



Test Report issued under the responsibility of:



TEST REPORT

IEC 60950-1

Information technology equipment – Safety – Part 1: General requirements

Report Number.: T221-0033/16

Date of issue: 2016-05-26

Total number of pages..... 177 pages

Applicant's name.....: GlobTek, Inc.

Address: 186 Veterans Dr. Northvale, NJ 07647 USA

Test specification:

Standard: IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Test procedure.....: CB Scheme

Non-standard test method.....: N/A

Test Report Form No.....: IEC60950_1F

Test Report Form(s) Originator.....: SGS Fimko Ltd

Master TRF: Dated 2014-02

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

General disclaimer:

The test results presented in this report relate only to the object tested.

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Test item description	ITE POWER SUPPLY
Trade Mark	
Manufacturer.....	GlobTek, Inc.
Model/Type reference.....	GT-86180-WWVV-W2Z <ul style="list-style-type: none"> - WW is the standard output wattage, with a maximum value of "18" - VV is the standard rated output voltage designation, can be "09" or "12" - Z designates type of plug and can be E for European plug, U for British plug, blank for North American / Japan plug/Taiwan plug, C for Chinese plug, I for India plug, A for Australia plug, K for Korea plug, AR for Argentina plug, BR for Brazilian plug, SA for South African plug. - W2Z can be optional, when it is blank, denote to be with replaceable plug
Ratings	<u>Input:</u> 100-240 V~; 50/60 Hz; 0,6 A <u>Output:</u> GT-86180-WW12-W2Z; GT-86180-WW12-G; GT-86180-WW12: 12 V===; Max. 1,5 A; max. 18 W GT-86180-WW09-W2Z: 9 V===; Max. 2 A; max. 18 W

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	SIQ Testing and Certification GmbH
Testing location/ address.....:		Angerstraße 11, D-86807 Buchloe Germany
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address.....:		
Tested by (name + signature)		Alexander Mayr 
Approved by (name + signature)		Klaus Völk 
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address.....:		
Tested by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address.....:		
Tested by (name + signature)		
Witnessed by (name + signature).....:		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address.....:		
Tested by (name + signature)		
Witnessed by (name + signature).....:		
Approved by (name + signature)		
Supervised by (name + signature)		

List of Attachments:

1. Test Report (75 pages)
2. National Differences – Enclosure No. 1 (18 pages)
3. European Group Differences and National Differences according to EN 60950-1:2006 + A1:2010 + A2:2013 + A11:2009 + A12:2011 – Enclosure No. 1a (21 pages)
4. Pictures – Enclosure No. 2 (8 pages)
5. Schematics, Layouts, Transformer data - Enclosure No. 3 (17 pages)
6. Plug portion test – Enclosure No. 4 (38 pages)

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

- 1.6.2 Input Test**
- 2.10.2 Working Voltage measurement on PCB and Transformer**
- 5.2 Electric Strength Test**

Testing location:

SIQ Testing and Certification GmbH
Angerstraße 11, D-86807 Buchloe
Germany

Summary of compliance with National Differences
List of countries addressed:

Argentina**, Australia, Austria***, Bahrain**, Belarus**, Belgium***, Brazil**, Bulgaria***, Canada, China, Cyprus***, Colombia**, Croatia**, Czech Republic***, Denmark***, Finland***, France***, Germany***, Greece***, Hungary***, India**, Indonesia**, Iran**, Ireland***, Israel, Italy***, Japan*, Kazakhstan**, Kenya**, Korea, Lybia**, Malaysia**, Mexico**, Netherlands***, New Zealand*, Norway***, Pakistan**, Poland***, Portugal***, Romania***, Russian Federation**, Saudi Arabia**, Serbia**, Singapore**, Slovakia***, Slovenia***, South Africa**, Spain***, Sweden, Switzerland, Thailand**, Turkey***, Ukraine**, United Arab Emirates**, United Kingdom, Uruguay**, USA, Vietnam**

* No national differences to IEC 60950-1:2005 (2nd edition) (+ A1 + A2) declared

** No national differences to IEC 60950-1:2005 (2nd edition) + A1 + A2 or IEC 60950-1:2001 (1st edition) declared

*** EU group differences

☒ **The product fulfils the requirements of EN 60950-1:2006 + A1:2010 + A2:2013 + A11:2009 + A12:2011 (see Enclosure No. 1a).**

Copy of marking plate

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

**Note:**

This is a representative label, the others are identical to this except for the model number, enclosure site and output ratings as listed in the Model/Type reference.

Test item particulars	
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input checked="" type="checkbox"/> direct plug-in
Connection to the mains	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	+/- 10%
Tested for IT power systems	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V)	230 (Only for Norway)
Class of equipment	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	16
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	3000 or 5000 (see summary of testing)
Altitude of test laboratory (m)	627
Mass of equipment (kg)	< 0,2

Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	2016-03-24
Date(s) of performance of tests	From 2016-04-27 to 2016-05-11
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

- ☒ **Yes**
☐ **Not applicable**

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

Name and address of factory (ies) : 1. GlobTek, Inc.
186 Veterans Dr . Northvale, NJ 07647 USA
2. GlobTek (Suzhou) Co., Ltd
Building 4, No. 76, Jin Ling East Rd., Suzhou
Industrial Park, Jiangsu CN-215021, China

General product information:

1. The equipment models are Switching Adapter (direct plug-in type) with fixed plug or replaceable plug, used for DC supply of IT Equipment or office equipment, the output cord is non-detachable.
2. The power adapter's top enclosure is secured to bottom enclosure by ultrasonic welding.
3. The power pin parts of European plug and Korea plug are fixed into the enclosure of plug portion by a screw. The pin parts of Australian plug and British plug were molded into the enclosure of plug portion. It is impossible to remain in the mains socket-outlet after removal of the adapter.
4. Specified maximum ambient temperature is 50°C.
5. The equipment was evaluated for a maximum operating altitude of 3000 m for PCB type A. Therefore, the requirements of IEC 60664-1 for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1.14
6. The equipment was evaluated for a maximum operating altitude of 5000 m for PCB type B. Therefore, the requirements of IEC 60664-1 for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1.48.
7. There two current fuses (F1 & F2) and one varistors (MOV1) within equipment. The configuration for them are below:

Configuration	F1	F2	MOV1
Combination 1	T6,3A	3,3 Ohm	Optional
Combination 2	T6,3A	T2,0 A	Optional

Combination 3	T3,15A	Jumper	Optional
Combination 4	T2,0A	Jumper	Optional
Combination 5	Jumper	3,3ohm	Without

8. Models GT-86180-1812-W2Z; GT-86180-1809-W2Z is identical to model GT-86180-1812-G except for model name, plug portion and enclosure shape. Model GT-86180-1812-W2Z; GT-86180-1809-W2Z are fixed plug portion while GT-86180-1812-G is replaceable plug portion.
9. Model GT-86180-1812 is identical to previous model GT-86180-1812-W2Z and GT-86180-1809-W2Z except for model name and plug portion
10. The relationship of plug type and enclosure type are see below:

Model no.	Enclosure type	Plug type
GT-86180-1812-G	Type 2	Replaceable plug type
GT-86180-1812-W2Z GT-86180-1809-W2Z	Type 1	Fixed plug type
GT-86180-1812	Type 1	Replaceable plug type

Explanation of the test program (according to IECCE CB Scheme OD 2020 from 2014):

This report has been judged on the basis of CB test report No.

16067438 001 (initial test report), issued 2015-05-06

16067438 002 (update 1), issued 2015-06-04

16067438 003 (update 2), issued 2015-09-23

16067438 004 (update 3), issued 2015-12-16

by TÜV Rheinland (Guangdong) Ltd.; No.199 Kezhu Road, Guangzhou Science City 510663 Guangzhou, China.

After review following tests were performed:

- Input current measurement
- Working voltage measurement
- Electric strength test

Based on those results, the test results from test reports were considered acceptable and the test results were adopted to this test report.

In addition, the models were checked and compared with the model in the CB test reports for any constructional changes. No changes found.

Abbreviations used in the report:

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

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	<p>Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard.</p> <p>Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component standard.</p> <p>Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.</p>	P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	(see list of safety critical components table 1.5.1 and the transformer drawings in the Enclosure No. 3)	P
1.5.5	Interconnecting cables	No interconnecting cables.	N/A
1.5.6	Capacitors bridging insulation	<p>Between lines: X2 type capacitor according to IEC 60384-14.</p> <p>Between primary and secondary: Y1 capacitor according to IEC 60384-14</p>	P
1.5.7	Resistors bridging insulation		N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	No such resistors are bridging double/reinforced insulation.	N/A
1.5.8	Components in equipment for IT power systems		P
1.5.9	Surge suppressors	Approved varistor used.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.1	General		P
1.5.9.2	Protection of VDRs	The current fuse (F1) provide the protection.	P
1.5.9.3	Bridging of functional insulation by a VDR	Separately approved varistor used.	P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR	No VDR bridging double or reinforced insulation.	N/A

1.6	Power interface		P
1.6.1	AC power distribution systems		P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	The equipment is not hand-held.	N/A
1.6.4	Neutral conductor	Class II equipment. The neutral is not identified in the equipment. Double or reinforced insulation for rated voltage between accessible parts and primary phases.	P

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:	One rated voltage only.	N/A
	Rated voltage(s) or voltage range(s) (V)	100 – 240 V~	P
	Symbol for nature of supply, for d.c. only.....:	Not connected to d.c. mains.	N/A
	Rated frequency or rated frequency range (Hz) ...:	50/60 Hz	P
	Rated current (mA or A)	0,6 A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	See page 2.	P
	Model identification or type reference	See page 2.	P
	Symbol for Class II equipment only	Appropriate symbol provided.	P
	Other markings and symbols	Additional symbols or marking does not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols		P
1.7.2	Safety instructions and marking		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	General		N/A
1.7.2.2	Disconnect devices	Mains plug considered as disconnect device and is provided as part of the equipment.	N/A
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems	Only for Norway	N/A
1.7.2.5	Operator access with a tool	No operator accessible area that needs to be accessed by the use of a tool.	N/A
1.7.2.6	Ozone	Unit does not produce ozone.	N/A
1.7.3	Short duty cycles	The equipment is intended for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage selector.	N/A
	Methods and means of adjustment; reference to installation instructions	No voltage selector.	N/A
1.7.5	Power outlets on the equipment	No standard power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fusible resistor and Current fuse used, marking provided on PCB adjacent to them: F1: T6.3AL or T2AL or T3.15AL 250V; F2: T2AL 250V or 3.3ohm 2W.	P
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals	Class II direct plug-in equipment.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	Class II direct plug-in equipment.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Not intended for connection to DC mains.	N/A
1.7.8	Controls and indicators	There are no controls affecting safety.	N/A
1.7.8.1	Identification, location and marking	No switch provided.	N/A
1.7.8.2	Colours	No indicators with colors.	N/A
1.7.8.3	Symbols according to IEC 60417	There are no switches in the equipment.	N/A
1.7.8.4	Markings using figures	No controls in the sense of this clause.	N/A
1.7.9	Isolation of multiple power sources	Only one connection supplying hazardous voltages and energy levels to the equipment.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.10	Thermostats and other regulating devices :	No thermostats or other regulating devices.	N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts	No removable parts.	N/A
1.7.13	Replaceable batteries :	No lithium battery in the equipment.	N/A
	Language(s):		—
1.7.14	Equipment for restricted access locations :	Equipment not intended for installation in RAL.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	There is adequate protection against operator contact with bare parts at hazardous voltage.	P
2.1.1.1	Access to energized parts		P
	Test by inspection	Verified.	P
	Test with test finger (Figure 2A)	Verified.	P
	Test with test pin (Figure 2B)	Verified.	P
	Test with test probe (Figure 2C)	No TNV circuit.	N/A
2.1.1.2	Battery compartments	No battery compartment.	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring.	N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards	No energy hazard in operator access area. (see appended table 2.1.1.5)	P
2.1.1.6	Manual controls	No shafts of knobs etc. at ELV or hazardous voltage.	N/A
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s).....	134,68 V after 0,41 seconds. 0 V after 1,32 s	—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ..	Unit not connected to DC mains.	N/A
	b) Internal battery connected to the d.c. mains supply	No battery provided.	N/A
2.1.1.9	Audio amplifiers	No audio amplifier within the unit.	N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A
2.2	SELV circuits		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.1	General requirements	SELV limits (at accessible parts) are not exceeded under normal condition and after a single fault. (see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V)	Within SELV limits. (See appended table 2.2)	P
2.2.3	Voltages under fault conditions (V)	Single fault conditions: < 60 Vdc. See enclosed test results.	P
2.2.4	Connection of SELV circuits to other circuits	The Output of the transformer represents hazard secondary voltage. The output of the unit is rated SELV. Therefore, SELV reliability testing was performed to make sure, that in case of one failure the output will remain SELV.	P

2.3	TNV circuits		N/A
2.3.1	Limits		N/A
	Type of TNV circuits	No TNV circuits in the equipment.	—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		P
2.4.1	General requirements		P
2.4.2	Limit values	46,2 mA	P
	Frequency (Hz)	66,0 k	—
	Measured current (mA).....	0,62	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Measured voltage (V)..... :	364	—
	Measured circuit capacitance (nF or μ F) :	CY1=2200 pF	—
2.4.3	Connection of limited current circuits to other circuits		P

2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	(see appended table 2.5)	P
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) :	No such overcurrent protective device provided.	—
	Current rating of overcurrent protective device (A) .:		—

2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing	Class II equipment without earthing.	N/A
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing:	No functional earthing.	N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG :	Class II equipment without earthing.	—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG :	Class II equipment without earthing.	—
	Protective current rating (A), cross-sectional area (mm^2), AWG..... :	Class II equipment without earthing.	—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)..... :	Class II equipment without earthing.	N/A
2.6.3.5	Colour of insulation :	Class II equipment without earthing.	N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)	Class II equipment without earthing.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment relies on 16A rated fuse or circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short circuit. Over-current protection is provided by the fuse/fusible resistor.	P
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		P
2.7.3	Short-circuit backup protection	Pluggable equipment type A. Building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices	Over current protection by one fuse/fusible resistor.	P
2.7.5	Protection by several devices	Only one protective device. See Sub-clause 2.7.4.	N/A
2.7.6	Warning to service personnel	Not permanently connected equipment or equipment provided with non-reversible plug.	N/A

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

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlock.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos nor hygroscopic materials are used as insulation. No driving belts or couplings used.	P
2.9.2	Humidity conditioning	120 h	P
	Relative humidity (%), temperature (°C)	95 %RH, 40°C	—
2.9.3	Grade of insulation	Insulation is considered to be functional, basic, supplementary, reinforced or double.	P
2.9.4	Separation from hazardous voltages		P
	Method(s) used	Accessible conductive parts, SELV circuits or TNV circuits are separated from parts at hazardous voltage by double or reinforced insulation (Method 1).	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency	50/60 Hz	P
2.10.1.2	Pollution degrees	Pollution degree 2	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.1.3	Reduced values for functional insulation	See 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	No such parts.	N/A
2.10.1.5	Insulation with varying dimensions	No such transformer used.	N/A
2.10.1.6	Special separation requirements	No TNV circuits.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such circuit.	N/A
2.10.2	Determination of working voltage	See appended table 2.10.2.	P
2.10.2.1	General		P
2.10.2.2	RMS working voltage	Considered.	P
2.10.2.3	Peak working voltage	Considered.	P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply	Overvoltage Category II (2500V _{peak})	P
	b) Earthed d.c. mains supplies	Unit not intended for connection to DC mains.	N/A
	c) Unearthed d.c. mains supplies	Unit not intended for connection to DC mains.	N/A
	d) Battery operation	No battery.	N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply	2500 V _{peak} was assumed	P
2.10.3.7	Transients from d.c. mains supply	Unit not intended for connection to DC mains.	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	Unit not intended for connection to telecommunication network or cable distribution system.	N/A
2.10.3.9	Measurement of transient voltage levels	Measurement not relevant.	N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		P
2.10.4.1	General		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.4.2	Material group and comparative tracking index		P
	CTI tests..... :	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation		P
2.10.5.1	General		P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation	No such potted components.	N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)..... :	No such transformer used.	—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components	Transformers provided with triple insulated wire complying with 2.10.5.12.	P
2.10.5.12	Wire in wound components	Approved source of triple insulated wire used in T1 secondary winding for reinforced insulation.	P
	Working voltage :	See appended table 2.10.2.	P
	a) Basic insulation not under stress :		N/A
	b) Basic, supplementary, reinforced insulation :	All used triple insulated wires are in compliance with Annex U.	N/A
	c) Compliance with Annex U :	Approved triple insulated wires are used. See list of critical components.	P
	Two wires in contact inside wound component; angle between 45° and 90° :	By tubing or insulation tape.	P
2.10.5.13	Wire with solvent-based enamel in wound components	No TNV circuits.	N/A
	Electric strength test		—
	Routine test		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage:	No such construction.	N/A
	- Basic insulation not under stress:		N/A
	- Supplementary, reinforced insulation:		N/A
2.10.6	Construction of printed boards		P
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	No multi-layer PCBs provided.	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs):	No multi-layer PCBs provided.	N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

IEC 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 PVC insulated, and having gauge suitable for current intended to be carried. Internal wiring gauge is suitable for current intended to be carried.	P
3.1.2	Protection against mechanical damage	Wire ways are smooth and free from edges. Wires are adequately fixed to prevent excessive strain on wire and terminals and avoiding damage to the insulation of the conductors.	P
3.1.3	Securing of internal wiring	The wires are secured by soldering and glue (on PCB) so that a loosening of the terminal connection is unlikely.	P
3.1.4	Insulation of conductors	(see appended table 5.2)	P
3.1.5	Beads and ceramic insulators	No beads or similar ceramic insulators on conductors.	N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	Terminations cannot become displaced so that clearances and creepage distances can be reduced.	P
	10 N pull test	Force of 10 N applied to the termination points of the conductors.	P
3.1.10	Sleeving on wiring	Sleeves are not used as supplementary insulation.	N/A

3.2	Connection to a mains supply		P
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply	Unit provided with a mains plug that is part of direct plug-in equipment.	P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Only one supply connection.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)	The equipment is not intended for permanent connection to the mains.	—
3.2.4	Appliance inlets	Direct plug-in equipment.	N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type	No power cord.	—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)	No cord guard provided.	—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space	Not permanently connected equipment or equipment with connection of ordinary non-detachable power supply cord.	N/A

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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P
3.4.2	Disconnect devices	Plug of this direct plug-in equipment was used as disconnected device.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	No parts remain energized.	N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The disconnect device disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment	Single phase equipment.	N/A
3.4.8	Switches as disconnect devices	No switch as disconnect device.	N/A
3.4.9	Plugs as disconnect devices	Plug of this direct plug-in equipment was used as disconnected device.	N/A
3.4.10	Interconnected equipment	No interconnections using hazardous voltages or hazardous energy levels.	N/A
3.4.11	Multiple power sources	One power source only.	N/A
3.5	Interconnection of equipment		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits	SELV circuit or limited current circuit.	P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment	No such ports.	N/A

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

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°		N/A
	Test force (N) :	The unit is not floor standing.	N/A

4.2	Mechanical strength		P
4.2.1	General		P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	10N applied to components other than parts serving as an enclosure.	P
4.2.3	Steady force test, 30 N	No internal enclosure.	N/A
4.2.4	Steady force test, 250 N	No hazard. The test was performed with 250N to outer enclosure.	P
4.2.5	Impact test	Unit is classified as direct plug-in and therefore this test is not applicable.	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) :	1m, three impacts. No hazard as result from drop test. Test was performed for all sources of enclosure material.	P
4.2.7	Stress relief test	After 7 hours at temperature of 85°C and cooling down to room temperature, no shrinkage, distortion or loosening any enclosure part was noticeable on the adapter. Test was performed for all sources of enclosure material.	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified :	No cathode ray tubes.	N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) :	Unit is not intended to be mounted on a wall or ceiling.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed.	P
4.3.2	Handles and manual controls; force (N).....:	No knobs, grips, handles, lever, etc.	N/A
4.3.3	Adjustable controls	No hazardous adjustable controls.	N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets	Secondary Connectors do not comply with IEC60320 or IEC60083 or IEC60309 connectors.	P
4.3.6	Direct plug-in equipment		P
	Torque	Max. 0,08 Nm	—
	Compliance with the relevant mains plug standard	See enclosure No. 4 for partial plug test reports. The other plug should be evaluated during national approval.	P
4.3.7	Heating elements in earthed equipment	The equipment does not have any heating elements.	N/A
4.3.8	Batteries	No batteries in the equipment.	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	Insulation is not exposed to oil, grease etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not generate dust, powder, does not contain liquid or gas. The unit is specified for office environment.	N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids	No containers for liquids or gases in the equipment.	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation		N/A
4.3.13.1	General		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	No such exposure.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	No such components.	N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)	No such components.	—
4.3.13.6	Other types	No such components.	

4.4	Protection against hazardous moving parts		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas	No hazardous moving parts.	N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a).....:		N/A
	Is considered to cause pain, not injury. b)		N/A
	Considered to cause injury. c)		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning		N/A

4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Normal load condition per Annex L	Rated load, as specified by Manufacturer.	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	(see appended table 4.5.5)	P
4.6	Openings in enclosures		N/A
4.6.1	Top and side openings		N/A
	Dimensions (mm)	No openings provided.	—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom, dimensions (mm) ..	No bottom openings	—
4.6.3	Doors or covers in fire enclosures	No doors or covers in fire enclosure.	N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)	No openings provided.	—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes	No barrier secured by adhesive inside enclosure.	N/A
	Conditioning temperature (°C), time (weeks)		—
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Fire enclosure as part of equipment.	P
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	Components and materials have adequate flammability classification. Refer to "List of Critical Components".	P
4.7.3.2	Materials for fire enclosures	The fire enclosure is V-1 or better material.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.3	Materials for components and other parts outside fire enclosures	No parts outside the fire enclosure.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated V-2 or better or are mounted on a PWB rated V-1 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filters in the equipment.	N/A
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	According to Fig. 5A	P
5.1.4	Application of measuring instrument		P
5.1.5	Test procedure	The touch current was measured from mains to DC output connector and to a 100 mm x 200 mm metal foil wrapped on accessible nonconductive parts (plastic enclosure).	P
5.1.6	Test measurements		P
	Supply voltage (V)	264V / 60Hz	—
	Measured touch current (mA)	(see appended table 5.1)	—
	Max. allowed touch current (mA)	0,25 mA to unearthed accessible parts	—
	Measured protective conductor current (mA)	Not applicable. Class II equipment.	—
	Max. allowed protective conductor current (mA) ...	See above.	—
5.1.7	Equipment with touch current exceeding 3,5 mA	Neither stationary permanently connected equipment nor stationary pluggable equipment type B.	N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Max. allowed touch current (mA) :		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports :		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure		P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	No motor provided.	N/A
5.3.3	Transformers	With the shorted o/p of the transformer, no high temperature of the transformer was recorded. Results of the short-circuit tests see appended table 5.3 and Annex C.	P
5.3.4	Functional insulation :	Method c) used.	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE :	No such components.	N/A
5.3.7	Simulation of faults		P
5.3.8	Unattended equipment	The unit is intended for continuous operation. There is no thermal sensor or cut-off for operational condition.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests	No flame, melted metal, no fire- cheese cloth on top and tissue paper on bottom remain clean.	P
5.3.9.2	After the tests	The tested units passed the electric strength test.	P

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

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	Not connected to telecommunication network.	N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		

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

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

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

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	Not connected to cable distribution system.	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)	Approved materials are used. See list of critical components.	N/A
A.1.1	Samples		—
	Wall thickness (mm).....		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material.....		—
	Wall thickness (mm).....		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	No motor provided.	N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	T1	—
	Manufacturer	GlobTek, Inc.	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Type	See list of critical components	—
	Rated values	Class B	—
	Method of protection.....	Primary current limitation.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended tables 5.2 and C2)	P
	Protection from displacement of windings.....	Triple insulated wire is used. No special precaution is required.	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		P
G.1	Clearances		P
G.1.1	General		P
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances	See appended table 2.10.3/2.10.4	P
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used	Class II equipment.	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	Rated load, as specified by Manufacturer.	P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.3	Method B		N/A
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	a) Preferred climatic categories	40/85/56	P
	b) Maximum continuous voltage	Min. 300 Vrms	P
	c) Combination pulse current	Min. 6kV/3kA pulse 1,2/50 µs	P
	Body of the VDR Test according to IEC60695-11-5.....	Tested according to IEC 60695-11-5.	P
	Body of the VDR. Flammability class of material (min V-1).....		N/A
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		See list of critical components. All used triple insulated wires are already approved to Annex U. No additional tests considered required.	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		P
X.1	Determination of maximum input current		P
X.2	Overload test procedure		P
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General	No such components.	N/A
CC.2	Test program 1.....:		N/A
CC.3	Test program 2.....:		N/A
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....:		N/A
DD.3	Mechanical strength test, 250N, including end stops.....:		N/A
DD.4	Compliance.....:		N/A
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....:		N/A
	Information of user instructions, maintenance and/or servicing instructions.....:		N/A
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Enclosure	SABIC Innovative Plastics Us L L C	SE1X	PPE+PS, V-1, 105°C, minimum 1,5 mm thickness.	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562	
(Alternative)	SABIC Japan L L C	SE1X	PPE+PS, V-1, 105°C, minimum 1,5 mm thickness	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E207780	
(Alternative)	Asahi Kasei Chemicals Corp Xyron Polymer	540V	PPE, V-1, 105°C, minimum 1,5 mm thickness.	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cURus E82268	
(Alternative)	Bayer Materialscienc e Ag	6485	PC, V-0, 115°C, minimum 1,5 mm thickness.	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cURus E41613	
(Alternative)	SABIC Japan L L C	925U	PC, V-0, 115°C, minimum 1,5 mm thickness.	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. UR E207780	
(Alternative)	Idemitsu Kosan Co Ltd	AZ2201	PC, V-0, 125°C, minimum 1,5 mm thickness.	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cURus E48268	
(Alternative)	SABIC Japan L L C	CH6410	PC, V-0, 100°C, minimum 1,5 mm thickness.	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E207780	
PCB	Shenzhen Wuzhu Tech Co Ltd	WZ-4	V-0, 130°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E170968	
(Alternative)	Huizhou Shunjia Electronics Co Ltd	SJ-B	V-0, 130°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E320884	
(Alternative)	Interchangeable	Interchangea ble	V-1 or better, 130°C	(QMFZ2)	UR	
Primary lead wire	Dong Ju	1007	80°C, Min. 24AWG, VW-1, min. 300 V	IEC/EN 60950-1 (AVLV2)	Tested within the unit. UR E189674	
(Alternative)	Interchangeable	Interchangea ble	Min.80°C, min. 24AWG, VW-1, min. 300 V	(AVLV2)	UR	

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Output wire	LiCheng Electronics	2468	80°C, min. 22AWG min. VW-1, min. 300 V	IEC/EN 60950-1 (AVLV2)	Tested within the unit. UR E205058
(Alternative)	Interchangeable	Interchangeable	Min. 80°C, min. 22AWG min. VW-1, min. 300 V	(AVLV2)	UR
Fuse (F1) (alternative) between T6.3AL, T3.15AL, Jumper and T2AL)	Littelfuse Wickmann Werke	392	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub- miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 126983
(Alternative)	Conquer Electronics Co Ltd	MST	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub- miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40017118
(Alternative)	Cooper Bussmann LLC	SS-5	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40015513
(Alternative)	Bel Fuse Inc	RST	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub- miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40011144 40028321
(Alternative)	Chi Lick Schurter Limited	SPT	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40014285 40027700
(Alternative)	Conquer Electronics Co Ltd	PTU	T2,0 A, T3,15 A, T6,3A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40001462
(Alternative)	Littelfuse Inc	877	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40023242
(Alternative)	Walter Electronic Co. Ltd	2010	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40018781
(Alternative)	Nippon Seisen Cable Ltd	SLT series	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40013103
(Alternative)	Walter Electronic Co. Ltd	ICP	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40012824

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	XC Electronics	5TE series	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub-miniature type	IEC 60127-1 IEC 60127-3	VDE
(Alternative)	XC Electronics	4T series	T2,0 A, T3,15 A, T6,3 A, 250 Vac, Sub-miniature type	IEC 60127-1 IEC 60127-3	VDE
Fusible resistor (F2)	Chang Sheng	FRT	3,3 ohm, 2 W	IEC/EN 60950-1	Tested within the unit.
(Alternative)	TZAI YUAN	KNF	3,3 ohm, 2 W	IEC/EN 60950-	Tested within the unit.
(Alternative)	Hua Sheng Electronics	FKN	3,3 ohm, 2 W	IEC/EN 60950-1	Tested within the unit.
(Alternative)	Shenzhen Great	RXF series	3,3 ohm, 2 W	IEC/EN 60950-1	Tested within the unit.
Fuse (F2) (alternative)	Littelfuse Wickmann Werke	392	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 126983
(Alternative)	Conquer Electronics Co Ltd	MST	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40017118
(Alternative)	Cooper Bussmann LLC	SS-5	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40015513
(Alternative)	Bel Fuse Inc	RST	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40011144
(Alternative)	Chi Lick Schurter Limited	SPT	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40014285
(Alternative)	Conquer Electronics Co Ltd	PTU	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40001462
(Alternative)	Littelfuse Inc	877	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40023242
(Alternative)	Walter Electronic Co. Ltd	2010	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40018781
(Alternative)	Nippon Seisen Cable Ltd	SLT series	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40013103

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Walter Electronic Co Ltd	ICP	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40012824
(alternative)	XC Electronics	5TE series	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE
(Alternative)	XC Electronics	4T series	T2,0 A, 250 Vac, Sub-miniature type	IEC/EN 60127-1 IEC/EN 60127-3	VDE
Varistor (MOV1) (optional)	Centra Science Corp	CNR10D431K - CNR10D471K , CNR14D431K - CNR14D471K	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 40008220
(Alternative)	Uppermost Electronic Industries Co Ltd	V10K300,	Min. 300 Vac, min. 385Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 010108
(Alternative)	Jya-Nay Co Ltd	10D431K - 10D471K, 14D431K - 14D471K	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 40023949
(Alternative)	Joyin Co Ltd	10N431K - 10N471K 14N431K - 14N471K	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 005937
(Alternative)	Panasonic Corporation	10K431U - 10K471U, 14K431U - 14K471U	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 005912
(Alternative)	Thinking Electronic Industrial Co Ltd	TVR10431- TVR10471, TVR14431- TVR14471	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 005944
(Alternative)	Guangdong Fenghua Advanced Technology Holding Co Ltd. Xianhua New Sensitive Components Branch	FNR-10K431- FNR- 10K471 , FNR-14K431- FNR- 14K471	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 40008242

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Brightking (Shenzhen)Co Ltd	10D431K - 10D471K, 14D431K - 14D471K,	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 40027827
(Alternative)	Littelfuse Inc	V300LA10P - V385LA10P, V300LA20AP - V385LA20AP, V10E300P - V10E385P, V14E300P - V14E385P	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 116895
(Alternative)	Guangxi New Future Information Industry Co Ltd	10D431K - 10D471K, 14D431K - 14D471K,	Min. 300 Vac, min. 385 Vdc, fulfilled 6 kV/3 kA pulse test.	IEC/EN 61051- 1, IEC/EN 60950-2 2nd Annex Q	VDE 40030322
Common choke (LF1)	GlobTek	30C030100- xxx ("xxx" to denote the part number, can be any alphanumeric character for marketing purposes only.)	L1: Pin 1-2: Φ0,25*100 Ts L2: Pin 4-3: Φ0,25 *100 Ts Min.24 mH 130°C	IEC/EN 60950-1	Tested within the unit.
- Magnet wire	Interchangeable	Interchangeable	130°C	--	UR
-Bobbin	Chang Chun Plastics Co Ltd	T375J,T373J	Phenolic, V-0, 150 °C, min. 0,71 mm thickness	(QMFZ2)	UR E59481
(Alternative)	Sumitomo Bakelite Co Ltd	PM-9820, PM-9630	Phenolic, V-0, 150 °C min. 0,51 mm thickness	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E41429
Bridge diode (D1, D2, D3, D4)	Interchangeable	Interchangeable	Min.1 A, min. 400 V	--	--
Electrolytic Cap. (C1)	Interchangeable	Interchangeable	22-47 µF, Min. 400 Vdc 105°C	--	--

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Transistor (Q1)	Interchangeable	Interchangeable	Min.1 A, min. 400 V	--	--
Bleeder Resistor (RA, RB)	Interchangeable	Interchangeable	1,5 Mohm, min. 1/4 W	--	--
X-Capacitor (CX1) (Optional)	Carli Electronics Co Ltd	MPX	Max. 0,22 µF, min. 275 Vac, X1 or X2 type, 40/100/21/C	IEC/EN 60384-14	VDE 40008520
(Alternative)	Dain Electronics Co., Ltd.	MEX, MPX, NPX	Max. 0,22 µF, min. 275 Vac, X1 or X2 type, 40/100/21/C	IEC/EN 60384-14	VDE 40018798
(Alternative)	Okaya Electric Industries Co Ltd	PA	Max. 0.22 µF, Min. 275 Vac, X1 or X2 type, 40/100/56/B	IEC/EN 60384-14	VDE 40018318
(Alternative)	Yuon Yu Electronics Co Ltd	MPX	Max. 0,22 µF, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384-14	VDE 40032392
(Alternative)	Dongguan Okaya Electric Co Ltd	RE	Max. 0,22 µF, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384-14	VDE 40028657
(Alternative)	Strong Components Co Ltd	MPX	Max. 0,22 µF, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384-14	VDE 40005451
(Alternative)	Chiefcon Electronics Co Ltd	CKX	Max. 0,22 µF, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384-14	VDE 131782
(Alternative)	Iskra Sistemi, D D	KNB 1530, KNB 1532, KNB 1533, KNB 1537, KNB1560	Max. 0,22 µF, Min. 275 Vac, X1 or X2 type, 40/100/56/B	IEC/EN 60384-14	VDE 139447
(Alternative)	Ultra Tech Xiphi Enterprise Co Ltd	HQX	Max. 0,22 µF, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384-14	VDE 40015608

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Pilkor Electronics Co Ltd	PCX2 335M	Max. 0,22 μ F, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384- 14 FOWX2 FOWX8	Semko cURus E165646
(Alternative)	Pilkor Electronics Co Ltd	PCX2 337	Max. 0,22 μ F, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384- 4 FOWX2 FOWX8	Semko cURus E165646
(Alternative)	Joey Electronics (Dong Guan) Co Ltd	MPX	Max. 0,22 μ F, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384- 14	VDE40032481
(Alternative)	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Max. 0,22 μ F, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384- 14	VDE 40018690
(Alternative)	Sinhua Electronics (Huzhou) Co Ltd	MPX	Max. 0,22 μ F, min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384- 14	VDE 40014686
(Alternative)	Yimanfeng Science And Technology Ltd	MPX/MKP	Max. 0,22 μ F, Min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384- 14	VDE 40028516
(Alternative)	Shenzhen Surong Capacitors Co Ltd	MPX/MKP	Max. 0,22 μ F, Min. 275 Vac, X1 or X2 type, 40/100/21	IEC/EN 60384- 14	VDE 40008924
(Alternative)	Hongzhi Enterprises Ltd	MPX	Max. 0,22 μ F, Min. 275 Vac, X1 or X2 type, 40/100/56/C	IEC/EN 60384- 14	VDE 40023936
(Alternative)	Wujiang Taixing Electronic Co Ltd	TNS-2TH	Max. 0,22 μ F, Min. 275 Vac, X1 or X2 type, 40/100/56/C	IEC/EN 60384- 14	VDE 117515
Y-Capacitor (CY1) (Optional)	Tdk-Epc Corp	CD	Max. 2200 pF, min. 250 Vac, 25/125/21/C, Y1 type	IEC/EN 60384- 14	VDE 124321
(Alternative)	Success Electronics Co Ltd	SE, SB	Max. 2200 pF, min. 250 Vac, 25/125/21/C, Y1 type	IEC/EN 60384- 14	VDE 40020002

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Murata Mfg Co Ltd	KX	Max. 2200 pF, min. 250 Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14	VDE 40002831
(Alternative)	Welson Industrial Co Ltd	WD	Max. 2200 pF, min. 250 Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14	VDE 115455
(Alternative)	Samwha Capacitor Samwha Capacitor	SD	Max. 2200 pF, min. 250 Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14	VDE 40015804
(Alternative)	Nanjing Yuyue Electronics Co., Ltd.	CT7	Max. 2200 pF, min. 250 Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14	VDE40008010
(Alternative)	Yinan Don's Electronic Component Co	CT81	Max. 2200 pF, min. 250 Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14	VDE 135256
(Alternative)	Jyh Hsu (Jec) Electronics Ltd	JD, JY	Max. 2200 pF, min. 250 Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14	VDE 40038642 VDE 40038643
Photo Coupler (IC2)	Sharp Corp Electronic Components And Devices Div	PC817, PC123	Cr.&Cl.=min.5,1 mm Dti.=min>0,4 mm Minimum110°C	IEC/EN 60950-1	VDE 40008087
(Alternative)	Lite-On Technology Corp	LTV-817	Cr.&Cl.=min.7,0 mm Dti.=min>0,4 mm Minimum110°C	IEC/EN 60950-1	VDE 40015248
(Alternative)	Everlight Electronics Co Ltd	EL 817	Cr.&Cl.=min.5,2 mm Dti.=min>0,4 mm Minimum110°C	IEC/EN 60950-1	VDE 132249
(Alternative)	Cosmo Electronics Corp	K1010, KP1010	Cr.&Cl.=min.5,3 mm Dti.=min>0,4 mm Minimum110°C	IEC/EN 60950-1	VDE 101347
(Alternative)	Fairchild Semiconductor Corp	H11A817B	Cr.&Cl.=min.5,3 mm Dti.=min>0,4 mm Minimum100°C	IEC/EN 60950-1	VDE 40026857
(Alternative)	Bright Led Electronics Corp	BPC817B, BPC817C	Cr.&Cl.=min.5,2 mm Dti.=min>0,4 mm Minimum110°C	IEC/EN 60950-1	VDE 40007240

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Renesas Electronics Corporation	PS2561	Cr.&Cl.=min.7,0 mm Dti.=min>0,4 mm Minimum110°C	IEC/EN 60950-1	VDE 40008862
Heat-shrinkable tube wrapped F1 and F2	Shenzhen Woer	RSFR	125°C, VW-1, 300 V	IEC/EN 60950-1 (YDPU2) (YDPU8)	Tested within the unit. cURus E203950
(Alternative)	Interchangeable	Interchangea ble	125°C, VW-1, 400 V	(YDPU2) (YDPU8)	UR
Mylar sheet	Sumit Omo Bakelite Co Ltd	AV-Lite DP 901	PC, V-0, thickness: min. 0,4 mm, min.125°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E41429
(Alternative)	Sabic Innovative Plastics Us Llc	FR700	PC, V-0, thickness: min. 0,4 mm, min.125°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562
(Alternative)	Dupont Hongji Films Foshan Co Ltd	EM, MO31	PET, VTM-2, thickness: min. 0,4 mm, min.105°C	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cULus E241830
(Alternative)	Jiangsu Yuxing	CY28	PET, VTM-2, thickness: min. 0,4 mm, min.105°C	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cURus E212271
Foam – Provided between PWB and enclosure. (Optional)	Holy Foam Enterprises Ltd.	FR212	HF-1 or better, BK, thickness: min.3,0 mm	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E105037
(Alt.)	Interchangeable	Interchangea ble	HF-2 or better	(QMFZ2)	UR
Fixed plug portion models					
European plug	GlobTek	W2E	2,5 A, 250 VAC	EN 50075	Tested within the unit.
Pin sleeve of Plug holder	SABIC Innovative Plastics	SE1X	PPE+PS, V-1, 105°C.	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	SABIC Japan L L C	SE1X	PPE+PS, V-1, 105°C.	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E207780
British plug	GlobTek	W2U	0,7 A, 250 VAC	BS 1363- 1+A1+A2+A3	Tested within the unit.
Pin sleeve of British plug	Nan Ya plastic Corp.	6410G5	PA66, V-0, 130°C	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cURus E130155
(Alternative)	Sabic Innovative Plastics Us L L C	940A	PC, V-0(V2), 120°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562
European plug (replaceable plug portion)	GlobTek	Q-EU	2,5 A, 250 VAC	EN 50075	Tested within the unit.
Pin sleeve of Plug holder	SABIC Innovative Plastics	SE1X	PPE+PS, V-1, 105°C.	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562
(Alternative)	SABIC Japan L L C	SE1X	PPE+PS, V-1, 105°C.	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UL E207780
British plug (replaceable plug portion)	GlobTek	Q-UK	0,7 A, 250 VAC	BS 1363-1+A4	Tested within the unit.
Pin sleeve of British plug	Nan Ya plastic Corp.	6410G5	PA66, V-0, 130°C	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cURus E130155
(Alternative)	Sabic Innovative Plastics Us L L C	940A	PC, V-0, 120°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562
(Alternative)	Asahi Kasei	540V	PPE+PS, V-1, 105°C	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cURus E82268
Replaceable plug for model GT-86180-1812					

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
European plug(replacea ble plug portion)	GlobTek	Q-EU	2,5 A, 250 VAC	IEC/EN 60950-1 EN 50075	Tested within the unit.
Pin sleeve of Plug holder	SABIC Innovative Plastics	SE1X	PPE+PS, V-1, 105°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562
(Alternative)	SABIC Japan L L C	SE1X	PPE+PS, V-1, 105°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E207780
British plug (replaceable plug portion)	GlobTek	Q-UK	0,7 A, 250 VAC	IEC/EN 60950-1 BS 1363-1+A4	Tested within the unit.
Pin sleeve of British plug	Nan Ya plastic Corp.	6410G5	PA66, V-0, 130°C	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. cURus E130155
Argentinean plug	GlobTek	Q-AR	0,7 A, 250 VAC	IEC/EN 60950-1	Tested within the unit.
Japanese plug	GlobTek	Q-NA	0,7A, 250 VAC	IEC/EN 60950-1	Tested within the unit.
Pin sleeve of Plug holder	SABIC Innovative Plastics	SE1X	PPE+PS, V-1, 105°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562
(Alternative)	SABIC Japan L L C	SE1X	PPE+PS, V-1, 105°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E207780
Brazil plug	GlobTek	Q-BR	PPE+PS, V-1, 105°C	IEC/EN 60950-1	Tested within the unit.
Replaceable plug for model GT-86810-1812-G					
ArgentineanPlu g	GlobTek	Q-AR	0,7 A, 250 VAC	IEC/EN 60950-1	Tested within the unit.
Japanese plug	GlobTek	Q-NA	0,7 A, 250 VAC	IEC/EN 60950-1	Tested within the unit.
Pin sleeve of Plug holder	SABIC Innovative Plastics	SE1X	PPE+PS, V-1, 105°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E121562

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	SABIC Japan L L C	SE1X	PPE+PS, V-1, 105°C	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E207780
Transformer (T1) 12 V model	Globtek	90E18PFM0- xxx ("xxx" to denote the part number, can be any alphanumeric character for marketing purposes only.)	Pri. Winding: (pin 3- pin 4): Φ0,30 mm x1Px60Ts (pin 4- pin 1): Φ0,30 mm x1Px24Ts (pin5 - pin 2): Φ0,16 mm x4Px12TsSec. Winding: (pin 8- pin 7) Φ0,55 mm x12Ts Class B	Applicable part of IEC/EN 60950-1 and according to IEC/EN 60085	Tested within the unit.
Transformer (T1) 9 V model	Globtek	90E18PM09x xx ("xxx" to denote the part number, can be any alphanumeric character for marketing purposes only.)	Pri. Winding: (pin 3- pin 4): Φ0,30 mm x1Px60Ts (pin 4- pin 1): Φ0,30 mm x1Px24Ts (pin5 - pin 2): Φ0,18 mm x3Px14Ts Sec. Winding: (pin 8- pin 7) Φ0,80 mm x1P9Ts Class B	Applicable part of IEC/EN 60950-1 and according to IEC/EN 60085	Tested within the unit.
Component used in T1					
- Bobbin	Sumitomo Bakelite Co Ltd	PM-9820, PM-9630	Phenolic, V-0, 150 °C, min. 0,71 mm thickness	IEC/EN 60950-1 (QMFZ2) (QMFZ8)	Tested within the unit. UR E41429
(Alternative)	Chang Chun Plastics Co Ltd	T375J, T373J	Phenolic, V-0, 150°C, min. 0,71 mm thickness	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E59481
(Alternative)	Hitachi Chemical Co Ltd	CP-J-8800	Phenolic, V-0, 150°C, Min. thickness 0,71 mm	IEC/EN 60950-1 (QMFZ2)	Tested within the unit. UR E42956
- Magnet wire	TAI-I Electric Wire & Cable	UEW	130°C	IEC/EN 60950-1 (OBMW2)	Tested within the unit. UR E85640

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Pacific Electric Wire & Cable Co Ltd	DD-NYU	130°C	IEC/EN 60950-1 (OBMW2)	Tested within the unit. UR E84081
(Alternative)	Heshan Jiangci Wire & Cable Co Ltd	XUEW-ULx	130°C	IEC/EN 60950-1 (OBMW2)	Tested within the unit. UR E192838
(Alternative)	Shen Zhen City Chengwei Industry Co Ltd	2UEW	130°C	IEC/EN 60950-1 (OBMW2)	Tested within the unit. UR E227475
(Alternative)	Interchangeable	Interchangeable	130°C	(OBMW2)	UR
-Triple insulate wire	Furukawa Electric Co Ltd	TEX-E	Class B	IEC/EN 60950-1 (OBJT2)	VDE 006735 UR E206440
(Alternative)	Cosmolink Co Ltd	TIW-M	Class B	IEC/EN 60950-1 (OBJT2)	VDE 138053 UR E213764
(Alternative)	Young Chang Silicone Co Ltd	STW-B	Class B	IEC/EN 60950-1 (OBJT2)	VDE 40013359 UR E242198
(Alternative)	Great Leoflon Industrial Co Ltd	TRW (B)	Class B	IEC/EN 60950-1 (OBJT2)	VDE 136581 UR E211989
(Alternative)	E&B Technology Co Ltd	E&B-B-XXX	Class B	IEC/EN 60950-1 (OBJT2)	VDE 40023473 UR E315265
(Alternative)	Dah Jin Technology Co Ltd	TLW-B	Class B	IEC/EN 60950-1 (OBJT2)	VDE 40019324 UR E236542
(Alternative)	Yusheng Electric Co., td.	TIW-B, TWE- 3	Class B	IEC/EN 60950-1	VDE 40033527
- Insulation tape	3M Company Electrical Markets Div (Emd)	1350F-1, 1350F-2	130°C	IEC/EN 60950-1 (OANZ2)	Tested within the unit. UR E17385
(Alternative)	Symbio Inc	35660, 35661, 35660Y	130°C	IEC/EN 60950-1 (OANZ2)	Tested within the unit. UR E50292

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	CT, PZ	130°C	IEC/EN 60950-1 (OANZ2)	Tested within the unit. UR E165111
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer.....: See appended table 1.5.1(component list) Type: See appended table 1.5.1(component list) Separately tested: Tested within the unit Bridging insulation.....: RI External creepage distance: See appended table 1.5.1(component list) Internal creepage distance.....: See appended table 1.5.1(component list) Distance through insulation.....: See appended table 1.5.1(component list) Tested under the following conditions.....:		
Input: Tested within the unit Output: Tested within the unit		
supplementary information		

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

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
Model: GT-86180-1812-W2Z or GT-86180-1812-G or GT-86180-1812						
90	0,41	--	21,6	F1	2	Rated load; 12 V @ 1,5 A; 50 Hz
100	0,38	0,6	21,3	F1	2	Rated load; 12 V @ 1,5 A; 50 Hz
240	0,22	0,6	20,7	F1	2	Rated load; 12 V @ 1,5 A; 50 Hz
264	0,21	--	21,1	F1	2	Rated load; 12 V @ 1,5 A; 50 Hz
90	0,42	--	21,9	F1	2	Rated load; 12 V @ 1,5 A; 60 Hz
100	0,38	0,6	21,6	F1	2	Rated load; 12 V @ 1,5 A; 60 Hz
240	0,22	0,6	21,1	F1	2	Rated load; 12 V @ 1,5 A; 60 Hz
264	0,21	--	21,1	F1	2	Rated load; 12 V @ 1,5 A; 60 Hz
Model: GT-86180-1809-W2Z						
90	0,41	--	21,9	F1	2	Rated load; 9 V @ 2,0 A; 50 Hz
100	0,38	0,6	21,7	F1	2	Rated load; 9 V @ 2,0 A; 50 Hz
240	0,22	0,6	21,3	F1	2	Rated load; 9 V @ 2,0 A; 50 Hz
264	0,21	--	21,4	F1	2	Rated load; 9 V @ 2,0 A; 50 Hz
90	0,42	--	21,9	F1	2	Rated load; 9 V @ 2,0 A; 60 Hz
100	0,38	0,6	21,7	F1	2	Rated load; 9 V @ 2,0 A; 60 Hz
240	0,23	0,6	21,4	F1	2	Rated load; 9 V @ 2,0 A; 60 Hz
264	0,22	--	21,4	F1	2	Rated load; 9 V @ 2,0 A; 60 Hz
Supplementary information: Test was performed at SIQ.						

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

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Model: GT-86180-1812-W2Z or GT-86180-1812-G or GT-86180-1812					
12,0	1,5	12,27	2,21	26,2	
Model: GT-86180-1809-W2Z					
9,0	2,0	9,20	3,61	31,6	
supplementary information:					

2.1.1.5 c) 2)	TABLE: stored energy			N/A
Capacitance C (μF)		Voltage U (V)	Energy E (J)	
supplementary information:				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
Transformer secondary pin 7-8	51,6	--	--	
E-capacitor C7	--	12,3	D7	
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
D7 short-circuited	0 (unit shutdown immediately)			
supplementary information:				
Test voltage: 264V				
Test frequency: 60Hz				

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

2.5	TABLE: Limited power sources					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Model: GT-86180-1812-W2Z or GT-86180-1812-G or GT-86180-1812						
Normal operation	--	12,27	2,21	8,0	26,2	100
Sc IC2 pin 1-2	--	--	0 **	8,0	0 **	100
Sc IC2 pin 3-4	--	--	0 **	8,0	0 **	100
Oc IC2 pin 1	--	--	0 **	8,0	0 **	100
Oc IC2 pin 3	--	--	0 **	8,0	0 **	100
Sc; R9	--	12,27	3,25	8,0	37,8	100
Sc; R9A	--	12,27	3,55	8,0	40,3	100
Model: GT-86180-1809-W2Z						
Normal operation	--	9,20	3,64	8,0	31,6	100
Sc IC2 pin 1-2	--	--	0 **	8,0	0 **	100
Sc IC2 pin 3-4	--	--	0 **	8,0	0 **	100
Oc IC2 pin 1	--	--	0 **	8,0	0 **	100
Oc IC2 pin 3	--	--	0 **	8,0	0 **	100
Sc; R9	--	9,20	4,92	8,0	42,2	100
Sc; R9A	--	9,20	4,96	8,0	43,1	100
supplementary information:						
Sc=Short circuit, Oc=Open circuit						
** unit shutdown immediately						

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

2.10.2	Table: working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
Model: GT-86180-1812-W2Z or GT-86180-1812-G or GT-86180-1812				
T1 pin 1 to N	260	347		
T1 pin 2 to N	170	356		
T1 pin 3 to N	307	460		
T1 pin 5 to N	171	400		
T1 pin 1 to 7	261	354		
T1 pin 2 to 7	169	350		
T1 pin 3 to 7	308	459		
T1 pin 5 to 7	171	401		
T1 pin 1 to 8	262	402		
T1 pin 2 to 8	171	364		
T1 pin 3 to 8	296	440		
T1 pin 5 to 8	170	358		
Opto-coupler IC2 pin 1 to 3	177	364		
Opto-coupler IC2 pin 1 to 4	175	364		
Opto-coupler IC2 pin 2 to 3	177	364		
Opto-coupler IC2 pin 2 to 4	175	364		
CY1	170	364		
Model: GT-86180-1809-W2Z				
T1 pin 1 to N	248	345		
T1 pin 2 to N	175	345		
T1 pin 3 to N	306	492		
T1 pin 5 to N	176	415		
T1 pin 1 to 7	251	352		
T1 pin 2 to 7	174	352		
T1 pin 3 to 7	306	484		
T1 pin 5 to 7	177	418		
T1 pin 1 to 8	252	392		
T1 pin 2 to 8	176	362		
T1 pin 3 to 8	295	471		

IEC 60950-1			
Clause	Requirement + Test		Verdict
T1 pin 5 to 8	175	376	
Opto-coupler IC2 pin 1 to 3	181	355	
Opto-coupler IC2 pin 1 to 4	179	352	
Opto-coupler IC2 pin 2 to 3	181	353	
Opto-coupler IC2 pin 2 to 4	179	351	
CY1	174	346	
supplementary information:			
<p>Input voltage: 240Vac. Test Condition was: rated load</p> <p>The following terminals were connected together: Minus of the output, Neutral.</p> <p>Test was performed at SIQ.</p>			

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

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Applied 3000m altitude for PCB layout DSA-18PFM-12 REV:1							
Functional:							
Line trace to Neutral trace after fuse F1	340	240	1,8	5,2	2,5	5,2	
PCB trace under fuse/ Fusible resistor F1	340	240	1,8	2,8	2,5	2,8	
PCB trace under fuse/ Fusible resistor F2	340	240	1,8	2,8	2,5	2,8	
Basic/supplementary:							
Reinforced:							
Primary components to accessible enclosure (KR,EU)	340	240	4,6	6,5	5,0	6,5	
Primary components to accessible enclosure (UK)	340	240	4,6	6,6	5,0	6,6	
Primary components to accessible enclosure (AU)	340	240	4,6	6,4	5,0	6,4	
PCB trace under T1	484	308	4,8	7,4	6,2	7,4	
T1: primary winding to secondary winding/pin	484	308	4,8	7,3	6,2	7,3	
T1: primary core to secondary winding/pin	484	308	4,8	8,3	6,2	8,3	
T1: primary core to secondary components (D7)	484	308	4,8	6,6	6,2	6,6	
PCB trace under CY1	340	240	4,6	5,1	5,0	5,1	
PCB trace under IC2	340	240	4,6	7,6	5,0	7,6	
Supplementary information:							
<ol style="list-style-type: none"> Internal wire was double fixed by soldering and glue. The transformer core considered as primary circuit. Concentric windings on EE20/18.2 size bobbin. At least 2 layer of insulation tape between primary (enamelled copper wire) and secondary windings (triple insulation wire), 2 layers on outer winding. There are no contact point of primary winding and secondary winding. 2 layers insulation tape wrapped on transformer body. 							

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
4.	Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed.					
5.	The equipment with PCB type A was evaluated for a maximum operating altitude of 3000 m. Therefore the requirements of IEC 606641 for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1,14					

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements					P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Applied 5000m altitude for PCB layout DSA-18PFM-12 REV:2						
Functional:						
Line trace to Neutral trace after fuse F1	340	240	2,3	5,2	2,5	5,2
PCB trace under fuse/ Fusible resister F1	340	240	2,3	2,8	2,5	2,8
PCB trace under fuse/ Fusible resister F2	340	240	2,3	2,8	2,5	2,8
Basic/supplementary:						
Reinforced:						
Primary components to accessible enclosure (KR,EU)	340	240	6,0	6,6	6,0	6,6
Primary components to accessible enclosure (UK)	340	240	6,0	6,6	6,0	6,6
Primary components to accessible enclosure (AU)	340	240	6,0	6,4	6,0	6,4
PCB trace under T1	484	308	6,3	7,4	6,3	7,4
T1: primary winding to secondary winding/pin	484	308	6,3	7,3	6,3	7,3
T1: primary core to secondary winding/pin	484	308	6,3	8,3	6,3	8,3
T1: primary core to secondary components (D7)	484	308	6,3	6,6	6,3	6,6
PCB trace under CY1	340	240	6,0	6,1	6,0	6,1
PCB trace under IC2	340	240	6,0	7,6	6,0	7,6

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
<p>Supplementary information:</p> <ol style="list-style-type: none"> Internal wire was double fixed by soldering and glue. The transformer core considered as primary circuit. Concentric windings on EE20/18.2 size bobbin. At least 2 layer of insulation tape between primary (enamelled copper wire) and secondary windings (triple insulation wire), 2 layers on outer winding. There are no contact point of primary winding and secondary winding. 2 layers insulation tape wrapped on transformer body. Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed. The equipment with PCB type A was evaluated for a maximum operating altitude of 3000 m. Therefore the requirements of IEC 606641 for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1,48 						

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
Enclosure	420	250	AC 3000	0,1	1)	
Opto-coupler IC2	420	250	AC 3000	0,1	1)	
Insulation sheet	420	250	AC 3000	0,1	1)	
<p>Supplementary information:</p> <ol style="list-style-type: none"> See appended table 1.5.1. 						

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

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

4.3.8	TABLE: Batteries	N/A
Battery category..... : (Lithium, NiMh, NiCad, Lithium Ion ...)		
Manufacturer :		
Type / model..... :		
Voltage :		
Capacity..... : mAh		
Tested and Certified by (incl. Ref. No.) :		
Circuit protection diagram:		

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

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	
Language(s):	
Close to the battery:	
In the servicing instructions:	
In the operating instructions:	

IEC 60950-1							
Clause	Requirement + Test			Result - Remark			Verdict
4.5	TABLE: Thermal requirements						P
	Supply voltage (V)	90V / 50Hz	90V / 50Hz	264V / 60Hz	264V / 60Hz		—
	Ambient T _{min} (°C)	50	50	50	50		—
	Ambient T _{max} (°C)	50	50	50	50		—
Maximum measured temperature T of part/at.....:		T (°C)				Allowed T _{max} (°C)	
Plug holder		55,3	54,4	56,2	53,8		70
Input wire		61,6	60,8	60,4	58,4		80
Varistor MOV1 body		68,9	68,2	63,9	62,3		85
PCB under D1		88,6	87,8	76,8	75,3		130
X-capacitor CX1 body		77,1	75,5	67,9	65,7		100
Line chock of LF1 winding		93,6	92,9	73,5	71,8		130
E-capacitor C1 body		89,8	89,3	78,0	76,4		105
PCB under Q1		101,3	101,2	89,9	88,7		130
Y-capacitor CY1 body		89,9	90,2	86,8	85,8		125
T1 coil		99,4	98,9	94,8	94,1		110
T1 core		98,6	98,1	94,2	93,3		110
Opto-coupler IC2 body		77,2	77,1	74,9	73,7		100
PCB under D7		106,2	106,9	105,5	105,0		130
E-capacitor C7 body		81,5	81,9	80,2	79,9		105
Line chock of LF2 winding		72,1	72,1	71,2	70,5		130
Output wire		63,8	63,9	63,4	62,7		80
Enclosure inside near T1		74,4	75,0	71,6	71,2		100
Enclosure outside near T1		66,9	67,4	65,0	64,9		95
Orientation		Horizon tal	Vertical	Horizon tal	Vertical		
Supplementary information: Winding components providing safety isolation: - Class B: Tmax = 120°C-10°C = 110°C (10°C decreased by thermocouple method) For the other components temperature limit, see appended table 1.5.1. Model: GT-86180-1812-W2E							
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)
Supplementary information:							

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

4.5	TABLE: Thermal requirements						P
	Supply voltage (V)	90V / 60Hz	90V / 60Hz	264V / 60Hz	264V / 60Hz		—
	Ambient T_{min} (°C)	50	50	50	50		—
	Ambient T_{max} (°C)	50	50	50	50		—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T_{max} (°C)
Plug holder		55,3	54,2	56,1	53,8		70
Input wire		63,2	62,3	62,0	60,0		80
Varistor MOV1 body		71,2	70,3	66,1	64,6		85
PCB under D1		94,6	93,8	82,8	81,3		130
X-capacitor CX1 body		79,3	77,5	69,8	67,9		100
Line chock of LF1 winding		97,1	96,2	76,9	75,3		130
E-capacitor C1 body		90,1	89,6	78,3	76,7		105
PCB under Q1		98,7	98,6	87,4	86,2		130
Y-capacitor CY1 body		87,8	88,1	84,7	83,7		125
T1 coil		94,2	93,7	89,7	89,1		110
T1 core		92,1	91,5	87,6	86,9		110
Opto-coupler IC2 body		78,5	78,3	76,2	75,0		100
PCB under D7		105,6	106,1	104,8	104,6		130
E-capacitor C7 body		83,4	83,7	82,0	81,9		105
Line chock of LF2 winding		75,2	75,2	74,3	73,8		130
Output wire		65,1	65,0	64,6	64,0		80
Enclosure inside near T1		64,3	64,9	61,5	61,2		100
Enclosure outside near T1		59,1	59,5	57,2	57,1		95
--		--	--	Before 6000 cycling	After 6000 cycling		
Plug holder		--	--	56,1	57,6		70
Orientation		Horizontal	Vertical	Horizontal	Vertical		

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

Supplementary information:

Winding components providing safety isolation:

- Class B: $T_{max} = 120^{\circ}\text{C} - 10^{\circ}\text{C} = 110^{\circ}\text{C}$ (10°C decreased by thermocouple method)

For the other components temperature limit, see appended table 1.5.1.

Model: GT-86180-1812-G

Temperature T of winding:	t_1 ($^{\circ}\text{C}$)	R_1 (Ω)	t_2 ($^{\circ}\text{C}$)	R_2 (Ω)	T ($^{\circ}\text{C}$)	Allowed T_{max} ($^{\circ}\text{C}$)	Insulation class

Supplementary information:

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

4.5	TABLE: Thermal requirements						P
	Supply voltage (V)	90V / 60Hz	90V / 60Hz	264V / 60Hz	264V / 60Hz		—
	Ambient T_{min} (°C)	50	50	50	50		—
	Ambient T_{max} (°C)	50	50	50	50		—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T_{max} (°C)
Plug holder		53,4	52,2	56,1	54,5		--
Input wire		65,7	59,3	67,8	61,1		80
Varistor MOV1 body		71,9	63,4	74,4	65,4		85
Line chock LF1		92,6	71,5	94,4	72,8		130
X-capacitor CX1 body		78,8	66,1	80,9	67,9		100
PCB under D1		78,2	65,2	77,4	65,5		130
E-capacitor C1 body		55,5	72,1	89,2	73,14		105
PCB under Q1		89,8	80,0	92,9	83,4		130
Opto-coupler IC2 surface		73,8	70,1	78,0	74,0		100
Y-capacitor CY1 surface		89,0	83,4	92,0	86,5		125
T1 coil		97,1	90,9	100,2	94,2		110
T1 core		94,7	88,4	97,8	91,7		110
PCB under D7		102,6	100,1	106,3	104,0		130
E-capacitor C7 surface		81,0	78,0	84,5	81,6		105
Line chock of LF2 winding		70,7	68,6	73,8	71,8		130
Output wire		61,9	60,5	64,4	63,3		80
Enclosure inside near T1		73,5	68,1	75,9	70,5		100
Enclosure outside near T1		60,2	58,2	64,4	62,2		95
Orientation		Horizontal	Vertical	Horizontal	Vertical		
Supplementary information: Winding components providing safety isolation: - Class B: $T_{max} = 120^{\circ}\text{C} - 10^{\circ}\text{C} = 110^{\circ}\text{C}$ (10°C decreased by thermocouple method) For the other components temperature limit, see appended table 1.5.1. Model: GT-86180-1809-W2Z							
Temperature T of winding:		t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)
Supplementary information:							

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

4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm) :	≤ 2 mm	—
Part	Test temperature (°C)	Impression diameter (mm)	
Plug holder/ Pin sleeving/ Enclosure (Manufacturer: SABIC Innovative Plastics/ SE1X)	125	1,0	
Plug holder/ Pin sleeving/ Enclosure (Manufacturer: SABIC Japan L L C / SE1X)	125	1,0	
Pin sleeving (Manufacturer: Nan Ya plastic Corp./ 6410G5)	125	0,9	
Pin sleeving (Manufacturer: Sabic Innovative Plastics Us L L C /940A)	125	0,9	
Pin sleeving (Manufacturer: Asahi Kasei / 540V)	125	1,0	
Enclosure (Manufacturer: Asahi Kasei Chemicals Corp Xyron Polymer / 540V)	125	1,0	
Enclosure (Manufacturer: Bayer Materialscience Ag / 6485)	125	1,0	
Enclosure (Manufacturer: SABIC Japan L L C / 925U)	125	1,0	
Enclosure (Manufacturer: Idemitsu Kosan Co Ltd / AZ2201)	125	0,9	
Enclosure (Manufacturer: SABIC Japan L L C / CH6410)	125	1,1	
Supplementary information:			
The bobbin material of transformer (T1) is phenolic, no test is needed			

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

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

5.1	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
L to output connector	0,15	0,25	System ON	
N to output connector	0,15	0,25	System ON	
L to enclosure with metal foil	0,01	0,25	System ON	
N to enclosure with metal foil	0,01	0,25	System ON	
supplementary information:				
Test voltage 264 V / 60 Hz				
Model: GT-86180-1812-W2Z				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
Different polarity of power supply (Fuse disconnection)		AC	1500	No
Basic/supplementary:				
Reinforced:				
Unit: Primary circuit to secondary circuit		AC	3000	No
Unit: Primary circuit to enclosure with metal foil		AC	3000	No
Transformer: Primary winding to secondary winding		AC	3000	No
Transformer: Core to secondary winding		AC	3000	No
One layer insulation tape		AC	3000	No
Insulation sheet		AC	3000	No
Supplementary information:				
Core of transformer T1 is considered as primary circuit.				
Test was performed at SIQ on all 4 types.				

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

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C)	25°C (if not specified)	—
	Power source for EUT: Manufacturer, model/type, output rating	--	—

Com- ponent No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Combination 1(Tested with fuse F1(6,3A), F2(3,3ohm) and MOV1)						
MOV1	s-c	264	1s	F1, F2	--	Fuse F1 opened immediately, no hazard.
D1	s-c	264	1s	F1, F2	--	Fusible resister F2 opened immediately, no hazard. Repeat 10 times with same results.
C1	s-c	264	1s	F1, F2	--	Fusible resister F2 opened immediately, no hazard. Repeat 10 times with same results.
Q1 pin G-S	s-c	264	30min	F1, F2	0,22	Unit shutdown immediately recoverable, no hazard
Q1 pin G-D	s-c	264	1s	F1, F2	--	Fusible resister F2 opened immediately, Q1 damaged, Repeat 10 times with same results, no hazard.
Q1 pin D-S	s-c	264	1s	F1, F2	--	Fusible resister F2 opened immediately, Q1 damaged, Repeat 10 times with same results, no hazard.
R9	s-c	264	30min	F1, F2	0,17	Unit worked normally, no hazard.
R9A	s-c	264	30min	F1, F2	0,17	Unit worked normally, no hazard.
T1pin8-7	s-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.
T1pin1-3	s-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.
T1pin5-2	s-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.
IC2 pin1-2	s-c	264	30min	F1, F2	0,09	Unit shutdown immediately recoverable, no hazard.
IC2 pin3-4	s-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.
IC2 pin1	o-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.
IC2 pin3	o-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
Com- ponent No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
IC1 pin5-1	s-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.
IC1 pin5-2	s-c	264	30min	F1, F2	0,02	Unit shutdown immediately IC1 damaged, no hazard
C7	s-c	264	30min	F1, F2	0,05	Unit shutdown immediately recoverable, no hazard.
D7	s-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.
Output	s-c	264	30min	F1, F2	0,02	Unit shutdown immediately recoverable, no hazard.
Output	o-l	264	3h12min	F1, F2	0,22 Max.	Output current overload to 2,0 A, unit shutdown at 2,1 A; T1 winding: 107,1°C; T1 core: 105,7°C; Ambient:50°C, no hazard
Transformer	o-l	264	4h16min	F1, F2	0,22 Max.	Transformer output current overload to 0,5 A; unit shutdown at 0,6 A; T1 winding: 107,7°C; T1 core: 106,2°C; Ambient:50°C, no hazard
Combination 2 (Tested with fuse F1(6,3A), F2(2,0A) and MOV1)						
MOV1	s-c	264	1s	F1, F2	--	Fuse F1 opened immediately, no hazard.
D1	s-c	264	1s	F1, F2	--	Fuse F2 opened immediately, no hazard.
C1	s-c	264	1s	F1, F2	--	Fuse F2 opened immediately, no hazard.
Q1 pin G-D	s-c	264	1s	F1, F2	--	Fuse F2 opened immediately, Q1 damaged, no hazard.
Q1 pin D-S	s-c	264	1s	F1, F2	--	Fuse F2 opened immediately, Q1 damaged, no hazard.
Combination 3 (Tested with fuse F1(3,15A), F2(Jumper) and MOV1)						
MOV1	s-c	264	1s	F1	--	Fuse F1 opened immediately, no hazard.
D1	s-c	264	1s	F1	--	Fuse F1 opened immediately, no hazard1

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
Com- ponent No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
C1	s-c	264	1s	F1	--	Fuse F1 opened immediately, no hazard.
Q1 pin G-D	s-c	264	1s	F1	--	Fuse F1 opened immediately, Q1 damaged, no hazard.
Q1 pin D-S	s-c	264	1s	F1	--	Fuse F1 opened immediately, Q1 damaged, no hazard.
Combination 4 (Tested with fuse F1(2,0A), F2(Jumper) and MOV1)						
MOV1	s-c	264	1s	F1	--	Fuse F1 opened immediately, no hazard.
D1	s-c	264	1s	F1	--	Fuse F1 opened immediately, no hazard1
C1	s-c	264	1s	F1	--	Fuse F1 opened immediately, no hazard.
Q1 pin G-D	s-c	264	1s	F1	--	Fuse F1 opened immediately, Q1 damaged, no hazard.
Q1 pin D-S	s-c	264	1s	F1	--	Fuse F1 opened immediately, Q1 damaged, no hazard.
Combination 5 (Tested with fuse F1(Jumper), F2(3ohm) without MOV1)						
D1	s-c	264	1s	F2	--	Fusible resister F2 opened immediately, no hazard. Repeat 10 times with same results.
C1	s-c	264	1s	F2	--	Fusible resister F2 opened immediately, no hazard. Repeat 10 times with same results.
Q1 pin G-D	s-c	264	1s	F2	--	Fusible resister F2 opened immediately, Q1 damaged, no hazard. Repeat 10 times with same results.
Q1 pin D-S	s-c	264	1s	F2	--	Fusible resister F2 opened immediately, Q1 damaged, no hazard. Repeat 10 times with same results.

IEC 60950-1							
Clause	Requirement + Test				Result - Remark		Verdict
Com- ponent No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Supplementary information:							
1) In fault column, where s-c=short-circuited, o-l= over-loaded, o-c= open-circuited.							
2) All types of current fuse and Fusible resistor in table 1.5.1 are considered.							
3) Notes:							
Configuration		F1		F2		MOV1	
Combination 1		T6,3A		3,3 Ohm		Optional	
Combination 2		T6,3A		T2,0 A		Optional	
Combination 3		T3,15A		Jumper		Optional	
Combination 4		T2,0A		Jumper		Optional	
Combination 5		Jumper		3,3ohm		Without	
Model: GT-86180-1812-W2Z and GT-86180-1812							

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)				25°C (if not specified)	—
	Power source for EUT: Manufacturer, model/type, output rating				--	—
Com- ponent No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Output	o-l	264	5h27min	F1, F2	0,22 Max.	Output current overload to 2,0 A, unit shutdown at 2,1 A; T1 winding: 101,9°C; T1 core: 99,2°C; Ambient:50,0°C, no hazard
Transform er	o-l	264	4h54min	F1, F2	0,22 Max.	Transformer output current overload to 0,5 A; unit shutdown at 0,6 A; T1 winding: 102,5°C; T1 core: 99,7°C; Ambient:50°C, no hazard
Supplementary information: 1) In fault column, where s-c=short-circuited, o-l= over-loaded, o-c= open-circuited. 2) All types of current fuse and Fusible resistor in table 1.5.1 are considered. Model: GT-86180-1812-G						

IEC 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
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5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)	:	25°C (if not specified)			—
	Power source for EUT: Manufacturer, model/type, output rating	:	--			—
Com- ponent No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Output	o-l	264	5h35min	F1, F2	0,20 Max.	Output current overload to 2,5 A, unit shutdown at 2,6 A; T1 winding: 106,3°C; T1 core: 103,3°C; Ambient:50,1°C, no hazard
Transform er	o-l	264	4h50min	F1, F2	0,22 Max.	Transformer output current overload to 0,5 A; unit shutdown at 0,6 A; T1 winding: 107,3°C; T1 core: 104,2°C; Ambient:50°C, no hazard
Supplementary information: 1) In fault column, where s-c=short-circuited, o-l= over-loaded, o-c= open-circuited. 2) All types of current fuse and Fusible resistor in table 1.5.1 are considered. Model: GT-86180-1809-W2Z						

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

C.2	TABLE: transformers							P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)	
Primary winding to secondary winding	RI	308	484	3000 Vac	6,3	6,3	0,4	
Core to secondary winding	RI	308	484	3000 Vac	6,3	6,3	0,4	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
Primary winding to secondary winding	RI			3000 Vac	9,0	9,0	TIW used	
Core to secondary winding	RI			3000 Vac	6,5	6,5	TIW used	
supplementary information:								
Transformer description: Concentric windings on EE20/18.2 size bobbin. At least 2 layer of insulation tape between primary (enamelled copper wire) and secondary windings (triple insulation wire), 2 layers on outer winding. There are no contact point of primary winding and secondary winding. 2 layers insulation tape wrapped on transformer body.								
Transformer 90E18PFM0 and 90E18PM09 provide identical construction, except different winding turns.								

C.2	TABLE: transformers	P
See enclosure No. 3 for transformer specifications.		

Enclosure No. 1

National differences to IEC60950-1:2005/Am 1/Am 2

(18 pages including this cover page)

IEC 60950-1														
Clause	Difference – Test		Result – Remark	Verdict										
AUSTRALIA-Differences to IEC 60950-1:2005 AS/NZS 60950.1-2011 (2011-05-06)														
Appendix ZZ (normative) Variations to IEC 60950-1:2005 (2nd Ed.) for application in Australia and New Zealand														
ZZ.1 Introduction This Appendix sets out variations and additional requirements to cover issues which have not been addressed by the International Standard. These variations indicate national variations for purposes of the IECEE CB System and will be published in the IECEE CB Bulletin.														
ZZ.2 Variations The following variations apply to the source text:														
1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE 1.2.12		Considered.	P										
1.2.12.20 1	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: 1.2.12.201 POTENTIAL IGNITION SOURCE Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201: An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202: This definition is from AS/NZS 60065:2003.			N/A										
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand Standard.' 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'			N/A										
1.5.2	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard'			N/A										
3.2.5.1	Modify Table 3B as follows: 1. Delete the first four rows and replace with the following: <table><tr><td rowspan="3">RATED CURRENT OF EQUIPMENT (A)</td><td colspan="2">Minimum conductor sizes</td></tr><tr><td>Nominal cross-sectional area mm²</td><td>AWG or Kcmil (cross-sectional area in mm²)</td></tr><tr><td colspan="2">See note 2</td></tr><tr><td>Over 0.2 up to and including 3</td><td>0,5 a)</td><td>18 [0,8]</td></tr></table>		RATED CURRENT OF EQUIPMENT (A)	Minimum conductor sizes		Nominal cross-sectional area mm²	AWG or Kcmil (cross-sectional area in mm²)	See note 2		Over 0.2 up to and including 3	0,5 a)	18 [0,8]	No cord provided.	N/A
RATED CURRENT OF EQUIPMENT (A)	Minimum conductor sizes													
	Nominal cross-sectional area mm²	AWG or Kcmil (cross-sectional area in mm²)												
	See note 2													
Over 0.2 up to and including 3	0,5 a)	18 [0,8]												

IEC 60950-1			
Clause	Difference – 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) ^{b)} 1,00 16 [1,3] Over 10 up to and including 16 (1,0) ^{c)} 1,5 14 [2]		
	2. Delete NOTE 1. 3. Delete Footnote ^a and replace with the following: ^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0,5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191).		N/A
4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.		N/A
4.3.6	Delete the third paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flatpin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.3.13.5	Add the following to the end of the first paragraph: ‘, or AS/NZS 2211.1’.		N/A
4.7	Add the following paragraph: ‘For alternate tests refer to Clause 4.7.201.’		N/A

IEC 60950-1			
Clause	Difference – Test	Result – Remark	Verdict
4.7.201	<p>Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows:</p> <p>4.7.201 Resistance to fire – Alternative tests</p> <p>4.7.201.1 General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following:</p> <p>(a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length.</p> <p>(b) The following parts which would contribute negligible fuel to a fire:</p> <ul style="list-style-type: none"> - small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.</p> <p>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5.</p> <p>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.</p> <p>These tests are not carried out on internal wiring.</p>	<p>The flame rating of the components was evaluated to the requirements of IEC. The PCB board is specified min. V-1. Therefore no needle test was considered as required.</p>	N/A

IEC 60950-1							
Clause	Difference – Test	Result – Remark	Verdict				
4.7.201.2	<p>Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.</p>	Approved materials are used. See list of critical components.	N/A				
4.7.201.3	<p>Testing of insulating materials</p> <p>Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE: Contacts in components such as switch contacts are considered to be connections.</p> <p>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 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.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <table><tr><td>Clause of AS/NZS 4695.11.5</td><td>Change</td></tr><tr><td colspan="2">9 Test procedure</td></tr></table>	Clause of AS/NZS 4695.11.5	Change	9 Test procedure		Approved materials are used. See list of critical components.	N/A
Clause of AS/NZS 4695.11.5	Change						
9 Test procedure							

IEC 60950-1				
Clause	Difference – Test		Result – Remark	Verdict
	9.2 Application of needleflame	<p>Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner</p> <p>Replace the second paragraph with: The duration of application of the test flame shall be 30 s ± 1 s.</p>		
	9.3 Number of test specimens	<p>Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</p>		
	11 Evaluation of test results	<p>Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.			

IEC 60950-1			
Clause	Difference – Test	Result – Remark	Verdict
4.7.201.4	<p>Testing in the event of non-extinguishing material</p> <p>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 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3.</p> <p>Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 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.</p>	<p>Approved materials are used. See list of critical components.</p>	N/A

IEC 60950-1			
Clause	Difference – Test	Result – Remark	Verdict
4.7.201.5	<p>Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.</p> <p>The test is not carried out if the —</p> <ul style="list-style-type: none"> - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <p>Compliance shall be determined using the smallest thickness of the material.</p> <p>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</p>	Approved PCB materials are used. See list of critical components.	N/A
6.2.2	<p>For Australia only, delete the first paragraph and Note, and replace with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.</p>		N/A

IEC 60950-1			
Clause	Difference – Test	Result – Remark	Verdict
6.2.2.1	<p>For Australia only, delete the first paragraph including the Notes, and replace with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is: (i) for 6.2.1 a): 7,0 kV for hand-held telephones and for headsets and 2,5 kV for other equipment; and (ii) for 6.2.1 b) and 6.2.1 c): 1,5 kV.</p> <p>NOTE 201: The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 202: The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>		N/A
6.2.2.2	<p>For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is: (i) for 6.2.1 a): 3 kV; and (ii) for 6.2.1 b) and 6.2.1 c): 1,5 kV.</p> <p>NOTE 201: Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>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.</p>		N/A
7.3	<p>Add the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.</p>		N/A
Annex P	<p>Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets</p>	<p>Considered. IEC approved material and components are used.</p>	P
Index	<p>1. Insert the following between 'asbestos, not to be used as insulation' and 'attitude see orientation': AS/NZS 2211.1.....4.3.13.5 AS/NZS 3112.....4.3.6 AS/NZS 3191.....3.2.5.1 (Table 3B) AS/NZS 60064.....4.1.201 AS/NZS 60695.2.11.....4.7.201.2, 4.7.201.3 AS/NZS 60695.11.10.....4.7.201.1, 4.7.201.5 AS/NZS 60695.11.5.....4.7.201.3 2. Insert the following between 'positive temperature coefficient (PTC) device' and 'powder': potential ignition source1.2.201, 4.7.201.3, 4.7.201.5</p>		P

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
KOREA - Differences to IEC 60950-1, Second Edition (2005) + A1:2009 (2012-05-31)			
1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	Built-in product.	N/A
8: EMC	The apparatus shall comply with the relevant CISPR standards	End product consideration.	N/A


IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
ISRAEL-Differences to IEC 60950-1:2005 (2011-03-02)			
ISRAEL STANDARD SI 60950 PART 1 INFORMATION TECHNOLOGY EQUIPMENT - SAFETY: GENERAL REQUIREMENTS TRANSLATION OF ISRAEL NATIONAL DEVIATIONS ONLY			
1.	Scope (with national deviations)		—
1.1.1	Equipment covered by this Standard This Standard is applicable to mains-powered or battery-powered information technology equipment, including electrical business equipment and associated equipment, with a rated voltage not exceeding 600 V. This Standard is also applicable to the information technology equipment mentioned below: <ul style="list-style-type: none"> - equipment designed for use as telecommunication terminal equipment and telecommunication network infrastructure equipment, independent of the source of power; - equipment designed and intended to be connected directly to, or used as infrastructure equipment in, a cable distribution system, independent of the source of power; - equipment designed to use the general a.c. mains supply as a communication transmission medium (see clause 6, Note 4 and subclause 7.1, Note 4). This Standard is also applicable to components and subassemblies intended for incorporation in information technology equipment. It is not expected that such components and subassemblies comply with every aspect of the Standard, provided that the complete information technology equipment, incorporating such components and subassemblies, does comply. Note 1: Examples of aspects with which uninstalled components and subassemblies may not comply include the marking of the power rating and access to hazardous parts. Note 2: This Standard may be applied to the electronic parts of equipment even if that equipment does not wholly fall within its Scope, such as large-scale air conditioning systems, fire detection systems and fire extinguishing systems. Different requirements may be necessary for some applications. This Standard specifies requirements intended to reduce risks of fire ignition,		—

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
	<p>electric shock or bodily injury for the operator and layman who may come into contact with the equipment and, where specifically stated, for a service person.</p> <p>This Standard is intended to reduce such risks with respect to installed equipment, whether it consists of a system or interconnected units or independent units, subject to installing, operating and maintaining the equipment in the manner prescribed by the manufacturer. Examples of equipment that is in the scope of this Standard are the following:</p>		

IEC 60950-1/Am1																									
Clause	Difference – Test		Result – Remark	Verdict																					
	<table><tr><th>Generic product type</th><th>Specific examples of generic type</th></tr><tr><td>Banking equipment</td><td>Monetary processing machines (counting, dispensing, etc.) for bills and coins, including automated teller machines (ATM)</td></tr><tr><td>Data and text processing machines and associated equipment</td><td>Data preparation equipment, data processing equipment, data storage equipment, personal computers, plotters, printers, scanners, text processing equipment and visual display units</td></tr><tr><td>Data network equipment</td><td>Bridges, data circuit terminating equipment, data terminal equipment and routers</td></tr><tr><td>Electrical and electronic retail equipment</td><td>Cash registers, point of sale terminals including associated electronic scales</td></tr><tr><td>Electrical and electronic office machines</td><td>Calculators, copying machines^(A), dictation equipment, document shredding machines, duplicators, erasers, micrographic office equipment, motor-operated files, paper trimmers (punchers, cutting machines, separators), paper jogging machines, pencil sharpeners, staplers and typewriters</td></tr><tr><td>Other information technology equipment</td><td>Photoprinting equipment, public information terminals and multimedia equipment</td></tr><tr><td>Postage equipment</td><td>Mail processing machines and postage machines</td></tr><tr><td>Telecommunication on network infrastructure equipment</td><td>Billing equipment, multiplexers, network powering equipment, network terminating equipment, radio base stations, repeaters, transmission equipment and telecommunication switching equipment</td></tr><tr><td>Telecommunication terminal equipment</td><td>Facsimile equipment, key telephone systems, modems, PABXs^(B), pagers, telephone answering machines and telephone sets (wired and wireless)</td></tr></table>		Generic product type	Specific examples of generic type	Banking equipment	Monetary processing machines (counting, dispensing, etc.) for bills and coins, including automated teller machines (ATM)	Data and text processing machines and associated equipment	Data preparation equipment, data processing equipment, data storage equipment, personal computers, plotters, printers, scanners, text processing equipment and visual display units	Data network equipment	Bridges, data circuit terminating equipment, data terminal equipment and routers	Electrical and electronic retail equipment	Cash registers, point of sale terminals including associated electronic scales	Electrical and electronic office machines	Calculators, copying machines ^(A) , dictation equipment, document shredding machines, duplicators, erasers, micrographic office equipment, motor-operated files, paper trimmers (punchers, cutting machines, separators), paper jogging machines, pencil sharpeners, staplers and typewriters	Other information technology equipment	Photoprinting equipment, public information terminals and multimedia equipment	Postage equipment	Mail processing machines and postage machines	Telecommunication on network infrastructure equipment	Billing equipment, multiplexers, network powering equipment, network terminating equipment, radio base stations, repeaters, transmission equipment and telecommunication switching equipment	Telecommunication terminal equipment	Facsimile equipment, key telephone systems, modems, PABXs ^(B) , pagers, telephone answering machines and telephone sets (wired and wireless)			—
	Generic product type	Specific examples of generic type																							
	Banking equipment	Monetary processing machines (counting, dispensing, etc.) for bills and coins, including automated teller machines (ATM)																							
	Data and text processing machines and associated equipment	Data preparation equipment, data processing equipment, data storage equipment, personal computers, plotters, printers, scanners, text processing equipment and visual display units																							
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Telecommunication terminal equipment	Facsimile equipment, key telephone systems, modems, PABXs ^(B) , pagers, telephone answering machines and telephone sets (wired and wireless)																								
(A) Commonly known as "copiers".																									
(B) PABX - Private Automatic Branch Exchange.																									
Note 3:																									
The requirements of Israel Standard SI 60065 ^(C) may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment.																									
The list of equipment (brought in the above table) is not intended to be comprehensive and exhaustive, and equipment that is not listed is not necessarily excluded from the Scope, Equipment complying with the relevant requirements in this Standard is considered suitable for use with process control equipment, automatic test equipment and similar systems requiring information processing facilities. However, this Standard does not include requirements for performance or functional characteristics of equipment.																									
(C) In preparation																									

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
1.1.2	<p>Additional requirements</p> <p>Requirements additional to those specified in this Standard may be necessary for:</p> <ul style="list-style-type: none"> - equipment intended for operation in special environments (for example, extremes of temperature; very high concentration of dust, moisture or vibration; flammable gases; and corrosive or explosive atmospheres); - electromedical applications with physical connections to the patient; - equipment intended to be used in vehicles, on board ships or aircraft, in tropical countries, or at altitudes greater than 2,000 m. - equipment intended for use where ingress of water may be possible. For guidance on such requirements and on relevant testing, see Annex T. <p>Note: Attention is drawn to the fact that government authorities of some countries impose additional requirements.</p>		N/A
1.1.3	<p>Exclusions</p> <p>This Standard does not apply to:</p> <ul style="list-style-type: none"> - power supply systems which are not an integral part of the equipment, such as motor-generator sets, battery backup systems and transformers; - building installation wiring; - devices requiring no electric power. 		—
National deviations to the clauses of the International Standard			
1.6	<p>Power interface</p> <p>The clause is applicable with the following addition:</p>		N/A
1.6.1	<p>AC Power distribution systems</p> <p>A note shall be added to the clause as follows:</p> <p>Note: In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.</p>		N/A
1.7	<p>Marking and instructions</p> <p>The clause is applicable with the following additions:</p> <ul style="list-style-type: none"> - Subclause 1.7.201 shall be added at the beginning of the clause as follows: 	To be evaluated during national approval.	N/A
1.7.201	<p>Marking in the Hebrew language</p> <p>The marking in the Hebrew language shall be in</p>	To be evaluated during national approval.	N/A

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
	<p>accordance with the Consumer Protection Order (Marking of goods), 1983.</p> <p>In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language.</p> <p>The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed.</p> <ol style="list-style-type: none"> 1. Name of the apparatus and its commercial designation; 2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address; 3. Manufacturer's registered trademark, if any; 4. Name of the model and serial number, if any; 5. Country of manufacture. 		
1.7.2	Safety instructions and marking		N/A
1.7.2.1	<p>General</p> <p>The following shall be added to the clause:</p> <p>All the instructions and warnings related to safety shall also be written in the Hebrew language.</p> <p>- At the end of clause 1, clause 1.201 shall be added as follows:</p>	To be evaluated during national approval.	N/A
1.201	<p>Power Consumption in standby mode</p> <p>The equipment shall comply with the requirements of the Energy Sources Regulations (Maximum electrical power in standby mode for domestic and office electrical appliances), 2011, with a permitted deviation of up to 10%</p>	Not part of investigation.	N/A
2.	<p>Protection from hazards</p> <p>The clause is applicable with the following additions:</p>		P
2.9.4	<p>Separation from hazardous voltages</p> <p>The following shall be added at the beginning of the clause:</p> <p>In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows:</p> <ol style="list-style-type: none"> 1. TN-S - Network system earthing; TN-C-S - 		P

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
	<p>Network system earthing;</p> <p>2. TT - Network system earthing;</p> <p>3. IT - Network Insulation Terre;</p> <p>4. Isolated transformer;</p> <p>5. Safety extra low voltage (SELV or ELV);</p> <p>6. Residual current circuit breaker (30 ma = I_Δ);</p> <p>7. Reinforced insulation; Double insulation (class II) .</p> <p>Clause 2.201 shall be added at the end of the clause, as follows:</p>		
2.201	<p>Prevention of electromagnetic interference</p> <p>- Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked.</p> <p>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961.</p> <p>- If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard.</p>	To be evaluated during national approval.	N/A
3.	<p>Wiring, connections and supply</p> <p>The clause is applicable with the following additions:</p>		N/A
3.2	Connection to a mains supply		N/A
3.2.1	Means of connection		N/A
3.2.1.1	<p>Connection to an a.c. mains supply</p> <p>After the note, the following note shall be added:</p> <p>Note: In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.</p>		N/A
3.2.1.2	<p>Connection to a d.c. mains supply</p> <p>At the end of the first paragraph, the following note shall be added:</p> <p>Note: At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.</p>		—

IEC 60950-1/Am1				
Clause	Difference – Test		Result – Remark	Verdict
Annex P	ANNEX P (normative) Normative references The annex is applicable with the following national deviations: - The following Israel Standards have been inserted in place of some of the International Standards specified in this annex of the Standard, as follows:			N/A
	The referenced International Standard	The substituted Israel Standard	Comments	
	IEC 60065: 2001	SI 250 ^(A) - Safety requirements for mains operated electronic and related apparatus for household and similar general use	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 65:1985, including its amendments	
	IEC 60083	SI 32 Part 1.1 ^(a) – Plugs and socket-outlets for household and similar purposes: Plugs and socket-outlets for single phase up to 16A – General requirements national modifications and	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Standard, IEC 60884-1 – Third edition:2002-06	
	IEC 60227 (all parts)	SI 473, all parts - Cables, cords and insulated conductors for nominal voltage up to 1000 volt	The Israeli Standard, excluding national modifications and additions noted, is identical to the I Standard series, IEC 60227 (all parts)	
	IEC 60245 (all parts)	SI 60245 Part 1 – Rubber insulated cables – Rated voltages up to and including 450/750 V	The Israeli Standard series, excluding national modifications and additions noted, is identical to the Standard series, IEC 60245 (all parts)	
	IEC 60309 (all parts)	SI 1109, all parts - Plugs, socket-outlets and couplers for industrial purposes	SI 1109, part 1 and part 2, excluding national deviations in them, are identical to the Standards of the International Electrotechnical Commission IEC 60309-1-1999 and IEC 60309-2-1999, respectively.	
	IEC 60317 (all parts)	SI 1067 Part 1 – Enamelled round copper wires with high mechanical properties	The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-1 (1980)	
		SI 1067 Part 2 - Self-fluxing enamelled ^(B) round copper wires	The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-4 (1980)	
		SI 1067 Part 3 – Enamelled round copper wires with a temperature index of 180°C	The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-8 (1980)	
IEC 60320 (all parts)	SI 60320 Part 1 - Appliance couplers for household and similar general purposes: General requirements	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC		

IEC 60950-1/Am1				
Clause	Difference – Test		Result – Remark	Verdict
			60320-1 (2001)	
		SI 60320 Part 2.1 - Appliance couplers for household and similar general purposes: Sewing machine couplers	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60320-2.1 (2000)	
		SI 60320 Part 2.2 - Appliance couplers for household and similar general purposes: Interconnection couplers for household and similar equipment	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60320-2.2 (1998)	
		SI 60320 Part 2.3 -Appliance couplers for household and similar general purposes: Interconnection couplers for household and similar equipment Appliance coupler for household and similar general purposes: Appliance coupler with a degree of protection higher than IPX0	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60320-2.3 (1998)	
	IEC 60364-1:2001	Electricity Law, 1954, with its Regulations and updates	-	
	IEC 60730-1: 1999 Amendment 1 (2003)	SI 60730 Part 1 - Automatic electrical controls for household and similar use: General requirements	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60730-1 Edition 3.2:2007-03.	
	IEC 60825-1	SI 60825 Part 1 - Safety of laser products: Equipment classification, requirements and user's guide	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60825-1 2 nd Edition:2007-03	
	IEC 60947-1; 2004	SI 60947 Part 1 -Low-voltage switchgear and controlgear: General rules	The Israel Standard, excluding national modifications and additions noted, is identical to Standard of the International Electrotechnical Commission, IEC 60947-1Edition 5.0:2007-06.	
	IEC 61058-1: 2000	SI 61058 Part 1 - Switches for appliances: General requirements	The Israel Standard, excluding national modifications and additions noted, is identical to the Standard of the International Electrotechnical Commission, IEC 61058-1 Edition 3.1:2001:	
	ISO 3864 (all parts)	SI 3864 Part 1 -Graphical symbols	The Israel Standard, excluding national modifications and additions noted, is identical to the Standard of the International Electrotechnical Commission IEC 3864-1 (First Edition:2002-05-15	
Notes:				

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
	<p>(a) The standard is being revised</p> <p>(b) In the International Standard series, there are parts not yet adopted as Israeli Standards. This table notes the relevant Israeli Standards, and in the Comments column, the corresponding parts of the International Standard series.</p> <p>(c) Not relevant to the translation.</p>		N/A
<p>The following shall be added to the annex:</p> <p>Israeli Standards</p> <p>SI 961 (all parts) – Electromagnetic compatibility</p> <p>Israeli Laws, Regulations and documents</p> <p>Electricity Law, 1954, with its Regulations and updates</p> <p>Consumer Protection Order (Marking of goods), 1983, Kovetz HaTakanot 4465 dated 1983-02-24</p> <p>Energy Sources Regulations (Maximum electrical power in standby mode for domestic and office electrical appliances), 2011</p>			

Enclosure No. 1a

**European Group Differences and National Differences
according to EN 60950-1:2006 +A1:2010 +A2:2013 +
A11:2009 + A12:2011**

(21 pages including this cover page)

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

Information technology equipment – Safety –

Part 1: General requirements

Differences according to: EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013

Attachment Form No.: EU_GD_IEC60950_1F

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


IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)						
Clause	Requirement + Test			Result - Remark		Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it's amendmets are prefixed "Z"					P
Contents	Add the following annexes:					P
(A2:2013)	Annex ZA (normative)		Normative references to international publications with their corresponding European publications			
	Annex ZB (normative) Annex ZD (informative)		Special national conditions IEC and CENELEC code designations for flexible cords			
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list:					P
	1.4.8	Note 2	1.5.1	Note 2 & 3	1.5.7.1	Note
	1.5.8	Note 2	1.5.9.4	Note	1.7.2.1	Note 4, 5 & 6
	2.2.3	Note	2.2.4	Note	2.3.2	Note
	2.3.2.1	Note 2	2.3.4	Note 2	2.6.3.3	Note 2 & 3
	2.7.1	Note	2.10.3.2	Note 2	2.10.5.13	Note 3
	3.2.1.1	Note	3.2.4	Note 3.	2.5.1	Note 2
	4.3.6	Note 1 & 2	4.7	Note 4	4.7.2.2	Note
	4.7.3.1	Note 2	5.1.7.1	Note 3 & 4	5.3.7	Note 1
	6	Note 2 & 5	6.1.2.1	Note 2	6.1.2.2	Note
	6.2.2	Note	6.2.2.1	Note 2	6.2.2.2	Note
	7.1	Note 3	7.2	Note	7.3	Note 1 & 2
	G.2.1	Note 2	Annex H	Note 2		
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list:					P
	1.5.7.1	Note	6.1.2.1	Note 2		
	6.2.2.1	Note 2	EE.3	Note		

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		P
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		N/A
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.	No headphones or earphones provided.	N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		N/A
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *		N/A
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
1.7.2.1 (A12:2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.		N/A
	Zx Protection against excessive sound pressure from personal music players		N/A

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.1 General</p> <p>This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.</p> <p>A personal music player is a portable equipment□ for personal use, that:</p> <ul style="list-style-type: none"> – is designed to allow the user to listen to recorded or broadcast sound or video; and – primarily uses headphones or earphones that can be worn in or on or around the ears; and – allows the user to walk around while in use. <p>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> – hearing aid equipment and professional equipment; <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p>	<p>Switch mode power supply. No provisions for playing music provided.</p>	N/A
	<ul style="list-style-type: none"> – analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		N/A

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.2 Equipment requirements</p> <p>No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> – equipment provided as a package (personal music player with its listening device), where <ul style="list-style-type: none"> the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and – a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <ul style="list-style-type: none"> a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and 		N/A

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <p>1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and</p> <p>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1.</p> <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>		N/A

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.3 Warning</p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: <p>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p> <div data-bbox="419 714 686 976" data-label="Image">  </div> <p>Figure 1 – Warning label (IEC 60417-6044)</p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	<p>Zx.4.1 Wired listening devices with analogue input</p> <p>With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV.</p> <p>This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		N/A

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.4.2 Wired listening devices with digital input</p> <p>With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.</p> <p>This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		N/A
	<p>Zx.4.3 Wireless listening devices</p> <p>In wireless mode:</p> <ul style="list-style-type: none"> – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
	<p>Zx.5 Measurement methods</p> <p>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N/A

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)									
Clause	Requirement + Test	Result - Remark	Verdict						
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>	Unit provides appropriate internal protection.	P						
	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		N/A						
2.7.2	This subclause has been declared 'void'.		N/A						
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A						
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 (0,75) ^{b)}</td><td>1,0 </td></tr><tr><td>Over 10 up to and including 16 (1,0) ^{c)}</td><td>1,5 </td></tr></table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 ^{a)}	Over 6 up to and including 10 (0,75) ^{b)}	1,0	Over 10 up to and including 16 (1,0) ^{c)}	1,5		N/A
Up to and including 6	0,75 ^{a)}								
Over 6 up to and including 10 (0,75) ^{b)}	1,0								
Over 10 up to and including 16 (1,0) ^{c)}	1,5								
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD	Considered.	P						

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).	EUT does not produce radiation.	N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	EUT does not produce radiation.	N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative)			
SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	Class II equipment.	N/A
1.2.13.14 (A11:2009)	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.	Equipment not intended for connection to cable distribution systems	N/A

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.7.1 (A11:2009)	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	No resistors bridging basic insulation.	N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		P
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p>		N/A
1.7.2.1 (A2:2013)	<p>In Denmark, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in Denmark shall be as follows: In Denmark: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”</p>		N/A
1.7.5 1.7.5 (A11:2009)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	No socket outlet provided.	N/A

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011.</p> <p>For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a.</p> <p>Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b.</p> <p>Justification the Heavy Current Regulations, 6c</p>	No socket outlet provided.	N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuit.	N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.	Class II equipment without earthing.	N/A
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Unit provides appropriate internal protection.	P
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuit.	N/A
3.2.1.1	<p>In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p>		N/A

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>		N/A
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2:2013)	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Justification the Heavy Current Regulations, 6c</p>		N/A
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A
3.2.1.1	<p>In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		P
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT. 	No such equipment.	N/A
6.1.2.1 (A1:2010)	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - 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. <p>Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. 	Equipment not intended for connection to telecommunication networks.	N/A

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 		N/A
6.1.2.2	<p>In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N/A
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>	Equipment not intended for connection to cable distribution systems	N/A
7.3 (A11:2009)	<p>In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>		N/A

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

Clause	Requirement	Verdict
Denmark national differences (2013-07-04) National standard: DS/EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013		
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	N/A
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.	N/A
3.2.1.1	In Denmark , supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	N/A

Clause	Requirement	Verdict
Sweden national differences (2013-06-25) National standard: SS-EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011		
Various	Please see the EN version of the standard where the Swedish National and Special National Deviations are stated.	P

Enclosure No. 2

Pictures of the unit

(8 pages including this cover page)

GT-86180-1809-W2E



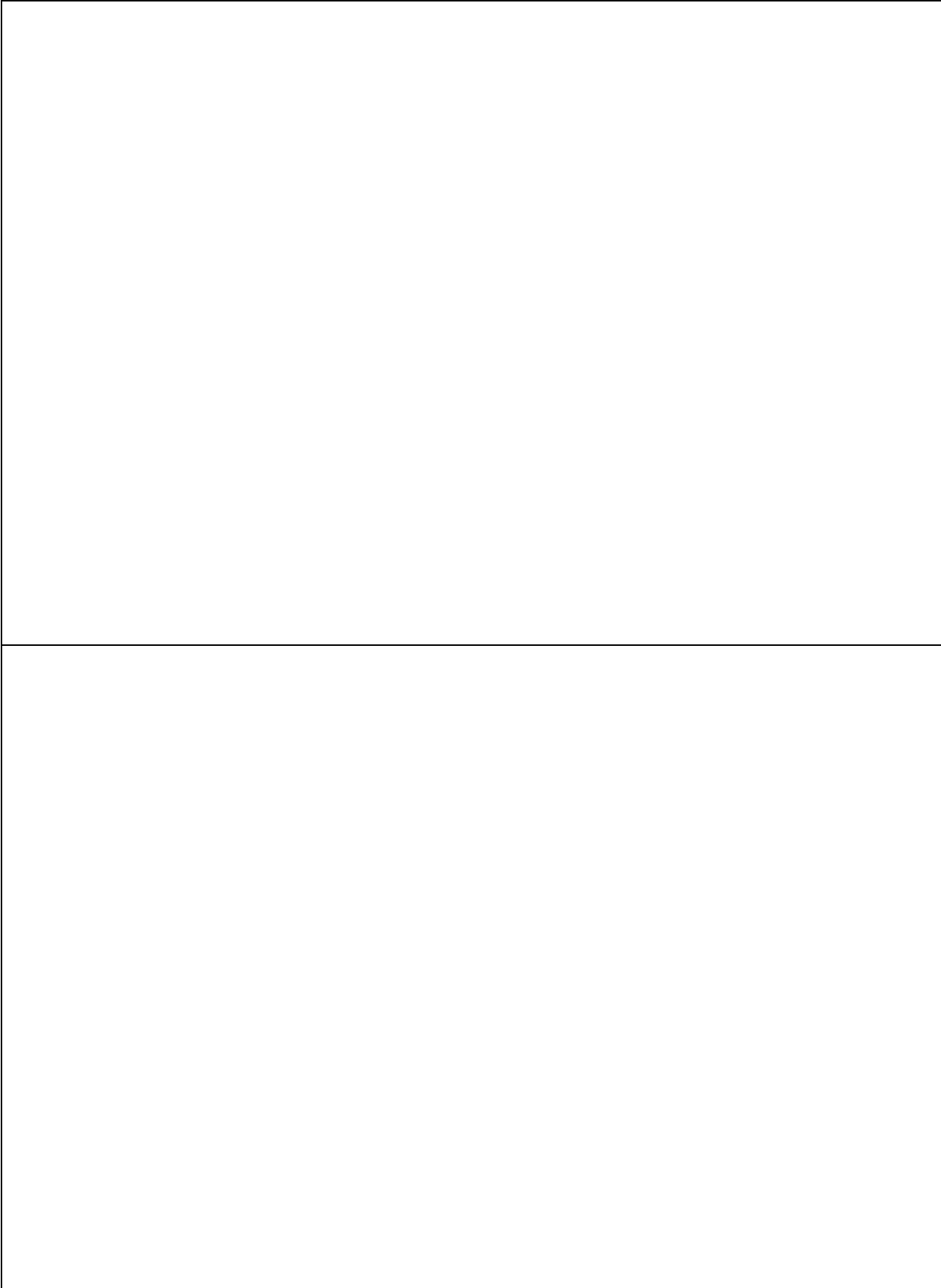


GT-86180-1812-W2E



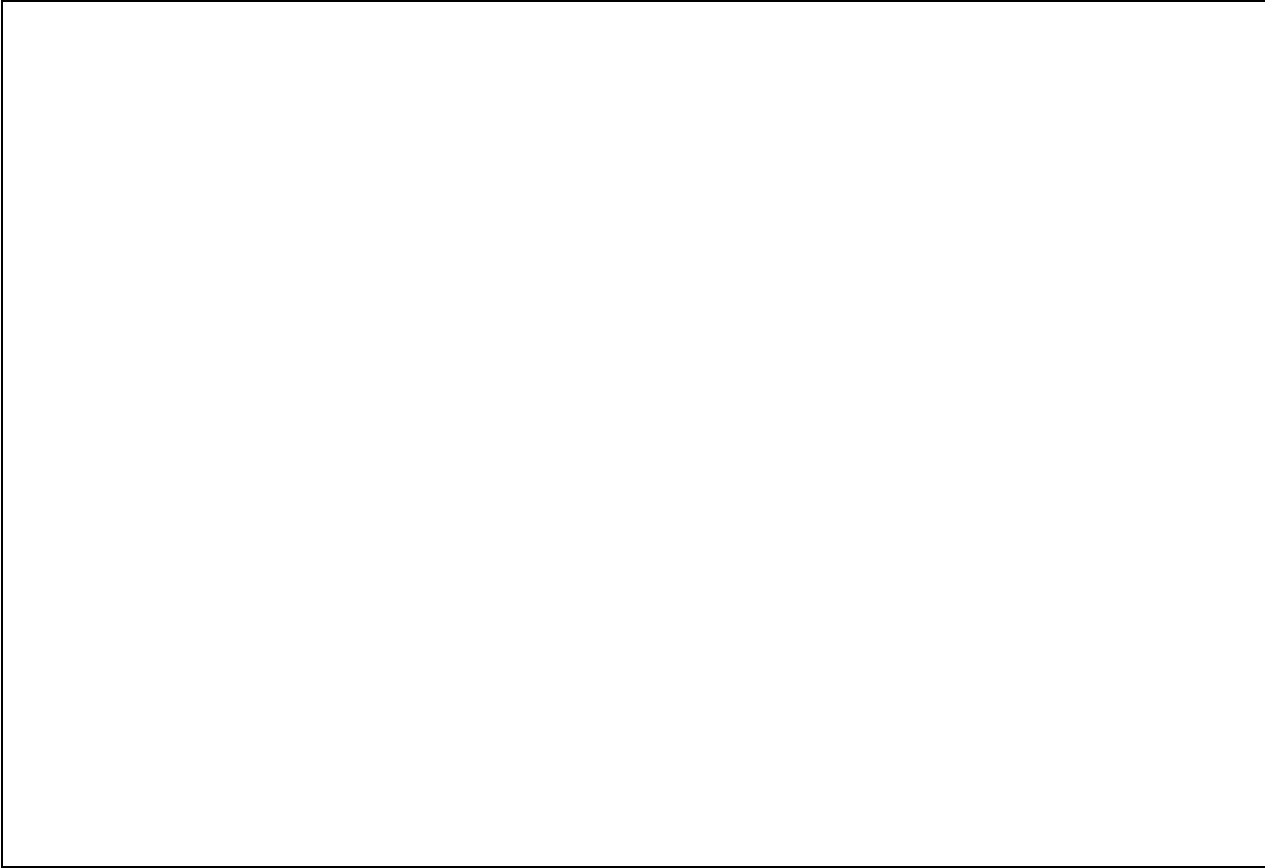
GT-86180-1812



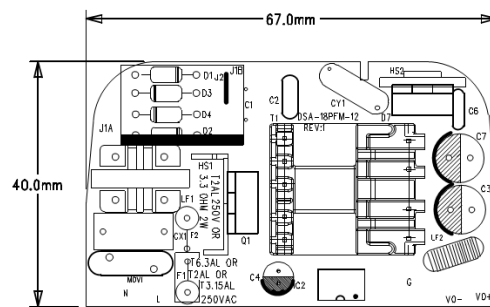


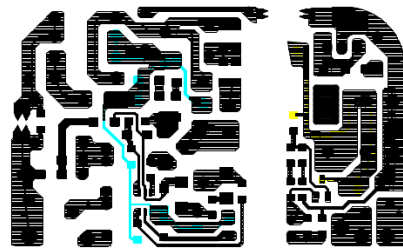
GT-86180-1812-G

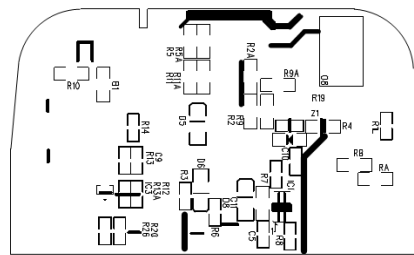


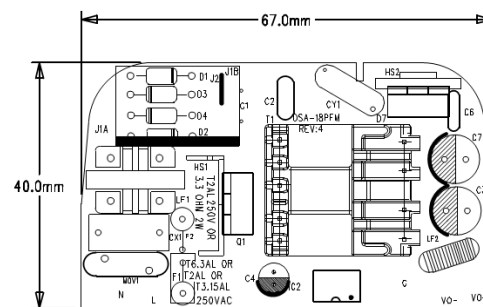


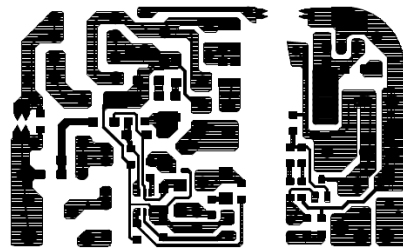
Enclosure No. 3
Schematics, layouts and transformer
drawings
(17 pages including this cover page)

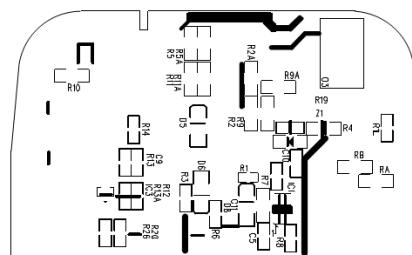


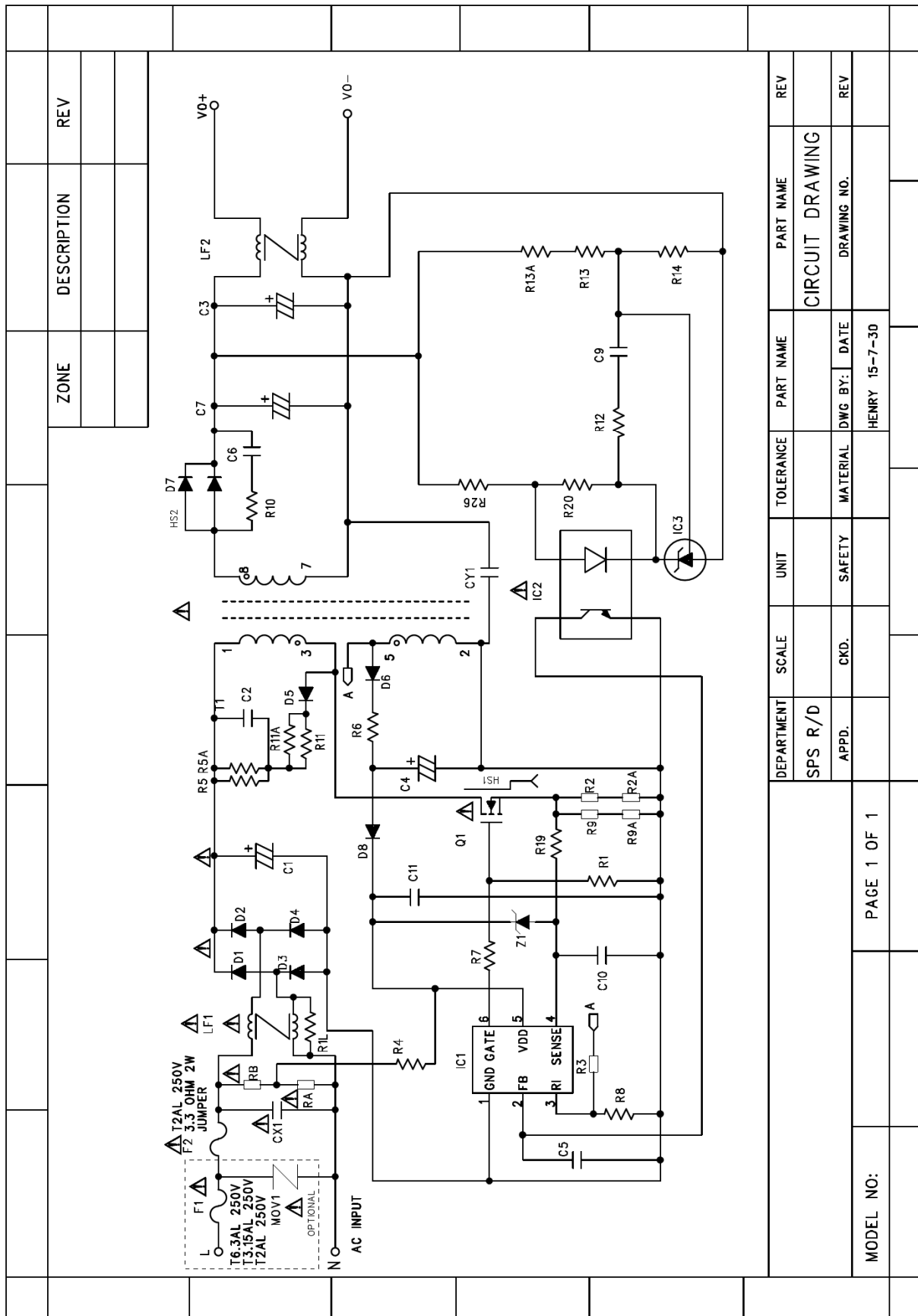












GlobTek SPECIFICATION

Company Name **GlobTek(Suzhou)**

Power supply Part no: GT-86180-1812
Transformer Part no:

Rev: 1.0

Description: High Frequency Transformer

Issued Date: 2015-4-17

Approval sheet and Sign here

Signature:

Comments:

Please return on copy after approval

GlobTek(Suzhou)

Building 4, No 76 JinLing East Road,Suzhou ,Industrial Park, Suzhou,JiangSu,215021 China

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产品编号 Article No.			
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变 更 记 录 Revision History					
变更日期 Date	变更版本 Rev. No.	变更内容 CONTENTS	制作 Prepared by	审核 Checked	承认 Approved

制定 2013 年 6 月 19 日 Made 2013 Y 6 M 19 D	环球特科（苏州）有限公司 GlobTek(Suzhou) Co. Ltd.	制作 Prepared by	Lillian.li	承认 Approved by	Lillian.li
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REV.	ZONE	DESCRIPTION	DATE	BY

MODEL	

1. 绕线顺序图

此處需用一塊1MM滾邊固定起線，離初級1mm起繞：

PIN4--> PIN1	Ø0.30*1*24Ts	置中兩繞
PIN2--> COPPER	T0.05*W9*L40mm	
PIN8--> PIN7	Ø0.55*1*12Ts	三層絕緣線
PIN5--> PIN2	Ø0.16*4*12Ts	
PIN3--> PIN4	Ø0.30*1*30Ts	
	Ø0.30*1*30Ts	

BOBBIN:EE20/18.2

繞線前在初級側PIN端貼W15*L20mm*1L反折瑪拉

MAYLAR TAPE 3Ts
MAYLAR TAPE 2Ts
MAYLAR TAPE 2Ts
MAYLAR TAPE 2Ts
MAYLAR TAPE 2Ts
MAYLAR TAPE W:11mm

2. 生产工艺图

1. 1
4. Ø0.30*1*24Ts
2. 2
7. Ø0.55*1*12Ts
8. 8
5. Ø0.16*4*12Ts
6. 6
9. Ø0.30*1*30Ts
3. Ø0.30*1*30Ts

箭頭表示線的轉向

3. 原理图

• 黑點表示極性

4. 三视图

28MAX
22.0MAX
6.5±0.2
15.9±0.3
NOTE: CUT OFF PIN6, PIN9;
沿CORE用9.5mm寬的瑪拉包3Ts固定
居中標識產線代碼
20.31±0.3
20.0MAX
3.8±0.2

5. LABEL 图

12
90E18PFMO-01AH
12.6±0.2
18.2±0.4
20.0
5.7
14.1MIN
9.6

CORE:EE20/18.2

PART NAME			PART NO.	
TRANSFORMER			90E18PFMO-01BH	
APPROVED	SAFETY	UNIT	CHECKED	DWG BY
		mm		

DRAWING NO.			

GlobTek SPECIFICATION

Company Name **GlobTek(Suzhou)**

Power supply Part no: GT-86180-1809
Transformer Part no:

Rev: 1.0

Description: **High Frequency Transformer**

Issued Date: 2015-4-17

Approval sheet and Sign here

Signature:

Comments:

Please return on copy after approval

GlobTek(Suzhou)

Building 4, No 76 JinLing East Road,Suzhou ,Industrial Park, Suzhou,JiangSu,215021 China

Tel: +86 512 6279 0301-177

mail: Lillian.li@globtek.cn

REV.	ZONE	DESCRIPTION	DATE	BY

MODEL	

1. 绕线顺序图

PIN4--> PIN1	$\phi 0.30 \times 1 \times 24Ts$	離初級1mm起密繞
PIN5--> PIN2	$\phi 0.18 \times 3 \times 14Ts$	
PIN8--> PIN7	$\phi 0.80 \times 1 \times 9Ts$	三層絕緣線
PIN2--> COPPER	T0.05*W9*L50mm	
PIN3--> PIN4	$\phi 0.30 \times 1 \times 30Ts$	
	$\phi 0.30 \times 1 \times 30Ts$	

BOBBIN:EE20/18 .2

MAYLAR TAPE 2Ts
MAYLAR TAPE 11mm*1Ts
MAYLAR TAPE 11mm*2Ts
MAYLAR TAPE 2Ts
MAYLAR TAPE 1Ts
MAYLAR TAPE W:10.5mm

2. 生产工艺图

1
4 $\phi 0.30 \times 1 \times 24Ts$
2
5 $\phi 0.18 \times 3 \times 14Ts$
 $\phi 0.80 \times 1 \times 9Ts$ 7
8
2
4 $\phi 0.30 \times 1 \times 30Ts$
3 $\phi 0.30 \times 1 \times 30Ts$
箭頭表示線的轉向

3. 原理图

1 $\phi 0.30 \times 1 \times 24Ts$
4 $\phi 0.30 \times 1 \times 60Ts$
3 $\phi 0.80 \times 1 \times 9Ts$ 三層絕緣線
5 $\phi 0.18 \times 3 \times 14Ts$
2
8
7
• 黑點表示極性

4. 三视图

NOTE: 產品點膠不含浸

CORE:EE20/18.2

28MAX
22.0MAX
3.7±0.2
6.4±0.2
6.5±0.2
15.9±0.3
此處需點膠
NOTE: CUT OFF PIN6, PIN9;
2. 沿CORE用9.5mm寬的瑪拉包3Ts固定
LABEL
5
20.31±0.3
7
20.0
5.7
14.1MIN
12.6±0.2
18.2±0.4
9.6
居中標識產線代碼
1. PIN1繞完線預留約15mm鍍錫接於CORE
3.8±0.2
20.0MAX
1
5

5. LABEL 图

12
90E18PM09-02AH
C

PART NAME			PART NO.	
TRANSFORMER			90E18PM09-02CH	
APPROVED			DRAWING NO.	
SAFETY	UNIT	CHECKED	DWG BY	
	mm			

GlobTek SPECIFICATION

Company Name **GlobTek(Suzhou)**

Power supply Part no: GT-86180 LF1
Transformer Part no:

Rev: 1.0

Description: **CHOKE**

Issued Date: 2015-4-17

Approval sheet and Sign here

Signature:

Comments:

Please return on copy after approval

GlobTek(Suzhou)

Building 4, No 76 JinLing East Road,Suzhou ,Industrial Park, Suzhou,JiangSu,215021 China

Tel: +86 512 6279 0301-177

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产品编号 Article No.			
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变 更 记 录 Revision History					
变更日期 Date	变更版本 Rev. No.	变更内容 CONTENTS	制作 Prepared by	审核 Checked	承认 Approved

制定 2013 年 6 月 13 日 Made 2013Y6 M 13 D	环球特科（苏州）有限公司 GlobTek(Suzhou) Co. Ltd.	制作 Prepared by	Lillian Li	承认 Approved by	Lillian Li
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FROM NO.10 COMPUTER NO.		DESCRIPTION		DATE	BY
REV	ZONE				

(一) CONFIGURATION & DIMENSIONS: (UNIT: mm)

BOTTOM VIEW

(二) TEST SPECIFICATION

1) CONDITION: 1 KHz 0.2V

TERMINAL	WIRE	TURNS	INDUCTANCE	RESISTANCE
PIN1-2	φ0.25	100Ts	24mH Min	2.0 ohm MAX.
PIN4-3	φ0.25	100Ts	24mH Min	2.0 ohm MAX.

2) DIELECTRIC STRENGTH TEST (HI-POT)

1500 VAC 5mA COIL TO COIL 1 MIN

1000 VAC 5mA COIL TO CORE 1 MIN

3) INSULATION RESISTANCE

THE INSULATION RESISTANCE BETWEEN COIL TO COIL AND COIL TO CORE IS OVER 100 Mohm AT 500 VDC

MYLAR TAPE為黃色以便區分

MODEL NO:

DEPARTMENT	SCALE	UNIT	TOLERANCE	PART NAME	PART NO.	REV
R&D SPS	APPD		SAFETY	LINE FILTER	30C030100-00H	
				CKD	DRAW BY	REV

Enclosure No. 4
Plug portion test
(38 pages including this cover page)

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict

European plug portion test for fixed plug models (Type 1):
GT-86180-WW12-W2Z and GT-86180-WW09-W2Z

6	Marking		P
	Appliances shall be marked as follows:	Incorporated with adaptor.	P
	- the rated current in amperes		P
	- the rated voltage in volts		P
	- the symbol for nature of supply ~		P
	- either the name, trade mark or identification mark of the manufacturer or of the responsible vendor		P
	-the type reference, which may be a catalogue number		P

7	Dimensions			P
	Plugs shall comply with Standard Sheet 1.			P
	Between two pins (pin base)	18,0-19,2 mm	18,49 mm	P
	Between two pins (pin top)	17.0 – 18.0 mm	17,75 mm	P
	Diameter of pin (metallic part)	4+/-0,06 mm	3,99 mm	P
	Diameter of pin (pin base)	Max. 4,0 mm	3,91 mm	P
	Diameter of pin (middle part)	Max 3,8 mm	3,68 mm	P
	Pin length	19 +/- 0,5 mm	19,26 mm	P
	Length of pin except metal part	10 +1,0 mm	10,68 mm	P
	Shape of pin top		Round shape	P
	Length of plug base	35,3 +/-0,7 mm	34,83 mm	P
	Width of plug base	13,7 +/-0,7 mm	13,81 mm	P
	Diagonal diameter of plug base within a distance of 18 mm	<26,1 +/- 0,5 mm <26,1 +/- 0,5 mm	25,78 mm 26,02 mm	P

8	Protection against electric shock		P
8.1	Live parts of the plug not accessible (standard test finger)	Incorporated with adaptor	P
8.2	No connection between one plug-pin and socket outlet		P
8.3	External parts of insulating material		P

9	Construction		P
9.1	Plugs are not replaceable	Incorporated with adaptor.	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict
9.2	Switches, fuses or lampholders not incorporated in plugs.		P
9.3	Solid pins	See clause 13	P
	Adequate mechanical strength		P
9.4	Pins locked against rotation	See clause 13.1 & 13.4	P
	Adequate fixed into the body		P
9.5	Kind of connection.		P
9.6	Easily to be withdrawn from socket-outlet	Incorporated with adaptor	P

10	Resistance to humidity		P
	-Humidity treatment for 48 hours	Tested with adaptor.	P

11	Insulation resistance and electric strength		P
11.1	Insulation resistance (500V, min 5MΩ)	200MΩ	P
11.2	Electric strength (2000V)	See table 11.2	P

13	Mechanical strength		P
13.1	Pressed with 150N for 5 min		P
13.2	Tumbling barrel acc Tumbling barrel test: number of falls:	Weight: 0,102kg 500 times falls was conducted according to DIN VDE 0620-2-1:2013, item 24.2. Three samples tested. After the test, it was fulfilled the requirements of DIN VDE 0620-101:1992 item 7 figure 2 "gauge for interchangeability" and no damage.	P
	No damages after the test		P
	Requirements of clause 7 and 8.2 still fulfilled		N/A
13.3	Rubbing test of plug-pins: 10000 cycles, 4N		P
	No damage of the pins		P
13.4	Pull test at 70°C with 40N		P
	Pins not more than 1 mm displaced	Displacement: 0,2 mm	P

14	Resistance to heat and to ageing		P
14.1	Sufficient resistant to heat	Incorporated with adaptor.	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict
14.1.1	After 1 h in heating cabinet at 100°C no damage shown.	Tested with adaptor.	P
14.1.2	After 1 h in heating cabinet at 80°C and a force of 20N through the jaws no damage shown.		P
14.2	Aging test:		P
	-at 70°C for 168h		P
	-at room temperature for 96h		P
	No traces of cloth at a force of 5N		P
	No damage leads to non-compliance		P

15	Current-carrying parts and connections resistance to heat and to aging		P
15.1	Connections withstand the mechanical stresses occurring in normal use		P
15.2	Contact pressure not through isolating material		P
15.3	Current carrying parts of copper		P
	No electroplated coating when part is subjected to mechanical wear		P
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion		N/A

16	Creepage distances, clearances and distances trough insulation		P
	Live parts of different polarity: 3mm	14,2 mm	P
	Through insulation between live parts and accessible surfaces: 1,5mm	5,6 mm	P

17	Resistance of insulating material to abnormal heat and to fire		P
	Insulating material not unduly affected by abnormal heat and by fire	(See appended table)	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict

11.1	TABLE: Insulation resistance		P
Measured between		Resistance (MΩ)	Verdict
Pins connected together and the body ($\geq 5\text{M}\Omega$)		1000 MΩ	P
Each pins in turn and the other, the latter being connected to the body ($\geq 5\text{M}\Omega$)		1000 MΩ	P
Comment:			

11.2	TABLE: Electric strength		P
Applied between		Voltage	Verdict
Pins connected together and the body		2000 Vac	P
Each pins in turn and the other, the latter being connected to the body		2000 Vac	P
Comment:			

17	TABLE: Resistance of insulating material to abnormal heat and to fire		P
Part tested		Temperature [°C]	Verdict
Parts that retain current-carrying parts in position:		750	P
Other parts:		650	P
Comment:			

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict

European plug portion test for replaceable plug models (Type 2): GT-86180-WW12-G

6	Marking		P
	Appliances shall be marked as follows:	Incorporated with adaptor.	P
	- the rated current in amperes		P
	- the rated voltage in volts		P
	- the symbol for nature of supply ~		P
	- either the name, trade mark or identification mark of the manufacturer or of the responsible vendor		P
	-the type reference, which may be a catalogue number		P

7	Dimensions			P
	Plugs shall comply with Standard Sheet 1.			P
	Between two pins (pin base)	18,0-19,2 mm	18,13 mm	P
	Between two pins (pin top)	17.0 – 18.0 mm	17,26 mm	P
	Diameter of pin (metallic part)	4+/-0,06 mm	3,96 mm	P
	Diameter of oin (pin base)	Max. 4,0 mm	3,79 mm	P
	Diameter of pin (middle part)	Max 3,8 mm	3,44 mm	P
	Pin length	19 +/- 0,5 mm	19,14 mm	P
	Length of pin except metal part	10 +1,0 mm	10,31 mm	P
	Shape of pin top		Round shape	P
	Length of plug base	35,3 +/-0,7 mm	34,95 mm	P
	Width of plug base	13,7 +/-0,7 mm	13,64 mm	P
	Diagonal diameter of plug base within a distance of 18 mm	<26,1 +/- 0,5 mm	26,07 mm	P
		<26,1 +/- 0,5 mm	26,28 mm	

8	Protection against electric shock		P
8.1	Live parts of the plug not accessible (standard test finger)	Incorporated with adaptor	P
8.2	No connection between one plug-pin and socket outlet		P
8.3	External parts of insulating material		P

9	Construction		P
9.1	Plugs are not replaceable	Incorporated with adaptor.	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict
9.2	Switches, fuses or lampholders not incorporated in plugs.		P
9.3	Solid pins	See clause 13	P
	Adequate mechanical strength		P
9.4	Pins locked against rotation	See clause 13.1 & 13.4	P
	Adequate fixed into the body		P
9.5	Kind of connection.		P
9.6	Easily to be withdrawn from socket-outlet	Incorporated with adaptor	P

10	Resistance to humidity		P
	-Humidity treatment for 48 hours	Tested with adaptor.	P

11	Insulation resistance and electric strength		P
11.1	Insulation resistance (500V, min 5MΩ)	200MΩ	P
11.2	Electric strength (2000V)	See table 11.2	P

13	Mechanical strength		P
13.1	Pressed with 150N for 5 min		P
13.2	Tumbling barrel acc Tumbling barrel test: number of falls:	Weight: 0,102kg 500 times falls was conducted according to DIN VDE 0620-2-1:2013, item 24.2. Three samples tested. After the test, it was fulfilled the requirements of DIN VDE 0620-101:1992 item 7 figure 2 "gauge for interchangeability" and no damage.	P
	No damages after the test		P
	Requirements of clause 7 and 8.2 still fulfilled		N/A
13.3	Rubbing test of plug-pins: 10000 cycles, 4N		P
	No damage of the pins		P
13.4	Pull test at 70°C with 40N		P
	Pins not more than 1 mm displaced	Displacement: 0,5 mm	P

14	Resistance to heat and to ageing		P
14.1	Sufficient resistant to heat	Incorporated with adaptor.	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict
14.1.1	After 1 h in heating cabinet at 100°C no damage shown.	Tested with adaptor.	P
14.1.2	After 1 h in heating cabinet at 80°C and a force of 20N through the jaws no damage shown.		P
14.2	Aging test:		P
	-at 70°C for 168h		P
	-at room temperature for 96h		P
	No traces of cloth at a force of 5N		P
	No damage leads to non-compliance		P

15	Current-carrying parts and connections resistance to heat and to aging		P
15.1	Connections withstand the mechanical stresses occurring in normal use		P
15.2	Contact pressure not through isolating material		P
15.3	Current carrying parts of copper		P
	No electroplated coating when part is subjected to mechanical wear		P
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion		N/A

16	Creepage distances, clearances and distances trough insulation		P
	Live parts of different polarity: 3mm	14,2 mm	P
	Through insulation between live parts and accessible surfaces: 1,5mm	5,6 mm	P

17	Resistance of insulating material to abnormal heat and to fire		P
	Insulating material not unduly affected by abnormal heat and by fire	(See appended table)	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict

11.1	TABLE: Insulation resistance		P
Measured between		Resistance (MΩ)	Verdict
Pins connected together and the body ($\geq 5\text{M}\Omega$)		1000 MΩ	P
Each pins in turn and the other, the latter being connected to the body ($\geq 5\text{M}\Omega$)		1000 MΩ	P
Comment:			

11.2	TABLE: Electric strength		P
Applied between		Voltage	Verdict
Pins connected together and the body		2000 Vac	P
Each pins in turn and the other, the latter being connected to the body		2000 Vac	P
Comment:			

17	TABLE: Resistance of insulating material to abnormal heat and to fire		P
Part tested		Temperature [°C]	Verdict
Parts that retain current-carrying parts in position:		750	P
Other parts:		650	P
Comment:			

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict

European plug portion test for replaceable plug models (Type 1): GT-86180-1812

6	Marking		P
	Appliances shall be marked as follows:	Incorporated with adaptor.	P
	- the rated current in amperes		P
	- the rated voltage in volts		P
	- the symbol for nature of supply ~		P
	- either the name, trade mark or identification mark of the manufacturer or of the responsible vendor		P
	-the type reference, which may be a catalogue number		P

7	Dimensions			P
	Plugs shall comply with Standard Sheet 1.			P
	Between two pins (pin base)	18,0-19,2 mm	18,11 mm	P
	Between two pins (pin top)	17.0 – 18.0 mm	17,12 mm	P
	Diameter of pin (metallic part)	4+/-0,06 mm	4,00 mm	P
	Diameter of oin (pin base)	Max. 4,0 mm	3,92 mm	P
	Diameter of pin (middle part)	Max 3,8 mm	3,70 mm	P
	Pin length	19 +/- 0,5 mm	19,14 mm	P
	Length of pin except metal part	10 +1,0 mm	10,43 mm	P
	Shape of pin top		Round shape	P
	Length of plug base	35,3 +/-0,7 mm	35,14 mm	P
	Width of plug base	13,7 +/-0,7 mm	13,60 mm	P
	Diagonal diameter of plug base within a distance of 18 mm	<26,1 +/- 0,5 mm	25,68 mm	P
		<26,1 +/- 0,5 mm	25,68 mm	

8	Protection against electric shock		P
8.1	Live parts of the plug not accessible (standard test finger)	Incorporated with adaptor	P
8.2	No connection between one plug-pin and socket outlet		P
8.3	External parts of insulating material		P

9	Construction		P
9.1	Plugs are not replaceable	Incorporated with adaptor.	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict
9.2	Switches, fuses or lampholders not incorporated in plugs.		P
9.3	Solid pins	See clause 13	P
	Adequate mechanical strength		P
9.4	Pins locked against rotation	See clause 13.1 & 13.4	P
	Adequate fixed into the body		P
9.5	Kind of connection.		P
9.6	Easily to be withdrawn from socket-outlet	Incorporated with adaptor	P

10	Resistance to humidity		P
	-Humidity treatment for 48 hours	Tested with adaptor.	P

11	Insulation resistance and electric strength		P
11.1	Insulation resistance (500V, min 5MΩ)	200MΩ	P
11.2	Electric strength (2000V)	See table 11.2	P

13	Mechanical strength		P
13.1	Pressed with 150N for 5 min		P
13.2	Tumbling barrel acc Tumbling barrel test: number of falls:	Weight: 0,184kg 500 times falls was conducted according to DIN VDE 0620-2-1:2013, item 24.2. Three samples tested. After the test, it was fulfilled the requirements of DIN VDE 0620-101:1992 item 7 figure 2 "gauge for interchangeability" and no damage.	P
	No damages after the test		P
	Requirements of clause 7 and 8.2 still fulfilled		N/A
13.3	Rubbing test of plug-pins: 10000 cycles, 4N		P
	No damage of the pins		P
13.4	Pull test at 70°C with 40N		P
	Pins not more than 1 mm displaced	Displacement: 0,5 mm	P

14	Resistance to heat and to ageing		P
14.1	Sufficient resistant to heat	Incorporated with adaptor.	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict
14.1.1	After 1 h in heating cabinet at 100°C no damage shown.	Tested with adaptor.	P
14.1.2	After 1 h in heating cabinet at 80°C and a force of 20N through the jaws no damage shown.		P
14.2	Aging test:		P
	-at 70°C for 168h		P
	-at room temperature for 96h		P
	No traces of cloth at a force of 5N		P
	No damage leads to non-compliance		P

15	Current-carrying parts and connections resistance to heat and to aging		P
15.1	Connections withstand the mechanical stresses occurring in normal use		P
15.2	Contact pressure not through isolating material		P
15.3	Current carrying parts of copper		P
	No electroplated coating when part is subjected to mechanical wear		P
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion		N/A

16	Creepage distances, clearances and distances trough insulation		P
	Live parts of different polarity: 3mm	14,2 mm	P
	Through insulation between live parts and accessible surfaces: 1,5mm	5,6 mm	P

17	Resistance of insulating material to abnormal heat and to fire		P
	Insulating material not unduly affected by abnormal heat and by fire	(See appended table)	P

EN 50075 (partial)			
Clause	Requirement - Test	Result - Remark	Verdict

11.1	TABLE: Insulation resistance		P
Measured between		Resistance (MΩ)	Verdict
Pins connected together and the body ($\geq 5\text{M}\Omega$)		1000 MΩ	P
Each pins in turn and the other, the latter being connected to the body ($\geq 5\text{M}\Omega$)		1000 MΩ	P
Comment:			

11.2	TABLE: Electric strength		P
Applied between		Voltage	Verdict
Pins connected together and the body		2000 Vac	P
Each pins in turn and the other, the latter being connected to the body		2000 Vac	P
Comment:			

17	TABLE: Resistance of insulating material to abnormal heat and to fire		P
Part tested		Temperature [°C]	Verdict
Parts that retain current-carrying parts in position:		750	P
Other parts:		650	P
Comment:			

BS 1363-1+A1+A2+A3 (Partial)				
Clause	Requirement - Test		Result - Remark	Verdict
British plug portion test for fixed plug models (Type 1): GT-86180-WW12-W2Z and GT-86180-WW09-W2Z				
12	Construction			P
12.1	Disposition of the pins is same as fig. 4			P
12.2	Plugs shall comply with fig. 4			P
	The height of engagement surface panel	Min. 6,35 mm	7,32 mm	P
	Disposition of pins			P
	Between E and left plane	Max. 25,37 mm	24,60 mm	P
	Between E and right plane	Max. 25,37 mm	24,60 mm	P
	Between E and L	11,05-11,18 mm	11,13 mm	P
	Between E and N	11,05-11,18 mm	11,13 mm	P
	Between L or N and top plane	Max. 34,6 mm	32,54 mm	P
	Between E and L, N	22,10-22,36 mm	22,21 mm	P
	Radius of top right corner	Min. 15 mm	Test with gauge	P
	Radius of top left corner	Min. 15 mm	Test with gauge	P
	Shape of earth pin			P
	Length	22,23-23,23 mm	22,63 mm	P
	Width	7,75-8,05 mm	7,97 mm	P
	Thickness	3,90-4,05 mm	3,95 mm	P
	Length of chamfer	1,35-1,85 mm	1,51 mm	P
	Angle of chamfer	58°-62°	60,88°	P
	Shape of L and N pin			P
	Length	17,2-18,2 mm	17,84 mm	P
	Width	6,22-6,48 mm	6,29 mm	P
	Thickness	3,90-4,05 mm	4,02 mm	P
	Length of insulating material	Max. 9,5 mm	9,27 mm	P
	Length of conductive material	Max. 9,2 mm	8,57 mm	P
	Length of chamfer	1,35-1,85 mm	1,68 mm	P
	Angle of chamfer	58°-62°	61,45°	P
	Maintenance of these dimensions not rely on the terminal screws			P
	The plug portion should enter the gauge fully with a force not exceeding 10N was applied to the centre of the sample at right angle		Complied, sample was entered into the gauge fully with a force of 10N.	P
12.3	No part of a line or neutral pin shall be less than 9,5mm from the periphery of the plug measured along the engagement surface.		Complied, both line and neutral pin are measured larger that 9.5mm	P

BS 1363-1+A1+A2+A3 (Partial)			
Clause	Requirement - Test	Result - Remark	Verdict
12.9	Plug pins were constructed of brass	Complied.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	Complied. L/N pins were subjected to a forced of 1100N and ISOD was subjected to a force of 400N. After the test, the pin portion could fit the relevant gauge.	P
12.9.5.2	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to 5000 insertions and withdraws, the shutters of the socket-outlet can operate satisfactorily and the socket contact is safely shielded.	P
12.9.6	Each pin of the adaptor was subjected to a torque of 1Nm for 60s as specified in the standard.	Complied. After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in the standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60 sec. to a pull of 100N in the oven.	Complied. After the above test, no plug pin was detached and the plug pins could fit the relevant gauge.	P
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1	Complied. During the test, no declination was observed to the plug pins (limit: Max. 3° 30').	P
12.13	Suitable means shall be provided for withdrawing the plug without subjecting the flexible cord to stress.	Complied.	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Complied. Both line and neutral pins were fitted with insulating sleeves.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P
12.17.2	Electric strength test applied between the metal part of plug pin and the sleeve (1250±30V)	Complied. No breakdown and flashover occur.	P
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	Complied. After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2	P

BS 1363-1+A1+A2+A3 (Partial)			
Clause	Requirement - Test	Result - Remark	Verdict
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 125°C and tested according to the standard for 120min.	Complied. After the tests, the thicknesses of sleeve of plug pins (line and neutral pins) remaining at the impression point were reduced by less than 20%.	P
22.2	Parts of insulating material shall be sufficiently to heat having particular regard for their location and cunction in the complete plug.	ISODs material: 75°C L/N pin sleeving material: 75°C	P
23	Resistance to abnormal heat, fire and tracking	See below	P
23.2	Glow-wire test	ISODs: 750°C Enclosure: 750°C	P

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

BS 1363-1+A4 (Partial)				
Clause	Requirement - Test		Result - Remark	Verdict
British plug portion test for fixed plug models (Type 1): GT-86180-WW12-W2Z and GT-86180-WW09-W2Z				
12	Construction			P
12.1	Disposition of the pins is same as fig. 4			P
12.2	Plugs shall comply with fig. 4			P
	The height of engagement surface panel	Min. 6,35 mm	7,32 mm	P
	Disposition of pins			P
	Between E and left plane	Max. 25,37 mm	24,60 mm	P
	Between E and right plane	Max. 25,37 mm	24,60 mm	P
	Between E and L	11,05-11,18 mm	11,13 mm	P
	Between E and N	11,05-11,18 mm	11,13 mm	P
	Between L or N and top plane	Max. 34,6 mm	32,54 mm	P
	Between E and L, N	22,10-22,36 mm	22,21 mm	P
	Radius of top right corner	Min. 15 mm	Test with gauge	P
	Radius of top left corner	Min. 15 mm	Test with gauge	P
	Shape of earth pin			P
	Length	22,23-23,23 mm	22,63 mm	P
	Width	7,75-8,05 mm	7,97 mm	P
	Thickness	3,90-4,05 mm	3,95 mm	P
	Length of chamfer	1,35-1,85 mm	1,51 mm	P
	Angle of chamfer	58°-62°	60,88°	P
	Shape of L and N pin			P
	Length	17,2-18,2 mm	17,84 mm	P
	Width	6,22-6,48 mm	6,29 mm	P
	Thickness	3,90-4,05 mm	4,02 mm	P
	Length of insulating material	Max. 9,5 mm	9,27 mm	P
	Length of conductive material	Max. 9,2 mm	8,57 mm	P
	Length of chamfer	1,35-1,85 mm	1,68 mm	P
	Angle of chamfer	58°-62°	61,45°	P
	Maintenance of these dimensions not rely on the terminal screws			P
	The plug portion should enter the gauge fully with a force not exceeding 10N was applied to the centre of the sample at right angle		Complied, sample was entered into the gauge fully with a force of 10N.	P
12.3	No part of a line or neutral pin shall be less than 9,5mm from the periphery of the plug measured along the engagement surface.		Complied, both line and neutral pin are measured larger that 9.5mm	P

BS 1363-1+A4 (Partial)			
Clause	Requirement - Test	Result - Remark	Verdict
12.9	Plug pins were constructed of brass	Complied.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to a forced of 1100N for L/N pin and 400N for ISOD pin, the pin portion could fit the relevant gauge.	P
12.9.5.1	The adaptor plug pins (nickel plated brass pins and/or non-solid pins) were tested as specified in the standard.	Nickel plated brass pins. Complied. After being subjected to 15000 insertions and withdraws (30000 movements), the shutters of the socket-outlets shall be operating satisfactorily, the socket contacts safety shielded. The pins of the plug shall remain intact with no openings in the surface, joints or seams which will accept the probe specified in 12.9.3. There shall be no visible evidence of peeling or flacking of plating.	P
12.9.5.2	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to 5000 insertions and withdraws, the shutters of the socket-outlet can operate satisfactorily and the socket contact is safely shielded.	P
12.9.6	Each pin of the adaptor was subjected to a torque of 1Nm for 60s as specified in the standard.	Complied. After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in the standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60 sec. to a pull of 100N in the oven.	Complied. After the above test, no plug pin was detached and the plug pins could fit the relevant gauge.	P
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1	Complied. During the test, no declination was observed to the plug pins (limit: Max. 3° 30').	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Complied. Both line and neutral pins were fitted with insulating sleeves.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P

BS 1363-1+A4 (Partial)			
Clause	Requirement - Test	Result - Remark	Verdict
12.17.2	Electric strength test applied between the metal part of plug pin and the sleeve (1250±30V)	Complied. No breakdown and flashover occur.	P
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	Complied. After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2	P
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 125°C and tested according to the standard for 120min.	Complied. After the tests, the thicknesses of sleeve of plug pins (line and neutral pins) remaining at the impression point were reduced by less than 10%.	P

22.2	Parts of insulating material shall be sufficiently to heat having particular regard for their location and cunction in the complete plug.	ISODs material: 75°C	P
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23	Resistance to abnormal heat, fire and tracking	See below	P
23.2	Glow-wire test	ISODs: 750°C	P

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

BS 1363-1+A4 (Partial)				
Clause	Requirement - Test		Result - Remark	Verdict
British plug portion test for replaceable plug models (Type 2): GT-86180-WW12-G				
12	Construction			P
12.1	Disposition of the pins is same as fig. 4			P
12.2	Plugs shall comply with fig. 4			P
	The height of engagement surface panel	Min. 6,35 mm	6,96 mm	P
	Disposition of pins			P
	Between E and left plane	Max. 25,37 mm	24,38 mm	P
	Between E and right plane	Max. 25,37 mm	24,39 mm	P
	Between E and L	11,05-11,18 mm	11,09 mm	P
	Between E and N	11,05-11,18 mm	11,07 mm	P
	Between L or N and top plane	Max. 34,6 mm	29,85 mm	P
	Between E and L, N	22,10-22,36 mm	22,27 mm	P
	Radius of top right corner	Min. 15 mm	Test with gauge.	P
	Radius of top left corner	Min. 15 mm	Test with gauge.	P
	Shape of earth pin			P
	Length	22,23-23,23 mm	22,74 mm	P
	Width	7,75-8,05 mm	7,99 mm	P
	Thickness	3,90-4,05 mm	3,97 mm	P
	Length of chamfer	1,35-1,85 mm	1,63 mm	P
	Angle of chamfer	58°-62°	61,24°	P
	Shape of L and N pin			P
	Length	17,2-18,2 mm	17,47 mm	P
	Width	6,22-6,48 mm	6,24 mm	P
	Thickness	3,90-4,05 mm	3,93 mm	P
	Length of insulating material	Max. 9,5 mm	9,20 mm	P
	Length of conductive material	Max. 9,2 mm	8,40 mm	P
	Length of chamfer	1,35-1,85 mm	1,52 mm	P
	Angle of chamfer	58°-62°	59,08°	P
	Maintenance of these dimensions not rely on the terminal screws			P
	The plug portion should enter the gauge fully with a force not exceeding 10N was applied to the centre of the sample at right angle		Complied, sample was entered into the gauge fully with a force of 10N.	P
12.3	No part of a line or neutral pin shall be less than 9,5mm from the periphery of the plug measured along the engagement surface.		Complied, both line and neutral pin are measured larger that 9.5mm	P

BS 1363-1+A4 (Partial)			
Clause	Requirement - Test	Result - Remark	Verdict
12.9	Plug pins were constructed of brass	Complied.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to a forced of 1100N for L/N pin and 400N for ISOD pin, the pin portion could fit the relevant gauge.	P
12.9.5.1	The adaptor plug pins (nickel plated brass pins and/or non-solid pins) were tested as specified in the standard.	Nickel plated brass pins. Complied. After being subjected to 15000 insertions and withdraws (30000 movements), the shutters of the socket-outlets shall be operating satisfactorily, the socket contacts safety shielded. The pins of the plug shall remain intact with no openings in the surface, joints or seams which will accept the probe specified in 12.9.3. There shall be no visible evidence of peeling or flacking of plating.	P
12.9.5.2	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to 5000 insertions and withdraws, the shutters of the socket-outlet can operate satisfactorily and the socket contact is safely shielded.	P
12.9.6	Each pin of the adaptor was subjected to a torque of 1Nm for 60s as specified in the standard.	Complied. After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in the standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60 sec. to a pull of 100N in the oven.	Complied. After the above test, no plug pin was detached and the plug pins could fit the relevant gauge.	P
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1	Complied. During the test, no declination was observed to the plug pins (limit: Max. 3° 30').	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Complied. Both line and neutral pins were fitted with insulating sleeves.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P

BS 1363-1+A4 (Partial)			
Clause	Requirement - Test	Result - Remark	Verdict
12.17.2	Electric strength test applied between the metal part of plug pin and the sleeve (1250±30V)	Complied. No breakdown and flashover occur.	P
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	Complied. After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2	P
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 125°C and tested according to the standard for 120min.	Complied. After the tests, the thicknesses of sleeve of plug pins (line and neutral pins) remaining at the impression point were reduced by less than 10%.	P

22.2	Parts of insulating material shall be sufficiently to heat having particular regard for their location and cunction in the complete plug.	ISODs material: 75°C	P
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23	Resistance to abnormal heat, fire and tracking	See below	P
23.2	Glow-wire test	ISODs: 750°C	P

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

BS 1363-1+A4 (Partial)				
Clause	Requirement - Test		Result - Remark	Verdict
British plug portion test for replaceable plug models (Type 1): GT-86180-1812				
12	Construction			P
12.1	Disposition of the pins is same as fig. 4			P
12.2	Plugs shall comply with fig. 4			P
	The height of engagement surface panel	Min. 6,35 mm	6,95 mm	P
	Disposition of pins			P
	Between E and left plane	Max. 25,37 mm	24,40 mm	P
	Between E and right plane	Max. 25,37 mm	24,40 mm	P
	Between E and L	11,05-11,18 mm	11,11 mm	P
	Between E and N	11,05-11,18 mm	11,11 mm	P
	Between L or N and top plane	Max. 34,6 mm	29,58 mm	P
	Between E and L, N	22,10-22,36 mm	22,20 mm	P
	Radius of top right corner	Min. 15 mm	Test with gauge.	P
	Radius of top left corner	Min. 15 mm	Test with gauge.	P
	Shape of earth pin			P
	Length	22,23-23,23 mm	22,60 mm	P
	Width	7,75-8,05 mm	8,02 mm	P
	Thickness	3,90-4,05 mm	4,02 mm	P
	Length of chamfer	1,35-1,85 mm	1,67 mm	P
	Angle of chamfer	58°-62°	61,24°	P
	Shape of L and N pin			P
	Length	17,2-18,2 mm	17,89 mm	P
	Width	6,22-6,48 mm	6,30 mm	P
	Thickness	3,90-4,05 mm	4,02 mm	P
	Length of insulating material	Max. 9,5 mm	8,74 mm	P
	Length of conductive material	Max. 9,2 mm	8,99 mm	P
	Length of chamfer	1,35-1,85 mm	1,47 mm	P
	Angle of chamfer	58°-62°	59,07°	P
	Maintenance of these dimensions not rely on the terminal screws			P
	The plug portion should enter the gauge fully with a force not exceeding 10N was applied to the centre of the sample at right angle		Complied, sample was entered into the gauge fully with a force of 10N.	P
12.3	No part of a line or neutral pin shall be less than 9,5mm from the periphery of the plug measured along the engagement surface.		Complied, both line and neutral pin are measured larger that 9.5mm	P

BS 1363-1+A4 (Partial)			
Clause	Requirement - Test	Result - Remark	Verdict
12.9	Plug pins were constructed of brass	Complied.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	Complied. L/N pins were subjected to a forced of 1100N and ISOD was subjected to a force of 400N. After the test, the pin portion could fit the relevant gauge.	P
12.9.5.1	The adaptor plug pins (nickel plated brass pins and/or non-solid pins) were tested as specified in the standard.	Nickel plated brass pins. Complied. After being subjected to 15000 insertions and withdraws (30000 movements), the shutters of the socket-outlets shall be operating satisfactorily, the socket contacts safety shielded. The pins of the plug shall remain intact with no openings in the surface, joints or seams which will accept the probe specified in 12.9.3. There shall be no visible evidence of peeling or flacking of plating.	P
12.9.5.2	The adaptor plug pins were tested as specified in the standard.	Complied. After being subjected to 5000 insertions and withdraws, the shutters of the socket-outlet can operate satisfactorily and the socket contact is safely shielded.	P
12.9.6	Each pin of the adaptor was subjected to a torque of 1Nm for 60s as specified in the standard.	Complied. After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in the standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60 sec. to a pull of 100N in the oven.	Complied. After the above test, no plug pin was detached and the plug pins could fit the relevant gauge.	P
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1	Complied. During the test, no declination was observed to the plug pins (limit: Max. 3° 30').	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Complied. Both line and neutral pins were fitted with insulating sleeves.	P

BS 1363-1+A4 (Partial)			
Clause	Requirement - Test	Result - Remark	Verdict
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P
12.17.2	Electric strength test applied between the metal part of plug pin and the sleeve (1250±30V)	Complied. No breakdown and flashover occur.	P
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	Complied. After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2	P
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 125°C and tested according to the standard for 120min.	Complied. After the tests, the thicknesses of sleeve of plug pins (line and neutral pins) remaining at the impression point were reduced by less than 20%.	P

22.2	Parts of insulating material shall be sufficiently to heat having particular regard for their location and cunction in the complete plug.	ISODs material: 75°C L/N pin sleeving material: 75°C	P
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23	Resistance to abnormal heat, fire and tracking	See below	P
23.2	Glow-wire test	ISODs: 750°C Enclosure: 750°C	P

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

JIS C 8303 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict

Japanese plug portion test for replaceable plug models (Type 1): GT-86180-1812

APPENDIX II	JIS C 8303: 2007 – Plugs and Receptacles for domestic and similar general use (Type inspection)		P
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5	Performance		
5.1	Retaining force	For socket only and movable blade plug only	N/A
5.2	Temperature Rise	Considered end product.	N/A
5.3	Contact resistance	Not required for plug and socket without earth pole	N/A
5.4	Make and Break	For socket only and movable blade plug only	N/A
5.5	Insulation resistance	L to N pin: >100MΩ L/N to plug enclosure: >100MΩ	P
5.6	Dielectric withstand voltage	1250V, 10mA, 1 min. required	P
5.7	Resistance to heat	No resin moldings or rubber moldings	N/A
5.8	Strength of screw terminal and lead-wire joint		N/A
5.9	Strength of blade fixing part	Tested according to 7.10(3)	P
5.10	Rotating property of movable plug type		N/A
5.11	Strength of enclosure	Tested according to 7.11	P
5.12	Strength of Cord anchorage		N/A
5.13	Strength of Cord outlet		N/A
5.14	Performance of screwless terminals		N/A
5.15	Endurance to ammonia gas	Applied for socket-outlets only	N/A
5.16	Tensile load		N/A
5.17	Waterproof		N/A
5.18	Flame retardance	No supply wire connected	N/A
5.19	Moisture resistance		P

6	Construction, dimensions and material		P
6.1	Construction in general		P
6.2	Terminals	AC plug pins were moulded into enclosure directly	N/A
6.3	Insulation	Enclosure material: min. V-1.	P
6.4	Materials of conductive metal parts		P
6.5	Material of non-conductive metal parts	No such part	N/A

JIS C 8303 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
6.6	Shapes and dimensions of blades and blade receiving holes	See measured dimension	P
6.7	Dimensions of mounting parts of recessed socket-outlets		N/A
6.8	Dimensions of cable entry		N/A
6.9	Insulation distance		P
6.10	Symbol of poles	No earth pole or a pole of earth side.	N/A
6.11	Locking type, slip-check connectors		N/A
6.12	Waterproof connectors		N/A

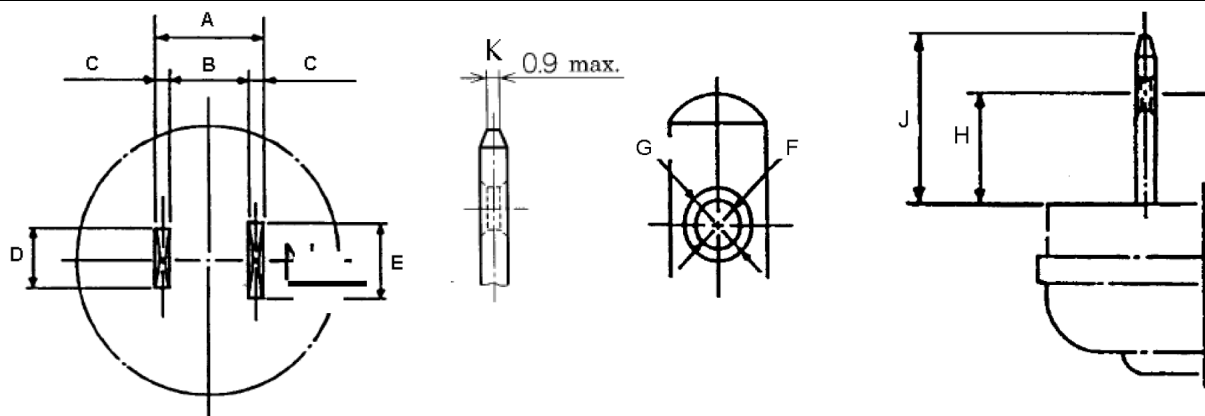
7	Testing methods		P
7.1	Construction test	Considered.	P
7.2	Retaining force test	According to the dimension of plug portions, complied.	P
7.3	Temperature rise test		N/A
7.4	Contact resistance test		N/A
7.5	Make and break test		N/A
7.6	Insulation resistance test	Considered according to JIS C 8306:1996. see cl. 5.5	P
7.7	Dielectric withstand voltage test	Considered according to JIS C 8306:1996. see cl. 5.6	P
7.8	Heat resistance test		P
7.9	Strength test of screw terminal and lead-wire joint		P
7.10	Strength of blade fixing part	For mold on plug pins on thermoplastic material, (2) and (3) considered.	P
	(2): pull test from blade holes, 100N downward for 2 mins		P
	(3): Molded-on connectors		P
	(b) Specimen keep in temperature 20±2°C for 1 hr. in figure 2. blade move right and left 15° for 30 times, 10 times per minute.		N/A
	(c) Blade fixed as figure 3 move right and left 30° for 5 times.		N/A
7.11	Enclosure Strength tests		P
	(a) Enclosure compressing test	600N applied on the wider side of specimen between 5mm thick, hardness Ho 60 rubber sheet on top of 15mm or more thick hardwood board for 1 minute.	P

JIS C 8303 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
	(b) Pendulum free fall test	Considered according to JIS C 8306:1996. see cl. 13.5.3(1)	P
	c) Single body free fall test	Considered according to JIS C 8306:1996. see cl. 13.5.3(2)	P
7.12	Strength test of Cord anchorage		P
7.13	Strength test of Cord outlet		P
7.14	Tensile strength test of screwless terminals		N/A
7.15	Bending test for screwless terminal		N/A
7.6	Cyclic heating test for screwless terminal		N/A
7.17	Withstand overcurrent test for screwless terminal		N/A
7.18	Ammonia gas durability test		N/A
7.19	Rotating test of movable plug-blade type		N/A
7.20	Tensile load test		N/A
7.21	Waterproof test		N/A
7.22	Flame retardance test		N/A

8	Inspection		P
8.1	Type inspection	Testing method clause 7 considered. See clause 5,6 and 10 requirement.	P

10	Marking	Plug portion is an integral part on appliance enclosure, refer to appliance ratings.	P
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Measured dimensions of the plug portion (per JIS C 8303: 2007)				P
Location	Measured dimensions (mm)			Limits of dimensions (mm)
	Sample 1	Sample 2	Sample 3	
A	14,21	14,22	14,21	Under 14,6
B	11,49	11,50	11,49	Over 10,8
C	1,42	1,42	1,42	1,5 +/- 0,1
D	6,21	6,20	6,21	6,3 +/- 0,3
E	6,21	6,22	6,23	8 +/- 0,1 ¹⁾
F	3,25	3,25	3,25	Ø 3 +0,3 / -0,2
G	3,71	3,71	3,71	Over ø3,5
H	11,48	11,49	11,48	11,7 +/- 0,4
J	16,24	16,25	16,24	17 +/- 1,3
K	0,79	0,75	0,77	0,9 max



1) In case of those without having distinction of polarity, the width of blade shall be 6,3 mm +/- 0,3 mm.

JIS C 8303 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict

Japanese plug portion test for replaceable plug models (Type 2): GT-86180-1812-G

APPENDIX II	JIS C 8303: 2007 – Plugs and Receptacles for domestic and similar general use (Type inspection)		P
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5	Performance		
5.1	Retaining force	For socket only and movable blade plug only	N/A
5.2	Temperature Rise	Considered end product.	N/A
5.3	Contact resistance	Not required for plug and socket without earth pole	N/A
5.4	Make and Break	For socket only and movable blade plug only	N/A
5.5	Insulation resistance	L to N pin: >100MΩ L/N to plug enclosure: >100MΩ	P
5.6	Dielectric withstand voltage	1250V, 10mA, 1 min. required	P
5.7	Resistance to heat	No resin moldings or rubber moldings	N/A
5.8	Strength of screw terminal and lead-wire joint		N/A
5.9	Strength of blade fixing part	Tested according to 7.10(3)	P
5.10	Rotating property of movable plug type		N/A
5.11	Strength of enclosure	Tested according to 7.11	P
5.12	Strength of Cord anchorage		N/A
5.13	Strength of Cord outlet		N/A
5.14	Performance of screwless terminals		N/A
5.15	Endurance to ammonia gas	Applied for socket-outlets only	N/A
5.16	Tensile load		N/A
5.17	Waterproof		N/A
5.18	Flame retardance	No supply wire connected	N/A
5.19	Moisture resistance		P

6	Construction, dimensions and material		P
6.1	Construction in general		P
6.2	Terminals	AC plug pins were moulded into enclosure directly	N/A
6.3	Insulation	Enclosure material: min. V-1.	P
6.4	Materials of conductive metal parts		P
6.5	Material of non-conductive metal parts	No such part	N/A

JIS C 8303 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
6.6	Shapes and dimensions of blades and blade receiving holes	See measured dimension	P
6.7	Dimensions of mounting parts of recessed socket-outlets		N/A
6.8	Dimensions of cable entry		N/A
6.9	Insulation distance		P
6.10	Symbol of poles	No earth pole or a pole of earth side.	N/A
6.11	Locking type, slip-check connectors		N/A
6.12	Waterproof connectors		N/A

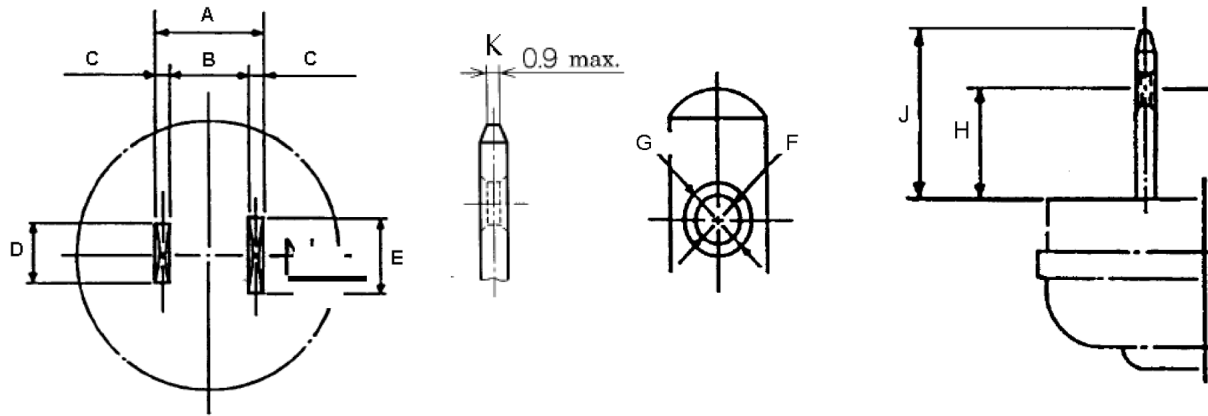
7	Testing methods		P
7.1	Construction test	Considered.	P
7.2	Retaining force test	According to the dimension of plug portions, complied.	P
7.3	Temperature rise test		N/A
7.4	Contact resistance test		N/A
7.5	Make and break test		N/A
7.6	Insulation resistance test	Considered according to JIS C 8306:1996. see cl. 5.5	P
7.7	Dielectric withstand voltage test	Considered according to JIS C 8306:1996. see cl. 5.6	P
7.8	Heat resistance test		P
7.9	Strength test of screw terminal and lead-wire joint		P
7.10	Strength of blade fixing part	For mold on plug pins on thermoplastic material, (2) and (3) considered.	P
	(2): pull test from blade holes, 100N downward for 2 mins		P
	(3): Molded-on connectors		P
	(b) Specimen keep in temperature 20±2°C for 1 hr. in figure 2. blade move right and left 15° for 30 times, 10 times per minute.		N/A
	(c) Blade fixed as figure 3 move right and left 30° for 5 times.		N/A
7.11	Enclosure Strength tests		P
	(a) Enclosure compressing test	600N applied on the wider side of specimen between 5mm thick, hardness Ho 60 rubber sheet on top of 15mm or more thick hardwood board for 1 minute.	P

JIS C 8303 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
	(b) Pendulum free fall test	Considered according to JIS C 8306:1996. see cl. 13.5.3(1)	P
	c) Single body free fall test	Considered according to JIS C 8306:1996. see cl. 13.5.3(2)	P
7.12	Strength test of Cord anchorage		P
7.13	Strength test of Cord outlet		P
7.14	Tensile strength test of screwless terminals		N/A
7.15	Bending test for screwless terminal		N/A
7.6	Cyclic heating test for screwless terminal		N/A
7.17	Withstand overcurrent test for screwless terminal		N/A
7.18	Ammonia gas durability test		N/A
7.19	Rotating test of movable plug-blade type		N/A
7.20	Tensile load test		N/A
7.21	Waterproof test		N/A
7.22	Flame retardance test		N/A

8	Inspection		P
8.1	Type inspection	Testing method clause 7 considered. See clause 5,6 and 10 requirement.	P

10	Marking	Plug portion is an integral part on appliance enclosure, refer to appliance ratings.	P
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Measured dimensions of the plug portion (per JIS C 8303: 2007)				P
Location	Measured dimensions (mm)			Limits of dimensions (mm)
	Sample 1	Sample 2	Sample 3	
A	14,30	14,30	14,30	Under 14,6
B	11,48	11,49	11,49	Over 10,8
C	1,42	1,42	1,42	1,5 +/- 0,1
D	6,30	6,29	6,29	6,3 +/- 0,3
E	6,30	6,30	6,28	8 +/- 0,1 ¹⁾
F	3,26	3,25	3,25	Ø 3 +0,3 / -0,2
G	3,75	3,75	3,75	Over ø3,5
H	11,56	11,56	11,56	11,7 +/- 0,4
J	16,30	16,30	16,30	17 +/- 1,3
K	0,76	0,75	0,75	0,9 max



1) In case of those without having distinction of polarity, the width of blade shall be 6,3 mm +/- 0,3 mm.

IRAM 2063 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict

Argentina plug dimension check according to IRAM 2063:2009 for replaceable plug models (Type 1):

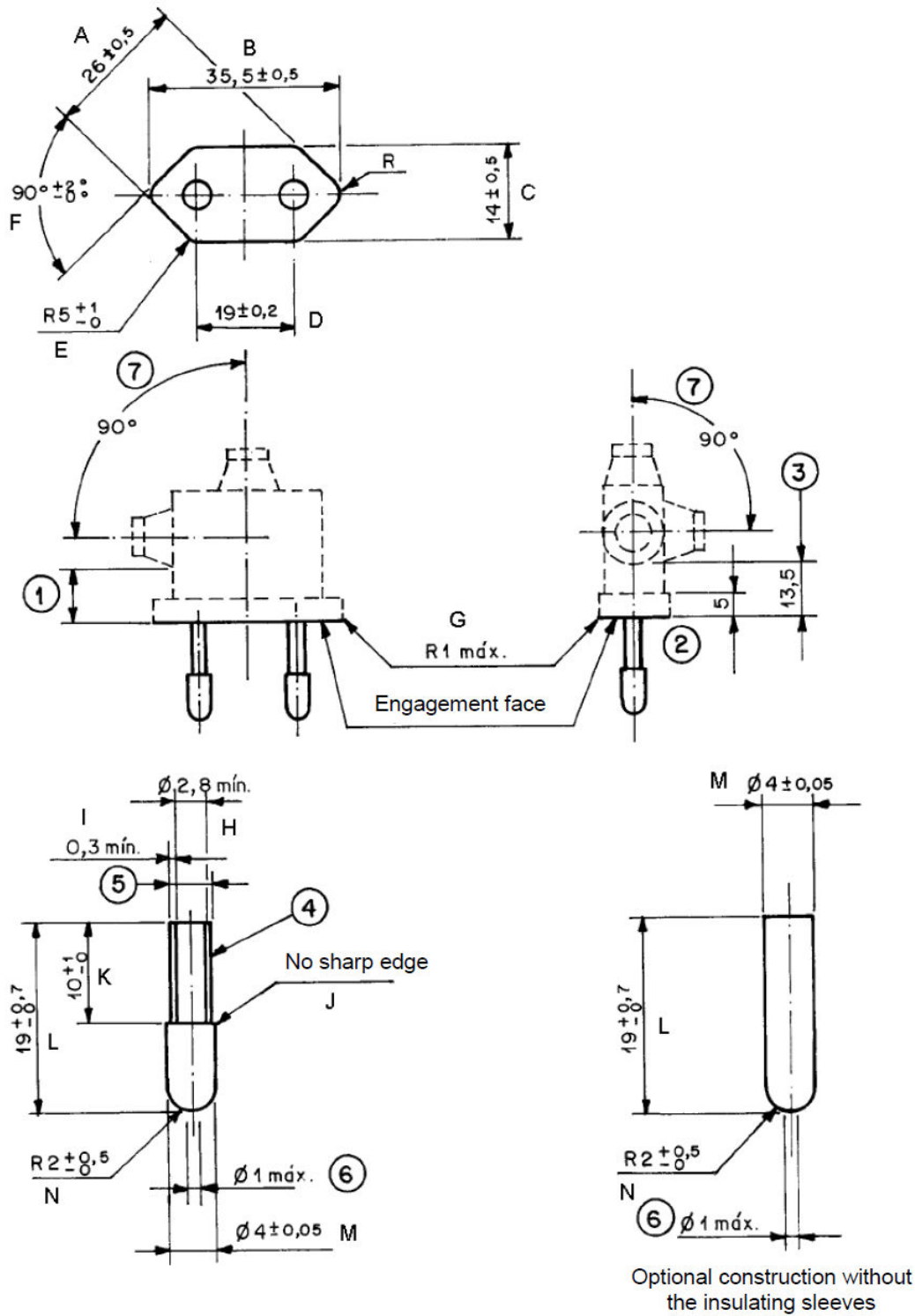
GT-86180-1812

	Dimensions			P
	Plugs shall comply with Standard Sheet NBR 14136/02 – FIGURE 13			--
Item	Location	Requirement	Measurement	--
A)	Diagonal dimension of plug base	26+/-0,5 mm	25,8 TOP – 26,5 ③ mm	P
B)	Length of plug base	35,5+/-0,5 mm	34,7 TOP – 35,7 ③ mm	P
C)	Width of plug base	14+/-0,5 mm	13,5 TOP – 14,2 ③ mm	P
D)	Between two pins	19+/-0,2 mm	19,0 mm	P
E)	Chamfer radius of plug base	R5+1 mm	R5 mm	P
F)	Angle of two diagonal surface	90°+2°	90°	P
G)	Chamfer radius of plug side face	R1 mm max.	Compliance checked by radius gauge of R 1 mm.	P
H)	Diameter of pin (metallic part in sleeve)	2,8 mm min.	No insulating sleeves	P
I)	Thickness of insulating sleeve	0,3 mm min.	No insulating sleeves	P
J)	No sharp edge		Compliance checked.	
K)	Length of pin except metal part	10+1,0 mm	No insulating sleeves	P
L)	Pin length	19+0,7 mm	19,3 mm	P
M)	Diameter of pin (metallic part)	4+/-0,05 mm	3,96 mmm	P
N)	Radius of pin top	R2+0,5 mm	R2 mm	P
①	The distance between the engagement face and the cord or cord guard, if any, shall be at least 14 mm	14 mm min.	18,4 mm	P
②	Within this distance (5 mm), the outline shall be not smaller than the engagement face		Compliance checked.	P
③	Within this distance (13.5 mm), the outline shall be not larger than the engagement face		All dimension measurements of items A, B and C were within the requirements, so the compliances were deemed fulfilled.	P
④	Insulating sleeves on the current-carrying pins are optional		No insulating sleeves	P
⑤	The external diameter of the insulating sleeves shall not be larger than the diameter of the uninsulated part of the pins		No insulating sleeves	P
⑥	To avoid damage to shutters, the ends of the pins shall show neither sharp edges nor burrs. They shall be of rounded shape as shown		Neither sharp edges nor burrs.	P
⑦	The angle of 90°represents the maximum permissible area for the orientation of the entry of the flexible cable or cord		No cord used.	P

IRAM 2063 (Partial)

Clause	Requirement – Test	Result – Remark	Verdict
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FIGURE 13 -
2 poles without earthing contact (for class II equipment) until 10A, 250V~



IRAM 2063 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict

Argentina plug dimension check according to IRAM 2063:2009 for replaceable plug models (Type 1):
GT-86180-1812

Plug dimensions (IRAM 2063:2009)				P
Location	Requirements		Measured	Verdict
Marking of neutral with N	Fig. 3		marked	P
A: Distance from edge to L and N pins	Min. 8 mm		8,57 mm	P
Distance between pin center	13,72+/-0,1 mm		13,75 mm	P
g: Pin length	18,2+/-0,2 mm		18,23 mm	P
a: Pin width	6,25+/-0,1 mm		6,22 mm	P
e: Pin thickness	1,55+/-0,07 mm		1,53 mm	P
b: Pin center to plug center	7,92 mm		7,92 mm	P
One half distance of pin center to pin center	6,86+/-0,1 mm		6,86 mm	P
Maximum dimensions of the outer perimeter (mm)	I	Max. 22 mm	17,94 mm	P
	K	Max. 22 mm	17,23 mm	P
	J	Max. 44 mm	35,88 mm	P
	L	Max. 44 mm	32,20 mm	P
Pin angle	120°+/-5'		120°	P
Ending of the contact pins be rounded	Fig. 4a or 4b		Rounded as Fig 4a	P

Table 1: Table 1 - Measures of the plug (mm)

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

Minimum outer
perimeter measures



A= 8 mm

Dashed line refers only the minimum of construction.



Figure 1- Identification of the plug pins, seen from the pins.

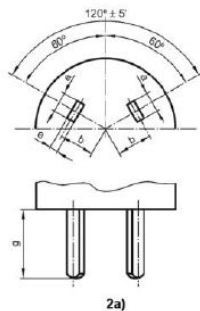


Figure 2 - Measures of the plug

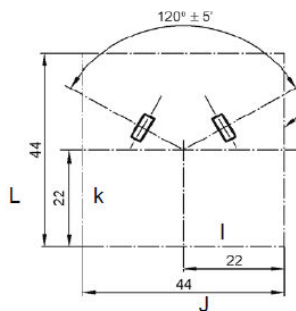
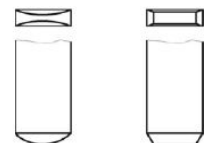


Figure 4a and 4b - Ends of the connection blad

Maximum
dimensions of the
outer perimeter
(mm)



NBR 14136/02 (Partial)

Clause	Requirement – Test	Result – Remark	Verdict
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Brazil plug dimension check according to NBR 14136/02 for replaceable plug models (Type 1):

GT-86180-1812

	Dimensions			P
	Plugs shall comply with Standard Sheet NBR 14136/02 – FIGURE 13			--
Item	Location	Requirement	Measurement	--
A)	Diagonal dimension of plug base	26+/-0,5 mm	25,8 TOP – 26,5 ③ mm	P
B)	Length of plug base	35,5+/-0,5 mm	34,7 TOP – 35,7 ③ mm	P
C)	Width of plug base	14+/-0,5 mm	13,5 TOP – 14,2 ③ mm	P
D)	Between two pins	19+/-0,2 mm	19,0 mm	P
E)	Chamfer radius of plug base	R5+1 mm	R5 mm	P
F)	Angle of two diagonal surface	90°+2°	90°	P
G)	Chamfer radius of plug side face	R1 mm max.	Compliance checked by radius gauge of R 1 mm.	P
H)	Diameter of pin (metallic part in sleeve)	2,8 mm min.	No insulating sleeves	P
I)	Thickness of insulating sleeve	0,3 mm min.	No insulating sleeves	P
J)	No sharp edge		Compliance checked.	
K)	Length of pin except metal part	10+1,0 mm	No insulating sleeves	P
L)	Pin length	19+0,7 mm	19,3 mm	P
M)	Diameter of pin (metallic part)	4+/-0,05 mm	3,96 mm	P
N)	Radius of pin top	R2+0,5 mm	R2 mm	P
①	The distance between the engagement face and the cord or cord guard, if any, shall be at least 14 mm	14 mm min.	18,4 mm	P
②	Within this distance (5 mm), the outline shall be not smaller than the engagement face		Compliance checked.	P
③	Within this distance (13.5 mm), the outline shall be not larger than the engagement face		All dimension measurements of items A, B and C were within the requirements, so the compliances were deemed fulfilled.	P
④	Insulating sleeves on the current-carrying pins are optional		No insulating sleeves	P
⑤	The external diameter of the insulating sleeves shall not be larger than the diameter of the uninsulated part of the pins		No insulating sleeves	P
⑥	To avoid damage to shutters, the ends of the pins shall show neither sharp edges nor burrs. They shall be of rounded shape as shown		Neither sharp edges nor burrs.	P
⑦	The angle of 90° represents the maximum permissible area for the orientation of the entry of the flexible cable or cord		No cord used.	P

NBR 14136/02 (Partial)

Clause	Requirement – Test	Result – Remark	Verdict
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FIGURE 13 -
2 poles without earthing contact (for class II equipment) until 10A, 250V~

