, 4 N	See test below	**P**
	No damage of the pins	No visible damage	**P**
13.4	Pull test at 70°C with 40 N	See test below	**P**
	Pins not more than 1 mm displaced	Displacement: 0.3mm max.	**P**
14	**Resistance to heat and to ageing**		**P**
14.1	Sufficient resistant to heat	See test below	**P**
14.1.1	After 1 h in heating cabinet at 100°C no damage shown	No visible damage	**P**
14.1.2	After 1h in heating cabinet at 80°C and a force of 20 N through the jaws no damage shown	Performed a 125°C ball pressure test at the material of plug portion which maintains live part in position. Measured after 1 hour. RPG25: 1.1mm	**P**
14.2	Aging test	See test below, all enclosure material have been considered.	**P**
	- at 70°C for 168h	70°C for 168h applied.	**P**
	- at room temperature for 96h		**N/A**
	No traces of cloth at a force of 5N	Material does not soften	**P**
	No damage leads to non-compliance	No visible damage	**P**
15	**Current-carrying parts and connections resistance to heat and to ageing**		**P**
15.1	Connections withstand the mechanical stresses occurring in normal use	See below	**P**
15.2	Contact pressure not through isolating material	Complied	**P**
15.3	Current carrying parts of copper	Copper content 58%-59%. No rolled sheet used	**P**
	No electroplated coating when part is subjected to mechanical wear	No electroplated coating	**P**
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion	No such materials used.	**N/A**
16	**Creepage distances , clearances and distances through insulation**		**P**
	Live parts of different polarity: 3 mm	>3 mm	**P**
	Through insulation between live parts and accessible surfaces: 1.5 mm	>1.5 mm	**P**

EN 50075 (partially)			
Clause	Requirement – Test	Result – Remark	Verdict

17	**Resistance of insulating material to abnormal heat and fire**		**P**
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug pin holder with: 750°C. Test was performed for all sources of enclosure material.	**P**
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug portion with: 650°C. Test was performed for all sources of enclosure material.	**P**

7	**Dimensions**	**P**



A = Insulating collar

B = metal pin

1) These dimensions shall not be exceeded within a distance of 18mm from the engagement face of the plug.

2) Dimension a is:
18mm to 19.2mm in the plane of the engagement face
17mm to 18mm at the ends of the pins

3) This dimension may be increased to 4mm within a distance of 4mm from the engagement face of the plug.

EN 50075 (partially)			
Clause	Requirement – Test	Result – Remark	Verdict

6	**Marking**		**P**
	Appliances shall be marked as follows:		—
	Rated current in amperes (A)	Refer to marking label of final appliance.	**N/A**
	Rated Voltage in volts (V)	As above	**N/A**
	Symbol for nature of supply (~)	As above	**N/A**
	Name, trade mark or identification mark of manufacturer or responsible vendor	European plug of Adapter models: WB-10G05R	**P**
	Type reference	Incorporated plug portion of adaptor	**P**

7	**Dimensions**			**P**
	Plugs shall comply with Standard Sheet 1		(see attached drawing)	—
	Between two pins (pin base)	18.0 - 19.2 mm	18.6 mm	**P**
	Between two pins (pin top)	17.0 - 18.0 mm	17.6 mm	**P**
	Diameter of pin (metallic part)	$4^{\pm 0.06}$ mm	4.02 mm	**P**
	Diameter of pin (pin base)	max. 4.0 mm	3.86 mm	**P**
	Diameter of pin (middle part)	max. 3.8 mm	3.45 mm	**P**
	Pin length	$19^{\pm 0.5}$ mm	19.1 mm	**P**
	Length of pin except metal part	$10^{+1/-0}$ mm	10.4 mm	**P**
	Shape of pin top		Round shape	**P**
	Length of plug base	$35.3^{\pm 0.7}$ mm	35.1 mm	**P**
	Width of plug base	$13.7^{\pm 0.7}$ mm	13.6 mm	**P**
	Diagonal dimension of plug base	$26.1^{\pm 0.5}$ mm	26.0 mm	**P**
	within a distance of 18mm	≥18 mm	18.4 mm	**P**
	Angle	45°	45 °	**P**
	Radius	R 5 -0, +1 mm	5.0 mm	**P**

8.	**Protection against electric shock**		**P**
8.1	Live parts of the plug not accessible (standard test finger)	Protected by enclosure of the equipment	**P**
8.2	No connection between one plug-pin and socket outlet	Checked by gauge of Fig.4	**P**
8.3	External parts of insulating material	External parts except pins are insulating material.	**P**

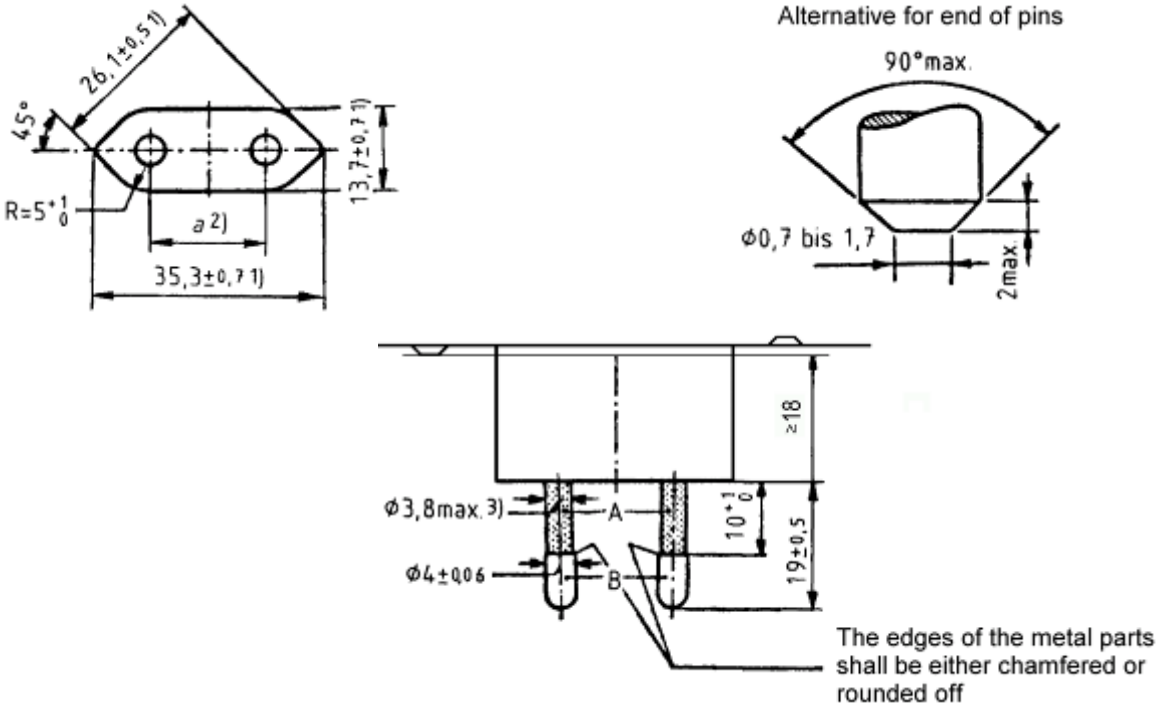
EN 50075 (partially)			
Clause	Requirement – Test	Result – Remark	Verdict
9	**Construction**		**P**
9.1	Plugs not replaceable	Not replaceable	**P**
9.2	Switches, fuses, lampholders not incorporated	Not incorporated	**P**
9.3	Solid pins	See clause 13	**P**
	Adequate mechanical strength	As above	**P**
9.4	Pins locked against rotation	See clause 13.1 and 13.4	**P**
	Adequate fixed into the body	Each pin shaft is designed with ridges to lock into the pin holder	**P**
9.5	Kind of connection	Leads are soldered to the plug pin terminal	**P**
9.6	Easily to be withdrawn from socket-outlet	The equipment provides sufficient gripping surface	**P**
10	**Resistance to humidity**		**P**
	-Humidity treatment for 48 hours	Tested with the equipment for 120h at 40°C and 95%RH (All material have been considered)	**P**
11	**Insulation resistance and electric strength**		**P**
11.1	Insulation resistance (500 V, min 5 MΩ)	Pins against body: 100MΩ Each pin against body: 100MΩ Required: 7MΩ Pin against Pin: 100MΩ Required: 2MΩ	**P**
11.2	Electric strength (2,000 V)	Pins against body: 2000V Each pin against body: 2000V Pin against Pin: 2000V	**P**
13	**Mechanical strength**		**P**
13.1	Pressed with 150 N for 5 min	No deformation or deviation from the dimensions for all material of plug portion	**P**
13.2	Tumbling barrel according to Figure 8	Test was performed and evaluated according to standard EN 50075, Weight of plug portion and enclosure: 59g Number of falls: 1000 times	**P**
	No damages after the test		**P**
	Requirements of clause 7 and 8.2 still fulfilled	Deformations allowed according to the equipment standard	**P**

EN 50075 (partially)			
Clause	Requirement – Test	Result – Remark	Verdict
13.3	Rubbing test of plug-pins: 10,000 cycles, 4 N	See test below	**P**
	No damage of the pins	No visible damage	**P**
13.4	Pull test at 70°C with 40 N	See test below	**P**
	Pins not more than 1 mm displaced	Displacement: 0.3mm max.	**P**
14	**Resistance to heat and to ageing**		**P**
14.1	Sufficient resistant to heat	See test below	**P**
14.1.1	After 1 h in heating cabinet at 100°C no damage shown	No visible damage	**P**
14.1.2	After 1h in heating cabinet at 80°C and a force of 20 N through the jaws no damage shown	Performed a 125°C ball pressure test at the material of plug portion which maintains live part in position. Measured after 1 hour. FR530: 1.0mm; RPG25: 1.1mm; NPG25: 1.0mm	**P**
14.2	Aging test	See test below, all enclosure material have been considered.	**P**
	- at 70°C for 168h	70°C for 168h applied.	**P**
	- at room temperature for 96h		**N/A**
	No traces of cloth at a force of 5N	Material does not soften	**P**
	No damage leads to non-compliance	No visible damage	**P**
15	**Current-carrying parts and connections resistance to heat and to ageing**		**P**
15.1	Connections withstand the mechanical stresses occurring in normal use	See below	**P**
15.2	Contact pressure not through isolating material	Complied	**P**
15.3	Current carrying parts of copper	Copper content 58%-59%. No rolled sheet used	**P**
	No electroplated coating when part is subjected to mechanical wear	No electroplated coating	**P**
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion	No such materials used.	**N/A**
16	**Creepage distances , clearances and distances through insulation**		**P**
	Live parts of different polarity: 3 mm	>3 mm	**P**
	Through insulation between live parts and accessible surfaces: 1.5 mm	>1.5 mm	**P**

EN 50075 (partially)			
Clause	Requirement – Test	Result – Remark	Verdict

17	**Resistance of insulating material to abnormal heat and fire**		**P**
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug pin holder with: 750°C. Test was performed for all sources of enclosure material.	**P**
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug portion with: 650°C. Test was performed for all sources of enclosure material.	**P**

7	**Dimensions**	**P**



A = Insulating collar

B = metal pin

1) These dimensions shall not be exceeded within a distance of 18mm from the engagement face of the plug.

2) Dimension a is:
18mm to 19.2mm in the plane of the engagement face
17mm to 18mm at the ends of the pins

3) This dimension may be increased to 4mm within a distance of 4mm from the engagement face of the plug.

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict
12	Construction of Plugs	For UK plug of WB-10G05FK	P
12.1	The disposition of the pins shall be shown as figure 4.	The dispositions of the pins were shown as specified.	P
12.2	Pin and sleeve dimensions, body outline were checked according to figure 4 of BS1363: part 1.	The outline of the plug did not exceed the specified dimensions at a distance of 7.04mm from the engagement surface. (limit: >6.35mm) The measured dimensions of item shown in fig. 4 were found within the specified limits.	P
	The plug portion should enter the gauge fully with a force less than 10N was applied to the centre of the sample at right angle.	Sample was entered into the gauge completely.	P
12.3	No part of a line or neutral pin shall be less than 9,5mm from the periphery of the plug measured along the engagement surface.	10.0mm	P
12.9	Plug pins were constructed of brass	Complied.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to a forced of 1100N for L, N pin, 400N for ISOD pin of the pin portion could fit the relevant gauge.	P
12.9.6	Each pin of the adaptor was subjected to a torque of 1Nm for 60s as specified in the standard.	Complied. After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in the standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60 sec. to a pull of 100N in the oven.	Complied. After the above test, no plug pin was detached and the plug pins could fit the relevant gauge.	P
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1	Measured value: Max. 3°20' (test on each sources of enclosure, max. value measured) (limit: Max. 3° 30').	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Complied. Both line and neutral pins were fitted with insulating sleeves.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P
12.17.2	Electric strength test applied between the metal part of plug pin and the sleeve (1250±30V)	Complied. No breakdown or flashover occurs.	P

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	Complied. After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17. 2	P
12.17.4	The plug pins with sleeves were placed in a heating cabinet at 200°C and tested according to the standard for 120min. Arrange the test as Figure 10 of BS 1363-1.	After the test, the thickness of sleeves of plug pins (Line and neutral pins) remaining at the impression point reduced by max. 6.67% less than 50%.	P

Additional requirement for the solid insulated shutter opening device (ISOD) according to BS1363-1/A2: 2003			
12.2	Plug fitted with an ISOD shall comply with all the dimensions specified in Fig. 4a with exception of the width of the ISOD, which should be 4,05mm max. and 3,90mm min. and its height which should be 8,05mm max. and 7,75mm min.	See measured dimensions in Table 3	P
12.9.4.3	Solid insulated opening device were tested as specified in the standard.	After being subjected to a forced of 400N, the pin could fit the relevant gauge.	P
12.9.5.2	Plugs with ISOD shall not cause excessive wear to socket contacts or shutters of sockets-outlets The test use a separate sample of plug with ISOD for each type of socket-outlet, with each sample being inserted into and withdrawn from the socket-outlet at a rate of 6 insertions and 6 withdrawals per minute, the speed of travel of the plug being approximately 150mm/s	After 5000 insertions and withdrawals completed, socket outlets show no damage that would impair further use. Plugs show no damage and suit for the dimensional requirements according to clause 12.2. The shutters of the socket-outlets operate satisfactorily and socket contacts safety shielded.	P
22.2	**Resistance to heat**		P
	After 1h in heating cabinet at 80°C and a force of 20 N through the jaws no damage shown	Test performed on plug portion (including ISOD) and 1.1mm (for sabic: RPG25) measured after 1 hour. Limit: 2mm	P
23	**Resistance of insulating material to abnormal heat and fire**		P
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on enclosure with: 650°C. All enclosure material have been considered.	P
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug portion (including ISOD) with: 750°C. All enclosure material have been considered.	P

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict

Plug portion dimensions

Linear Dimensions (mm)		Measurement		Limit	
*A		24.30		25.370 max.	
*B		31.30		34.6 max.	
*C		Tested by gauge		15 min.	
D		10.00		9.5 min.	
*E	L -> E	11.09		11.05 - 11.18	
	N -> E	11.08			
*F	L -> E	22.30		22.10 - 22.36	
	N -> E	22.25			
G1		6.26		6.22 - 6.48	
G2		6.27		6.22 - 6.48	
H		3.95		3.90 - 4.05	
*I		22.70		22.23 - 23.23	
J		1.50		1.35 - 1.85	
K		7.90		7.80 - 8.05	7.75 - 8.05 For ISOD
L	line	9.20		9.5 max.	
	neutral	9.20			
M	line	8.80		9.2 max.	
	neutral	8.80			
N (sleeve)	line	3.97		3.90 - 4.05	
	neutral	3.96			
O	line	17.70		17.20 - 18.20	
	neutral	17.70			
P	Line	1.40		1.35 - 1.85	
	neutral	1.40			
	earth	1.50			
Q (metal)	line	3.95		3.90 - 4.05	
	neutral	3.95			
	earth	4.03			
R	Line	1.80		1.2 - 2.0	
	neutral	1.80			
	earth	1.60			
S	line	1.40		1.35 - 1.85	
	neutral	1.40			

*Remark: all these dimensions were checked by the relevant gauge (based on BS1363: Part 1:1995 Figure 5)

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict

Angular Dimensions (°)		Measurement		Limits	
θ1		61.0°		58° - 62°	
θ2	line	68.0°		60° - 80°	
	neutral	68.0°			
	earth	72.0°			
θ3	line	60°		58° - 62°	
	neutral	60°			

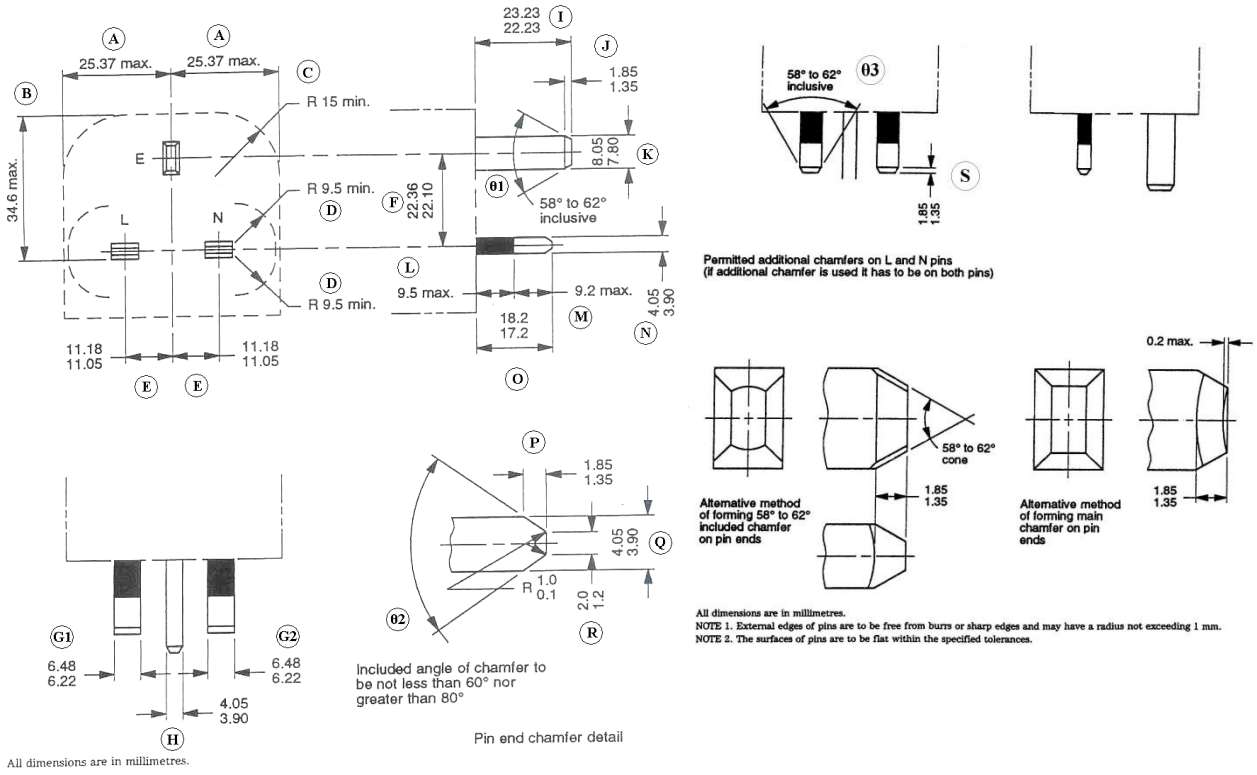


Figure 4a of BS 1363: Part 1

* Remark: all these dimensions were checked by the relevant gauge (based on BS1363: Part 1:1995 Figure 5)

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict

Plug Portion Dimensions (Solid insulated shutter opening device ISOD)

Linear Dimensions (mm)		SAMPLE A	Limit
T		7.79	7.75 - 8.05
U		3.94	3.90 - 4.05
V	E -> L	0.06	0.15 max
	E -> N	0.06	0.15 max
W	E -> top	0.07	0.15 max
	E -> L & N	0.07	0.15 max

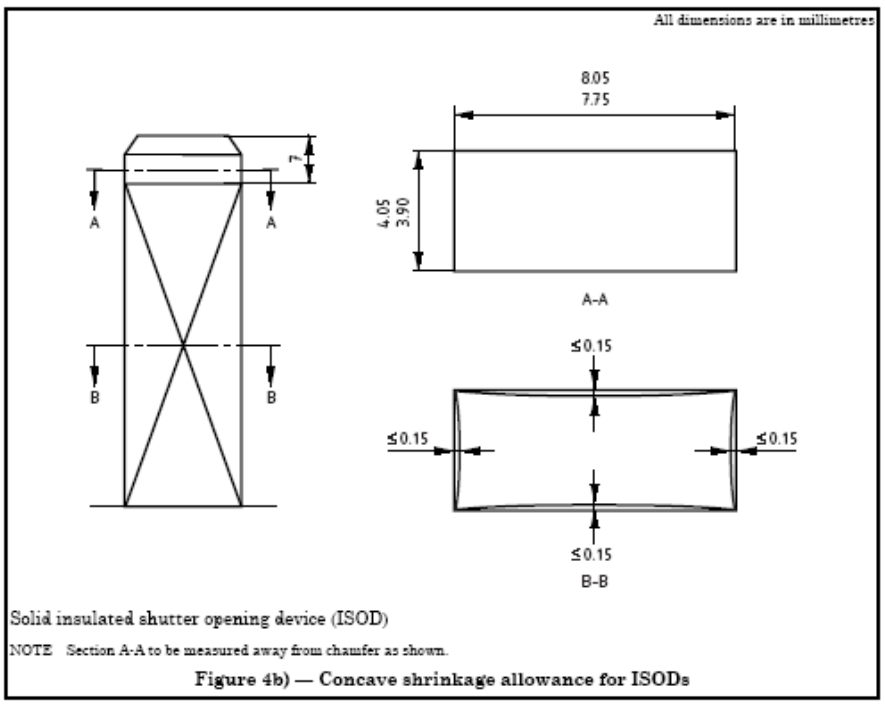


Figure 4b) — Concave shrinkage allowance for ISODs

Figure 4b of BS 1363: Part 1

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Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict
12	Construction of Plugs	For UK plug of WB-10G05R	P
12.1	The disposition of the pins shall be shown as figure 4.	The dispositions of the pins were shown as specified.	P
12.2	Pin and sleeve dimensions, body outline were checked according to figure 4 of BS1363: part 1.	The outline of the plug did not exceed the specified dimensions at a distance of 9.5mm from the engagement surface. (limit: >6.35mm) The measured dimensions of item shown in fig. 4 were found within the specified limits.	P
	The plug portion should enter the gauge fully with a force less than 10N was applied to the centre of the sample at right angle.	Sample was entered into the gauge completely.	P
12.3	No part of a line or neutral pin shall be less than 9,5mm from the periphery of the plug measured along the engagement surface.	9.65mm	P
12.9	Plug pins were constructed of brass	Complied.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to a forced of 1100N for L, N pin, 400N for ISOD pin of the pin portion could fit the relevant gauge.	P
12.9.6	Each pin of the adaptor was subjected to a torque of 1Nm for 60s as specified in the standard.	Complied. After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in the standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60 sec. to a pull of 100N in the oven.	Complied. After the above test, no plug pin was detached and the plug pins could fit the relevant gauge.	P
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1	Measured value: Max. 2°20' (test on each sources of enclosure, max. value measured) (limit: Max. 3° 30').	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Complied. Both line and neutral pins were fitted with insulating sleeves.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P
12.17.2	Electric strength test applied between the metal part of plug pin and the sleeve (1250±30V)	Complied. No breakdown or flashover occurs.	P

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	Complied. After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17. 2	P
12.17.4	The plug pins with sleeves were placed in a heating cabinet at 200°C and tested according to the standard for 120min. Arrange the test as Figure 10 of BS 1363-1.	After the test, the thickness of sleeves of plug pins (Line and neutral pins) remaining at the impression point reduced by max. 29.8% less than 50%.	P

Additional requirement for the solid insulated shutter opening device (ISOD) according to BS1363-1/A2: 2003			
12.2	Plug fitted with an ISOD shall comply with all the dimensions specified in Fig. 4a with exception of the width of the ISOD, which should be 4,05mm max. and 3,90mm min. and its height which should be 8,05mm max. and 7,75mm min.	See measured dimensions in Table 3	P
12.9.4.3	Solid insulated opening device were tested as specified in the standard.	After being subjected to a forced of 400N, the pin could fit the relevant gauge.	P
12.9.5.2	Plugs with ISOD shall not cause excessive wear to socket contacts or shutters of sockets-outlets The test use a separate sample of plug with ISOD for each type of socket-outlet, with each sample being inserted into and withdrawn from the socket-outlet at a rate of 6 insertions and 6 withdrawals per minute, the speed of travel of the plug being approximately 150mm/s	After 5000 insertions and withdrawals completed, socket outlets show no damage that would impair further use. Plugs show no damage and suit for the dimensional requirements according to clause 12.2. The shutters of the socket-outlets operate satisfactorily and socket contacts safety shielded.	P
22.2	**Resistance to heat**		P
	After 1h in heating cabinet at 80°C and a force of 20 N through the jaws no damage shown	Test performed on plug portion (including ISOD) and measured after 1 hour. Result: FR530: 0.8mm; RPG25: 0.9mm; NPG25: 0.8mm Limit: 2mm	P
23	**Resistance of insulating material to abnormal heat and fire**		P
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on enclosure with: 650°C. All material have been considered.	P

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug portion (including ISOD) with: 750°C. All material have been considered.	P

Plug portion dimensions

Linear Dimensions (mm)		Measurement		Limit	
*A		24.20		25.370 max.	
*B		31.80		34.6 max.	
*C		Tested by gauge		15 min.	
D		9.65		9.5 min.	
*E	L -> E	11.16		11.05 - 11.18	
	N -> E	11.17			
*F	L -> E	22.2		22.10 - 22.36	
	N -> E	22.14			
G1		6.31		6.22 - 6.48	
G2		6.32		6.22 - 6.48	
H		4.02		3.90 - 4.05	
*I		22.70		22.23 - 23.23	
J		1.56		1.35 - 1.85	
K		8.0		7.80 - 8.05	7.75 - 8.05 For ISOD
L	line	8.98		9.5 max.	
	neutral	9.19			
M	line	8.57		9.2 max.	
	neutral	8.40			
N (sleeve)	line	4.03		3.90 - 4.05	
	neutral	4.04			
O	line	17.60		17.20 - 18.20	
	neutral	17.62			
P	Line	1.78		1.35 - 1.85	
	neutral	1.79			
	earth	1.46			
Q (metal)	line	3.92		3.90 - 4.05	
	neutral	3.91			
	earth	4.02			
R	Line	1.55		1.2 - 2.0	
	neutral	1.57			
	earth	1.81			
S	line	1.62		1.35 - 1.85	
	neutral	1.65			

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict

*Remark: all these dimensions were checked by the relevant gauge (based on BS1363: Part 1:1995 Figure 5)

Angular Dimensions (°)		Measurement		Limits	
θ1		61.0°		58° - 62°	
θ2	line	70.2°		60° - 80°	
	neutral	69.1°			
	earth	72.7°			
θ3	line	60.7°		58° - 62°	
	neutral	61.1°			

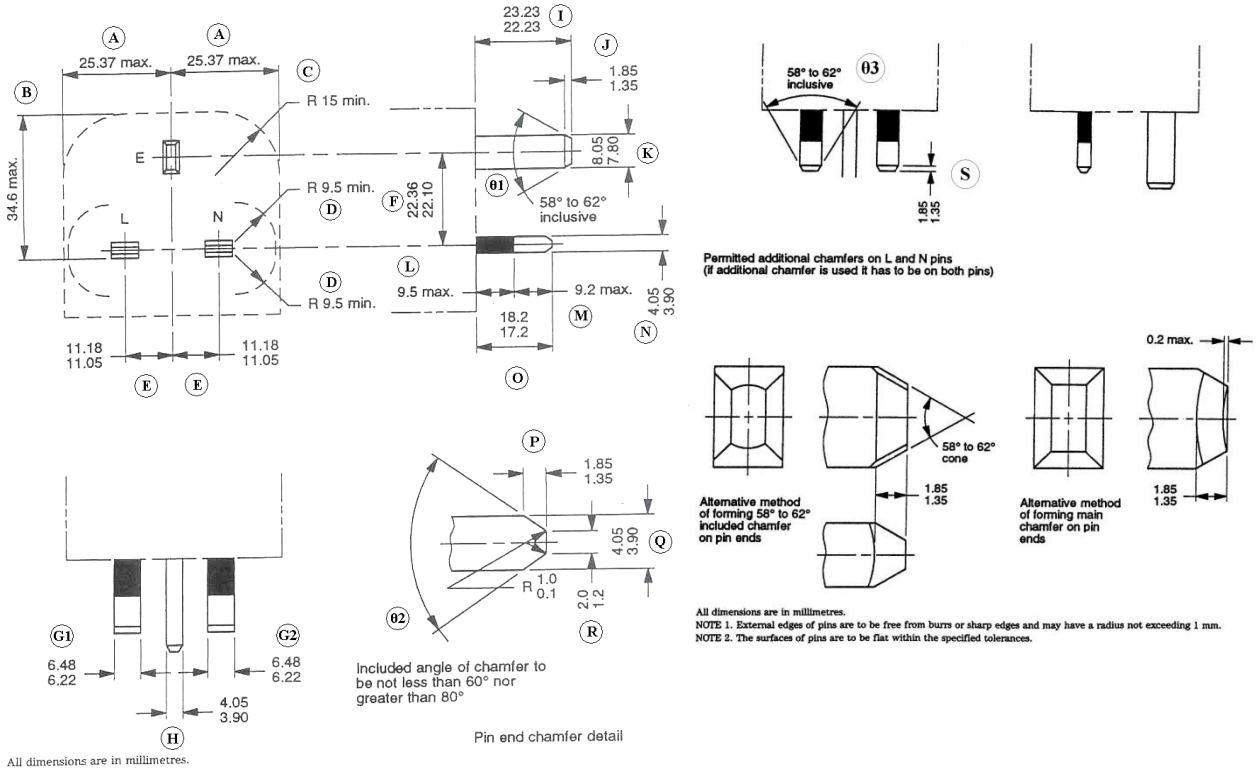


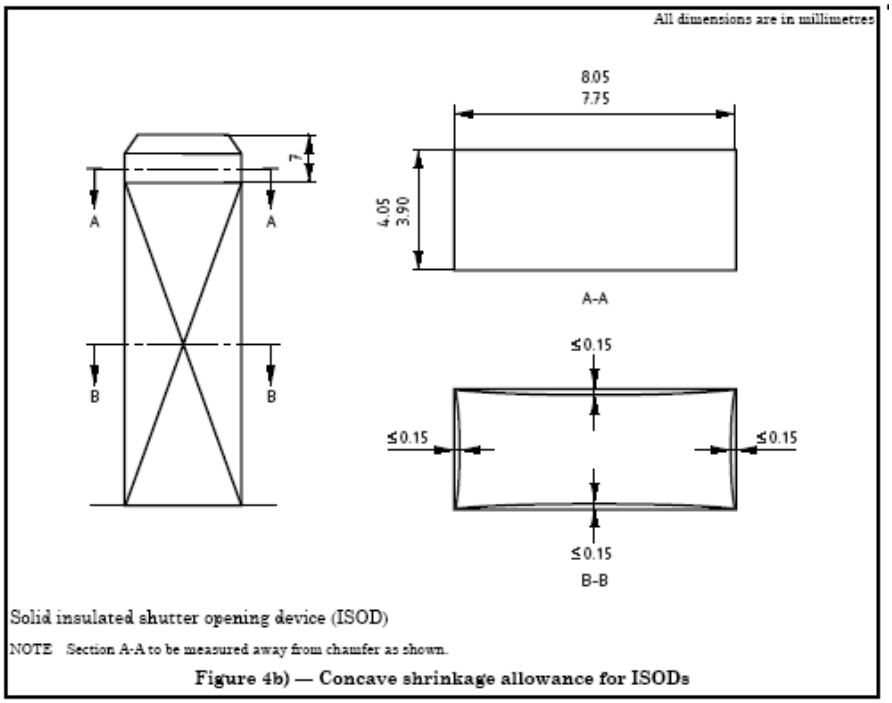
Figure 4a of BS 1363: Part 1

* Remark: all these dimensions were checked by the relevant gauge (based on BS1363: Part 1:1995 Figure 5)

Clause 12 of BS 1363-1: part 1: 1995 + A4: 2012			
Clause	Requirement – Test	Result – Remark	Verdict

Plug Portion Dimensions (Solid insulated shutter opening device ISOD)

Linear Dimensions (mm)		SAMPLE A	Limit
T		7.98	7.75 - 8.05
U		4.0	3.90 - 4.05
V	E -> L	0.1	0.15 max
	E -> N	0.1	0.15 max
W	E -> top	0.1	0.15 max
	E -> L & N	0.1	0.15 max



Solid insulated shutter opening device (ISOD)

NOTE Section A-A to be measured away from chamfer as shown.

Figure 4b) — Concave shrinkage allowance for ISODs

Figure 4b of BS 1363: Part 1

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Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict
J1	Scope	Australian plug portion of model WB-10G05R	P
J2	Requirements for plug portion		P
J2.1	Plug portion		P
J2.2	Requirements	Complied	P
J2.2.1	General		P
J2.2.2	Plug pins of plug portions	Complied	P
	Material for pins	Copper content : 65%	P
	Assembly of pins	Complied	P
	Form of pin	Complied	P
	Insulation of plug pin	Complied	P
J2.2.3	Ratings and dimensions for low voltage plug portions		P
	General(2.8.1) The distance between a live pin of any plug and the edge of the moulding of the plug, shall be not less than 9 mm.	18.3mm	P
	Compliance with dimensional requirements of Figure 2.1(2.8.4)	See dimension tables on page 9,10 and 12	P
J2.2.4	Internal connections for plug portions		N
J2.2.5	Arrangement of earthing connections for plug portions	No earth connection.	N
J2.2.6	Configuration of plug portions	Complied	P
J2.2.7	Tests		P
J2.2.7.1	General	Complied	P
J2.2.7.2	High voltage test (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 our in Items (a) and (c) of Clause 2.13.2 for 1 min in each case.	1000V applied. No Breakdown.	P
	The plug shall further withstand, without failure, a voltage of 3500 V a. c. applied between the parts set out in Items (b) and (d) of Clause 2.13.2 for 1 min in each case. (Amendment 1:2006)	3500V applied. No Breakdown.	P
	The insulation of insulated pin plugs shall withstand a voltage of 1 250V a. c. for 1 min applied in accordance with Clause 2.13.2(e).	1250V applied. No Breakdown.	P
J2.2.7.3	Mechanical strength of pin tests		P
J2.2.7.3.1	Tumbling barrel test (2.13.7.1)		P
	The tumbling barrel test is applied to determine the mechanical strength of the plug pins.	See test below.	P

Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict
	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:	Complied	P
	A sample of equipment with integral pins is dropped –	Complied	P
	a) 500 times if the mass of the specimen does not exceed 250 g. The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, B1 or F1; and	Weight: 62g 500 times drop. After test, no broken and cracking was found (All enclosure material have been considered)	P
	b) 250 times if the mass of the specimen exceeds 250 g. The pins being straightened after 25 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, B1 or F1		N/A
J2.2.7.3.2	Pin bending test	Complied	P
	The pins of the plug portion of three samples not subjected to any previous tests shall be tested for compliance with the pin bending test of clause 2.13.7.2.	Three samples tested.	P
	All flat-pins of plugs rated up to and including 15 A shall be subjected to a pin bending test.	Tested on all flat-pins of plug.	P
	Three sample plugs not subjected to any previous tests shall be tested After the tests the pins shall be inspected with normal or corrected to normal vision.	Inspected with normal vision.	P
	Active and neutral pins shall be forced towards the centroid of the plug and then back to the starting point. On the first sample plug, any earth pin shall be forced but in one direction only and then back to the starting point. On the second sample plug, any earth pin shall be forced in the opposite direction to that used for testing the first sample plug. On the third sample plug, any earth pin shall be forced in the direction that gave the least favorable result during testing of the first two sample plugs.(Amendment 1:2006)	Complied	P
	The pin shall not be broken off. If in doubt pins shall be disassembled from the plug and any insulation removed	The pin did not break off.	P
J2.2.7.4	Temperature rise test (2.13.8)	This requirement shall tested with the relevant product standards.	P
	The terminal screws or nuts are tightened with a torque equal to two-thirds of that specified in test No.5.	No screws or nuts used.	N/A

Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict
	The test socket shall consist of a fixed socket outlet of a type complying with this Standard.	Direct plug-in equipment.	P
	The plug is inserted into the socket outlet and an alternating current of 1.1 times rated current is passed for 1 h.		P
	The temperature of the flexible cord terminal is determined by means of melting particles, colour changing indicators or thermocouples, so chosen and positioned that they have negligible effect on the temperature being determined.		P
	The temperature rise of the terminals shall not exceed 45 K.	Temperature rise: 21.4K (plug pins). Ambient: 25 ºC	P
J2.2.7.5	Securement of pins of the plug portion (2.13.9)		P
	Movement of pins (2.13.9.1)	See test below	P
	Plugs shall be tested for pin movement by clamping the pin or pins not under test in a rigid holding block positioned 5 ±0.5 mm from the plug face and applying a force of 18±1 N to the pin under test. The design of the block shall be such that the pin under test shall not come into contact with the block during the test.	Complied	P
	Except for non-rewireable plugs, the test shall be carried out without a cord attached to the plug, and with the terminal screws loosened sufficiently to allow a 1mm^2 conductor to be connected.		N/A
	The plug and test equipment shall be preconditioned at a temperature of 40±1ºC for 1 h, without the test force applied. Throughout the test, all parts of the plug and test equipment shall be maintained at this temperature.	40ºC for 1 h applied.	P
	For all plugs, the point of application of the force of the plug along the pins, and the direction of the force shall be- a) in both directions along the line perpendicular to the plane of the pin, and passing through the centre of the pin; and b) in that plane in both directions along a line at right angles to that specified in Item(a).	Complied	P
	Over a period of 10s, the force shall be gradually applied to each of the pins in the manner prescribed in Item (a) and (b), maintained at its maximum value for 10s, and then released. The deflection of the pins shall be measured along the line of the face relative to the face of the rigid holding block during the period when the force is applied. The maximum deflection shall not exceed 2.0mm	Max. deflection of L Pin: 0.2mm Max. deflection of N Pin: 0.2mm (Test on each sources of material, the max. value measured)	P

Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict
	Following the test on all pin of a conforming to Figure 2.1,any distortion 5 min after the completion of the test on the last pin shall be such that it will not prevent the plug from being inserted in the appropriate standard gauges shown in Appendix A, Appendix B and Appendix F without the application of undue force	Plug portion is able to be inserted into the appropriate standard gauge without the application of undue force.	P
	For other types of plugs, any distortion after 5 min shall be such as will not prevent the plug being inserted into an appropriate socket-outlet without the application of undue force		N
	Fixing of pins (2.13.9.2)	See test below	P
	A separate sample of a plug shall be heated to a temperature of 50±2ºC for 1 h and maintained at that temperature during the whole of tests, including the 5 min period after removal of the test load.	50ºC for 1 h applied.	P
	The plug shall be held firmly in such a manner that there will be no undue squeezing or distortion of the body, and the means of holding shall not assist in maintaining the pins in their original position,	Complied	P
	Each pin, in turn, shall have applied to it a force which, over a period of 10 s, shall be increased steadily to 60±0.6N and held at this value for 10 min.	60N applied.	P
	Two tests on each pin shall be conducted, one with the direction of force along the length of the pin towards the body of the plug, and the other with the direction of force along the length of the pin away from the body.	Complied	P
	The attachment of pins shall be considered inadequate if any pin is displaced relative to the adjacent material of the body by more than 2.4 mm at any time during these tests, 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.	During test: Max. displacement of L Pin: 0.2mm Max. displacement of N Pin: 0.2mm After test: Displacement of L Pin: 0.1mm Displacement of N Pin: 0.1mm (Test on each sources of material, the max. value measured.)	P
J2.2.7.6	Tests on the insulation material of insulated pin-plug portions (2.13.13)		P
	2.13.13.1 General		P

Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict
	The material of the pin-insulation shall be resistant to the stresses to which it may be subjected at the high temperature likely to occur in conditions approaching the bad connection conditions and at low temperatures in particular conditions of service.	Complied	P
	Compliance shall be checked by the tests of Clause 2.13.13.2 to 2.13.13.6	See test below	P
	Pressure test at high temperature (2.13.13.2)	See test below	P
	A specimen of one insulated pin only shall be subjected to the following test by means of the apparatus shown in Figure 2.5. This apparatus shall have a blade having a round shape with a diameter of 6 mm and a thickness of 0.7 mm.	Complied	P
	The specimen shall be placed in position as shown in the Figure 2.5 and a force of 2.5 N shall be applied through the blade to specimen.	2.5N applied.	P
	The apparatus, with the specimen in position, shall be maintained for 2 h in a heating cabinet at a temperature of 160±5ºC. The specimen shall then be removed from the apparatus and within 10 s, cooled by immersion in cold water.	160ºC for 2h applied.	P
	The thickness of the insulation shall be measured immediately at the point of impression.	Complied	P
	The thickness of the insulation remaining at the point of impression shall be measured and shall not have been reduced by more than 50%	Part1: Thickness before test: 0.65mm Thickness after test: 0.49mm Length of insulation after test reduced by 26.2%	P
	Visual inspection shall be made and no cracks on the insulation material shall be visible with normal, or corrected to normal, vision without additional magnification, and the dimension of the insulating material shall not have changed below the minimum size shown in Figure 2.4.	No cracks are found on the insulating material. The dimension of insulating material did not changed.	P
	Static damp heat test (2.13.13.3)	See test below.	P
	An insulated pin plug shall be subjected to two damp heat cycles in accordance with IEC 60068-2-30. Db (12+12 h cycle), 95% relative humidity, lower temperature 25±3ºC and upper temperature 40ºC.	Complied	P
	After this treatment and after recovery to room temperature, the specimen shall be subjected to- a) the insulation resistance test in accordance with CLAUSE 2.13.2(E); b) high voltage test in accordance with Clause 2.13.3 and; c) abrasion test in accordance with Clause 2.13.13.6.	During high voltage test no breakdown occurred between live poles and insulation of the pins. For abrasion test, see Abrasion test (2.13.13.6) below.	P
	Low temperature test (2.13.13.4)	See test below.	P

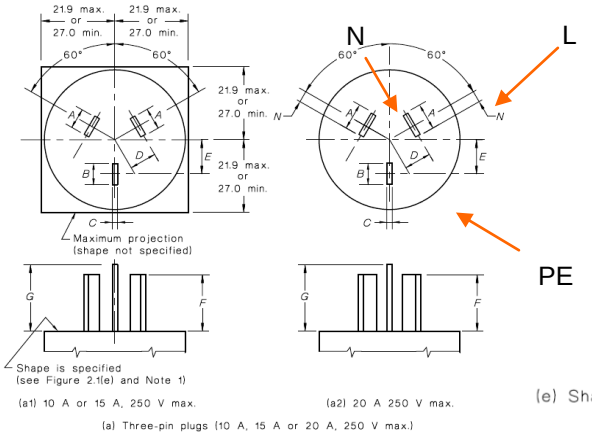
Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict
	An insulated pin plug shall be maintained at –15±2ºC for at least 24 h and returned to room temperature.	–15ºC for 24h applied.	P
	The specimen shall be subjected to – a) the insulation resistance test in accordance with Clause 2.13.2(e); b) high voltage test in accordance with Clause 2.13.3 and; c) abrasion test in accordance with Clause 2.13.13.6.	During high voltage test no breakdown occurred between live poles and insulation of the pins. For abrasion test, see Abrasion test (2.13.13.6) below.	P
	Impact test at low temperature (2.13.13.5)	See test below.	P
	A specimen of one insulated pin only shall be subjected to an impact test by means of the apparatus shown in Figure 2.6. The mass of the falling weight shall be 100±1 g.	Complied	P
	The apparatus, on a sponge rubber pad 40 mm thick, together with the specimen, shall be maintained at –15±2ºC for at least 24 h.	–15ºC for 24h applied.	P
	At the end of this period, the specimen shall be placed in position, as shown in Figure 2.6, and the falling weight shall be allowed to fall from a height of 100mm. Four impacts shall be applied successively to the same specimen, rotating it through 90º between impacts.	Complied	P
	After the test the specimen shall be allowed to return to room temperature and then examined, No cracks of the insulating material shall be visible with normal, or corrected to normal, vision without additional magnification.	No cracks were found on the insulating material.	P
	Abrasion test (2.13.13.6)	Use the same sample which passed the Static damp heat test (2.13.13.3) and Low temperature test (2.13.13.4) for abrasion test.	P
	An insulated pin of an insulated pin plug shall be subjected to the following test by means of an apparatus as shown in Figure 2.7.	Complied	P
	The test apparatus comprises a horizontally disposed beam, which shall be pivoted about its centre point. A short length of steel wire, 1 mm in diameter and bent into a U-shape, the base of the U being straight, shall be rigidly attached, at both ends, to one end of the beam, so that the straight part projects below the beam and shall be parallel to the axis of the beam pivot.	Complied	P
	The plug shall be held in a suitable clamp in such a position that the straight part of the steel wire rests on the major axis face of the plug pin, at right angles to it. The pin shall slope downwards at an angle of 10º to the horizontal.	Complied	P

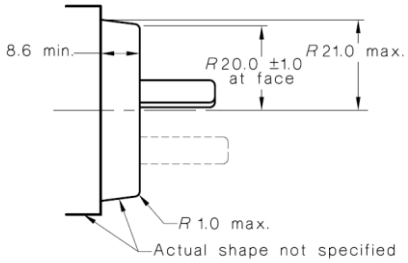
Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict
	The beam shall be loaded so that the wire exerts a force of 4 N on the pin.	4N applied.	P
	The plug shall be moved backwards and forwards in horizontal direction in the plane of the axis of the beam, so that the wire rubs along the pin. The length of the pin thus abraded shall be approximately 9 mm, of which approximately 7 mm shall be over the insulation.	Complied	P
	The number of movement s shall be 20 000 (10 000 in each direction) and the rate of operation shall be 30 movements per min.	Complied	P
	After the test, the pins shall show no damage which may affect safety or impair the further use of the plug, in particular, the insulating sleeve shall not have punctured or rucked up.	The pins show no damage and the insulating sleeve was not punctured or rucked up.	P
J2.2.7.7	Equipment with integral pins intended to be supported by the contacts of a socket-outlet	Torque: 0.03Nm Limit: ≤0.25Nm	P

J2.3	Detachable plug portions		P
	Where a plug portion is detachable, compliance shall be established by assessment with the plug portion fully assembled with the equipment. Access to live parts shall be assessed for incorrect assembly of the plug portion. It shall not be possible to assemble the plug portion to the equipment resulting in a dangerous situation allowing access to live parts. The plug portion shall not expose live parts prior to assembly.	Complied.	P

Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict

Compliance with dimensional requirement of Fig 2.1/2.4





(e) Shape of plugs having ratings to 15 A, 250 V max. and of the (a1), (c), (d), (f) or (g) type

FIGURE 2.1 (in part) DIMENSIONS OF PLUGS

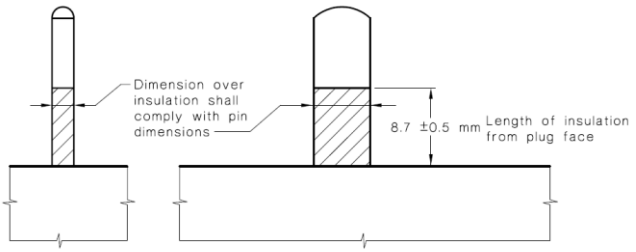
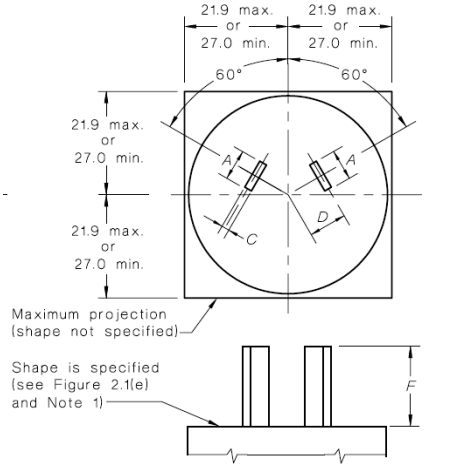
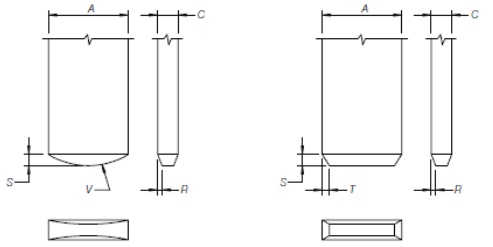


FIGURE 2.4 DIMENSIONS OF INSULATION ON INSULATED LIVE PINS



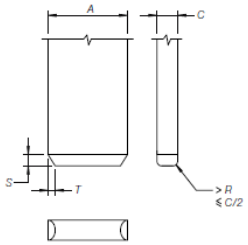
(c) Two-pin plugs (up to 10 A, 250 V max.)

FIGURE 2.1 (in part) DIMENSIONS OF PLUGS



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

(i) Flat pin square on the end with corner bevels and side bevels



(j) The flat pin square on the end with corner bevels and radius on the sides

FIGURE 2.1 (IN PART) DIMENSIONS OF PLUGS

Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict

Dimensions of plugs acc. to figure 2.1 (a)/(c)			
Location	**Requirement (mm)**	**Measured (mm)**	**Verdict**
Width of left Pin (A)	6.35 ± 0.15	6.27	P
Width of right Pin (A)	6.35 ± 0.15	6.31	P
Width of PE pin (B)	6.35 ± 0.15	No PE pin	N/A
Thickness of left Pin (C)	1.63 + 0.15	1.62	P
Thickness of right Pin (C)	1.63 + 0.15	1.62	P
Thickness of PE Pin (C)	1.63 + 0.15	No PE pin	P
Length of left Pin (F)	17.06 ± 0.4	17.10	P
Length of right Pin (F)	17.06 ± 0.4	17.13	P
Length of PE Pin (G)	19.94 ± 0.8	No PE pin	N/A
Centre of left and right pins to centre Of pin base (D)	7.92 *	Fit the testing gauge	P
Distance between PE pin centre and centre of pin base (E)	10.31 *	No PE pin	N/A
Width of enclosure left side	≥ 27.0 or ≤ 21.9	19.60	P
Width of enclosure right side	≥ 27.0 or ≤ 21.9	19.40	P
Length of enclosure top side	≥ 27.0 or ≤ 21.9	19.67	P
Length of enclosure bottom side	≥ 27.0 or ≤ 21.9	52.40	P

Dimensions of plugs acc. to figure 2.1 (e)			
Location	**Requirement (mm)**	**Measured (mm)**	**Verdict**
Pin face radius on enclosure	≤21.0	19.6	P
Pin face radius on pins level	20 ± 1.0	19.2	P
Radius of pin base	≤1.0	0.4	P
Distance between pin base and enclosure	≥8.6	9.0	P
* Dimensions without tolerance are nominal. Samples are to be checked with the gauge specified in Appendix A, Appendix B or Appendix F, as appropriate.			
Note: 1: (a) If of the non-insulated pin type, it should comply with all dimensions including Figure 2.1(e). (b) If of the insulated pin type, complying with Figure 2.4, and also complying with all other requirements of this Standard (e.g. Clause 2.8, 9 mm from live pins to the edge of plug mouldings), then other plug shapes are acceptable (e.g. oval 2-pin, triangular 3-pin). The R20 ±1.0 mm dimension of Figure 2.1(e) is not applicable, but the other dimensions of Figure 2.1(e) are still applicable to ensure they fit in the recess of Figure 3.5.			

Appendix J of AS/NZS 3112: 2011 +A1: 2012 +A2: 2013			
Clause	Requirement – Test	Result – Remark	Verdict

Dimensions of insulation on insulated live pins acc. to figure 2.4			
Location	**Requirement (mm)**	**Measured (mm)**	**Verdict**
Length of insulation from plug face (left pin)	8.7 ± 0.5	8.47	P
Length of insulation from plug face (right pin)	8.7 ± 0.5	8.60	P
Dimension over insulation of left insulated live pin	1.63 +0.15 / -0.05	1.71	P
Dimension over insulation of right insulated live pin	1.63 +0.15 / -0.05	1.72	P

*With measurement uncertainty +/-0.05mm

Dimensions of plugs			
Type of pin shape	**Acc. to figure 2.1 (i)**		
Location	Requirement (mm)	Measured (mm)	Verdict
Long side indent of left pin side 1 (R)	0.35 ± 0.05	0.32	P
Long side indent of left pin side 2 (R)	0.35 ± 0.05	0.32	P
Long side indent of right pin side 1 (R)	0.35 ± 0.05	0.33	P
Long side indent of right pin side 2 (R)	0.35 ± 0.05	0.33	P
Long side indent of PE pin side 1 (R)	0.35 ± 0.05	No PE pin	N/A
Long side indent of PE pin side 2 (R)	0.35 ± 0.05	No PE pin	N/A
Short side indent of left pin side 1 (T)	≥ 0.60	0.87	P
Short side indent of left pin side 2 (T)	≥ 0.60	0.87	P
Short side indent of right pin side 1 (T)	≥ 0.60	0.86	P
Short side indent of right pin side 2 (T)	≥ 0.60	0.86	P
Short side indent of PE pin side 1 (T)	≥ 0.60	No PE pin	N/A
Short side indent of PE pin side 2 (T)	≥ 0.60	N/A	N
Length of chamfer left pin (S)	0.90 ± 0.10	0.96	P
Length of chamfer right pin (S)	0.90 ± 0.10	0.97	P
Length of chamfer PE pin (S)	0.90 ± 0.10	No PE pin	N/A
Radius of left pin (V)	6*	Fit the testing gauge	P
Radius of right pin (V)	6*	Fit the testing gauge	P
Radius of PE pin (V)	6*	No PE pin	N/A
* Dimensions without tolerance are nominal. Samples are to be checked with the gauge specified in Appendix A, Appendix B or Appendix F, as appropriate.			

End of Report

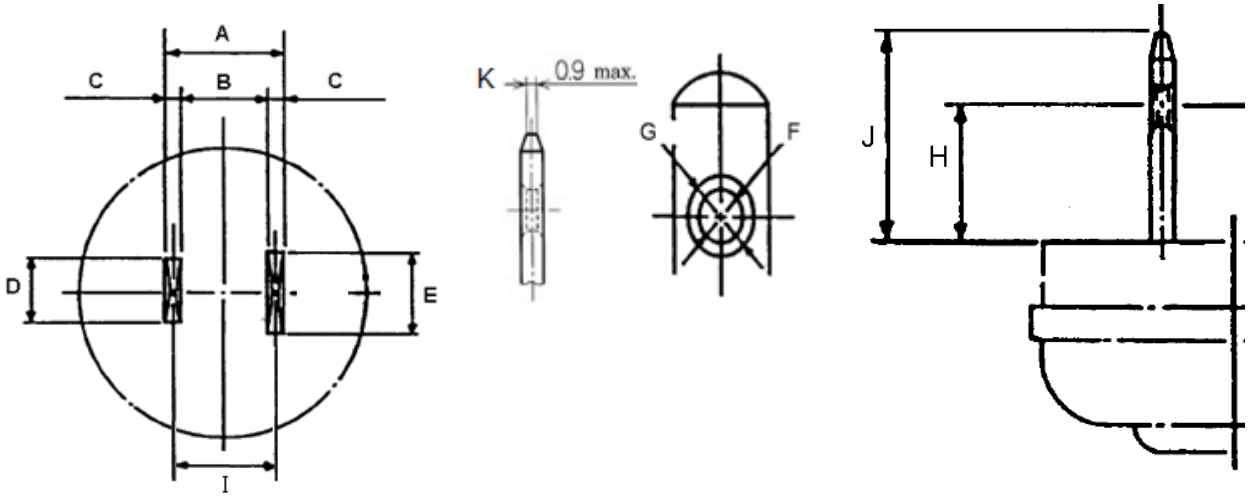
JIS C 8303			
Clause	Requirement – Test	Result-Remark	Verdict
Japanese plug of model WB-10G05FU			
4	Performance		P
4.1	Retaining force		N/A
4.2	Temperature Rise	Test for power supply only.	P
4.3	Contact resistance	Not required for plug and socket without earth pole	N/A
4.4	Make and Break	See clause 6.5	N/A
4.5	Insulation resistance	L to N pin: >1000MΩ L/N to plug enclosure: >1000MΩ 5M Ohm required after make and break test.	P
4.6	Dielectric withstand voltage	1480V, 10mA, 1 min. required.	P
4.7	Resistance to heat	No resin moldings or rubber mouldings	N/A
4.8	Strength of screw terminal and lead-wire joint		N/A
4.9	Strength of blade fixing part	Tested according to 6.10(3)	P
4.10	Rotating property of movable plug type	Fixed plug with pin molded on enclosure	N/A
4.11	Strength of enclosure	Tested according to 6.11	P
4.12	Strength of Cord anchorage		N/A
4.13	Strength of Cord outlet		N/A
4.14	Performance of screwless terminals		N/A
4.15	Endurance to ammonia gas		N/A
4.16	Tensile load		N/A
4.17	Waterproof		N/A
4.18	Flame retardance	No supply wire connected	N/A
5	Construction, dimensions and material		P
5.1	Construction in general		P
5.2	Terminals		N/A
5.3	Insulation	Enclosure material see table 1.5.1 in IEC 60950 report	P
5.4	Materials of conductive metal parts	Copper: 58-59%	P
5.5	Material of non-conductive metal parts	No such part	N/A
5.6	Shapes and dimensions of blades and blade receiving holes	See measured dimension	P
5.7	Dimensions of mounting parts of recessed socket-outlets		N/A
5.8	Dimensions of cable entry		N/A

JIS C 8303			
Clause	Requirement – Test	Result-Remark	Verdict
5.9	Insulation distance	L/N to enclosure: 8.5mm Distance between L & N: >10.0mm	P
5.10	Symbol of poles	No earth pole or a pole of earth side.	N/A
5.11	Locking type, slip-check connectors		N/A
5.12	Waterproof connectors		N/A
6	Testing methods		P
6.1	Construction test	Considered.	P
6.2	Retaining force test		P
6.3	Temperature rise test		P
6.4	Contact resistance test		N/A
6.5	Make and break test	No such blade receiver or connector.	N/A
6.6	Insulation resistance test	Considered according to JIS C 8306:1996. see cl. 4.5	P
6.7	Dielectric withstand voltage test	Considered according to JIS C 8306:1996, see cl. 4.6	P
6.8	Heat resistance test		N/A
6.9	Strength test of screw terminal and lead-wire joint		N/A
6.10	Strength of blade fixing part	For mold on plug pins on thermoplastic material, (2) and (3) considered.	P
	(2): pull test from blade holes, 100N downward for 2 mins		P
	(3): Molded-on connectors		P
	(b) Specimen keep in temperature 20±2°C for 1 hr. in figure 2. blade move right and left 15° for 30 times, 10 times per minute.		P
	(c) Blade fixed as figure 3 move right and left 30° for 5 times.		P
6.11	Enclosure Strength tests		P
	(1) Enclosure compressing test	600N applied on the wider side of specimen between 5mm thick of 60 rubber sheet on top of 15mm or more thick hardwood board for 1 minute.	P
6.12	Strength test of Cord anchorage		N/A
6.13	Strength test of Cord outlet		N/A
6.14	Tensile strength test of screwless terminals		N/A
6.15	Bending test for screwless terminal		N/A
6.16	Cyclic heating test for screwless terminal		N/A

JIS C 8303			
Clause	Requirement – Test	Result-Remark	Verdict
6.17	Withstand overcurrent test for screwless terminal		N/A
6.18	Ammonia gas durability test		N/A
6.19	Rotating test of movable plug-blade type		N/A
6.20	Tensile load test		N/A
6.21	Waterproof test		N/A
6.22	Flame retardance test		N/A
7	Inspection		P
7.2	Type inspection	Testing method clause 6 considered. See clause 4, 5 and 9 requirement	P
9	Marking	Plug portion is an integral part on appliance enclosure, refer to appliance ratings	P

JIS C 8303			
Clause	Requirement – Test	Result-Remark	Verdict

Measured dimensions of the plug portion (per JIS C 8303 or IEC 60 083)				**P**
Location	Measured dimensions (mm)			Limit of dimensions (mm)
	Sample 1	Sample 2	Sample 3	
A	14.18	14.20	14.19	Under 14,6
B	11.24	11.22	11.23	Over 10,8
C	1.47	1.47	1.47	1,5 ± 0,1
D	6.27	6.28	6.27	6,3 ± 0,3
E	6.30	6.30	6.30	6,3 ± 0,3
F	3.19	3.20	3.20	∅ 3 + 0,3 / - 0,2
G	3.96	3.96	3.96	Over ∅ 3,5
H	11.76	11.74	11.73	11,7 ± 0,4
I	12.7	12.7	12.7	12.7[1)]
J	16.22	16.21	16.20	17 ± 1,3
K	0.82	0.84	0.84	0.9 max



Note: 1) Nominal value without tolerance

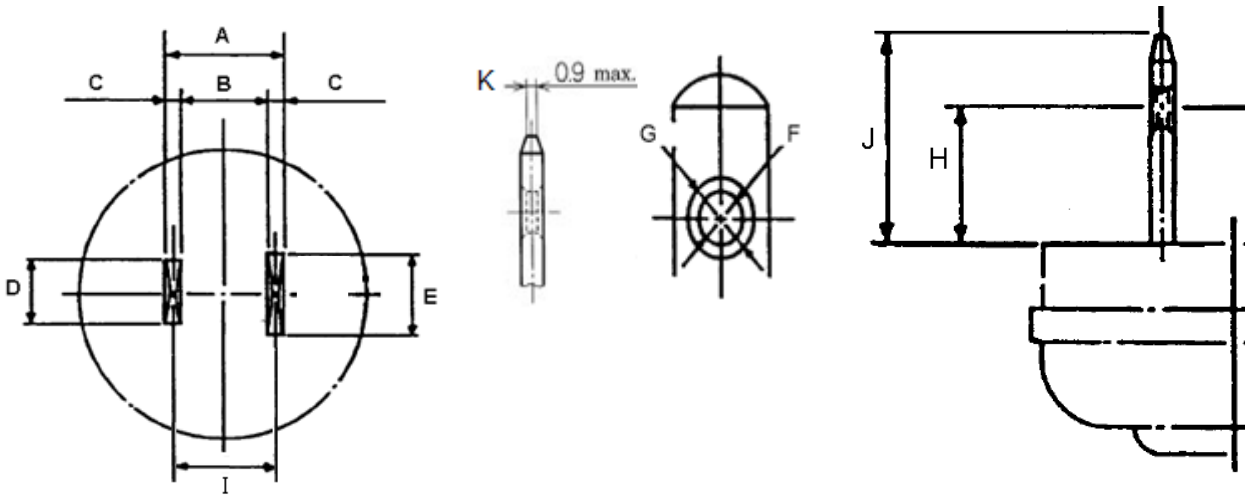
JIS C8303			
Clause	Requirement – Test	Result-Remark	Verdict
Japanese plug of model WB-10G05R			
4	Performance		P
4.1	Retaining force		N/A
4.2	Temperature Rise	Test for power supply only.	P
4.3	Contact resistance	Not required for plug and socket without earth pole	N/A
4.4	Make and Break	See clause 6.5	N/A
4.5	Insulation resistance	L to N pin: >1000MΩ L/N to plug enclosure: >1000MΩ 5M Ohm required after make and break test.	P
4.6	Dielectric withstand voltage	1480V, 10mA, 1 min. required.	P
4.7	Resistance to heat	No resin moldings or rubber mouldings	N/A
4.8	Strength of screw terminal and lead-wire joint		N/A
4.9	Strength of blade fixing part	Tested according to 6.10(3)	P
4.10	Rotating property of movable plug type	Fixed plug with pin molded on enclosure	N/A
4.11	Strength of enclosure	Tested according to 6.11	P
4.12	Strength of Cord anchorage		N/A
4.13	Strength of Cord outlet		N/A
4.14	Performance of screwless terminals		N/A
4.15	Endurance to ammonia gas		N/A
4.16	Tensile load		N/A
4.17	Waterproof		N/A
4.18	Flame retardance	No supply wire connected	N/A
5	Construction, dimensions and material		P
5.1	Construction in general		P
5.2	Terminals		N/A
5.3	Insulation	Enclosure material see table 1.5.1 in IEC 60950 report	P
5.4	Materials of conductive metal parts	Copper: 58-59%	P
5.5	Material of non-conductive metal parts	No such part	N/A
5.6	Shapes and dimensions of blades and blade receiving holes	See measured dimension	P
5.7	Dimensions of mounting parts of recessed socket-outlets		N/A
5.8	Dimensions of cable entry		N/A

JIS C8303			
Clause	Requirement – Test	Result-Remark	Verdict
5.9	Insulation distance	L/N to enclosure: 8.5mm Distance between L & N: >10.0mm	P
5.10	Symbol of poles	No earth pole or a pole of earth side.	N/A
5.11	Locking type, slip-check connectors		N/A
5.12	Waterproof connectors		N/A
6	Testing methods		P
6.1	Construction test	Considered.	P
6.2	Retaining force test		P
6.3	Temperature rise test		P
6.4	Contact resistance test		N/A
6.5	Make and break test	No such blade receiver or connector.	N/A
6.6	Insulation resistance test	Considered according to JIS C 8306:1996. see cl. 4.5	P
6.7	Dielectric withstand voltage test	Considered according to JIS C 8306:1996, see cl. 4.6	P
6.8	Heat resistance test		N/A
6.9	Strength test of screw terminal and lead-wire joint		N/A
6.10	Strength of blade fixing part	For mold on plug pins on thermoplastic material, (2) and (3) considered.	P
	(2): pull test from blade holes, 100N downward for 2 mins		P
	(3): Molded-on connectors		P
	(b) Specimen keep in temperature 20±2°C for 1 hr. in figure 2. blade move right and left 15° for 30 times, 10 times per minute.		P
	(c) Blade fixed as figure 3 move right and left 30° for 5 times.		P
6.11	Enclosure Strength tests		P
	(1) Enclosure compressing test	600N applied on the wider side of specimen between 5mm thick of 60 rubber sheet on top of 15mm or more thick hardwood board for 1 minute.	P
6.12	Strength test of Cord anchorage		N/A
6.13	Strength test of Cord outlet		N/A
6.14	Tensile strength test of screwless terminals		N/A
6.15	Bending test for screwless terminal		N/A
6.16	Cyclic heating test for screwless terminal		N/A

JIS C8303			
Clause	Requirement – Test	Result-Remark	Verdict
6.17	Withstand overcurrent test for screwless terminal		N/A
6.18	Ammonia gas durability test		N/A
6.19	Rotating test of movable plug-blade type		N/A
6.20	Tensile load test		N/A
6.21	Waterproof test		N/A
6.22	Flame retardance test		N/A
7	Inspection		P
7.2	Type inspection	Testing method clause 6 considered. See clause 4, 5 and 9 requirement	P
9	Marking	Plug portion is an integral part on appliance enclosure, refer to appliance ratings	P

JIS C8303			
Clause	Requirement – Test	Result-Remark	Verdict

Measured dimensions of the plug portion (per JIS C 8303 or IEC 60 083)				**P**
Location	Measured dimensions (mm)			Limit of dimensions (mm)
	Sample 1	Sample 2	Sample 3	
A	14.20	14.20	14.18	Under 14,6
B	11.20	11.22	11.21	Over 10,8
C	1.49	1.50	1.50	1,5 ± 0,1
D	6.30	6.30	6.30	6,3 ± 0,3
E	6.31	6.28	6.31	6,3 ± 0,3
F	3.20	3.20	3.20	∅ 3 + 0,3 / - 0,2
G	3.95	3.90	3.90	Over ∅ 3,5
H	11.75	11.70	11.75	11,7 ± 0,4
I	12.7	12.7	12.7	12.7[1)]
J	16.10	16.15	16.15	17 ± 1,3
K	0.82	0.84	0.84	0.9 max



Note: 1) Nominal value without tolerance

IRAM 2063			
Clause	Requirement – Test	Result-Remark	Verdict

1. Dimension measurement according to IRAM2063: 2009

Plug dimensions (IRAM 2063:2009) (for plug portion of WB-10G05FA)

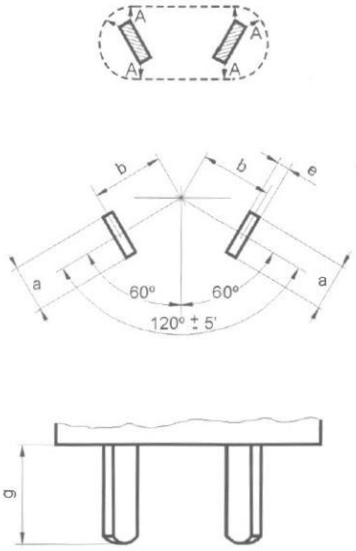
Location	Requirement		Measured		Verdict
Marking of neutral with N	Fig. 3		marked		P
A: Distance from edge to L and N pins	min. 8	mm	10.56	mm	P
Distance between pin center	13.72±0.1	mm	13.72	mm	P
g: Pin length	18.2±0.2	mm	18.2	mm	P
a: Pin width	6.25±0.1	mm	6.3	mm	P
e: Pin thickness	1.55±0.07	mm	1.60	mm	P
b: Pin center to plug center	7.92±0.1	mm	7.92	mm	P
One half distance of pin center to pin center	6.86±0.1	mm	6.86	mm	P
Pin angle	120°±5´		120°		P
Ending of the contact pins be rounded	Fig. 2a or 2b		2a		P

IRAM 2063			
Clause	Requirement – Test	Result-Remark	Verdict

Pin dimension and marking requirements:

Table 1: Plug dimensions

Ficha	a	b	e	g
10 A	6,25	7,92	1,55 ± 0,07	18,2 ± 0,2



References:

Dimension in mm.
A: 8 mm (min)
The dashed line only shows the minimum value

Figure 1: Plug dimensions

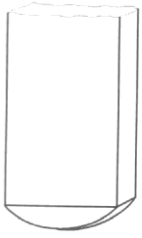


Figure 2a

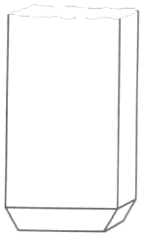


Figure 2b

Figure 3

IRAM 2063			
Clause	Requirement – Test	Result-Remark	Verdict

1. Dimension measurement according to IRAM2063: 2009

Plug dimensions (IRAM 2063:2009) (for Argentine plug portion of WB-10G05R)

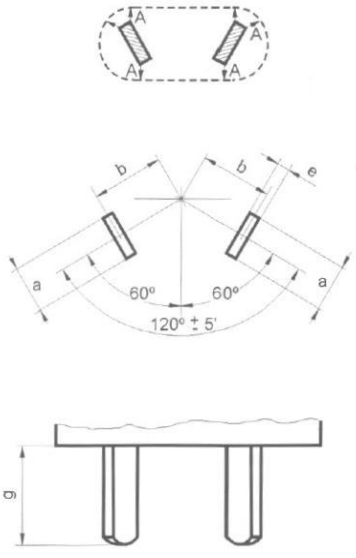
Location	Requirement		Measured		Verdict
Marking of neutral with N	Fig. 3		marked		P
A: Distance from edge to L and N pins	min. 8	mm	10.30	mm	P
Distance between pin center	13.72±0.1	mm	13.72	mm	P
g: Pin length	18.2±0.2	mm	18.2	mm	P
a: Pin width	6.25±0.1	mm	6.3	mm	P
e: Pin thickness	1.55±0.07	mm	1.61	mm	P
b: Pin center to plug center	7.92±0.1	mm	7.92	mm	P
One half distance of pin center to pin center	6.86±0.1	mm	6.86	mm	P
Pin angle	120°±5´		120°		P
Ending of the contact pins be rounded	Fig. 2a or 2b		2a		P

IRAM 2063			
Clause	Requirement – Test	Result-Remark	Verdict

Pin dimension and marking requirements:

Table 1: Plug dimensions

Ficha	a	b	e	g
10 A	6,25	7,92	1,55 ± 0,07	18,2 ± 0,2



References:

Dimension in mm.
A: 8 mm (min)
The dashed line only shows the minimum value

Figure 1: Plug dimensions

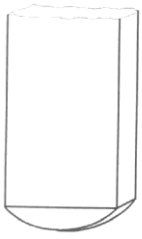


Figure 2a

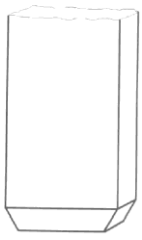
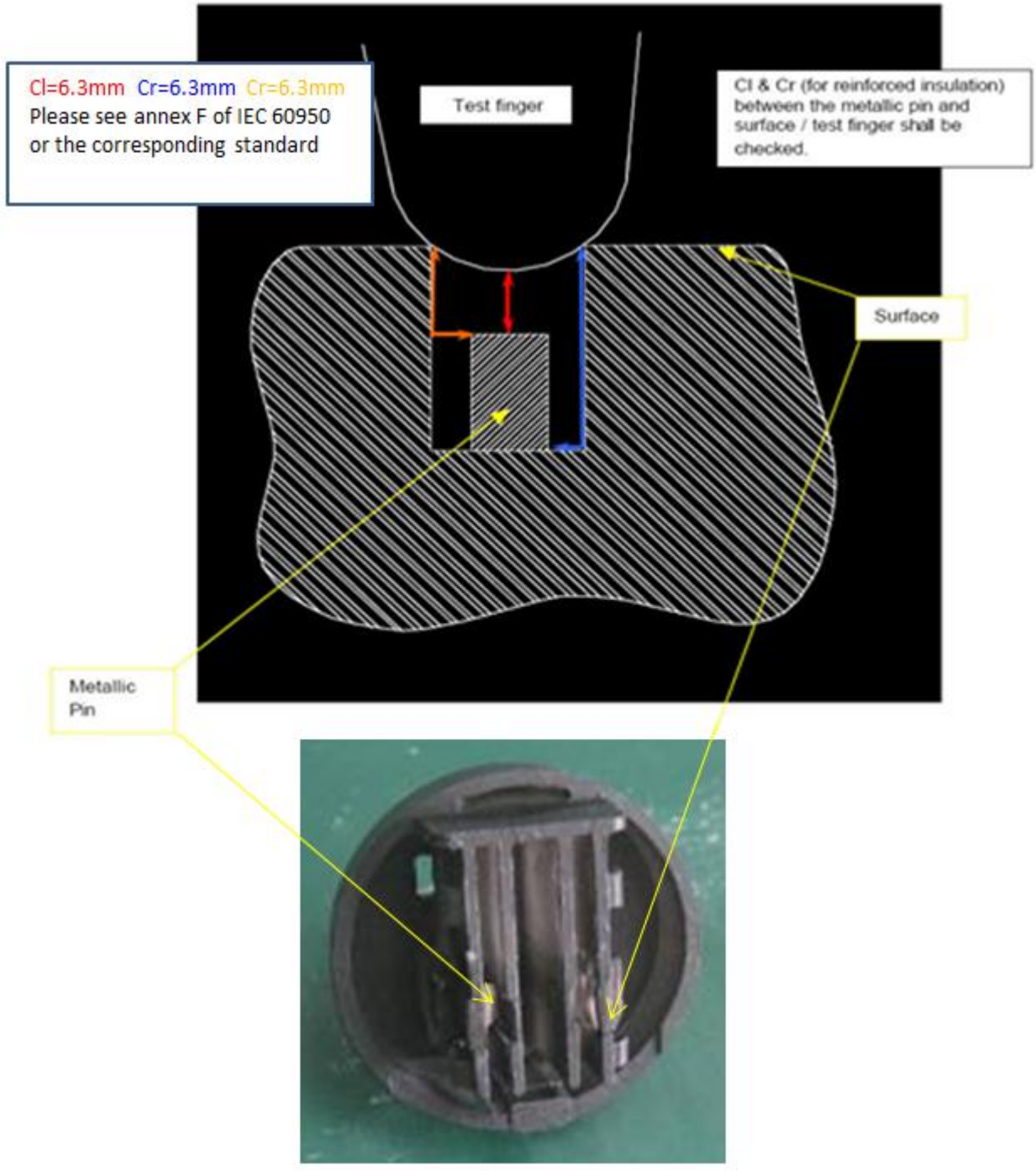


Figure 2b

Figure 3

IRAM 2063			
Clause	Requirement – Test	Result-Remark	Verdict

Dimension measurement for detachable plug:



End of report

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

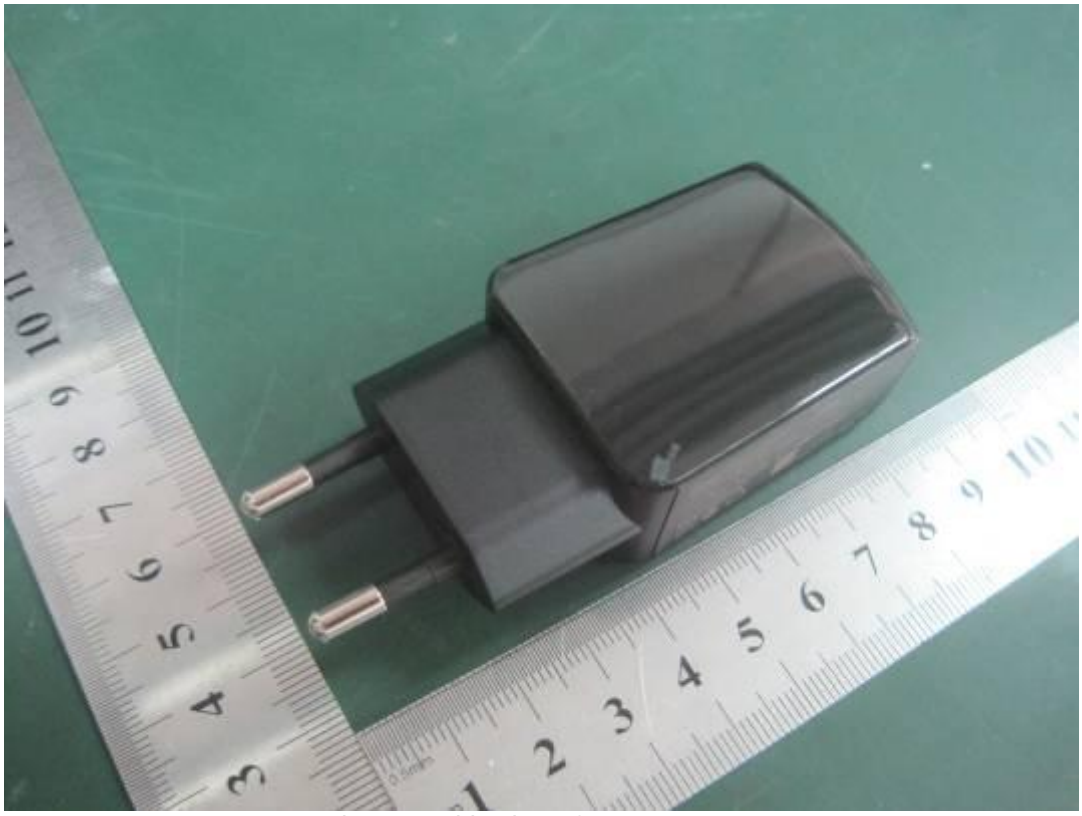


Figure 1. Side view of WB-10G05FG

Figure 2. Side view of WB-10G05FG

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

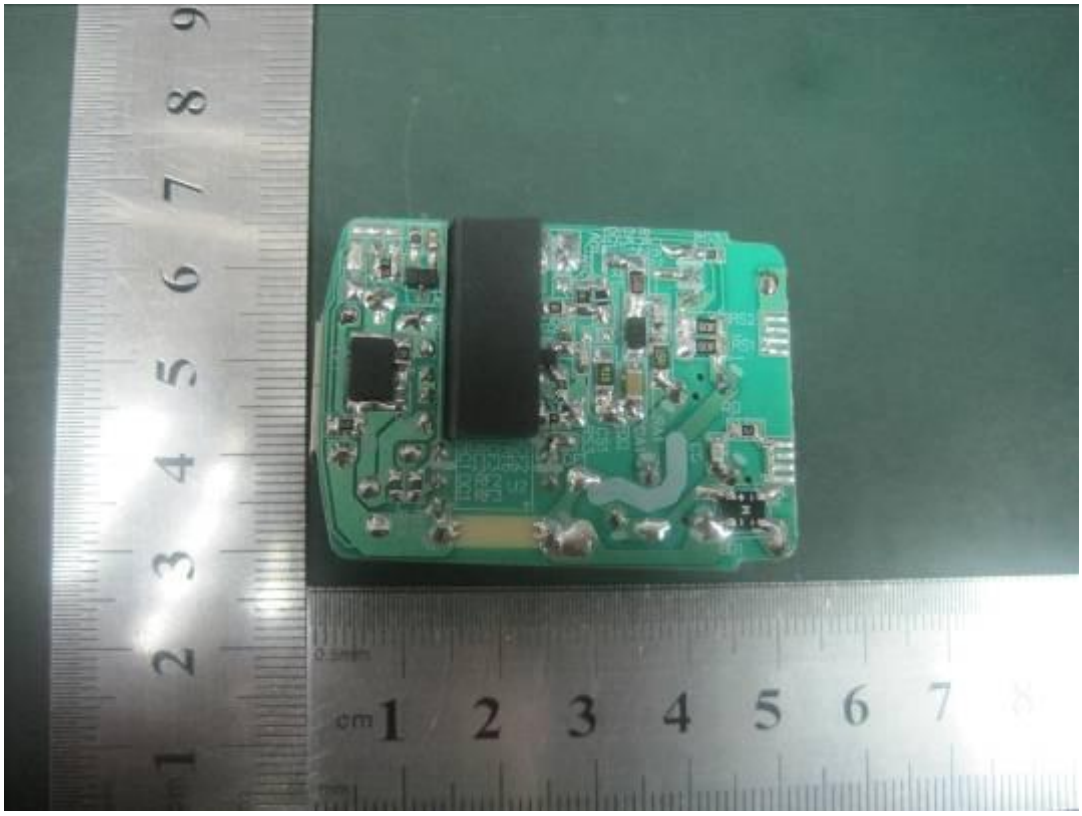


Figure 3. Trace side of PCB

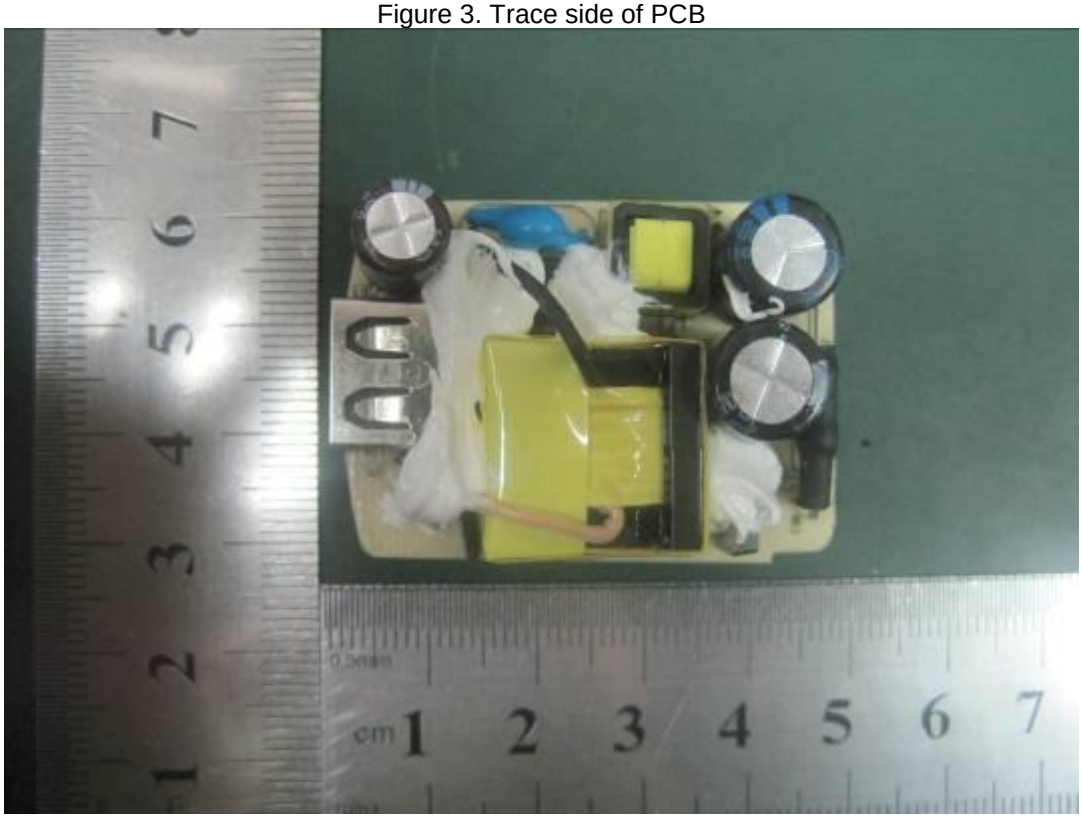


Figure 4. Components side of PCB with LF1

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

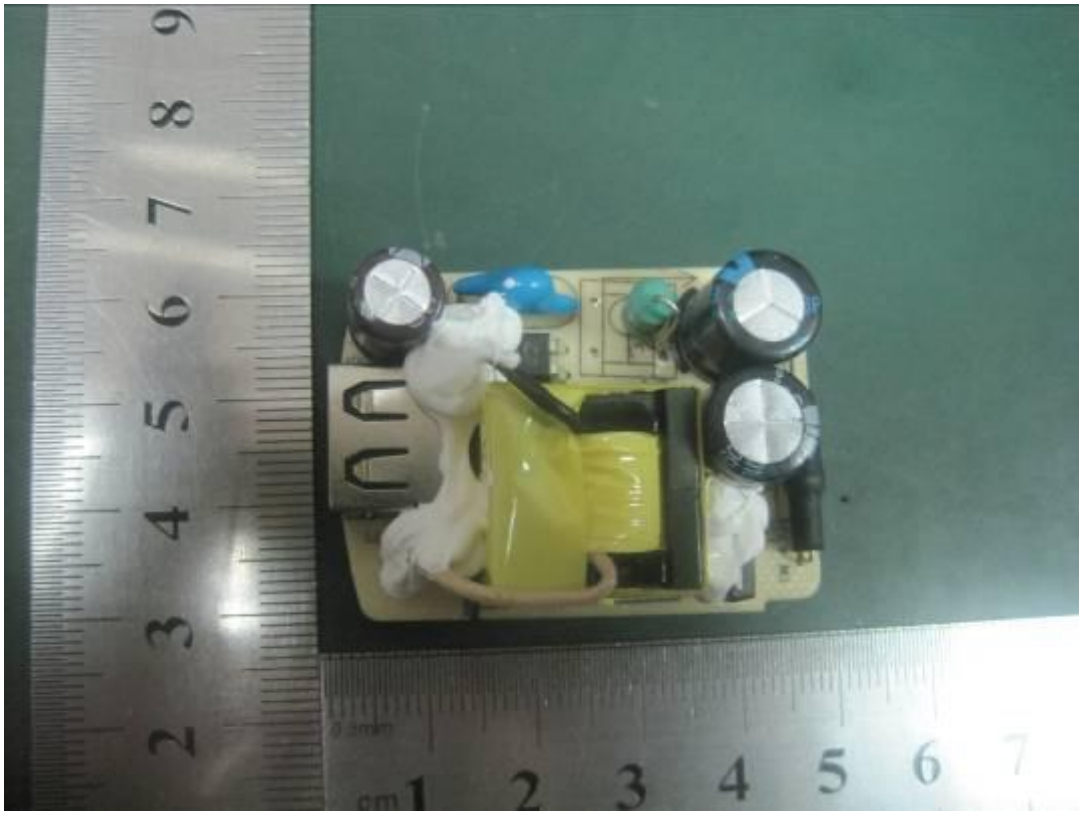


Figure 5. Components side of PCB with L1

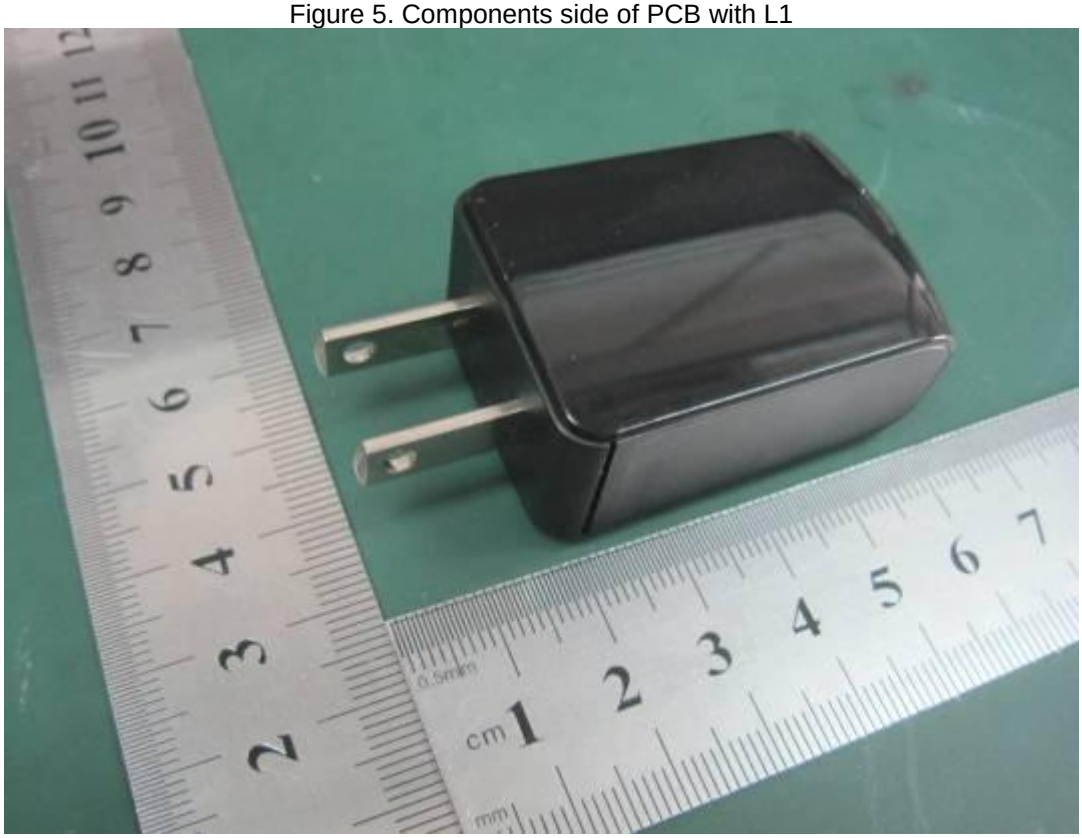


Figure 6. Side view of WB-10G05FU

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

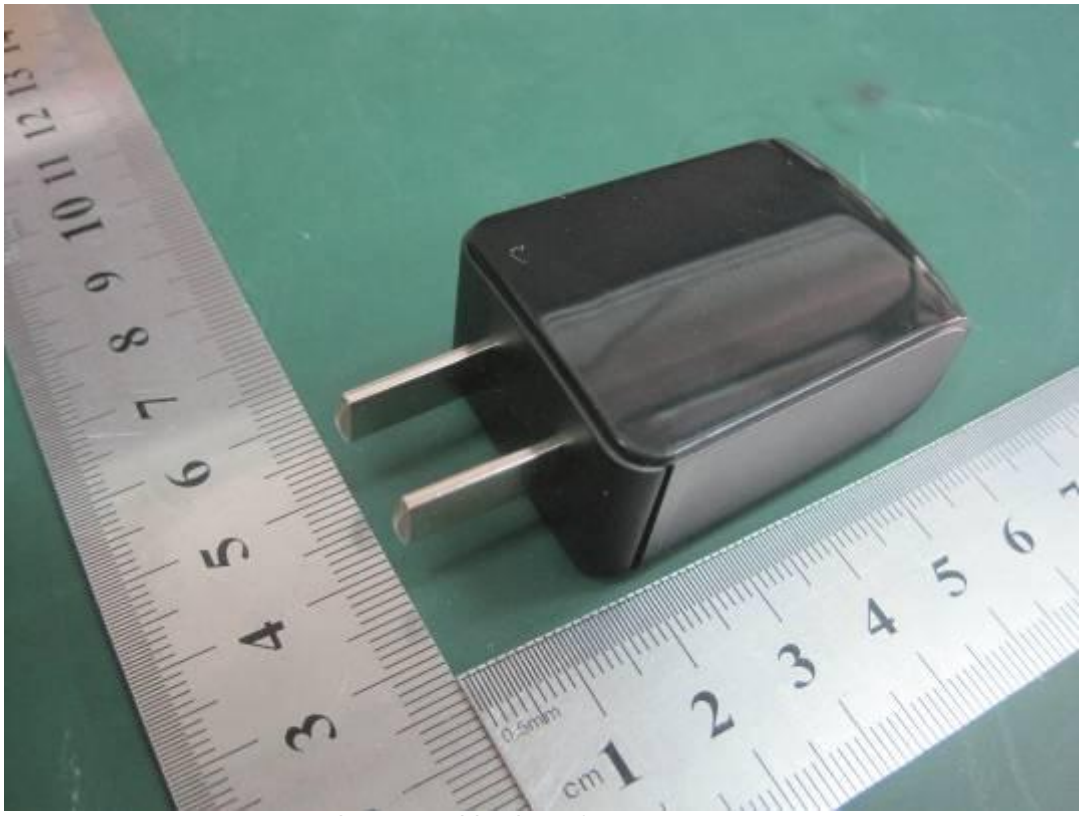


Figure 7. Side view of WB-10G05FC

Figure 8. Side view of WB-10G05FB

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

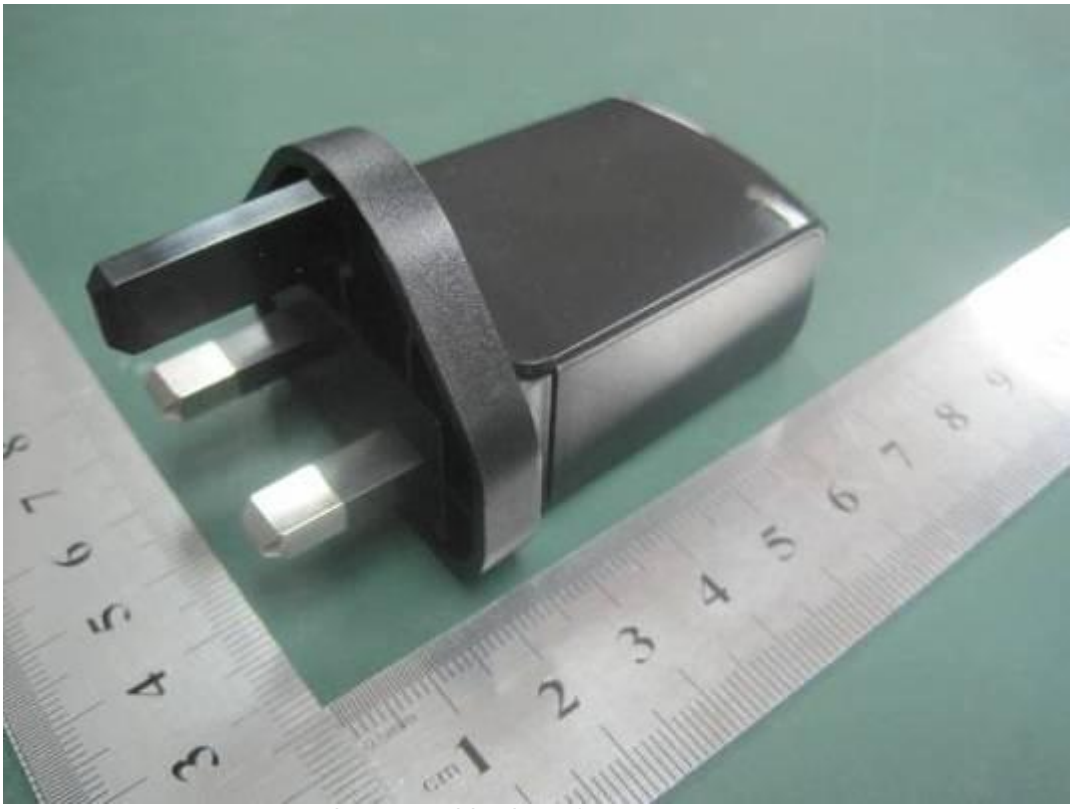


Figure 9. Side view of WB-10G05FK

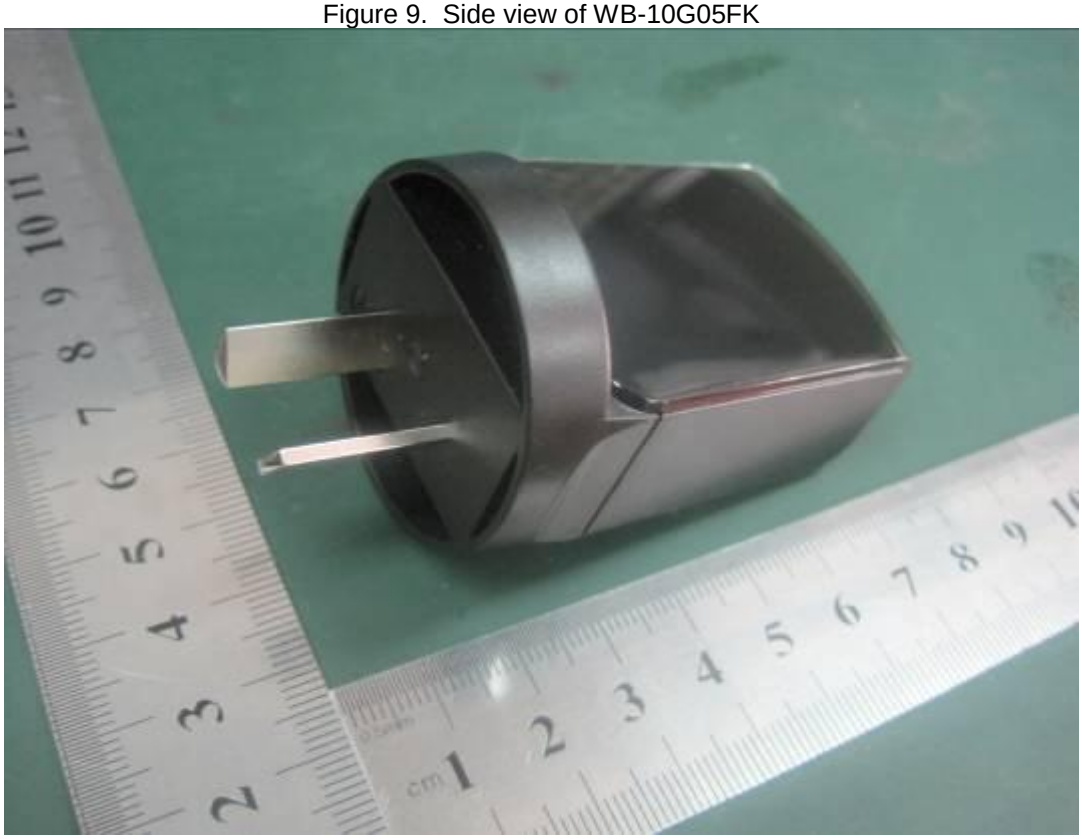


Figure 10. Side view of WB-10G05FA

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

Figure 11. Side view of WB-10G05R with all type plugs

Figure 12. Side view of WB-10G05R (with American or Japanese plug)

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

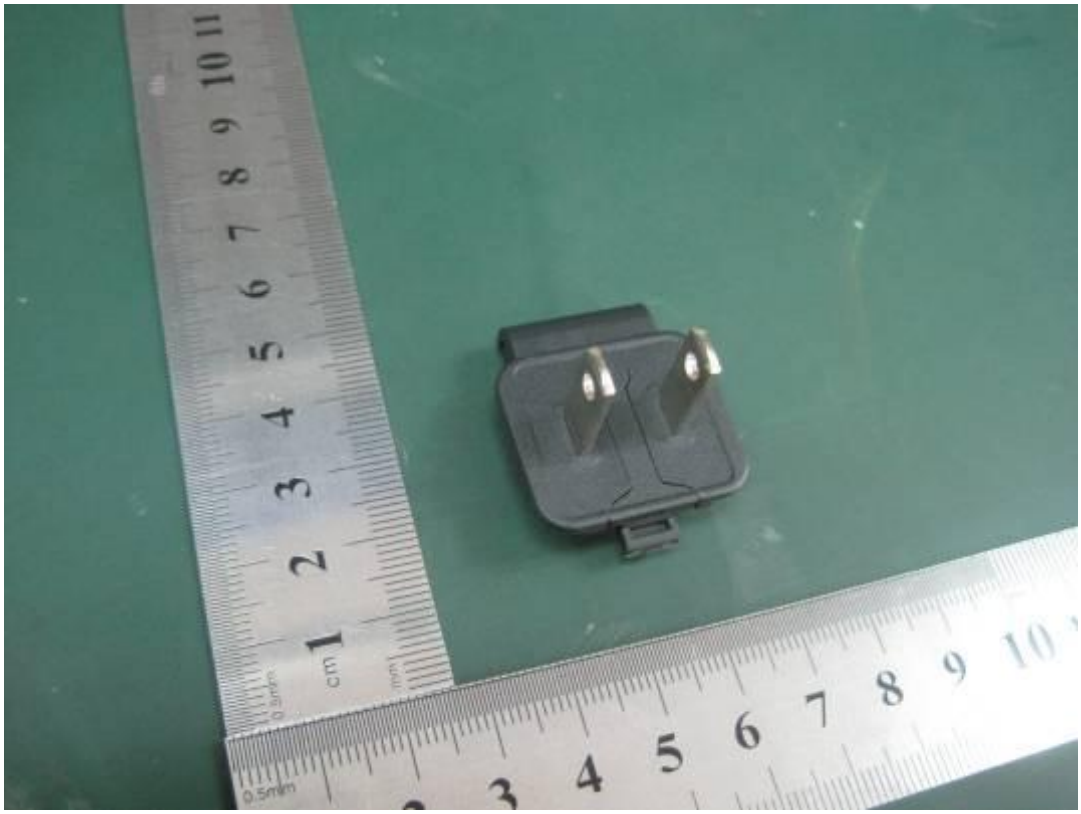


Figure 13. External view of detachable American or Japanese plug for WB-10G05R

Figure 14. Internal view of detachable American or Japanese plug for WB-10G05R

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

Figure 15. Side view of WB-10G05R (with Chinese plug)

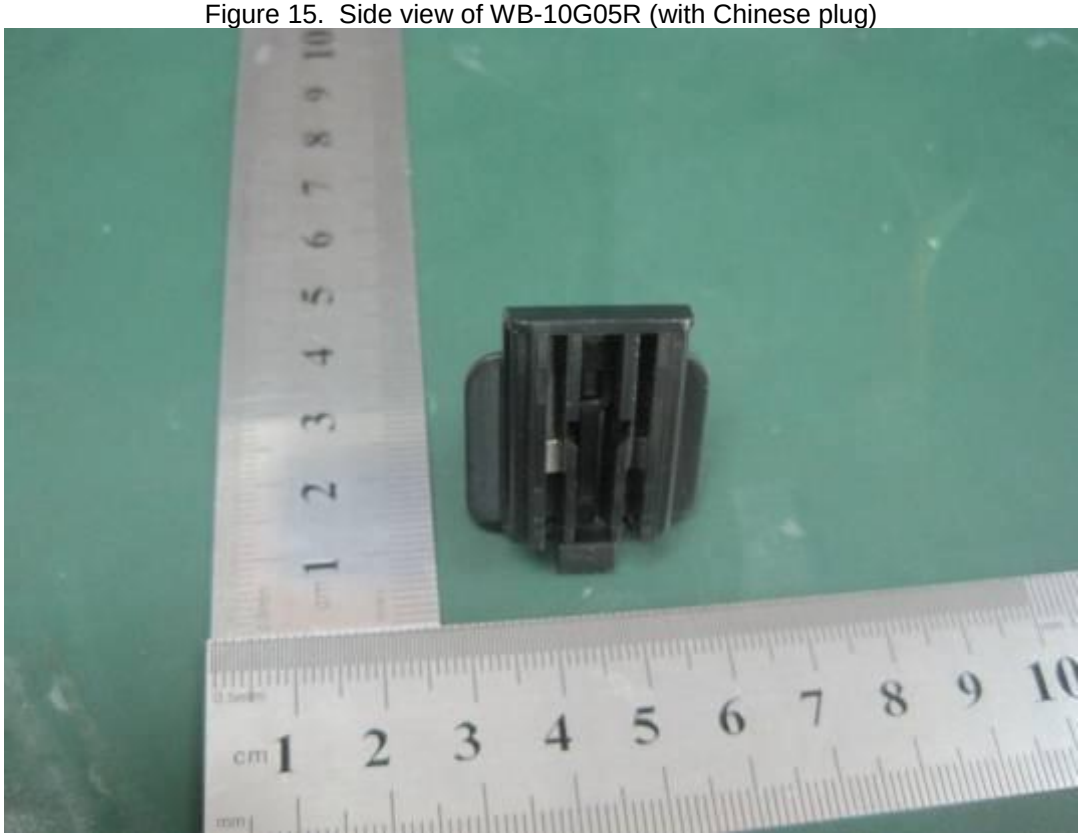


Figure 16. Internal view of detachable Chinese plug for WB-10G05R

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

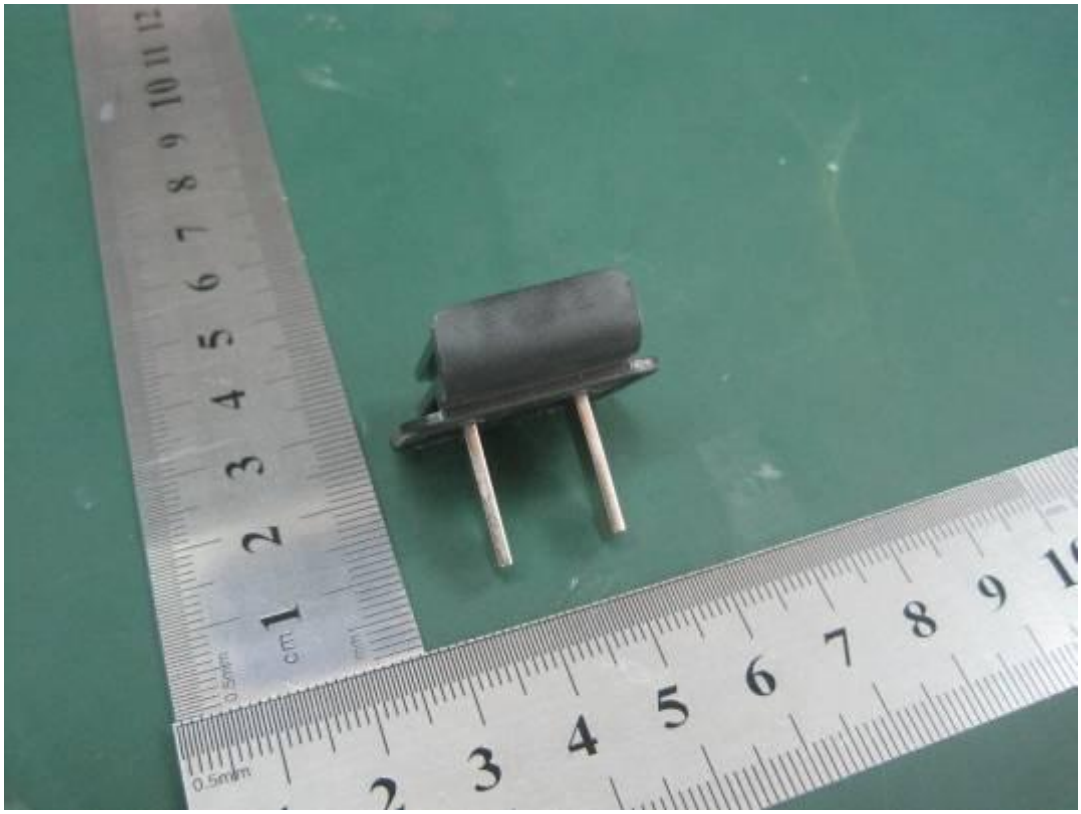


Figure 17. Side view of detachable Chinese plug for WB-10G05R

Figure 18. Side view of WB-10G05R (with European plug)

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

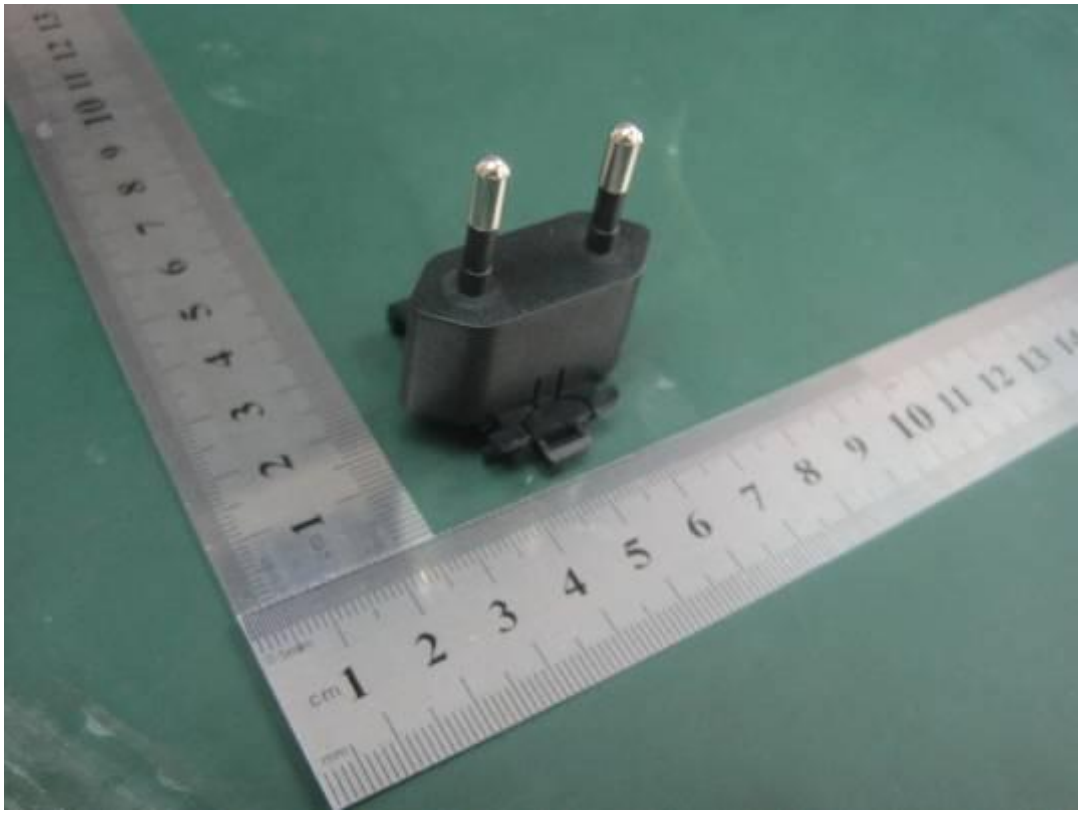


Figure 19. External view of detachable EU plug for WB-10G05R

Figure 20. Internal view of detachable EU plug for WB-10G05R

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

Figure 21. Side view of WB-10G05R (with Korean plug)

Figure 22. External view of detachable Korea plug for WB-10G05R

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

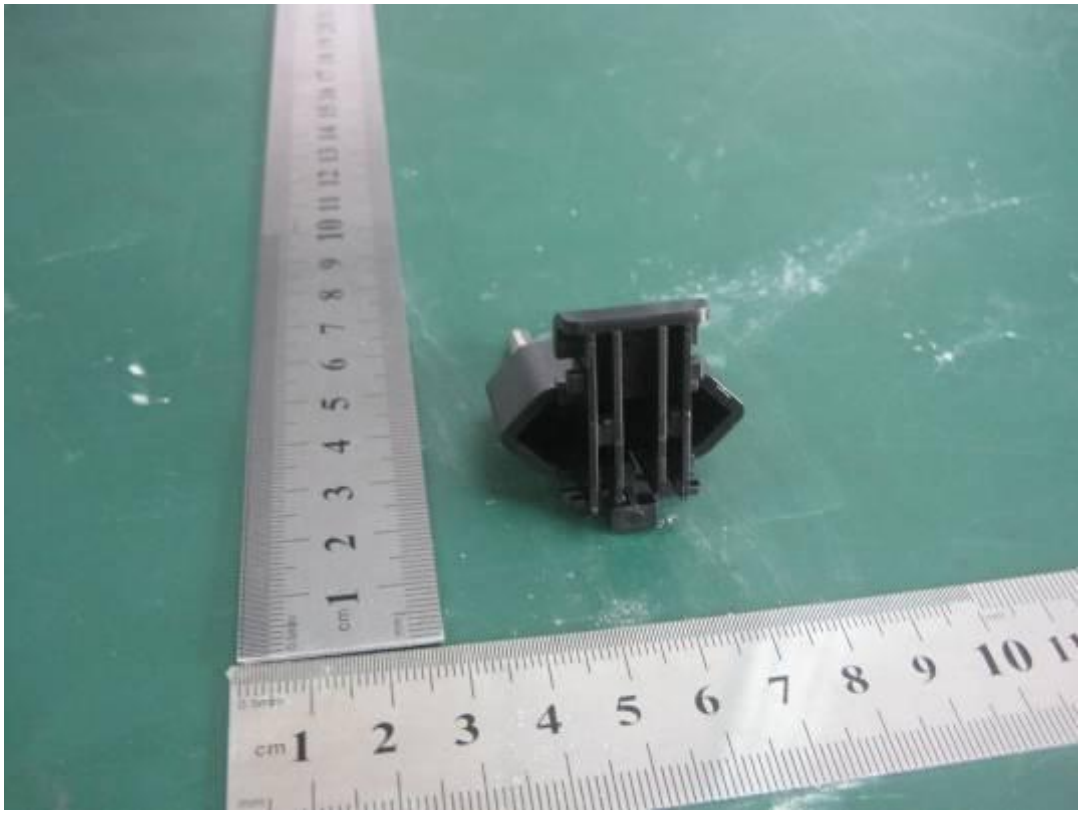


Figure 23. Internal view of detachable Korea plug for WB-10G05R

Figure 24. Side view of WB-10G05R (with Australian plug)

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

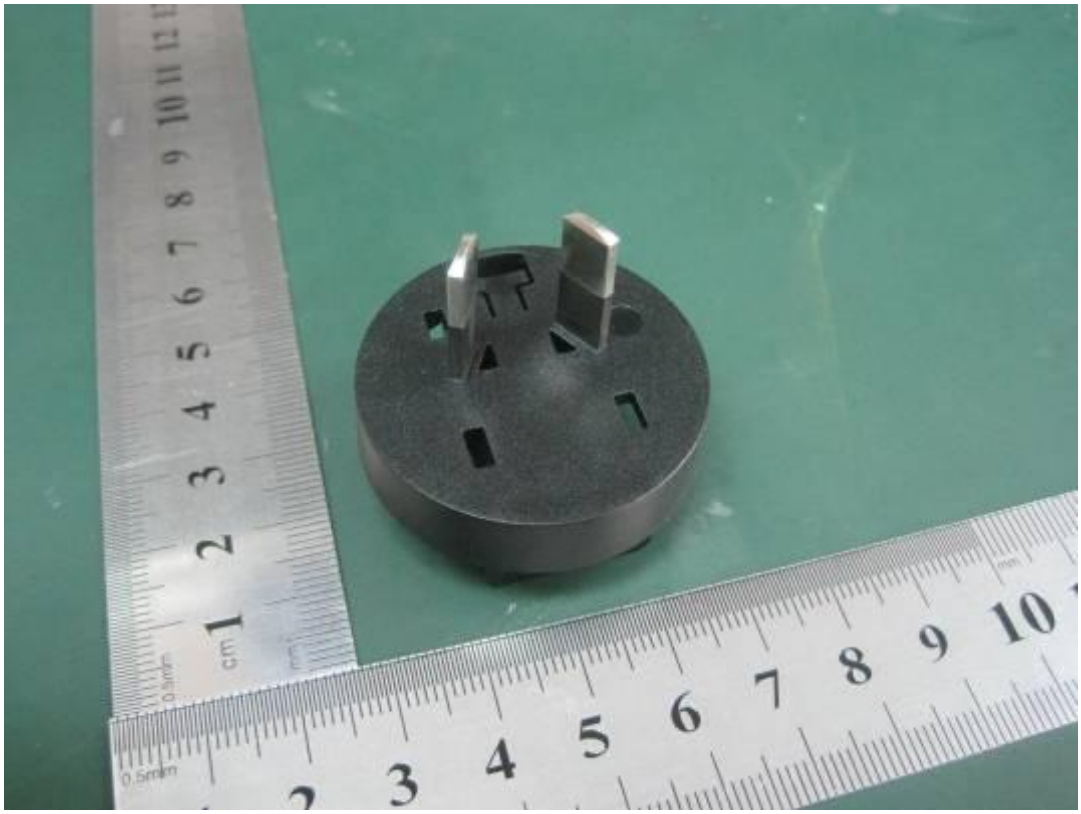


Figure 25. External view of detachable Australia plug for WB-10G05R

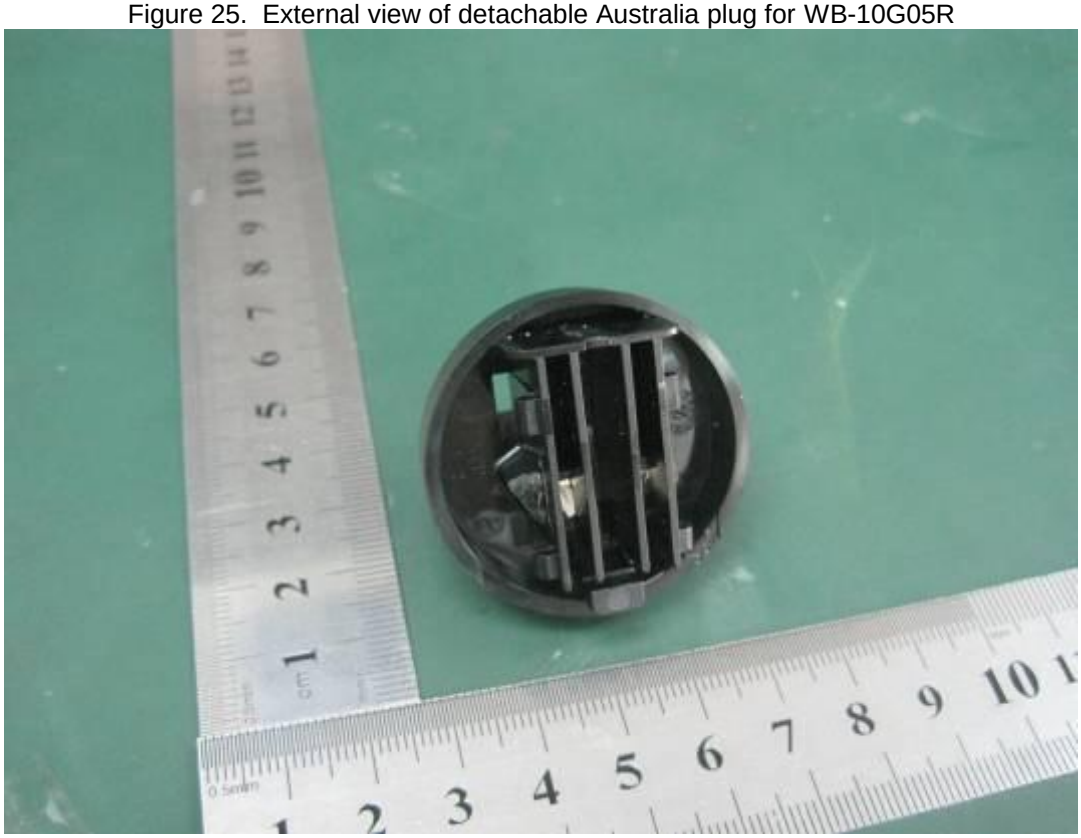


Figure 26. Internal view of detachable Australia plug for WB-10G05R

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

Figure 27. Side view of WB-10G05R (with Argentina plug)

Figure 28. External view of detachable Argentina plug for WB-10G05R

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

Figure 29. Internal view of detachable Argentina plug for WB-10G05R

Figure 30. Side view of WB-10G05R (with UK plug)

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

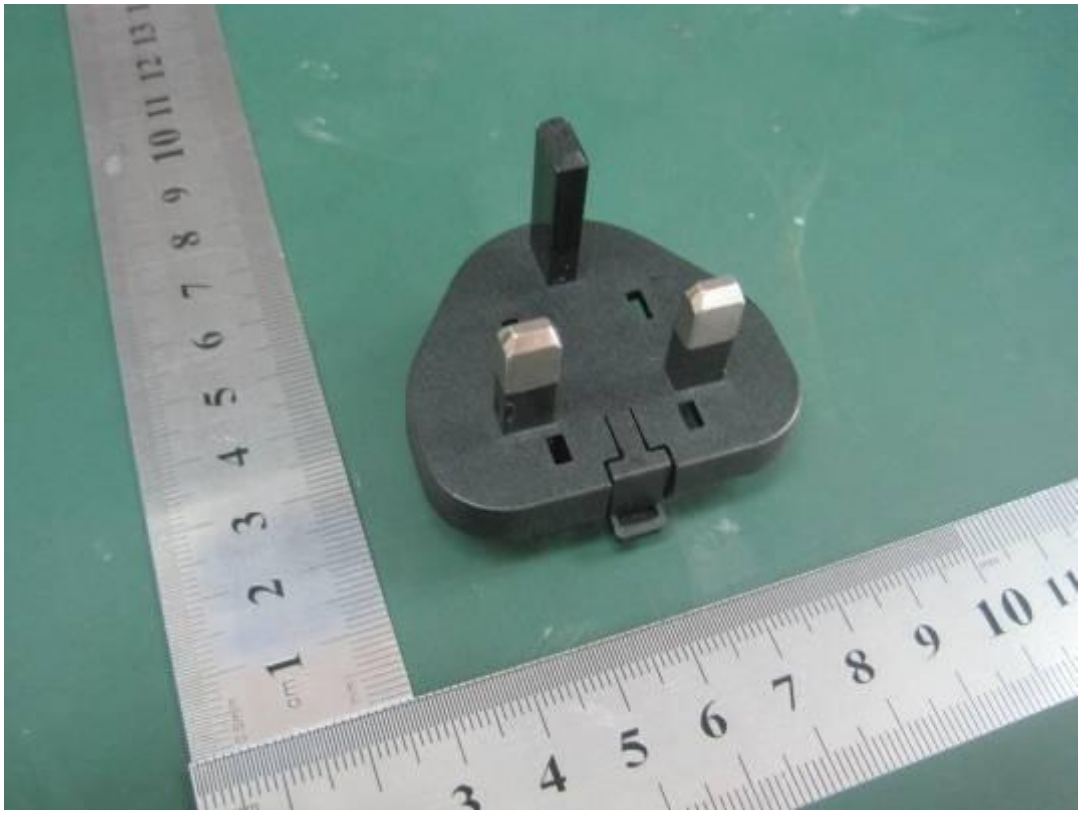


Figure 31. External view of detachable UK plug for WB-10G05R

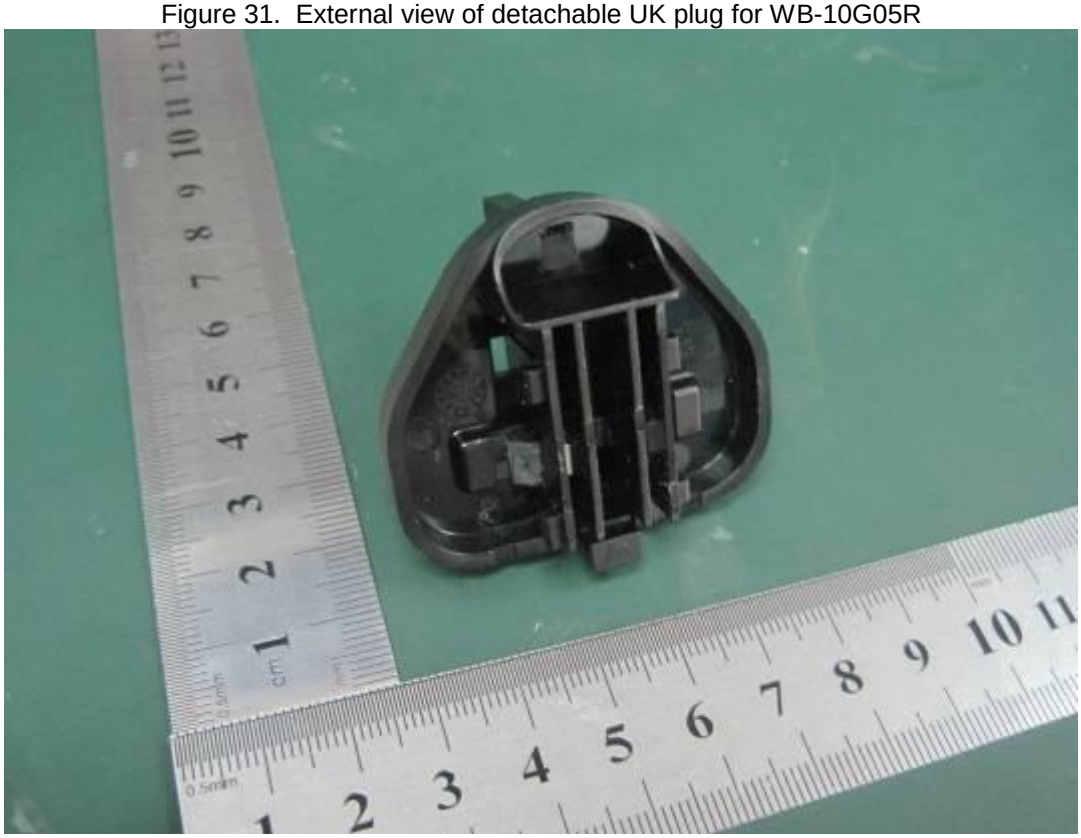


Figure 32. Internal view of detachable UK plug for WB-10G05R

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

Figure 33. Side view of WB-10G05R (with Brazil plug)

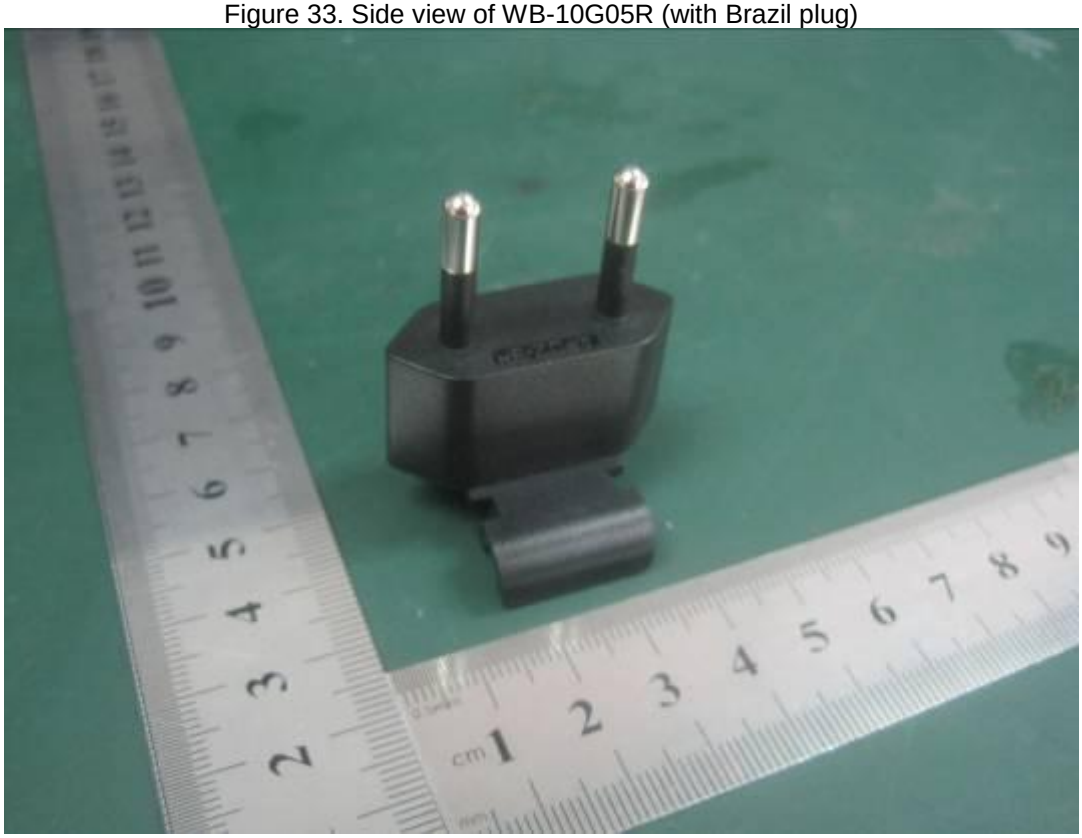


Figure 34. Internal view of detachable Brazil plug for WB-10G05R

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

Figure 35. Internal view of detachable Brazil plug for WB-10G05R

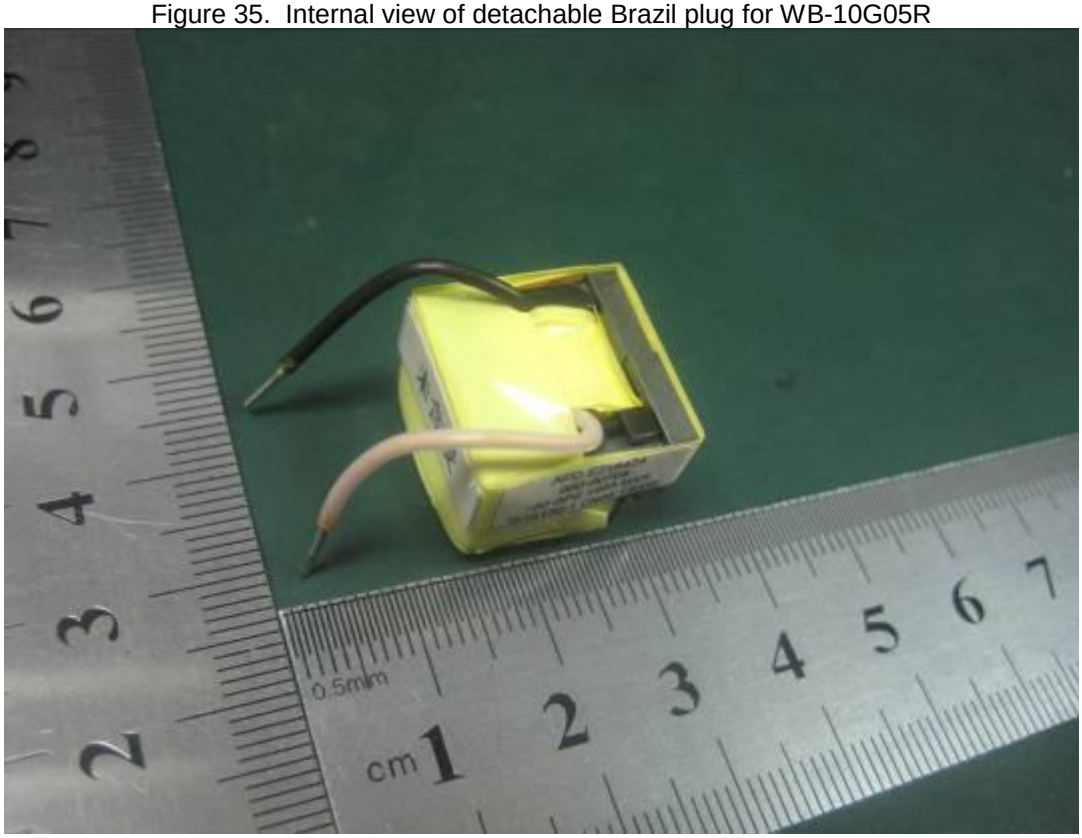


Figure 36. Top view of transformer

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

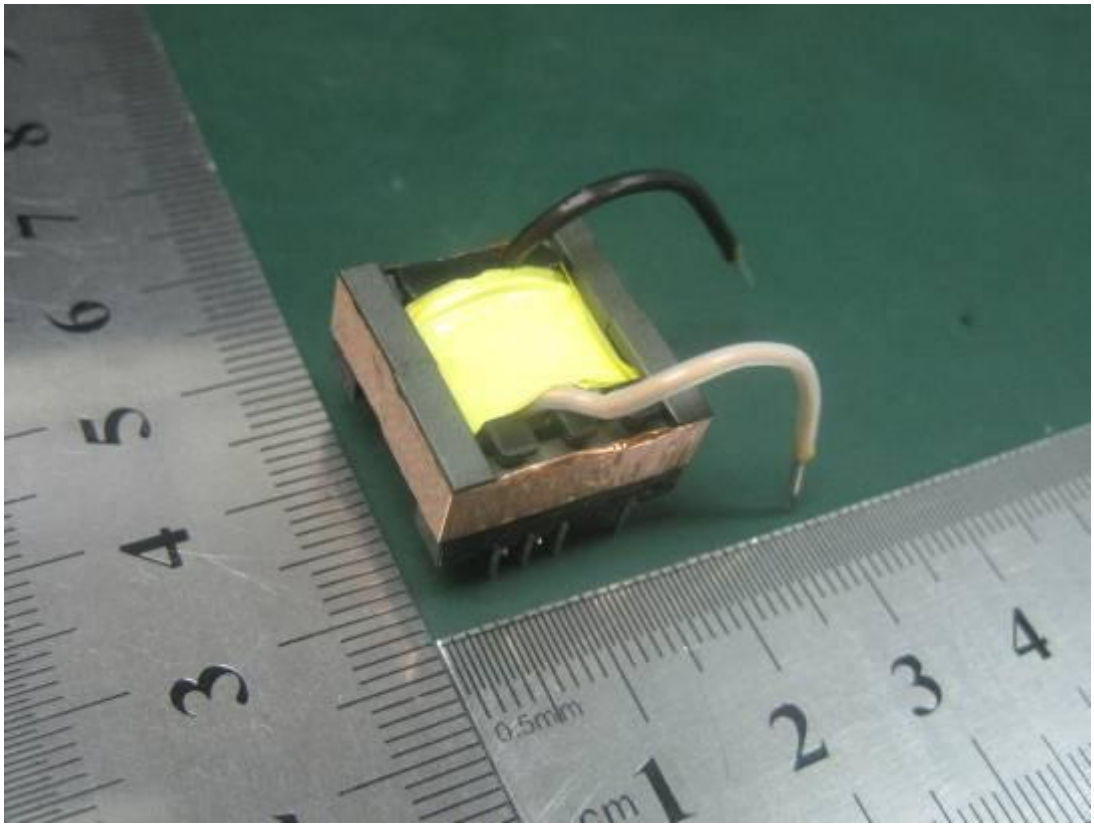


Figure 37. Top view of transformer without external insulation tape

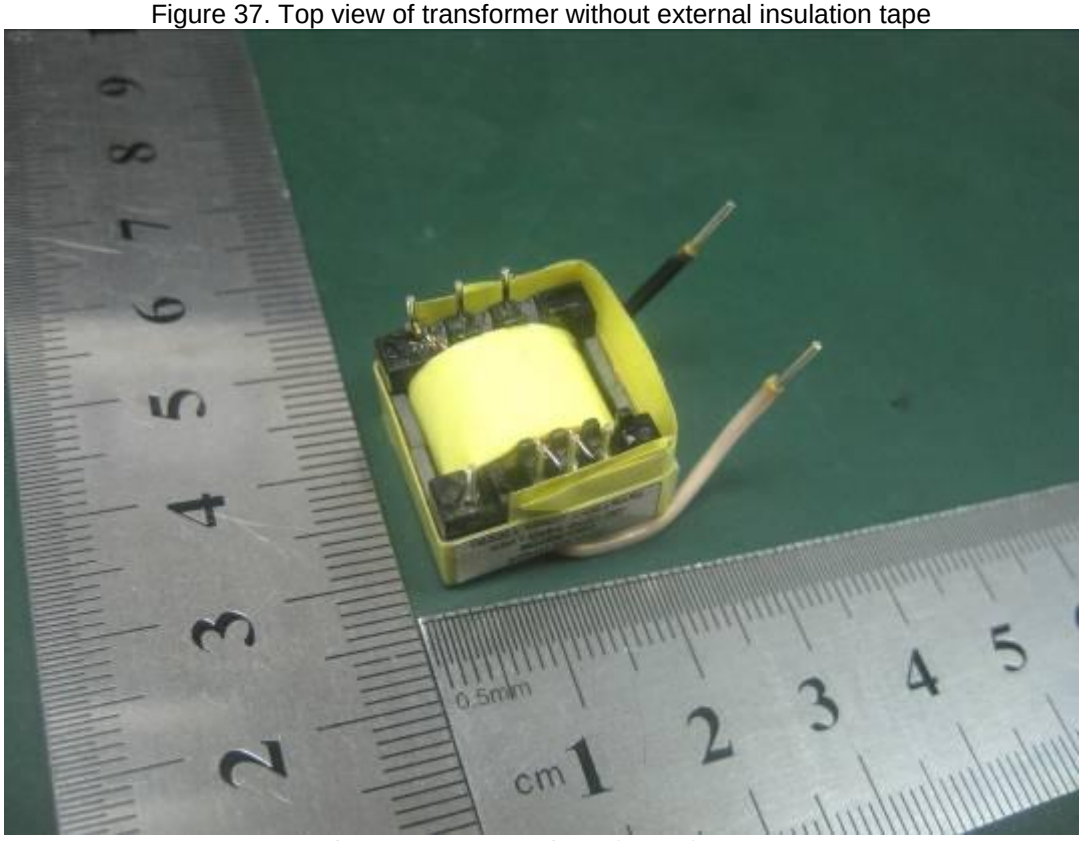


Figure 38. Bottom view of transformer

Product: AC ADAPTER

Type Designation: WB-10G05Fy, WB-10G05R

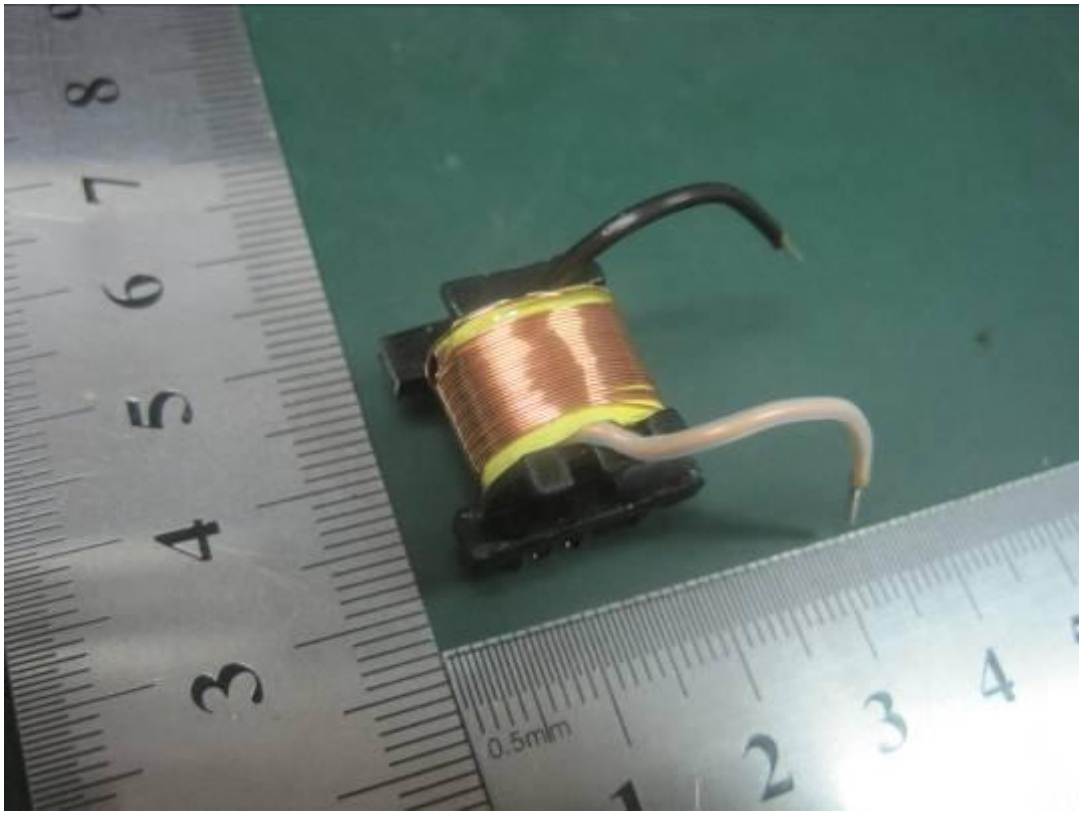


Figure 39. Inside view of transformer

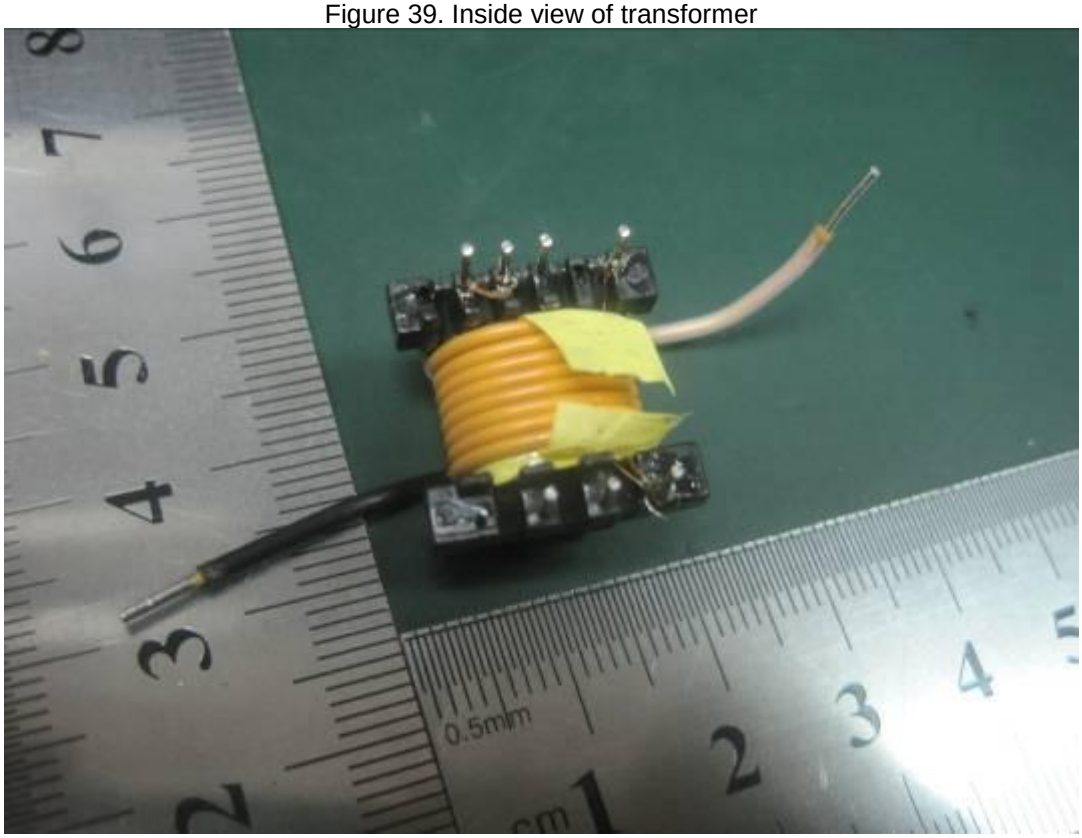


Figure 40. Inside view of transformer