



Ref. Certif. No.

JPTUV-028166

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/DC Adapter

Name and address of the applicant  
Nom et adresse du demandeur

Delta Electronics, Inc.  
3, Tung Yuan Road  
Chungli Ind. Zone, Taoyuan Hsien 320 Taiwan

Name and address of the manufacturer  
Nom et adresse du fabricant

Delta Electronics, Inc.  
3, Tung Yuan Road  
Chungli Ind. Zone, Taoyuan Hsien 320 Taiwan

Name and address of the factory  
Nom et adresse de l'usine

See additional page(s)

Rating and principal characteristics  
Valeurs nominales et caractéristiques principales

Input : AC 100-240V; 1.5A; 50-60Hz; Class II  
Output: DC +20V; 3.25A

Trade mark (if any)  
Marque de fabrique (si elle existe)

FUJITSU

Model/type Ref.  
Ref. de type

ADP-65JH AD

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

Testing location:TMP

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  
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 une partie de ce Certificat

11017619 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



TÜV Rheinland Japan Ltd.  
Global Technology Assessment Center  
4-25-2 Kita-Yamata, Tsuzuki-ku  
Yokohama 224-0021 Japan  
Phone + 81 45 914-3888  
Fax + 81 45 914-3354  
Mail: info@jpn.tuv.com  
Web: www.tuv.com

Date: 06.08.2009

Signature:

Dipl.-Ing. W. Hsu



Ref. Certif. No.

JPTUV-028166

PAGE 2 OF 2

1. Delta Electronics (Jiang Su), Ltd.  
No. 1688, Jiangxing East Road  
Wujiang Economic Development Zone  
Wujiang City, Jiang Su 215200  
P.R. China
2. Delta Electronics (Thailand) Public  
Co., Ltd.  
909 Soi 9, Moo 4, Bangpoo Ind.  
Estate (E.P.Z.), Pattana 1 Road  
Tambol Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

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

*N. Wuu*

Date: 06.08.2009

Signature:

Dipl.-Ing. W. Hsu



Ref. Certif. No.

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Name and address of the manufacturer  
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Delta Electronics, Inc.  
3, Tung Yuan Road  
Chungli Ind. Zone, Taoyuan Hsien 320 Taiwan

Name and address of the factory  
Nom et adresse de l'usine

See additional page(s)

Rating and principal characteristics  
Valeurs nominales et caractéristiques principales

Input : AC 100-240V; 1.5A; 50-60Hz; Class II  
Output: DC +19V; 3.42A

Trade mark (if any)  
Marque de fabrique (si elle existe)

ASUS

Model/type Ref.  
Ref. de type

ADP-65JH AB

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

Testing location:TMP

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  
National differences see test report

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TÜV Rheinland Japan Ltd.  
Global Technology Assessment Center  
4-25-2 Kita-Yamata, Tsuzuki-ku  
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Mail: info@jpn.tuv.com  
Web: www.tuv.com

Date: 06.08.2009

Signature:

*W. Hsu*  
Dipl.-Ing. W. Hsu

1. Delta Electronics (Jiang Su), Ltd.  
No. 1688, Jiangxing East Road  
Wujiang Economic Development Zone  
Wujiang City, Jiang Su 215200  
P.R. China
2. Delta Electronics (Thailand) Public  
Co., Ltd.  
909 Soi 9, Moo 4, Bangpoo Ind.  
Estate (E.P.Z.), Pattana 1 Road  
Tambol Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

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

Date: 06.08.2009

Signature:

*W. Hsu*  
Dipl.-Ing. W. Hsu




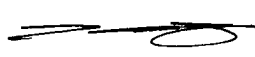
Test Report issued under the responsibility of:



TEST REPORT	
IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006 Information technology equipment – Safety – Part 1: General requirements	
Report Reference No. ....	11017619 001
Date of issue .....	05. Aug 2009
Total number of pages .....	78
CB/CCA Testing Laboratory .....	TÜV Rheinland Taiwan Ltd., Taichung Laboratory
Address .....	10F, No. 219, Min Chuan Rd., Taichung 403, Taiwan
Applicant's name .....	Delta Electronics, Inc.
Address .....	3, Tung Yuan Road, Chungli Ind. Zone, Taoyuan Hsien 320 Taiwan
Manufacturer's name .....	Delta Electronics, Inc.
Address .....	3, Tung Yuan Road, Chungli Ind. Zone, Taoyuan Hsien 320 Taiwan
Factory's name .....	See page 12
Address .....	See page 12
<b>Test specification:</b>	
Standard .....	<input checked="" type="checkbox"/> IEC 60950-1:2005 (2nd Edition) and/or <input checked="" type="checkbox"/> EN 60950-1:2006 + A11:2009
Test procedure .....	CB
Non-standard test method .....	N/A
Test Report Form No. ....	IECEN60950_1C
Test Report Form(s) Originator .....	SGS Fimko Ltd
Master TRF .....	Dated 2007-06
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If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.	
<b>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.</b>	
If this Test Report Form is used by non-CCA members, the CIG logo and the reference to the CCA Procedure shall be removed.	
<b>This report is not valid as a CCA Test Report unless signed by an approved CCA Testing Laboratory and appended to a CCA Test Certificate issued by an NCB in accordance with CCA</b>	
Test item description .....	AC/DC Adapter
Trade Mark .....	1. DELTA ELECTRONICS, INC. 2. TOSHIBA 3. FUJITSU 4. ASUS
Manufacturer .....	Same as applicant



Model/Type reference.....:	1. ADP-65JH AX, ADP-65JH CX (X=B, C, D) 2. PA3714U-1ACA 3. ADP-65JH AD 4. ADP-65JH AB
Ratings.....:	I/P: 100-240V~, 1.5A, 50-60Hz O/P: +19V/3.42A (for ADP-65JH AB, ADP-65JH CB, PA3714U-1ACA); +19.5V/3.33A (for ADP-65JH AC, ADP-65JH CC); +20V/3.25A (for ADP-65JH AD, ADP-65JH CD)

<b>Testing procedure and testing location:</b>	
<input type="checkbox"/> <b>CB/CCA Testing Laboratory:</b> Testing location/ address..... :  <input type="checkbox"/> <b>Associated CB Laboratory:</b> Testing location/ address..... :  Tested by (name + signature)..... : Approved by (+ signature)..... :	
<input checked="" type="checkbox"/> <b>Testing procedure: TMP</b> Tested by (name + signature)..... : <i>Axel Knorr</i> Approved by (+ signature)..... : <i>Terry Yang</i> Testing location/ address..... : Delta Electronics, Inc. 3, Tung Yuan Road, Chungli Ind. Zone, Taoyuan Hsien 320, Taiwan	  
<input type="checkbox"/> <b>Testing procedure: WMT</b> Tested by (name + signature)..... : Witnessed by (+ signature)..... : Approved by (+ signature)..... : Testing location/ address..... :	
<input type="checkbox"/> <b>Testing procedure: SMT</b> Tested by (name + signature)..... : Approved by (+ signature)..... : Supervised by (+ signature)..... : Testing location/ address..... :	
<input type="checkbox"/> <b>Testing procedure: RMT</b> Tested by (name + signature)..... : Approved by (+ signature)..... : Supervised by (+ signature)..... : Testing location/ address..... :	

**Summary of testing:**
**Tests performed (name of test and test clause):**

- All applicable tests as described in Test Case were performed.
- Manufacturer specified ambient temperature: 40°C.
- During test the max. load conditions were applied.
- During testing the fuse F1 source of manufacturer: Walter Electronic Co Ltd., type: 2010, rating: AC 250V, T3.15AL was used.
- Label side is considered as bottom side, if not otherwise stated all tests are made with label downward.
- All tests were conducted on model ADP-65JH CB if not otherwise stated.
- The equipment is operated up to 3048m (10000ft.) above sea level as declared by manufacturer.
- Clearances have been evaluated according to IEC 60664-1:1992 table A.2 with a multiplication factor of 1.15 throughout this report.
- For name of test and test clause see measurement section for details.

**Testing location:**

All tests as described in Test Case were performed at the laboratory described on page 3.

**Summary of compliance with National Differences:**

EU Group Differences, EU Special National Conditions, EU A-Deviations, AT, AU, CA, CH, DE, DK, FI, FR, GB, IT, KR, NL, NO, PL, SE, SI, US.

Explanation of used codes: AT=Austria, AU=Australia, CA=Canada, CH=Switzerland, DE=Germany, DK=Denmark, FI=Finland, FR=France, GB=United Kingdom, IT=Italy, KR=Korea, NL=The Netherlands, NO=Norway, PL=Poland, SE=Sweden, SI=Slovenia, US=United States of America.

For National Differences see corresponding Attachment.



## Copy of marking plate:









**DELTA ELECTRONICS, INC.**  
(台达电子工业股份有限公司)  
(台達電子工業股份有限公司)  
**AC/DC ADAPTER** (电源适配器/交换式电源供应器)  
**MODEL** (型号/型號): ADP-65JH CC  
**INPUT** (輸入/輸入): 100-240V ~ 1.5A(1.5A) 50-60 Hz  
**OUTPUT** (輸出/輸出): 19.5V(19.5V) --- 3.33A(3.33A)   
**PRECAUCION PARA USO CON EQUIPOS DE TECNOLOGIA DE LA INFORMACION**

   **R33030**  
 **V85**  **N17908**  
AR46  **4T18**  **TÜV RT**  **PS E**  
 **UL** **E131881** **US** **XXXXXXXXXX**  
**LISTED**  
**ITE POWER SUPPLY**  
 **KETI HU10104-XXXX**  
Mfr. Name: DELTA ELECTRONICS (JIANG SU), LTD.  
A/S Center: 1544-7777  
   
   
 **SAFETY MARK**   
X X X X X X - X X **DCWP** ~

**DELTA ELECTRONICS, INC.**  
(台达电子工业股份有限公司)  
(台達電子工業股份有限公司)  
**AC/DC ADAPTER** (电源适配器/交换式电源供应器)  
**MODEL** (型号/型號): ADP-65JH CD  
**INPUT** (輸入/輸入): 100-240V ~ 1.5A(1.5A) 50-60 Hz  
**OUTPUT** (輸出/輸出): 20V --- 3.25A(3.25A)   
**PRECAUCION PARA USO CON EQUIPOS DE TECNOLOGIA DE LA INFORMACION**

   **R33030**  
 **V85**  **N17908**  
AR46  **4T18**  **TÜV RT**  **PS E**  
 **UL** **E131881** **US** **XXXXXXXXXX**  
**LISTED**  
**ITE POWER SUPPLY**  
 **KETI HU10104-XXXX**  
Mfr. Name: DELTA ELECTRONICS (JIANG SU), LTD.  
A/S Center: 1544-7777  
   
   
 **SAFETY MARK**   
X X X X X X - X X **DCWP** ~



**TOSHIBA**  
TOSHIBA PART NO. / NO. DE PIÈCE: PA3714U-1ACA  
**AC/DC ADAPTER** (电源适配器/交换式电源供应器)  
**ADAPTATEUR SECTEUR**  
MODEL (型号/型號/MODELE): PA3714U-1ACA  
INPUT (输入/輸入/ENTRÉE): 100-240V~1.5A(1.5A) 50-60Hz  
OUTPUT (输出/輸出/SORTIE): 19V --- 3.42A(3.42A)   
CAUTION (警告): 适用于资讯类产品/適用於資訊類產品  
FOR USE ONLY WITH INFORMATION TECHNOLOGY EQUIPMENT.  
FOR INDOOR USE ONLY.   
ATTENTION:  
POUR UTILISATION A L'INTERIEUR SEULEMENT.  
PRECAUCION  
PARA USO CON EQUIPOS DE TECNOLOGIA DE LA INFORMACION  
FABRIQUÉ EN CHINE/MADE IN CHINA DCWP ~

ADP-65JH AB  
TÜV RT  株式会社 東芝   
入力: AC 100V 2.0A 50-60Hz  
出力: DC 19V 6.32A   
制造商: 台达电子工业股份有限公司  **V85**  
    
NOM     
TÜV Rheinland Product Safety    
X X X X X X - X X  
  
G71C0009S110

**FUJITSU** TÜV RT   
XXXXXXXXXX  
**AC/DC ADAPTER** (电源适配器/交换式电源供应器)  
FSC part number: XXXXXX-XXXX-XXX-XX  
MODEL (型号/型號): ADP-65JH AD  
INPUT (输入/輸入): 100-240V~1.5A(1.5A) 50-60 Hz   
OUTPUT (输出/輸出): 20V --- 3.25A(3.25A)   
PRECAUCION PARA USO CON EQUIPOS DE TECNOLOGIA DE LA INFORMACION   
4T18 **V85**  E131881   
AF46   
**LISTED**  N17908  
ITE POWER SUPPLY   
    
X X X X X X - X X  
 KETI HU10104-XXXX  
Mfr.Name: DELTA ELECTRONICS (JIANG SU), LTD.  
A/S Center: 1544-7777  
   
   
制造商: 台达电子工业股份有限公司  
FOR INDOOR USE ONLY.  
RISK OF ELECTRICAL SHOCK.  
DRY LOCATION USE ONLY.  
SHOCK HAZARD — DO NOT OPEN.   ~





<b>Test item particulars</b> .....	
Equipment mobility .....	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains .....	<input checked="" type="checkbox"/> pluggable equipment <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition .....	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location .....	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC) .....	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values .....	± 10
Tested for IT power systems .....	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V) .....	230V for Norway
Class of equipment .....	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating (A) .....	16 (20 for North America)
Pollution degree (PD) .....	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class .....	IPX0
Altitude during operation (m) .....	Up to 3048
Altitude of test laboratory (m) .....	Up to 150
Mass of equipment (kg) .....	0.21
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	N/A
- test object does meet the requirement .....	P (Pass)
- test object does not meet the requirement .....	F (Fail)
<b>Testing</b> .....	
Date of receipt of test item .....	Aug., 2009
Date(s) of performance of tests .....	Aug. 2009
<b>General remarks:</b>	
<p>The test results presented in this report relate only to the object tested.  This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.  "(See Enclosure #)" refers to additional information appended to the report.  "(See appended table)" refers to a table appended to the report.</p> <p><b>Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.</b>  Throughout this report a point is used as the decimal separator.</p>	
<b>General product information:</b>	
The equipment, model ADP-65JH AX, ADP-65JH CX (X=B, C, D) is a switching mode power supply	

adapter for DC supply of information technology equipment.  
The top and bottom enclosures are fixed by ultra-sonic welding.  
The equipment incorporated PCB type no. ADP-65JH DBA.  
An insulating plastic sheet with dimensions: max. 108 x 120 mm is provided under PCB board and both flank sides with overlapping of 9.0mm at top side.  
A metal shield is provided, consisting of three parts connected to primary.  
The bottom part of the metal shield is insulated to the solder side of the PCB and to the secondary side with the mentioned insulating plastic sheet. On the two top parts of the shield three layer insulation tape provides reinforced insulation to secondary.

Difference between the models:

Model	Output	IC32	R133, R134
ADP-65JH AB PA3714U-1ACA	19V / 3.42A	DAP-013F (Auto-recovery)	R133= 76.8kΩ, R134= 11.5kΩ
ADP-65JH AC	19.5V / 3.33A		R133= 78.7kΩ, R134= 11.3kΩ
ADP-65JH AD	20V / 3.25A		R133= 71.5kΩ, R134= 10kΩ
ADP-65JH CB	19V / 3.42A	DAP-013C (Latch off)	R133= 76.8kΩ, R134= 11.5kΩ
ADP-65JH CC	19.5V / 3.33A		R133= 78.7kΩ, R134= 11.3kΩ
ADP-65JH CD	20V / 3.25A		R133= 71.5kΩ, R134= 10kΩ

For models: ADP-65JH AX, ADP-65JH CX (X=B, C, D), PA3714U-1AC alternative components can be used:

Part	construction 1	Alternate construction2	Remark
T1	MV-NB8309	MV-NB9009	See below for detail difference.
	Winding: 4-X: $\varphi 0.1 * 25C$ A-B: $\varphi 0.6 * 3$ X-3: $\varphi 0.1 * 25C$ Shield 2: without	Winding: 4-X: $\varphi 0.1 * 30C$ A-B: $\varphi 0.6 * 2$ X-3: $\varphi 0.1 * 40C$ Shield 2: with	The dimension and construction is the same, different wire gauge.
FL1	CR-10-NB014	CR-10-NB31	--
FL2	LF-R16-NB009	HFV-NB9125	--
C1	100-120μF/450V	82-120μF/450V	--
Top Shield	Original dimension	slightly changed	For EMI issue

The equipment under test (EUT) is intended to be used at altitude 3048m, the correction factor 1.15 according to table A.2 of IEC 60664-1 was considered.

Following abbreviations may be used throughout this test report:

- cl clearance
- dcr creepage distance
- dti distance through insulation
- EUT equipment under test
- ext external distance

- int internal distance
- o-c open-circuit
- o-l overload
- s-c short-circuit
- d-con disconnected
- RA The unit recovers automatically after removing the abnormal condition.

### Engineering Considerations

- The product was submitted and tested for use at the **maximum ambient temperature (Tma)** permitted by the manufacturer's specification of: 40°C
- The means of connection to the mains supply is **Pluggable Type A**.
- The product is intended for use on the following **power systems**: TN or IT for Norway.
- The following accessible locations are within a **limited current circuit** (see subclause 2.4): Outputs of Unit.
- The following **transformers** are provided (See subclause 1.5.4):
  - Double/Reinforced insulation: T1
- The following **capacitors** bridging insulation (See subclause 1.5.6):
  - Double/Reinforced insulation: CY1
  - Functional insulation: other than above mentioned.
- The following **resistors** bridging insulation (See subclause 1.5.7):
  - Double/Reinforced insulation: R13, R14, R15, R16
  - Functional insulation: other than above mentioned.
- The following **solid insulation** are provided (See subclause 2.10.5):
  - Reinforced insulation: IC32, plastic enclosure

### Markings and Instructions

- Fuse Identification (See subclause 1.7.6): Fuse marking on PCB near Fuse : F1 T3.15AL/250V.

### Other comments:

#### Factories:

1. Delta Electronics (Thailand) Public Co., Ltd.  
909 Soi 9, Moo 4, Bangpoo Ind. Estate (E.P.Z), Pattana 1 Road, Tambol Phraksa, Amphur Muang, Samutprakarn 10280, Thailand
2. Delta Electronics (Jiang Su), Ltd.  
No. 1688, Jiangxing East Road, Wujiang Economic Development Zone, Wujiang City, Jiang Su 215200, P.R. China

The manufacturer's declaration, that the samples tested represent the products from each factory, is available.

#### Definition of variable(s):

Variable:	Range of variable:	Content:
X	B, C, D	Denote different output rating. See table "Difference between the models" above.

#### Attachments to this Test Report:

- Photo Documentation
- National Differences
- Measurement Section



IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	See below.	P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Components certified to IEC standards and/or their harmonized standards, are used within their ratings and are checked for correct application.	P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Transformers complied with the relevant requirements.	P
1.5.5	Interconnecting cables	Interconnection output cable to other unit is carrying only SELV, LCC voltages and currents on an energy level below 240VA.	P
1.5.6	Capacitors bridging insulation	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14 with at least 21 days damp heat test.	P
1.5.7	Resistors bridging insulation	See below.	P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Requirements of 2.10.3, 2.10.4 considered.	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	See appended table 1.5.1	P
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	See appended table 1.5.1	P
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6	Power interface		P
1.6.1	AC power distribution systems	Considered.	P
1.6.2	Input current	See appended table 1.6.2	P
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor	Neutral is insulated from earth and body throughout the equipment and components rated accordingly. (see also 1.5.8).	P

1.7	Marking and instructions		P
1.7.1	Power rating	The power rating marking is provided and is readily visible in operator access area. See below.	P
	Rated voltage(s) or voltage range(s) (V) .....	See copy of marking plate.	P
	Symbol for nature of supply, for d.c. only .....		N/A
	Rated frequency or rated frequency range (Hz) .....	See copy of marking plate.	P
	Rated current (mA or A) .....	See copy of marking plate.	P
	Manufacturer's name or trade-mark or identification mark .....	See copy of marking plate.	P
	Model identification or type reference .....	See copy of marking plate.	P
	Symbol for Class II equipment only .....	See copy of marking plate.	P
	Other markings and symbols .....	Other markings and symbols do not give rise to misunderstanding.	P
1.7.2	Safety instructions and marking	See below:	P
1.7.2.1	General	Instructions are available.	P
1.7.2.2	Disconnect devices	See General product information - Markings and Instructions	P
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment .....		N/A
	Methods and means of adjustment; reference to installation instructions .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.5	Power outlets on the equipment .....		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....	See General product information - Markings and Instructions	P
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals .....		N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking .....		N/A
1.7.8.2	Colours .....		N/A
1.7.8.3	Symbols according to IEC 60417 .....		N/A
1.7.8.4	Markings using figures .....		N/A
1.7.9	Isolation of multiple power sources .....		N/A
1.7.10	Thermostats and other regulating devices .....		N/A
1.7.11	Durability	Marking is durable and legible. The marking plate has no curling and is not able to be removed easily.	P
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries .....		N/A
	Language(s) .....		—
1.7.14	Equipment for 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	Unless otherwise indicated in 2.1.1.1, all parts are safe to access by operator. See below.	P
2.1.1.1	Access to energized parts	Compliance of protection against contact with hazardous energized parts checked:	P
	Test by inspection .....	Complied.	P
	Test with test finger (Figure 2A) .....	No contact.	P
	Test with test pin (Figure 2B) .....	No contact when applied to openings in external electrical enclosure.	P
	Test with test probe (Figure 2C) .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage ( $V_{peak}$ or $V_{rms}$ ); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards .....	See appended table 2.1.1.5.	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	The time constant is not exceeded. Voltage decay measurement was conducted with an oscilloscope having an input impedance of 100 MΩ.	P
	Measured voltage (V); time-constant (s) .....	See appended table 2.1.1.7.	—
2.1.1.8	Energy hazards – d.c. mains supply		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 .....		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

2.2	SELV circuits		P
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V) .....	See appended table 2.2.2.	P
2.2.3	Voltages under fault conditions (V) .....	See appended table 2.2.3. No generation of hazardous voltage is possible under fault conditions.	P
2.2.4	Connection of SELV circuits to other circuits .....	Complied with 2.2.2 and 2.2.3 See also 1.5.7 and 2.4.3.	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 limits of 2.4.2 were not exceeded under normal operating conditions and single fault conditions.	P
2.4.2	Limit values	See below.	P
	Frequency (Hz).....	See appended table 2.4.2.	—
	Measured current (mA).....	See appended table 2.4.2.	—
	Measured voltage (V) .....	See appended table 2.4.2.	—
	Measured circuit capacitance (nF or $\mu$ F).....	680pF	—
2.4.3	Connection of limited current circuits to other circuits	The limits of 2.4.2 were not exceeded under normal operating conditions and single fault conditions.	P

2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	OVP, OCP and OPP circuits provided.	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA).....	Refer to appended table	—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), 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
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	Protection against overcurrents and short-circuits is provided as an integral part of the equipment. Protection against earth faults is provided as part of the building installation.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructions when protection relies on building installation	Not applicable for pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7	Considered.	P
2.7.3	Short-circuit backup protection	Pluggable equipment type A. The building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices .....	Over current protection by one built-in fuse. Protection devices in the building installation will provide sufficient protection against earth faults.	P
2.7.5	Protection by several devices	Only one fuse provided.	N/A
2.7.6	Warning to service personnel .....	No service work necessary.	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm) .....		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.9.2	Humidity conditioning	Tested for 120 hrs.	P
	Relative humidity (%), temperature (°C) .....	95%, 40°C	—
2.9.3	Grade of insulation	Basic, supplementary, double insulation, reinforced or functional insulation.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	Separation from hazardous voltages	See below.	P
	Method(s) used .....	Method 1.	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below.	P
2.10.1.1	Frequency .....		P
2.10.1.2	Pollution degrees .....	See Test item particulars	P
2.10.1.3	Reduced values for functional insulation	See 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	Complied.	P
2.10.1.5	Insulation with varying dimensions	Considered.	P
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	See below.	P
2.10.2.1	General	Considered.	P
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.	P
2.10.3.1	General	Annex G considered. Table A.2 of IEC 60664-1 considered. Annex F is considered.	P
2.10.3.2	Mains transient voltages	See below.	P
	a) AC mains supply .....	2500 Vpk considered.	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	See 5.3.4.	P
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply .....	2500 Vpk assumed.	P
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



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Clause	Requirement + Test	Result - Remark	Verdict
	For an a.c. mains supply .....		N/A
	For a d.c. mains supply .....		N/A
	b) Transients from a telecommunication network ..		N/A
2.10.4	Creepage distances	See below.	P
2.10.4.1	General	Considered.	P
2.10.4.2	Material group and comparative tracking index	Material group IIIb assumed.	P
	CTI tests .....	See above.	—
2.10.4.3	Minimum creepage distances	See appended table 2.10.3 and 2.10.4	P
2.10.5	Solid insulation	Complied with 2.10.5.2 to 2.10.5.14 and 5.2.	P
2.10.5.1	General	See below.	P
2.10.5.2	Distances through insulation	See appended table 2.10.5	P
2.10.5.3	Insulating compound as solid insulation	Complied with 2.10.5.2 and 2.10.10.	P
2.10.5.4	Semiconductor devices	See 2.10.5.3.	P
2.10.5.5.	Cemented joints	See appended table 2.10.3 and 2.10.4	P
2.10.5.6	Thin sheet material – General	Considered.	P
2.10.5.7	Separable thin sheet material	Reinforced insulation.	P
	Number of layers (pcs) .....	See attachment measurement section table C.2 and 2.10.3, 2.10.4	—
2.10.5.8	Non-separable thin sheet material	In compliance with 2.10.5.9 and Annex AA. See appended table 1.5.1.	P
2.10.5.9	Thin sheet material – standard test procedure	Electric strength test applied to the three layers together.	P
	Electric strength test	See appended table 5.2	—
2.10.5.10	Thin sheet material – alternative test procedure	Electric strength test applied to each combination of two layers together.	P
	Electric strength test	See appended table 5.2	—
2.10.5.11	Insulation in wound components	See below.	P
2.10.5.12	Wire in wound components	Reinforced insulation.	P
	Working voltage .....	See appended table 2.10.2.	P
	a) Basic insulation not under stress .....		P
	b) Basic, supplementary, reinforced insulation .....	Complied with 2.10.5.6 and annex U.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Compliance with Annex U .....	Complied with annex U.	P
	Two wires in contact inside wound component; angle between 45° and 90° .....	Insulating sleeving provided.	P
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		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		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) .....		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		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.1	Current rating and overcurrent protection	The cross-sectional area of the wires is adequate and complied with the tests of 4.5.2 and 4.5.3.	P
3.1.2	Protection against mechanical damage	The wireways are smooth and free from sharp edges.	P
3.1.3	Securing of internal wiring	No excessive strain on wire and on terminal connections, loosening of terminal connections and damage of conductor insulation.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage. For the insulation material see 3.1.1.	P
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	See below.	P
	10 N pull test	The clearances and creepages are not reduced below required in 2.10.	P
3.1.10	Sleeving on wiring		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	An appliance inlet provided.	P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....		—
3.2.4	Appliance inlets	The appliance inlet complied with IEC 60320; the connector inserted without difficulty and not supporting the equipment on a flat surface.	P
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Type .....		—
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....		—
	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage	There are no parts of this equipment that may damage the power supply cord.	P
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

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 <sup>2</sup> ).....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) .....		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	Disconnect device provided.	P
3.4.2	Disconnect devices	Appliance coupler.	P
3.4.3	Permanently connected equipment	Not a permanently connected equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.4	Parts which remain energized	When power cord is removed from inlet there are not any remaining parts with hazardous voltage in the equipment.	P
3.4.5	Switches in flexible cords	Not used.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The appliance coupler 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	Not used.	N/A
3.4.9	Plugs as disconnect devices	Appliance coupler as disconnect device.	N/A
3.4.10	Interconnected equipment	Interconnection to other devices by secondary output cable only.	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	See below.	P
3.5.2	Types of interconnection circuits .....	SELV and LCC interconnection circuits via secondary output connector.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	N/A
3.5.4	Data ports for additional equipment		N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°	No overbalancing due to equipment design (length and width by far exceeding the height).	P
	Test force (N) .....		N/A

4.2	Mechanical strength		P
4.2.1	General	Details see below.	P
4.2.2	Steady force test, 10 N	Applied to parts other than serving for enclosure.	P
4.2.3	Steady force test, 30 N	No internal enclosure.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.4	Steady force test, 250 N	250 N applied to outer enclosure for source of enclosure material in table 1.5.1. No energy or other hazards. Force applied at: <ul style="list-style-type: none"> <li>• Top and bottom side</li> <li>• Flank sides</li> </ul>	P
4.2.5	Impact test	See below	P
	Fall test	No hazard as result from steel ball fall test for all sources of enclosure material in table 1.5.1. No energy or other hazards. Impact area: <ul style="list-style-type: none"> <li>• Top and bottom side (near T1)</li> <li>• Flank sides</li> <li>• Front sides (inlet)</li> </ul>	P
	Swing test	See above.	P
4.2.6	Drop test; height (mm) .....	A sample of the equipment has been dropped three times from a height of 1 meter. Impact areas: <ul style="list-style-type: none"> <li>• Top and bottom side</li> <li>• Flank sides</li> </ul>	P
4.2.7	Stress relief test	Test performed at 105°C for 7 hours with enclosure source in table 1.5.1. No safety relevant damages of the enclosure.	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified .....		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.3	Adjustable controls	No 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	No mismatching of connectors, plugs or sockets possible.	P
4.3.6	Direct plug-in equipment		N/A
	Torque .....		—
	Compliance with the relevant mains plug standard .....		N/A
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A
4.3.8	Batteries	No batteries provided.	N/A
	- Overcharging of a rechargeable battery	Insulation in intended use not considered to be exposed to oil or grease.	N/A
	- Unintentional charging of a non-rechargeable battery	The equipment in intended use not considered to be exposed to dust, powders, liquids and gases.	N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids .....		N/A
	Quantity of liquid (l) .....		N/A
	Flash point (°C) .....		N/A
4.3.13	Radiation		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

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Clause	Requirement + Test	Result - Remark	Verdict
	Part, property, retention after test, flammability classification .....		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....		N/A
4.3.13.5	Laser (including LEDs)	Indicator LED provided	N/A
	Laser class .....	Far less than Laser Class I	—
4.3.13.6	Other types .....		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas .....		N/A
4.4.3	Protection in restricted access locations .....		N/A
4.4.4	Protection in service access areas		N/A
4.5	Thermal requirements		P
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	See table 4.5	P
	Normal load condition per Annex L .....	See Annex L	—
4.5.3	Temperature limits for materials	See table 4.5	P
4.5.4	Touch temperature limits		N/A
4.5.5	Resistance to abnormal heat .....	See table 4.5.5	P
4.6	Openings in enclosures		P
4.6.1	Top and side openings	No openings within the whole enclosure.	P
	Dimensions (mm) .....		—
4.6.2	Bottoms of fire enclosures	No openings within the whole enclosure.	P
	Construction of the bottom, dimensions (mm) .....		—
4.6.3	Doors or covers in fire enclosures	No doors or covers.	N/A
4.6.4	Openings in transportable equipment	No openings within the whole enclosure.	N/A
4.6.4.1	Constructional design measures	No adhesives for constructional purposes.	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	See below.	P
	Method 1, selection and application of components wiring and materials	Materials with the required flammability classes are used.	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	Having employed the following components: <ul style="list-style-type: none"> <li>• components in primary</li> <li>• wiring</li> <li>• components in secondary not supplied by LPS.</li> </ul> fire enclosure is required.	P
4.7.2.2	Parts not requiring a fire enclosure	See above.	N/A
4.7.3	Materials		P
4.7.3.1	General	See below.	P
4.7.3.2	Materials for fire enclosures	Refer to attachment measurement section table 1.5.1.	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	The material is made of V-2 material.	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	See sub-clauses 5.1.2 to 5.1.7	P
5.1.2	Configuration of equipment under test (EUT)	See below.	P
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Test circuit in Figure 5A used.	P
5.1.4	Application of measuring instrument	Measuring instruments as in annex D used.	P
5.1.5	Test procedure	Applied.	P
5.1.6	Test measurements	See attachment measurement section table 5.1.6.	P
	Supply voltage (V) .....	+10% of the rated voltage.	—
	Measured touch current (mA) .....	See attachment measurement section table 5.1.6.	—
	Max. allowed touch current (mA) .....	See attachment measurement section table 5.1.6.	—
	Measured protective conductor current (mA) .....		—
	Max. allowed protective conductor current (mA).....		—
5.1.7	Equipment with touch current exceeding 3,5 mA		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		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....		—
	Measured touch current (mA) .....		—
	Max. allowed touch current (mA) .....		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	Electric strength		P
5.2.1	General	See attachment measurement section table 5.2	P
5.2.2	Test procedure	Table 5B used.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	See attachment measurement section table 5.3	P
5.3.2	Motors		N/A
5.3.3	Transformers	See appended Annex C	P
5.3.4	Functional insulation .....	Functional insulation complied with the requirements c).	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE .....		N/A
5.3.7	Simulation of faults	Complied.	P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	See below.	P
5.3.9.1	During the tests	Neither fire burns the equipment nor molten metal.	P
5.3.9.2	After the tests	Electric strength test made.	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) .....		—
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) .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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

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)		P
A.2.1	Samples, material .....		—
	Wall thickness (mm) .....		—
A.2.2	Conditioning of samples; temperature (°C) .....		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
A.2.3	Mounting of samples .....		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C .....		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s) .....		—
	Sample 2 burning time (s) .....		—
	Sample 3 burning time (s) .....		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s) .....		—
	Sample 2 burning time (s) .....		—
	Sample 3 burning time (s) .....		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		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



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

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Clause	Requirement + Test	Result - Remark	Verdict

G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply .....		N/A
G.2.2	Earthed d.c. mains supplies .....		N/A
G.2.3	Unearthed d.c. mains supplies .....		N/A
G.2.4	Battery operation .....		N/A
G.3	Determination of telecommunication network transient voltage (V) .....		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks .....		N/A
G.4.2	Transients from telecommunication networks .....		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances .....		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
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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

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Clause	Requirement + Test	Result - Remark	Verdict
K.4	Temperature limiter endurance; operating voltage (V) .....		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	The equipment is operated according to the most unfavorable way of operation given in the operating instructions.	P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	a) Preferred climatic categories .....		N/A
	b) Maximum continuous voltage .....		N/A
	c) Pulse current .....		N/A
R	Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
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 (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Approved source of triple insulated wire used, See measurement section table 1.5.1.	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	Considered.	P
V.2	TN power distribution systems	Considered.	P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		N/A
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		P
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—



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

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Clause	Requirement + Test	Result - Remark	Verdict												
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		P												
2.7.2	This subclause has been declared 'void'.		N/A												
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A												
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td>  Up to and including 6</td><td></td><td>0,75 <sup>a)</sup></td><td> </td></tr><tr><td>  Over 6 up to and including 10</td><td>(0,75) <sup>b)</sup></td><td>1,0</td><td> </td></tr><tr><td>  Over 10 up to and including 16</td><td>(1,0) <sup>c)</sup></td><td>1,5</td><td> </td></tr></table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition <sup>a)</sup>.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6		0,75 <sup>a)</sup>		Over 6 up to and including 10	(0,75) <sup>b)</sup>	1,0		Over 10 up to and including 16	(1,0) <sup>c)</sup>	1,5			N/A
Up to and including 6		0,75 <sup>a)</sup>													
Over 6 up to and including 10	(0,75) <sup>b)</sup>	1,0													
Over 10 up to and including 16	(1,0) <sup>c)</sup>	1,5													
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <table><tr><td>  Over 10 up to and including 16</td><td>1,5 to 2,5</td><td> </td><td>1,5 to 4</td><td> </td></tr></table> <p>Delete the fifth line: conductor sizes for 13 to 16 A.</p>	Over 10 up to and including 16	1,5 to 2,5		1,5 to 4			N/A							
Over 10 up to and including 16	1,5 to 2,5		1,5 to 4												
4.3.13.6	<p>Add the following NOTE:</p> <p>NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.</p>		N/A												

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 <math>\mu</math>Sv/h (0,1 mR/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows:</p> <p>NOTE These values appear in Directive 96/29/Euratom.</p> <p>Delete NOTE 2.</p>		N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB	SPECIAL NATIONAL CONDITIONS	P
1.2.4.1	In <b>Denmark</b> , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	N/A
1.5.7.1	In <b>Finland, Norway</b> and <b>Sweden</b> , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.	N/A
1.5.8	In <b>Norway</b> , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	P
1.5.9.4	In <b>Finland, Norway</b> and <b>Sweden</b> , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	N/A
1.7.2.1	<p>In <b>Finland, Norway</b> and <b>Sweden</b>, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>	N/A
1.7.5	In <b>Denmark</b> , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.	N/A
2.2.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	N/A
2.3.2	In <b>Finland, Norway</b> and <b>Sweden</b> there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	N/A
2.3.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	N/A

IEC/EN 60950-1																											
Clause	Requirement + Test	Result - Remark	Verdict																								
2.6.3.3	In the <b>United Kingdom</b> , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A																								
2.7.1	In the <b>United Kingdom</b> , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		P																								
2.10.5.13	In <b>Finland, Norway and Sweden</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A																								
3.2.1.1	<p>In <b>Switzerland</b>, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <table border="0"> <tr> <td>SEV 6532-2.1991</td><td>Plug Type 15</td><td>3P+N+PE</td><td>250/400 V, 10 A</td></tr> <tr> <td>SEV 6533-2.1991</td><td>Plug Type 11</td><td>L+N</td><td>250 V, 10 A</td></tr> <tr> <td>SEV 6534-2.1991</td><td>Plug Type 12</td><td>L+N+PE</td><td>250 V, 10 A</td></tr> </table> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <table border="0"> <tr> <td>SEV 5932-2.1998</td><td>Plug Type 25</td><td>3L+N+PE</td><td>230/400 V, 16 A</td></tr> <tr> <td>SEV 5933-2.1998</td><td>Plug Type 21</td><td>L+N</td><td>250 V, 16 A</td></tr> <tr> <td>SEV 5934-2.1998</td><td>Plug Type 23</td><td>L+N+PE</td><td>250 V, 16 A</td></tr> </table>	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	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, 16 A	SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A		N/A
SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A																								
SEV 6533-2.1991	Plug Type 11	L+N	250 V, 10 A																								
SEV 6534-2.1991	Plug Type 12	L+N+PE	250 V, 10 A																								
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, 16 A																								
SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A																								
3.2.1.1	<p>In <b>Denmark</b>, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A																								
3.2.1.1	<p>In <b>Spain</b>, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A																								

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In the <b>United Kingdom</b> , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. 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
3.2.1.1	In <b>Ireland</b> , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In <b>Switzerland</b> , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the <b>United Kingdom</b> , a power supply cord with conductor of 1,25 mm <sup>2</sup> is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the <b>United Kingdom</b> , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm <sup>2</sup> to 1,5 mm <sup>2</sup> nominal cross-sectional area.		N/A
4.3.6	In the <b>United Kingdom</b> , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In <b>Ireland</b> , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In <b>Finland, Norway and Sweden</b> TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that - is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and - has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and - is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1	<p>In <b>Finland, Norway and Sweden</b>, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> <li>- 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</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul> <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 132400;</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.</li> </ul>		N/A
6.1.2.2	<p>In <b>Finland, Norway and Sweden</b>, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N/A
7.2	<p>In <b>Finland, Norway and Sweden</b>, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>		N/A
7.3	<p>In <b>Norway and Sweden</b>, there are many buildings where the screen of the coaxial cable is normally not connected to the earth in the building installation.</p>		N/A
7.3	<p>In <b>Norway</b>, for installation conditions see EN 60728-11:2005.</p>		N/A
ZC	A-DEVIATIONS (informative)		P



IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	<b>Sweden</b> (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A
1.5.1	<b>Switzerland</b> (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.2.1	<b>Denmark</b> (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: <p style="text-align: center;">Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket</p> <p style="text-align: center;"> eller </p> If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."		N/A
1.7.2.1	<b>Germany</b> (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		P
1.7.5	<b>Denmark</b> (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.		N/A
1.7.13	<b>Switzerland</b> (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.		N/A
5.1.7.1	<b>Denmark</b> (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.		N/A

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
1.5.1	TABLE: List of critical components				P
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity <sup>1.</sup>
Enclosure material	SABIC INNOVATIVE PLASTICS B V	Lexan 945	V-0, 120°C, 1.5mm min. thick	UL 94	UL
	SABIC INNOVATIVE PLASTICS JAPAN L L C	Lexan 945	V-0, 120°C, 1.5mm min. thick	UL 94	UL
	SABIC INNOVATIVE PLASTICS US L L C	Lexan 945	V-0, 120°C, 1.5mm min. thick	UL 94	UL
	BAYER MATERIAL SCIENCE LTD	Makrolon 6485	V-0, 115°C, 1.5mm min. thick	UL 94	UL
	BAYER MATERIALSCIE NCE AG	Makrolon 6485	V-0, 115°C, 1.5mm min. thick	UL 94	UL
	BAYER MATERIALSCIE NCE L L C	Makrolon 6485	V-0, 115°C, 1.5mm min. thick	UL 94	UL
	BAYER THAI CO LTD	Makrolon 6485	V-0, 115°C, 1.5mm min. thick	UL 94	UL
Appliance Inlet	DELTA ELECTRONICS, INC.	SK-1022M	2.5A, 250Vac, 70°C	IEC/EN60320-1, UL 498	N, S, VDE, FI, UL
Fuse (F1)	LITTELFUSE WICKMANN WERKE	392	T3.15AL, 250Vac	IEC 60127-1, IEC 60127-3	VDE, UL
	CONQUER ELECTRONICS CO LTD	MST	T3.15AL, 250Vac	IEC 60127-1, IEC 60127-3	VDE, UL
	BEL FUSE INC	RST	T3.15AL, 250Vac	IEC 60127-1, IEC 60127-3	VDE, UL
	EVER ISLAND ELECTRIC CO LTD & WALTER ELECTRIC	2010	T3.15AL, 250Vac	IEC 60127-1, IEC 60127-3	VDE, UL
Choke (FL1)	DELTA ELECTRONICS, INC.	CR-10-NB014	130°C	--	--

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	DELTA ELECTRONICS, INC.	LFV-NB9267	130°C	--	--
Triple insulation wire (FL1)	FURUKAWA ELECTRIC CO LTD	TEX-E	Min. 130°C	IEC/EN 60950-1:2001, UL 2353	TUV, UL
	TOTOKU ELECTRIC CO LTD	TIW-2	Min. 130°C	IEC/EN 60950-1:2001, UL 2353	TUV, UL
	TOTOKU ELECTRIC CO LTD	TIW-3	Min. 155°C	IEC/EN 60950-1:2001, UL 2353	TUV, UL
Choke (FL1)	DELTA ELECTRONICS, INC.	CR-10-NB31	130°C	--	--
Triple insulation wire (FL1)	FURUKAWA ELECTRIC CO LTD	TEX-E	Min. 130°C	IEC/EN 60950-1:2001, UL 2353	TUV, UL
	TOTOKU ELECTRIC CO LTD	TIW-E	Min. 155°C	IEC/EN 60950-1:2001, UL 2353	TUV, UL
Choke (FL2)	DELTA ELECTRONICS, INC.	LF-R16-NB009	130°C	--	--
	DELTA ELECTRONICS, INC.	HFV-NB9125	130°C	--	--
	DELTA ELECTRONICS, INC.	HFV-NB9266	130°C	--	--
X-Capacitor (CX1)	ARCOTRONICS SPA	R.46	0.33µF max., 250V ac, 110°C X1 or X2 type.	IEC 60384 -14: 2005, UL 1414	VDE, UL
	Hua Jung Components Co., Ltd.	MKP	0.33µF max., 250V ac, 110°C, X1 or X2 type.	IEC 60384 -14: 2005, UL 1414	VDE, UL
	OKAYA ELECTRIC INDUSTRIES CO LTD	LE	0.33µF max., 250V ac, 110°C, X1 or X2 type.	IEC 60384 -14: 2005, UL 1414	VDE, UL

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	EPCOS ELECTRONIC COMPONENTS S A	B3292	0.33μF max., 250V ac, 105°C, X1 or X2 type.	IEC 60384 -14: 2005, UL 1414	VDE, UL
	EUROPTRONIC (TAIWAN) INDUSTRIAL CORP	MPX	0.33μF max., 250V ac, 105°C, X1 or X2 type.	IEC 60384 -14: 2005, UL 1414	VDE, UL
Bleeder Resistors (R1, R2)	--	--	1.5MΩ., 1/4W	--	--
Bridging Capacitor (CY1)	MURATA MFG CO LTD	KX	680pF max., 250Vac min. Y1 type, 125°C	IEC 60384-14:2005, UL 1414	VDE, UL
	WALSIN TECHNOLOGY CORP	AH			
	HOLY STONE ENTERPRISE CO LTD	SDC			
Bridging Resistor (R13, R14, R15, R16)	KAMAYA	RVC32	9.1MΩ., 1/4W, SMD type, distance between terminals 1.26mm	IEC/EN 60065:2001	S
	TA-I	RH12			
Bridging Diode (BD1)	--	--	800V/2-4A	--	--
Electrolytic Capacitor (C1)	--	--	82-120μF/450V, 105°C	--	--
Electrolytic Capacitor (C31, C102, C103)	--	--	105°C min.	--	--
Transistor (Q1)	--	--	600V, 9.5-13A	--	--
Thermistor (NTC31)	UPPERMOST	TDC05D447	470kΩ at 25°C	UL 1434	UL
	THINKING	TTC-series	470kΩ at 25°C	UL 1434	UL
Transformer (T1)	DELTA ELECTRONICS, INC.	MV-NB8309	Class B (UL system MP-130I)	Applicable parts in IEC 60950-1 and acc. to IEC 60085	Tested with this appliance
	DELTA ELECTRONICS, INC.	MV-NB9009	Class B (UL system MP-130I)	Applicable parts in IEC 60950-1 and acc. to IEC 60085	Tested with this appliance

IEC/EN 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Bobbin (T1)	Sumitomo Bakelite Co. Ltd.	PM-9820, PM-9630	V-0, 150°C	UL 94	UL
Triple insulation wire (T1)	FURUKAWA ELECTRIC CO LTD	TEX-E	Min. 130°C	IEC/EN 60950-1:2001, UL 2353	TUV, UL
	TOTOKU ELECTRIC CO LTD	TIW-2	Min. 130°C	IEC/EN 60950-1:2001, UL 2353	TUV, UL
	TOTOKU ELECTRIC CO LTD	TIW-3	Min. 155°C	IEC/EN 60950-1:2001, UL 2353	TUV, UL
Optocouplers (IC32)	SHARP CORP ELECTRONIC COMPONENTS GROUP	PC123	dti= 0.7 mm, ext= 8.0 mm, int= 5.0 mm, U= 3000 Vac., T= 110°C	IEC/EN 60950-1, UL 1577, EN 60747-5-2	UL, VDE
	VISHAY SEMICONDUCTOR GMBH	TCET1114(G)	dti= 0.7 mm, ext= 8.1 mm, int= 4.3 mm, U= 3000 V ac., T= 110°C		
	NEC ELECTRONICS CORP COMPOUND SEMICONDUCTOR DEVICE DIV	PS2561BL1-1	dti= 0.4 mm, ext= 7.0 mm, int= 4.0 mm, U= 3000 Vac., T= 120°C		
	COSMO ELECTRONICS CORP	K1010	dti.= 0.5mm, int. cr.= 5.3mm, ext. dcr= 8.0 mm, isolation: AC 3000V, 115°C		
Mylar Sheet (between PWB and EMI Shield)	SABIC INNOVATIVE PLASTICS US LLC	FR25A	Min. 0.43mm thick, V-0, 125°C	UL 94	UL
Insulation Tape (for HS2, C102, C103)	3M	1350T-3	130°C, 3 Layers comprised	UL 510	UL
	3M	1350F-1	130°C, 2 Layers min.	UL 510	UL
PCB	--	--	Min. V-0, 130°C	--	--

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

Supplementary information:

1. An asterisk indicates a mark that assures the agreed level of surveillance.

For Optical isolators technical data: dti= distance through insulation, ext. cr.= external creepage distance, int. cr.= internal creepage distance.

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	I <sub>rated</sub> (A)	P (W)	Fuse #	I <sub>fuse</sub> (A)	Condition/status	
<b>Models ADP-65H AB, ADP-65JH CB, PA3714U-1ACA, construction 1</b>							
90	1.37	--	74.4	F1	1.37	Max. Normal load at 50Hz	
90	1.40	--	74.3	F1	1.40	Max. Normal load at 60Hz	
100	1.26	1.5	73.7	F1	1.26	Max. Normal load at 50Hz	
100	1.29	1.5	73.7	F1	1.29	Max. Normal load at 60Hz	
240	0.74	1.5	73.1	F1	0.74	Max. Normal load at 50Hz	
240	0.76	1.5	72.9	F1	0.76	Max. Normal load at 60Hz	
264	0.71	--	73.4	F1	0.71	Max. Normal load at 50Hz	
264	0.71	--	73.6	F1	0.71	Max. Normal load at 60Hz	
<b>Models ADP-65JH AC, ADP-65JH CC</b>							
90	1.38	--	74.4	F1	1.38	Max. Normal load at 50Hz	
90	1.41	--	74.6	F1	1.41	Max. Normal load at 60Hz	
100	1.27	1.5	73.9	F1	1.27	Max. Normal load at 50Hz	
100	1.30	1.5	73.9	F1	1.30	Max. Normal load at 60Hz	
240	0.75	1.5	73.4	F1	0.75	Max. Normal load at 50Hz	
240	0.77	1.5	73.2	F1	0.77	Max. Normal load at 60Hz	
264	0.71	--	73.8	F1	0.71	Max. Normal load at 50Hz	
264	0.72	--	74.1	F1	0.72	Max. Normal load at 60Hz	
<b>Models ADP-65JH AD, ADP-65JH CD</b>							
90	1.38	--	73.9	F1	1.38	Max. Normal load at 50Hz	
90	1.40	--	73.9	F1	1.40	Max. Normal load at 60Hz	
100	1.27	1.5	73.3	F1	1.27	Max. Normal load at 50Hz	
100	1.30	1.5	73.4	F1	1.30	Max. Normal load at 60Hz	
240	0.76	1.5	72.9	F1	0.76	Max. Normal load at 50Hz	
240	0.77	1.5	72.7	F1	0.77	Max. Normal load at 60Hz	
264	0.71	--	73.3	F1	0.71	Max. Normal load at 50Hz	



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Clause	Requirement + Test				Result - Remark	
264	0.72	--	73.2	F1	0.72	Max. Normal load at 60Hz
<b>Models ADP-65JH AB, ADP-65JH CB, PA3714U-1ACA construction 2</b>						
90	1.40	--	75.5	F1	1.40	Max. Normal load at 50Hz
90	1.42	--	75.5	F1	1.42	Max. Normal load at 60Hz
100	1.28	1.5	74.8	F1	1.28	Max. Normal load at 50Hz
100	1.31	1.5	74.8	F1	1.31	Max. Normal load at 60Hz
240	0.75	1.5	73.3	F1	0.75	Max. Normal load at 50Hz
240	0.77	1.5	73.5	F1	0.77	Max. Normal load at 60Hz
264	0.71	--	73.9	F1	0.71	Max. Normal load at 50Hz
264	0.73	--	74.1	F1	0.73	Max. Normal load at 60Hz
Supplementary information: Maximum normal load: +19V/3.42A for ADP-65JH AB, ADP-65JH CB, PA3714U-1ACA; +19.5V/3.33A for ADP-65JH AC, ADP-65JH CC; +20V/3.25A for ADP-65JH AD, ADP-65JH CD						

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)	
Primary of opposite polarity at appliance inlet	420	250	1.8	4.0	2.5	4.2	
Under the fuse	420	250	1.8	3.0	2.5	3.4	
Primary components (with 10N) to outside accessible parts	420	250	4.6	See below	5.0	See below	
- primary shield to outside accessible parts	420	250	4.6	5.2	5.0	5.2	
Primary traces to outside accessible parts	420	250	4.6	See below	5.0	See below	
- "N"-trace to outside accessible parts	420	250	4.6	6.3	5.0	6.3	
Primary components (with 10N) to secondary components (with 10N)	420	250	4.6	See below	5.0	See below	
- C31 to HS2	420	250	4.6	9.5	5.0	9.5	
- T1 primary core to C102	545	266	5.1	10.0	5.4	10.0	

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Clause	Requirement + Test			Result - Remark		Verdict
<b>Primary to secondary traces</b>	<b>420</b>	<b>250</b>	<b>4.6</b>	<b>See below</b>	<b>5.0</b>	<b>See below</b>
- Under CY1	420	250	4.6	7.2	5.0	7.2
- Between terminations of R13+R14+R15+R16 (each has 2mm)	420	250	4.6	8.0	5.0	8.0
- Under T1	545	310	5.1	15.0	6.2	15.0
- Under IC31	420	250	4.6	8.2	5.0	8.2
Supplementary information: 1. Slot dimension 6.0mm by 1.2mm under inlet wire connections, 6.0mm by 1.2mm under F1, 4.7mm by 1.2mm between C31 (-) and T1, 3.8mm by 1.2mm between inlet wire connection (L) and FL2. 2. Creepage and clearance distance under R13, R14, R15, R16 resistors with each 2.0mm. 3. Tubed components: R9. 4. Glued components: D1, CY1, C1, FL2, C31, T1 and Q1. 5. On layer plastic insulation material at least 0.4mm thick is provided inside the primary shield providing functional insulation to primary PCB solder side and providing reinforced insulation to secondary. 6. Three layers composite insulation tape used in following parts: <ul style="list-style-type: none"> <li>wrapped on secondary heatsink HS2 maintaining reinforced insulation from the heatsink to surrounding primary components and parts start from secondary side with overlapping of 8.2mm at primary side.</li> <li>glued inside primary shield maintaining reinforced insulation to secondary side.</li> <li>glued on C102, C103 to T1.</li> </ul>						

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U r.m.s. (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Optical isolators		420	250	AC 3000	0.4	see 1.5.1.
Enclosure		420	250	AC 3000	0.4	see 1.5.1.
Supplementary information:						

4.3.8	TABLE: Batteries					N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available						
Is it possible to install the battery in a reverse polarity position?						
	Non-rechargeable batteries		Rechargeable batteries			
	Discharging	Un-	Charging	Discharging	Reversed charging	

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Clause	Requirement + Test					Result - Remark			Verdict
	Meas. current	Manuf. Specs.	intentional charging	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:									Verdict
- Chemical leaks									
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information:									

4.5	TABLE: Thermal requirements						P
	Supply voltage (V) .....	90	90	90	90	264	—
	Supply frequency (Hz) .....	60	60	60	60	50	
	Ambient T <sub>min</sub> (°C) .....	--	--	--	--	--	—
	Ambient T <sub>max</sub> (°C) .....	40	40	40	40	40	—
	Test condition .....	A	B	C	D	B	
Maximum measured temperature T of part/at::		T (°C)					Allowed T <sub>max</sub> (°C)
Models ADP-65JH AX, ADP-65JH CX, PA3714U-1ACA construction 1							
T1 coil (Class 130)		102	103	101	102	101	110
T1 core (Class 130)		93	93	91	92	91	110
IC32 body		97	98	96	98	99	100
Appliance Inlet L pin		66	66	65	65	60	70
FL1 coil		88	89	86	89	75	130
FL2 coil		103	104	101	102	87	130
CX1 near FL2		94	95	92	93	86	100
C1 near FL2		99	99	97	98	91	105

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Clause	Requirement + Test			Result - Remark			Verdict
C31 near T1	99	100	97	99	99	105	
C102 near T1	86	87	86	86	85	105	
C103 near T1	96	96	94	95	94	105	
PCB near Q1 and HS1	94	95	93	93	92	130	
Internal enclosure top side near T1	87	88	85	86	85	115	
External enclosure top side near T1	78	77	95	95	75	95	
Internal enclosure bottom side near T1	81	84	80	81	82	115	
External enclosure bottom side near T1	72	77	73	74	76	95	
<b>Models ADP-65JH AB, ADP-65JH CB, PA3714U-1ACA construction 2</b>							
T1 coil (Class 130)	--	103	--	--	--	110	
T1 core (Class 130)	--	95	--	--	--	110	
IC32 body	--	93	--	--	--	100	
Appliance Inlet L pin	--	62	--	--	--	70	
FL1 coil	--	79	--	--	--	130	
FL2 coil	--	96	--	--	--	130	
Internal enclosure top side near T1	--	73	--	--	--	115	
External enclosure top side near T1	--	70	--	--	--	95	
C1 body near T1	--	90	--	--	--	105	
Supplementary information:							
1. The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.2 at voltages as above. 2. Test conditions: A: Label side upward B: Label side downward C: flank side of HS2 upward D: flank side of HS2 downward 3. With a specified maximum ambient temperature and test temperature of 40°C, the maximum permitted temperatures are calculated as follows: Winding components (providing safety isolation): Class 130 $T_{max} = 120^{\circ}\text{C} - 10^{\circ}\text{C} = 110^{\circ}\text{C}$ User accessible areas which may be touched during normal use: Plastic $T_{max} = 95^{\circ}\text{C}$							
Temperature T of winding:	$t_1 (^{\circ}\text{C})$	$R_1 (\Omega)$	$t_2 (^{\circ}\text{C})$	$R_2 (\Omega)$	$T (^{\circ}\text{C})$	Allowed $T_{max} (^{\circ}\text{C})$	Insulation class
Supplementary information:							

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Clause	Requirement + Test	Result - Remark	Verdict

4.5.5	TABLE: Ball pressure test of thermoplastic parts		N/A
	Allowed impression diameter (mm) .....	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Supplementary information: Phenolic bobbin material used for T1 accepted without test at test temperatures not exceeding 125°C. (for sources see table 1.5.1).			

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

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Unit: primary and secondary		AC	3000	No
Unit: primary and metal foil around the enclosure		AC	3000	No
T1: primary and secondary		AC	3000	No
T1: secondary and primary core		AC	3000	No
One layer of insulation tape		AC	3000	No
Triple layer Insulation tape		AC	4500	No
Supplementary information:				

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C) .....	25°C if no otherwise specified.	—
	Power source for EUT: Manufacturer, model/type, output rating .....		—

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Clause	Requirement + Test				Result - Remark	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
+19.5V-GND	s-c	240	5 min	F1	0.12	Input: 0.30W, ouput: shutdown, no hazard.
FL1	s-c	240	--	F1	--	Input: F1 open, breaker trip output: no output, no hazard.
FL2	s-c	240	--	F1	--	Input: F1 open, breaker trip output: no output, no hazard.
BD1 AC++	s-c	240	--	F1	--	Input: F1 open, breaker trip output: no output, components damaged: BD1, no hazard.
BD1 AC--	s-c	240	--	F1	--	Input: F1 open, breaker trip output: no output, components damaged: BD1, no hazard.
C1	s-c	240	--	F1	--	Input: F1 open, breaker trip output: no output, components damaged: BD1, no hazard.
C31	s-c	240	5 min	F1	0.12	Input: 0.30W, ouput: shutdown, no hazard.
Q1 (G-S)	s-c	240	5 min	F1	0.12	Input: 0.30W, ouput: shutdown, no hazard.
Q1 (G-D)	s-c	240	--	F1	--	Input: F1 open, output: no output, components damaged: BD1, Q1, R9, R32, no hazard.
Q1 (D-S)	s-c	240	--	F1	--	Input: F1 open, breaker trip output: no output, components damaged: BD1, Q1, R9, R32, no hazard.
IC32 pin (1-2)	s-c	240	5 min	F1	0.12	Input: 0.30W Output: shutdown, no hazard.
IC32 pin (3-4)	s-c	240	5 min	F1	0.12	Input: 0.30W Output: shutdown, no hazard.
IC32 pin (3)	o-c	240	5 min	F1	0.12	Input: 0.30W Output: shutdown, no hazard.
T1 pin (1-2)	s-c	240	5 min	F1	0.12	Input: 0.40W Output: shutdown, no hazard.
T1 pin (3-4)	s-c	240	5 min	F1	0.12	Input: 0.40W Output: shutdown, no hazard.
T1 pin (A-B)	s-c	240	5 min	F1	0.12	Input: 0.30W, output: shutdown, no hazard.



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Clause	Requirement + Test				Result - Remark	Verdict
D101	s-c	240	5 min	F1	0.12	Input: 0.30W Output: shutdown, no hazard.
IC31 pin 6 to pin 14	s-c	240	5 min	F1	0.12	Input: 0.30W output: shutdown, components damaged: R3, no hazard.
IC31 pin 10 to pin 14	s-c	240	--	F1	--	Input: F1 open, breaker trip output: no output, components damaged: R3, no hazard.
+19.5V	o-l	240	8.5h	F1	0.03	Input: 1.0~104W, output: foldback. I <sub>max</sub> before foldback: 1.07A Max temp: T1 coil= 118°C, T1 core= 109°C, IC31= 112°C, Ambient= 33°C, no hazard.
Supplementary information: s-c=short-circuited, o-c=open-circuited, o-l=overload						

## List of test equipment used:

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date
Supplementary information:				

Instr. Code	Instrument I.D.	Instrument Type	Range Used Or ***	Make and Model **	Calibration Date	
					Last	Due
See attachments attached behind all test datasheet for details.						
2	E18-1684	DC Load	60V/60A	Chroma, 6334	2008-07-03	2009-07-02
3	E18-1641	DC Load	60V/60A	Chroma, 6334	2009-04-08	2010-04-07
4	E18-1683	DC Load	60V/60A	Chroma, 6334	2008-07-02	2009-07-01
8	E18-1749	DC Load	60V/60A	Chroma, 6304	2008-09-30	2009-09-29
29	E18-1566	AC converter	300V/600A 45Hz~500Hz	EXTECH 6400	2008-10-03	2009-10-02
30	E18-1530	AC converter	300V/20A 45Hz~120Hz	IDRC CIF-1530AP	2008-09-03	2009-09-02
31	E18-1568	AC converter	300V/20A 45Hz~120Hz	IDRC CIF-1530AP	2008-12-05	2009-12-04
36	E18-2054	AC Source	300V/10A	IDRC PS-102EX	2008-10-01	2009-09-30
53	E09-038	Power Meter	(A)500V/30A (B)500V/3A (C)500V/0.3A	Chen Hwa, 2100	2008-12-04	2009-12-03
58	E09-041	Power Meter	(A)500V/30A (B)500V/3A (C)500V/0.3A	Chen Hwa, 2100	2009-02-25	2010-02-24
67	E09-T010	Power meter	(A)500V/30A (B)500V/3A (C)500V/0.3A	Zentech, 2100	2008-09-02	2009-09-01
68	E10-1609	Temp. collect	(J) J-type -150°C - 1200°C (T) T-type -100°C - 400°C	Agilent, 34970A	2008-07-02	2009-07-01
72	E17-T032	Temp. Recorder	200°C	Yokogawa, DR130	2008-09-03	2009-09-02
76	E17-123	Temp. Recorder	200°C	Yokogawa, DR230	2008-07-03	2009-07-02
78	E10-140	Digital Multimeter	DCV/1000V	KEITHLEY, 175	2008-09-04	2009-09-03
80	E10-823	Digital Multimeter	DCV/1000V DCA/20A	Chen Hwa, 2041	2008-09-30	2009-09-29
81	E07-1067	Oscilloscope	300MHS 2.5GS/s	Tektronix, TDS3032C	2009-05-19	2010-05-18
82	E07-0565	Oscilloscope	400MHS 100MS/S	Tektronix, TDS460A	2009-05-20	2010-05-19
86	E12-210	Withstanding Voltage Tester	10KV	KiKusui, Tos5101	2009-06-19	2009-12-18
87	E13-079	Earth Continuity Tester	(A)60A (B)30A	Tamadensoku, TEC-1225AH	2009-02-26	2009-08-25
88	E24-499	Oven	0~200°C	Terchy, CK-600	2008-12-05	2009-12-04
92	E08-087	Timer	0-99 Min	Timer	2008-11-03	2009-11-02
93	E21-293	Steel Ball	500g	DELTA	2009-03-17	2010-03-16
113	E22-T276	Caliper	150mm/6in	Mitutoyo Digmatic	2008-10-09	2009-10-08

Instr. Code	Instrument I.D.	Instrument Type	Range Used Or ***	Make and Model **	Calibration Date	
					Last	Due
See attachments attached behind all test datasheet for details.						
115	E08-100	clock	24hours/min	Timer	2009-02-06	2010-02-05
131	E18-2066	DC Load	80V/60A	Chroma, 6334	2008-09-30	2009-09-29
134	E18-2104	DC Load	80V/60A	Chroma, 6334	2008-12-04	2009-12-03
138	E09-251	Power meter	(A)300V/20A (B)300V/10A (C)300V/5A	PRODIDIT, 4010A	2008-11-03	2009-11-02
141	E26-064	Touch Current Tester	0-10mA	EXTECH 7630	2009-05-04	2010-05-03
B	N/A	Impact Test Pipe	N/A	DELTA	N.C	N.C
D	N/A	Discharge Test Switch	N/A	DELTA	N.C	N.C
J	E28-056	Touch Current Test Fixture (Annex D)	N/A	DELTA	2009-05-04	2010-05-03
Q	E22-921	Measuring tape	0-90CM	TY	2009-04-17	2010-04-16
R	E24-623	Chamber (4F Environment Test Room)	93%RH/ 40°C	Terchy, HB-408R	2008-12-31	2009-12-30
T	E20-329	PROBE 100Mohm	20kV DC 40kV pk 100ms 1000X 3.0pF	Tektronix P6015A	2009-04-21	2010-04-20
V	N/A	Cheese cloth	40g/m <sup>2</sup>	ED&D ,ACC-01	N.C	N.C
W	N/A	Tissue paper	19g/m <sup>2</sup>	ED&D,ATP-01	N.C	N.C

Clause	Requirement + Test	Result - Remark	Verdict
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2.1.1.5	TABLE: Energy hazard measurement				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
<b>Model ADP-65JH AD</b>					
20	3.25	20.2	4.75	92.8	
<b>Model ADP 65JH AB</b>					
19	3.42	19.2	4.8	89.4	
Supplementary information: Test voltage 240V, 60Hz					

2.1.1.7	TABLE: Discharge test				P
Condition	$\tau$ calculated (s)	$\tau$ measured (s)	$t_{u \rightarrow 0V}$ (s)	Comments	
Fuse in	0.99	0.85	--	$U_p = 372V$ , 37% of $U_p = 138V$	
Supplementary information: Overall capacity: CX1= 0.33 $\mu$ F Discharge resistor: 3.0M $\Omega$ (R1= R2= 1.5M $\Omega$ )					

2.2.2	TABLE: SELV measurement (under normal conditions)				P
Transformer	Location	Voltage (max.) (V)		Voltage Limitation Component	
		V peak	V d.c.		
T1	Pin A to GND	64.0	--	--	
T1	Pin A after C101 to GND	47.2	--	C101	
T1	Pin A after D101 to GND	--	20.8	D101, R101, R105, R102	
Supplementary information: Test voltage 240V, 60Hz					

2.2.3	TABLE: SELV measurement (under fault conditions)		P
Location		Voltage (max.) (V)	Comments
Model ADP 65JH AB			
+19V to GND		0.2	D101 s-c
+19V to GND		19.0	R101 s-c
Model ADP-65JH AD			

Clause	Requirement + Test	Result - Remark	Verdict
+20V to GND	0.2	D101 s-c	
+20V to GND	20.2	R101 s-c	
Supplementary information: Test voltage 240V, 60Hz			

2.4.2	TABLE: Limited current circuit measurement					P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
CY1 to GND	0.06	0.12	0.06	0.7	no load	
CY1 to GND	0.07	0.15	0.06	0.7	maximum rated load	
R13, R14 s-c	0.07	0.13	0.06	0.7	no load	
R13, R14 s-c	0.08	0.17	0.06	0.7	maximum rated load	
Supplementary information: CY1= 680pF; R13, R14, R15, R16= 9.1MΩ Test voltage 264V, 60Hz						

2.5	TABLE: limited power source measurement		P
	Limits	Measured	Verdict
Model ADP 65JH AB			
According to Table 2B (normal condition), Uoc= 19.28V			
current (in A)	8	4.5	Pass
apparent power (in VA)	100	84.3	Pass
According to Table 2B, R9 o-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass
According to Table 2B, R36 o-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass
According to Table 2B, R9 s-c			
current (in A)	8	5.0	Pass
apparent power (in VA)	100	93.2	Pass
According to Table 2B, R36 s-c			
current (in A)	8	4.4	Pass

Clause	Requirement + Test	Result - Remark	Verdict
apparent power (in VA)	100	82.4	Pass
According to Table 2B, IC32, pin (1-2) s-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass
According to Table 2B, IC32, pin (3-4) s-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass
Note(s): Test voltage: 240V, 60Hz			
<b>Model ADP 65JH AD</b>			
According to Table 2B (normal condition), U <sub>oc</sub> = 20.15V			
current (in A)	8	4.4	Pass
apparent power (in VA)	100	86.3	Pass
According to Table 2B, R9 o-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass
According to Table 2B, R36 o-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass
According to Table 2B, R9 s-c			
current (in A)	8	4.8	Pass
apparent power (in VA)	100	92.7	Pass
According to Table 2B, R36 s-c			
current (in A)	8	4.3	Pass
apparent power (in VA)	100	83.5	Pass
According to Table 2B, IC32, pin (1-2) s-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass
According to Table 2B, IC32, pin (3-4) s-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass
According to Table 2B, IC32, pin 3 o-c			
current (in A)	8	0 (Shutdown)	Pass
apparent power (in VA)	100	0 (Shutdown)	Pass



Clause	Requirement + Test	Result - Remark	Verdict
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Note(s): Test voltage: 240V, 60Hz

2.6.3.4	TABLE: Resistance of earthing measurement		N/A
Location	Resistance measured (mΩ)	Comments	
Supplementary information:			

2.10.2	Table: Working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
T1 pin 1 to pin A		204	345	
T1 pin 1 to pin B, GND		209	390	
T1 pin 2 to pin A		201	360	
T1 pin 2 to pin B, GND		198	340	
T1 pin 3 to pin A		203	400	
T1 pin 3 to pin B, GND		207	340	
T1 pin 4 to pin A		245	510	
T1 pin 4 to pin B, GND		<b>266</b>	<b>545</b>	<b>highest peak and rms. voltage.</b>
Supplementary information: Test voltage 240V unless otherwise stated.				

4.6.1, 4.6.2	Table: Enclosure opening measurements		N/A
Location	Size (mm)	Comments	
Supplementary information: No openings.			

5.1.6	TABLE: Touch current and protective conductor current measurement		P
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Clause	Requirement + Test	Result - Remark	Verdict
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Condition	L → terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments
Fuse in	0.02	0.02	0.25	Terminal A connected to output connector, switch "e" closed
Fuse in	0.03	0.03	0.25	Terminal A connected to enclosure (wrapped with foil), switch "e" closed
Supplementary information: Input voltage: 264V / 60Hz Overall capacity: CY1= 680pF Bridging resistors: R13= R14= R15= R16= 9.1MΩ				

C.2	TABLE: Insulation of transformers						P
	Transformer part name ..... :			T1			—
	Manufacturer ..... :			See 1.5.1			—
	Type ..... :			MV-NB8309			—
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)
Primary winding and secondary winding (internal)		545V	266V	--	--	--	--
Primary winding and core (internal)				--	--	--	--
Secondary winding and core (internal)				--	--	--	--
Primary part and secondary part (external)				5.1	12.0	5.4	12.0
Primary part and core (external)				--	--	--	--
Secondary part and core (external)				5.1	12.0	5.4	12.0
Secondary part and primary winding (external)				5.1	12.0	5.4	12.0
Description of design:							
(a) Bobbin							
Primary/input pins :			4 – X - 3 , 1 – 2, shields to pin 2				
Secondary/output pins ..... :			A – B				
Material (manufacturer, type, ratings) ..... :			See table 1.5.1				

Clause	Requirement + Test	Result - Remark	Verdict
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Thickness (mm)..... :	0.4mm min.
(b) General	
Concentric windings on a 3132011 bobbin with RM10/18.6 size core. The core is considered as primary. A 31725061 cup-shaped transformer base is used to provide reinforced insulation to the transformer bottom and transformer sides. Material for transformer bobbin and transformer base is phenolic with a minimum thickness of 0.49mm. The primary windings are separated in two parts, one located as inner winding and the other as outer winding. There are two layers of insulation tape wound around the outer side of primary winding. One layer of insulation tape is provided between the windings. At bottom core there are two layers of foldback tape with overlapping of 3.0mm at secondary side. One primary shield is provided between inner primary and secondary winding. The shields are connected to pin 2. certified triple insulated wire is used for secondary windings. The winding ends for the secondary winding are provided with PTFE tubing.	
Supplementary information:	
The multiplication factor for clearances 1.15 according to Table A.2, IEC 60664 is considered	

C.2	TABLE: Insulation of transformers						P
	Transformer part name .....	T1					—
	Manufacturer .....	See 1.5.1					—
	Type .....	MV-NB9009					—
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)	
Primary winding and secondary winding (internal)	545V	266V	--	--	--	--	
Primary winding and core (internal)			--	--	--	--	
Secondary winding and core (internal)			--	--	--	--	
Primary part and secondary part (external)			5.1	12.0	5.4	12.0	
Primary part and core (external)			--	--	--	--	
Secondary part and core (external)			5.1	12.0	5.4	12.0	
Secondary part and primary winding (external)			5.1	12.0	5.4	12.0	
Description of design:							
(a) Bobbin							
Primary/input pins	:	4 – X - 3 , 1 – 2, shields to pin 2					
Secondary/output pins .....	:	A – B					
Material (manufacturer, type, ratings) .....	:	See table 1.5.1					

Clause	Requirement + Test	Result - Remark	Verdict
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Thickness (mm)..... :	0.4mm min.		
(b) General			
<p>Concentric windings on a 3132011 bobbin with RM10/18.6 size core. The core is considered as primary. A 31725061 cup-shaped transformer base is used to provide reinforced insulation to the transformer bottom and transformer sides. Material for transformer bobbin and transformer base is phenolic with a minimum thickness of 0.49mm. The primary windings are separated in two parts, one located as inner winding and the other as outer winding. There are two layers of insulation tape wound around the outer side of primary winding. One layer of insulation tape is provided between the windings. At bottom core there are two layers of foldback tape with overlapping of 3.0mm at secondary side. One primary shield is provided between inner primary and secondary winding. The shields are connected to pin 2. certified triple insulated wire is used for secondary windings. The winding ends for the secondary winding are provided with PTFE tubing.</p>			
<p>Supplementary information:</p> <p>The multiplication factor for clearances 1.15 according to Table A.2, IEC 60664 is considered</p>			

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

### EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Differences according to.....: EN 60950-1:2006+A11:2009

	CENELEC COMMON MODIFICATIONS (EN)	P
ZA	Normative references to international publications with their corresponding European publications	—

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)	P
1.2.13.14	In <b>Norway</b> and <b>Sweden</b> , for requirements see 1.7.2.1 and 7.3 of this annex.	P
1.5.7.1	<b>Replace</b> the existing SNC by the following: In <b>Finland, Norway</b> and <b>Sweden</b> , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	N/A
1.7.2.1	<b>Add</b> as new SNC: In <b>Norway</b> and <b>Sweden</b> , the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).” NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>also be accepted in Norway):            “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”            Translation to Swedish:            ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p>		
1.7.5	<p><b>Add</b> the following paragraph to the existing SNC for <b>Denmark</b>:            For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>		N/A
7.3	<p><b>Delete</b> the existing SNC for Norway and Sweden (based on NOTE 1 of IEC 60950-1:2005 + corr. 1).  <b>Add</b> as new SNC (based on future NOTE 3 of IEC 60950-1:200X):            In <b>Norway</b> and <b>Sweden</b>, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>		N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
1.5.1	<p><b>Sweden</b>  <b>Delete</b> the A-deviation.</p>		N/A
1.7.2.1	<p><b>Denmark</b>  <b>Delete</b> the A-deviation.</p>		N/A
1.7.5	<p><b>Denmark</b>  <b>Delete</b> the A-deviation.</p>		N/A
5.1.7.1	<p><b>Denmark</b>  <b>Delete</b> the A-deviation.</p>		N/A



National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

	Canadian National Differences		P
<b>SPECIAL NATIONAL CONDITIONS</b>			
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. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Equipment in compliance with IEC 60950-1. Overall acceptance has to be evaluated during the national approval process.	N/A
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. 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.		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. 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 if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	Single-phase equipment.	N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No such components provided.	N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	Overall acceptance has to be evaluated during the national approval process.	N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	No power supply cords 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, is required to comply with special earthing, wiring, marking and installation instruction requirements.		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.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Flexible power supply cords are required to be compatible with Tables 11 and 12 of the CEC and Article 400 of the NEC.	No power supply cords provided.	N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).	Equipment is not such a device.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No such device incorporated.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to 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 is required to comply with NFPA 30.		N/A
4.3.13.5	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No laser contained.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) are required to 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 <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. 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 is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.		N/A
OTHER DIFFERENCES			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring,	Complied.	P

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.		
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. This maximum operating voltage shall include 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 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , 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 are required to reduce the risk of injury due to the implosion of the CRT.		N/A
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	Not applicable for this equipment.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
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 to be overloaded. 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.		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		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.		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 is required to comply with special acoustic pressure requirements.		N/A
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).		N/A

National Differences			
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).	No power supply cords provided.	N/A
8	Addition: EMC The apparatus shall comply with the relevant CISPR standards.	Compliance shall be evaluated during the national approval.	N/A



National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	US National Differences		P
<b>SPECIAL NATIONAL CONDITIONS BASED ON FEDERAL REGULATIONS</b>			
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Equipment in compliance with IEC 60950-1. Overall acceptance has to be evaluated during the national approval process.	N/A
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 specified in the NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings.		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.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.7.1	Suitable NEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs 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, is required to comply with special earthing, wiring, marking and installation instruction requirements.		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.		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.5	Power supply cords are required to be no longer than 4.5 m in length and minimum length shall be 1.5 m. Flexible power supply cords are required to be compatible with Article 400 of the NEC.		N/A
3.2.9	Permanently connected equipment must have a suitable wiring compartment and wire bending space.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, must be suitable for U.S wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, 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 are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5	Equipment with lasers is required to meet the Code of Federal Regulations 21 CFR 1040.		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. 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 must comply with Federal Regulations, 21 CFR 1020		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

OTHER NATIONAL DIFFERENCES			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.		N/A
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. This maximum operating voltage it to include 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 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , the max. 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.		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.		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 are required to reduce the risk of injury due to the implosion of the CRT.		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		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 to be overloaded. 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.		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		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.		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 is required to comply with special acoustic pressure requirements.		N/A
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).		N/A

Product: AC/DC Adapter

Type Designation: ADP-65JH AX, ADP-65JH CX, PA3714U-1ACA, ADP-65JH AD, ADP-65JH AB





Product: AC/DC Adapter

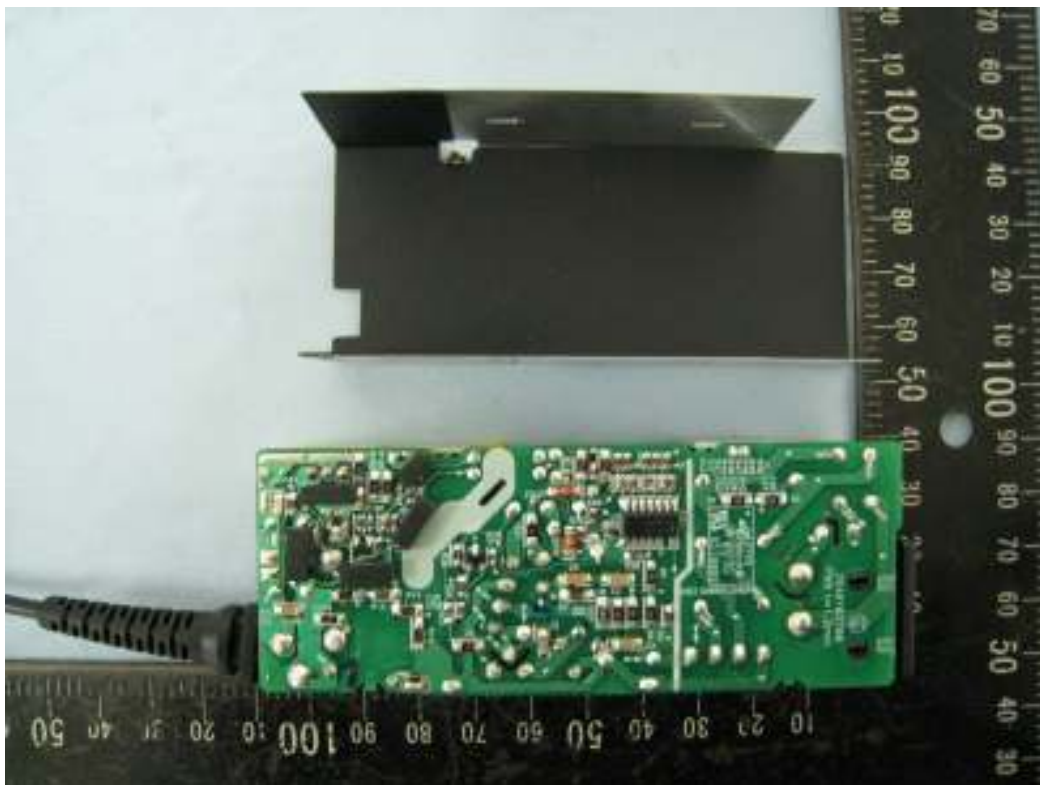
Type Designation: ADP-65JH AX, ADP-65JH CX, PA3714U-1ACA, ADP-65JH AD, ADP-65JH AB





Product: AC/DC Adapter

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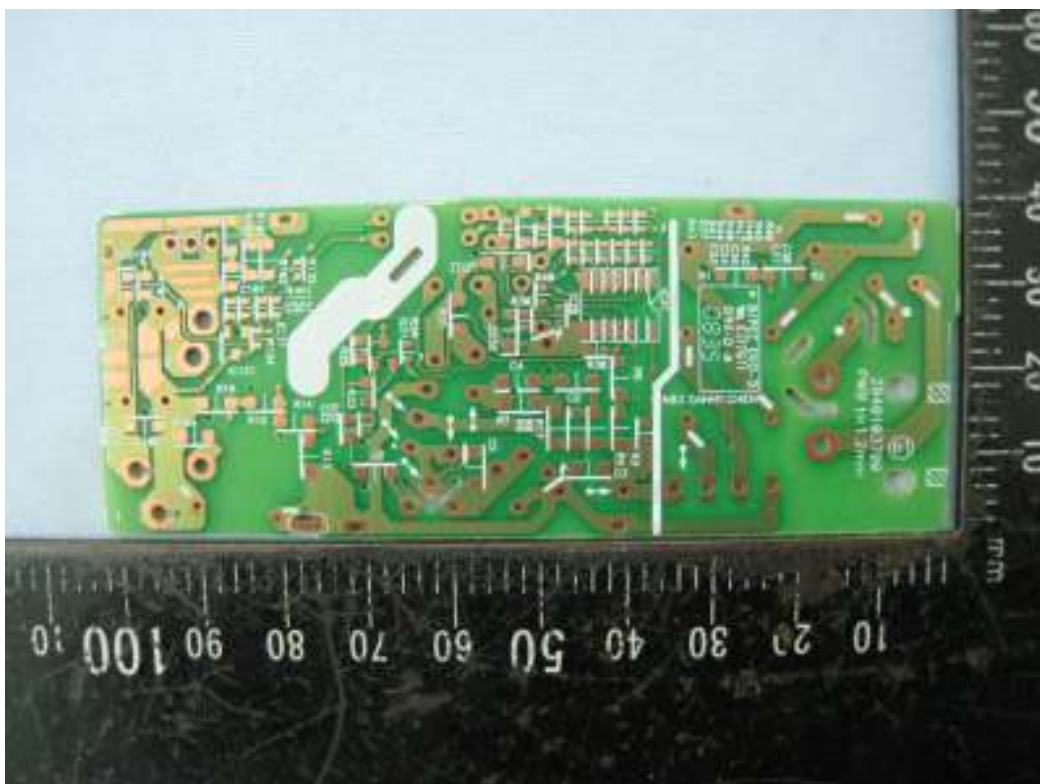
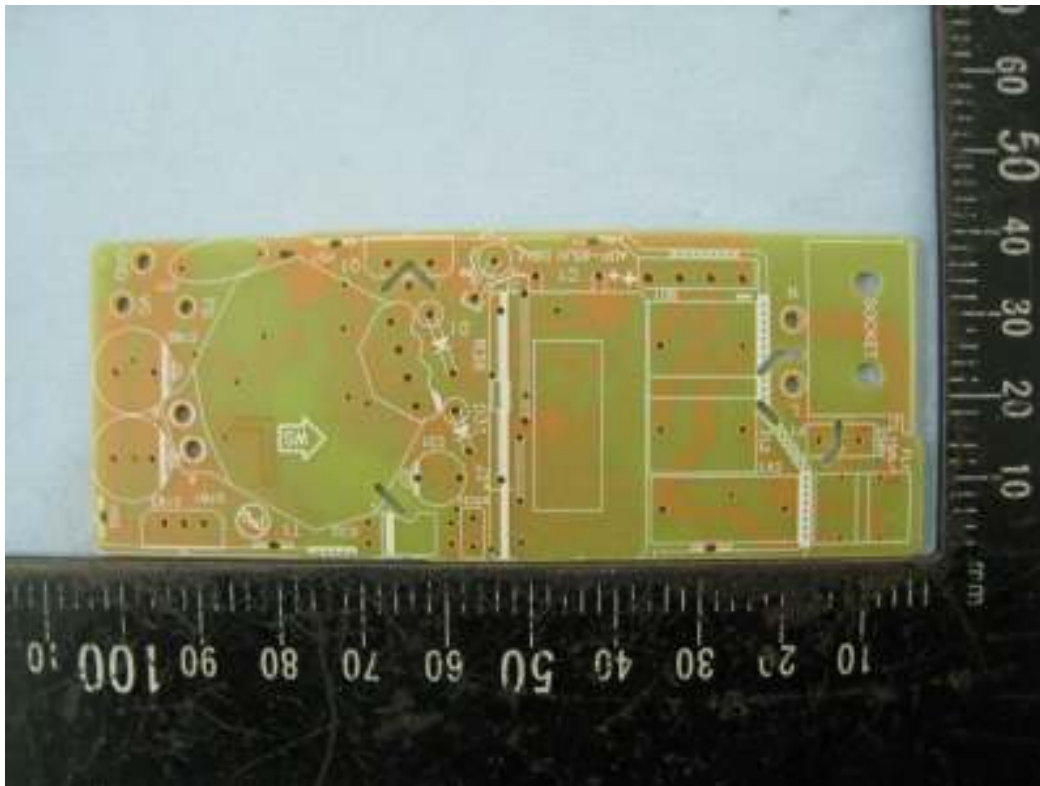
Product: AC/DC Adapter

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Product: AC/DC Adapter

Type Designation: ADP-65JH AX, ADP-65JH CX, PA3714U-1ACA, ADP-65JH AD, ADP-65JH AB





Product: AC/DC Adapter

Type Designation: ADP-65JH AX, ADP-65JH CX, PA3714U-1ACA, ADP-65JH AD, ADP-65JH AB

alternative shield:

