



Ref. Certif. No.

JPTUV-014541

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

LCD Monitor

Name and address of the applicant
Nom et adresse du demandeur

Top Victory Electronics (Taiwan) Co., Ltd.
10F., No. 230, Liancheng Rd.
Zhonghe City, Taipei County 23553 Taiwan

Name and address of the manufacturer
Nom et adresse du fabricant

Top Victory Electronics (Taiwan) Co., Ltd.
10F., No. 230, Liancheng Rd.
Zhonghe City, Taipei County 23553 Taiwan

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

(See appendix for factories information)

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

AC 100-240V; 50/60Hz; 1.5A or 0.6-0.4A; Class I

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

NEC

Model/type Ref.
Ref. de type

L174F1

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

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 60950-1:2001
inclusive CENELEC Common Modifications
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

11006763 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 Group

TÜV Rheinland Japan Ltd.
Shin Yokohama Daini Center Bldg.
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Yokohama 222-0033 Japan
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Date: 26.04.2006

Signature:

Dipl.-Ing. W. Hsu

Appendix to CB Certificate JPTUV-014541
Report Number: 11006763 001

PAGE 1 OF 1

Name and address of the manufacturer

Top Victory Electronics (Taiwan)
Co., Ltd.
10F., No. 230, Liancheng Rd.
Zhonghe City, Taipei County 23553
Taiwan

Name and address of the factory(ies)

Top Victory Electronics (Fujian) Co., Ltd.

Yuan Hong Rd., Sung-Zheng, Hong-Lu
Fuqing, Fujian
P.R. China

Beijing Orient Top Victory Electronics Co., Ltd.

No. 10, Jiu Xian Qiao Rd.
Chao Yang District, Beijing
P.R. China

TPV Display Technology (Wuhan) Co., Ltd.

ZhuanKou Section
Wuhan Economic & Tech. Develop. Zone
Wuhan City 430056, P.R. China

TPV Electronics (Fujian) Co., Ltd.

Yuan Hong Rd., Shang-Zheng Hong-Lu
Fuqing City Fujian
P.R. China

Date: 26.04.2006

Dipl.-Ing. W. Hsu

Yokohama Head Office

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Ref. Certif. No.

JPTUV-014544

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

LCD Monitor

Name and address of the applicant
Nom et adresse du demandeur

Top Victory Electronics (Taiwan) Co., Ltd.
10F., No. 230, Liancheng Rd.
Zhonghe City, Taipei County 23553 Taiwan

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Nom et adresse du fabricant

Top Victory Electronics (Taiwan) Co., Ltd.
10F., No. 230, Liancheng Rd.
Zhonghe City, Taipei County 23553 Taiwan

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

(See appendix for factories information)

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

AC 100-240V; 50/60Hz; 1.5A or 0.6-0.4A; 34W; Class I

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

MITSUBISHI

Model/type Ref.
Ref. de type

L174F1

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

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 60950-1:2001
inclusive CENELEC Common Modifications
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
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11006763 001

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Date: 26.04.2006



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TEST REPORT IEC 60950-1 and/or EN 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report reference No	<11006763 001>
Tested by (printed name and signature)	John W.H. Chung 
Approved by (printed name and signature)	Simon Yu 
Date of issue	April 26, 2006
Testing Laboratory Name	TÜV Rheinland Taiwan, Taichung Laboratory
Address	10F, No. 219, Min-Chuan Road, Taichung 403, Taiwan
Testing location	CBTL ☒ CCATL ☐ SMT ☐ TMP ☐
Address	Same as above.
Applicant's Name	Top Victory Electronics (Taiwan) Co., Ltd.
Address	10F., No. 230, Liancheng Rd., Zhonghe City, Taipei County 23553 Taiwan
Test specification	
Standard	IEC 60950-1:2001 EN 60950-1:2001+A11: 2004 AS 60950.1-2003, K60950
Test procedure	CB-scheme
Non-standard test method	N.A.
Test Report Form No.	IECEN60950_1B
TRF originator	SGS Fimko Ltd
Master TRF	dated 2003-03
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Test item description	LCD Monitor
Trademark	NEC, MITSUBISHI
Model and/or type reference	L174F1
Serial number	Pre-production samples without serial numbers.
Rating(s)	100-240V~, 50/60Hz, 1.5A or 0.6-0.4A

Particulars: test item vs. test requirements

Equipment mobility: Movable equipment
 Operating condition: Continuous
 Mains supply tolerance (%): +10% / -10%
 Tested for IT power systems: Yes (Norway)
 IT testing, phase-phase voltage (V): IT, 230V for Norway
 Class of equipment: Class I
 Mass of equipment (kg).....: 4.28
 Protection against ingress of water: IPX0

Test case verdicts

Test case does not apply to the test object ...: N/A
 Test item does meet the requirement: P(ass)
 Test item does not meet the requirement: F(ail)

Testing

Date of receipt of test item: Feb. 2006
 Date(s) of performance of test: Feb. – April 2006

General remarks

"This report is not valid as a CB Test Report unless appended to a CB Test Certificate issued by a NCB, in accordance with IEC 60950-1".

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Throughout this report a point is used as the decimal separator.

Procedure deviation:

Argentina, Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, India, Israel, Italy, Korea, Malaysia, Netherlands, Norway, Poland, Singapore, Slovenia, Sweden, Switzerland, United Kingdom

Manufacturer:

Same as applicant.

Factories:

1. Top Victory Electronics (Fujian) Co., Ltd.

Yuan Hong Rd., Sung-Zheng, Hong-Lu, Fuqing, Fujian, P.R. China

2. Beijing Orient Top Victory Electronics Co., Ltd.

No. 10, Jiu Xian Qiao Rd., Chao Yang District, Beijing, P.R. China

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4. TPV Electronics (Fujian) Co., Ltd.

Yuan Hong Rd., Shang-Zheng Hong-Lu, Fuqing City Fujian, P.R. China

Comments:

The equipment model L174F1 is a LCD monitor for general office use.

The internal built-in power supply with DC/AC inverter board type PWPC1742 is a non-approved component, which was manufactured by Top Victory Electronics Co., Ltd, see appended table 1.5.1 for the detail information. The power supply was evaluated within this equipment.

This equipment with three type (type A, B and C) of plastic enclosure shape, four kinds of base stand (type a, b, c and d) and two kinds of metal enclosure (type A and B).

Three kinds of optional main board used with this product (type A, B and C). Type B and C with DVI and D-sub port, type A only with D-sub port, see appended table 1.5.1 for details.

The main board type A (with D-sub port), audio board type A and key control board type 715L1531 only used with metal enclosure type A and plastic enclosure shape type A or B.

The main board type B, type C (with D-sub and DVI port), audio board type B and key control board type 715G1663 only used with metal enclosure type B and plastic enclosure shape type C.

The power supply with DC/AC inverter board main board and audio board were within the fire enclosure (internal metal enclosure). Only the key control board and speaker (speaker was connected to key control board) which were outside the fire enclosure, the key control board was evaluated by cl. 4.7.1 method 2, refer to sub clause 4.7.1 and appended table 5.3 for details.

As applicant's request, equipment operating up to altitudes 3048m (10000 ft.) was considered, the required clearance multiplied by altitude correction factor, 1.15 according to the Table A.2 of IEC 60664:1992 +A1: 2000 +A2: 2002 standard.

The unit was evaluated at 40°C ambient temperature.

Copy of marking plate(s):

NEC LCD MONITOR
AccuSync LCD72v

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE ENCLOSURE.
NO USER-SERVICEABLE PARTS INSIDE.

ATTENTION: AFIN DE PREVENIR DE TOUT CHOC ELECTRIQUES, NE PAS OUVRI
CE BOITIER, AUCUNE PIECE INTERNE NE PEUT-ÊTRE CHANGÉE PAR L'UTILISATEUR.

ACHTUNG: ZUR TRENNUNG VOM NETZ IST DER NETZSTECKER AUS DER
STECKDOSE ZU ZIEHEN. GERÄT NICHT ÖFFNEN. ES SIND KEINE DURCH DEN
BENUTZER AUSWECHSELBAREN TEILE IM GERÄT VORHANDEN.

VARNING: APPARATEN SKALL ANSLUTAS TILL JORDAT UTGÅNG.

VAROITUS: LAITE ON LIITETTÄVÄ SUOJAMAADOITUSKOSKETTIMILLA
VARUSTETTUUN PISTORASIAAN.

ADVARSEL: APPARATET MÅ TILKOPLES JORDET STIKKONTAKT.

Geprüft nach Tested Acc. to MPR II: MPR 1990:8/1990:10 (Model: L174F1) 100-240V~ 50/60Hz 1.5A

SAFETY MARK 041472-11 **UL** LISTED **ISO** 13469-2 **FC** Tested To Comply With FCC Standards FOR HOME OR OFFICE USE **N56** **CE** **PC** BZ02

Hg LAMP CONTAINS MERCURY, DISPOSE ACCORDING TO STATE/LOCAL LAW.

THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.
CET APPAREIL NUMÉRIQUE DE LA CLASSE B RESPECTE TOUTES LES EXIGENCES DU RÈGLEMENT SUR LE MATÉRIEL BROUILLER DU CANADA.

NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION MADE IN CHINA
4-13-23 SHIBAURA, MINATO-KU, TOKYO, 108-0023, JAPAN MH25448 40L190-842-2A NA

NEC LCD MONITOR
AccuSync LCD72v

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE ENCLOSURE.
NO USER-SERVICEABLE PARTS INSIDE.

ATTENTION: AFIN DE PREVENIR DE TOUT CHOC ELECTRIQUES, NE PAS OUVRI
CE BOITIER, AUCUNE PIECE INTERNE NE PEUT-ÊTRE CHANGÉE PAR L'UTILISATEUR.

ACHTUNG: ZUR TRENNUNG VOM NETZ IST DER NETZSTECKER AUS DER
STECKDOSE ZU ZIEHEN. GERÄT NICHT ÖFFNEN. ES SIND KEINE DURCH DEN
BENUTZER AUSWECHSELBAREN TEILE IM GERÄT VORHANDEN.

VARNING: APPARATEN SKALL ANSLUTAS TILL JORDAT UTGÅNG.

VAROITUS: LAITE ON LIITETTÄVÄ SUOJAMAADOITUSKOSKETTIMILLA
VARUSTETTUUN PISTORASIAAN.

ADVARSEL: APPARATET MÅ TILKOPLES JORDET STIKKONTAKT.

Geprüft nach Tested Acc. to MPR II: MPR 1990:8/1990:10 (Model: L174F1) 100-240V~ 50/60Hz 0.6-0.4A

SAFETY MARK 041472-11 **UL** LISTED **ISO** 13469-2 **FC** Tested To Comply With FCC Standards FOR HOME OR OFFICE USE **N56** **CE** **PC** BZ02

Hg LAMP CONTAINS MERCURY, DISPOSE ACCORDING TO STATE/LOCAL LAW.

THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.
CET APPAREIL NUMÉRIQUE DE LA CLASSE B RESPECTE TOUTES LES EXIGENCES DU RÈGLEMENT SUR LE MATÉRIEL BROUILLER DU CANADA.

NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION MADE IN CHINA
4-13-23 SHIBAURA, MINATO-KU, TOKYO, 108-0023, JAPAN MH25448 40L190-842-2A NA

MITSUBISHI
液晶ディスプレイ
RDTI73LM

定格電圧 AC 100-240V 50/60Hz
定格電流 0.6-0.4A
消費電力 34W

製造番号

NEC三菱電機ビジュアルシステムズ株式会社

(Model No.: L174F1)

警告

高圧注意
サービスマン以外の方は分解しないでください。
内部には高電圧部分があり、万一さわると危険です。

感電注意
電源コードのアースリード線は必ず接地ください。
故障のときに感電の原因となります。

UL LISTED **ISO** 13469-2 **FC** Tested To Comply With FCC Standards FOR HOME OR OFFICE USE **N56** **CE** **PC** BZ02

MH25448 MADE IN CHINA 40L/G190-842-8A NA

MITSUBISHI
液晶ディスプレイ
RDTI73LM

定格電圧 AC 100-240V 50/60Hz
定格電流 1.5A
消費電力 34W

製造番号

NEC三菱電機ビジュアルシステムズ株式会社

(Model No.: L174F1)

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UL LISTED **ISO** 13469-2 **FC** Tested To Comply With FCC Standards FOR HOME OR OFFICE USE **N56** **CE** **PC** BZ02

MH25448 MADE IN CHINA 40L/G190-842-8A NA

IEC 60950-1 / 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	Components, which were found to affect safety aspects, comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards (see appended table 1.5.1).	P
1.5.2	Evaluation and testing of components	Components, which are certified to IEC and/or national standards, are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
1.5.3	Thermal controls	No thermal controls provided.	N
1.5.4	Transformers	Transformers used are suitable for their intended application and comply with the relevant requirements of the standard and Annex C.	P
1.5.5	Interconnecting cables	Interconnection cable provided with the equipment is carrying signals on energy level below 240VA. Besides for the insulation materials there are not other requirements for the interconnection cables.	P
1.5.6	Capacitors in primary circuits	Between the lines capacitor subclass X2 according to IEC 60384-14/1993 with 21 days damp heat test. Between line and ground. Y2 capacitors according to IEC 60384-14:1993.	P
1.5.7	Double insulation or reinforced insulation bridged by components	See below.	P
1.5.7.1	General	See below.	P
1.5.7.2	Bridging capacitors	Primary and secondary bridged by a capacitor, which was certified as Y1 capacitor according to IEC 60384-14/1993.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.5.7.3	Bridging resistors	No bridging resistors.	N
1.5.7.4	Accessible parts	See sub-clause 2.4.	P
1.5.8	Components in equipment for IT power systems	Phase to earth designed in according to phase-to-phase working voltage. The Y2 type capacitor used between phase-to-earth is rated accordingly.	P

1.6	Power interface		P
1.6.1	AC power distribution systems	TN power system. IT power system for Norway.	P
1.6.2	Input current	Maximum load according to 1.2.2.1 for this equipment is the operation full brightness, contrast of the LCD backlight circuit and max. Volume of speaker. (Results see appended table)	P
1.6.3	Voltage limit of hand-held equipment	This equipment is not a hand-held equipment.	N
1.6.4	Neutral conductor	The neutral is not identified in the equipment. Basic insulation for rated voltage between earthed parts and primary phases.	P

1.7	Marking and instructions		P
1.7.1	Power rating	See below.	P
	Rated voltage(s) or voltage range(s) (V)	100-240V~	P
	Symbol for nature of supply, for d.c. only.....	Supplied from AC mains.	N
	Rated frequency or rated frequency range (Hz) ..	50/60Hz	P
	Rated current (mA or A)	1.5A or 0.6-0.4A	P
	Manufacturer's name or trademark or identification mark	NEC, MITSUBISHI	P
	Type/model or type reference	L174F1	P
	Symbol for Class II equipment only	Class I equipment.	N
	Other symbols	Additional symbols or marking does not give rise to misunderstanding.	P
	Certification marks	See copy of marking plate.	P
1.7.2	Safety instructions	User's manual provided.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.3	Short duty cycles	Full ranging supply designed for continuous operation.	N
1.7.4	Supply voltage adjustment	No voltage/frequency setting.	N
	Methods and means of adjustment; reference to installation instructions		N
1.7.5	Power outlets on the equipment	No power outlet used.	N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fuse marking label adjacent to the fuse holder: F901 T2A/250VAC CAUTION: FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY WITH SAME TYPE AND RATINGS OF FUSE.	P
1.7.7	Wiring terminals	See below.	P
1.7.7.1	Protective earthing and bonding terminals	Appliance inlet is provided. The symbol 60417-1-IEC-5019 was located at appliance inlet.	P
1.7.7.2	Terminal for a.c. mains supply conductors	The equipment is provided with appliance inlet, which is for connection of a detachable type power supply cord.	N
1.7.7.3	Terminals for d.c. mains supply conductors	AC mains supply.	N
1.7.8	Controls and indicators	See below.	P
1.7.8.1	Identification, location and marking	The marking and indication of the stand-by switch is located that indication of function is clearly.	P
1.7.8.2	Colours	No safety relevant control or indicator.	P
1.7.8.3	Symbols according to IEC 60417	Marking for stand-by switch according 60417-1-IEC- 5009 (line half inside circle) provided.	P
1.7.8.4	Markings using figures	No indicators for different positions of control.	N
1.7.9	Isolation of multiple power sources	Single power source only.	N
1.7.10	IT power distribution systems	For Norway compliance has to be evaluated during the national approved.	N
1.7.11	Thermostats and other regulating devices	No such components.	N
1.7.12	Language(s)	User's manual provided in English and German. Marking label is in English. Versions in other languages will be provided during national approval.	—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.13	Durability	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. and then again for 15 sec. with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting of the label edge.	P
1.7.14	Removable parts	No removable parts provided.	N
1.7.15	Replaceable batteries	No battery.	N
	Language(s).....:		—
1.7.16	Operator access with a tool	No operator accessible area with a tool.	N
1.7.17	Equipment for restricted access locations	Use of equipment not limited to restricted access locations.	N

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	No hazard in operator accessible areas.	P
2.1.1.1	Access to energized parts	See 2.1.1.	—
	Test by inspection	No access with test finger and test pin to any parts with only basic insulation to ELV or hazardous voltage. Any hazardous parts accessible are unlikely.	P
	Test with test finger	Ditto.	P
	Test with test pin	Ditto.	P
	Test with test probe	No TNV.	N
2.1.1.2	Battery compartments	No battery compartment.	N
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N
	Working voltage (V _{peak} or V _{rms}); minimum distance (mm) through insulation		—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	N
2.1.1.5	Energy hazards	No energy hazard in operator access area.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.1.1.6	Manual controls	No conductive shafts of operating knobs and handles.	N
2.1.1.7	Discharge of capacitors in equipment	No risk of electric shock.	P
	Time-constant (s); measured voltage (V).....:	(see appended table 2.1.1.7)	—
2.1.2	Protection in service access areas	No maintenance work in operation mode necessary.	N
2.1.3	Protection in restricted access locations	The unit is not limited to be used in restricted access locations.	N

2.2	SELV circuits		P
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V).....:	Between any conductor of the SELV circuits 42.4V peak or 60Vd.c. are not exceeded. See appended table 2.2.2.	P
2.2.3	Voltages under fault conditions (V).....:	Single fault did not cause excessive voltage in accessible SELV circuits. The limits of 71V peak and 120Vd.c. were not exceed. Furthermore, the SELV limits (see 2.2.2) were not exceeded for longer than 0.2 seconds. Results see appended tables 2.2.2 and 2.2.3.	P
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)	Method 1 used.	P
2.2.3.2	Separation by earthed screen (method 2)		N
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N
2.2.4	Connection of SELV circuits to other circuits.....:	See 2.2.2, 2.2.3. and 2.4.	P

2.3	TNV circuits		N
2.3.1	Limits		N
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N
	Insulation employed		—
2.3.3	Separation from hazardous voltages		N
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N
	Insulation employed		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.3.5	Test for operating voltages generated externally		N

2.4	Limited current circuits		P
2.4.1	General requirements	Considered.	P
2.4.2	Limit values	See appended table 2.4.2.	P
	Frequency (Hz)	See appended table 2.4.2.	—
	Measured current (mA).....	The peak drop voltage was measured with an oscilloscope at a 2k Ω non-inductive resistor. Results see appended table 2.4.2.	—
	Measured voltage (V)	1080V (for DC/AC inverter)	—
	Measured capacitance (μ F)	42nF (for DC/AC inverter), 3300pF (for SPS)	—
2.4.3	Connection of limited current circuits to other circuits	Complies.	P

2.5	Limited power sources		N
	Inherently limited output		N
	Impedance limited output		N
	Overcurrent protective device limited output		N
	Regulating network limited output under normal operating and single fault condition		N
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N
	Output voltage (V), output current (A), apparent power (VA).....		—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	Reliable connection of the PE conductor of appliance inlet to PCB by solder and an metal sheet fixed cover upper appliance inlet.	P
2.6.2	Functional earthing	Secondary functional earthing is connected to metal enclosure that separated from primary by basic insulation.	P
2.6.3	Protective earthing and protective bonding conductors	See below.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.3.1	General	No power supply cord provided. See also sub clause 2.6.3.4.	P
2.6.3.2	Size of protective earthing conductors	No power cord provided.	N
	Rated current (A), cross-sectional area (mm ²), AWG:		—
2.6.3.3	Size of protective bonding conductors	See sub clause 2.6.3.4.	N
	Rated current (A), cross-sectional area (mm ²), AWG:		—
2.6.3.4	Resistance (Ω) of earthing conductors and their terminations, test current (A)	(Refer to appended table 2.6.3.4).	P
2.6.3.5	Colour of insulation	Green/yellow wire used from AC inlet earth pin to inner metal chassis.	P
2.6.4	Terminals	See below.	P
2.6.4.1	General	See sub clause 2.6.1.	P
2.6.4.2	Protective earthing and bonding terminals	Protective earthing conductor is in appliance inlet; green/yellow wire is provided for protective bonding conductor from appliance inlet to metal chassis.	P
	Rated current (A), type and nominal thread diameter (mm)	Evaluation by test. Rated current below 16A.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Protective earthing conductor is in appliance inlet.	P
2.6.5	Integrity of protective earthing	See below.	P
2.6.5.1	Interconnection of equipment	This unit has it's own earthing connection. Any other units connected via the output shall be provided SELV only. The equipment does not comprise class I and class II.	P
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device in protective earthing or bonding conductor.	P
2.6.5.3	Disconnection of protective earth	Appliance inlet provided as disconnection device.	P
2.6.5.4	Parts that can be removed by an operator	Plug or inlet, the earth connection is made before and broken after the hazardous voltage. No other operator removable parts.	P
2.6.5.5	Parts removed during servicing	It is not necessary to disconnect the earth connection except for the removing of the earthed part itself.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.5.6	Corrosion resistance	All safety earthing connections in compliance with Annex J.	P
2.6.5.7	Screws for protective bonding	No self-tapping screws are used. For the protective earthing connection to the PCB by solder and a metal sheet fixed cover on appliance inlet. For any other parts, the screw is threaded into metal enclosure at least twice the pitch of the screw thread.	P
2.6.5.8	Reliance on telecommunication network or cable distribution system	No TNV.	N

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment relies on the fuse or circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short circuit. Over current protection is provided by one built-in fuse.	P
	Instructions when protection relies on building installation	Not applicable for pluggable equipment type A.	N
2.7.2	Faults not covered in 5.3	The protection devices are well dimensioned and mounted.	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.	P
2.7.5	Protection by several devices	One fuse provided.	N
2.7.6	Warning to service personnel	No service work necessary.	N

2.8	Safety interlocks		N
2.8.1	General principles		N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
2.8.5	Moving parts		N
2.8.6	Overriding		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.8.7	Switches and relays		N
2.8.7.1	Contact gaps (mm)		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test		N
2.8.8	Mechanical actuators		N

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	Carried out for 120 hours.	P
	Humidity (%)	95% R.H.	—
	Temperature (°C)	40°C	—
2.9.3	Grade of insulation	Adequate levels of safety insulation were provided and maintained to comply with the requirements of this standard.	P

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below.	P
2.10.2	Determination of working voltage	The rms and the peak voltages were measured for the unit. The unit was connected to a 240V TN power system. Results see appended table 2.10.2.	P
2.10.3	Clearances	See below, Annex G was not considered.	P
2.10.3.1	General	Annex F and minimum clearances considered.	P
2.10.3.2	Clearances in primary circuits	See appended table 2.10.3 & 2.10.4.	P
2.10.3.3	Clearances in secondary circuits	Refer to 5.3.4.	N
2.10.3.4	Measurement of transient voltage levels	Normal transient voltage considered (overvoltage category II for primary circuits).	N
2.10.4	Creepage distances	(See appended table 2.10.3 and 2.10.4)	P
	CTI tests	CTI rating for all materials of min. 100.	—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.5	Solid insulation	See below.	P
2.10.5.1	Minimum distance through insulation	Photo coupler provides distance through insulation of 0.4 mm minimum. Details see appended table.	P
2.10.5.2	Thin sheet material	The thin sheet materials of polyester tape used in transformer T901.	P
	Number of layers (pcs)	See tables C.2 and 5.2.	—
	Electric strength test	(See appended table 5.2)	—
2.10.5.3	Printed boards		N
	Distance through insulation		N
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs)		N
2.10.5.4	Wound components		N
	Number of layers (pcs)		N
	Two wires in contact inside wound component; angle between 45° and 90°		N
2.10.6	Coated printed boards		N
2.10.6.1	General		N
2.10.6.2	Sample preparation and preliminary inspection		N
2.10.6.3	Thermal cycling		N
2.10.6.4	Thermal ageing (°C)		N
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		N
	Electric strength test		—
2.10.7	Enclosed and sealed parts		N
	Temperature $T_1 = T_2 + T_{ma} - T_{amb} + 10K$ (°C).....		N
2.10.8	Spacings filled by insulating compound	Certified photo-couplers used. No other components applied for.	P
	Electric strength test	Performed during the component approval.	—
2.10.9	Component external terminations	See appended table 2.10.3 and 2.10.4.	P
2.10.10	Insulation with varying dimensions	Insulation kept homogenous.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	All internal wires are UL recognized wiring, which is PVC insulated, rated VW-1, min. 80°C. Internal wiring gauge is suitable for current intended to be carried.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges and heatsinks, which could damage the insulation.	P
3.1.3	Securing of internal wiring	Internal wires are secured by quick connect terminals so that a loosening of the terminal connection is unlikely.	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	Not used.	N
3.1.6	Screws for electrical contact pressure	Screws engage at least two complete threads into metal chassis. No screws of insulating material for electrical connections, or where supplementary or reinforced insulation could be impaired by a metal replacement.	P
3.1.7	Insulating materials in electrical connections	All connections made by metal to metal.	P
3.1.8	Self-tapping and spaced thread screws	No self-tapping screws are used.	N
3.1.9	Termination of conductors	All conductors are reliably secured.	P
	10 N pull test	Complied.	P
3.1.10	Sleeving on wiring	Sleeving on internal wiring reliable kept in position by cable ties or sleeving that is of such length that it will not slip. No sleeving used as supplementary insulation function.	N
3.2	Connection to an a.c. mains supply or a d.c. mains supply		P
3.2.1	Means of connection	See below.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.1.1	Connection to an a.c. mains supply	Appliance inlet used.	P
3.2.1.2	Connection to a d.c. mains supply		N
3.2.2	Multiple supply connections	Only AC mains supply connection.	N
3.2.3	Permanently connected equipment	Not permanently connected equipment.	N
	Number of conductors, diameter (mm) of cable and conduits		—
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320-1. The power cord can be inserted without difficulties and does not support the unit.	P
3.2.5	Power supply cords	See below.	N
3.2.5.1	AC power supply cords	No AC power supply cords provided.	N
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords	Not connect to DC mains.	N
3.2.6	Cord anchorages and strain relief	No non-detachable power supply cords provided.	N
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage	No parts under this unit likely to damage the power supply cords. Enclosure without sharp edges.	P
3.2.8	Cord guards	No cord guard provided.	N
	D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space	Not permanently connected and without non-detachable power supply cord.	N

3.3	Wiring terminals for connection of external conductors <i>Not permanently connected or non-detachable equipment.</i>		N
3.3.1	Wiring terminals		N
3.3.2	Connection of non-detachable power supply cords		N
3.3.3	Screw terminals		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.3.4	Conductor sizes to be connected		N
	Rated current (A), cord/cable type, cross-sectional area (mm ²).....:		—
3.3.5	Wiring terminal sizes		N
	Rated current (A), type and nominal thread diameter (mm)		—
3.3.6	Wiring terminals design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	See below.	P
3.4.2	Disconnect devices	Appliance inlet used as disconnect device.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N
3.4.4	Parts which remain energized	When the power cord is removed from the inlet no remaining parts with hazardous voltage in the equipment.	P
3.4.5	Switches in flexible cords	No power supply cords provided.	N
3.4.6	Single-phase equipment and d.c. equipment	Both poles are disconnected simultaneously.	P
3.4.7	Three-phase equipment	Single-phase equipment.	N
3.4.8	Switches as disconnect devices	See sub clause 3.4.2.	N
3.4.9	Plugs as disconnect devices	See sub clause 3.4.2.	N
3.4.10	Interconnected equipment	Interconnection of the power supply to the other PCBs in the equipment by secondary output cable only.	N
3.4.11	Multiple power sources	Only one supply connection provided.	N

3.5	Interconnection of equipment		P
3.5.1	General requirements	See below.	P
3.5.2	Types of interconnection circuits	Interconnection circuits of SELV through the connector.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°	The equipment does not overbalance when tilted to 10 degrees (for all type of plastic enclosure shape).	P
	Test: force (N).....:	Equipment is not a floor standing unit.	N

4.2	Mechanical strength		P
4.2.1	General	See below. After the tests, the equipment complies with the requirements of sub-clauses 2.1.1, 2.6.1 and 2.10.	P
4.2.2	Steady force test, 10 N	10N applied to components other than parts serving as an enclosure.	P
4.2.3	Steady force test, 30 N	30N applied to the internal metal enclosures.	P
4.2.4	Steady force test, 250 N	250 N applied to outer plastic enclosure (all type source) near transformer. No energy or other hazards.	P
4.2.5	Impact test	No hazard as result from steel ball impact test.	P
	Fall test	Ditto	P
	Swing test	Ditto	P
4.2.6	Drop test		N
4.2.7	Stress relief test	For the plastic enclosure (all type of enclosure source) after 7 hours at 72.6°C and cooling down to room temperature, no shrinkage, distortion or loosening any enclosure part was noticeable on the equipment.	P
4.2.8	Cathode ray tubes	No CRT provided.	N
	Picture tube separately certified		N
4.2.9	High pressure lamps	No high pressure lamps provided.	N
4.2.10	Wall or ceiling mounted equipment; force (N)	Equipment is not a wall or ceiling mounted equipment.	N

4.3	Design and construction		P
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IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.1	Edges and corners	The edges and corners are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N)	None, which could cause hazards.	N
4.3.3	Adjustable controls	No safety relevant adjustable controls provided.	N
4.3.4	Securing of parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection solder pins are used. No connections likely to be exposed to mechanical stress are inside the unit.	P
4.3.5	Connection of plugs and sockets	No mismatch of connectors, plugs or socket possible.	P
4.3.6	Direct plug-in equipment	Not direct plug-in type.	N
	Dimensions (mm) of mains plug for direct plug-in :		N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)		N
4.3.7	Heating elements in earthed equipment	No heating elements.	N
4.3.8	Batteries	No battery.	N
4.3.9	Oil and grease	No oil or grease inside the equipment.	N
4.3.10	Dust, powders, liquids and gases	Equipment intended use not considered to be exposed to these.	P
4.3.11	Containers for liquids or gases	No container for liquid or gas.	N
4.3.12	Flammable liquids	No flammable liquid.	N
	Quantity of liquid (l)		N
	Flash point (°C)		N
4.3.13	Radiation; type of radiation	No radiation is generated inside the equipment. The energy of the indicator LED is far below the limit for Class 1 LED products.	P
4.3.13.1	General		N
4.3.13.2	Ionizing radiation		N
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N
	Part, property, retention after test, flammability classification		N
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N
4.3.13.5	Laser (including LEDs)	No ionizing radiation or laser or flammable liquids presents. The power emitted from the LED is far below AEL for Class 1 LED product.	P
	Laser class	Ditto.	—
4.3.13.6	Other types	Not used.	N

4.4	Protection against hazardous moving parts		N
4.4.1	General	No hazards moving parts.	N
4.4.2	Protection in operator access areas	Ditto.	N
4.4.3	Protection in restricted access locations	Ditto.	N
4.4.4	Protection in service access areas	Ditto.	N

4.5	Thermal requirements		P
4.5.1	Maximum temperatures	See appended table.	P
	Normal load condition per Annex L.....	Considered.	P
4.5.2	Resistance to abnormal heat	Phenolic materials used where parts at hazardous voltage are directly mounted on. Phenolic is accepted without further testing. For other source see appended table 4.5.2.	P

4.6	Openings in enclosures		P
4.6.1	Top and side openings	Not exceed 5 mm in any dimension for metal enclosure and no hazardous parts within 5° project area.	P
	Dimensions (mm)	(see appended table)	—
4.6.2	Bottoms of fire enclosures	Protection against emission of flame, molten metal, flaming or glowing particles or drops by fire enclosure.	P
	Construction of the bottom	(see appended table)	—
4.6.3	Doors or covers in fire enclosures	No doors or covers provided in the fire enclosure.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.6.4	Openings in transportable equipment	Not transportable equipment.	N
4.6.5	Adhesives for constructional purposes		N
	Conditioning temperature (°C)/time (weeks):		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes.	P
	Method 1, selection and application of components wiring and materials	Materials with suitable flammability classes are used.	P
	Method 2, application of all of simulated fault condition tests	See sub clause 4.7.2.2.	P
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	Fire enclosure is required if at least one of the following is provided: • components in primary • components in secondary (not supplied by LPS) • insulated wiring Fire enclosure is required.	P
4.7.2.2	Parts not requiring a fire enclosure	Clause 4.7.1 method 2 used for key control board which outside the fire enclosure (metal enclosure). See appended table 5.3 for test result.	P
4.7.3	Materials		P
4.7.3.1	General	PCB rated accordingly. For details see appended table 1.5.1.	P
4.7.3.2	Materials for fire enclosures	Metal enclosure used. For details see appended table 1.5.1.	P
4.7.3.3	Materials for components and other parts outside fire enclosures	Base stand and external plastic enclosure with flammability class HB min.	P
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are V-2 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filters provided.	N
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	N

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
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IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
5.1	Touch current and protective conductor current		P
5.1.1	General	See sub-clauses 5.1.2 to 5.1.6.	P
5.1.2	Equipment under test (EUT)	EUT has only one mains connection.	P
5.1.3	Test circuit	Equipment of figure 5A used.	P
5.1.4	Application of measuring instrument	See appended table 5.1.6.	P
5.1.5	Test procedure	The touch current was measured from primary to plastic enclosure and output connector.	P
5.1.6	Test measurements	See appended table 5.1.6.	P
	Test voltage (V)	Ditto	—
	Measured touch current (mA)	Ditto	—
	Max. allowed touch current (mA)	Ditto	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA) ..		—
5.1.7	Equipment with touch current exceeding 3.5 mA :	The touch current does not exceed 3.5mA.	N
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks	No TNV.	N
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		N
	Test voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks	No TNV.	N
5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	See below.	P
5.3.2	Motors	No motor.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
5.3.3	Transformers	With the shorted o/p of the transformer, no high temp. of the transformer are to be observed or to be expected. Result of the short tests see 5.3 appended table and Annex C.	P
5.3.4	Functional insulation	By short-circuited, test results see appended table 5.3.	P
5.3.5	Electromechanical components	No electromechanical component provided.	N
5.3.6	Simulation of faults	Ventilation blocked test: Results see appended table. Short and open circuit test for power supply board and key control board. Result see appended table.	P
5.3.7	Unattended equipment	None of the listed components was provided.	N
5.3.8	Compliance criteria for abnormal operating and fault conditions	No fire occurs. No molten metal was emitted.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N
6.1.1	Protection from hazardous voltages		N
6.1.2	Separation of the telecommunication network from earth		N
6.1.2.1	Requirements		N
	Test voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions.....		N

6.2	Protection of equipment users from overvoltages on telecommunication networks		N
6.2.1	Separation requirements		N
6.2.2	Electric strength test procedure		N
6.2.2.1	Impulse test		N
6.2.2.2	Steady-state test		N
6.2.2.3	Compliance criteria		N

6.3	Protection of the telecommunication wiring system from overheating		N
	Max. output current (A).....		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Current limiting method.....:		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N
7.2	Protection of equipment users from overvoltages on the cable distribution system		N
7.3	Insulation between primary circuits and cable distribution systems		N
7.3.1	General		N
7.3.2	Voltage surge test		N
7.3.3	Impulse test		N

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N
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.1.1	Samples.....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C).....:		N
A.1.3	Mounting of samples.....:		N
A.1.4	Test flame (see IEC 60695-11-3)		N
	Flame A, B, C or D.....:		—
A.1.5	Test procedure		N
A.1.6	Compliance criteria		N
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N
A.2.1	Samples, material.....:		—
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples		N
A.2.3	Mounting of samples.....:		N
A.2.4	Test flame (see IEC 60695-11-4)		N
	Flame A, B or C.....:		—
A.2.5	Test procedure		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
A.2.6	Compliance criteria		N
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4 and 8		N
	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.3.1	Mounting of samples		N
A.3.2	Test procedure		N
A.3.3	Compliance criterion		N

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N
B.1	General requirements		N
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N
B.3	Maximum temperatures		N
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N
B.7.1	Test procedure		N
B.7.2	Alternative test procedure; test time (h).....		N
B.7.3	Electric strength test		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors		N
	Operating voltage (V)		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	T901	—
	Manufacturer	See table 1.5.1 for details.	—
	Type	See table 1.5.1 for details.	—
	Rated values	Class B	—
	Method of protection	By the circuit design.	—
C.1	Overload test	See appended table 5.3	P
C.2	Insulation	See appended table C.2	P
	Protection from displacement of windings	By additional insulation tape.	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	See sub clause 5.1.3 and 5.1.4	P
D.2	Alternative measuring instrument		N
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N
G.1	Summary of the procedure for determining minimum clearances		N
G.2	Determination of mains transient voltage (V)		N
G.2.1	AC mains supply		N
G.2.2	DC mains supply		N
G.3	Determination of telecommunication network transient voltage (V)		N
G.4	Determination of required withstand voltage (V) ...		N
G.5	Measurement of transient levels (V)		N
G.6	Determination of minimum clearances		N
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Metal used	Complied.	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N
K.1	Making and breaking capacity		N
K.2	Thermostat reliability; operating voltage (V)		N
K.3	Thermostat endurance test; operating voltage (V)		N
K.4	Temperature limiter endurance; operating voltage (V)		N
K.5	Thermal cut-out reliability		N
K.6	Stability of operation		N

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)		P
L.1	Typewriters		N
L.2	Adding machines and cash registers		N
L.3	Erasers		N
L.4	Pencil sharpeners		N
L.5	Duplicators and copy machines		N
L.6	Motor-operated files		N
L.7	Other business equipment	See sub-clause 1.6.2	P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N
M.1	Introduction		N
M.2	Method A		N
M.3	Method B		N
M.3.1	Ringing signal		N
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
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N
M.3.2.2	Tripping device		N
M.3.2.3	Monitoring voltage (V).....		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
N	ANNEX N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)		N
N.1	ITU-T impulse test generators		N
N.2	IEC 60065 impulse test generator		N
P	ANNEX P, NORMATIVE REFERENCES		P
Q	ANNEX Q, BIBLIOGRAPHY		P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N
R.2	Reduced clearances (see 2.10.3)		N
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N
S.1	Test equipment		N
S.2	Test procedure		N
S.3	Examples of waveforms during impulse testing		N
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N
			—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	See below.	P
V.2	TN power distribution systems	Single-phase TN power system considered and used for testing.	P
V.3	TT power systems	Not considered.	N
V.4	IT power systems	Single-phase IT power system considered.	P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N
W.1	Touch current from electronic circuits		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
W.1.2	Earthed circuits		N
W.2	Interconnection of several equipments		N
W.2.1	Isolation		N
W.2.2	Common return, isolated from earth		N
W.2.3	Common return, connected to protective earth		N

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

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N
Y.1	Test apparatus		N
Y.2	Mounting of test samples		N
Y.3	Carbon-arc light-exposure apparatus		N
Y.4	Xenon-arc light exposure apparatus		N

IEC 60950-1 / EN 60950-1							
Clause	Requirement – Test				Result – Remark	Verdict	
CENELEC COMMON MODIFICATIONS [C], SPECIAL NATIONAL CONDITIONS [S] AND A-DEVIATIONS (NATIONAL DEVIATIONS) [A] (EN 60950-1:2001, Annex ZB and Annex ZC)						P	
General	C: Delete all the "country" notes in the reference document according to the following list: 1.1.5 Note 2 1.5.8 Note 2 1.6.1 Note 1.7.2 Note 4 1.7.12 Note 2 2.6 Note 2.2.3 Note 2.2.4 Note 2.3.2 Note 2, 7, 8 2.3.3 Note 1, 2 2.3.4 Note 2,3 2.7.1 Note 2.10.3.1 Note 4 3.2.1.1 Note 3.2.3 Note 1, 2 3.2.5.1 Note 2 4.3.6 Note 1,2 4.7.2.2 Note 4.7.3.1 Note 2 6.1.2.1 Note 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7 Note 4 7.1 Note G2.1 Note 1, 2 Annex H Note 2				Deleted.		P
1.2.4.1	S (DK): 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.				To be evaluated when submitted for national approval.	N	
1.5.1	A (SE, Ordinance 1990:944 and CH, Ordinance on environmentally hazardous substances SR 814.013, Annex 3.2, Mercury): Add NOTE – Switches containing mercury such as thermostats, relays and level controllers are not allowed.				No such switches or components provided.	N	
1.5.8	S (NO): Due to the IT power system used (see annex V, Fig. V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).				Considered.	P	
1.7.2	S (FI, NO, SE): CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows:				To be evaluated when submitted for national approval.	N	
	FI: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"				Ditto.	N	
	NO: "Apparatet må tilkoples jordet stikkontakt"				Ditto.	N	
	SE: "Apparaten skall anslutas till jordat uttag"				Ditto.	N	
	A (DK, Heavy Current Regulations): Supply cords of class I equipment, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller 				No supply cord provided.	N	

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	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."		
1.7.5	S (DK): 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.	No socket-outlets.	N
1.7.5	A (DK, Heavy Current Regulations): CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.	The EUT is Class I.	N
1.7.12	A (DE, Gesetz über technische Arbeitsmittel (Gerätesicherheitsgesetz) [Law on technical labour equipment {Equipment safety law}], of 23 rd October 1992, Article 3, 3 rd paragraph, 2 nd sentence, together with the "Allgemeine Verwaltungsvorschrift zur Durchführung des Zweiten Abschnitts des Gerätesicherheitsgesetzes" [General administrative regulation on the execution of the Second Section of the Equipment safety law], of 10 th January 1996, article 2, 4 th paragraph item 2): Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	German user's manual provided.	P
1.7.15	A (CH, Ordinance on environmentally hazardous substances SR 814.013): Annex 4.10 of SR 814.013 applies for batteries.	No batteries.	N
	A (DE, Regulation on protection against hazards by X-ray, of 8 th January 1987, Article 5 [Operation of X-ray emission source], clauses 1 to 4): a) A licence is required by those who operate an X-ray emission source. b) A licence in accordance with Cl. 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV if 1) the local dose rate at a distance of 0,1 m from the surface does not exceed 1 µSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and	This national difference was deleted by A11 of EN 60950-1.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A licence in accordance with Cl. 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. d) Furthermore, a licence in accordance with Cl. 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV if 1) the X-rays are generated only by intrinsically safe CRTs complying with Enclosure III, No. 6, 2) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measures and specified in the device and 3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.		
2.2.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.	No connection to TNV.	N
2.3.2	S (NO): Requirements according to this annex, 6.1.2.1 apply.	No TNV.	N
2.3.3 and 2.3.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.	No TNV.	N
2.6.3.3	S (GB): The current rating of the circuit shall be taken as 13 A, not 16 A.	To be evaluated when submitted for national approval.	N
2.7.1	C: Replace the subclause as follows: <i>Basic requirements</i> To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective	Considered, see the relevant sub clauses in the test report.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		
	S (GB): To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT OF DIRECT PLUG-IN EQUIPMENT, protective device shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT.	Not direct plug-in equipment.	N
2.7.2	C: Void.	Declared.	N
2.10.2	C: Replace in the first line "(see also 1.4.7)" by "(see also 1.4.8)".	Replaced.	N
2.10.3.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage and will remain at 230 V in case of a single earth fault	Considered.	P
3.2.1.1	S (CH): Supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991, Plug type 15, 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991, Plug type 11, L+N 250 V, 10 A SEV 6534-2.1991, Plug type 12, L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998, Plug type 25, 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998, Plug type 21, L+N 250 V, 16 A SEV 5934-2.1998, Plug type 23, L+N+PE 250 V, 16 A	Power supply cord is not provided.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	S (DK): 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. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	Power supply cord is not provided.	N
	S (ES): Supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.	Power supply cord is not provided.	N
	S (GB): 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 Socket 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.	Power supply cord is not provided.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	S (IE): 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.	Power supply cord is not provided.	N
3.2.3	C: Delete Note 1 and in Table 3A, delete the conduit sizes in parentheses.	Deleted.	N
3.2.5.1	C: Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6		

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	S (IE): 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.	Not direct plug-in type.	N
4.3.13.6	C: Add the following note: NOTE 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 are currently under development.	Added.	N
6.1.2.1	S (FI, NO, SE): Add the following text between the first and second paragraph: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES AND CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.7 shall be performed using 1,5 kV), and - is subject to ROUTING TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950:2000, 6.2.2.1; - the additional testing shall be performed on all	No TNV-circuits provided.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		
6.1.2.2	S (FI, NO, SE): The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a service person.	No TNV-circuits provided.	N
7.1	S (FI, NO, SE): Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	Replaced.	N
G.2.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault.	Considered	P
Annex H	C: Replace the last paragraph of this annex by: At any point 10 cm from the surface of the operator access area, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see note). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete Note 2.	Replaced.	N
Annex P	C: Replace the text of this annex by: See annex ZA.	Replaced.	P
Annex Q	C: Replace the title of IEC 61032 by "Protection of persons and equipment by enclosures – Probes for verification". Add the following notes for the standards indicated: IEC 60127 NOTE Harmonized as EN 60127 (Series) (not modified) IEC 60269-2-1 NOTE Harmonized as HD 630.2.1 S4:2000 (modified) IEC 60529 NOTE Harmonized as EN 60529:1991 (not modified) IEC 61032 NOTE Harmonized as EN 61032:1998 (not modified) IEC 61140 NOTE Harmonized as EN 61140:2001 (not modified) ITU-T Recommendation K.31 NOTE in Europe, the suggested document is EN 50083-1.		P

IEC 60950-1 / EN 60950-1																																																																																					
Clause	Requirement – Test	Result – Remark	Verdict																																																																																		
Annex ZA	C: NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR RELEVANT EUROPEAN PUBLICATIONS This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments). NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies. <table><tr><td>—</td><td>IEC 60050-151</td></tr><tr><td>—</td><td>IEC 60050-195</td></tr><tr><td>EN 60065:1998 + corr. June 1999</td><td>IEC 60065 (mod):1998</td></tr><tr><td>EN 60073:1996</td><td>IEC 60073:1996</td></tr><tr><td>HD 566 S1:1990</td><td>IEC 60085:1984</td></tr><tr><td>HD 214 S2:1980</td><td>IEC 60112:1979</td></tr><tr><td>HD 611.4.1.S1:1992</td><td>IEC 60216-4-1:1990</td></tr><tr><td>HD 21¹⁾ Series</td><td>IEC 60227 (mod) Series</td></tr><tr><td>HD 22²⁾ Series</td><td>IEC 60245 (mod) Series</td></tr><tr><td>EN 60309 Series</td><td>IEC 60309 Series</td></tr><tr><td>EN 60317-43:1997</td><td>IEC 60317-43:1997</td></tr><tr><td>EN 60320 Series</td><td>IEC 60320 (mod) Series</td></tr><tr><td>HD 384.3 S2:1995</td><td>IEC 60364-3 (mod):1993</td></tr><tr><td>HD 384.4.41 S2:1996</td><td>IEC 60364-4-41 (mod):1992³⁾</td></tr><tr><td>EN 132400:1994⁴⁾</td><td>IEC 60384-14:1993</td></tr><tr><td>+ A2:1998 + A3:1998 + A4:2001</td><td></td></tr><tr><td>EN 60417-1</td><td>IEC 60417-1</td></tr><tr><td>HD 625.1 S1:1996 + corr. Nov. 1996</td><td>IEC 60664-1 (mod):1992</td></tr><tr><td>EN 60695-2-2:1994</td><td>IEC 60695-2-2:1991</td></tr><tr><td>EN 60695-2-11:2001</td><td>IEC 60695-2-11:2000</td></tr><tr><td>—</td><td>IEC 60695-2-20:1995</td></tr><tr><td>—</td><td>IEC 60695-10-2:1995</td></tr><tr><td>—</td><td>IEC 60695-11-3:2000</td></tr><tr><td>—</td><td>IEC 60695-11-4:2000</td></tr><tr><td>EN 60695-11-10:1999</td><td>IEC 60695-11-10:1999</td></tr><tr><td>EN 60695-11-20:1999</td><td>IEC 60695-11-20:1999</td></tr><tr><td>EN 60730-1:2000</td><td>IEC 60730-1:1999 (mod)</td></tr><tr><td>EN 60825-1:1994 + corr. Febr. 1995 + A11:1996 + corr. July 1997</td><td>IEC 60825-1:1993</td></tr><tr><td>EN 60825-2:2000</td><td>IEC 60825-2:2000</td></tr><tr><td>—</td><td>IEC 60825-9:1999</td></tr><tr><td>EN 60851-3:1996</td><td>IEC 60851-3:1996</td></tr><tr><td>EN 60851-5:1996</td><td>IEC 60825-5:1996</td></tr><tr><td>EN 60851-6:1996</td><td>IEC 60851-6:1996</td></tr><tr><td>—</td><td>IEC 60885-1:1987</td></tr><tr><td>EN 60990:1999</td><td>IEC 60990:1999</td></tr><tr><td>—</td><td>IEC 61058-1:2000</td></tr><tr><td>EN 61965:2001</td><td>IEC 61965:2000</td></tr><tr><td>EN ISO 178:1996</td><td>ISO 178:1993</td></tr><tr><td>EN ISO 179 Series</td><td>ISO 179 Series</td></tr><tr><td>EN ISO 180:2000</td><td>ISO 180:1993</td></tr><tr><td>—</td><td>ISO 261:1998</td></tr></table>		—	IEC 60050-151	—	IEC 60050-195	EN 60065:1998 + corr. June 1999	IEC 60065 (mod):1998	EN 60073:1996	IEC 60073:1996	HD 566 S1:1990	IEC 60085:1984	HD 214 S2:1980	IEC 60112:1979	HD 611.4.1.S1:1992	IEC 60216-4-1:1990	HD 21 ¹⁾ Series	IEC 60227 (mod) Series	HD 22 ²⁾ Series	IEC 60245 (mod) Series	EN 60309 Series	IEC 60309 Series	EN 60317-43:1997	IEC 60317-43:1997	EN 60320 Series	IEC 60320 (mod) Series	HD 384.3 S2:1995	IEC 60364-3 (mod):1993	HD 384.4.41 S2:1996	IEC 60364-4-41 (mod):1992 ³⁾	EN 132400:1994 ⁴⁾	IEC 60384-14:1993	+ A2:1998 + A3:1998 + A4:2001		EN 60417-1	IEC 60417-1	HD 625.1 S1:1996 + corr. Nov. 1996	IEC 60664-1 (mod):1992	EN 60695-2-2:1994	IEC 60695-2-2:1991	EN 60695-2-11:2001	IEC 60695-2-11:2000	—	IEC 60695-2-20:1995	—	IEC 60695-10-2:1995	—	IEC 60695-11-3:2000	—	IEC 60695-11-4:2000	EN 60695-11-10:1999	IEC 60695-11-10:1999	EN 60695-11-20:1999	IEC 60695-11-20:1999	EN 60730-1:2000	IEC 60730-1:1999 (mod)	EN 60825-1:1994 + corr. Febr. 1995 + A11:1996 + corr. July 1997	IEC 60825-1:1993	EN 60825-2:2000	IEC 60825-2:2000	—	IEC 60825-9:1999	EN 60851-3:1996	IEC 60851-3:1996	EN 60851-5:1996	IEC 60825-5:1996	EN 60851-6:1996	IEC 60851-6:1996	—	IEC 60885-1:1987	EN 60990:1999	IEC 60990:1999	—	IEC 61058-1:2000	EN 61965:2001	IEC 61965:2000	EN ISO 178:1996	ISO 178:1993	EN ISO 179 Series	ISO 179 Series	EN ISO 180:2000	ISO 180:1993	—	ISO 261:1998	P
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Clause	Requirement – Test	Result – Remark	Verdict
	— EN ISO 527 Series — EN ISO 4892 Series — EN ISO 8256:1996 — EN ISO 9773:1998 — — 1) The HD 21 series is related to, but not directly equivalent with the IEC 60227 series 2) The HD 22 series is related to, but not directly equivalent with the IEC 60245 series 3) IEC 60364-4-41:1992 is superseded by IEC 60364-4-41:2001 4) EN 132400, Sectional Specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains (Assessment level D), and its amendments are related to, but not directly equivalent to IEC 60384-14	ISO 262:1998 ISO 527 Series ISO 386:1984 ISO 4892 Series ISO 7000:1989 ISO 8256:1990 ISO 9772:1994 ISO 9773:1998 ITU-T:1988 Recommendation K.17 ITU-T:2000 Recommendation K.21	

1.5.1	TABLE: list of critical components				P
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity ^{1.}
LCD Panel	Quanta Display	QD17EL07	17", TFT type	--	--
	AU	M170EG01	17", TFT type	--	--
Plastic Enclosure	Cheil	D-150	HB min., thickness 2.2mm min.	UL 94	UL
	Cheil	SD-0150	HB min., thickness 2.2mm min.	UL 94	UL
	LG	HF-380	HB min., thickness 2.2mm min.	UL 94	UL
Metal enclosure (type A)	--	--	Metal, thickness 0.28mm min.	--	--
Metal enclosure (type B)	--	--	Metal, thickness 0.28mm min. Bottom side metal sheet 0.81mm min.	--	--
PCB material	--	--	V-1 or better, 105°C	UL 94	UL
Speaker (two provided) (optional)	--	--	8Ω, 10W max.	--	--
Key control board (for plastic enclosure type C)	Top Victory	715G1663	--	--	--
Key control board (for plastic enclosure type A, B)	Top Victory	715L1531	--	--	--
- PCB material	--	--	V-1 min., 105°C	--	--
- Mylar Sheet	--	--	V-2 or better, min. 0.4mm thickness	UL 94	UL

Switching power supply with DC/AC inverter board	Top Victory	PWPC1742	I/P: 100-240V, 50/60Hz, 1.5A, O/P: 12Vdc/2.0A, 5Vdc/1.0A (for SPS) I/P: 12Vdc, 2250mA O/P: 1700Vrms max., 14.0mA max. (for DC/AC inverter)	--	--
Switching power supply with DC/AC inverter board type PWPC1742					
- AC Inlet (CN902)	Inalways	0707-1	10A, 250Vac	IEC 60320-1	VDE, FI, UL, CSA
	Inalways	0714	10A, 250Vac	IEC 60320-1	VDE, FI, UL, CSA
	Rong Feng	SS-120	10A, 250Vac	IEC 60320-1	VDE, FI, UL, CSA
	Rich Bay	R-301	10A, 250Vac	IEC 60320-1	VDE
	Zhang Jia Gang-Hua Jia	SA-4S	10A, 250Vac	IEC 60320-1	VDE, FI, UL, CSA
	Yue Qing Chang Ling	CDJ-3	10A, 250Vac	IEC 60320-1	VDE
	Shenzhen Duoling	CDJ-3	10A, 250Vac	IEC 60320-1	VDE
- Fuse (F901)	Hollyland	50T	T2A, 250Vac	IEC 60127-1, IEC 60127-2	VDE
	Littelfuse	230	T2A, 250Vac	--	UL, CSA
	Littelfuse	618	T2A, 250Vac	IEC 60127-1, IEC 60127-2	VDE
	Wickmann	19195	T2A, 250Vac	IEC 60127-1, IEC 60127-2	VDE
	Wickmann	392	T2A, 250Vac	IEC 60127-1, IEC 60127-3	VDE, UL
	Conquer	MST-Series	T2A, 250Vac	IEC 60127-1, IEC 60127-3	VDE, UL
	Bel	5ST	T2A, 250Vac	IEC 60127-1, IEC 60127-2	VDE, S
	Bel	MRT	T2A, 250Vac	IEC 60127-1, IEC 60127-3	VDE, UL, CSA
	Bussmann	S 506	T2A, 250Vac	IEC 60127-1, IEC 60127-2	VDE, UL, CSA, S
	ELU	166000	T2A, 250Vac	IEC 60127-1, IEC 60127-3	VDE

	Save Fusetech	SR-5	T2A, 250Vac	IEC 60127-1, IEC 60127-3	VDE, UL
	Schurter AG	MST	T2A, 250Vac	IEC 60127-1, IEC 60127-3	VDE
	Walter	TSD	T2A, 250Vac	IEC 60127-1, IEC 60127-2	VDE, UL
- Thermistor (NR901) (optional)	--	--	12Ω max. at 25°C	--	--
- Transistor (Q903)	--	--	600Vac min., 10A	--	--
- Bleeder Resistor (R900, R901, R902)	--	SMD type	390kΩ, 1/8 W	--	--
- X capacitor (C911) (optional)	Teapo	XG-VS	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Teapo	XG-H	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Arcotronics	MKT 1.40	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Arcotronics	R.46	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Hua Jung	MKP	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Fara	MKP	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Fara	MKT61	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Euoptronic	MKP	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Cheng Tung	CTX	0.47μF max., 250Vac min.	IEC 60384-14/ 1993	VDE, SEV
- Y capacitor (C901, C902) (optional, Y2 type)	Murata	KX, KH	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL, Fimko
	TDK	CD, CS	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL, Fimko
	Pan Overseas	AH, AC	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL, Fimko
	Dongguan South	F	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL, Fimko
	Sam Hwa	AA	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL

	Matsushita	TS	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Jya-Nay	JN	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Samsung	AA	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Success	SF	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Welson	WD	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
- Bridging capacitor (C912) (optional) (Y1 type)	Murata	KX	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL, Fimko
	TDK	CD	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Pan Overseas	AH	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL, Fimko
	Matsushita	NS-A	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Sam Hwa	SD	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Samsung	AD	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Success	SE	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
	Welson	WD	3300pF max., 250Vac min.	IEC 60384-14/ 1993	VDE, UL
- Storage capacitor (C904)	--	--	100µF, 450V, 105°C min.	--	--
- Photo Coupler (IC902)	Lite-On	LTV817	di=0.8 mm, internal cr= 5.2mm, external cr=7mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	NEC	PS 2561...-	di=0.4 mm, internal cr= 4mm, external cr= 7mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	Philips	CNX82A, CNX62A	di=0.4 mm, internal cr= 4mm, external cr= 8mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	QT Optoelectronics	H11A817X	di=1 mm, internal cr= 4mm, external cr= 7mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	Sharp	PC 123	di=0.4 mm, internal cr= 4mm, external cr= 8mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE

	Sharp	PC 817	di=0.4 mm, internal cr= 4mm, external cr= 8mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	Siemens	SFH 615-3	di=0.8 mm, internal cr= 4.2mm, external cr= 8.3mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	Toshiba	TLP 621	di=0.8 mm, internal cr= 4mm, external cr= 8mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	Toshiba	TLP 721	di=0.8 mm, internal cr= 4mm, external cr= 8mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	Vishay Semiconductor	4N35	di=0.79 mm, internal cr= 4.05mm, external cr= 9.2mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	Vishay Semiconductor	TCET1103	di=0.6 mm, internal cr= 4.7mm, external cr= 8.4mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
	Vishay Semiconductor	TCET1109	di=0.6 mm, internal cr= 4.7mm, external cr= 8.4mm	DIN EN60747-5- 2: 2003 IEC 60950	VDE
- Line Filter (L901) (optional)	Li Shin	73L174-26-LS	105°C	--	--
	TDK	73L174-26-T1	105°C	--	--
	LI TAI	73L174-26-L	105°C	--	--
- Line Filter (L902) (optional)	LI Shin	73L 174-29-LS	105°C	--	--
- Triple Insulated Wire in L902 (optional)	Furukawa	TEX-E	120°C (105°C for UL)	IEC 60950	TÜV, VDE, UL
- Transformer (T901)	Li Shin	80LL17T-2-LS	Class B	Applicable parts in IEC 60950-1 and according to IEC 60085	Tested with this appliance
	LI TAI	80LL17T-2-L	Class B	Applicable parts in IEC 60950-1 and according to IEC 60085	Tested with this appliance
	TDK	80LL17T-2-T	Class B	Applicable parts in IEC 60950-1 and according to IEC 60085	Tested with this appliance

For unit with all full rating design 100-240V~, 50/60Hz, 1.5A or 0.6-0.4A

- Transformer in DC/AC inverter (PT201, PT202)	Darfon	80LL17T-16-DN	130°C	--	--
	Tao Sheng	80LL17T-16-YS	130°C	--	--
	Tao Sheng	80LL17T-16-LS	130°C	--	--
	Darfon Electronics	80LL17T-23-DN	130°C	--	--
	Yao Sheng	80LL17T-23-YS	130°C	--	--
	Li Shin	80LL17T-23-LS	130°C	--	--
For unit with all rating design 100-240V~, 50/60Hz, 1.5A					
- Transformer in DC/AC inverter (PT201, PT202)	Darfon Electronics	80LL17T-24-DN	130°C		
	Yao Sheng	80LL17T-24-YS	130°C		
	Li Shin	80LL17T-24-LS	130°C		
Note(s):					
1. An asterisk indicates a mark that assures the agreed level of surveillance.					
2. In Optocoupler technical data column, where "di" means distance through insulation, "internal cr." means internal creepage distance, "external cr." means external creepage distance.					

1.6.2	TABLE: electrical data (in normal conditions)						P
Fuse #	Irated (A)	U(V)/F(Hz)	P (W)	I (A)	Ifuse (A)	Condition/status	
For unit with DC/AC inverter transformer type 80LL17T-16-DN of plastic enclosure type A							
F901	--	90/50Hz	29.8	0.56	0.56	Max. Normal load	
F901	--	90/60Hz	29.8	0.56	0.56	Ditto	
F901	1.5 or 0.6	100/50Hz	29.8	0.51	0.51	Ditto	
F901	1.5 or 0.6	100/60Hz	29.7	0.52	0.52	Ditto	
F901	1.5 or 0.4	240/50Hz	29.7	0.27	0.27	Ditto	
F901	1.5 or 0.4	240/60Hz	29.8	0.27	0.27	Ditto	
F901	--	254/50Hz	29.7	0.26	0.26	Ditto	
F901	--	254/60Hz	29.7	0.26	0.26	Ditto	
F901	--	264/50Hz	29.7	0.25	0.25	Ditto	
F901	--	264/60Hz	29.7	0.25	0.25	Ditto	
For unit with DC/AC inverter transformer type 80LL17T-24-DN of plastic enclosure type B							
F901	--	90/50Hz	38.9	0.77	0.77	Max. Normal load	
F901	--	90/60Hz	38.9	0.76	0.76	Ditto	
F901	1.5	100/50Hz	38.9	0.7	0.7	Ditto	
F901	1.5	100/60Hz	38.9	0.69	0.69	Ditto	

F901	1.5	240/50Hz	38.4	0.36	0.36	Ditto
F901	1.5	240/60Hz	38.4	0.36	0.36	Ditto
F901	--	254/50Hz	38.4	0.35	0.35	Ditto
F901	--	254/60Hz	38.4	0.34	0.34	Ditto
F901	--	264/50Hz	38.4	0.34	0.34	Ditto
F901	--	264/60Hz	38.4	0.33	0.33	Ditto
For unit with DC/AC inverter transformer type 80LL17T-23-DN of plastic enclosure type B						
F901	--	90/50Hz	28.8	0.57	0.57	Max. Normal load
F901	--	90/60Hz	28.8	0.56	0.56	Ditto
F901	1.5 or 0.6	100/50Hz	28.6	0.52	0.52	Ditto
F901	1.5 or 0.6	100/60Hz	28.6	0.52	0.52	Ditto
F901	1.5 or 0.4	240/50Hz	28.3	0.28	0.28	Ditto
F901	1.5 or 0.4	240/60Hz	28.3	0.27	0.27	Ditto
F901	--	254/50Hz	28.2	0.27	0.27	Ditto
F901	--	254/60Hz	28.2	0.26	0.26	Ditto
F901	--	264/50Hz	28.2	0.26	0.26	Ditto
F901	--	264/60Hz	28.2	0.25	0.25	Ditto
For unit with plastic enclosure type C (DC/AC inverter, type 80LL17T-23-DN) with main board type B						
F901	--	90/50Hz	34.2	0.64	0.64	Max. Normal load
F901	--	90/60Hz	34.2	0.65	0.65	Ditto
F901	1.5 or 0.6	100/50Hz	33.7	0.59	0.59	Ditto
F901	1.5 or 0.6	100/60Hz	33.7	0.60	0.60	Ditto
F901	1.5 or 0.4	240/50Hz	32.7	0.33	0.33	Ditto
F901	1.5 or 0.4	240/60Hz	32.8	0.33	0.33	Ditto
F901	--	264/50Hz	32.7	0.31	0.31	Ditto
F901	--	264/60Hz	32.7	0.31	0.31	Ditto
For unit with plastic enclosure type C (DC/AC inverter, type 80LL17T-23-DN) with main board type C						
F901	--	90/50Hz	52.0	0.92	0.92	Max. Normal load
F901	--	90/60Hz	52.0	0.93	0.93	Ditto
F901	1.5 or 0.6	100/50Hz	51.8	0.84	0.84	Ditto
F901	1.5 or 0.6	100/60Hz	50.9	0.84	0.84	Ditto
F901	1.5 or 0.4	240/50Hz	49.9	0.46	0.46	Ditto
F901	1.5 or 0.4	240/60Hz	49.5	0.46	0.46	Ditto
F901	--	264/50Hz	48.5	0.42	0.42	Ditto
F901	--	264/60Hz	48.8	0.43	0.43	Ditto

Note(s):

2.1.1.5	TABLE: max. V, A, VA test				N
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	

Note(s):

2.1.1.7	TABLE: discharge test				P
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	Comments	
System on	0.55	0.5	--	Vp=380V, 37%Vp=141V, after 1 sec voltage drop to 60Vpk	

Overall capacity : 0.47 μ F (C911=0.47 μ F)
Discharge resistor : 1.17M Ω (R900=R901=R902=390k Ω)

2.2.2	TABLE: Hazardous voltage measurement				P
Transformer	Location	max. Voltage		Voltage Limitation Component	
		V peak	V d.c.		
T901	pin 7, 8 – 10 (earth)	28	--	--	
	pin 9 – 10 (earth)	60	--	--	
		--	13	D910	

Note(s): Input voltage: 240V, 60Hz

2.2.3	TABLE: SEL voltage measurement			P
Location		Voltage measured (V)	Comments	
+12V output to earth		0	D910 shorted. The o/p-voltage did not exceed 42.4Vpk.	
Note(s): Input voltage: 240V, 60Hz				

2.4.2	TABLE: limited current circuit measurement					P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
C912	0.98	0.49	60Hz	0.7	C912 = 3300pF	

For DC/AC inverter transformer type 80LL17T-16-DN					
Normal condition					
CN204 Pin 1 to earth	0	0	--	--	Unit shut down, no hazards
CN204 Pin 2 to earth	4.88	2.44	45	31.5	
CN204 Pin 1 to Pin 2	32.8	16.4	45	31.5	
Single fault condition (C231 short)					
CN204 Pin 1 to earth	0	0	--	--	Unit shut down, no hazards
CN204 Pin 2 to earth	5.04	2.52	45	31.5	--
CN204 Pin 1 to Pin 2	35.2	17.6	45	31.5	--
Single fault condition (D210 short)					
CN204 Pin 1 to GND	0	0	--	--	Unit shut down, no hazards
CN204 Pin 2 to GND	0	0	--	--	Unit shut down, no hazards
CN204 Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
Single fault condition (Q209 pin 1-8 short)					
CN204 Pin 1 to GND	0	0	--	--	Unit shut down, no hazards
CN204 Pin 2 to GND	0	0	--	--	Unit shut down, no hazards
CN204 Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
Single fault condition (R234 open)					
CN204 Pin 1 to GND	0	0	--	--	Unit shut down, no hazards
CN204 Pin 2 to GND	0	0	--	--	Unit shut down, no hazards
CN204 Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
Single fault condition (R223 open)					
CN204 Pin 1 to GND	32.8	16.4	45	31.5	--
CN204 Pin 2 to GND	5.52	2.76	45	31.5	--
CN204 Pin 1 to Pin 2	27.2	13.6	45	31.5	--
For DC/AC inverter transformer type 80LL17T-24-DN					
Normal condition					
CN204, Pin 1 to earth	52.8	26.4	44	30.8	--
CN204, Pin 2 to earth	6.4	3.2	44	30.8	--
CN204, Pin 1 to Pin 2	46.4	23.2	44	30.8	--
PT202, Pin 10 to earth	52.8	26.4	44	30.8	--
PT202, Pin 7 to earth	54.2	27.1	44	30.8	--
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (C231 short)					
CN204, Pin 1 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to earth	0	0	--	--	Unit shut down, no hazards

CN204, Pin 1 to Pin 2	44.8	22.4	44	30.8	--
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (D210 short)					
CN204, Pin 1 to GND	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to GND	0	0	--	--	Unit shut down, no hazards
CN204, Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (Q209 pin 1-8 short)					
CN204, Pin 1 to GND	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to GND	0	0	--	--	Unit shut down, no hazards
CN204, Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (R234 open)					
CN204, Pin 1 to GND	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to GND	0	0	--	--	Unit shut down, no hazards
CN204, Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (R223 open)					
CN204, Pin 1 to GND	42.8	21.4	44	30.8	--
CN204, Pin 2 to GND	6.4	3.2	44	30.8	--
CN204, Pin 1 to Pin 2	36.6	18.3	44	30.8	--
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (Z201 short)					
CN204, Pin 1 to GND	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to GND	0	0	--	--	Unit shut down, no hazards
CN204, Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards

PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
For DC/AC inverter transformer type 80LL17T-23-DN					
Normal condition					
CN204, Pin 1 to GND	33.6	16.8	47	32.9	--
CN204, Pin 2 to GND	3.04	1.52	47	32.9	--
CN204, Pin 1 to Pin 2	36.8	18.4	47	32.9	--
PT202, Pin 10 to earth	33.6	16.8	47	32.9	--
PT202, Pin 7 to earth	35.2	17.6	47	32.9	--
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (C231 short)					
CN204, Pin 1 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to earth	2.96	1.48	47	32.9	--
CN204, Pin 1 to Pin 2	33.6	16.8	47	32.9	--
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (D210 short)					
CN204, Pin 1 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (Q209 pin 1-8 short)					
CN204, Pin 1 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (R234 open)					
CN204, Pin 1 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to earth	1.38	0.69	47	32.9	--
CN204, Pin 1 to Pin 2	35.2	17.6	47	32.9	--

PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (R223 open)					
CN204, Pin 1 to earth	32.6	16.3	47	32.9	--
CN204, Pin 2 to earth	3.28	1.64	47	32.9	--
CN204, Pin 1 to Pin 2	36	18	47	32.9	--
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Single fault condition (Z201 short)					
CN204, Pin 1 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 2 to earth	0	0	--	--	Unit shut down, no hazards
CN204, Pin 1 to Pin 2	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 7 to earth	0	0	--	--	Unit shut down, no hazards
PT202, Pin 10 to Pin 7	0	0	--	--	Unit shut down, no hazards
Notes: Output measured with a 2k Ω non-inductive resistor as load.					

2.5	TABLE: limited power source measurement			N
	Limits	Measured	Verdict	
According to Table 2B/2C (normal condition)				
current (in A)				
apparent power (in VA)				
According to Table 2B/2C (single fault condition)				
current (in A)				
apparent power (in VA)				
Notes:				

2.6.3.3	TABLE: ground continue test		P
Location	Resistance measured (m Ω)	Comments	
AC inlet earthing pin to Metal enclosure	7	Test current=40A, 2 minutes	
AC inlet earthing pin to Metal enclosure	7	Test current=25A, 1 minutes	

Note(s):		

2.10.2	Table: working voltage measurement				P
Location		RMS voltage (V)	Peak voltage (V)	Comments	
T901 pin 1 – 7, 8		213	376		
pin 1 – 9		213	404		
pin 1 – 10 (Earth)		214	352		
pin 3 – 7, 8		227	428		
pin 3 – 9		240	428		
pin 3 – 10 (Earth)		258	448	Highest Vrms & Vpk	
pin 5 – 7, 8		210	372		
pin 5 – 9		212	340		
pin 5 – 10 (Earth)		210	400		
pin 6 – 7, 8		212	352		
pin 6 – 9		208	356		
pin 6 – 10 (Earth)		210	340		
C912 primary – secondary		210	340		
IC902 pin 3 – 1		214	348		
pin 3 – 2		213	348		
pin 4 – 1		214	348		
pin 4 – 2		211	348		
T901 pin 6 – sec. trace at R928		213	344		
Note(s): Input Voltage is 240Vac, 60Hz					

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					P
Clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required dcr (mm)	dcr (mm)
Primary components (with 10N) → earthed parts	420	250	2.3 ⁹⁾	↓	2.5	↓
F901 → Earthed pin of AC inlet				3.0		3.0
Solder pin of DB901 → Earthed metal chassis				4.1		5.0
Heat sink of Q9031 → Top side of earthed metal chassis				2.5		5.0

Primary trace → earthed trace	420	250	2.3 ⁹⁾	↓	2.5	↓
Trace at Line → Earthed trace of AC inlet				2.5		3.5
Trace at Neutral → Earthed trace of AC inlet				2.6		3.5
Trace at R907 → Earthed trace				5.8		5.8
Primary components (with 10N) → secondary components (with 10N)	420	250	4.6 ⁹⁾	↓	5.0	↓
F901 → C205 in DC/AC inverter circuit				6.6		13.4
C911 → C209 in DC/AC inverter circuit				5.6		6.9
NR901 → C209 in DC/AC inverter circuit				5.5		10.7
C906 → IC902 sec. pin.				5.9		11.5
Primary traces → Secondary traces	420	250	4.6 ⁹⁾	↓	5.0	↓
Trace at C901 → trace at C301				5.2		5.2
Trace at C912 → trace at C201				6.7		6.7
Trace at C911 → trace at C209				5.0		5.0
Trace at Line → trace at CN201				6.3		6.3
Under C912				7.0		7.0
Under IC902				7.4		7.4
Under T901	448	258	4.9 ⁹⁾	15.1	6.4	15.1
Trace at pin 6 of T901 → trace at R928	344 (420)	213 (250)	4.6 ⁹⁾	5.4	5.0	5.4
Between fuse two ends ^{1).}	420	250	1.7 ⁹⁾	2.5	2.5	2.5
Primary trace before fuse ^{1).}	420	250	1.7 ⁹⁾	2.5	2.5	2.5

Note:

- 1.) Functional insulation shorted, see sub-clause 5.3.4 a).
- 2.) Other functional insulation according to sub-clause 5.3.4 c).
- 3.) Tubed components: PB wire solder to earthed pin (with hook-in) of AC inlet.
- 4.) Glued component: C904, Between NR901 and F901, between T1 and C912, between NR901 and F901
- 5.) There is one cut slot (1.0mm x 8.0mm) between trace at Neutral and trace at earthed pin of AC inlet.

- 6.) There is one cut slot (1.0mm x 9.1mm) between trace at Line and trace at earthed pin of AC inlet.
- 7.) There are two mylar sheet (134.5mm x 128.2mm) and (55.4mm x 123.5mm) between SPS board trace side and panel metal chassis.
- 8.) One mylar sheet (137mm x 144mm) provided between component side of SPS board and internal metal enclosure.
- 9.) EUT intended to be used at altitudes 10,000 feet. The multiplication factor for clearances is 1.15 according to Table A.2, IEC 60664.

2.10.5	TABLE: distance through insulation measurements				P
Distance through insulation di at/of:	U r.m.s. (V)	Test voltage (V)	Required di (mm)	di (mm)	
Photo coupler (reinforced insulation)	250	3000	0.4	1)	
Note(s):					
1) For approved component source see appended table 1.5.1					

4.5.1	TABLE: maximum temperatures				P
	test voltage (V)	a). 100-10% b). 240+10%			—
	t1 (°C)	--			—
	t2 (°C)	--			—
Maximum temperature T of part/at:		T (°C)		allowed T _{max} (°C)	
Test voltage		a).	b).	--	
For unit with plastic enclosure type A					
AC inlet near line pin		30.6	29	70	
PCB near NR901		40.9	34.3	105	
C911 body		38.4	33.8	85	
L902 coil		38.3	34.1	105	
L901 coil		43.7	36.8	105	
PCB near DB901		47.0	39.2	105	
C904 body		44.3	40.3	105	
PCB near Q903		52.5	50.8	105	
T901 core		51.5	54.7	110	
T901 coil		54.0	57.3	110	
PT202 coil (DC/AC inverter, type 80LL17T-16-DN)		51.0	50.4	130	
PT202 core (DC/AC inverter, type 80LL17T-16-DN)		44.4	43.6	130	
IC902 body		48.4	47.9	100	

Main board U102 body (touch PCB of main board)	42.6	42.2	105
Panel body	42.6	42.3	95
Enclosure inside near T901	39	38.6	--
Enclosure outside near T901	28.1	27.9	95
Ambient during test	23.2	24.0	--
For unit with DC/AC inverter transformer type 80LL17T-24-DN of plastic enclosure type B			
PT202 coil	56.9	--	130
PT202 core	51.9	--	130
Ambient during test	23.1	--	--
For unit with DC/AC inverter transformer type 80LL17T-23-DN of plastic enclosure type B			
PT202 coil	53.4	--	130
PT202 core	48.5	--	130
Ambient during test	22.4	--	--
For unit with plastic enclosure type C with main board type B			
AC inlet near line pin	27.6	26.3	70
PCB near NR901	46.0	36.1	105
L902 coil	38.2	33.5	105
L901 coil	45.1	36.3	105
C904 body	44.7	41.2	105
PCB near Q903	54.8	52.5	105
T901 core	45.9	47.7	110
T901 coil	56.0	59.1	110
IC902 body	46.8	46.3	100
PCB near D910	65.5	68.2	105
PT201 coil (DC/AC inverter, type 80LL17T-23-DN)	50.3	49.7	130
PT202 coil (DC/AC inverter, type 80LL17T-23-DN)	47.3	45.4	130
PCB near U401 (main board)	46.7	46.4	105
Enclosure inside near T901	27.1	27.1	--
Enclosure outside near T901	24.5	24.8	95
Ambient during test	25.1	25.0	--
For unit with plastic enclosure type C with main board type C			
AC inlet near line pin	58.6	52.3	70
PCB near NR901	68.4	68.5	105
L902 coil	75.1	78.7	105
L901 coil	68.9	68.5	105
C911 body	74.5	77.3	85

C904 body	67.9	73.3	105		
PCB near Q903	72.5	85.2	105		
T901 core	104.6	97.6	110		
T901 coil	108.9	101.3	110		
IC902 body	90.8	87.5	100		
PCB near D910	97.5	91.3	105		
PT201 coil (DC/AC inverter, type 80LL17T-23-DN)	117.3	113.7	130		
PT202 coil (DC/AC inverter, type 80LL17T-23-DN)	103.9	100.3	130		
PCB near U401 (main board)	85.0	81.9	105		
Enclosure inside near T901	63.4	62.0	--		
Enclosure outside near T901	57.2	56.3	95		
Ambient during test	24.9	24.3	--		
Temperature rise T of winding:	R ₁ (Ω)	R ₂ (Ω)	T (°C)	allowed T (°C)	insulation class

Note(s):
1. The temperatures were measured under the worse case normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.
2. The heating measurement records were calculated shift plus with Tma – Tamb.
2. With a specified max. ambient temperature of 40°C.
3. The maximum temperatures are calculated as follows:
Winding components (with safety isolation):
- Class B → Tmax = 120 °C - 10 °C = 110°C

4.5.2	TABLE: ball pressure test of thermoplastic parts		P
	allowed impression diameter (mm)	≤ 2 mm	—
Part	Test temperature (°C)	Impression diameter (mm)	
Bobbin material of L901 (PET, type FR530L)	125	0.95	
Bobbin material of L901 (PET, type FR530+)	125	0.95	
Note(s):			

4.6.1, 4.6.2	Table: enclosure openings	P
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Location	Size (mm)	Comments
For plastic enclosure shape type A		
Internal metal enclosure type A:		
Top	Max. Ø 3.4mm	Numerous circle openings at an area 280mm x 34mm.
Rear	N/A	No opening.
Sides	Max. Ø 3.4mm	Numerous openings at both sides (left and right side). Each area is 140mm x10mm.
Bottom	N/A	No opening.
External plastic enclosure (for reference):		
Top	Max. 10.5 x 2.2mm	Numerous rectangle openings.
Sides	Max. 19.8 x 2.4mm	Numerous rectangle openings.
Rear	N/A	No opening.
Bottom	21.3mm x 2.8mm	14 rectangle openings provided on area 62mm x 30.4mm.
For plastic enclosure shape type C		
Internal metal enclosure type B:		
Top	Max. Ø3.6mm	Numerous circle openings at an area 280mm x 34mm.
Rear	N/A	No opening.
Sides	Max. Ø3.6mm	Numerous circle openings at two areas (left and right). Each area is 140mm x10mm.
Bottom side metal sheet	metal plate Ø1.9mm, center to center 4.0mm, thickness 0.81mm.	Numerous circle openings at an area 68mm x 20mm.
External plastic enclosure:		
Top	1.6mm x 27mm	Numerous rectangle openings at an area 340mm x 27mm.
Rear	N/A	No opening.
Side	1.6mm x 27mm	Numerous rectangle openings at two areas (left and right). Each area is 180mm x 27mm.
Bottom	2.6mm x 24mm	Numerous rectangle openings at an area 62mm x 24mm.
Note(s):		
1) Metal enclosure was considered as fire enclosure.		
2) Plastic enclosure type B was similar to plastic enclosure type A (opening construction), except for front bezel shape and color.		

4.7	Table: resistance to fire	N
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Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class

Note(s): The internal metal enclosure is considered as fire enclosure.

5.1.6	TABLE: touch current measurement				P
Condition	L → terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments	
System ON (Fuse in)	0.39	0.41	3.5	To output connector, switch “e” opened.	
System ON (Fuse out)	0.02	0.75	3.5	To output connector, switch “e” opened.	
System ON (Fuse in)	0.01	0.01	0.25	To plastic enclosure with foil, switch “e” closed.	

Note(s):

- 1) Test voltage: 264Vac, 60Hz
- 2) Overall capacitors: C901=C902=C912=3300pF

5.2	TABLE: electric strength tests and impulse tests			P
Test voltage applied between:		Test voltage (V)	Breakdown	
Unit: Primary and secondary		DC 4242	No	
Unit: Primary and earth		DC 2368	No	
T901 primary and secondary ¹⁾		AC 3000	No	
T901 primary and core ¹⁾		AC 1674	No	
T901 secondary and core ¹⁾		AC 1674	No	
2 layers of insulation tape used in T901		AC 3000	No	
Mylar sheet		AC 1500	No	
Heat shrink tube		AC 1500	No	

Note(s): ¹⁾ For all type of T901

5.3	TABLE: fault condition tests			P
	ambient temperature (°C)	25°C, if no else specified	—	
	model/type of power supply	See appended table 1.5.1	—	
	manufacturer of power supply	See appended table 1.5.1	—	
	rated markings of power supply	See appended table 1.5.1	—	

No.	Component no.	Fault	Test voltage (V)	Test time	Fuse no.	Fuse current (A)	Result
1.	DB901 pin 1 – 4	s-c	240	1 sec	F901	--	F901 opened, no hazards
2.	C904	s-c	240	1 sec	F901	--	F901 opened, no hazards
3.	Q903 D – S	s-c	240	1 sec	F901	--	F901 opened, Q903 damaged, no hazards
4.	Q903 G – D	s-c	240	1 sec	F901	--	F901 opened, Q903, R915, IC901 damaged, no hazards
5.	Q903 G – S	s-c	240	10 min	F901	0.04	IC901 internal protection operated, unit shut down, no high temp., no hazards
6.	IC 902 pin 1	o-c	240	10 min	F901	0.06	IC901 internal protection operated, unit shut down, no high temp., no hazards
7.	IC 902 pin 3 – 4	s-c	240	10 min	F901	0.04	IC901 internal protection operated, unit shut down, no high temp., no hazards
8.	T901 pin 8 – 10	s-c	240	10 min	F901	0.04	IC901 internal protection operated, unit shut down, no high temp., no hazards
9.	T901 pin 7 – 9	s-c	240	10 min	F901	0.04	IC901 internal protection operated, unit shut down, no high temp., no hazards
10.	T901 pin 1 – 3	s-c	240	10 min	F901	0.04	IC901 internal protection operated, unit shut down, no high temp., no hazards
11.	T901 pin 5 – 6	s-c	240	10 min	F901	0.04	IC901 internal protection operated, unit shut down, no high temp., no hazards
12.	Inverter CN202 pin 1 – 2	s-c	240	10 min	F901	0.10	IC201 internal protection operated, unit shut down, no high temp., no hazards
13.	Output +5V to Earth	s-c	240	10 min	F901	0.09	IC901 internal protection operated, unit shut down, no high temp., no hazards
14.	Output +12V to Earth	s-c	240	10 min	F901	0.10	IC901 internal protection operated, unit shut down, no high temp., no hazards

15.	All Openings (plastic enclosure shape type A)	Blocked	240	5.7 hrs	F901	--	Unit operated normally, no components damaged, no hazards. Temperature was stabilized, T901 coil = 67.6°C, T901 core = 70.4°C, enclosure inside near power top = 51.0°C, ambient = 22.5°C
16.	All Openings (main board type B with plastic enclosure shape type C)	Blocked	240	2 hrs	F901	--	Unit operated normally, no components damaged, no hazards. Temperature was stabilized, T901 coil = 72°C, T901 core = 60.1°C, PT201 coil = 64.2°C, PT202 coil = 60.5°C, ambient = 24.8°C
17.	All Openings (main board type C with plastic enclosure shape type C)	Blocked	240	1.5 hrs	F901	--	Unit operated normally, no components damaged, no hazards. Temperature was stabilized, T901 coil = 91.2°C, T901 core = 86.5°C, PT201 coil = 97.7°C, PT202 coil = 84.3°C, ambient = 24.6°C
18.	T901 pin 10 – 7	o-l	240	12.2 hrs	F901	0.56	Overload to 6.2A then unit shut down, no hazards Temperature was stabilized, T901 coil = 84.6°C, T901 core = 86.6°C, ambient = 23.3°C
19.	T901 pin 10 – 9	o-l	240	9.7 hrs	F901	0.58	Overload to 3.5A then unit shut down, no hazards Temperature was stabilized, T901 coil = 94.2°C, T901 core = 96.2°C, ambient = 24.7°C
For key control board type 715G1663 and 715L1531							
20.	SW101	s-c	240	10 min	F901	0.33	Nothing happened, no hazards.
21.	SW102	s-c	240	10 min	F901	0.33	Nothing happened, no hazards.
22.	SW103	s-c	240	1 sec	F901	0.04	Unit shut down, no hazards.
23.	SW104	s-c	240	10 min	F901	0.33	Nothing happened, no hazards.
24.	SW105	s-c	240	10 min	F901	0.33	Nothing happened, no hazards.
25.	LED pin 1-pin 2	s-c	240	10 min	F901	0.33	Nothing happened, no hazards.

26.	LED pin 3- pin 4	s-c	240	10 min	F901	0.33	Nothing happened, no hazards.
27.	LED pin 1- pin 3	s-c	240	10 min	F901	0.33	Nothing happened, no hazards.
28.	SW101	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
29.	SW102	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
30.	SW103	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
31.	SW104	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
32.	SW105	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
33.	LED pin 1	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
34.	LED pin 2	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
35.	LED pin 3	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
36.	LED pin 4	o-c	240	10 min	F901	0.33	Nothing happened, no hazards.
Note(s): 1). In fault column, where s-c=short-circuited, o-c=open-circuited, o-l = overload. 2). For fuse opened conditions were tested with each source of fuse.							

C.2	Safety isolation transformer	P
Construction details:		
Transformer part name: T901		
Manufacturer: See appended table 1.5.1		
Type: See appended table 1.5.1		
All types are identical except for manufacturer and type designation.		
Recurring peak voltage	448 Vpk	
insulation (from table 2H and 2J with clearance multiplied by 1.15 considering that EUT operates up to 10000 ft.)	4.9mm	
Effective voltage rms	258 Vrms	
Required creepage distance for reinforced insulation (from table 2L with interpolation)	6.4mm	

Measured min. creepage distance		
Location	inside (mm)	outside (mm)
prim-sec	6.4	6.6 (pri. winding to sec. pin)
prim-core	3.2	4.1
sec-core	3.2	4.1
prim-prim	%	%
Measured min. clearances		
Location	inside (mm)	outside (mm)
prim-sec	6.4	6.6 (pri. winding to sec. pin)
prim-core	3.2	4.1
sec-core	3.2	4.1
prim-prim	%	%
Construction:		
Concentric windings on type ER-28 bobbin, three layers insulation between primary and secondary windings. Margin tape of at least 3.2mm at both sides of transformer is used. Winding ends additionally fixed with tape, outer winding is primary . Tubing on all winding exit ends are provided. Core fixed by two layers of insulation tape. Whole transformer outside wrapped by two layers of insulation tape.		
Pin numbers		
Prim.	1-2-3, 6-5	
Sec.	10-7, 11-7, 8-9	
Bobbin		
Material	1. For type 80LL17T-2-T: a) Chang Chun Plastic, phenolic, T375J or T-357, V-0, 150°C b) Sumitomo Bakelite Co., Ltd., phenolic type PM-9820, flammability V-0, 150°C. 2. For type 80LL17T-2-L: Chang Chun Plastic, phenolic, T375J, V-0, 150°C 3. For type 80LL17T-2-LS: Chang Chun Plastic, phenolic, T375J, V-0, 150°C	
Thickness	min. 0.8mm	
Electric strength test		
With 3000 V a.c. after humidity treatment		
Result	Pass	

National Differences					
Clause	Requirement – Test			Result – Remark	Verdict
APPENDIX	Australian National Differences according to CB Bulletin No. 107A, May 2004 (AS/NZS 60950.1:2003) (IEC Publication 60950-1:2001)				P
EXPLANATION FOR ABBREVIATIONS					
P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.					
Annex ZZ Variations					
1.2	Between the definitions for "Person, service" and "Range, rated frequency" insert the following: Potential ignition source 1.2.12.201			Inserted.	N
1.2.12.15	After the definition of 1.2.12.15, add the following: 1.2.12.201 Potential ignition source: Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards. NOTE 201: An electronic protection circuit may be used to prevent such a fault from becoming a potential ignition source. NOTE 202: This definition is from AS/NZS 60065:2003.			Added.	N
1.5.1	Add the following to the end of first paragraph: "or the relevant Australian/New Zealand Standard."			Added.	N
1.5.2	Add the following to the end of first and third dash items: "or the relevant Australian/New Zealand Standard."			Added.	N
2.1	Delete the Note.			Deleted.	N
3.2.3	Delete Note 2.			Deleted.	N
3.2.5	Modify Table 3B as follows:			Modified.	N
	Rated current of equipment A	Nominal cross-sectional area mm ²	AWG or kcmil (cross-sectional area in mm ²) see note 2		
	Over 0.2 up to and including 3	0.5 ¹⁾	18 [0.8]		

National Differences					
Clause	Requirement – Test			Result – Remark	Verdict
	Over 3 up to and including 7.5	0.75	16 [1.3]		
	Over 7.5 up to and including 10	(0.75) ²⁾ 1.00	16 [1.3]		
	Over 10 up to and including 16	(1.0) ³⁾ 1.5	14 [2]		
	Replace footnote 1) with the following: 1) This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliances, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). Delete Note 1.				
4.3.6	Replace paragraph three with: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.			Replaced.	N
4.3.13.5	Add the following to the end of the first paragraph: ", or AS/NZS 2211.1"			Added.	N
4.7	Add the following paragraph: For alternative tests refer to clause 4.7.201.			See below.	N
4.7.201	Add the following after clause 4.7.3.6: 4.7.201 Resistance to fire - Alternative tests			Added. However, equipment under test and materials and components in compliance with requirements of IEC 60950-1. Alternative test methods were not considered.	N
4.7.201.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of FV-0 according to AS/NSZ 4695.707 and having openings only for the connecting wires filling the openings completely, and for the ventilation not exceeding 1 mm in width			Ditto.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	regardless of the length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material flammability category FV-1 or better according to AS/NZS 4695.707 NOTE - In considering how to minimize propagation of fire and what “small parts” are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance is checked by tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base materials of printed boards, compliance is checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material, which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation, as they would be in normal use. These tests are not carried out on internal wiring.		
4.7.201.2	Parts of non-metallic material are subjected to glow wire test of AS/NZS 4695.2.11, which is carried out at 550 °C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of materials classified at least FH-3 according to ISO 9772 provided that the sample was not thicker than the relevant part.	Ditto.	N
4.7.201.3	Testing of insulating materials Parts of insulating materials supporting potential ignition sources shall be subject to the glow-wire test of AN/NZS 4695.2.11, which is carried out at 750 °C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.	Ditto.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	NOTE - Contacts in components such as switch contacts are considered to be connections. For parts, which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications: 5 Severities Replace with: The duration of application of the test flame shall be 30 s $\pm$ 1 s. 8 Test procedure 8.2 Modification: Replace the first sentence with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. 8.4 Modification: The first paragraph does not apply. Addition: If possible, the flame shall be applied at least 10 mm from a corner. 8.5 Replacement: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test. 10 Evaluation of test results Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to IEC 60695-11-10, provided that the sample tested was not thicker than the relevant part.		

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
4.7.201.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow-wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 is made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not to be tested. NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing. NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burring or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing. NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting in contact with or in close proximity to connections.	Ditto.	N
4.7.201.5	Testing of printed boards The base material of printed boards is subjected to needle-flame test to Clause 4.7.201.3. The flame is applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm for a potential ignition source. The test is not carried out if the – - Printed board does not carry any potential ignition source; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category FV-1 or better according to AS/NZS 4695.707, or the printed boards are protected by an enclosure	Ditto.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	meeting the flammability category FV-0 according to AS/NZS 4695.707, or made of metal, having openings only for connecting wires which fill the opening completely, or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material printed boards supporting spark gaps which provide protection against overvoltages, is of flammability category FV-0 according to AS/NSZ 4695.707 or the printed boards are contained in a metal enclosure, having openings only for connecting wires fill the openings completely. Compliance is determined using the smallest thickness of the material. NOTE - Available apparent power is the maximum apparent power, which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.2.2	Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2. Delete the note.	No TNV.	N
6.2.2.1	Delete Note 2. Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of annex N for 10/700 μs impulses. The interval between successive impulses is 60 s and the initial voltage, U_c, is: - for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and - for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 201 - The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 – The 2.5 kV impulse for 6.2.1a) was chosen to ensure adequacy of the insulation	No TNV.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	concerned and does not necessarily simulate likely overvoltages.		
6.2.2.2	Delete the note. Add the following after the second paragraph: In Australia (this variation does not apply in New Zealand), the a.c. test voltage is: - for 6.2.1a): 3 kV; and - for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 – The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.	No TNV.	N
Annex P	Add the following Normative References to Annex P: IEC 60065, Audio, Video and similar electronic apparatus - Safety requirements AS/NZS 3112, Approval and test specification - Plugs and socket-outlets AS/NZS 3191, Approval and test specification - Electric flexible cords AS/NZS 4695.707, Fire hazard testing of electrotechnical products - Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source	Added.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Korean National Differences according to CB Bulletin No. 107A, May 2004 (K60950) (IEC Publication 60950-1:2001)		P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	No supply cord provided.	N
7	Addition: EMC The apparatus shall comply with the relevant CISPR standards.	It shall be evaluated when submitted to national approval.	N