



Test Report issued under the responsibility of:



## TEST REPORT

IEC 60950-1

### Information technology equipment – Safety – Part 1: General requirements

Report Number..... : T223-0584/18

Date of issue..... : 2018-12-17

Total number of pages ..... : 268 pages

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

Address..... : 186 Veterans Dr Northvale, NJ 07647 / USA

#### Test specification:

Standard ..... : IEC 60950-1:2005 (2<sup>nd</sup> Ed.) + A1:2009 + A2:2013

Test procedure ..... : CB Scheme

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

Test Report Form No. .... : IEC60950\_1F

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

Master TRF ..... : Dated 2014-02

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

#### General disclaimer:

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

This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

<b>Test item description</b> ..... :	Direct plug in ac/dc adaptor with exchangeable plugs	
<b>Trade Mark</b> ..... :	 <b>GlobTek, Inc.</b>	
<b>Manufacturer</b> .....	GlobTek Inc. 186 Veterans Dr Northvale, NJ 07647 / USA	
<b>Model/Type reference</b> .....	GTM41076-WWVV-X.X (nomenclature – see pages 7)	
<b>Ratings</b> .....	See pages 7 and 8	
<b>Testing procedure and testing location:</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	SIQ Ljubljana  SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number LP-009 in the field of testing
<b>Testing location/ address</b> ..... :		Tržaška c. 2, SI-1000 Ljubljana Slovenia
<input type="checkbox"/>	<b>Associated CB Testing Laboratory:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name + signature)</b> .....		Rok Štampohar 
<b>Approved by (name + signature)</b> .....		Janez Vidmar 
<input type="checkbox"/>	<b>Testing procedure: TMP/CTF Stage 1:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name + signature)</b> .....		
<b>Approved by (name + signature)</b> .....		
<input type="checkbox"/>	<b>Testing procedure: WMT/CTF Stage 2:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name + signature)</b> .....		
<b>Witnessed by (name + signature)</b> ..... :		
<b>Approved by (name + signature)</b> .....		
<input type="checkbox"/>	<b>Testing procedure: SMT/CTF Stage 3 or 4:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name + signature)</b> .....		
<b>Witnessed by (name + signature)</b> ..... :		
<b>Approved by (name + signature)</b> .....		
<b>Supervised by (name + signature)</b> .....		

**List of Attachments:**

1. Test Report (81 pages)
2. National Differences – Enclosure No. 1 (46 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 (11 pages)
5. Schematics, Layouts, Transformer data - Enclosure No. 3 (20 pages)
6. UL 1310 Test report, Plug dimensions, Plug reports – Enclosure No. 4 (89 pages)

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

**1.6.2 Input Test**  
**1.7.11 Durability**  
**2.1.1.5 Energy Hazard Measurements**  
**2.1.1.7 Capacitance Discharge Test**  
**2.2.2 SELV: Hazard Voltage (Circuit) Measurement Test**  
**2.2.3 SELV Reliability testing**  
**2.4 Limited Current Circuit (Bridging components)**  
**2.5 Limited Power Source**  
**2.9.2 Humidity Test**  
**2.10.2 Working Voltage measurement on PCB and Transformer**  
**2.10.3/2.10.4 Clearance and Creepage distance measurement**  
**2.10.5 Distance Through Insulation measurement**  
**2.10.5.6 Thin Sheet Material (barriers)**  
**4.2.2-4.2.4 Steady force test, 10 N, 250 N**  
**4.2.6 Drop test**  
**4.2.7 Stress relief test; heat test (°C/7 h)**  
**4.3.6 Torque Test for direct plug in Products.**  
**Dimensions of the plugs**  
**4.5.2 Heating (Temperature) Test**  
**4.5.5 Resistance to abnormal heat (Ball pressure test)**  
**5.1 Touch Current and protective conductor current**  
**5.2 Electric Strength Test**  
**5.3 Abnormal Operating Tests foreseeable**

**Testing location:**

**SIQ Ljubljana**  
**Tržaška cesta 2, SI-1000 Ljubljana,**  
**Slovenia**

**Revision 4:**

**SIQ Ljubljana**  
**Mašera-Spasičeva ulica 10,**  
**SI-1000 Ljubljana, Slovenia**

**misuse:**

**SELV reliability and failure in the voltage regulation,  
Functional insulation, Component faults, Overload and  
short and no load at the outputs**

## 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, Libya\*\*, 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 (2<sup>nd</sup> edition) (+ A1 + A2) declared

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

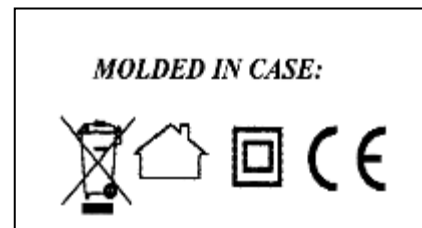
\*\*\* EU group differences

☒ **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.



<b>Test item particulars.....:</b>	
<b>Equipment mobility.....:</b>	<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
<b>Connection to the mains .....</b>	<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
<b>Operating condition.....:</b>	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
<b>Access location .....</b>	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
<b>Over voltage category (OVC) .....</b>	<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:
<b>Mains supply tolerance (%) or absolute mains supply values .....</b>	+/- 10% or 90 – 264 Va.c.
<b>Tested for IT power systems .....</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>IT testing, phase-phase voltage (V) .....</b>	
<b>Class of equipment .....</b>	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
<b>Considered current rating of protective device as part of the building installation (A) .....</b>	16
<b>Pollution degree (PD) .....</b>	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
<b>IP protection class .....</b>	IP20
<b>Altitude during operation (m) .....</b>	4000
<b>Altitude of test laboratory (m) .....</b>	300
<b>Mass of equipment (kg) .....</b>	0,135

<b>Possible test case verdicts:</b>	
- test case does not apply to the test object ..... : N/A	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement..... : F (Fail)	
<b>Testing .....</b>	
<b>Date of receipt of test item .....</b>	2006-11-30; 2012-08-02 (Rev. No. 2); 2018-09-24 (Rev. no. 3)
<b>Date(s) of performance of tests .....</b>	From 2011-09-20 to 2011-10-04 (Rev. No. 1.0); from 2012-08-03 to 2012-08-28 (Rev. No. 2.0); from 2018-11-13 to 2018-11-14 (Rev. No. 4.0)
<b>General remarks:</b>	
"(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).....:** GlobTek, Inc.  
186 Veterans Drive Northvale, NJ 07647, USA  
  
GlobTek (Suzhou) Co., Ltd  
Building 4, No. 76, Jinling East Road, Suzhou  
Industrial Park, Jiangsu 215021, China

**General product information:** Direct plug in ac/dc adaptor with exchangeable plugs

**Information about the Product:**

The power supply is a switch mode power supply with .....

**Nomenclature:**

GTM41076-WWVV-X.X

Where:

41076 denotes series code

WW denotes rated power

VV denotes rated output voltage between 5Vdc and 30Vdc.

-X.X is optional or blank and denotes voltage differentiator (subtracting X.X Volts from standard output voltage in 0,1 V increments).

Rated output power of the series is 6 W

Maximum rated output current is 1,2 A.

Maximum rated output voltage is 30 Vdc.

Ratings:

Model Name:	Input ratings:	Output ratings:
GTM41076-0605	100-240 Vac; 50-60 Hz; 160-100 mA	5,0 Vd.c.; 1,2 A
GTM41076-0606-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	6,0 Vd.c.; 1,0 A
GTM41076-0607-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	7,0 Vd.c.; 0,85 A
GTM41076-0609-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	9,0 Vd.c.; 0,66 A
GTM41076-0612-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	12,0 Vd.c.; 0,5 A
GTM41076-0615-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	15,0 Vd.c.; 0,4 A
GTM41076-0618-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	18,0 Vd.c.; 0,33 A
GTM41076-0620-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	20,0 Vd.c.; 0,3 A

GTM41076-0624-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	24,0 Vd.c.; 0,25 A
GTM41076-0630-X.X	100-240 Vac; 50-60 Hz; 160-100 mA	30,0 Vd.c.; 0,16 A

#### Explanation of the test program:

The component was tested according to the standard IEC 60950-1:2005 (2nd Edition) + A1:2009 + A2:2013 and/or EN 60950-1:2006 + A1:2010 + A2:2013 + A11:2009 + A12:2011.

Additionally the component was also evaluated according to the standards CSA C22.2 No. 60950-1:2007 + A1:2011 + A2:2014 and UL60950-1:2007 (2<sup>nd</sup> Edition) + A1:2011 + A2:2014 and fulfils the requirements of these standards.

1. The products were tested on a 20 A (USA) and a 16 A (IEC) branch circuit in series. External circuit breaker did not open during the testing. The unit is approved for TN mains star connections. The unit provides internally one fuse in neutral and one fuse in phase.
2. The adaptor complies with requirements for reinforced Insulation between primary to secondary. Transformer T1 is build up to fulfil requirements of reinforced insulation primary to secondary and is rated class B. Transformers provide UL insulation system OBJ2 class B
3. The product provides exchangeable input plugs for direct plug in. Plug is considered disconnect device.
4. The unit is a direct plug in equipment.
5. The adaptors also passed the requirements for NEC class II according to UL1310.
6. The adaptor outputs are rated SELV, non-hazardous energy level and limited power circuit.
7. The maximum working voltages are 267 Vrms; 552 Vpk.
8. The plugs (EU, UK, US and Australia) were reviewed.
9. The product was evaluated for a maximum ambient of 40°C. The temperature test was performed with unit in vertical and horizontal position without forced air cooling
10. Injection part of the European plug is in accordance with the requirement of EN 50075 standard (see enclosed plug test report), injection part of the Australian / New Zealand plug is in accordance with the requirement of AS/NZS 3112 standard (see enclosed test report for details). Other plugs not part of the evaluation. All relevant tests for plug portion should be evaluated during national approval.
11. Attached is report according to standard UL 1310

#### **Information for Production testing to be done by the manufacturer:**

##### Dielectric Testing:

Primary to secondary: 1500 Vac, 1 sec.

Primary to enclosure: 1500 Vac, 1 sec.

The transformers with reinforced insulation have to be tested by itself with 3000 Vac primary to secondary and marked with a stamp accordingly.

##### History Sheet:

Date	Report No.	Change/Modification	Rev. No.
2006-11-30	T223-0338/06	Initial Test Report issued.	—
2011-10-04	T223-0323/11	The initial Test Report was updated according to IEC 60950-1:2005 (2nd Edition) + Am 1:2009 and/or EN 60950-1:2006 + Am	1.0

		1:2010 + Am 11:2009 + Am 12:2011. No constructional changes on the product. No additional tests required.	
2012-10-01	T223-0350/12	Power supply unit additionally evaluated for up to 4.000 meters altitude.  Extension humidity treatment performed (120 hours, 40°C, 93% RH) on cover Singapore deviations.  After review, the following tests were considered necessary: - Humidity treatment (120 hours, 40°C, 93% RH) - Dielectric strength test (after extension humidity treatment) - Review of clearance and creepage distances - Update list of critical components	2.0
2018-10-16	T223-0525/18	Revision of the report: - test report updated to latest standard edition including amendment A2 - Latest AUS plug report added into List of critical components No other additional tests performed.	3.0
2018-12-17	T223-0584/18	Revision of the report: - Latest AUS deviations added - Latest AUS plug report added into List of critical components - Heating test and output overload test performed on 30V output unit	4.0

Additional information for the follow up engineer: /

#### Abbreviations used in the report:

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

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>1</b>	<b>GENERAL</b>		<b>P</b>
<b>1.5</b>	<b>Components</b>		<b>P</b>
1.5.1	General		<b>P</b>
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1)	<b>P</b>
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>	<b>P</b>
1.5.3	Thermal controls	No thermal controls.	<b>N/A</b>
1.5.4	Transformers	(see list of safety critical components table 1.5.1 and the transformer drawings in the Enclosure No. 3)	<b>P</b>
1.5.5	Interconnecting cables		<b>P</b>
1.5.6	Capacitors bridging insulation	Reinforced insulation is bridged by a single capacitor rated Y1. Capacitor separately certified ref. List of Critical Components. Circuit complies with 2.4.	<b>P</b>
1.5.7	Resistors bridging insulation		<b>N/A</b>
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		<b>N/A</b>
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		<b>N/A</b>
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.	<b>N/A</b>
1.5.8	Components in equipment for IT power systems	Unit not tested for connection to IT power system.	<b>N/A</b>
1.5.9	Surge suppressors		<b>P</b>

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.1	General	Surge suppressors comply with Annex Q.	P
1.5.9.2	Protection of VDRs	Fuse in Line and Neutral is protecting VDR.	P
1.5.9.3	Bridging of functional insulation by a VDR	Surge suppressors connected Line to Neutral comply with IEC 61051-2.	P
1.5.9.4	Bridging of basic insulation by a VDR	VDR is not used to bridge basic insulation.	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

<b>1.6</b>	<b>Power interface</b>		<b>P</b>
1.6.1	AC power distribution systems	TN	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. Phase conductor separated to body by reinforced insulation.	P

<b>1.7</b>	<b>Marking and instructions</b>		<b>P</b>
1.7.1	Power rating and identification markings	The required marking is located on the outside surface of the equipment.	P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V) .....	100-240 Vac	P
	Symbol for nature of supply, for d.c. only .....	AC input voltage only	N/A
	Rated frequency or rated frequency range (Hz) .....	50-60 Hz	P
	Rated current (mA or A) .....	160-100 mA	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark .....	GlobTek Inc	P
	Model identification or type reference .....	GTM41076-WWVV-X.X	P
	Symbol for Class II equipment only .....	Class II symbol (IEC 60417-1, symbol No. 5172) is applied to the label.	P
	Other markings and symbols .....	For indoor use only.	P
1.7.1.3	Use of graphical symbols		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2	Safety instructions and marking		N/A
1.7.2.1	General	No precautions are necessary.	N/A
1.7.2.2	Disconnect devices	Disconnect device provided as part of the equipment.	P
1.7.2.3	Overcurrent protective device	Unit provides appropriate overcurrent protective device inside the equipment.	P
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool	All areas containing hazard(s) are inaccessible to the operator.	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 (Power supply has a wide range input circuit).	N/A
	Methods and means of adjustment; reference to installation instructions .....		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) .....	Fuse identification is marked adjacent to the fuse on the PCB.	P
1.7.7	Wiring terminals	Direct plug in equipment.	P
1.7.7.1	Protective earthing and bonding terminals .....	Class II Equipment	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	The equipment is not permanently connected or provided with a non-detachable power supply cord.	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		N/A
1.7.8.1	Identification, location and marking .....		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



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.9	Isolation of multiple power sources .....	Only one connection supplying hazardous voltages and energy levels to the equipment.	N/A
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
<b>2</b>	<b>PROTECTION FROM HAZARDS</b>		<b>P</b>
<b>2.1</b>	<b>Protection from electric shock and energy hazards</b>		<b>P</b>
2.1.1	Protection in operator access areas	There is adequate protection against operator contact with bare parts at ELV or hazardous voltage or parts separated from these with basic or functional insulation only (except protective earth), also after operator detachable parts are removed and doors and covers are opened.	<b>P</b>
2.1.1.1	Access to energized parts	The outputs provide non hazardous energy.	<b>P</b>
	Test by inspection .....	Verified.	<b>P</b>
	Test with test finger (Figure 2A) .....	Verified.	<b>P</b>
	Test with test pin (Figure 2B) .....	Verified.	<b>P</b>
	Test with test probe (Figure 2C) .....	No TNV circuit.	<b>N/A</b>
2.1.1.2	Battery compartments	No battery compartment.	<b>N/A</b>
2.1.1.3	Access to ELV wiring	No ELV wiring.	<b>N/A</b>
	Working voltage ( $V_{peak}$ or $V_{rms}$ ); minimum distance through insulation (mm)	(see appended table 2.10.5)	—
2.1.1.4	Access to hazardous voltage circuit wiring	All accessible parts are separated from internal wiring at hazardous voltage by double or reinforced insulation.	<b>P</b>
2.1.1.5	Energy hazards .....	Outputs $\leq 240$ VA (see appended table 2.1.1.5 )	<b>P</b>
2.1.1.6	Manual controls	No shafts of knobs etc. at ELV or hazardous voltage.	<b>N/A</b>
2.1.1.7	Discharge of capacitors in equipment	The capacitance of the input circuit is $> 0,1\mu F$ . The measurements were performed in worst-case condition.	<b>P</b>
	Measured voltage (V); time-constant (s) .....	Less than 1 sec ( refer to enclosed table 2.1.1.7)	—
2.1.1.8	Energy hazards – d.c. mains supply	Unit not connected to DC mains.	<b>N/A</b>
	a) Capacitor connected to the d.c. mains supply ...:		<b>N/A</b>
	b) Internal battery connected to the d.c. mains supply .....		<b>N/A</b>

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.9	Audio amplifiers .....	No audio amplifier within the unit.	N/A
2.1.2	Protection in service access areas	No service access area.	N/A
2.1.3	Protection in restricted access locations		N/A

<b>2.2</b>	<b>SELV circuits</b>		<b>P</b>
2.2.1	General requirements	SELV limits (at accessible parts) are not exceeded under normal condition and after a single fault.	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 .....	SELV circuits are only connected to limited current circuits.	P

<b>2.3</b>	<b>TNV circuits</b>		<b>N/A</b>
2.3.1	Limits	No TNV circuits in the equipment.	N/A
	Type of TNV circuits.....		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .....		N/A
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

<b>2.4</b>	<b>Limited current circuits</b>		<b>P</b>
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Clause	Requirement + Test	Result - Remark	Verdict
2.4.1	General requirements	The component CY1 is bridging primary to secondary was considered as limited current circuit (see enclosed test table)	P
2.4.2	Limit values	See appended table 2.4.	P
	Frequency (Hz) .....		—
	Measured current (mA).....		—
	Measured voltage (V) .....		—
	Measured circuit capacitance (nF or $\mu$ F) .....		—
2.4.3	Connection of limited current circuits to other circuits		N/A

<b>2.5</b>	<b>Limited power sources</b>		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	Output of the unit was considered as limited power source.	P
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output	See appended table 2.5.	—
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :		—
	Current rating of overcurrent protective device (A) ::		—

<b>2.6</b>	<b>Provisions for earthing and bonding</b>		N/A
2.6.1	Protective earthing	Class II	N/A
2.6.2	Functional earthing	No functional earthing is provided.	N/A
	Use of symbol for functional earthing .....		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area ( $\text{mm}^2$ ), AWG .....		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area ( $\text{mm}^2$ ), AWG .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG..... :		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance ( $\Omega$ ), voltage drop (V), test current (A), duration (min) .....		N/A
2.6.3.5	Colour of insulation .....		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)..... :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

<b>2.7</b>	<b>Overcurrent and earth fault protection in primary circuits</b>		<b>P</b>
2.7.1	Basic requirements	Protective devices are integrated in the equipment, see also Sub-clause 5.3.	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		P
2.7.4	Number and location of protective devices .....	Two fuses each one in line and neutral.	P
2.7.5	Protection by several devices	Fuses are located in proximity to each other.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.7.6	Warning to service personnel..... :	Unit is direct plug-in with molded case and not intended to be opened and repaired. No warning is required.	N/A

<b>2.8</b>	<b>Safety interlocks</b>		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	No 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	(see appended table 5.2)	N/A
2.8.8	Mechanical actuators		N/A

<b>2.9</b>	<b>Electrical insulation</b>		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		P
	Relative humidity (%), temperature (°C) .....	Humidity treatment performed for 48h at 91-95%.	—
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).	—

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Clause	Requirement + Test	Result - Remark	Verdict

<b>2.10</b>	<b>Clearances, creepage distances and distances through insulation</b>		<b>P</b>
2.10.1	General		P
2.10.1.1	Frequency ..... :	50-60 Hz	P
2.10.1.2	Pollution degrees ..... :	Pollution degree 2	P
2.10.1.3	Reduced values for functional insulation	Functional insulation Line to Neutral before fuse complies with 2.10.3 & 2.10.4. Other functional insulations comply with 5.3.4 c).	P
2.10.1.4	Intervening unconnected conductive parts	Distance to unconnected conductive parts considered during evaluation of clearances and creepage distances.	P
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 (2500Vpeak)	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	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.3.6	Transients from a.c. mains supply ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.7	Transients from d.c. mains supply .....	Unit not intended for connection to telecommunication network or cable distribution system.	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
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	Approved optical insulators are used. See list of critical components.	P
2.10.5.5.	Cemented joints	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.5.6	Thin sheet material – General		P
2.10.5.7	Separable thin sheet material	Transformer is wrapped with two layers of insulating tape.	P
	Number of layers (pcs) .....	2 layers	—
2.10.5.8	Non-separable thin sheet material	No such insulation.	N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test	(see appended table 2.10.5)	—



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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.11	Insulation in wound components	Transformers provided with triple insulated wire on secondary complying with 2.10.5.12.	P
2.10.5.12	Wire in wound components	Approved triple insulated wire is used inside transformers. See list of critical components.	P
	Working voltage .....	See appended table 2.10.2.	P
	a) Basic insulation not under stress .....		P
	b) Basic, supplementary, reinforced insulation .....		P
	c) Compliance with Annex U .....	TIW wire is separately approved. It was verified but no additional tests performed.	P
	Two wires in contact inside wound component; angle between 45° and 90° .....	No contact between 45° and 90.	P
2.10.5.13	Wire with solvent-based enamel in wound components	No TNV circuits.	N/A
	Electric strength test	(see appended table 2.10.5)	—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage .....		N/A
	- Basic insulation not under stress .....		N/A
	- Supplementary, reinforced insulation .....		N/A
2.10.6	Construction of printed boards		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	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation	(see appended table 2.10.5)	N/A
	Number of insulation layers (pcs).....		N/A
2.10.7	Component external terminations	(see appended table 2.10.3 and 2.10.4)	P
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.8.3	Electric strength test	(see appended table 5.2)	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

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Clause	Requirement + Test	Result - Remark	Verdict

<b>3</b>	<b>WIRING, CONNECTIONS AND SUPPLY</b>		<b>P</b>
<b>3.1</b>	<b>General</b>		<b>P</b>
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring.	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	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulation.	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	Thread-cutting or space thread screws are not used for electrical connections.	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	Performed to the following conductors near termination point. - output wire.	P
3.1.10	Sleeving on wiring	Sleeves are not used as supplementary insulation.	N/A

<b>3.2</b>	<b>Connection to a mains supply</b>		<b>P</b>
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

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords	Power supply cord is not provided with the equipment, refer to Summary of Testing.	N/A
	Type .....		—
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....		—
	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) .....		—
	Radius of curvature of cord (mm) .....		—
3.2.9	Supply wiring space		N/A
<b>3.3</b>	<b>Wiring terminals for connection of external conductors</b>		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 <sup>2</sup> ) .....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) .....		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
<b>3.4</b>	<b>Disconnection from the mains supply</b>		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.1	General requirement	The plug is used as disconnect device.	P
3.4.2	Disconnect devices		P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which 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		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
<b>3.5</b>	<b>Interconnection of equipment</b>		<b>P</b>
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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		<b>P</b>
<b>4.1</b>	<b>Stability</b>		<b>P</b>
	Angle of 10°	Unit is for direct plug-in.	N/A
	Test force (N) ..... :		N/A

<b>4.2</b>	<b>Mechanical strength</b>		<b>P</b>
4.2.1	General		<b>P</b>
	Rack-mounted equipment.	(see Annex DD)	N/A
4.2.2	Steady force test, 10 N	No hazard. See appended table 4.2.2.	<b>P</b>
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 is performed at 250 N.	<b>P</b>
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) ..... :	Direct plug-in unit. No hazard after 1 m drop.	<b>P</b>
4.2.7	Stress relief test	Test is carried out at 95°C / 7h. No risk of shrinkage or distortion of enclosures due to release of internal stresses.	<b>P</b>
4.2.8	Cathode ray tubes	No cathode ray tubes.	N/A
	Picture tube separately certified ..... :	(see separate test report or attached certificate)	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

<b>4.3</b>	<b>Design and construction</b>		<b>P</b>
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed.	<b>P</b>
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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.5	Connection by plugs and sockets		P
4.3.6	Direct plug-in equipment	< 0,1 Nm	—
	Torque .....		—
	Compliance with the relevant mains plug standard .....	Dimension of the injection part of the European plug is in accordance with the requirement of EN 50075 standard. See also National differences.	P
4.3.7	Heating elements in earthed equipment		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	No containers for liquids or gases in the equipment.	N/A
4.3.12	Flammable liquids .....		N/A
	Quantity of liquid (l) .....		N/A
	Flash point (°C) .....		N/A
4.3.13	Radiation		N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....		—
	Measured high-voltage (kV) .....		—
	Measured focus voltage (kV) .....		—
	CRT markings .....		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification .....		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.5	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class .....		—
4.3.13.5.2	Light emitting diodes (LEDs)		N/A
4.3.13.6	Other types .....		N/A

<b>4.4</b>	<b>Protection against hazardous moving parts</b>		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	(see Annex EE)	N/A
4.4.3	Protection in restricted access locations .....		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a).....		N/A
	Is considered to cause pain, not injury. b) .....		N/A
	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

<b>4.5</b>	<b>Thermal requirements</b>		P
4.5.1	General		P
4.5.2	Temperature tests		P
	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 .....	It has been determined from examination of the physical characteristics of the materials used that the material meets the requirements of the test.	P

<b>4.6</b>	<b>Openings in enclosures</b>		P
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Clause	Requirement + Test	Result - Remark	Verdict
4.6.1	Top and side openings		P
	Dimensions (mm) .....:	The unit is constructed with no opening.	
4.6.2	Bottoms of fire enclosures		P
	Construction of the bottommm, dimensions (mm) ...:		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....:		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks) .....:		—
<b>4.7</b>	<b>Resistance to fire</b>		<b>P</b>
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials	Using of materials with adequate flammability class (see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests	(see appended table 5.3)	N/A
4.7.2	Conditions for a fire enclosure	The unit provide fire enclosure.	P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure is required to cover all parts.	P
4.7.2.2	Parts not requiring a fire enclosure	The fire enclosure is required to cover all parts.	P
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	(see appended table 1.5.1)	P
4.7.3.3	Materials for components and other parts outside fire enclosures	PVC insulated output cable.	P
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.	P
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>5</b>	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		<b>P</b>
<b>5.1</b>	<b>Touch current and protective conductor current</b>		<b>P</b>
5.1.1	General		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	Measuring instrument D1 was used.	P
5.1.5	Test procedure		P
5.1.6	Test measurements		P
	Supply voltage (V) .....	264 Va.c.	—
	Measured touch current (mA) .....	(see appended table 5.1)	—
	Max. allowed touch current (mA) .....	0,25 mA to unearthed accessible parts (output)	—
	Measured protective conductor current (mA) .....		—
	Max. allowed protective conductor current (mA)...	Class II	—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General .....		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....		—
	Measured touch current (mA) .....		—
	Max. allowed touch current (mA) .....		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

<b>5.2</b>	<b>Electric strength</b>		<b>P</b>
5.2.1	General	(see appended table 5.2) Based on the electric strength test the use of the insulating materials within the equipment is satisfactory	<b>P</b>
5.2.2	Test procedure	No insulation breakdown detected during the test	<b>P</b>

<b>5.3</b>	<b>Abnormal operating and fault conditions</b>		<b>P</b>
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	<b>P</b>
5.3.2	Motors	(see appended Annex B)	<b>N/A</b>
5.3.3	Transformers	(see appended Annex C)	<b>P</b>
5.3.4	Functional insulation.....:		<b>P</b>
5.3.5	Electromechanical components		<b>N/A</b>
5.3.6	Audio amplifiers in ITE .....	See separate test report IEC/EN 60065.	<b>N/A</b>
5.3.7	Simulation of faults		<b>N/A</b>
5.3.8	Unattended equipment	The unit is intended for continuous operation. There is no thermal sensor or cut-off for operational condition.	<b>N/A</b>
5.3.9	Compliance criteria for abnormal operating and fault conditions		<b>P</b>
5.3.9.1	During the tests	No flame, melted metal, no fire- cheese cloth on top and tissue paper on bottom remain clean.	<b>P</b>
5.3.9.2	After the tests	The tested units passed the electric strenght test.	<b>P</b>

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Clause	Requirement + Test	Result - Remark	Verdict

<b>6</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		N/A
<b>6.1</b>	<b>Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment</b>		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	(see appended table 5.2)	N/A
	Supply voltage (V) .....		—
	Current in the test circuit (mA) .....		—
6.1.2.2	Exclusions .....		N/A

<b>6.2</b>	<b>Protection of equipment users from overvoltages on telecommunication networks</b>		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

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

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Clause	Requirement + Test	Result - Remark	Verdict

<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		N/A
<b>7.1</b>	<b>General</b>		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	(see appended table 5.2)	N/A
7.4.3	Impulse test	(see appended table 5.2)	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>A</b>	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		N/A
<b>A.1</b>	<b>Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)</b>	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).....		—
<b>A.2</b>	<b>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)</b>		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).....		—
<b>A.3</b>	<b>Hot flaming oil test (see 4.6.2)</b>		N/A
A.3.1	Mounting of samples		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
<b>B</b>	<b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>		N/A
<b>B.1</b>	<b>General requirements</b>	No motors	N/A
	Position .....		—
	Manufacturer .....		—
	Type .....		—
	Rated values .....		—
<b>B.2</b>	<b>Test conditions</b>		N/A
<b>B.3</b>	<b>Maximum temperatures</b>	(see appended table 5.3)	N/A
<b>B.4</b>	<b>Running overload test</b>	(see appended table 5.3)	N/A
<b>B.5</b>	<b>Locked-rotor overload test</b>		N/A
	Test duration (days) .....		—
	Electric strength test: test voltage (V) .....		—
<b>B.6</b>	<b>Running overload test for d.c. motors in secondary circuits</b>		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>B.7</b>	<b>Locked-rotor overload test for d.c. motors in secondary circuits</b>		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>B.8</b>	<b>Test for motors with capacitors</b>	(see appended table 5.3)	N/A
<b>B.9</b>	<b>Test for three-phase motors</b>	(see appended table 5.3)	N/A
<b>B.10</b>	<b>Test for series motors</b>		N/A
	Operating voltage (V) .....		—
<b>C</b>	<b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		P
	Position .....	Primary to secondary	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Manufacturer .....	See list of critical components	—
	Type .....	Switch mode	—
	Rated values .....	240 Vac/ SELV	—
	Method of protection .....	Primary current limitation	P
<b>C.1</b>	<b>Overload test</b>	(see appended table 5.3)	P
<b>C.2</b>	<b>Insulation</b>	(see appended table 5.2)	P
	Protection from displacement of windings .....	Use of triple insulated wire (secondary) does not require special precaution. On primary margin tape is used for protection of displacement.	P
<b>D</b>	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		P
<b>D.1</b>	<b>Measuring instrument</b>	Measuring instrument D1 was used.	P
<b>D.2</b>	<b>Alternative measuring instrument</b>		P
<b>E</b>	<b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>		N/A
<b>F</b>	<b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b>		P
<b>G</b>	<b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>		N/A
<b>G.1</b>	<b>Clearances</b>		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
<b>G.2</b>	<b>Determination of mains transient voltage (V)</b>		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
<b>G.3</b>	<b>Determination of telecommunication network transient voltage (V) .....</b>		N/A
<b>G.4</b>	<b>Determination of required withstand voltage (V)</b>		N/A
G.4.1	Mains transients and internal repetitive peaks .....		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
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
<b>G.5</b>	<b>Measurement of transient voltages (V)</b>		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
<b>G.6</b>	<b>Determination of minimum clearances .....</b>		N/A
<b>H</b>	<b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>		N/A
<b>J</b>	<b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b>		N/A
	Metal(s) used .....		—
<b>K</b>	<b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b>		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) .....		N/A
K.3	Thermostat endurance test; operating voltage (V) .....		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation	(see appended table 5.3)	N/A
<b>L</b>	<b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b>		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

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Clause	Requirement + Test	Result - Remark	Verdict

<b>M</b>	<b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
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

<b>N</b>	<b>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)</b>		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

<b>P</b>	<b>ANNEX P, NORMATIVE REFERENCES</b>		—
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<b>Q</b>	<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>		P
	a) Preferred climatic categories .....	Minimum climatic category -10 to +85°C; min. 21 days damp heat steady state test.	P
	b) Maximum continuous voltage .....	300 V.a.c.	P
	c) Combination pulse current .....	Min. 6kV/3kA pulse 1,2/50 µs	P
	Body of the VDR Test according to IEC60695-11-5.....		N/A
	Body of the VDR. Flammability class of material ( min V-1).....	Min. UL94 V-1	P

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Clause	Requirement + Test	Result - Remark	Verdict
<b>R</b>	<b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		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
<b>S</b>	<b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
<b>T</b>	<b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		N/A
		See separate test report	—
<b>U</b>	<b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		P
		See list of critical components. All used triple insulated wires are already approved to Annex U. No additional tests considered required.	—
<b>V</b>	<b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>		P
V.1	Introduction		P
V.2	TN power distribution systems		P
<b>W</b>	<b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>		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

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Clause	Requirement + Test	Result - Remark	Verdict
<b>X</b>	<b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>		P
X.1	Determination of maximum input current	Input current was measured and recorded (see appended table 5.3).	P
X.2	Overload test procedure		P
<b>Y</b>	<b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>		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
<b>Z</b>	<b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>		N/A
<b>AA</b>	<b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>		N/A
<b>BB</b>	<b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>		—
<b>CC</b>	<b>ANNEX CC, Evaluation of integrated circuit (IC) current limiters</b>		N/A
CC.1	General		N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		N/A
<b>DD</b>	<b>ANNEX DD, Requirements for the mounting means of rack-mounted equipment</b>		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
<b>EE</b>	<b>ANNEX EE, Household and home/office document/media shredders</b>		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Use of markings or symbols.....:		N/A
	Information of user instructions, maintenance and/or servicing instructions.....:		N/A
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A) .....:		N/A
	Test with wedge probe (Figure EE1 and EE2) .....:		N/A

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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 <sup>1)</sup>	
Enclosure (electrical, mechanical, fire)	+ SABIC Innovative Plastics	SE1X	Min. 94V-1 at min. 1,5 mm thickness  Overall approx. 74 by 43,5 by 34 mm  Min. 2,0 mm thick 105°C	IEC/EN 60950- 1  (QMFZ2)	Accepted  UL E45329	
	+ SABIC Innovative Plastics	C2950	Min. 94V-1 at min. 1,5 mm thickness  Overall approx. 74 by 43,5 by 34 mm  Min. 2,0 mm thick 75°C	IEC/EN 60950- 1  (QMFZ2)	Accepted  UL E45329	
	+ Chi Mei Corporation	PA-765A	Min. 94V-1 at min. 1,5 mm thickness  Overall approx. 74 by 43,5 by 34 mm  Min. 2,0 mm thick 80°C	IEC/EN 60950- 1  (QMFZ2)	Accepted  UL E56070	
	+ Teijin Chemical Ltd.	LN-1250G LN-1250P	Min. 94V-1 at min. 1,5 mm thickness  Overall approx. 74 by 43,5 by 34 mm  Min. 2,0 mm thick 125°C	IEC/EN 60950- 1  (QMFZ2)	Accepted  UL E50075	
	+ SABIC Innovative Plastics	CX7211(GG) , EXCY0098( GG)	Min. 94V-1 at min. 1,25 mm thickness  Overall approx. 74 by 43,5 by 34 mm  Min. 2,0 mm thick 85°C	IEC/EN 60950- 1  (QMFZ2)	Accepted  UL E45329	
Exchangeable input blade EU	GlobTek, Inc.	Q-EU	250 Vac / 2,5 A	EN 50075	NEMKO	

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 <sup>1)</sup>
Exchangeable input blade EU (material)	+ SABIC Innovative Plastics	SE1X	Min 94V-1 Min. 105°C Dimensions according to EN 50075.  Blade top: copper, brass or bronze.	IEC/EN 60950- 1 (QMFZ2)	Accepted  UL E45329
Exchangeable input blade Australia	GlobTek, Inc.	Q-SAA	250 Vac / 2,5 A	AS/NZS 3112	HARVEST Laboratories
Exchangeable input blade Australia – Rev. No. 3.0	GlobTek, Inc.	GTM41076- WWVV-X.X	100-250 V~; 50-60 Hz; 0,16-0,1 A	AS/NZS 3112:2017	Bay Area Compliance Laboratories Corp. (Dongguan): Report reference No. RKSA1806060 50-SA
Exchangeable input blade Australia – Rev. No. 4.0	GlobTek, Inc.	GTM41076- 06VV-X.X	100-250 V~; 50-60 Hz; 0,16-0,1 A	AS/NZS 3112:2017	Bay Area Compliance Laboratories Corp. (Dongguan): Report reference No. RKSA1806060 50-SA-M1
Exchangeable input blade Australia (material)	+ SABIC Innovative Plastics	SE1X	Min 94V-1 Min. 105°C Dimensions according to AS/NZ 3112.  Solid copper, brass or bronze  2 blade configuration.	IEC/EN 60950- 1 (QMFZ2)	Accepted  UL E45329

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 <sup>1)</sup>
Exchangeable input blade US (material)	+ SABIC Innovative Plastics	SE1X	Min 94V-1 Min. 105°C Dimensions according to UL 1310. Solid copper, brass or bronze 2 blade configuration.	IEC/EN 60950- 1 (QMFZ2)	Accepted  UL E45329
Blade holder	+ SABIC Innovative Plastics	SE1X	Min. 94V-1 Min. 1,5 mm thick Min. 105°C	IEC/EN 60950- 1 (QMFZ2)	Accepted  UL E45329
Output cable with moulded connector and strain relief	Various	UL2468, SPT-1, SPT- 2, 1185, 2464	Min. 20 AWG; VW-1; Min. 80°C Min. 300V One conductor and shield or two conductor minimum; polarized connector or open ends.	IEC/EN 60950- 1 (AVLV2)	Accepted  UR E205058
Overall internal view of the unit:					
PCB	Various	Various	Paper phenolic, paper epoxy or glass epoxy. Overall approx. 67,8 by 35,7 by 1,6 mm Min 94V-1 Min. 105°C	(ZPMV2)	UL approved
Fuse (F1, F2)	+ Walter	2010	Time delay 1A / 250 Vac Soldered to PCB 8,5 x 4 mm	IEC/EN 60127 (JDYX2)	VDE 40018781  UL E56092
	Conquer	MST	Time delay 1A / 250 Vac Soldered to PCB 8,5 x 4 mm	IEC/EN 60127 (JDYX2)	VDE 40017118  UL E82636



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 <sup>1)</sup>
	Cooper Bussmann	SS-5	Time delay 1A / 250 Vac Soldered to PCB 8,5 x 4 mm	IEC/EN 60127 (JDYX2)	VDE 40031800  UL E19180
Varistor (ZNR) (line to line)	Success Electronics	SVR10D471 K	300 Vrms; 385 Vdc 3,5 kA, 8/20 µs diameter: 10 mm	IEC/EN 61051- 2 IEC/EN 60950- 1, Annex Q (VZCA2)	VDE 40030401  UL E330256
	Success Electronics	SVR14D471 K	300 Vrms; 385 Vdc 6,0 kA, 8/20 µs diameter: 10 mm	IEC/EN 61051- 2 IEC/EN 60950- 1, Annex Q (VZCA2)	VDE 40030401  UL E330256
	Thinking	TVR10471-V	300 Vrms; 385 Vdc 3,5 kA, 8/20 µs diameter: 10 mm	IEC/EN 61051- 2 IEC/EN 60950- 1, Annex Q (VZCA2)	VDE 5944  UL E314979
	Thinking	TVR14471	300 Vrms; 385 Vdc 4,5 kA, 8/20 µs diameter: 14 mm	IEC/EN 61051- 2 IEC/EN 60950- 1, Annex Q (VZCA2)	VDE 5944  UL E314979
	Centra	CNR- 14D471K	300 Vrms; 385 Vdc 4,5 kA, 8/20 µs diameter: 10 mm	IEC/EN 61051- 2 IEC/EN 60950- 1, Annex Q (VZCA2)	VDE 40008220  UL E316325

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 <sup>1)</sup>
	Joyin Co., Ltd.	JVR14N471 K	300 Vrms; 385 Vdc 4,5 kA, 8/20 $\mu$ s diameter: 14 mm	IEC/EN 61051- 2  IEC/EN 60950- 1, Annex Q (VZCA2)	VDE 5937   UL E325508
	Ceramate Techn. Co., Ltd.	GNR10D471 K	300 Vrms; 385 Vdc 4,5 kA, 8/20 $\mu$ s diameter: 10 mm	IEC/EN 61051- 2  IEC/EN 60950- 1, Annex Q (VZCA2)	VDE 40031745   UL E315429
	Ceramate Techn. Co., Ltd.	GNR14D471 K	300 Vrms; 385 Vdc 6,0 kA, 8/20 $\mu$ s diameter: 14 mm	IEC/EN 61051- 2  IEC/EN 60950- 1, Annex Q (VZCA2)	VDE 40031745   UL E315429
Bleeder resistors (R1, R1A)	Various	Various	0,25 W 1 MOhms	IEC/EN 60950- 1	Accepted
X-capacitor (CX1) (line to neutral) (optional)	+ Cheng Tung Industrial	CTX	Min. 250 Vac Max. 0,22 $\mu$ F Min X2 or X1	IEC/EN 60384- 14 (FOWX2)	VDE 40022642  UL E193049
	Ultra Tech Xiphi	UTX	Min. 250 Vac Max. 0,22 $\mu$ F Min X2 or X1	IEC/EN 60384- 14 FOWX2)	VDE 40023119  UL E183780
	Tenta Electric Industrial Co. Ltd.	MEX	Min. 250 Vac Max. 0,22 $\mu$ F Min X2 or X1	IEC/EN 60384- 14 FOWX2)	VDE 119119  UL E222911

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 <sup>1)</sup>
EMC inductor (NF1)	YAO Sheng or GlobTek or Sunycore or BOAM or ENG or equivalent NF00001D Open type construction 32 mH / 1A core: ferrite, 15 by 15 by 3 mm coil: copper magnet wire wound on bobbin bobbin (QMFZ2, min 94V-2) + Chang Chun, T373J and T375J, 150°C, UL94V-0 (UL E59481)			IEC/EN 60950- 1	Accepted
Diodes (D5- D8)	Various	Various	Min.1A Min.1000V	IEC/EN 60950- 1	Accepted
Bulk (C2)	Various	Various	Min.400V Min.22µF Min 105°C	IEC/EN 60950- 1	Accepted

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 <sup>1)</sup>
Transformer (T1) for models: 5Vdc-7Vdc (primary to secondary) (reinforced)	Xepex or GlobTek or BOAM or ZhongTong or HEJIA or ENG XF00336 Open type construction Input: 100-240 Vac Output: 7 Vdc Core: ferrite, EE-19, bottom wrapped with one layer polyester insulation foil coil, primary: enameled magnet copper wire wound on bobbin Coil, secondary: triple insulated wire wound on bobbin bobbin (QMFZ2, min. 94V-1): + Chang Chun, phenolic, T375J; 150°C; 94V-0; min. 0,45 mm thick (UL E59481) or + Sumitomo Bakelite Co., Ltd., phenolic, PM-9820; 150°C; 94V-0; min. 0,45 mm thick (UL E41429) Triple insulated wire: + Great Leoflon, TRW-B or + COSMOLINK CO., LTD., TIW-M or + FURUKAWA, TEX-E UL insulation system (OBJY2) class B provided UL E243347 or equivalent. Insulation tape provided on the shield. Temperature Class B			IEC/EN 60950- 1	Accepted

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 <sup>1)</sup>
Transformer (T1) for models: 9Vdc-18Vdc (primary to secondary) (reinforced)	Xepex or GlobTek or BOAM or ZhongTong or HEJIA or ENG XF00337		Open type construction Input: 100-240 Vac Output: 18 Vdc Core: ferrite, EE-19, bottom wrapped with one layer polyester insulation foil coil, primary: enameled magnet copper wire wound on bobbin Coil, secondary: triple insulated wire wound on bobbin bobbin (QMFZ2, min. 94V-1): + Chang Chun, phenolic, T375J; 150°C; 94V-0; min. 0,45 mm thick (UL E59481) or + Sumitomo Bakelite Co., Ltd., phenolic, PM-9820; 150°C; 94V-0; min. 0,45 mm thick (UL E41429) Triple insulated wire: + Great Leoflon, TRW-B or + COSMOLINK CO., LTD., TIW-M or + FURUKAWA, TEX-E UL insulation system (OBJY2) class B provided UL E243347 or equivalent. Insulation tape provided on the shield. Temperature Class B	IEC/EN 60950- 1	Accepted

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 <sup>1)</sup>
Transformer (T1) for models: 20Vdc-30Vdc (primary to secondary) (reinforced)	Xepex or GlobTek or BOAM or ZhongTong or HEJIA or ENG XF00338 Open type construction Input: 100-240 Vac Output: 30 Vdc Core: ferrite, EE-19, bottom wrapped with one layer polyester insulation foil coil, primary: enameled magnet copper wire wound on bobbin Coil, secondary: triple insulated wire wound on bobbin bobbin (QMFZ2, min. 94V-1): + Chang Chun, phenolic, T375J; 150°C; 94V-0; min. 0,45 mm thick (UL E59481) or + Sumitomo Bakelite Co., Ltd., phenolic, PM-9820; 150°C; 94V-0; min. 0,45 mm thick (UL E41429) Triple insulated wire: + Great Leoflon, TRW-B or + COSMOLINK CO., LTD., TIW-M or + FURUKAWA, TEX-E UL insulation system (OBJY2) class B provided UL E243347 or equivalent. Insulation tape provided on the shield. Temperature Class B			IEC/EN 60950- 1	Accepted
Bridging capacitor (CY1) (reinforced) (optional)	+ TDK	CD	Min.250 Vac Max.1000pF Min. Y1	IEC/EN 60384- 14 (FOWX2)	VDE 138526  UL E37861
	SUCCESS Electronics Co. Ltd.	SE	Min.250 Vac Max.1000pF Min. Y1	IEC/EN 60384- 14 (FOWX2)	VDE 40008996  UL E114280
	SUCCESS Electronics Co. Ltd.	SB	Min.250 Vac Max.1000pF Min. Y1	IEC/EN 60384- 14 (FOWX2)	VDE 40008996  UL E114280

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 <sup>1)</sup>
	JYA-NAY Co., Ltd.	JN	Min.250 Vac Max.1000pF Min. Y1	IEC/EN 60384- 14 (FOWX2)	VDE 40001831 UL E201384
	Haohua Electronic Co.	CT7	Min.250 Vac Max.1000pF Min. Y1	IEC/EN 60384- 14 (FOWX2)	VDE 40003902 UL E233106
Optical isolator (PC1) (primary to secondary)	+ Lite-On	LTV-817	Clearance/creepage distance: 7,0 mm min.  5000 Vac 100°C	IEC/EN 60747 (FPQU2)	VDE 94722  UL E113898
	Fairchild	H11A817B	Clearance/creepage distance: 7,0 mm min.  5000 Vac 100°C	IEC/EN 60747 (FPQU2)	VDE 104801  UL E90700
	Everlight Electronics Co., Ltd.	EL817	Clearance/creepage distance: 7,6 mm min.  5000 Vac 100°C	IEC/EN 60747 (FPQU2)	VDE 132249  UL E214129
	Cosmo Electronics Corp.	K1010	Clearance/creepage distance: 6,5 mm min.  5300 Vac 100°C	IEC/EN 60747 (FPQU2)	VDE 101347  UL E169586
	Cosmo Electronics Corp.	KP1010	Clearance/creepage distance: 6,5 mm min.  5300 Vac 100°C	IEC/EN 60747 (FPQU2)	VDE 101347  UL E169586
	Sharp	PC817	Clearance/creepage distance: 6,4 mm min.  5000 Vac 100°C	IEC/EN 60747 (FPQU2)	VDE 40008087  UL E64380

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 <sup>1)</sup>
Inductor (L1) (optional)	+ Yao Sheng or GlobTek or BOAM or ENG RC00010 Open type construction 4μH; 2A core: ferrite; 6 mm OD by 8 mm coil: enameled magnet copper wire wound on core 120°C			IEC/EN 60950-1	Accepted
Diode (ZD2)	Various	Various	Max. 38 V 0,5 W	IEC/EN 60950-1	Accepted

**Supplementary information:**

- 1) <sup>1)</sup> Provided evidence ensures the agreed level of compliance. See OD-CB2039.
- 2) + means, that components from other vendor and other model number, but with the same or better/higher rating and equivalent approvals are accepted.



IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I <sub>rated</sub> (A)	P (W)	Fuse #	I <sub>fuse</sub> (A)	Condition/status
GTM41076-0605						
F1/F2	0,5	90	—	0,168	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	100	—	0,155	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	110	—	0,145	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	120	—	0,137	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	130	—	0,130	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	220	—	0,096	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	230	—	0,094	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	240	—	0,092	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	264	—	0,089	1,0	50Hz; Output: 4,9V@1,2A
F1/F2	0,5	90	—	0,171	1,0	60Hz; Output: 4,9V@1,2A
F1/F2	0,5	100	—	0,158	1,0	60Hz; Output: 4,9V@1,2A
F1/F2	0,5	110	—	0,148	1,0	60Hz; Output: 4,9V@1,2A
F1/F2	0,5	120	—	0,139	1,0	60Hz; Output: 4,9V@1,2A
F1/F2	0,5	130	—	0,133	1,0	60Hz; Output: 4,9V@1,2A
F1/F2	0,5	220	—	0,098	1,0	60Hz; Output: 4,9V@1,2A
F1/F2	0,5	230	—	0,096	1,0	60Hz; Output: 4,9V@1,2A
F1/F2	0,5	240	—	0,094	1,0	60Hz; Output: 4,9V@1,2A
F1/F2	0,5	264	—	0,091	1,0	60Hz; Output: 4,9V@1,2A
GTM41076-0612						
F1/F2	0,5	90	—	0,155	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	100	—	0,141	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	110	—	0,134	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	120	—	0,127	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	130	—	0,124	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	220	—	0,089	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	230	—	0,086	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	240	—	0,086	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	264	—	0,082	1,0	50Hz; Output: 12V@0,5A
F1/F2	0,5	90	—	0,158	1,0	60Hz; Output: 12V@0,5A
F1/F2	0,5	100	—	0,145	1,0	60Hz; Output: 12V@0,5A
F1/F2	0,5	110	—	0,137	1,0	60Hz; Output: 12V@0,5A

**IEC 60950-1**

Clause	Requirement + Test	Result - Remark	Verdict
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U (V)	I (A)	I <sub>rated</sub> (A)	P (W)	Fuse #	I <sub>fuse</sub> (A)	Condition/status
F1/F2	0,5	120	—	0,130	1,0	60Hz; Output: 12V@0,5A
F1/F2	0,5	130	—	0,124	1,0	60Hz; Output: 12V@0,5A
F1/F2	0,5	220	—	0,092	1,0	60Hz; Output: 12V@0,5A
F1/F2	0,5	230	—	0,088	1,0	60Hz; Output: 12V@0,5A
F1/F2	0,5	240	—	0,087	1,0	60Hz; Output: 12V@0,5A
F1/F2	0,5	264	—	0,085	1,0	60Hz; Output: 12V@0,5A
GTM41076-0630						
F1/F2	0,5	90	—	0,131	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	100	—	0,123	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	110	—	0,115	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	120	—	0,109	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	130	—	0,104	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	220	—	0,083	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	230	—	0,082	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	240	—	0,081	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	264	—	0,079	1,0	50Hz; Output: 30,5V@0,16A
F1/F2	0,5	90	—	0,135	1,0	60Hz; Output: 30,5V@0,16A
F1/F2	0,5	100	—	0,126	1,0	60Hz; Output: 30,5V@0,16A
F1/F2	0,5	110	—	0,118	1,0	60Hz; Output: 30,5V@0,16A
F1/F2	0,5	120	—	0,112	1,0	60Hz; Output: 30,5V@0,16A
F1/F2	0,5	130	—	0,106	1,0	60Hz; Output: 30,5V@0,16A
F1/F2	0,5	220	—	0,085	1,0	60Hz; Output: 30,5V@0,16A
F1/F2	0,5	230	—	0,084	1,0	60Hz; Output: 30,5V@0,16A
F1/F2	0,5	240	—	0,083	1,0	60Hz; Output: 30,5V@0,16A
F1/F2	0,5	264	—	0,081	1,0	60Hz; Output: 30,5V@0,16A

Supplementary information:

Comment: The steady-state input current did not exceed the rated current at the rated voltage by more than 10% under the maximum normal load.

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

<b>2.1.1.5 c) 1)</b>	<b>TABLE: max. V, A, VA test</b>				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
5 (GTM41076-0605)	1,2	5,14	1,63	7,63	
12 (GTM41076-0612)	0,5	12,05	0,86	8,83	
20 (GTM41076-0630)	0,16	30,52	0,31	6,81	
supplementary information:					

2.1.1.5 c) 2)	TABLE: stored energy		P
Capacitance C (μF)	Voltage U (V)	Energy E (mJ)	
C7+C8+C11=470μF+100μF=1470μF	30,52	0,4	
supplementary information:			
Measured energy << 20 J			

2.1.1.7	TABLE: Discharge of capacitors in the primary circuit				P
<i>The unit was connected to ____ .Vac, 50 Hz. A storage oscilloscope was connected across the external point of disconnection of the mains supply. With all switches in the unit initially set to the off position, the unit was disconnected from the supply source. The voltage at the time of disconnection, Vo, and the voltage Vtc at 1 second was recorded.</i>					
Model	Location	Time Constant	Measured voltage after 1 sec.	Condition	
**	L to N	0,2	8,3 V	No load.	
The voltage across the line capacitor did decay to less than 37 percent of it's original value in 1 second.					
** This test is representative for all models.					

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

2.1.1.8	TABLE: Energy hazard – d.c. mains supplies					N/A
<p>The unit was connected to ____ .V d.c. A storage oscilloscope was connected across the external point of disconnection of the mains supply. With all switches in the unit initially set to the off position, the unit was disconnected from the supply source. The voltage at the time of disconnection, Vo, and the voltage Vtc at 2 second was recorded.</p> <p>The stored energy was calculated from the following equation:</p> <div><div>E =0,5 CU<sup>2</sup> x 10<sup>-6</sup>    where:</div><div>E = Stored energy in Joules (J) C = Capacitance in microfarads (μF) U = Voltage across the Capacitor Terminals (V)</div></div>						
Model	Location	Measured voltage after 2 sec.	Capacitance (uF)	Calculated Energy	Comment	
Comments: Unit not connected to DC mains.						

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
T1 (Pin 9 – 10)		85,42Vpk / 4,5Vrms		D4
T1 (Pin 9 to after D4)			30,2 Vdc	SELV
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
D4		See table 5.3 (fault condition test).		
supplementary information:				
Above measurement is representative for all models.				

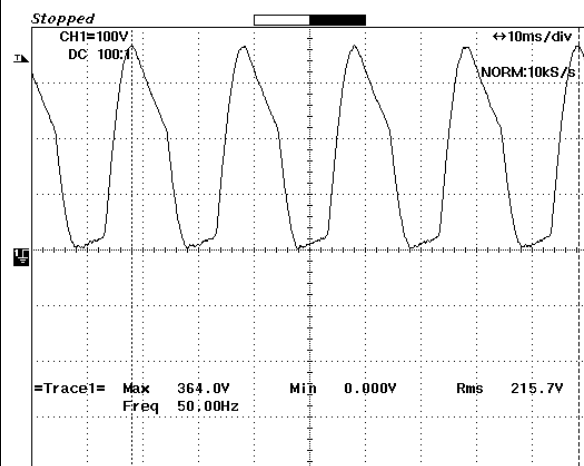
IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.4	TABLE: Limited current circuit (GTM41076-0630)	P
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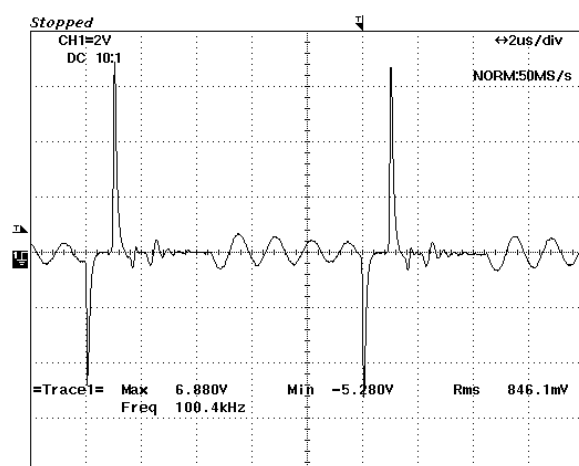
The unit was connected to 264 Vac, 60 Hz. A 2000 Ohms non-inductive resistor and a switch were connected between the user accessible part of a limited current circuit and either pole of the limited current circuit or earth. A storage oscilloscope was connected across the points under consideration. The switch was closed and voltages on resistor were measured.

Limit values	70 mA
Circuit(s) tested	CY1
Measured working voltage:	215,7 Vrms; 364,0 Vpk
Measured frequency	100 kHz
Measured current through 2000Ω	6,88 V pk : 2000 Ω = 3,44 mA pk
Measured capacitance	1000pF

Scope pictures:



=Filter= =Offset= =Record Length= =Trigger=  
Smoothing : ON CH1 : 0V Main : 10K Mode : AUTO  
BW : FULL CH2 : 0.000V Zoom : 1K Type : EDGE CH1 ⌵  
Delay : 0.0ns  
Hold Off : MINIMUM



=Filter= =Offset= =Record Length= =Trigger=  
Smoothing : ON CH1 : 0.00V Main : 10K Mode : AUTO  
BW : FULL CH2 : 0.000V Zoom : 1K Type : EDGE CH1 ⌵  
Delay : 0.0ns  
Hold Off : MINIMUM

Comments:

The dielectric test was performed on the unit (see table dielectric testing) before the above measurements were done.

Test is representative for all models.

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 <sub>sc</sub> (A)		VA	
			Meas.	Limit	Meas.	Limit
Output (Nominal load)	30 V output	30,51	0,16	8,0	4,88	100
Output (Max Load)	30 V output	23,8	0,29	8,0	6,90	100
R4 shorted (Single fault: Primary current shunt shorted)	30 V output	Unit switched off immediately.				
supplementary information:						
Sc=Short circuit, Oc=Open circuit						
Output of the unit fulfills requirements for limited power source.						
Test is representative for all models.						

2.6	TABLE: Resistance of earthing conductors and their terminations				N/A
Using a maximum 12 V dc power source, a current of 40 A was passed between the equipment earthing terminal and the part in the equipment that is required by 2.6.1 to be earthed listed below for a period of 120 s. The voltage drop from the earthing terminal to the accessible metal part required to be earthed was recorded and the resistance was calculated.					
Model	Location	Test Current in A	Measured Voltage in (mV)	Calculated Resistance (mΩ)	
Comments: EUT is Class II equipment.					

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

2.9.1, 2.9.2, 5.2.2	<b>TABLE: Humidity test</b> <b>Model: For all models</b>	P
<p>A humidity chamber was maintained within 1°C of temperature “t” at a temperature of 25°C. The unit and any other separate components were brought to a temperature between t and t + 4°C They were then placed in the chamber and held at a relative humidity of 93% for a period of 48 hours. Prior to conditioning, parts of the unit (covers) which could be removed without the use of tools were removed and separately placed in the chamber. During conditioning, cable entrances and/or a conduit openings were left open. During this treatment, the unit was not energized.</p> <p>While still in the humidity chamber, but after all parts have been placed back on the unit, a dielectric potential was applied and maintained for a period of one minute between the points indicated below. During this test, all switching devices (switches, relays, triacs, etc.) in the primary circuit were closed.</p>		
Location	Insulation type	Potential used
Primary to secondary	Reinforced	3000 Vac
Primary to Enclosure	Reinforced	3000 Vac
Comment: There was no breakdown		

2.9.1, 2.9.2, 5.2.2	TABLE: Humidity test (Rev. No. 2.0)  Model: For all models	P
<p>A humidity chamber was maintained within 1°C of temperature “t” at a temperature of 40°C. The unit and any other separate components were brought to a temperature between t and t + 4°C They were then placed in the chamber and held at a relative humidity of 93% for a period of 120 hours. Prior to conditioning, parts of the unit (covers) which could be removed without the use of tools were removed and separately placed in the chamber. During conditioning, cable entrances and/or a conduit openings were left open. During this treatment, the unit was not energized.</p> <p>While still in the humidity chamber, but after all parts have been placed back on the unit, a dielectric potential was applied and maintained for a period of one minute between the points indicated below. During this test, all switching devices (switches, relays, triacs, etc.) in the primary circuit were closed.</p>		
Location	Insulation type	Potential used
Primary to secondary	Reinforced	3000 Vac
Primary to Enclosure	Reinforced	3000 Vac
Comment: There was no breakdown		
Test performed to cover Singapore deviations.		

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
Transformer T1				
1 to PE	231,6	344,0	--	
2 to PE	267,0	512,0	--	
4 to PE	216,6	384,0	--	
5 to PE	213,6	344,0	--	
2 to 9	264,4	536,0	Max. RMS	
2 to 10	249,0	552,0	Max. PK	
Bridging components				
PC1: 3 to PE	215,0	344,0	--	
4 to PE	215,0	344,0	--	
3 to 1	214,6	344,0	--	
3 to 2	212,2	344,0	--	
CY1: pri to sec	215,7	364,0	--	
supplementary information:				
Input voltage: 240Vac Test Condition was : rated output load Ambient conditions: 27,2°C				
Minus of the output and Neutral were connected to avoid floating and to simulate TN mains.				
Test was performed on GTM41076-0630 unit with highest output voltage and is representative for all models.				



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

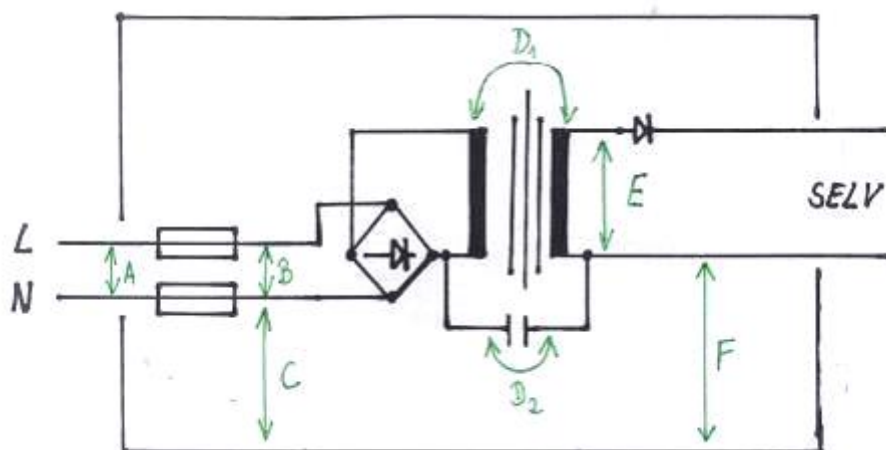
<b>2.10.3 and 2.10.4</b>	<b>TABLE: Clearance and creepage distance measurements</b>	<b>P</b>
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Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
A- Primary to Primary before fuse (basic)	340	240	2,0	3,1	2,5	3,1
B - Primary to Primary after fuse (functional)	340	240	Method C was used			
C- Primary to enclosure (Reinforced)	340	240	5,2	6,6	5,2	6,6
D1 - Primary to Secondary (Reinforced) transformer	552	265	5,7	8,4	6,4	8,4
D2 - Primary to Secondary on PCB	552	265	5,7	7,8	6,4	7,8
E- Secondary to secondary	--	--	Method C was used			

Supplementary information:

# triple insulated wire used on secondary winding; core bottom covered by insulating foil. In addition whole transformer is wrapped with two layers of insulating tape.

Block diagram

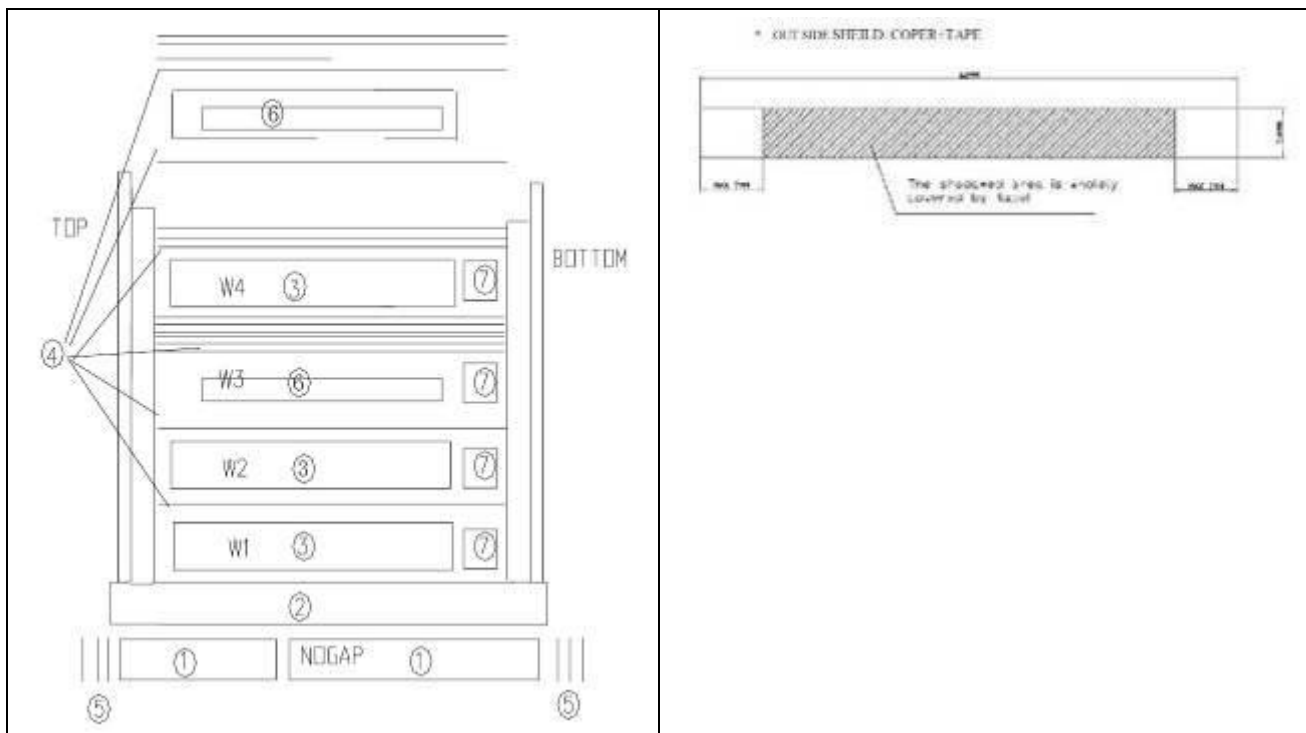


IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

- 1) EUT was evaluated for altitude up to 4.000 meters; therefore multiplication factor 1,29 used for determination of required clearances.
- 2) The top enclosure is secured to bottom enclosure by ultrasonic welding.
- 3) There is a Mylar sheet placed around the transformer between transformer T1 and primary and secondary parts (two layers of insulation sheet provided):



- 4) Measured distance between primary and secondary on the transformer: margin tape min. 3,0 mm provided on the pin side of the primary and secondary windings. Primary is fully covered by insulation tape.

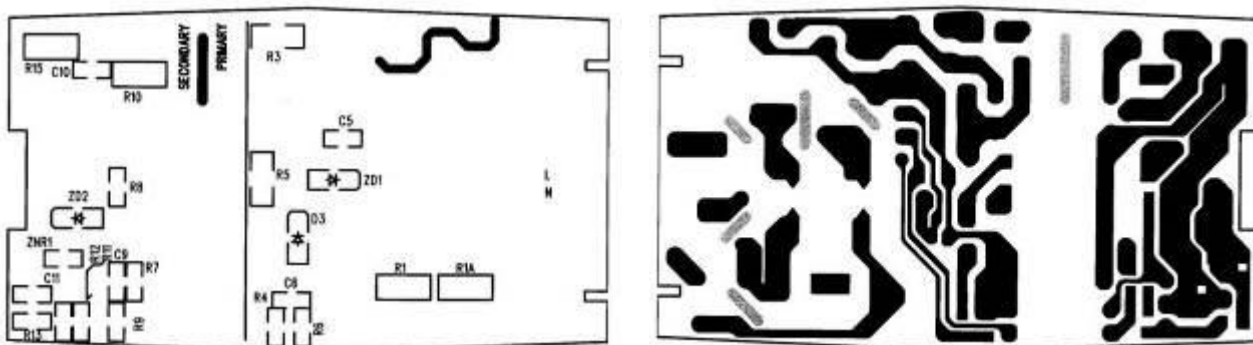


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Clause	Requirement + Test	Result - Remark	Verdict

5) Triple insulated wire used for secondary windings. See list of critical components.

6) Primary shield of the transformer is additionally covered with insulation tape to satisfy the requirements for reinforced insulation between primary and secondary.

7) PCB layout:



8) Some internal components are additionally fixed with glue to reduction of creepage and clearance distances. See enclosed pictures of the unit for details.

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Clause	Requirement + Test	Result - Remark	Verdict

<b>2.10.5</b>	<b>TABLE: Distance through insulation measurements</b>					<b>P</b>
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Enclosure		340	240	3000	0,4	Min. 1,5
Supplementary information: Approved optocouplers are used. See list of critical components.						

2.10.3, 4.2.2, 4.2.3, 4.2.4	TABLE: Steady force test (internal spacings push test)	P	
<p>Components and parts, other than parts serving as an enclosure, are subjected to a steady force of 10 N <math>\pm</math> 1 N.</p> <p>Parts of an enclosure located in Operator Access Area, which are protected by a cover or door, are subjected to a steady force of 30 N <math>\pm</math> 3 N for a period of 5 s, applied by means of a straight unjointed version of the test finger, to the part on or within the equipment.</p> <p>External enclosures are subjected to a steady force of 250 N <math>\pm</math> 10 N for a period of 5 s, applied in turn to the top, bottom and sides of the enclosure fitted to the equipment, by means of a suitable test tool providing contact over a circular plane surface 30 mm in diameter. However, this test is not applied to the bottom of an enclosure of equipment having a mass of more than 18 kg.</p>			
Part	Thickness	Force	Observation
Components	—	10 N	Passed,
Top / Bottom of enclosure	1,5 mm min.	250 N	No deflection of the material
Left / Right Side of Enclosure	1,5 mm min.	250 N	No deflection of the material
Comments:			

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4.2.5	TABLE: Impact Test		N/A
A sample consisting of the complete enclosure represented the largest area was supported in its normal position. A solid smooth steel ball, approximately 50 mm in diameter and with a mass of 500 g was permitted to fall freely from the rest through a vertical distance of 1,3 m onto the sample.			
A dielectric test from primary to earth and primary to secondary was conducted after the test.			
Part		Thickness	Observation
Dielectric test after the steel ball test:			
Location		Insulation type	Potential used
Comment: Direct plug-in unit.			

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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									
Is it possible to install the battery in a reverse polarity position?									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:								Verdict	
- Chemical leaks									
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information:									
There is no battery within the unit.									

4.3.8	TABLE: Batteries	N/A
Battery category..... :		
Manufacturer ..... :		
Type / model..... :		
Voltage ..... :		
Capacity..... :		
Tested and Certified by (incl. Ref. No.) ..... :		
Circuit protection diagram:		
Supplementary information:		
There is no battery within the unit.		

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

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Clause	Requirement + Test	Result - Remark	Verdict

<b>4.5</b>	<b>TABLE: Thermal requirements</b> GTM41076-0605 (5V unit) (horizontal application)						<b>P</b>
	Supply voltage (V) .....	90	100	240	264		—
	Frequency (Hz) .....	60	60	50	50		—
	Ambient T <sub>min</sub> (°C) .....	40	40	40	40		—
	Ambient T <sub>max</sub> (°C) .....	40	40	40	40		—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T <sub>max</sub> (°C)
Enclosure top near transformer		64,7	54,4	63,5	63,9		75
Input connection (in adaptor)		61,9	54,9	56,2	57,1		85
Inductor NF1 coil outside		81,4	71,8	71,7	72,9		105
Inductor NF1 between bobbin and core		86	72,3	75,7	77,1		105
Elko C2 side		73,6	68,9	66,8	68		105
between varistor ZNR and capacitor CX1		66,6	59,8	61,8	62,7		105
Top of heat sink over U1		105	88,8	99	103,1		--
Transformer winding outside		99,4	87,5	99,6	99,7		110
Enclosure top near transformer		64,7	54,4	63,5	63,9		75
Transformer between bobbin and coil		85,9	85,9	75	75		110
Elko C7 side		80,7	65,4	80,1	79,3		105
L1 core (top)		75,6	73	75,4	74,7		105
PCB under transformer		94,6	82	94,3	94,7		105
Between diodes D7 and D6		78,5	71,6	69,8	71,1		105
Test duration (h:min)		2:05	1:00	1:20	1:25		--
Output voltage (Vdc)		4,95	4,94	4,94	4,94		--
Output current (A)		1,20	1,21	1,22	1,21		--
Supplementary information: Above measured temperatures are the absolute temperatures in °C at maximum ambient. The printed circuit board is rated 105°C. Test was performed until stable conditions were reached.							



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Clause	Requirement + Test	Result - Remark	Verdict

<b>4.5</b>	<b>TABLE: Thermal requirements</b> GTM41076-0605 (5V unit) (vertical application)						<b>P</b>
	Supply voltage (V) .....	90	100	240	264		—
	Frequency (Hz) .....	60	60	50	50		—
	Ambient T <sub>min</sub> (°C) .....	40	40	40	40		—
	Ambient T <sub>max</sub> (°C) .....	40	40	40	40		—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T <sub>max</sub> (°C)
Enclosure top near transformer		59,6	59,4	59	60,6		75
Input connection (in adaptor)		62,7	62	58	59,6		85
Inductor NF1 coil outside		79,5	77	70,1	72		105
Inductor NF1 between bobbin and core		84,3	81,5	74,2	76,5		105
Elko C2 side		75,6	73,9	68,9	71,3		105
between varistor ZNR and capacitor CX1		64,6	63,9	60,9	62,4		105
Top of heat sink over U1		104,2	100,3	97,5	103,4		--
Transformer winding outside		98,7	97,7	98,1	100,6		110
Enclosure top near transformer		71,6	71,1	71	72,8		75
Transformer between bobbin and coil		81,3	81,3	81,3	82,6		110
Elko C7 side		75,3	75,2	75	76,4		105
L1 core (top)		93,6	92,6	92,9	95,4		105
PCB under transformer		80,6	78	71,7	74,1		105
Between diodes D7 and D6		1:10	1:00	1:00	1:00		105
Test duration (h:min)		4,94	4,95	4,95	4,94		--
Output voltage (Vdc)		1,23	1,21	1,20	1,22		--
Output current (A)		1,20	1,21	1,22	1,21		--
Supplementary information: Above measured temperatures are the absolute temperatures in °C at maximum ambient. The printed circuit board is rated 105°C. Test was performed until stable conditions were reached.							

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Clause	Requirement + Test	Result - Remark	Verdict
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<b>4.5</b>	<b>TABLE: Thermal requirements</b> GTM41076-0612 (12V unit) (horizontal application)						<b>P</b>
	Supply voltage (V) .....	90	100	240	264		—
	Frequency (Hz) .....	60	60	50	50		—
	Ambient T <sub>min</sub> (°C) .....	40	40	40	40		—
	Ambient T <sub>max</sub> (°C) .....	40	40	40	40		—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T <sub>max</sub> (°C)
Enclosure top near transformer		62,8	62	55,7	56,3		75
Input connection (in adaptor)		60,6	59,5	51,9	52,6		85
Inductor NF1 coil outside		81,1	78,4	64,8	65,8		105
Inductor NF1 between bobbin and core		85,8	82,8	65,2	66,2		105
Elko C2 side		73,3	71,5	63,4	64,3		105
between varistor ZNR and capacitor CX1		65,9	64,3	57,2	58,2		105
Top of heat sink over U1		105,1	102	82,8	85		--
Transformer winding outside		99,7	98,7	87,8	89,3		110
Transformer between bobbin and coil		86,7	74,4	87,4	88,8		110
Elko C7 side		80	79	69	70		105
L1 core (top)		75,3	74,5	65,3	65,9		105
PCB under transformer		94,8	93,6	80,3	81,6		105
Between diodes D7 and D6		78,2	75,9	65	65,7		105
Test duration (h:min)		2:05	1:00	1:20	1:25		--
Output voltage (Vdc)		11,97	11,96	11,97	11,96		--
Output current (A)		0,50	0,50	0,50	0,50		--
Output current (A)		1,20	1,21	1,22	1,21		--
Supplementary information:							
Above measured temperatures are the absolute temperatures in °C at maximum ambient.							
The printed circuit board is rated 105°C.							
Test was performed until stable conditions were reached.							

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Clause	Requirement + Test	Result - Remark	Verdict

<b>4.5</b>	<b>TABLE: Thermal requirements</b> GTM41076-0612 (12V unit) (vertical application)						<b>P</b>
	Supply voltage (V) .....	90	100	240	264		—
	Frequency (Hz) .....	60	60	50	50		—
	Ambient T <sub>min</sub> (°C) .....	40	40	40	40		—
	Ambient T <sub>max</sub> (°C) .....	40	40	40	40		—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T <sub>max</sub> (°C)
Enclosure top near transformer		52,7	54,2	52,9	54,9		75
Input connection (in adaptor)		64,8	59,4	54,8	55,9		85
Inductor NF1 coil outside		72,4	71	63,2	64,6		105
Inductor NF1 between bobbin and core		73,1	71,5	63,8	65		105
Elko C2 side		71,1	69,8	63,7	65		105
between varistor ZNR and capacitor CX1		60,4	59,8	56,2	57,3		105
Top of heat sink over U1		88,5	73,8	80,9	83,6		--
Transformer winding outside		86,7	87	85,4	88,6		110
Transformer between bobbin and coil		84,3	84,9	84,4	87,6		110
Elko C7 side		69,1	70,4	70,3	72,2		105
L1 core (top)		63,9	65,1	64,5	66		105
PCB under transformer		81,2	81,5	78,5	80,6		105
Between diodes D7 and D6		75,2	73,4	65,8	66,9		105
Test duration (h:min)		1:15	1:05	1:00	1:00		--
Output voltage (Vdc)		11,96	11,96	11,97	11,97		--
Output current (A)		0,51	0,51	0,50	0,50		--
Output current (A)		52,7	54,2	52,9	54,9		--
Supplementary information: Above measured temperatures are the absolute temperatures in °C at maximum ambient. The printed circuit board is rated 105°C. Test was performed until stable conditions were reached.							

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Clause	Requirement + Test	Result - Remark	Verdict

<b>4.5</b>	<b>TABLE: Thermal requirements</b> (vertical application)					<b>P</b>
		5 V unit		12 V unit		—
	Supply voltage (V) .....	130	216	130	216	
	Frequency (Hz) .....	60	50	60	50	—
	Ambient T <sub>min</sub> (°C) .....	40	40	40	40	—
	Ambient T <sub>max</sub> (°C) .....	40	40	40	40	—
Maximum measured temperature T of part/at.....:		T (°C)				Allowed T <sub>max</sub> (°C)
Enclosure top near transformer		63,1	63,1	56,2	56,3	75
Input connection (in adaptor)		57,3	56,2	54,7	52,4	85
Inductor NF1 coil outside		73,3	70,8	67,4	64,9	105
Inductor NF1 between bobbin and core		77,4	74,5	67,9	65,3	105
Elko C2 side		67,6	65,8	65,3	63,3	105
between varistor ZNR and capacitor CX1		62	61,4	57,9	57,3	105
Top of heat sink over U1		96,1	94,7	83,5	81,8	--
Transformer winding outside		96,2	97	85,3	86,7	110
Transformer between bobbin and coil		74,6	74,6	84,2	86,2	110
Elko C7 side		79,3	79,7	67,7	69	105
L1 core (top)		74,1	74,4	64,1	65,1	105
PCB under transformer		91,4	92,2	79,4	79,5	105
Between diodes D7 and D6		71,4	68,6	67,4	64,9	105
Test duration (h:min)		1:00	1:00	1:00	1:00	--
Output voltage (Vdc)		4,94	4,94	11,96	11,95	--
Output current (A)		1,19	1,22	0,50	0,50	--
Output current (A)		52,7	54,2	52,9	54,9	--
Supplementary information: Above measured temperatures are the absolute temperatures in °C at maximum ambient. The printed circuit board is rated 105°C. Test was performed until stable conditions were reached.						

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Clause	Requirement + Test	Result - Remark	Verdict

<b>4.5</b>	<b>TABLE: Thermal requirements</b> GTM41076-0630 (30V unit) (horizontal application) – Rev. No. 4.0					<b>P</b>
	Supply voltage (V) .....	90	100	240	264	—
	Frequency (Hz) .....	60	60	50	50	—
	Ambient T <sub>min</sub> (°C) .....	40	40	40	40	—
	Ambient T <sub>max</sub> (°C) .....	40	40	40	40	—
Maximum measured temperature T of part/at.....:		T (°C)				Allowed T <sub>max</sub> (°C)
1. Enclosure top near transformer		48,5	49,2	50,8	50,9	75
2. Input connection (in adapter)		50,2	50,4	49,9	49,9	85
3. Inductor NF1 coil outside		65,6	65,5	63,1	63,0	105
4. Elko C2 side		63,7	63,5	61,0	60,9	105
5. Inductor NF1 between bobbin and core		60,4	60,7	60,0	60,0	105
6. Between varistor ZNR and capacitor CX1		54,4	54,5	54,5	54,6	105
7. Top of heat sink over U1		81,2	83,4	86,8	86,9	--
8. Transformer winding outside		68,4	69,7	74,1	74,5	110
9. Transformer between bobbin and coil		75,8	79,6	92,8	93,9	110
10. Elko C7 side		55,4	55,9	57,7	57,8	105
11. L1 core (top)		54,8	55,4	57,4	57,5	105
12. PCB under transformer		69,8	71,1	75,6	75,9	105
13. Between diodes D7 and D6		65,7	66,3	65,0	64,8	105
Test duration (h)		1,5	1,5	1,5	1,5	--
Supplementary information: Above measured temperatures are the absolute temperatures in °C at maximum ambient. The printed circuit board is rated 105°C. Test was performed until stable conditions were reached. Unit was rated output load during the test.						

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Clause	Requirement + Test	Result - Remark	Verdict
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<b>4.5</b>	<b>TABLE: Thermal requirements</b> GTM41076-0630 (30V unit) (vertical application) – Rev. No. 4.0						<b>P</b>
	Supply voltage (V) .....	90	100	240	264		—
	Frequency (Hz) .....	60	60	50	50		—
	Ambient T <sub>min</sub> (°C) .....	40	40	40	40		—
	Ambient T <sub>max</sub> (°C) .....	40	40	40	40		—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T <sub>max</sub> (°C)
1. Enclosure top near transformer		50,8	51,3	53,2	53,0		75
2. Input connection (in adapter)		53,4	53,5	40,1	53,1		85
3. Inductor NF1 coil outside		69,3	69,4	67,2	67,0		105
4. Elko C2 side		67,2	67,2	64,8	64,6		105
5. Inductor NF1 between bobbin and core		64,3	64,7	64,3	64,1		105
6. Between varistor ZNR and capacitor CX1		57,4	57,6	57,7	57,8		105
7. Top of heat sink over U1		83,7	85,8	89,9	89,6		--
8. Transformer winding outside		69,6	70,8	75,0	75,3		110
9. Transformer between bobbin and coil		78,1	80,0	93,1	94,6		110
10. Elko C7 side		56,6	57,1	58,7	58,8		105
11. L1 core (top)		55,8	56,3	58,2	58,3		105
12. PCB under transformer		71,8	73,1	77,5	77,7		105
13. Between diodes D7 and D6		70,1	70,6	52,7	69,6		105
Test duration (h)		1,5	1,5	1,5	1,5		--
Supplementary information: Above measured temperatures are the absolute temperatures in °C at maximum ambient. The printed circuit board is rated 105°C. Test was performed until stable conditions were reached. Unit was rated output load during the test.							

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Clause	Requirement + Test	Result - Remark	Verdict

<b>4.5</b>	<b>TABLE: Thermal requirements</b> GTM41076-0630 (30V unit) (vertical application) - Abnormal operation (output overload) – Rev. No. 4.0						<b>P</b>
	Supply voltage (V) .....	90	264				—
	Frequency (Hz) .....	60	50				—
	Ambient T <sub>min</sub> (°C) .....	40	40				—
	Ambient T <sub>max</sub> (°C) .....	40	40				—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T <sub>max</sub> (°C)
1. Enclosure top near transformer		57,2	60,8				--
2. Input connection (in adapter)		63,2	60,7				--
3. Inductor NF1 coil outside		94,1	83,1				--
4. Elko C2 side		90,0	79,4				--
5. Inductor NF1 between bobbin and core		81,7	77,3				--
6. Between varistor ZNR and capacitor CX1		70,4	67,6				--
7. Top of heat sink over U1		118,4	113,7				--
8. Transformer winding outside		82,7	90,9				165
9. Transformer between bobbin and coil		98,8	113,3				165
10. Elko C7 side		65,3	69,6				--
11. L1 core (top)		63,9	68,5				--
12. PCB under transformer		90,6	98,6				--
13. Between diodes D7 and D6		92,3	85,2				--
Test duration (h)		1,5	1,5				--
Input current (A)		0,232	0,117				--
Output current (A)		0,285	0,295				--
Output voltage (V)		30,93	30,98				--
Supplementary information: Above measured temperatures are the absolute temperatures in °C at maximum ambient. The printed circuit board is rated 105°C. Test was performed until stable conditions were reached.							

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Clause	Requirement + Test	Result - Remark	Verdict

<b>4.5.5</b>	<b>TABLE: Ball pressure test of thermoplastic parts</b>		<b>P</b>
	Allowed impression diameter (mm) ..... :	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Plug holder / enclosure		125	1,6
Transformer T1 Bobbin		125	1,3
Bobbin LF1		125	1,2
Supplementary information: Approved materials are used. Refer to list of safety critical components.			

<b>4.7</b>	<b>TABLE: Resistance to fire</b>					<b>P</b>
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Supplementary information: Approved materials are used. Refer to list of safety critical components.						



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Clause	Requirement + Test	Result - Remark	Verdict

5.1	TABLE: touch current measurement (30 Vdc model)						P
	Measurement		Input Fuse open and closed	Input Switch position "e"	Voltage (mV)	Leakage current (µA)	
	From	To					
Touch current	Enclosure	PE	Closed	Closed	--	2,4	
	Enclosure	PE	Closed	open	--	1,7	
	Enclosure	PE	Closed	Closed	--	2,1 (reverse polarity)	
	Enclosure	PE	open	Closed	--	0,6	
	Enclosure	PE	Closed	open	--	0,6 (reverse polarity)	
	Enclosure	PE	open	Closed	--	0,7 (reverse polarity)	
	Enclosure	PE	open	open	--	0,6	
	Enclosure	PE	open	open	--	0,6 (reverse polarity)	
	+ output	PE	Closed	Closed	--	2,6	
	+ output	PE	Closed	open	--	2,5	
	+ output	PE	Closed	Closed	--	2,3 (reverse polarity)	
	+ output	PE	open	Closed	--	3,4	
	+ output	PE	Closed	open	--	2,8 (reverse polarity)	
	+ output	PE	open	Closed	--	3,6	
	+ output	PE	open	open	--	5,2	
	+ output	PE	open	open	--	5,1 (reverse polarity)	
	- output	PE	Closed	Closed	--	2,1	
	- output	PE	Closed	open	--	2,3	
	- output	PE	Closed	Closed	--	2,5 (reverse polarity)	
	- output	PE	open	Closed	--	3,1	
	- output	PE	Closed	open	--	2,8 (reverse polarity)	
	- output	PE	open	Closed	--	3,4	

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
	- output	PE	open	open	--	5,2
	- output	PE	open	open	--	5,2 (reverse polarity)
Comments: The tests were performed at 264 Vac and 60 Hz with D1 measurement circuit. The test was performed with the unit connected to line and neutral and the fuse opened. The outputs were earthed during the test. Test performed for information only.						

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests		P
test voltage applied between:		test voltage (V) a.c. / d.c.	breakdown Yes / No
A; B BI primary to primary with open fuses		1500	No breakdown
C DI/RI primary to enclosure *		4000	No breakdown
D DI/RI primary to secondary		4000	No breakdown
T1 Pri to core		2000	No breakdown
T1 Sec to core		2000	No breakdown
T1 Pri to sec		4000	No breakdown
T1 – one layer of insulating tape- outer wrapp (2 layers provided)		3000	No breakdown
Comments: * Enclosure wrapped with aluminium foil. Dielectric strength test performed after humidity treatment.			

IEC 60950-1							
Clause	Requirement + Test				Result - Remark		Verdict
5.3	TABLE: fault condition tests						P
	ambient temperature (°C) .....				23 +/- 2°C		—
	model/type of power supply .....				See page 1		—
	manufacturer of power supply .....				GlobTek		—
	rated markings of power supply .....				100-240 Vac		—
component No.	fault	test voltage (Vac)	test time	fuse No.	fuse current (A)	result	
SELV reliability Testing							
Output Diode D4 (30V model)	Short	264Vac, 50Hz	>10min	F1,F2	0	Unit switched off immediately. No defect. No hazard.	
Method C – functional insulation (clause 5.3.4)							
Input Capacitor CX1	Short	90Vac, 60Hz	<1sec	F1,F2	> 6	F1, F2 opened immediately. No hazard.	
Input Capacitor CX1	Short	264Vac, 50Hz	<1sec	F1,F2	> 6	F1, F2 opened immediately. No hazard.	
Varistor ZNR	Short	264Vac, 50Hz	<1sec	F1,F2	> 6	F1, F2 open immediately. No hazard.	
After Bridge plus to minus	Short	90Vac, 60Hz	<1sec	F1,F2	> 6	F1, F2 opened immediately. No hazard.	
After Bridge plus to minus	Short	264Vac, 50Hz	<1sec	F1,F2	> 6	F1, F2 opened immediately. No hazard.	
Additional Component faults							
R1 (30V model)	short	264Vac, 50Hz	10min	F1,F2	0,08	No effect on function. No defect. No hazard.	
C10 (5V model)	short	264Vac, 50Hz	10min	F1,F2	0,06	Output voltage dropped to 3,7V. No defect. No hazard.	
T1 pin 1-2 (30V model)	short	264Vac, 50Hz	10min	F1,F2	0	Unit switched off immediately. Unit defect. No hazard.	
T1 pin 4-5 (5V model)	short	264Vac, 50Hz	10min	F1,F2	0	Unit switched off immediately. No defect. No hazard.	

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
component No.	fault	test voltage (Vac)	test time	fuse No.	fuse current (A)	result
T1 pin 1-5 (5V model)	short	264Vac, 50Hz	10min	F1,F2	0	Unit switched off immediately. No defect. No hazard.
<b>Annex C Transformer overload / short (clause 5.3.3)</b>						
T1 (9-10) (5V model)	Short	264Vac, 50Hz	10min	F1,F2	0,021	Unit switched off immediately. T1:28,6°C
T1 (9-10) (5V model)	Overload	264Vac, 50Hz	2h	F1,F2	0,12	Unit switched off when additional current exceeded 0,53A. T1:103,5°C
<b>Misuse</b>						
Output 5V model	Overload	264Vac, 50Hz	> 30min	F1,F2	0,2	4,87V @ 1,41A, max. temp.: 97,8°C
Output 5V model	Short	264Vac, 50Hz	> 10 min.	F1,F2	0,04	unit switched off.
Output 30V model	Overload	264Vac, 50Hz	> 30min	F1,F2	0,2	23,84V @ 0,33A, max. temp.: 90,5°C
Output 30V model	Short	264Vac, 50Hz	> 10 min.	F1,F2	0,04	Unit switched off.
Output 30V model – Rev. No. 4.0	Overload	264Vac, 50Hz	1,5 h	F1,F2	0,117	See Table 4.5 (Abnormal operation). No damage. No fire. No hazard.
Output 30V model – Rev. No. 4.0	Overload	90Vac, 60Hz	1,5 h	F1,F2	0,232	See Table 4.5 (Abnormal operation). No damage. No fire. No hazard.
supplementary information						
There was no flame, extensive smoke or melted metal.						
Above tests are representative for all family models.						

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)	
Prim-Sec	Reinforced insulation	552 Vpeak	265 Vrms	3000 Vac	5,7 mm	6,4 mm	0,4 mm	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
Pri-sec.	Reinforced insulation			3000 Vac	See 1)	See 1)	See 2)	
supplementary information:								
1) See appended table 2.10.3 – 2.10.4 for details.								
2) Separately approved triple insulation wire used on secondary windings of the transformer.								

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

## **Enclosure No. 1**

**National differences to IEC60950-1:2005+ A1:2009 +  
A2:2013**

**(46 pages including this cover page)**

IEC60950_1F ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
<b>ATTACHMENT TO TEST REPORT IEC 60950-1</b> <b>(AUSTRALIA/NEW ZEALAND) NATIONAL DIFFERENCES</b> (Information technology equipment-safety)			
Differences according to.....: AS/NZS 60950.1:2015			
Attachment Form No.....: AU_NZ_ND_IEC60950_1F			
Attachment Originator.....: JAS-ANZ			
Master Attachment.....: 2017-06			
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	National Differences		P
<b>Appendix ZZ</b>	Variations to IEC 60950-1, Ed 2.2 (2013) for Australia and New Zealand		N/A
<b>1.2</b>	<b>DEFINITIONS</b>		P
	After definition 'PERSON, SERVICE', insert the following new definition: POTENTIAL IGNITION SOURCE.....1.2.12.201		P
<b>1.5</b>	<b>COMPONENTS</b>		N/A
1.5.1	1..... First paragraph, insert the following text after the words 'IEC component standard' or the relevant Australian/New Zealand Standard 2..... In the Note, insert the following text after the word standard: or the relevant Australian/New Zealand Standard 3..... Second paragraph, delete the words 'without further evaluation'		N/A
1.5.2	1..... First paragraph, insert the following text after the word 'standard' or an Australian/New Zealand Standard 2..... First paragraph, second dash item, second line, insert the following text after the word 'standard' or an Australian/New Zealand Standard 3..... First paragraph, second dash item, last line, insert the following text after the word 'standard': or an Australian/New Zealand Standard		N/A
<b>1.7</b>	<b>MARKINGS AND INSTRUCTIONS</b>		N/A

1.7.1.3	<i>Delete</i> existing text and <i>replace</i> with the following: Graphical symbols placed on the equipment as a requirement of this standard, shall be in accordance with IEC 60417 or ISO 3864-2 or ISO 7000, if available. In the absence of suitable symbols, the manufacturer may design specific graphical symbols. Symbols as required by this standard placed on the equipment shall be explained in the user manual		N/A												
2.9	<b>ELECTRICAL INSULATION</b>		N/A												
2.9.2	Variation Second paragraph, <i>delete</i> the word 'designated'		N/A												
3.2.5	<b>POWER SUPPLY CORDS</b>		N/A												
Table 3B	Variation 1. .... <i>Delete</i> the first four rows and replace with the following: <table><tr><td>Over 0.2 up to and including 3</td><td>0.5<sup>a</sup></td><td>18 [0.8]</td></tr><tr><td>Over 3 up to and including 7.5</td><td>0.75</td><td>16 [1.3]</td></tr><tr><td>Over 7.5 up to including 10</td><td>(0.75)<sup>b</sup> 1.00</td><td>16 [1.3]</td></tr><tr><td>Over 10 up to including 16</td><td>(1.0)<sup>c</sup> 1.5</td><td>14 [2]</td></tr></table>	Over 0.2 up to and including 3	0.5 <sup>a</sup>	18 [0.8]	Over 3 up to and including 7.5	0.75	16 [1.3]	Over 7.5 up to including 10	(0.75) <sup>b</sup> 1.00	16 [1.3]	Over 10 up to including 16	(1.0) <sup>c</sup> 1.5	14 [2]		N/A
Over 0.2 up to and including 3	0.5 <sup>a</sup>	18 [0.8]													
Over 3 up to and including 7.5	0.75	16 [1.3]													
Over 7.5 up to including 10	(0.75) <sup>b</sup> 1.00	16 [1.3]													
Over 10 up to including 16	(1.0) <sup>c</sup> 1.5	14 [2]													
	2. .... <i>Delete</i> NOTE 1 and renumber existing NOTE 2 as 'NOTE'		N/A												
	3. .... <i>Delete</i> Footnote <sup>a</sup> and replace with the following: <sup>a</sup> 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 to the plug does not exceed 2 m (0,5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191)		N/A												
4.3	<b>DESIGN AND CONSTRUCTION</b>		P												
4.3.6	Variation <i>Delete</i> the third paragraph and <i>replace</i> with the following:		P												
	<i>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets</i>		P												
4.3.8	Addition Eighth paragraph, <i>insert</i> the following new note after the first dash item:		N/A												
	NOTE 6.201 In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A												



4.3.13.5.1	Variation <i>Delete</i> the first paragraph and <i>replace</i> with the following: Except as permitted below, equipment shall be classified and labelled according to IEC 60825-1 or AS/NZS 60825.1, IEC 60825-2 or AS/NZS 60825.2 and IEC 60825-12, as applicable		N/A
	Third paragraph, first sentence, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
	Fourth paragraph, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
<b>4.7</b>	<b>RESISTANCE TO FIRE</b>		N/A
4.7	Addition At the end of Clause 4.7, <i>insert</i> the following text: For alternate tests refer to Clause 4.7.201	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.	N/A
<b>6</b>	<b>CONNECTION TO TELECOMMUNICATIONS NETWORKS</b>		N/A
6.2.2	Variation For Australia only, <i>delete</i> the first paragraph and Note, and <i>replace</i> 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		N/A
6.2.2.1	Variation For Australia only, <i>delete</i> the first paragraph including the Notes, and <i>replace</i> 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): 1.5kV		N/A
	NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines		N/A
	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		N/A
6.2.2.2	Variation For Australia only, <i>delete</i> the second paragraph including the Note, and <i>replace</i> with the following: In Australia only, the a.c. test voltage is (i) ..... for 6.2.1 a): 3kV; and (ii)..... for 6.2.1b) and 6.2.1c): 1.5kV		N/A
	NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.		N/A
	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.		N/A
<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION NETWORK</b>		N/A

7.3	Addition 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		N/A
Annex P	Addition Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		N/A

	<b>Special national conditions (if any)</b>		N/A
<b>1.2.12</b>	<b>FLAMMABILITY</b>		N/A
1.2.12.15	Addition After Clause 1.2.12.15, <i>insert</i> the following new clause:		N/A
<b>1.2.12.201</b>	<b>POTENTIAL IGNITION SOURCE</b> 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		N/A
	Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS		N/A
	NOTE 1 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE		N/A
	NOTE 2 This definition is from AS/NZS 60065:2012, Clause 2.8.11.		N/A
<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		N/A
4.1	Addition After Clause 4.1, <i>insert</i> new Clause 4.1.201 as follows:		N/A
<b>4.1.201</b>	<b>Display devices used for television purposes</b> 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
<b>4.3</b>	<b>DESIGN AND CONSTRUCTION</b>		N/A
4.3.8	Addition After Clause 4.3.8, <i>add</i> the following new clause as follows		N/A
<b>4.3.8.201</b>	<b>Products containing coin/button cell batteries and batteries designated R1</b> The requirements of AS/NZS 60065:2012 Amendment 1:2015, Clause 14.10.201 apply for this Clause.		N/A
<b>4.7</b>	<b>RESISTANCE TO FIRE</b>		N/A

4.7.3.6	Addition After Clause 4.7.3.6, <i>add</i> new clauses as follows:		N/A
4.7.201	<b>Resistance to fire—Alternative tests</b>		N/A
4.7.201.1	<b>General</b> Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.	Approved materials are used. See list of critical components.	N/A
	b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1,750 mm <sup>3</sup> , 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		N/A
	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		N/A
	<i>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</i>		N/A
	<i>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5</i>		N/A
	The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring		N/A
4.7.201.2	<b>Testing of non-metallic materials</b> Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.	Approved materials are used. See list of critical components.	N/A

<b>4.7.201.3</b>	<p><b>Testing of insulating materials</b></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>		N/A
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	<b>Clause of AS/NZS 60695.11.5</b>	<b>Change</b>		
	<b>9 Test procedure</b>			
	<b>9.2 Application of Needle-flame</b>	<i>Delete</i> the first and second paragraphs and <i>replace</i> with the following: 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. The duration of application of the test flame shall be 30 s ± 1 s		
	<b>9.3 Number of test specimens</b>	<i>Delete</i> existing text and <i>replace</i> with the following: 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.		
	<b>11 Evaluation of test results</b>	<i>Delete</i> existing text and <i>replace</i> with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15s		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part			N/A
<b>4.7.201.4</b>	<b>Testing in the event of non-extinguishing material</b> 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. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.		Approved materials are used. See list of critical components.	N/A

[illegible]

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

<b>ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013</b> <b>U.S.A. NATIONAL DIFFERENCES</b> Information technology equipment – Safety – Part 1: General requirements	
<b>Differences according to .....</b>	UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014
<b>Attachment Form No. ....</b>	US_ND_IEC60950_1F
<b>Attachment Originator .....</b>	UL
<b>Master Attachment .....</b>	Date 2014-07
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U.S.A. National Differences to IEC 60950-1+ A1+ A2			
Clause	Requirement + Test	Result - Remark	Verdict
<b>Special national conditions</b>			
1.1.1	All equipment is designed as to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and if applicable, the National Electrical Safety Code, IEEE C2		P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75		P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A		P
1.5.5	For lengths exceeding 3,05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the /NEC		N/A
	For lengths 3,05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings		N/A

U.S.A. National Differences to IEC 60950-1+ A1+ A2			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings	Single phase unit.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"		N/A
	Likewise, a voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions"		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with NEC or CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable		N/A
2.6	Equipment with isolated ground (earthing) receptacles is in compliance with NEC 250.146(D) and CEC 10-112 and 10-906(8)	Considered.	N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements		N/A



U.S.A. National Differences to IEC 60950-1+ A1+ A2			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs		N/A
3.2.5	Power supply cords are no longer than 4.5 m in length		N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC		N/A
3.2.9	Permanently connected equipment has a suitable wiring compartment and wire bending space		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0		N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5,3 mm <sup>2</sup> )		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7)		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the rated current of the equipment or the protective current rating of the circuit under consideration"		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30		N/A

<b>U.S.A. National Differences to IEC 60950-1+ A1+ A2</b>			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.5.1	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0,76 m <sup>3</sup> (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0,9m <sup>2</sup> (10 sq ft) or a single dimension greater than 1,8 m (6 ft) have a flame spread rating of 50 or less		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less		N/A
4.7.3.1	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370)		N/A
<b>Other National Differences</b>			
1.5.1	<p>Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.</p> <p>These components include:</p> <p>attachment plugs, battery backup systems, battery packs, cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cut-offs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables</p>	The components fulfil the requirements of the standard and in addition P1 and P2 of UL60950 and CSA 22.2-60950 was applied.	P

U.S.A. National Differences to IEC 60950-1+ A1+ A2			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply		N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42,4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts		N/A
2.6.2	Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092)		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT		N/A
4.3.2	Equipment with handles complies with special loading tests		N/A
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded		N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test is repeated twice (three tests total) using new components as necessary		P
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC		N/A

<b>U.S.A. National Differences to IEC 60950-1+ A1+ A2</b>			
Clause	Requirement + Test	Result - Remark	Verdict
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements		N/A

**CANADA NATIONAL DIFFERENCES to  
IEC 60950-1, Second Edition (2005) + A1:2009 + A2:2013  
(2014-09-13)  
National standard: CAN/CSA-C22.2 NO. 60950-1A-07**

<b>IEC 60950-1, CANADA NATIONAL DIFFERENCES</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>Special national conditions</b>			
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.		P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		P
1.1.2	Baby monitors are required to comply with ASTM F2951, Consumer Safety Specification for Baby Monitors		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		N/A
1.5.5	For lengths exceeding 3,05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.		P
	For lengths 3,05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Single phase unit.	N/A

IEC 60950-1, CANADA NATIONAL DIFFERENCES			
Clause	Requirement + Test	Result - Remark	Verdict
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent.		N/A
	Marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.6	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length.		N/A

IEC 60950-1, CANADA NATIONAL DIFFERENCES			
Clause	Requirement + Test	Result - Remark	Verdict
	Minimum cord length is required to be 1,5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5,3 mm <sup>2</sup> ).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes,		N/A
	- rated 125 percent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	First column of Table 3E revised to require "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."	Considered.	N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	or if the motor has a nominal voltage rating greater than 120 V,		N/A
	or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5.1	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.		N/A

<b>IEC 60950-1, CANADA NATIONAL DIFFERENCES</b>			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	For computer room applications, automated information storage systems with combustible media greater than 0,76 m <sup>3</sup> (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0,9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1,8 m (6 ft) are required to have a flame spread rating of 50 or less.		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.		N/A
<b>Other National Differences</b>			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include:  attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	The components fulfil the requirements of the standard and in addition P1 and P2 of UL60950 and CSA 22.2-60950 was applied.	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.		N/A
	This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A

IEC 60950-1, CANADA NATIONAL DIFFERENCES			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.2	Equipment with functional earthing is required to be marked with the functional earthing symbol (IEC 60417-6092)		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		N/A
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded.		N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		P
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) required for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A




<b>IEC 60950-1, CANADA NATIONAL DIFFERENCES</b>			
Clause	Requirement + Test	Result - Remark	Verdict
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A
GENERAL	All warnings should be in French language.		N/A

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
<b>ISRAEL-Differences to IEC 60950-1:2005 (2011-03-02)</b>			
<b>ISRAEL STANDARD SI 60950 PART 1</b> <b>INFORMATION TECHNOLOGY EQUIPMENT - SAFETY: GENERAL REQUIREMENTS</b>  <b>TRANSLATION OF ISRAEL NATIONAL DEVIATIONS ONLY</b>			
1.	<b>Scope (with national deviations)</b>		—
1.1.1	<b>Equipment covered by this Standard</b>  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"> <li>- equipment designed for use as telecommunication terminal equipment and telecommunication network infrastructure equipment, independent of the source of power;</li> <li>- 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;</li> <li>- 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).</li> </ul> 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.  <b>Note 1:</b> Examples of aspects with which uninstalled components and subassemblies may not comply include the marking of the power rating and access to hazardous parts.  <b>Note 2:</b> 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, 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.  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:		—

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<sup>(A)</sup>, 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 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<sup>(B)</sup>, 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 <sup>(A)</sup> , 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 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 <sup>(B)</sup> , pagers, telephone answering machines and telephone sets (wired and wireless)			—
	Generic product type	Specific examples of generic type																							
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	Telecommunication terminal equipment	Facsimile equipment, key telephone systems, modems, PABXs <sup>(B)</sup> , pagers, telephone answering machines and telephone sets (wired and wireless)																							
(A) Commonly known as "copiers".																									
(B) PABX - Private Automatic Branch Exchange.																									
<b>Note 3:</b>																									
The requirements of Israel Standard SI 60065 <sup>(C)</sup> 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><b>Additional requirements</b></p> <p>Requirements additional to those specified in this Standard may be necessary for:</p> <ul style="list-style-type: none"> <li>- 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);</li> <li>- electromedical applications with physical connections to the patient;</li> <li>- equipment intended to be used in vehicles, on board ships or aircraft, in tropical countries, or at altitudes greater than 2,000 m.</li> <li>- equipment intended for use where ingress of water may be possible. For guidance on such requirements and on relevant testing, see Annex T.</li> </ul> <p><b>Note:</b> Attention is drawn to the fact that government authorities of some countries impose additional requirements.</p>		N/A
1.1.3	<p><b>Exclusions</b></p> <p>This Standard does not apply to:</p> <ul style="list-style-type: none"> <li>- power supply systems which are not an integral part of the equipment, such as motor-generator sets, battery backup systems and transformers;</li> <li>- building installation wiring;</li> <li>- devices requiring no electric power.</li> </ul>		—
National deviations to the clauses of the International Standard			
1.6	<p><b>Power interface</b></p> <p>The clause is applicable with the following addition:</p>		N/A
1.6.1	<p><b>AC Power distribution systems</b></p> <p>A note shall be added to the clause as follows:</p> <p><b>Note:</b> In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.</p>		N/A
1.7	<p><b>Marking and instructions</b></p> <p>The clause is applicable with the following additions:</p> <ul style="list-style-type: none"> <li>- Subclause 1.7.201 shall be added at the beginning of the clause as follows:</li> </ul>		N/A
1.7.201	<p><b>Marking in the Hebrew language</b></p> <p>The marking in the Hebrew language shall be in</p>		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"> <li>1. Name of the apparatus and its commercial designation;</li> <li>2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address;</li> <li>3. Manufacturer's registered trademark, if any;</li> <li>4. Name of the model and serial number, if any;</li> <li>5. Country of manufacture.</li> </ol>		
1.7.2	<b>Safety instructions and marking</b>		N/A
1.7.2.1	<p><b>General</b></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>		N/A
1.201	<p><b>Power Consumption in standby mode</b></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>		N/A
2.	<p><b>Protection from hazards</b></p> <p>The clause is applicable with the following additions:</p>		N/A
2.9.4	<p><b>Separation from hazardous voltages</b></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"> <li>1. TN-S - Network system earthing; TN-C-S -</li> </ol>		N/A

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<sub>Δ</sub>);</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><b>Prevention of electromagnetic interference</b></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>		N/A
3.	<p><b>Wiring, connections and supply</b></p> <p>The clause is applicable with the following additions:</p>		N/A
3.2	<b>Connection to a mains supply</b>		N/A
3.2.1	<b>Means of connection</b>		N/A
3.2.1.1	<p><b>Connection to an a.c. mains supply</b></p> <p>After the note, the following note shall be added:</p> <p><b>Note:</b> 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><b>Connection to a d.c. mains supply</b></p> <p>At the end of the first paragraph, the following note shall be added:</p> <p><b>Note:</b> At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.</p>		—



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Clause	Difference – Test		Result – Remark
Annex P	<b>ANNEX P</b> <b>(normative) Normative references</b> 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
	<b>The referenced International Standard</b>	<b>The substituted Israel Standard</b>	
	IEC 60065: 2001	SI 250 <sup>(A)</sup> - Safety requirements for mains operated electronic and related apparatus for household and similar general use	
	IEC 60083	SI 32 Part 1.1 <sup>(a)</sup> – Plugs and socket-outlets for household and similar purposes: Plugs and socket-outlets for single phase up to 16A – General requirements national modifications and	
	IEC 60227 (all parts)	SI 473, all parts - Cables, cords and insulated conductors for nominal voltage up to 1000 volt	
	IEC 60245 (all parts)	SI 60245 Part 1 – Rubber insulated cables – Rated voltages up to and including 450/750 V	
	IEC 60309 (all parts)	SI 1109, all parts - Plugs, socket-outlets and couplers for industrial purposes	
	IEC 60317 (all parts)	SI 1067 Part 1 – Enamelled round copper wires with high mechanical properties	
		SI 1067 Part 2 - Self-fluxing enamelled <sup>(B)</sup> round copper wires	
		SI 1067 Part 3 – Enamelled round copper wires with a temperature index of 180°C	
	IEC 60320 (all parts)	SI 60320 Part 1 - Appliance couplers for household and similar general purposes: General requirements	

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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 <sup>nd</sup> 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>			N/A

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
<b>CHINA-Differences to IEC 60950-1:2005 (ed. 2) (2013-09-26)</b> <b>(GB4943.1-2011 Information technology equipment – Safety – Part 1: General requirements)</b>			
1.1.2	Revise the third dashed paragraph as: —equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;	Considered.	P
1.4.5	At the end of the third dashed paragraph ,added following paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%,-10% unless a wider tolerance is declared by the manufacturer. Delete the contents which behind the first dash.	Tolerances +10%, -10% considered.	P
1.4.12.1	Tma in clause 1.4.12.1 amended as: Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater.  And note 1: for equipment not to be operated at tropical climatic conditions, Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater.  Add note 2: for equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are considered.	Manufacturer specifies ambient temperature >35°C	P
1.5.2	Add a note behind the first dash : A component used shall comply with related requirements corresponding altitude of 5000m.	Unit evaluated only for use up to 4000 meters.  Shall be evaluated during national approval.	N/A
1.7	Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.		P
1.7.1	Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V(three-phases)when manufactured.  And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.	The rated voltage range and frequency range is covering China mains voltage 220V/50Hz.	P

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
1.7.2.1	<p>Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions:</p> <p>For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used at altitude not exceeding 2000m."</p>  <p>If only symbol used, the explanation of the symbol shall be contained in the instruction manual.</p> <p>For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used in not-tropical climate regions."</p>  <p>If only symbol used, the explanation of the symbol shall be contained in the instruction manual.</p> <p>The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.</p>	<p>Marking plate for Chin market not part of the investigation.</p> <p>Shall be evaluated during national approval.</p>	N/A
2.7.1	<p>Amended as:</p> <p>Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3.</p> <p>Delete note of Clause 2.7.1.</p>	<p>Unit provides appropriate internal protection.</p>	P

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
2.9	<p>Humidity conditioning</p> <p>This section applies for equipment to be operated at tropical climatic conditions, humidity conditioning dealt with tropical climatic conditions. For equipment not to be operated at tropical climatic conditions, its humidity conditioning complies with rules of CTL 624/07.</p>	<p>Humidity treatment performed under the following conditions:</p> <ul style="list-style-type: none"> <li>- 120 hours</li> <li>- 93% humidity treatment</li> <li>- 40°C</li> </ul>	N/A
2.9.	<p>First section of Clause 2.9.2 amended as two sections:</p> <p>Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature <math>40\pm 2^{\circ}\text{C}</math> and a relative humidity of <math>(93\pm 3)\%</math>. During this conditioning the component or subassembly is not energized.</p> <p>For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of <math>(93\pm 3)\%</math>. The temperature of the air, at all places where samples can be located, is maintained within <math>2^{\circ}\text{C}</math> of any convenient value <math>t</math> between <math>20^{\circ}\text{C}</math> and <math>30^{\circ}\text{C}</math> such that condensation does not occur.</p> <p>Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered.</p> <p>Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.</p>		
2.10.3.1	<p>Change the third paragraph of Clause 2.10.3.1 to be:</p> <p>These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T 16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T 16935.1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.</p>		N/A

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
2.10.3.4	<p>Add a new section above Table 2K and in Clause 2.10.3.4: minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T 16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T 16935.1.</p> <p>Add "(apply for up to 2000m)" in header of Table 2K, 2L and 2M.</p>	<p>Unit verified for altitude up to 4000m.</p> <p>Shall be evaluated during national approval.</p>	N/A
3.2.1.1	<p>Add a paragraph before the last paragraph:</p> <p>Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.</p>	Shall be evaluated during national approval.	N/A
4.2.8	<p>Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011.</p> <p>Delete note of Clause 4.2.8.</p>	No CRT used.	N/A
Annex E	<p>Last section of Annex E amended as:</p> <p>For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35°C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.</p>	No linear transformer used.	N/A
Annex G.6	<p>Change the second section of Clause G.6 to be:</p> <p>For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.</p> <p>A component that has been demonstrated to comply with National Industry standards or the relevant national standard shall be subjected to the applicable tests of this standard as part of the equipment.</p>	<p>Unit evaluated for use up to 4000 meters.</p> <p>Shall be evaluated during national approval.</p>	N/A

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
Annex BB (informative)	Amended as :  The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.	Considered.	--
Annex DD (normative)	Added annex DD: Instructions of the new safety warning labels.	Must be verified during national approval.	N/A
Other amendments	In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.	Considered.	P
Quoting standards and reference documents	<p>The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows:</p> <p>If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments.</p> <p>For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> <li>- If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted;</li> <li>- If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted;</li> <li>- If the date of the national standard or industry standard is not given, the latest edition of the standard applies;</li> <li>- The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard.</li> </ul> <p>When quoting several chapters or clauses of the international standard, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> <li>- If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted;</li> </ul>	Considered.	P

IEC 60950-1/Am1			
Clause	Difference – Test	Result – Remark	Verdict
	<p>- If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted.</p> <p>Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1: 2005.</p>		


<b>Country</b>	Japan
<b>IECEE Member NCB</b>	IECEE-JP
<b>IEC Standard</b>	IEC 60950-1:2005 + Amd. 1:2009 + Amd. 2:2013
<b>Corresponding National Standard</b>	J60950-1 (H29)
<b>Regulatory Requirements</b>	Electrical Appliances and Materials Safety Act Article 8, 9 and Appendix 12

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
1.2.4.1	<p>Add the following new notes.</p> <p>Note: Even if the equipment is designed as Class I, the equipment is regarded as CLASS 0I EQUIPMENT (see 1.2.4.3A) when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.</p>		N/A

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
1.2.4.3A	<p>Add the following new clause.</p> <p><b>1.2.4.3A CLASS 0I EQUIPMENT</b></p> <p>Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by:</p> <ul style="list-style-type: none"> <li>- using BASIC INSULATION, and</li> <li>- providing either of the following a) or b) in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring.</li> </ul> <p style="margin-left: 40px;">a) Provision of 2-pin plug with earthing lead including the condition of that 2-pin adaptor with earthing lead wire is provided or recommended.</p> <p style="margin-left: 40px;">b) Provision of an independent earthing terminal, when 2-core mains cord (without earthing conductor) is used.</p> <p>Note – CLASS 0I EQUIPMENT may have a part constructed with Double Insulation or Reinforced Insulation.</p>	Equipment is rated class II.	N/A
1.3.2	<p>Add the following notes after the first paragraph:</p> <p>Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or CLASS 0I EQUIPMENT unless it is intended to be installed by service personnel.</p> <p>Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or CLASS 0I EQUIPMENT unless it is intended to be installed by service personnel.</p>		N/A




IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
1.5.1	<p>Replace the first paragraph with the follows:</p> <p>Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards, or components shall have equivalent to or better properties than these.</p> <p>Replace Note 1 with the following:</p> <p>Note 1 Components complying with the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p> <p>Note 2 JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.</p> <p>Add the following after the last paragraph:</p> <p>For an appliance connector that is able to fit with appliance inlet compatible with the standard sheet of IEC 60320-1 or JIS C 8283-1, the size of the connector shall comply with relevant standard sheet of IEC 60320-1 or JIS C 8283-1. A power supply cord set complying with JIS C 8286 is regarded to comply with this requirement.</p> <p>Note 3 A power supply cord set provided with appliance connector that is able to fit with appliance inlet compatible with the standard sheet of IEC 60320-1 or JIS C 8283-1 should comply with JIS C 8286.</p>	IEC/UL approved materials are used.	P
1.5.2	<p>Add the following Note 2 after the 4th dashed paragraph:</p> <p>Note 2 See 1.7.5A when Type C.14 appliance coupler rated 10 A per JIS C 8283-1 is used with an equipment rated not more than 125 V and rated more than 10 A.</p>		N/A
1.5.5	<p>Add the following Note after the last paragraph:</p> <p>NOTE An interconnection cord sets provided with interconnecting coupler for mains supply complying with JIS C 8283-2-2 should comply with JIS C 8286.</p>	No power supply cord set provided.	N/A
1.5.9.1	<p>Add the following in the last of NOTE 1.</p> <p>Gas discharge tube connected in series with VDR may be used.</p>	Considered.	—

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
1.7	Replace EE.2 and EE.4 with the following:  JA.1 Shredder warning JA.3 Shredder power disconnection	No such equipment.	N/A
1.7.1.2	Replace first and second dashed paragraphs with the followings:  - manufacturer's or responsible company's name or trade-mark or identification mark;  - manufacturer's or responsible company's model identification or type reference;	Manufacturer's TM and manufacturer's type reference provided.	P
1.7.2.1	Add the following after the second paragraph.  Instruction or equipment marking regarding safety shall be written in Japanese unless otherwise permitted in this standard.	Has to be checked during national approval.	N/A
1.7.2.5	Replace the last sentence with the following:  An acceptable marking for an electric shock hazard is  (6.2.4 of JIS S 0101).	No such warning symbol provided.	N/A
1.7.5	Replace the second paragraph with the following.  Socket-outlets conforming to JISC8282-1 are examples of standard power supply outlets.	No socket outlet provided.	N/A

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
1.7.5A	<p>Add the following new clause after 1.7.5.</p> <p>1.7.5A Power supply cord set</p> <p>If appliance coupler according to IEC60320-1, C.14(rated current: 10A) is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the operating instruction.</p> <p>“ Use only designated cord set attached in this equipment”</p> <p>Example in Japanese:</p> <p>“この機器に同こん(梱)した指定の電源コードセットだけを使用して下さい。”</p> <p>If appliance coupler is used for connection to the mains and if the cord set is not provided within the package for the equipment, suitable information regarding to the cord set shall be described in the operating instruction</p> <p>Note Since the combination of appliance inlet with earthing pin and two-core cord set (without earthing conductor) is special, the cord set should be attached in the equipment and the operating instruction should provide the information that the cord set is exclusively used with the equipment and not allowed to use with other equipment.</p>		N/A

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
1.7.14A	<p>Add the following new clause after 1.7.14.</p> <p>1.7.14A Marking for CLASS 0I EQUIPMENT</p> <p>For CLASS 0I EQUIPMENT, the following or equivalent instructions shall be marked.</p> <p>- the following instruction shall be marked on the mains plug or on the visible place of the main body</p> <p>“Provide an earthing connection”</p> <p>Example in Japanese:</p> <p>“必ず接地接続を行ってください。”</p> <p>- the following instruction shall be marked on the visible place of the main body or written in the operating instructions:</p> <p>“Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”</p> <p>Example in Japanese:</p> <p>接地接続は必ず、電源プラグを電源につなぐ前に行ってください。 また、接地接続を外す場合は、必ず電源プラグを電源から切り離してから行ってください。</p>	Not class 0I Equipment.	N/A
1.7.14B	<p>Add the following new clause after 1.7.14A</p> <p>1.7.14B Protective earthing conductor used for CLASS 0I EQUIPMENT</p> <p>For CLASS 0I EQUIPMENT provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment, the suitable information for the protective earthing connection shall be provided in the operating instruction. (See 2.6.3.2)</p>	Not class 0I Equipment.	N/A

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
2.1.1.1	<p>Replace item b) of 2.1.1.1 with the following.</p> <p>b) A test with the test finger, Figure 2A, which shall not contact parts described above when applied to openings in the ENCLOSURES after removal of parts that can be detached by an OPERATOR, including fuseholders, and with OPERATOR access doors and covers open. It is permitted to leave lamps in place for this test. Connectors that can be separated by an OPERATOR, other than those complying with JIS C 8303 or JIS C 8285 or IEC 60309 series or JIS C 8283 series or IEC 60320 series, shall also be tested during disconnection. But even if the connector does not comply with these standards, the one having equivalent to or better performance need not be tested during disconnection.</p> <p>Note 4 Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p>	Considered.	—
2.5	Replace “IEC 60730-1” with “JIS C 9730-1” (in item b)).	No such limiting device incorporated.	N/A
2.6.2	<p>Delete the following line.</p> <p>• the symbol , IEC 60417-5018 (2011-07);</p>		N/A
2.6.3.2	<p>Add the following after the first paragraph.</p> <p>However where the single core conductor is used for protective earthing lead or earthing cord for CLASS 0I EQUIPMENT, either of the following condition shall be met.</p> <ul style="list-style-type: none"> <li>- Use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having equivalent to or more strength and thickness.</li> <li>- Single core cord or single core cable with 1.25 mm<sup>2</sup> or more cross-sectional area</li> </ul>	Not class 0I Equipment.	N/A
2.6.3.5	<p>Add the following after the first paragraph.</p> <p>However this requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.</p>		N/A

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
2.6.4.2	<p>Replace the first paragraph with the following.</p> <p>Equipment required to have protective earthing shall have a main protective earthing terminal.</p> <p>For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal. However, for CLASS 0I EQUIPMENT provided with the separate main protective earthing terminal other than appliance inlet, the separate main protective earthing terminal may be treated as mains protective earthing terminal.</p>	Not CLASS 0I equipment.	N/A
2.6.5.4	<p>Replace the first sentence with the following.</p> <p>Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:</p> <p>Add the following after last paragraph:</p> <p>Note For CLASS 0I EQUIPMENT, 1.7.14A is applied instead of this requirement.</p>		N/A
2.6.5.8A	<p>Add the following new clause after 2.6.5.8</p> <p>2.6.5.8A Earthing of CLASS 0I EQUIPMENT</p> <p>Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V.</p> <p>For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip.</p> <p>CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.</p>	Not CLASS 0I equipment.	N/A
2.7.6	<p>Replace “ISO 3864, No. 5036” with “6.2.4 of JIS S 0101”.</p>		P

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
2.10.3.1	<p>Replace the 8th paragraph with the following</p> <p>The above minimum CLEARANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, or even if it does not comply with the above standards but the one having equivalent to or better performance and dimension which comply with JIS C 8283 series of standards, JIS C 8303 or IEC 60309-2.</p> <p>Note Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p>		N/A
2.10.3.2 Table 2J	In Japan, the value of the main power supply transient voltage for the nominal ac main power supply voltage of 100 V is determined by applying the row of AC main power supply voltage 150 V.	2500 V mains transient voltage considered.	P
2.10.4.3	<p>Replace the 6th paragraph with the following</p> <p>The above minimum CREEPAGE DISTANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, or even if it does not comply with the above standards but the one having equivalent to or better performance and dimension which comply with JIS C 8283 series of standards, JIS C 8303 or IEC 60309-2.</p> <p>Note Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p>		N/A
2.10.9	Replace “1.4.5” in the third paragraph with “1.4.12”.	Considered	—
3.2.3	<p>Add the following after the third paragraph.</p> <p>Table 3A applies when cables complying JIS C 3662 series of standards or JIS C 3663 series of standards are used. In case of other cables, cable entries shall be so designed that the cable could be fitted in a conduit.</p>		N/A

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
3.2.4	<p>Add the following as 4th dashed paragraph.</p> <p>- be so constructed that mechanical stress shall not transmit to the soldering part of inlet terminal during insertion or removal of the connector except that the body of the inlet is secured and is secured not only soldering.</p>		N/A
3.2.5.1	<p>Add the following after Note 3:</p> <p>Note 4 In Japan, mains cords having equivalent to or better electro-mechanical and fire safety performance as above and complying with Appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance can be used.</p> <p>Replace the paragraph after Note 3 with the following.</p> <p>For equipment required to have protective earthing, a PROTECTIVE EARTHING CONDUCTOR shall be included in the MAINS SUPPLY cord except for CLASS 0I EQUIPMENT having separate protective earthing conductor from mains cord.</p> <p>Add the following after the second paragraph after Note 3:</p> <p>Note 5 For the cross-sectional area of mains cord described in Note 4, relevant Japanese wiring regulation can be applied.</p>	Power supply cord is not provided.	N/A
3.2.5A	<p>Add the following new clause after 3.2.5</p> <p>3.2.5A AC mains plug Mains plug for PLUGGABLE EQUIPMENT TYPE A shall comply with JIS C 8282-1 or equivalent to or better performance. Power supply cord set complying with JIS C 8286 is regarded to meet the requirements. Mains plug with fuse link for PLUGGABLE EQUIPMENT TYPE A shall comply with JIS C 8282-2-1 or equivalent to or better performance. Note Mains plug complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p>	Must be verified during national approval.	N/A
3.3.4 Table 3D	<p>Add the following note to Table 3D:</p> <p>Note For cables other than those complying with JIS C 3662 series of standards or JIS C 3663 series of standards, the terminals shall be suitable for the size of the intended cables.</p>		N/A



IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
3.3.7	<p>Add the following after the first sentence:</p> <p>This requirement is not applicable to the external earthing terminal of CLASS 0I EQUIPMENT.</p>	Not CLASS 0I equipment.	N/A
4.2.8	<p>Add the following after the first paragraph:</p> <p>Note Intrinsically protected picture tube is required to comply with JIS C 6965 in clause 18 of JIS C 6065. No intrinsically protected picture tube which is out of scope of JIS C 6965 is required to test according to sub-clause 18.2 of JIS C 6065.</p>		N/A
4.3.4	<p>Add the following after the first sentence:</p> <p>This requirement also applies to those connections in CLASS 0I EQUIPMENT, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.</p>	No loosening of parts impairing creepage distances or clearances over basic, insulation is likely to occur.	P
4.3.5	<p>Replace the first dashed paragraph with the following.</p> <p>Within a manufacturer's unit or system, plugs and sockets likely to be used by the OPERATOR or by a SERVICE PERSON shall not be employed in a manner likely to create a hazard due to misconnection. In particular, connectors complying with IEC 60320/JIS C 8283 series of standards or JIS C 8303 or JIS C 8358 shall not be used for SELV CIRCUITS or TNV CIRCUITS. Keying, location or, in the case of connectors accessible only to a SERVICE PERSON, clear markings are permitted to meet the requirement.</p>		N/A
4.3.6	<p>Replace the 1st paragraph with the following</p> <p>DIRECT PLUG-IN EQUIPMENT shall not impose undue stress on the socket-outlet. The mains plug part shall comply with the standard for the relevant mains plug. (see 3.2.5A)</p>	Must be verified during national approval.	N/A
4.4.2	<p>Replace the paragraph with the following:</p> <p>HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall also comply with Annex JA.</p>	No such equipment.	N/A

IEC 60950-1 – Japan National differences																																														
Clause	Difference – Test	Result – Remark	Verdict																																											
4.5.3	<p>Add the following note to footnote b) of Table 4B:</p> <p>NOTE In case no data for the material is available, Appendix 4, 1. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances is regarded as maximum temperature limit of the material.</p>	Separately approved materials used.	P																																											
5.1.3	<p>Add a note after the first paragraph as follows:</p> <p>Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.</p>	Single phase equipment.	N/A																																											
5.1.6	<p>Replace Table 5A. as follows</p> <table border="1"> <thead> <tr> <th>Type of equipment</th><th>Terminal A of measuring instrument connected to:</th><th>Maximum TOUCH CURRENT mA r.m.s. <sup>a</sup></th><th>Maximum PROTECTIVE CONDUCTOR CURRENT</th></tr> </thead> <tbody> <tr> <td>ALL equipment</td><td>Accessible parts and circuits not connected to protective earth <sup>b</sup></td><td>0,25</td><td>-</td></tr> <tr> <td rowspan="2">HAND-HELD</td><td>Main protective earthing terminal of CLASS I EQUIPMENT</td><td>0,75</td><td>-</td></tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td><td>0,5</td><td>-</td></tr> <tr> <td rowspan="2">MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT)</td><td>Main protective earthing terminal of CLASS I EQUIPMENT</td><td>3,5</td><td>-</td></tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td><td>1,0</td><td>-</td></tr> <tr> <td rowspan="2">STATIONARY, PLUGGABLE TYPE A</td><td>Main protective earthing terminal of CLASS I EQUIPMENT</td><td>3,5</td><td>-</td></tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td><td>1,0</td><td>-</td></tr> <tr> <td rowspan="3">ALL other STATIONARY EQUIPMENT</td><td>Main protective earthing terminal of CLASS I EQUIPMENT</td><td>3,5</td><td>-</td></tr> <tr> <td>- not subject to the conditions of 5.1.7</td><td>-</td><td>5 % of input current</td></tr> <tr> <td>- subject to the conditions of 5.1.7</td><td>1,0</td><td>-</td></tr> <tr> <td></td><td></td><td>-</td><td>-</td></tr> </tbody> </table> <p><sup>a</sup> If peak values of TOUCH CURRENT are measured, the maximum values are obtained by multiplying the r.m.s. values in the table by 1,414.</p> <p><sup>b</sup> Some unearthed accessible parts are covered in 5.5.6 and 5.5.7 and the requirements of 2.4 apply. These may be different from those in 5.1.6.</p>	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. <sup>a</sup>	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	Accessible parts and circuits not connected to protective earth <sup>b</sup>	0,25	-	HAND-HELD	Main protective earthing terminal of CLASS I EQUIPMENT	0,75	-	Main protective earthing terminal of CLASS 0 I EQUIPMENT	0,5	-	MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT)	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0	-	STATIONARY, PLUGGABLE TYPE A	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0	-	ALL other STATIONARY EQUIPMENT	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-	- not subject to the conditions of 5.1.7	-	5 % of input current	- subject to the conditions of 5.1.7	1,0	-			-	-	Considered.	P
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. <sup>a</sup>	Maximum PROTECTIVE CONDUCTOR CURRENT																																											
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	- not subject to the conditions of 5.1.7	-	5 % of input current																																											
	- subject to the conditions of 5.1.7	1,0	-																																											
		-	-																																											
Annex G	<p>Replace the paragraph before Table G.2 with the following</p> <p>The above minimum CLEARANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, and 1.5.1 of this standard in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.</p>		N/A																																											
Annex V V.1	Replace “3.1.2” in the first line of V.1 with “312” in the first line.	Considered.	—																																											

IEC 60950-1 – Japan National differences			
Clause	Difference – Test	Result – Remark	Verdict
Annex W W.1	<p>Replace the third sentence in the first paragraph with the following:</p> <p>Floating circuits can exist in CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and earthed circuits can exist in CLASS II EQUIPMENT.</p>	Touch current was not exceeded.	N/A
Annex BB	This annex is not applicable.		—
Annex CC CC.2	<p>Replace the third dashed paragraph with the following:</p> <p>- 10 000 cycles of turning enable on and off with the input connected to a capacitor rated 425 <math>\mu</math>F <math>\pm</math> 10 <math>\mu</math>F and shorting the output;</p>	No such limiting device provided.	N/A
CC.3	<p>Add note at end of CC.3:</p> <p>Note: The fast blow fuse should be the one complying with JIS C 6575-2.</p>		N/A

## **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

**Attachment Originator** .....: SGS Fimko Ltd

**Master Attachment** .....: Date 2014-02

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

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)						
Clause	Requirement + Test			Result - Remark		Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it's amendmets are prefixed "Z"					P
Contents	Add the following annexes:					P
	Annex ZA (normative)	Normative references to international publications with their corresponding European publications				
(A2:2013)	Annex ZB (normative)	Special national conditions				
	Annex ZD (informative)	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	
	4.7.3.1Note 2	5.1.7.1	Note 3 & 4	5.3.7	Note 1	
	6 Note 2 & 5	6.1.2.1	Note 2	6.1.2.2	Note	
	6.2.2 Note	6.2.2.1	Note 2	6.2.2.2	Note	
	7.1 Note 3	7.2	Note	7.3	Note 1 & 2	
	G.2.1 Note 2	Annex H	Note 2			
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list:					P
(A1:2010)	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)	<b>Replace</b> 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
	<b>Zx Protection against excessive sound pressure from personal music players</b>		N/A

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><b>Zx.1 General</b></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> <p>□□is designed to allow the user to listen to recorded or broadcast sound or video; and</p> <p>□□primarily uses headphones or earphones that can be worn in or on or around the ears; and</p> <p>□□allows the user to walk around while in use.</p> <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> <p>□□while the personal music player is connected to an external amplifier; or</p> <p>□□while the headphones or earphones are not used.</p> <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> <p>□□hearing aid equipment and professional equipment;</p> <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
	<p>□□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> <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><b>Zx.2 Equipment requirements</b></p> <p>No safety provision is required for equipment that complies with the following:</p> <p><input type="checkbox"/> <input type="checkbox"/> equipment provided as a package (personal music player with its listening device), where</p> <p style="padding-left: 40px;">the acoustic output <math>L_{Aeq,T}</math> is <math>\leq 85</math> dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and</p> <p><input type="checkbox"/> <input type="checkbox"/> a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is <math>\leq 27</math> mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1.</p> <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level <math>L_{Aeq,T}</math> is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <p>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and</p> <p>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</p>		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 <math>\leq 100</math> 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 <math>\leq 150</math> 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 <math>L_{Aeq,T}</math>) 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 <math>L_{Aeq,T}</math>) 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><b>Zx.3 Warning</b></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> <p>□□□the symbol of Figure 1 with a minimum height of 5 mm; and</p> <p>□□□the following wording, or similar:</p> <p>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p> <div>  </div> <p><b>Figure 1 – Warning label (IEC 60417-6044)</b></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
	<b>Zx.4 Requirements for listening devices (headphones and earphones)</b>		N/A
	<p><b>Zx.4.1 Wired listening devices with analogue input</b></p> <p>With 94 dBA sound pressure output <math>L_{Aeq,T}</math>, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be <math>\geq 75</math> 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><b>Zx.4.2 Wired listening devices with digital input</b></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 <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> 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><b>Zx.4.3 Wireless listening devices</b></p> <p>In wireless mode:</p> <p><input type="checkbox"/> with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and</p> <p><input type="checkbox"/> respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and</p> <p><input type="checkbox"/> 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 <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</p> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
	<p><b>Zx.5 Measurement methods</b></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>	Protection does not rely on building installation. Unit provides appropriate internal protection.	P						
2.7.2	This subclause has been declared 'void'.		N/A						
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A						
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6  </td><td>0,75 <sup>a)</sup>  </td></tr><tr><td>Over 6 up to and including 10  </td><td>(0,75) <sup>b)</sup> 1,0  </td></tr><tr><td>Over 10 up to and including 16  </td><td>(1,0) <sup>c)</sup> 1,5  </td></tr></table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition <sup>a)</sup>.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 <sup>a)</sup>	Over 6 up to and including 10	(0,75) <sup>b)</sup> 1,0	Over 10 up to and including 16	(1,0) <sup>c)</sup> 1,5	No power supply cord provided.	N/A
Up to and including 6	0,75 <sup>a)</sup>								
Over 6 up to and including 10	(0,75) <sup>b)</sup> 1,0								
Over 10 up to and including 16	(1,0) <sup>c)</sup> 1,5								
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A						

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.		—

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

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.7.1 (A11:2009)	In <b>Finland, Norway</b> and <b>Sweden</b> , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	No resistors bridging basic insulation.	N/A
1.5.8	In <b>Norway</b> , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Unit not tested for connection to IT power system.	N/A
1.5.9.4	In <b>Finland, Norway</b> and <b>Sweden</b> , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>In <b>Finland, Norway</b> and <b>Sweden</b>, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In <b>Finland</b>: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In <b>Norway</b>: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In <b>Sweden</b>: "Apparaten skall anslutas till jordat uttag"</p>		N/A
1.7.2.1 (A11:2009)	<p>In <b>Norway</b> and <b>Sweden</b>, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."</p>		

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
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 <b>Denmark</b>, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in <b>Denmark</b> shall be as follows: In <b>Denmark</b>: “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 <b>Denmark</b>, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For <b>CLASS II EQUIPMENT</b> the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	No socket outlet provided.	N/A



<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	<p>In <b>Denmark</b>, 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 <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In <b>Finland, Norway</b> and <b>Sweden</b> there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuit.	N/A
2.6.3.3	In the <b>United Kingdom</b> , the current rating of the circuit shall be taken as 13 A, not 16 A.	Considered.	P
2.7.1	In the <b>United Kingdom</b> , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Unit provides appropriate internal protection.	P
2.10.5.13	In <b>Finland, Norway</b> and <b>Sweden</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuit.	N/A
3.2.1.1	<p>In <b>Switzerland</b>, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p>	No power supply cord provided.	N/A

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
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>		
3.2.1.1	<p>In <b>Denmark</b>, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>	No power supply cord provided.	N/A

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

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

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In <b>Finland, Norway</b> and <b>Sweden</b> 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"> <li>• 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;</li> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;</li> <li>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.</li> </ul>		N/A
6.1.2.1 (A1:2010)	<p>In <b>Finland, Norway</b> and <b>Sweden</b>, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>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"> <li>- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul>	Equipment not intended for connection to telecommunication networks.	N/A

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
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"> <li>- 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;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 60384-14:</li> <li>- 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.</li> </ul>		N/A
6.1.2.2	<p>In <b>Finland, Norway and Sweden</b>, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N/A
7.2	<p>In <b>Finland, Norway and Sweden</b>, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>	Equipment not intended for connection to cable distribution systems	N/A
7.3 (A11:2009)	<p>In <b>Norway and Sweden</b>, 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
<b>PVC insulated cords</b>		
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
<b>Rubber insulated cords</b>		
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
<b>Cords having high flexibility</b>		
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
<b>Denmark national differences (2013-07-04)</b> <b>National standard: DS/EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013</b>		
1.2.4.1	In <b>Denmark</b> , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	N/A
1.7.5	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 <b>Denmark</b> , supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.  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

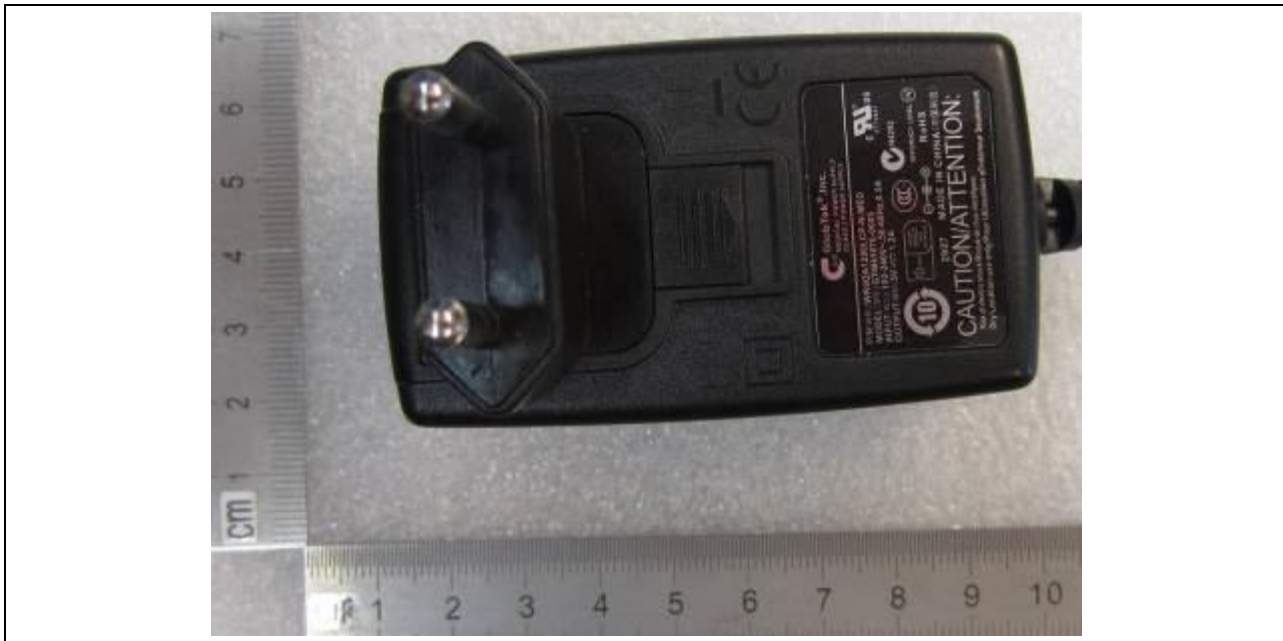
Clause	Requirement	Verdict
<b>Sweden national differences (2013-06-25)</b> <b>National standard: SS-EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011</b>		
Various	Please see the EN version of the standard where the Swedish National and Special National Deviations are stated.	P



## **Enclosure No. 2**

### **Pictures of the unit**

**(11 pages including this cover page)**



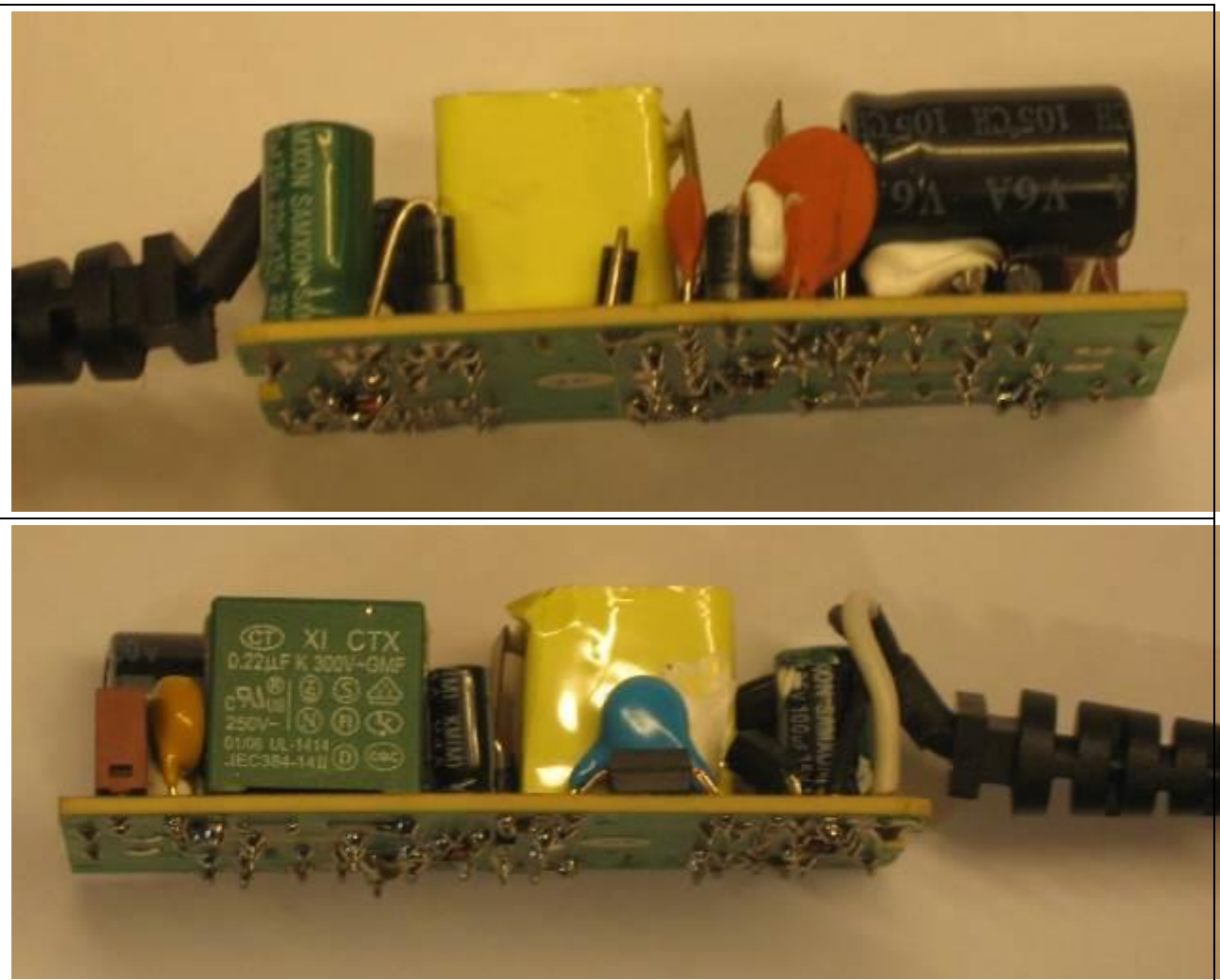


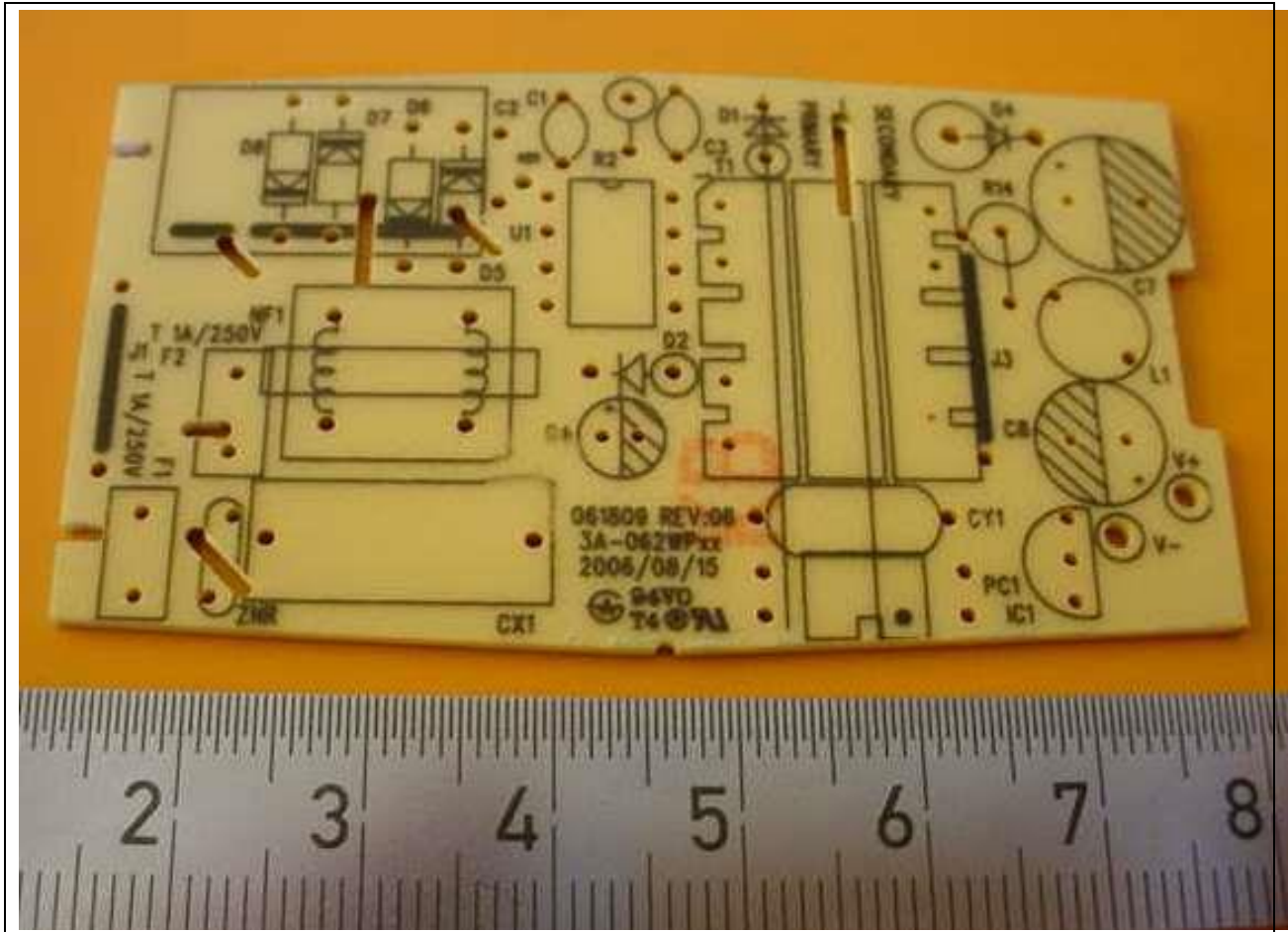




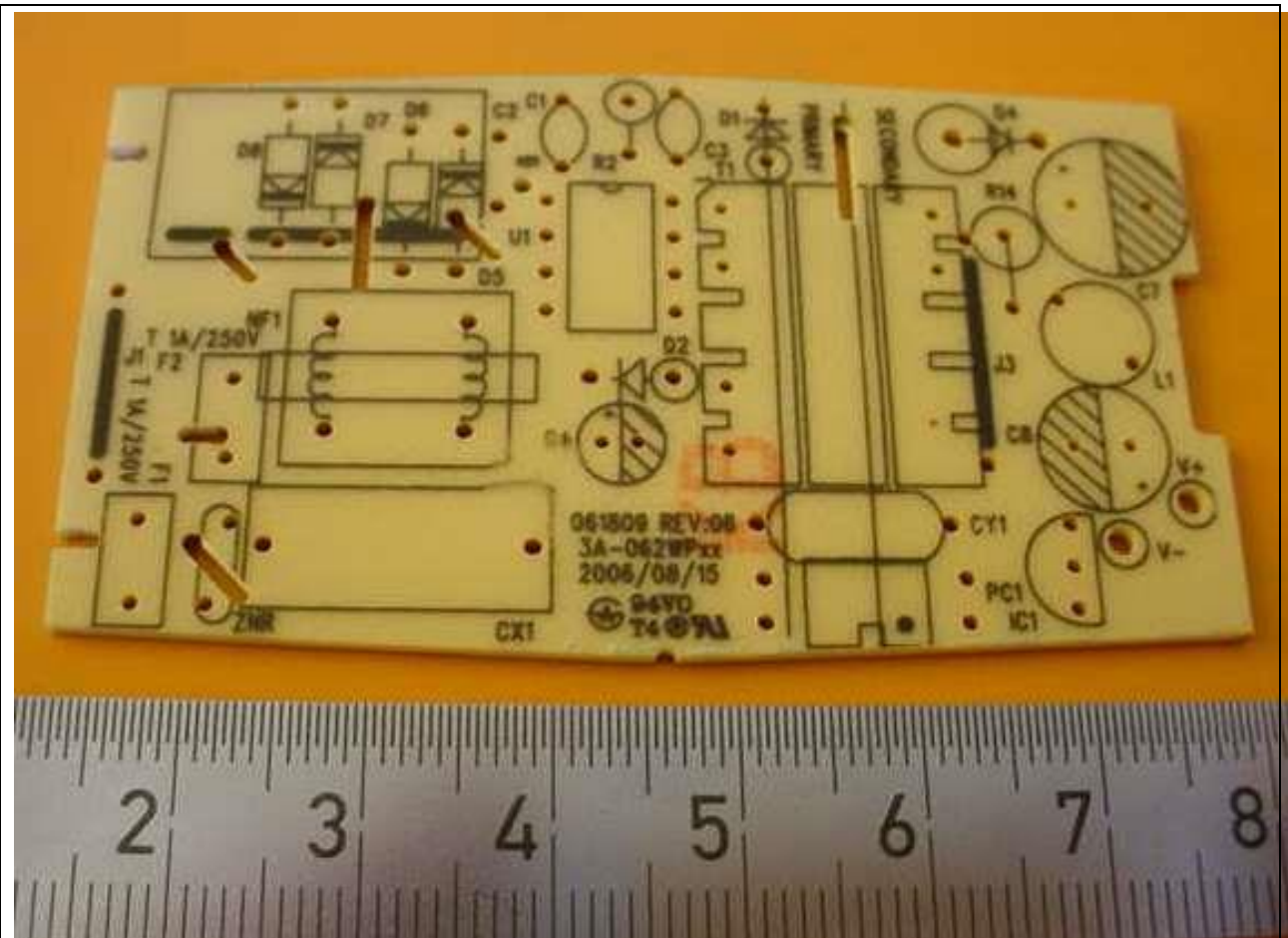


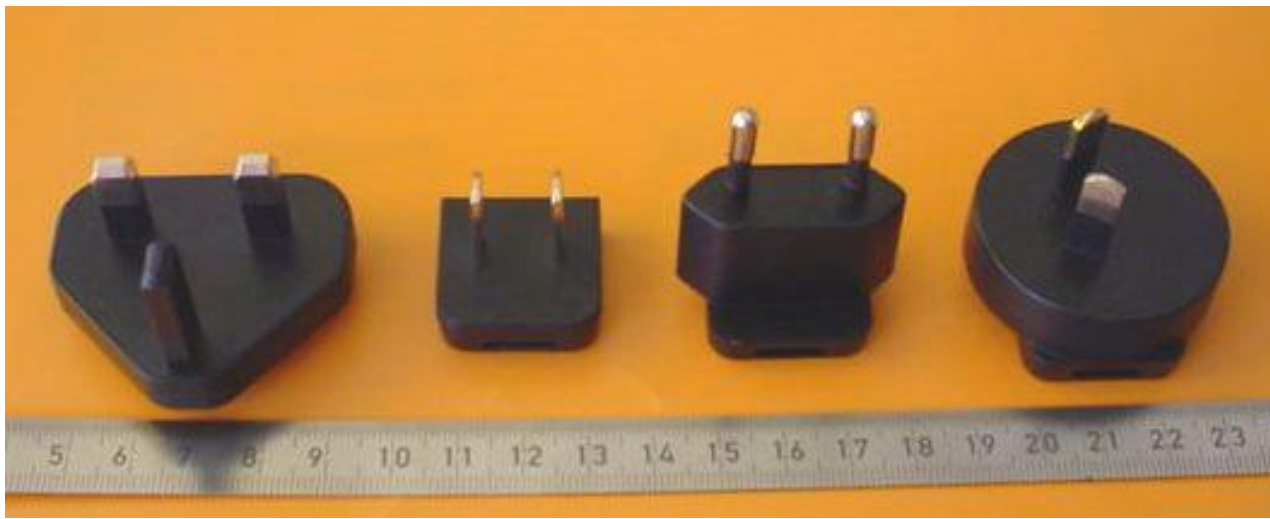






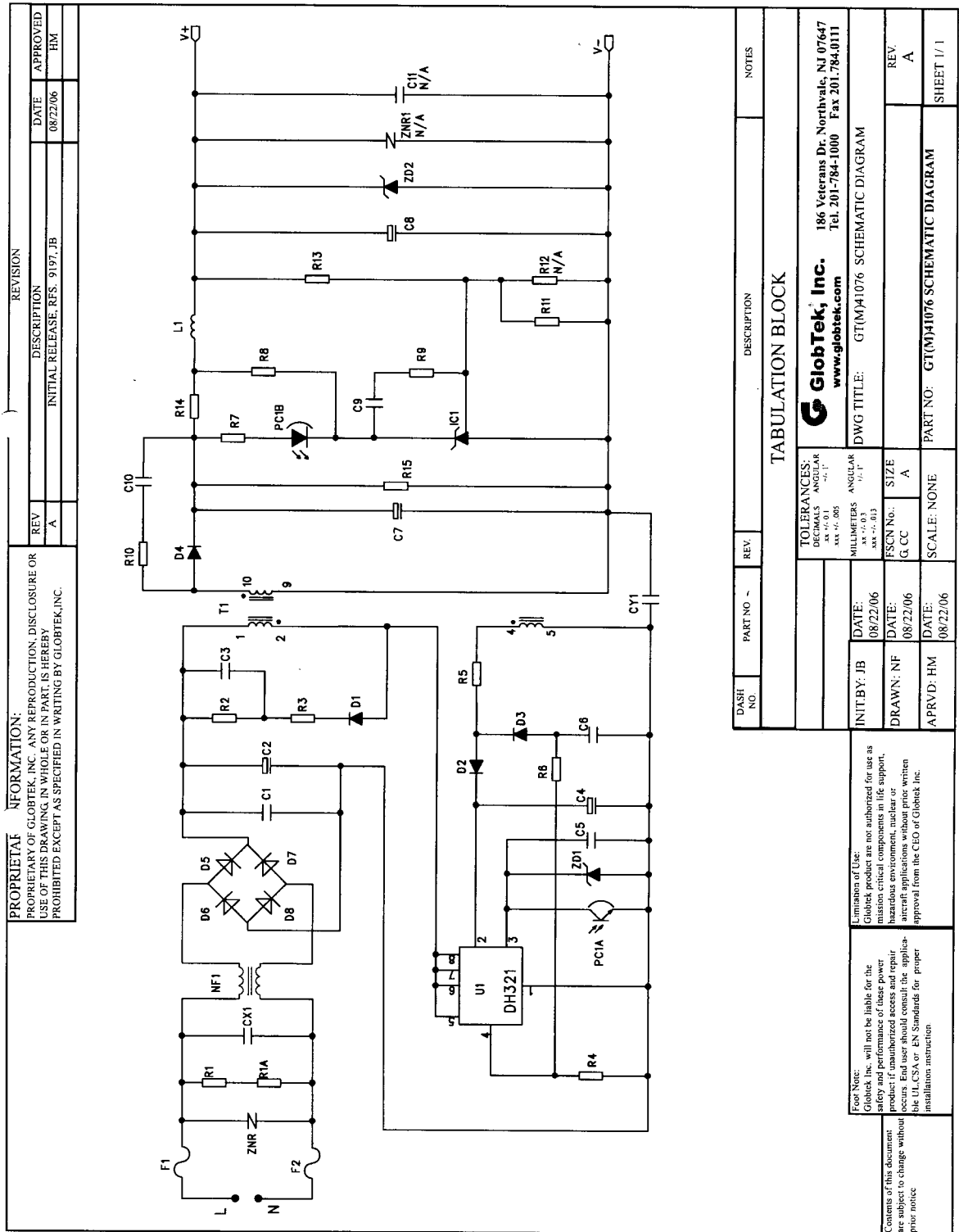


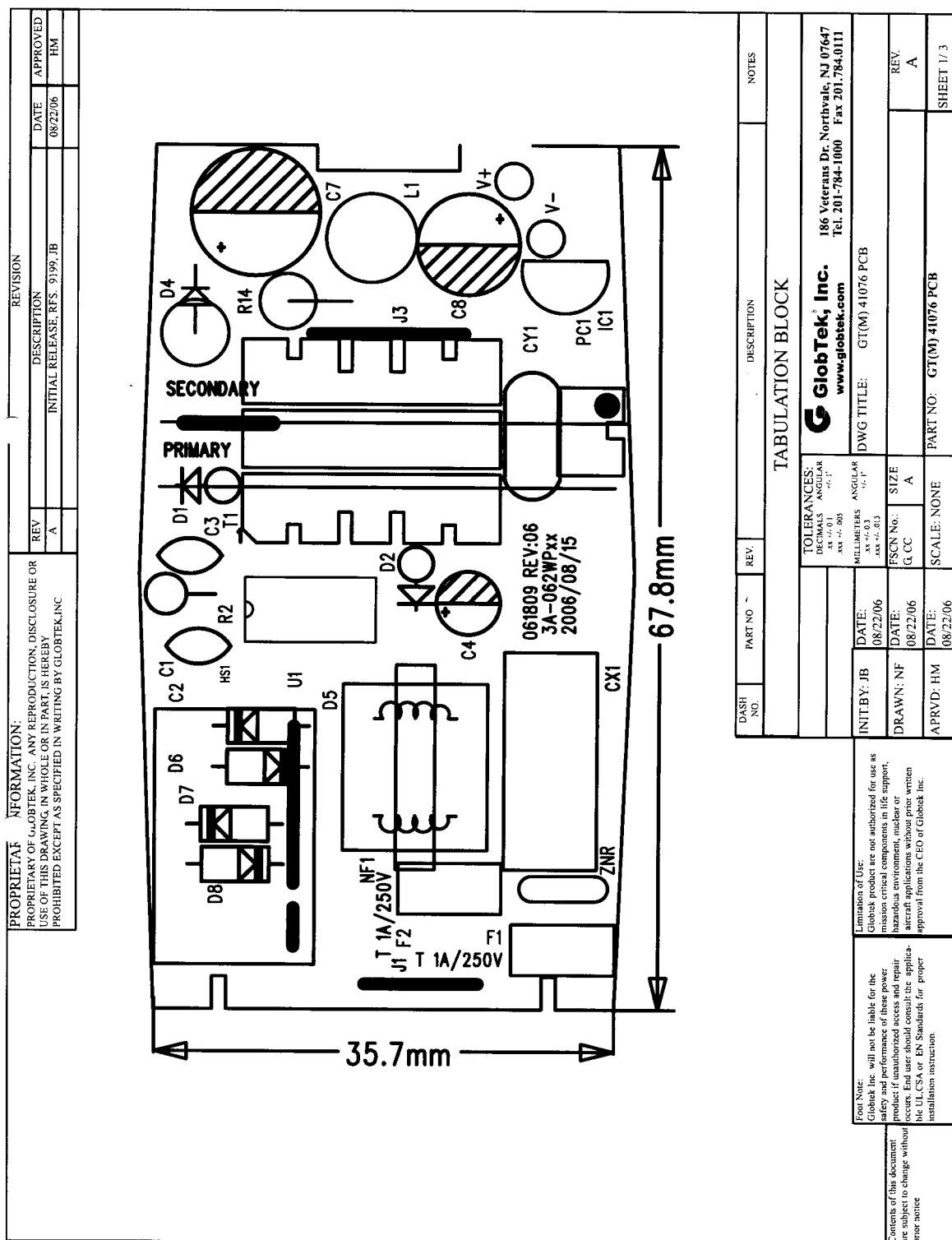


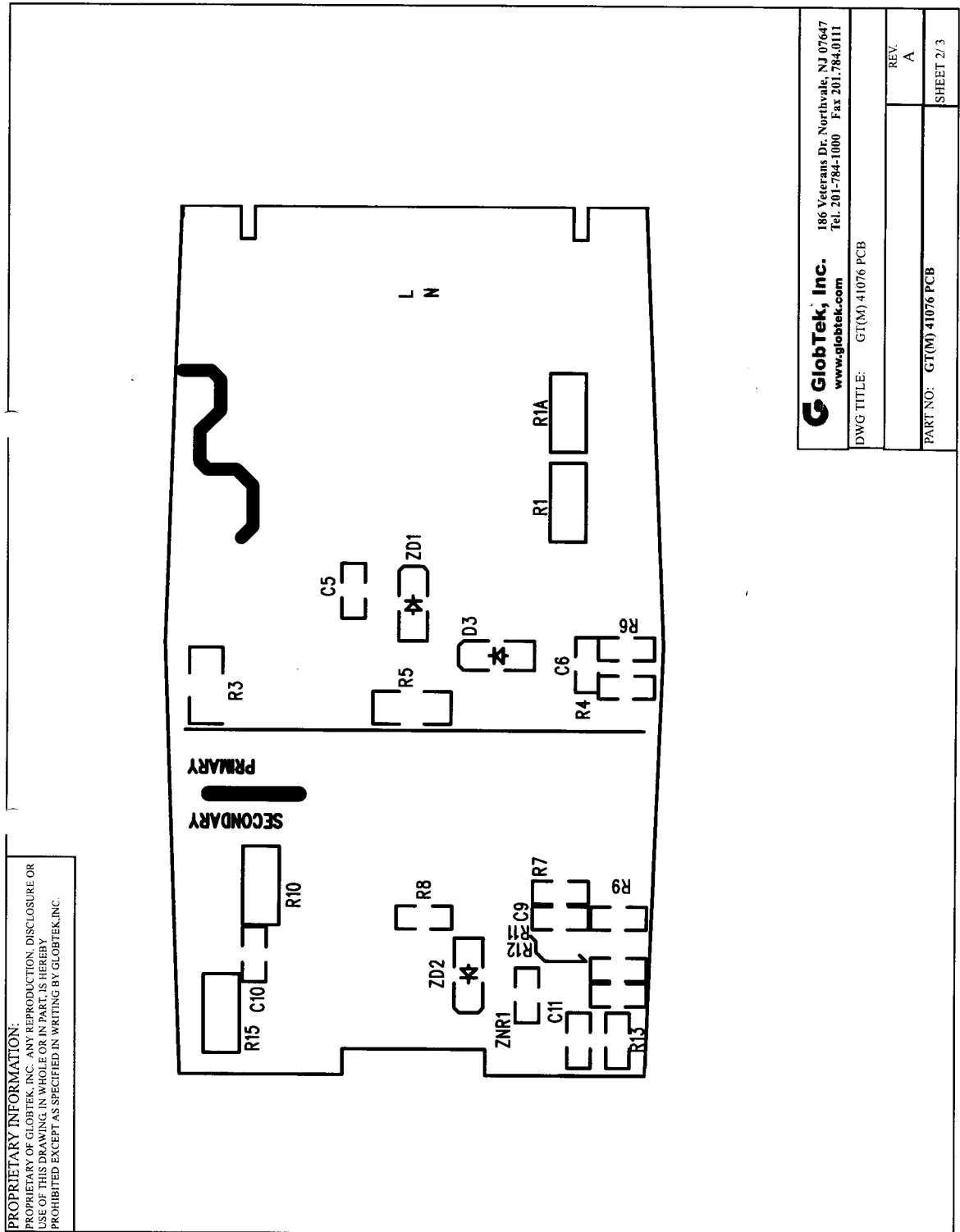


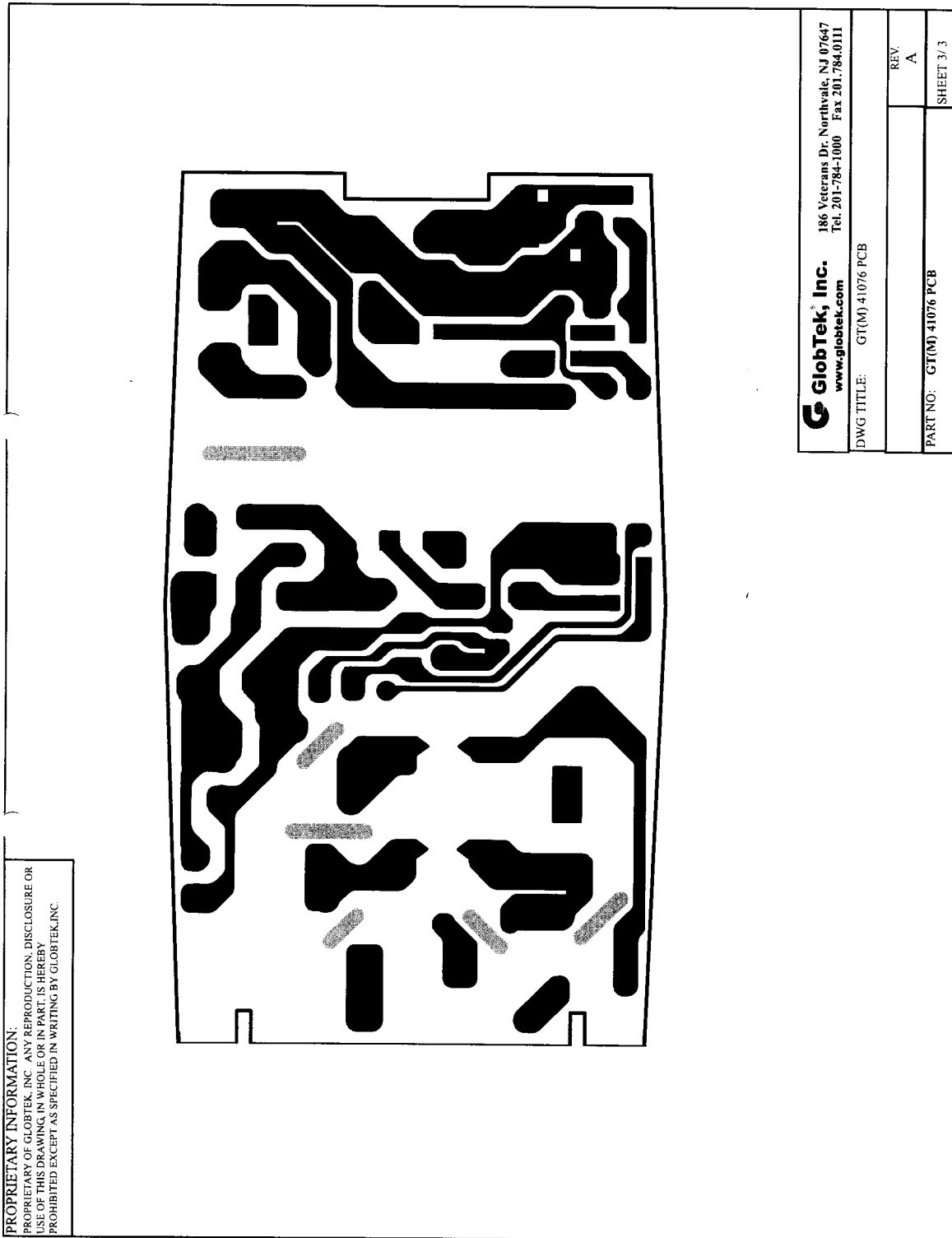


**Enclosure No. 3**  
**Schematics, layouts and transformer**  
**drawings**  
**(20 pages including this cover page)**













銳普電子股份有限公司

XEPEX ELECTRONICS CO., LTD.



## 規格承認書

## SPECIFICATION FOR APPROVAL

Customer: 英格爾

Customer P/N: XF00337 REV:A(無鉛制程)

XEPEX P/N: A9111-1449005610(1.2)

Description: TRANSFORMER

Issue Date: 06.10.24

	"V"	Customer's Signature's	SIGNATURE
Full Approved			
Conditional Approved			
Rejected			

DRAWER	CHECKED		APPROVED
許秀連	曾春萍	肖明勇	張志鋒

銳普電子股份有限公司(總公司)

台北縣中和市建八路 2 號 10 F

(10 F, NO 2, Jian-Ba Rd., Chung-Ho City, Taipei Hsien, Taiwan, R. O. C)

TEL : (886) 2 8226-1868 FAX : (886) 2 8226-1819

超信電子廠

廣東省深圳龍崗區橫崗鎮荷坳長江布工業區長金路 2 號

(NO.2 Chang-jin Rd., Chang-Jang Bu Industries District, Ho Au Chun,

Heng Gang Zhen, lung Gang Qu Guang Dong China)

TEL : (86)-0755-2862-5557 FAX : (86) -0755-2862-5083

昆山電子廠

江蘇省昆山市陸家鎮合丰區金陽東路 333 號

(NO 333, Jin Yang E.RD., Lu Jia Township, Kun Shan City, Jiang Su.china)

TEL : (86)-0512-5787-5333 FAX : (86) -0512-5787-7931

羅定電子廠

廣東省羅定市工業三路 8 號

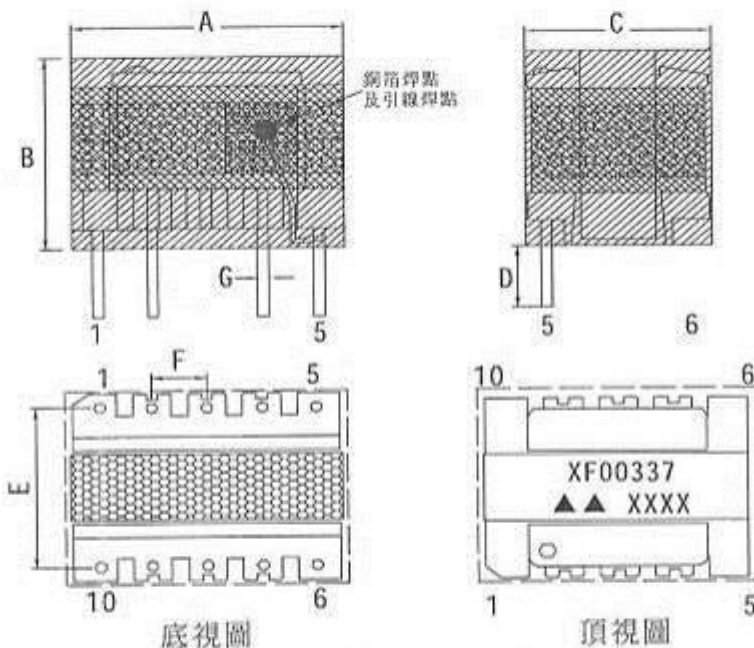
(No 8, Kung-Yeh San Rd., Luoding City, Guangdong, China)

TEL : (86)-0766-3812-341 FAX : (86)-0766-3812-340

# SPECIFICATION

第 1 頁

## 1. PHYSICAL DIMENSION(UNIT:m/m): (外觀圖尺寸)



▲▲ 表示生產地 ("XP" 表示深圳銳普, "KXP" 表示昆山銳普,)  
"xxxx" 前兩個"xx"表示公元年份,后兩個"xx"表示周期。

- \*. PIN3,6,7,8 CUT OFF.
- \*. PIN 端 CORE 須加工(如后圖示)→CORE TAPE UL(Y) 3TS→包線包外圍 TAPE 3M 1350T-1\*1L ITS→在 PIN1-5 個銅箔焊點背部貼一塊 3M 1350T-1\*1L TAPE→圓繞線包焊外銅箔 0.025\*5mm(裸銅自背膠,背膠方式為用 3M1350T-1\*1L TAPE 圓繞銅箔包 1.5TS,兩端須預留裸銅部分),焊點於 PIN1-5 個所貼 TAPE 處,接引線 0.2 步\*1P 于 PIN5(引線焊點在銅箔焊點結合處)且須穿 TF TUBE→反折 PIN1-5 個 TAPE 包住焊點→包成品外圍膠帶 UL(Y)2TS(底部平齊 BOBBIN 敬點)。

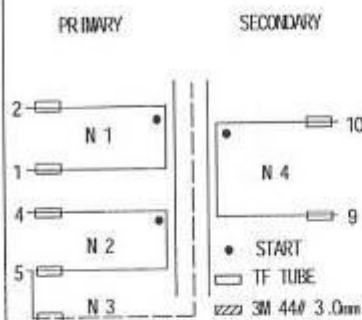
DIM	A	B	C	D	E	F	G		
	MAX	MAX	MAX	+/-0.5	+/-1.0	+/-0.5	+/-0.1		
SPEC	22.0	19.0	19.0	3.5	13.0	4.0	0.7		
銳普電子股份有限公司 XEPEX XEPEX ELECTRONICS CO., LTD.				DESCRIPTION	TRANSFORMER				
				Customer P/N	XF00337 REV:A				
				XEPEX P/N	A9111-1449005610(1.2)				
DRAWER	許秀連	CHECKED	曾春萍	肖明勇	APPROVED	張志鋒			

QM-TP-7310-04

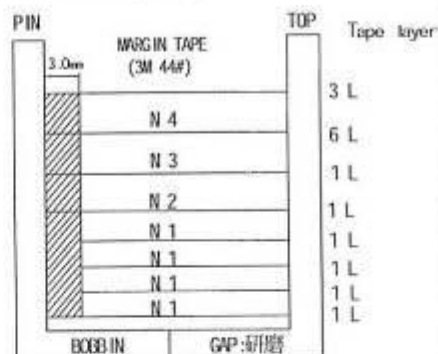
## SPECIFICATION

第 2 頁

## 2. SCHEMATIC: (線路圖)



## 3. WINDING: (剖面圖)



## 4. WINDING TABLE: (繞線結構)

Winding No (組別)	Margin Tape (棉線膠帶)	PIN (腳位)	Wire & Wire Copper (線徑 X 股數)	Turns (圈數)	Winding Tape (繞線方式)	Tape Layer (膠帶層次)	Tube (套管)
						1 L	
N 1	3.0mm/0	2 ~ 1	0.25 $\phi$ x 1P	88TS	密繞	1 L	28*11/28*11
N2	3.0mm/0	4 ~ 5	0.20 $\phi$ X1P	10TS	疏繞	1 L	30*11/30*11
N 3	3.0mm/0	-5	0.025*5mm	0.9TS	背膠	6 L	0/30*11
N 4	3.0mm/0	10~ 9	0.35 $\phi$ x1P (三層絕緣線)	10 TS	密繞	3 L	22*11/22*11

## NOTE:

1. N1 為密繞占四層余, 層間須層隔, 余圈不須層隔直接密繞其上.
2. N4 使用三層絕緣線繞制, 須先脫皮再鍍錫.
3. N2 為疏繞佔一層.
4. N3 為內銅(背膠), 從無線端起繞, 接單芯引線 0.2  $\phi$  \*1P.
5. 各部分尺寸請參照外觀圖.



銳普電子股份有限公司

XEPEX XEPEX ELECTRONICS CO., LTD.

DESCRIPTION	TRANSFORMER
Customer P/N	XF00337 REV:A
XEPEX P/N	A9111-1449005610(1.2)

DRAWER	許秀連	CHECKED	曾春萍	肖明勇	APPROVED	張志鋒
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QM-TP-7310-04

# SPECIFICATION

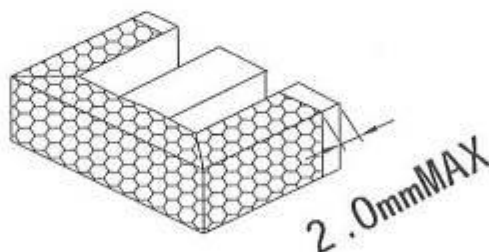
第 3 頁

## 5. ELECTRICAL CHARACTERISTIC:(電器特性)

TEST CONDITION : TEMPERATURE AT 25°C  
HUMIDITY AT 65 ±5% RH

TEST ITEM (測試項目)	TEST CONDITION (測試條件)	RESULT (條件範圍值)
INDUCTANCE (電 感) 測試儀器:CH-1061A(100Ω)	@ 1KHz, 0.25V (2~1)	1.45mH+/-10%
HI-POT TEST (耐壓測試) 測試儀器:CH-9052	@ 5mA 3 SEC (AC)	P<->S 5.00 KV; P<->C 2.50 KV; S<->C 1.50 KV;

CORE加工圖如下:  
用3M 1350T-1\*1L TAPE



銳普電子股份有限公司  
XEPEX XEPEX ELECTRONICS CO., LTD.

DESCRIPTION TRANSFORMER  
Customer P/N XF00337 REV:A  
XEPEX P/N A9111-1449005610(1.2)

DRAWER	許秀連	CHECKED	曾春萍	肖明勇	APPROVED	張志鋒
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QM-TP-7310-04

## SPECIFICATION

第 4 頁

### 6. MATERIAL LIST :

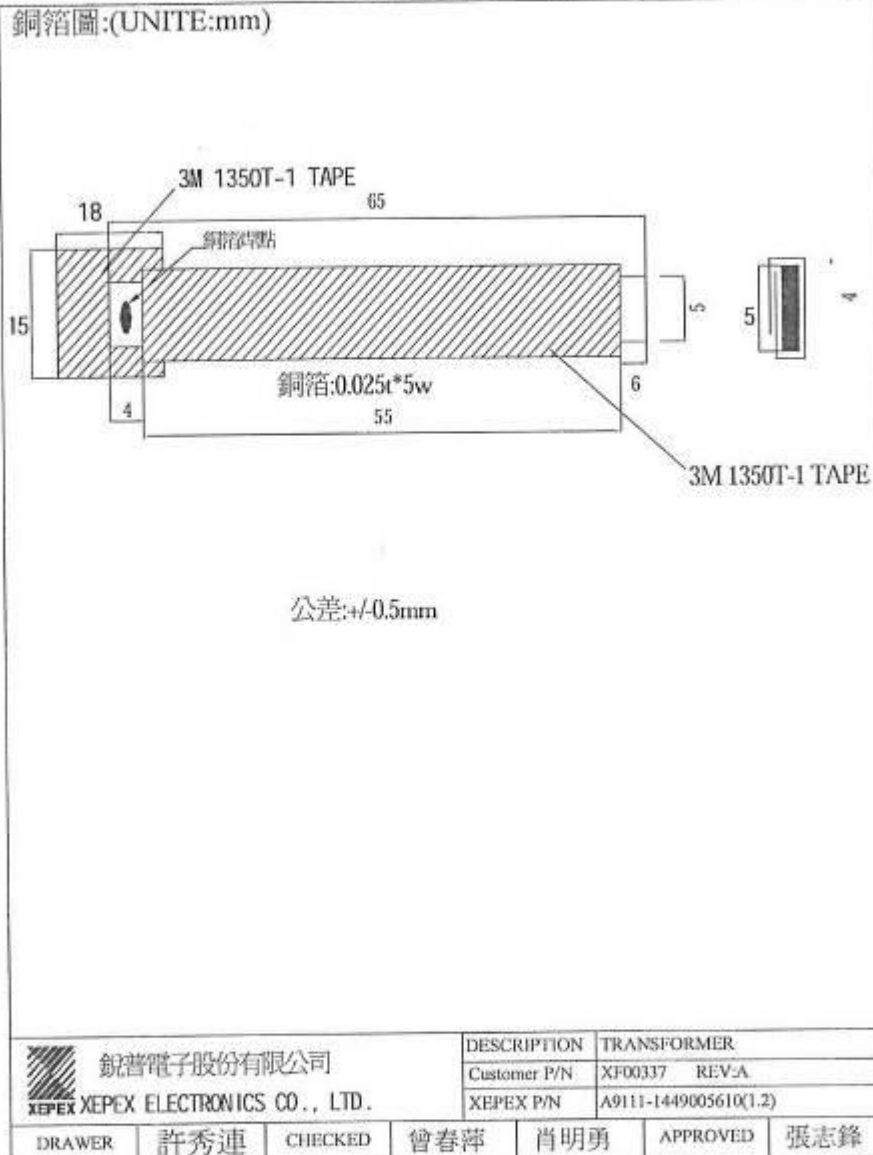
ITEM	MATERIAL	SUPPLIER OR MANUFACTURER	TEMP RATING
1	CORE FERRITE CORE EE-19 (PC40) (P4) (NC-211)	TDK (V) ACME NICERA	
2	BOBBIN PHENOLIC T375J EE-19 10PIN	CHANG CHUN PLASTICS CO., LTD UL NO E59481	150°C
3	WIRE POLYURETHANE ENAMELLED WIRE MW75 (UEW)	PACIFIC ELECTRIC WIRE & CABLE CO., LTD UL NO E201757	130°C
	POLYURETHANE ENAMELLED WIRE MW75 (UEW)	TA YA ELECTRIC WIRE & CABLE CO., LTD UL NO E84201	
	POLYURETHANE ENAMELLED WIRE MW75 (UEW-4)	JUNG SHING WIRE CO., LTD UL NO E174837	
4	TRIPLE WIRE TRIPLE INSULATION WIRE TRW-B	GREAT LEOFLON INDUSTRIAL CO., LTD UL NO E211989	130°C
5	TAPE POLYESTER FILM TAPE (YELLOW)3M 1350F-1&1350F-1	3M COMPANY ELECTRICAL PRODUCTS DIV UL NO E17385	130°C
	MARGIN TAPE FIBER CLASS CLOTH 3M #44		
6	TUBE RECOGNIZED COMPONENT (YDPU2) TEFLON TUBING 200°C 300V VW-1 TFT&TFL	GREAT HOLDING INDUSTRIAL CO., LTD UL NO E156256	200°C
7	VARNISH BC-346A	JOHN C DOLPH C UL NO E51047	130°C
	V-1630FS	P D GEORGE/VIKING UL NO E73071	
8	COPPER 0.025x5mm(背膠) &0.025x5mm(白背膠)	HONG KONG ZHENGZEXIANG INDUSTRIAL DEV.LIMITED.	

	銳普電子股份有限公司 XEPEX XEPEX ELECTRONICS CO., LTD.			DESCRIPTION	TRANSFORMER	
				Customer P/N	XF00337 REV.A	
				XEPEX P/N	A9111-1449005610(1.2)	
DRAWER	許秀連	CHECKED	曾春萍	肖明勇	APPROVED	張志鋒

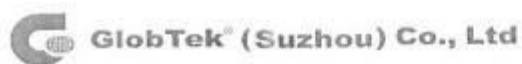
QM-TP-7310-04

# SPECIFICATION

附頁



QM-TP-7310-04



医疗、资讯、车载、特种电源

零件承认书 Material Approval		
制造商: Manufacturer		
供应商: Supplier	山东宝岩电气有限公司 SHAN DONG BOAM CO.,LTD	
供应商料号: Supplier P/N	320-10941001	
名称: Part Name	变压器	
品名/规格: SPEC	GTM41076 XF00336	
GlobTek料号: GlobTek P/N	320-10941001	
Edition No: 版本	A	
作成: Made by	确认: Check	承认: Approval
PS承认章: Approval Stamp	RD承认章: Approval Stamp	QC承认章: Approval Stamp

## SPECIFICATION

CUSTOMER	GlobTek(Suzhou)	PART NAME	TRANSFORMER
MODEL NO.	EE1916	PART NO.	320-10941001

I DIMENSION(mm)

Technical drawing of a transformer core with dimensions and marking details.

Top view dimensions: #10, #6, #1, #5, 19.0MAX.

Side view dimensions: 23.0MAX, 22MAX, #1, #5, 3.5±0.5.

Bottom view dimensions: 4.0±0.5, 16±0.5, 13.0±0.5.

MARKING: BA YYMM (MONTH, YEAR).

Pin diameter:  $\phi 0.7 \pm 0.1$ .

SPEC NO.	KF-12061601-A	DATE	2012.06.16	SHEET NO.	I	
NO.	DATE	REVISION	CHECKED	DESIGN	CHECK	APPROVAL
				黄丽红	孙小丽	潘秀丽

SHANDONG BOAM ELECTRIC CO.,LTD



## SPECIFICATION

CUSTOMER	GlobTek(Suzhou)	PART NAME	TRANSFORMER
MODEL NO.	EE1916	PART NO.	320-10941001

2 EQUIVALENT CIRCUIT (BOTTOM VIEW)

\* THE "●" MARKS ARE START POINT  
 \* REMOVE PIN #3, 6, 7, 8.  
 \* TEFLON TUBE:

SPEC NO.	KF-12061601-A	DATE	2012.06.16	SHEET NO.	2	
NO.	DATE	REVISION	CHECKED	DESIGN	CHECK	APPROVAL
				黄丽红	孙小丽	潘秀丽

SHANDONG BOAM ELECTRIC CO

## SPECIFICATION

CUSTOMER	GlobTek(Suzhou)	PART NAME	TRANSFORMER	
MODEL NO.	EE1916	PART NO.	320-10941001	
3 ELECTRICAL CHARACTERISTICS				
NO.	ITEM	TERMINAL	SPECIFICATION	REMARKS
1	INDUCTANCE	1—2	1.3mH±10%	HIOKI 3531 Z HITESTER (1KHz,0.3V)
2	DIELECTRIC WITHSTAND VOLTAGE	PCOIL—SCOIL	AC 5.0KV 1SECOND	HPT-50100Z PUNCTURE TESTER: 5mA
		SCOI—CORE	AC2.0KV 1SECOND	

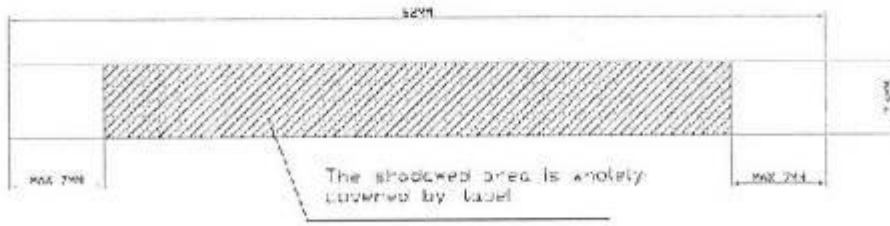
SPEC NO.	KF-12061601-A	DATE	2012.06.16	SHEET NO.	3	
NO.	DATE	REVISION	CHECKED	DESIGN	CHECK	APPROVAL
				黄丽红	孙小丽	潘秀丽

SHANDONG BOAM ELECTRIC CO.,LTD

## SPECIFICATION

CUSTOMER	GlobTek(Suzhou)	PART NAME	TRANSFORMER
MODEL NO.	EE1916	PART NO.	320-10941001

4. WINDING SPECIFICATION

NO	PIN NO. (S-F) S:START, F:FINISH	WIRE	TURNS	WINDING METHOD
BARRIER TAPE: t=0.45mm, w=3.0mm(BOBBIN),				
W1	(2)—(1)	2UEW $\Phi$ 0.25	88	SOLENOID WINDING
INSULATION: POLYESTER TAPE t= 0.025mm, w=9.5mm, 1Ts				
BARRIER TAPE: t=0.25mm, w=3.0mm(BOBBIN)				
W2	(4)—(5)	2UEW $\Phi$ 0.20	11	SPACE WINDING
INSULATION: POLYESTER TAPE t= 0.025mm, w=9.5mm, 1 Ts				
BARRIER TAPE: t=0.25mm, w=3.0mm(BOBBIN)				
W3	(5)—	0.05/5.0 mm,COPER	0.9	SOLENOID WINDING
INSULATION: POLYESTER TAPE t= 0.025mm, w=9.5mm, 6Ts				
BARRIER TAPE: t=0.45mm, w=3.0mm(BOBBIN)				
W4	(10)—(9)	TEX $\Phi$ 0.60	5	SPACE WINDING
INSULATION: POLYESTER TAPE t= 0.025mm, w=9.5mm, 3Ts				
CORE FIXING :POLYESTER TAPE t= 0.025mm, w=5.0mm, 3Ts				
INSULATION: POLYESTER TAPE t= 0.025mm, w=9.5mm, 1LAYER				
(5)—COPER+TAPE : t= 0.05mm, w=5mm, 1LAYER (CENTER)				
INSULATION: POLYESTER TAPE t= 0.025mm, w=9.5mm, 1.5LAYER				
OUT SIDE INSULATION: POLYESTER TAPE t= 0.025mm, w=16.5mm, 2LAYER				
<p>* OUT SIDE SHEILD: COPER+TAPE</p> 				

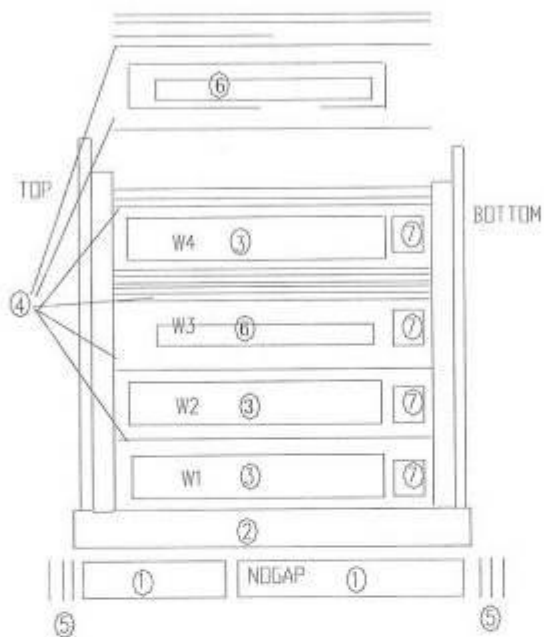
SPEC NO.	KF-12061601-A	DATE	2012.06.16	SHEET NO.	4	
NO.	DATE	REVISION	CHECKED	DESIGN	CHECK	APPROVAL
				黄丽红	孙小丽	潘秀丽

SHANDONG BOAM ELECTRIC CO.,LTD

## SPECIFICATION

CUSTOMER	GlobTek(Suzhou)	PART NAME	TRANSFORMER
MODEL NO.	EE1916	PART NO.	320-10941001

## 5 INTERNAL CONSTRUCTION



SPEC NO.	KF-12061601-A	DATE	2012.06.16	SHEET NO.	5		
NO.	DATE	REVISION	CHECKED	DESIGN	CHECK	APPROVAL	
				黄丽红	孙小丽	潘秀丽	

SHANDONG BOAM ELECTRIC CO.,LTD

## SPECIFICATION

CUSTOMER	GlobTek(Suzhou)		PART NAME	TRANSFORMER		
MODEL NO.	EE1916		PART NO.	320-10941001		
6. LIST OF MATERIALS						
NO.	COMPONENT	MATERIALS	MANUFACTURES	REMARKS		
1	CORE	EE1916 PC40	TDG HOLDING CO.,LTD OR EQUIR			
2	BOBBIN	PBT-4130 EE1916,10PIN	CHANG CHUN PLASTICS CO.,LTD	E59481		
3	WIRE	2UEW $\Phi$ 0.25	JIANGSU DARTONG M&E CO.,LTD	E237377		
		2UEW $\Phi$ 0.20	SHANDONG SAINT ELECTRIC CO.,LTD	E194410		
		TEX-E $\Phi$ 0.60	FURUKAWA ELECTRIC CO.,LTD	E230451		
4	INSULATION TAPE	POLYESTER TAPE PZ-281 0.025×9.5mm 0.025×16.5mm	JINGJIANG YAHUA PRESSURESENSITIVE GLUE CO.,LTD	E165111		
5	CORE FIXING TAPE	POLYESTER TAPE PZ-281 0.025×5mm				
6	COPPER TAPE	0.05×5.0mm	TAE HWA INDUSTRIAL CO			
7	BARRER TAPE	H-5673 0.45×3 0.25×3	TAE HWA INDUSTRIAL CO	E92677		
8	VARNISH	DVB-2085(C)	NOROO PAINT&COATINGS CO.,LTD	E93947		
9	TUBE	PTFE TFL	Great Holding Industrial co.,ltd	E156256		
SPEC NO.		KF-12061601-A	DATE	2012.06.16	SHEET NO.	6
NO.	DATE	REVISION	CHECKED	DESIGN	CHECK	APPROVAL
				黄丽红	孙小丽	潘秀丽

SHANDONG BOAM ELECTRIC CO.,LTD

## SPECIFICATION

CUSTOMER	GlobTek(Suzhou)	PART NAME	TRANSFORMER
MODEL NO.	EE1916	PART NO.	320-10941001

**\* UL YELLOW CARD**

1) .BOBBIN

**QMFZB.E59481**  
Plastics Certified for Canada - Component

Additional information regarding this certification can be found in UL's IQ Family of Databases ([iq.ul.com](http://iq.ul.com)).  
For additional information concerning the individual material, click on the material designation.

Page Bottom

Plastics Certified for Canada - Component

See General Information for Plastics Certified for Canada - Component

**CHANG CHUN PLASTICS CO LTD** E59481  
7TH FL  
301 SONGKIANG RD  
TAIPEI, 104 TAIWAN

Mat Dsg	Color	Min.	Flame	H	H	H	RTI			C
		Thk		W	A	V	Elec	Mech		T
		mm	Class	I	I	A		Imp	Str	I
4130(100% Virgin) (a)(b)										
	ALL	0.40	V-0	4	0	-	75	75	75	2
		0.74	V-0	4	0	0	120	120	140	
		1.5	V-0	3	0	0	120	120	140	
		3.0	V-0	2	0	0	120	120	140	

**2.WIRE**

Magnet Wire - Component

See General Information for Magnet Wire - Component

**SHANDONG BARTING N B E CO LTD** E297377  
1 DARTONS RD  
HUAJIAN ECONOMIC DEVELOPMENT ZONE  
HUKUAN, JIANGSU 223616 CHINA

Mat Dsg	Mark Dsg	Coat Type	BC	OC	ANSI Type	Temp Class
60EW	(1)	Polyurethane			HW 79-C	155
61EW	(1)	Polyester-imide			HW 75-C	130
					HW304	180
					SP	200
60EW	UEW/100	Polyurethane			HW62	160
60SAEW	(1)	Polyester-imide	Polyamide-imide		HW35#, HW73#	200

Magnet Wire - Component

See General Information for Magnet Wire - Component

**SHANDONG BAIHT ELECTRIC CO LTD** E194410  
YUNSHAN RD  
HIGH-TECH DEVELOPING ZONE  
XINTAI, SHANDONG 271200 CHINA

Mat Dsg	Coat Typ	BC	OC	ANSI Type	TL
CEW/AT		Polyester-imide	Polyamide-imide	HW35	200
UEW/QA		Polyurethane		HW79	155
CEW		Polyester-imide		HW30	180
UEW/100, QA/100, UEW/100 L12, QA/100 L12		Polyurethane		HW62	160
UEW/155, QA/155, UEW/155 L12, QA/155 L12		Polyurethane		HW79.4	175
UEW/130, QA/130, UEW/130 L12, QA/130 L12		Polyurethane		HW75.4	150

SPEC NO.	KF-12061601-A	DATE	2012.06.16	SHEET NO.	7	
NO.	DATE	REVISION	CHECKED	DESIGN	CHECK	APPROVAL
				黄丽红	孙小丽	潘秀丽

SHANDONG BOAM ELECTRIC CO.,LTD

## SPECIFICATION

CUSTOMER	GlobTek(Suzhou)	PART NAME	TRANSFORMER
MODEL NO.	EE1916	PART NO.	320-10941001

3) INSULATION TAPE

**OANZZ** January 31, 2000  
**Insulating Tape - Component**  
**JINGJIANG PRESSURE SENSITIVE GLUE FTY** E165111  
 86 HENG GANG NORTH RD JINGJIANG, JIANGSU  
 214500 CHINA

Nonwoven cloth/polyethylene terephthalate film tape, Cat. No. WF with suffixes, rated 130 C\*(a).  
 Polyethylene terephthalate film tape, Cat. No. CT with suffixes, rated 130 C\*(e).  
 Polyethylene terephthalate film tape, Cat. No. PZ with additional suffixes, rated 130 C\*(b).  
 \*Complies with flame retardant requirements when so marked.  
 (a) Comparative Tracking Index (CTI)% performance indicates material Group II, PLC=1, CTI equal to or greater than 400 but less than 600 v.  
 (b) Comparative Tracking Index (CTI)% performance indicates material Group IIIa, PLC=2, CTI equal to or greater than 250 but less than 400 v.  
 (c) Comparative Tracking Index (CTI)% performance indicates material Group I, PLC=0, CTI equal to or greater than 600 v.  
 %The CTI test was conducted per IEC 112 and the assigned level is based on the testing of both film and adhesive sides.  
 Marking: Company name or E165111 and catalog designation printed on the carton, wrapper or core.  
 4/12/2000 Underwriters Laboratories Inc. Card 1 of 2

4) BARRIER TAPE

**TAE HWA INDUSTRIAL CO LTD** E92677  
 323-80 GUNHA-RI KIMPO-KUN WOLGOT-MYUN, KYONGGI-DO 415-870 KOREA

Flame retardant fiberglass cloth tape, Cat. Nos. TH-GC012, H-2715  
 Flame retardant acetate cloth tape, Cat. No. 8701  
 Polyester film tape, Cat. No. H-5679, rated 130 C  
 Marking: Company name or E92677 and "Flame Retardant" printed on carton wrapper and/or core.

5) TUBE

**YDPU2.E156256**  
**Tubing, Extruded Insulating - Component**

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**Tubing, Extruded Insulating - Component**

[See General Information for Tubing, Extruded Insulating - Component](#)

**GREAT HOLDING INDUSTRIAL CO LTD** E156256  
 10TH FL  
 649-3 CHUNG CHENG RD  
 HSIN CHUNG  
 TAIPEI HSIEN, 242 TAIWAN

Cat. No.	Max V	Max Temp C	Col Recognized	Max Temp Rated Oil Resistance, °C	VW-1 Rated #
Not heat-shrinkable polytetrafluoroethylene (PTFE) tubing.					
TFL	150	200	BL,NAT	—	Yes

SPEC NO.	KF-12061601-A	DATE	2012.06.16	SHEET NO.	8	
NO.	DATE	REVISION	CHECKED	DESIGN	CHECK	APPROVAL
				黄丽红	孙小丽	潘秀丽

SHANDONG BOAM ELECTRIC CO.,LTD

**Enclosure No. 4**  
**UL 1310 Test report, Plug dimensions, Plug reports**

**(89 pages including this cover page)**



<b>TEST REPORT</b>
<b>UL 1310</b>
<b>Class 2 Power Units</b>

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
<b>3</b>	<b>COMPONENTS</b>		<b>—</b>
<b>3.1</b>	A component of a product covered by this standard shall comply with the requirements for that component.	--	<b>P</b>
<b>3.2</b>	A component is not required to comply with a specific requirement that:	--	<b>—</b>
	a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or	--	<b>N/A</b>
	b) Is superseded by a requirement in this standard.	--	<b>N/A</b>
<b>3.3</b>	A component shall be used in accordance with its rating established for the intended conditions of use.	--	<b>P</b>

<b>7</b>	<b>MECHANICAL ASSEMBLY</b>		<b>—</b>
<b>7.11</b>	The maximum acceptable moment, center of gravity, dimensions, and weight of a direct plug-in unit shall comply with the following requirements:	--	<b>—</b>
	a) The quotient of WY/Z shall not exceed 48 ounces (1361 g).	--	<b>P</b>
	b) The quotient of WY/S shall not exceed 48 ounces (1361 g).	--	<b>P</b>
	c) The product of WX shall not exceed 80 ounce-inches (0.56 N·m).	--	<b>P</b>
	d) The weight of a unit shall not exceed 28 ounces (794 g).	--	<b>P</b>

<b>8</b>	<b>ENCLOSURE</b>		<b>—</b>
<b>8.1</b>	Adequate strength of enclosure	--	<b>P</b>
<b>8.2</b>	Openings in enclosure	--	<b>P</b>
<b>8.5</b>	Polymeric enclosure	--	<b>P</b>

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
8.6	Conductive coating on non-metallic surfaces	--	N/A
8.7	Adhesive use in the assembly of the enclosure.	--	N/A

9	PROTECTION AGAINST CORROSION		—
	Iron and steel parts protected against corrosion.	--	P

10	SWITCHES		—
10.2	Switches subjected to temperatures above 50°C	No switch provided.	N/A
10.4	Switch rating	--	N/A
10.5	Primary circuit switch	--	N/A

11	PROTECTIVE DEVICES		—
11.1	Comply with requirements	Two fuses provided each one in line and neutral.	P
11.5	Manually reset thermostat.	--	N/A
11.7	Protective device shall not operate during normal operation.	--	P
11.10	Double fused units	--	P
11.13	An overcurrent protective device shall be located inside the unit.	--	P

12	COMPONENTS		—
12.1	Permanence and stability of components	--	P
12.2	No conductive connection between primary and output circuits.	--	P

13	COIL INSULATION		—
13.1	General	--	P
13.2	Insulation of transformers	--	P

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict

14	INPUT CONNECTIONS		—
14.1	Direct plug-in units		—
14.1.2	Single pole switch or fuse with accessible contact installed in unit	--	N/A
14.1.3	Folding or retractable blades installed in unit	--	N/A
14.1.4	Multiple rated power unit for travellers use	--	N/A
14.2	Cord-connected units		—
14.2.1	Portable or stationary unit with flexible cord	--	N/A
14.2.2	Permanently attached power supply cord	--	N/A
14.2.3	Multiple voltage rated power unit with detachable power supply cord	--	N/A
14.2.4	Multiple voltage rated power unit with permanently attached power supply cord	--	N/A
14.3	DC input units		—
14.3.1	Vehicle battery adapter shall be provided	--	N/A
14.3.2	Fuse in dc input jack	--	N/A

15	OUTPUT CONNECTIONS		—
15.1	General	--	—
15.2	Output wiring	--	—
15.2.1	Dimension of output wiring and its isolation.	--	P
15.2.1.1	For a cord-connected power unit with a minimum 6-foot (1,8-m) power-supply cord, the maximum combined length of the input and output cords shall not exceed 20 feet (6,1 m).	--	N/A
15.2.2	Cord connected power unit	--	N/A
15.2.3	With respect to 15.2.1, for units with jacketed multi conductor output wiring, the individual conductor insulation may be less than 0.013 inch (0,33 mm) provided that the following conditions are met:	--	—
	a) The thickness of the individual conductor insulation plus the thickness of the jacket is not less than 0,013 inch; and	--	P

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
	b) The unit complies with the requirements in 28.1 and 30.2.1 with any combination of output conductors interconnected.	--	P
15.2.4	Fitting meets requirements for male or female contacts respectively.	--	P
15.3	Output terminals	--	—
15.3.1	Terminal plate	--	N/A
15.3.2	Wire binding screw or terminal stud	--	N/A
15.3.4	Multi-output unit	--	N/A
15.4	Output connectors	--	—
15.4.1	Multiple output units		N/A
15.4.3	Backfeed protection	parameters will not be exceeded. Diode is used in addition. Appropriate symbol used.	P

16	ACCESSIBILITY OF LIVE PARTS		—
16.2.1	LIVE PARTS OTHER THAN EXPOSED WIRING TERMINALS		—
	The test pin and articulate probe illustrated in Figures 14.1 and 14.2, respectively, when applied as indicated in 14.2.2, shall not contact:		—
	a) A primary circuit; or	--	P
	b) Any live part with a voltage greater than that specified in 14.2.2 with respect to ground or any other live part simultaneously accessible to the test pin or articulate probe.	See also main report.	P

18	STRAIN RELIEF		—
18.1	Strain relief shall be provided for the supply cord and output wiring, and shall be tested in accordance with the Strain Relief Test, Section 40.	--	P

19	INTERNAL WIRING		—
19.1	Adequate conductors used	--	P
19.4	Securing of soldered joints	--	P

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict

20	SEPARATION OF CIRCUITS		—
20.1	Separation of internal wiring by adequate insulation or barriers.	Adequate insulation of internal parts. Transformer is wrapped with insulating tape.	P
20.3	Barriers have adequate mechanical strength	--	N/A
20.4	Thickness of barrier material	No such barrier.	N/A

21	INSULATING MATERIALS		—
21.1	Insulating washers and bushings	--	N/A
21.2	Evaluation of insulating materials according to UL 746C		P

22	PRINTED WIRING BOARDS		—
22.1	Flammability is V-1 or less, except	94V-0 material is used.	P
	PCBs for class II circuits	--	N/A
	direct plug in units without openings	--	P
	Cord connected units	--	N/A

23	GROUNDING		—
23.1	General	Class II	N/A
23.2	Bonding conductor	--	N/A

24	SPACINGS		—
24.1	Spacings comply with table 24.1 or table 24.2	--	P
24.2	Determining working voltage	Maximum input voltage or working voltage use whichever was higher.	P
24.12	Units marked "double insulated"	Appropriate symbol used.	P

26	LEAKAGE CURRENT		—
26.1	The leakage current of a unit, tested in accordance with 24.3 – 24.7, shall not be more than:		—
	a) 0,5 milliampere for a portable unit, or	--	P

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Clause	Requirement - Test	Result - Remark	Verdict
	b) 0,75 milliamperes for a stationary unit.	--	N/A
26.3	All exposed surfaces, including output terminals, are to be tested for leakage currents.	--	P
26.9	After leakage test the unit shall comply with the Dielectric Voltage Withstand Test	--	P

27	<b>LEAKAGE CURRENT TEST AND DIELECTRIC WITHSTAND TEST AFTER HUMIDITY EXPOSURE</b>		—
27.1	A unit shall comply with the Leakage Current Test and Dielectric Voltage Withstand Test, following exposure for 48 hours to air having a relative humidity of $88 \pm 2,0$ percent at a temperature of $32,0 \pm 2,0^{\circ}\text{C}$ ( $89,6 \pm 3,6^{\circ}\text{F}$ ).	--	P

28	<b>MAXIMUM OUTPUT VOLTAGE TEST</b>		—
28.1	The maximum output voltage under any load condition between any two output terminations of a unit shall not be more than the peak voltages specified in 14.2.2.	--	P
28.2	If a unit has more than one pair of output terminations, the output voltage mentioned in 26.1 is to be measured with any combination of interconnections of the output terminations.	--	N/A
28.3	The maximum voltage between output terminations of a multiple output unit may exceed the values specified in 26.1 when the output terminations are interconnected, if the following conditions are met:	--	—
	a) The maximum output voltage between any two terminations is not more than the values indicated in 26.1 when no connections are made between the output terminations, and	--	N/A
	b) The unit is marked in accordance with 49.2.10.	--	N/A

29	<b>MAXIMUM INPUT TEST</b>		—
29.1	The primary input of a unit shall not be more than 660 watts.	--	P

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
<b>30</b>	<b>OUTPUT CURRENT AND POWER TEST</b>		<b>—</b>
<b>30.2</b>	Inherently limited requirements are met.	--	<b>P</b>
<b>30.3</b>	Not inherently limited	--	<b>N/A</b>
<b>30.3.1</b>	When the unit includes means to automatically de-energize the output circuit, the values of the output current and volt-amperes specified in 28.2.1 shall not exceed those specified in Table 28.2.	--	<b>N/A</b>
<b>31</b>	<b>CALIBRATION OF OVERCURRENT PROTECTION DEVICE TEST</b>		<b>—</b>
<b>31.1</b>	A protective device provided as a part of a not inherently limited unit shall operate in not more than the time indicated in Table 29.1 when the unit is delivering the specified secondary current.	--	<b>N/A</b>
	There shall be no emission of flame or molten metal from the enclosure, and no evidence of a risk of fire or electric shock.	--	<b>N/A</b>
<b>32</b>	<b>FULL-LOAD OUTPUT CURRENT TEST</b>		<b>—</b>
<b>32.1</b>	A unit shall deliver its rated full-load secondary current continuously.	--	<b>P</b>
<b>33</b>	<b>NORMAL TEMPERATURE TEST</b>		<b>—</b>
<b>33.1</b>	The temperature rises on various materials and parts shall not exceed the limits specified in Table 31.1.	--	<b>P</b>
	Upon completion of this test, the unit shall comply with the Dielectric Voltage Withstand Test, Section 32.	--	<b>P</b>
<b>33.2</b>	For a direct plug-in unit, this test is to be conducted in both the horizontal and vertical positions.	--	<b>P</b>
	For a cord-connected unit, this test is to be conducted in all likely mounting positions.	--	<b>N/A</b>
<b>33.5</b>	A battery charger which is likely to be used for consecutive charging of batteries is to be tested with the intended battery load. The test is to be conducted in accordance with 31.6.	--	<b>N/A</b>

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Clause	Requirement - Test	Result - Remark	Verdict
33.6	With respect to 31.5, a charger is to be tested in accordance with the following:	--	—
	a) For a charger with no charge status indicator, the test is to be continued until temperatures peak.	--	P
	b) For a charger with a visual charge status indicator, the test is to be continued until the visual indicator indicates that the charge cycle is complete.	--	N/A
	c) For a charger with a charge time marking or instruction, the test is to be continued until the specified charge time has elapsed.	--	N/A
	d) For a charger with both a visual charge status indicator and a charge time marking or instruction, the test is to be continued until the specified charge time has elapsed or until the visual indicator indicates that the charge cycle is complete, whichever occurs first.	--	N/A
33.12	Coil and winding temperatures are to be measured by thermocouples located on exposed surfaces, except the resistance method is to be used.	--	P
33.14	For units with a maximum ambient above 25°C.	40°C is max. ambient temperature.	P

34	<b>DIELECTRIC VOLTAGE WITHSTAND TEST</b>		—
34.1.1	Voltage withstand test for 1 minute.	See main report	P
34.1.2	Voltage withstand test for transformers.	See main report	P
34.2	Induced potential	--	N/A
35	<b>ENDURANCE TEST ON OVERCURRENT- AND OVERTEMPERATURE-PROTECTIVE DEVICES</b>		—
35.1	One sample of a unit employing a manually reset overcurrent- or overtemperature-protective device shall be operated under the condition of maximum obtainable output current, including short circuit, and the protector shall be cycled for 50 operations as quickly as the protector can be reset.	--	N/A



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Clause	Requirement - Test	Result - Remark	Verdict
35.2	One sample of a unit employing an automatically reset protective device or a protector that stays open as long as the overload is connected shall be connected and operated under the conditions described in 33.1 for 15 days but not less than 2000 cycles.	--	N/A
35.3	The test described in 33.2 shall be conducted for 24 hours for units incorporating thermostats, the acceptability of which has been determined by the requirements in the Standard for Temperature-Indicating and -Regulating Equipment, UL 873.	--	N/A

36	OVERLOAD AND ENDURANCE TESTS ON SWITCHES AND CONTROLS		—
36.1	Overload test consisting of 50 cycles of operation making and breaking the applicable load, and to an endurance test consisting of 6000 cycles of operation at rated load.	--	N/A

37	OVERLOAD TEST ON SECONDARY SWITCHES		—
37.1	If tests are required in accordance with 8.7, a switch or other control device shall be tested as described in 36.2. The performance is unacceptable if:		—
	a) The fuse in the grounding connection opens during the test,	--	N/A
	b) There is welding of contacts or mechanism breakdown, or	--	N/A
	c) The device is otherwise incapable of completing the tests.	--	N/A

39	ABNORMAL TEST		—
39.1.1	A unit shall not emit flame or molten metal or become a risk of fire or electric shock when subjected to the abnormal testing.	--	P
39.2.1	One sample of a unit shall be tested under the short circuit output condition.	--	P
39.2.2	During the short-circuit condition on a direct plug-in unit, the temperature rise on the enclosure shall not exceed 65°C (117°F).	--	P

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Clause	Requirement - Test	Result - Remark	Verdict
39.2.4	For units with more than one output, one output is to be loaded as specified in 39.2.1 while the other outputs are open circuited or loaded to rated conditions in accordance with Table 25.2, whichever results in a more severe operating condition.	--	N/A
39.2.5	If short circuiting causes operation of an automatically or manually reset protective device, compliance is also to be determined using the maximum load value that allows continuous operation.	--	N/A
39.2.6	If short circuiting causes opening of a fuse, the unit is to be tested with a load current that causes the maximum current to flow in the fused circuit for 7 hours without opening the fuse.	--	N/A
39.2.8	Short circuiting causes opening of a thermal cut-off or a single-operation bimetallic device.	--	N/A
39.2.9	Short circuiting causes opening of a winding.	--	N/A
39.2.10	For a unit employing regulating circuitry where short circuiting the output results in 7 hours of continuous operation, tests are to be conducted with the output loaded to deliver maximum output power for 7 hours without shut-down of the unit.	--	N/A
39.3.2	Transformer with more than one secondary winding or a tapped secondary winding.	--	N/A
39.3.4	For switch mode designs, a resistive load is to be connected at a point in the secondary circuit where energy limiting circuitry (see 2.8) is not affected.	--	P
39.4.1	A battery charger provided with non polarized output connections, the external output leads are to be connected in reverse polarity to a fully charged battery intended for the application.	Polarized plug is used.	N/A
39.5.1	A unit employing a primary-voltage selector switch shall be connected to the maximum test voltage and to its rated normal load. The switch is then to be adjusted to the lowest voltage position.	--	N/A
39.6	Component breakdown	--	N/A

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
39.7	Printed wiring board abnormal operation test	--	P
39.8	Backfeed protection test	Output diode used.	P
40	TESTS ON INSULATING MATERIALS		—
40.1	If required insulating material shall be subjected to the test described in 40.2.	--	P
41	STRAIN RELIEF TEST		—
	Test performed	See attached table.	P
42	PUSH-BACK RELIEF TEST		—
	Test performed	See attached table.	P
43	DIRECT PLUG-IN BLADE SECURENESS TEST		—
43.1	Each blade and the grounding pin, if provided, shall withstand the pull tests	--	P
44	DIRECT PLUG-IN SECURITY OF INPUT CONTACTS TEST		—
44.1.1	The plug-in blades and the grounding pin shall not loosen to a degree that would introduce a risk of fire or electric shock as a result of the tests described in 44.1.2 and 44.1.3.	--	P
44.1.2	30 pounds (133 N) force test	--	P
44.1.3	40 pounds (178 N) force test	--	P
44.2.2	6000 cycles rotating test	--	N/A
45	SECURITY OF OUTPUT CONNECTORS TEST		—
45.1	For a unit provided with wire-binding terminals as output connectors, a terminal or terminal stud shall not turn or cause stress on internal connections when subjected to the test of 45.2. Exception: This requirement does not apply to a terminal plate for a wire binding screw, a wire binding screw, or a stud where:	Unit provided with d.c. output cable.	N/A
	a) Dislocation would not result in a reduction of spacings to parts which pose a risk of electric shock, and	--	N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	b) There is no likelihood of deformation to the extent that live parts which pose a risk of electric shock become accessible as determined by Accessibility of Live Parts, Section 14.	--	N/A
45.2	The appropriate torque specified in Table 45.1 is to be applied for 10 seconds to the terminals	--	N/A
45.3	Connection and disconnection of accessories shall not result in loosening of the connectors from a unit.	--	N/A
45.4	To determine compliance with 45.3, accessories are to be attached and detached from the unit 100 times and the connectors examined.	--	N/A

46	<b>ABUSE TEST</b>		<b>—</b>
46.1.1	The enclosure of a unit shall withstand the applicable mechanical abuse tests.	--	P
46.1.2	The probe illustrated in Figure 16.2 applied as specified in 16.2.3 is to be used to determine whether a live part is accessible.	--	P
46.2.1	Three samples are to be subjected to this test. Each unit is to be dropped (free fall) three times.	Test was performed from height of 1 m and is representative for this test. Test was performed on three samples.	P
46.2.2.	Each of the drops is to result in the impact occurring at a point on the unit different from the impact points on the other drops.	--	P
46.2.3	After completion of the drop test specified in 46.2.1, each sample is to be subjected to the Dielectric Voltage Withstand Test.	--	P
46.3.1	Test sample is to be subjected to a single impact of 5 foot-pounds (6,78 Nm) on any surface that is exposed to a blow during intended use	--	N/A
46.4.1	Any point on the product that is accessible to the rod described in 46.4.2 shall be subjected to a force of 20 pounds (89 N) for 1 minute.	--	N/A
46.4.2	The force specified in 46.4.1 is to be increased from 0 to 20 pounds (0 to 89 N) over a period of 5 seconds.	--	N/A

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
46.5.1	One sample of the unit shall withstand for 1 minute a steady crushing force of 75 pounds (334 N).	--	P

47	BONDING CONDUCTOR TEST		—
47.1	With respect to 23.2.6, a bonding conductor that is smaller than any internal conductor supplying the part to be bonded is acceptable if, using a separate sample for each test, neither the bonding conductor nor the connection opens when:		—
	a) Carrying a current of 40 amperes for 2 minutes; and	Class II	N/A
	b) A sample is subjected to a limited-short-circuit test using a test current of 200 amperes while connected in series with a non-renewable fuse rated 20 amperes.	--	N/A

48	DIELECTRIC VOLTAGE WITHSTAND TEST		—
48.1	Routine breakdown test	1500Vac for 1 second, see main report.	P

49	GROUNDING CONTINUITY TEST		—
49.1	Each unit that has a grounding pin connected to a dead metal part shall be tested, as a routine production-line test, to determine that electrical continuity exists between the grounding pin and accessible dead metal parts of the units that are likely to become energized.	--	N/A
49.2	Only a single test need be conducted if the accessible metal selected is conductively connected by design to all other accessible metal.	--	N/A

50	RATING		—
50.1	Input and output rating	--	P
50.2	Input deviation less than 10%	See main report.	P
50.3	The output rating shall not exceed 30Vrms or 60Vdc	--	P
50.4	The sum of output power shall be less than 100VA	--	P

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Clause	Requirement - Test	Result - Remark	Verdict
<b>51</b>	<b>MARKING</b>		<b>—</b>
<b>51.1</b>	A unit shall be legibly and permanently marked, where readily visible, with		<b>—</b>
	a) The manufacturer's name, trade name, or trademark;	--	<b>P</b>
	b) The date or other dating period of manufacture not exceeding any three consecutive months;	--	<b>P</b>
	c) A distinctive catalog or model number, or the equivalent; and	--	<b>P</b>
	d) The electrical rating.	--	<b>P</b>
<b>51.1</b>	If a manufacturer produces or assembles a unit at more than one factory, each unit shall have a distinctive marking to identify it as the product of a particular factory.	Production in USA and China. Factory location can be identified from marking.	<b>N/A</b>
<b>51.3</b>	The repetition time cycle of a date code shall not be less than 20 years. The date code shall not require reference to the manufacturer's records to determine when the unit was manufactured.	--	<b>P</b>
<b>51.4</b>	A unit shall be marked with one of the following terms, as applicable:	--	<b>—</b>
	a) "Class 2 Battery Charger, □	--	<b>N/A</b>
	b) "Class 2 Transformer, □	--	<b>N/A</b>
	c) "Class 2 Power Supply, □□ or	--	<b>P</b>
	d) "Class 2 Power Unit. □	--	<b>N/A</b>
<b>51.5</b>	A unit shall not be marked <sup>2</sup> charger, □□ or the equivalent, unless it employs a rectifying component.	--	<b>N/A</b>
<b>51.6</b>	The polarity of a direct-current output shall be plainly marked, unless the unit is provided with a polarized termination.	Polarized output connector is used.	<b>N/A</b>
<b>51.8</b>	Multiple voltage rated power unit intended for use by travelers.	--	<b>N/A</b>
<b>51.9</b>	A battery charger with backfeed protection shall be marked with "BFP" or equivalent.	Not marked. Anyway, test was performed. Unit complies with requirement.	<b>N/A</b>

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
52	CAUTIONARY MARKINGS		—
52.1	A cautionary marking shall be prefixed by the word “CAUTION” or “WARNING,” or “DANGER” in letters not less than 1/8 inch (3,2 mm) high. The remaining letters shall not be less than 1/16 inch (1,6 mm) high.	--	P
52.2	A cautionary marking shall be located on:	--	—
	a) A part that cannot be removed without impairing the operation of the unit, or	--	P
	b) A tag complying with the requirements in 52.2.3, 52.3.2, and 52.3.3.	--	N/A
52.3	A cautionary marking may be provided on a permanent tag that is secured to the input or output cord of a unit. The tag shall be attached in such a way that it cannot be easily removed. The tag shall also be marked “Do not remove this tag,” or the equivalent, in letters not less than 3/32 inch (2.4 mm) high.	--	N/A
52.4	A direct plug-in unit having a mounting tab for semipermanent mounting shall be marked – on the unit, a marking tag, or an instruction sheet packed with the unit – with the word “CAUTION” and the following mounting instructions or the equivalent:		—
	a) “To reduce the risk of electric shock – Disconnect power to the receptacle before installing or removing the unit. When removing receptacle cover screw, cover may fall across plug pins or receptacle may become displaced;”	--	N/A
	b) “Use only with duplex receptacle having center screw;” and	--	N/A
	c) “Secure unit in place by receptacle cover screw.”	--	N/A
52.5	A direct plug-in unit intended to be semi permanently mounted that exceeds the surface temperature limits shall be legibly marked where readily visible after installation with the word “CAUTION” and the following or the equivalent: “Hot surfaces – To reduce the risk of burns – Do not touch.”	--	N/A

**UL 1310**

Clause	Requirement - Test	Result - Remark	Verdict
52.6	A unit shall be marked with the word "CAUTION" and "Risk of electric shock" and the following or the equivalent: "Dry location use only" or "Do not expose to liquid, vapor, or rain."	--	P
52.7	A direct plug-in unit that resembles an attachment plug of a power supply cord shall be plainly marked with the word "CAUTION" and the following or the equivalent: "Do not replace this plug assembly as a risk of fire or electric shock may result."	--	N/A
52.8	A unit which employs fusing in both supply conductors shall be marked, where readily visible during servicing, "CAUTION" and the following or equivalent: "Risk of electric shock. Both sides of line are fused. Test before touching."	No serviceable parts within the unit.	N/A
52.9	A unit intended to charge batteries shall be marked, where readily visible to the user, with the word "CAUTION" and the following or the equivalent: "Charge only ___ type rechargeable batteries. Other types of batteries may burst causing injury to persons and damage."	--	N/A
52.10	A multi-output unit shall be marked, where readily visible after installation, with the word "WARNING" and the follow or equivalent: "To reduce the risk of fire or electric shock, do not interconnect output terminations."	--	N/A
52.11	A unit employing output field-wiring terminals shall be marked "CLASS 2 NOT WET, CLASS 3 WET" or the equivalent if the open circuit output voltage exceeds:		—
	a) 21.2 volts peak,	--	N/A
	b) 30 volts for continuous direct current, or	--	N/A
	c) 12,4 volts for DC interrupted at a rate of 10 to 200 Hz	--	N/A
52.12	A unit, as described in 13.3.4, shall be marked with the word "CAUTION" and the following or the equivalent: "To reduce the risk of fire, use only Type SPT-2 or heavier cord, minimum No. ___ AWG copper. The minimum acceptable size is No. 18 AWG (0,82 mm <sup>2</sup> ). The marking is to be located adjacent to the terminals or connectors or on a tag attached to the unit.	--	N/A



UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
52.13	A unit marked in accordance with 51.9 only.	--	N/A
52.14	If a marking according to 52.13 is provided in the instruction manual, an additional warning is required.	--	N/A

53	APPLICATION OF LABELING		—
53.1	Unless specifically excepted, marking required by this standard shall be permanent.	--	P
53.2	The tag mentioned in 52.3 shall be made of durable material that provides mechanical strength, such as cloth, plastic, or the equivalent, and shall be large enough to accommodate the required marking in a size that is legible – also see 53.3. The tag shall be either:		—
	a) A flat tag having a hole large enough to accommodate the cord, but neither so large nor so positioned that it can easily be torn from the cord. To prevent removal or tearing, the tag is not to have a slit from the cord hole; or	--	N/A
	b) A flag-type tag with an adhesive back wrapped tightly once around and adhering to the cord. The ends of the tag are to adhere to each other and are to project as a flag.	--	N/A
53.3	The markings on a tag are to be printed in contrasting colors on a background other than blue or yellow, and are to be located on the projecting flag of a flag-type tag.	--	N/A

54	INSTRUCTION MANUAL		—
54.1	Multiple-voltage cord-connected equipment shall be provided with instructions to:		—
	a) Indicate the type of detachable supply cord and attachment plug that is to be used for connection to the alternate voltage, and	End product consideration.	N/A
	b) Inform the operator to set the voltage selector switch to the voltage to which the product will be connected.	--	N/A
54.2	Multiple voltage equipment intended for use with a detachable power supply cord shall be provided with instructions to indicate the type of detachable power supply cord that is to be used for connection .	--	N/A

**UL 1310**

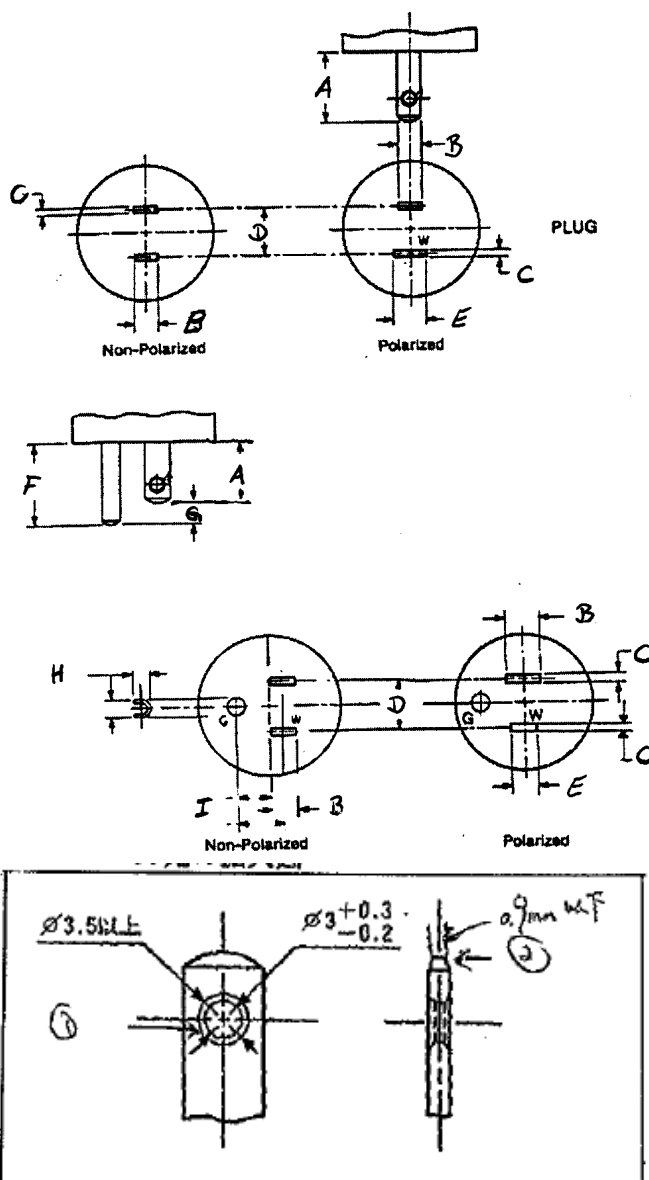
Clause	Requirement - Test	Result - Remark	Verdict
54.3	The instructions for a power unit intended for use with a detachable power supply cord which is not provided with the unit shall contain complete details concerning proper selection of the power supply cord.	--	N/A
54.4	The instructions for a multiple voltage rated unit shall include (a) – (c) or the equivalent, as appropriate. The items shall be preceded by “IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS” and “DANGER - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, CAREFULLY FOLLOW THESE INSTRUCTIONS” in letters of 1/8 inch (3,18 mm) high or in a readily visible contrasting text.	--	N/A
	a) “Be sure voltage selector is in correct voltage position before plugging in.□□The instructions shall also specify the procedures to follow for changing the voltage selector.	--	N/A
	b) “For use in the U.S.A., the voltage selector switch must be placed in the 120 volt position. For use in countries other than the U.S.A., the voltage selector may need to be placed in other than the 120 volt position. Confirm the voltage available at each country location before using the product.	--	N/A
	c) “For connection to a supply not in the U.S.A., use an attachment plug adapter of the proper configuration for the power outlet.	--	N/A
54.5	The operating orientation of a direct plug in power unit shall be indicated in the instructions.	--	N/A

	<b>OUTDOOR USE</b>		—
55.1	General		—
56	Enclosures		—
56.1	A product intended for outdoor use shall comply with the rain test.	--	N/A
56.2	A product intended for outdoor use shall comply with the UV Light and Water Immersion test according to UL 746C	--	N/A
56.3	Units mounted within 1 foot of the ground.	--	N/A

UL 1310			
Clause	Requirement - Test	Result - Remark	Verdict
56.4	Gaskets	--	N/A
56.5	Panels and covers	--	N/A
57	Protection against corrosion		—
	Protection verified	--	N/A
58	Gaskets		—
58.1	Gaskets for an electrical enclosure maintain a tight fit	--	N/A
58.3	Gasket material	--	N/A
59	Supply Connection		—
59.2	Adequate cord type provided	--	N/A
59.3	Means of connection provided:	--	N/A
60	Output Connections and Wiring		—
60.1	Suitable components used	--	N/A
61	Spacings	--	N/A
62	Accessibility of live parts	--	N/A
63	Ground-Fault Circuit-Interrupters	--	N/A
64	Performance of tests	--	N/A
65	Markings	--	N/A
66	Instructions	--	N/A

	PERMANENTLY-CONNECTED UNITS		—
67	General		—
68	Construction	--	N/A
69	Wiring terminals and leads	--	N/A
70	Markings	--	N/A
71	Installation Instructions	--	N/A

UL1310		TABLE: blade dimensions						P
Reference	Measured (mm)	Limits (mm)	verdict	Reference	Measured (mm)	Limits (mm)	verdict	
A	17,2	15,88 - 18,24	P	F	--	21,41 max.	N/A	
B	6,29	6,10 - 6,60	P	G	--	3,18 min.	N/A	
C	1,57	1,57	P	H	--	4,67 - 4,83	N/A	
D	12,7	12,70	P	I	--	8,71 - 8,89	N/A	
E	--	7,70 - 8,18	N/A	(2)	0,9	0,9	P	

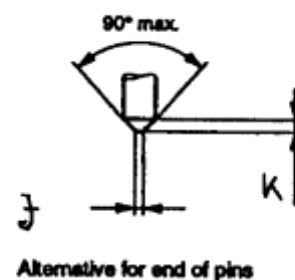
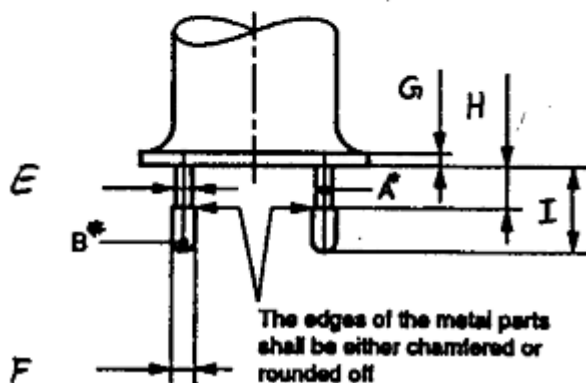
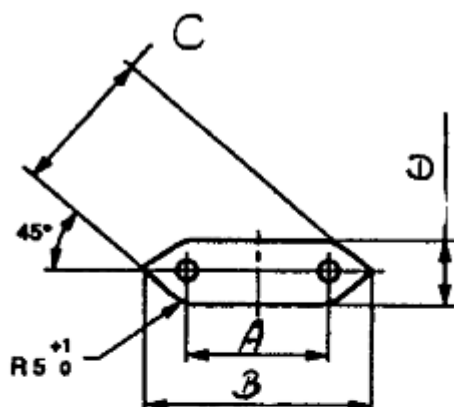


The hole is 3 mm  $+0,3/-0,2$  ID and 3,5 mm OD

EN50075		TABLE: blade dimensions						P
Reference	Measured (mm)	Limits (mm)	verdict	Reference	Measured (mm)	Limits (mm)	verdict	
A	18,0 17,5	18 - 19,2 <sup>1</sup> 17,0 - 18,0 <sup>2</sup>	P P	G	19,4	4,0 min.	P	
B	35,0	35,3 ± 0,7	P	H	10,0	10,0 – 11,0	P	
C	25,7	26,1 ± 0,5	P	I	18,8	19,0 ± 0,5	P	
D	13,4	13,7 ± 0,7	P	J	--	0,7 - 1,7 OD	N/A	
E	3,8	3,5 max. OD	P	K	--	2,0 max.	N/A	
F	4,0	4 ± 0,06 max. OD	P					

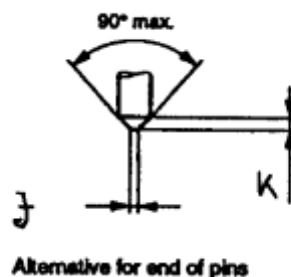
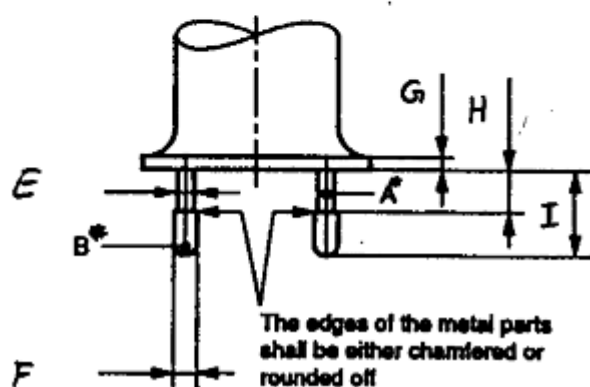
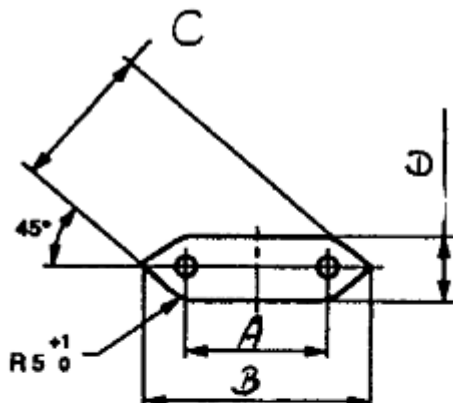
<sup>1</sup> In the plane of the engagement face

<sup>2</sup> at the ends of pins



EN50075 TABLE: blade dimensions							P
Reference	Measured (mm)	Limits (mm)	verdict	Reference	Measured (mm)	Limits (mm)	verdict
A	18,0 17,5	18 - 19,2 <sup>1</sup> 17,0 - 18,0 <sup>2</sup>	P P	G	19,4	4,0 min.	P
B	35,0	35,3 ± 0,7	P	H	10,0	10,0 – 11,0	P
C	25,7	26,1 ± 0,5	P	I	18,8	19,0 ± 0,5	P
D	13,4	13,7 ± 0,7	P	J	--	0,7 - 1,7 OD	N/A
E	3,8	3,5 max. OD	P	K	--	2,0 max.	N/A
F	4,0	4 ± 0,06 max. OD	P				

<sup>1</sup> In the plane of the engagement face

<sup>2</sup> at the ends of pins


AS/NZS 3112	TABLE: blade dimensions (two pin plug)						P
Reference	Measured (mm)	Limits (mm)	verdict	Reference	Measured (mm)	Limits (mm)	verdict
A	20,85	21,9 max. or 27,0 min.	P	J (10A)	--	12,70	N/A
B ( ≤ 15A)	6,3	6,35 ± 0,15	P	K (10A)	--	6,35	N/A
B ( ≥ 15A)	--	9,08 ± 0,15	N/A	L (10A)	--	6,35	N/A
D	7,92	7,92	P	M	--	1,63 ± 0,15	N/A
E	1,7	1,58 - 1,78	P	a	60°	60°	P
H	17,0	17,06 ± 0,4	P	Dimensions E and M apply to all pins.			

(b) Two-pin plugs (10 A, 125 V max.)

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



**EN 50075**  
Especially for plug-in adapters

Page 1 of 8

Order No. 177787P

### TEST REPORT EN 50075 Especially for plug-in adaptors

Product	Plug for power adapter (Standard sheet I of EN 50075)		
Name and address of the applicant	GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA		
Name and address of the manufacturer	GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA		
Rating and principal characteristics	2.5A, 250V~ Cl.II		
Trade mark (If any)	GlobTek		
Model/type	Q-EU(adapter model : GT-41080-WWWV-X.X)		
Additional information	--		
Tested according to	EN 50075 : 1990		
Name and address of the testing laboratory	 Nemko Shanghai Ltd 7th Floor, Building 1, No.2007 Hongmei Road Xuhui District, Shanghai, China		Telephone +86 21 5445 3132 Fax +86 21 5445 3215
Test sample(s) received	2011-08-01		
Tested in period	2011-08-01 to 2011-08-11. The test results relate only to the sample(s) tested.		
Tested by			
	Signature	Date	
	Lance Lei	2011-08-11	
	Name in block letters		
Verified by			
	Signature	Date	
	Willy Ong	2011-08-11	
	Name in block letters		

The content of this TRF fully covers the original TRF published by IMQ, dated 90-07. This form is only for use by NEMKO, or by others according to special agreement with NEMKO. The completed test report is not valid for external use, unless issued by NEMKO or attached to a NEMKO certification document. The report shall not be reproduced without written permission from NEMKO and may then only be copied in full. NEMKO dated 96-01





EN 50075  
Especially for plug-in adapters

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Order No. 177787P

General remarks:	
Description of equipment under test:	
Type of accessory:	Removable plug of AC adapter
Standard sheet:	Standard Sheet I (EN50075)
Copy of marking plate:	
<p>29.8+0/-0.2</p> <p>20.8+0/-0.2</p> <p>3*R1.5</p> <p>C2*45</p> <p>GlobTek, Inc. ITE POWER SUPPLY (480008)</p> <p>P/N: 15112WR50075000-NIRV MODEL: 15112WR50075000-NIRV INPUT: 100-240V~, 50-60Hz, 0.6A OUTPUT: 12VDC, 0.75A</p> <p>UL LPS VDE CCC RoHS WYVY</p> <p>MADE IN CHINA 9-2010-03</p>	

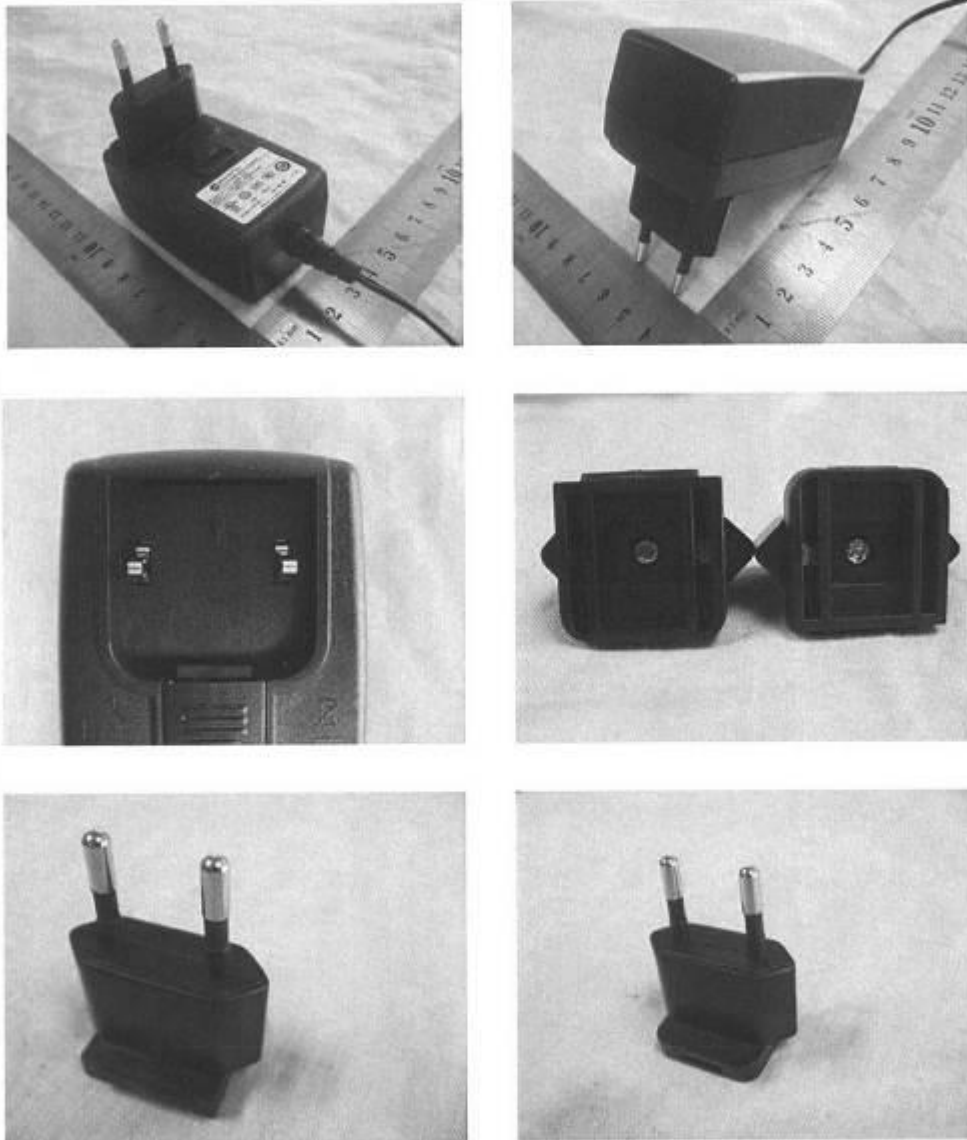


EN 50075  
Especially for plug-in adapters

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Order No. 177787P

Photo:





**EN 50075**  
Especially for plug-in adapters

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Order No.: 177787P

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

Possible test case verdicts:

**P** = Pass, **F** = Fail, **N** = Not applicable. Placed in the column to the right (Verdict)

Tested according to additional information:

Additional information:

This test report always as an appended report of IEC/EN 60950-1, report no. 177787.

Name and address production-sites (factories):

GlobTek, Inc.  
186 Veterans Dr. Northvale, NJ 07647 USA

GlobTek (Suzhou) Co., Ltd  
Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China

Shenzhen ENG Electronics Co., Ltd.  
Block B, Nuclear Group Industrial District, Baishixia, Fuyun Town, Bao'an, Shenzhen, China

Dongguan ENG Electronics Co., Ltd.  
Lin Village, Xi-Hu Industrial Area, Tang Xia Town, Dong-Guan City, Guang-Dong Province, China

List of appendixes / enclosures to the test report:

Measurement of Dimensions



EN 60075  
Especially for plug-in adapters

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Clause	Requirement - Test	Result - Remark	Verdict
<b>6</b>	<b>MARKING</b>		
6.1	- Rated current	2.5A (0.6A marked on the marking plate of power adapter)	P
	- Rated voltage	250V (100-240V marked on the marking plate of power adapter)	P
	- Nature of supply	~	P
	- Maker's name or trade mark or responsible vendor	GlobTek	P
	- Type reference	Q-EU	P
6.4	Marking shall be indelible and easily legible		
	- 15s water		P
	- 15s hexane		P
<b>7</b>	<b>DIMENSIONS</b>		
	Compliance with Standard Sheet 1	See page 8 for detail	P
	Gauges of figures 1 and 2		P
<b>8</b>	<b>PROTECTION AGAINST ELECTRIC SHOCK</b>		
8.1	Applying a force of 75N for 60s on insulating material could impair the safety of plug		P
	Plug shall not deform and no live part shall be accessible		P
8.2	Not possible to make connection between a pin of plug and a live socket contact of a socket-outlet while the other pin shall be accessible		P
	Checked by means of the gauge of figure 4		P
8.3	External parts of plugs, with the exception of the pins, shall be of insulating material		P
<b>9</b>	<b>CONSTRUCTION</b>		
9.5	Effective permanent connections:		P
	Screwed or snap-on connections shall not be used. According to IEC 60884-2-5 screwed or snap-on connection is allowed		P
9.6	Gripping operation:		
	length $\geq$ 55mm or	Accessory can be withdrawn through the enclosure without having to pull the wire	P
	indent(s) - ball $\phi$ 12mm		N



EN 50075  
Especially for plug-in adapters

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Clause	Requirement - Test	Result - Remark	Verdict
<b>10</b>	<b>RESISTANCE TO HUMIDITY</b>		
	Plugs shall be proof against humidity		P
	No damage after 48 h in a humidity cabinet		P
<b>11</b>	<b>INSULATION RESISTANCE AND ELECTRIC STRENGTH</b>		
	Plugs shall have adequate insulation resistance		P
11.1	The insulation resistance and the electric strength of plugs shall be adequate		P
	- insulation resistance $\geq 5 \text{ M}\Omega$ (500 V, 1 min)	> 100 M $\Omega$	P
11.2	- electric strength test (2000 V, 1 min): No flashover or breakdown shall occur		P
<b>13</b>	<b>MECHANICAL STRENGTH</b>		
	Plugs shall have adequate mechanical strength:		P
13.2	- tumbling barrel test (Fig. 8)		P
	Tumbling barrel No. of falls: ( 50 if the specimen does not exceed 250g. 25 if the specimen exceeds 250g. IEC 60884-2-5:95)	50 falls	P
	- torque test on pins (0,4 Nm, 1 min)		P
13.3	- abrasion test (20.000 movements): no damage		P
13.4	Pull test with steel plate: 40N for 1 min. in heating cabinet 70 °C Displacement $\leq 1 \text{ mm}$		P
<b>14</b>	<b>RESISTANCE TO HEAT AND TO AGEING</b>		
14.1	The plug shall have sufficiently resistance		P
14.1.1	- heating test (100 °C, 1 min): no damage		P
14.2	Ageing test : 70 $\pm$ 2°C 168 h		
	After the test: no visible crack		P
	no sticky or greasy material		P
	no damage		P
<b>15</b>	<b>CURRENT-CARRYING PARTS AND CONNECTIONS</b>		
15.1	Connections shall withstand the mechanical stresses occurring in normal use		P



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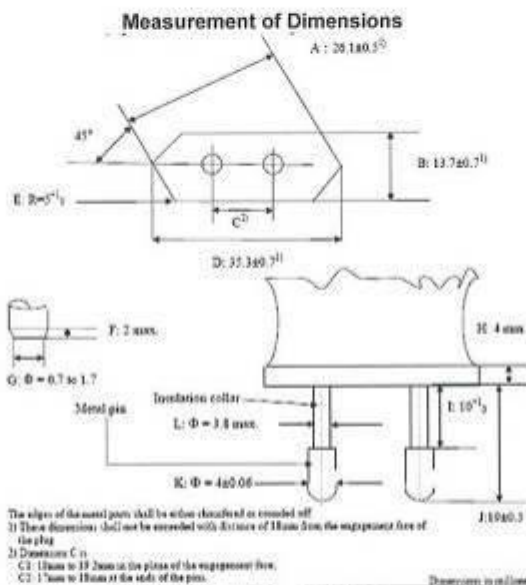
Clause	Requirement - Test	Result - Remark	Verdict
15.2	Contact pressure shall not be transmitted through insulating material		P
15.3	Current-carrying parts shall be:		
	copper or		N
	alloy 58% or	>58% copper content	P
	alloy 50% or		N
	other metal no less suitable		N
	Current-carrying parts which may be subjected to mechanical wear, shall not be made of steel provided with an electroplated coating		P
16	<b>CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH INSULATION</b>		
	Creepage distance between:		
	– live parts of different polarity 3 mm	>3mm	P
	– live parts and accessible metal parts 3 mm		N
	Clearances between:		
	– live parts of different polarity 3 mm	>3mm	P
	– live parts and accessible metal 3 mm		N
	For moulded-on: distance through insulating material between		
	– live parts and accessible surfaces 1,5 mm		P
17	<b>RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT AND TO FIRE</b>		
	Glow-wire test:		
	for parts of insulating material necessary to retain current-carrying parts in position	(x)750°C	
	for other parts:	(x)650°C	
	– no visible flame		P
	– no sustained glowing and the flame shall extinguish within 30s		P
	– no ignition of the tissue paper		P



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Especially for plug-in adapters

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Item	Limit	measured
A	25.6mm to 26.6mm	25.71mm (at below 18mm from engagement face); 26.10mm (near engagement face)
B	13.0mm to 14.4mm	13.55mm (at below 18mm from engagement face); 13.91mm (near engagement face)
C1	18mm to 19.2mm	18.13mm
C2	17mm to 18mm	17.32mm
D	34.6mm to 36.0mm	34.73mm (at below 18mm from engagement face); 35.14mm (near engagement face)
E	R=5mm to 6mm	5.50mm
F	2mm max.	N/A

Item	Limit	measured
G	$\Phi = 0.7\text{mm to } 1.7\text{mm}$	N/A
H	4mm min. (18mm min. for direct plug-in)	19.44mm
I	10mm to 11mm	10.23mm
J	18.5mm to 19.5mm	19.11mm
K	$\Phi=3.94\text{mm to } 4.06\text{mm}$	$\Phi 3.97\text{mm}$
L	$\Phi=3.8\text{mm max.}$  $\Phi=4.0\text{mm max. for } 4\text{mm from engagement face}$	$\Phi 3.48\text{mm}$  $\Phi 3.87\text{mm}$





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Unit 16A, 9 Laidlaw Way  
East Tamaki, Auckland  
New Zealand  
www.harvestlabs.com

## EQUIPMENT CONFORMANCE

### TEST REPORT

#### REPORT NO.

0220GLOGT41076\_3112


**STANDARD:** AS/NZS 3112:2004+Amd 1:2006  
Approval and test specification - Plugs and Socket-Outlets

**EQUIPMENT TYPE:** Direct Plug-in Power Supply with exchangeable plugs

**MODEL NAME / NUMBER:** GT-41076 and GTM41076

**CLIENT:** Globtek Inc

**ADDRESS:** 186 Veterans Drive,  
Northvale, N.J,  
U.S.A

Report No.: 0220GLOGT41076_3112  template as/nzs3112 2007 v1.0	<b>Tested By:</b> Venu Pothineni Gavin Deng  <b>Test date:</b> 20-01-2007	<b>Approved By:</b> M Garwood  <b>Report Date:</b> 20-02-2007	Page: 1 of 15
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# STANDARD SPECIFICATION: AS/NZS3112:2004+Amd 1:2006


<b>CTR#, REPORT NO:</b>	CTR#GLO060813, 0220GLOGT41076_3112
<b>SPECIFIC MODEL NUMBER:</b>	GT-41076 and GTM41076
<b>SERIAL NUMBER:</b>	GT-41076: WR9QE500LRP-N GTM41076: WR9QB1000KCN-N-MED
<b>DEVICE DESCRIPTION:</b>	Direct Plug-in Power Supply with exchangeable plugs
<b>EQUIPMENT CLASS:</b>	CLASS II, HAZARDOUS, SELV
<b>SPECIFIC TEST INFORMATION OR DEVIATIONS FROM TEST METHOD:</b>	There were no deviations from the test method
<b>STATEMENT OF COMPLIANCE:</b>	COMPLIES

## BRIEF DEVICE DESCRIPTION:


The EUT known as 'GT-41076' consisted of a two insulated pin wall mount power supply designed for 100-240V AC 50Hz/0.3A input and 12VDC/0.5A output, directly pluggable, enclosed within a black thermoplastic enclosure.

The EUT known as 'GTM41076' consisted of a two insulated pin wall mount power supply designed for 100-240V AC 50Hz/0.5A input and 6VDC/1.0A output, directly pluggable, enclosed within a black thermoplastic enclosure.

The EUT was tested to Appendix J and examined against all mandatory requirements of the standard. The chemical composition and percentage of materials stated within this report have been provided by Globtek Inc.

<b>TESTS CARRIED OUT BY:</b>	Venu Pothineni Gavin Deng	<b>DATE:</b>	20-01-2007
<b>SIGNATORY:</b>	Martin Garwood 	<b>DATE:</b>	20-02-2007

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation. This report must not be copied unless done so in full. Results contained within this report relate only to the sample submitted to Harvest Laboratories Limited.

Report No.: 0220GLOGT41076_3112  template as/nzs3112 2007 v1.0	<b>Tested By:</b> Venu Pothineni Gavin Deng <b>Test date:</b> 20-01-2007	<b>Approved By:</b> M Garwood <b>Report Date:</b> 20-02-2007	Page: 2 of 15
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AS/NZS 3112:2004+Amd 1:2006			
Clause	Requirement - Test	Result - Remark	Verdict
APPENDIX J - EQUIPMENT WITH INTEGRAL PINS FOR INSERTION INTO SOCKET OUTLETS			

J1.0	Scope		NOTED
------	-------	--	-------

J2.0	Requirements for the plug portion			NOTED
J2.1	Definition			P
J2.1.1	Plug Portion			P
	Figure 2.1, including the plug pins and external dimensions of the 'maximum projection'			P
J2.2	Requirements			P
J2.2.1	Plug pins of plug portions			P
	Requirements of Clause 2.2 are applicable for pins	Refer to Clause 2.2		P
J2.2.2	Ratings and dimensions for low voltage plug portions			P
	Requirements of Clauses 2.8.1 and 2.8.4 are applicable for ratings and dimensions	Refer to Clause 2.8.1 and 2.8.4		P
J2.2.3	Internal connections for plug pins			N/A
	Requirements of Clause 2.9 are applicable	No bevels		N/A
J2.2.4	Arrangement of earthing connections for plug pins			N/A
	Requirements of Clause 2.10 are applicable	No earthing pin		N/A
J2.2.5	Configuration of plug pins			P
	Requirements of Clause 2.12.6 are applicable	Refer to Clause 2.12.6		P
J2.2.6	Tests			P
J2.2.6.1	General			P
J2.2.6.2	High voltage test			P
	Requirements of Clause 2.13.3 are applicable	Refer to Clause 2.13.3		P
J2.2.6.3	Mechanical strength of pin tests			P
J2.2.6.3.1	Tumbling barrel test			P
	3 samples tested to Clause 2.13.7.1, acc to below and shall pass through appropriate gauge	Refer to Clause 2.13.7.1		P
	a) 500 times if sample weighs < 250g			P
	b) 250 times if sample weighs > 250g			N/A
J2.2.6.3.2	Pin bending test			P
	3 new samples shall be tested to Clause 2.13.7.2	Refer to Clause 2.13.7.2		P
J2.2.6.4	Temperature rise test			P
	Requirements of Clause 2.13.8 are applicable	Refer to Clause 2.13.8		P
J2.2.6.5	Securement of pins of the plug portion			P
	Requirements of Clause 2.13.9 are applicable	Refer to Clause 2.13.9		P
J2.2.6.6	Tests on the insulation material of insulated pin plug portion			P
	Requirements of Clause 2.13.13 are applicable	Refer to Clause 2.13.13		P
J2.2.6.7	Equipment with integral pins intended to be supported by the contacts of a socket-outlet			P
	Torque shall be < 0.25 Nm	GT-41076 - 0.052Nm GTM41076 - 0.091Nm		P


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Clause	Requirement - Test	Result - Remark	Verdict
<b>SECTION 2 – PLUGS</b>			

<b>2.2</b>	<b>PLUG PINS</b>		
2.2.1	Material of pins		P
	Examples of suitable materials		P
	a) Copper		N/A
	b) copper alloy at least 58% copper or at least 50% copper for other parts or	60% copper and 2.3% Lead and alloys	P
	c) stainless steel at least 13% chromium and no more than 0.09% carbon		N/A
2.2.2	Assembly of pins		P
	Pins shall be remain attached to the conductors even if they become detached from the body		P
2.2.3	Form of pin		P
	a) Flat pins with a radius on the end with side bevels may have a -	See Table 1 for details	P
	i) width profile with an arc on centre line of the pin of-	See Table 1 for details	P
	A) 6mm for all pins 10 and 15A plugs	See Table 1 for details	P
	B) 11mm for earth pins of 15 and 20A plugs		N/A
	ii) thickness between 0.3-0.4mm and along the pin with 0.8-1.0mm		N/A
	b) Flat pins square on the end with corner bevels and side bevels may have a -		N/A
	i) width profile square corner bevelled 0.6mm and along the pin at 0.8-1.0mm		N/A
	ii) thickness between 0.3-0.4mm and along the pins with 0.8-1.0mm		N/A
	c) Flat pins square on the end with corner bevels and a radius on the sides may have a -		N/A
	i) width profile square corner bevelled 0.6mm and along the pin at 0.8-1.0mm		N/A
	ii) thickness radius of approx half of material thickness and along the pins with 0.8-1.0mm		N/A
2.2.4	Insulation of plug pins		P
	Live parts of plug pins shall not be exposed when plug is partially or fully engaged in the socket	Live pins not exposed	P
	Compliance is checked by Figure 2.4	8.85mm	P
2.8.1	General		P
	Plug shall comply with the dimensions of Figure 2.1		P
	Distance between a live pin and edge of moulding of the plug shall not be less than 9mm	>11.0 mm	P
	No protrusion from the face shall be > 0.5mm	No protrusions	P
2.8.4	Compliance with dimensional requirements of Figure 2.1		P
	Plug pins complying with Figures a1, c, d, f or g, shall also comply with requirements of Figure 2.1 (e)	See Table 1 for details	P
	Plugs with insulated pins according to this standard need not comply with R20 +/-1.0mm	See Table 1 for details	P
2.9	Internal connections		N/A
	a) a loose terminal cannot bridge any live parts or earthing parts	No earthing pin	N/A
	b) the earthing parts shall be isolated from live parts	No earthing pin	N/A

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	c) the live parts shall be isolated from earthing parts	No earthing pin	N/A
2.10	Arrangement of earthing connections		N/A
	3 pin plug shall be that pin which is radial to the circle embracing the pins	No earthing pin	N/A
2.12.6	Configuration of plugs		P
	Plugs conforming to Figure 2.1 a, c, f or g shall have pins in form of Earth, neutral and active in a clockwise direction		P
2.13.2	Insulation resistance test		P
	Plug shall be measured at 500V d.c as follows:		P
	a) Between all live poles taken in pairs	>100 MOhms	P
	b) Between all live poles connected together and any external metal	No external metal	N/A
	c) Between all live poles connected together and the earthing terminal of exposed metal	No earthing pin	N/A
	d) Between all live poles connected together and a flexible electrode applied to non conducting parts		P
	e) Between all live poles connected together and a metal foil applied at 4mm from the face of plug		P
2.13.3	High voltage test		P
	Plugs shall withstand a.c voltage of value indicated in Table 2.3, between items (a) and (c) of Clause 2.13.2	Refer to Clause 2.13.2	P
	Plugs shall withstand 3.5KV a.c between items (b) and (d) of Clause 2.13.2 for 1min each		P
	Plugs shall withstand 1250 V a.c between items (b) and (d) of Clause 2.13.2 (e) for 1min each		P
2.13.7.2	Pin bending test		P
	3 new samples shall be tested as follows:		P
	Pins shall be assembled as shown in Figure 2.8		P
	Point of application shall be 14 +/-0.5mm and the distance moved shall be 7.5 +/-0.3mm for 20cycles	Pins were not broken off	P
2.13.8	Temperature rise test		P
	Plug shall be inserted into a socket with 1.1 times rated current for 1 hr. Temp rise shall be <=45K	See Table 2 & 3 for details	P
2.13.9	Securement of pins		P
2.13.9.1	Movement of pins		P
	18 +/- 1N shall be applied at 40° after 1hr of preconditioned at 14+/- .5mm distance from plug face		P
	a) in both directions the line perpendicular to plane of pin, passing through centre of the pin	See Table 4 for details	P
	b) in that plane in both directions along a line at right angles to that specified in item (a)	See Table 4 for details	P
	Max deflections shall be <=2.0mm and shall be able to insert into socket without undue force	Max deflection = 1.15mm	P
2.13.9.2	Fixing of pins		P
	60+/- 0.6N shall be applied at 50° C after 1hr of preconditioned and held for 10min. Max displacement shall be 2.4mm and shall return to 0.8mm of length as in Figure 2.1	Max deflection after the test = 0.11mm	P
	a) Pull	See Table 5 for details	P
	b) Push	See Table 5 for details	P
2.13.13	Tests on the insulation material of insulated pin plugs		P
2.13.13.1	General		P
2.13.13.2	Pressure test at high temperature		P
	1 insulated pin only shall be tested as shown in figure 2.5 for 2hr at 160° C. Pin shall be removed and cooled in 10s and insulation shall be >=50%	Insulation thickness after test 1.0mm	P

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2.13.13.3	Static damp heat test		P
	Plug pin shall be subjected to 2 cycles of 25 and 40°C at 95% humidity and tested as follows:		P
	a) Insulations resistance test with Clause 2.13.2 (e)	Refer to Clause 2.13.2(e)	P
	b) high voltage test with Clause 2.13.3	Refer to Clause 2.13.3	P
2.13.13.4	c) abrasion test with Clause 2.13.13.6	Refer to Clause 2.13.13.6	P
	Low temperature test		P
	Plug pin shall be subjected to -15+/-2°C for at least 24hr and tested as follows:		P
	a) Insulations resistance test with Clause 2.13.2 (e)	Refer to Clause 2.13.2(e)	P
2.13.13.5	b) high voltage test with Clause 2.13.3	Refer to Clause 2.13.3	P
	c) abrasion test with Clause 2.13.13.6	Refer to Clause 2.13.13.6	P
	Impact test at low temperature		P
	1 insulated pin only maintained at -15+/-2°C for at least 24hr as shown in figure 2.6 on 40mm rubber pads and tested as follows:		P
2.13.13.6	100g shall be allowed to fall from 100mm with 4 impacts rotating it through 90° between impacts	No damage to insulation of the pin	P
	Abrasion test		P
	4N shall be applied to the insulation of pin plug as shown in figure 2.7 for 20,000 operations	No damage to insulation which may affect safety	P

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**Table 1: - Dimensional requirements of Figures 2.1 (c), (e) and (h)**

Dimensions of Figure 2.1 (c)	Measured Value	Limits for <10A
A	6.31	6.35+/-0.15
C	1.60	1.63+0.15, -0.05
D	7.9	7.9+
F	17.15	17.06+/-0.4
AA (from maximum projection to centre)	20.92mm	21.9 max or 27.0min
Dimensions of Figure 2.1 (e)	Measured Value	Limits for <10A
A	10.6	8.6+
B	20.86	20+/-1.0
C	20.92	21 max
Dimensions of Figure 2.1 (h)	Measured Value	Limits for <10A
R	0.35	0.35+/-0.05
S	0.91	0.90+/-0.10
V	6.15	6+

**Table 2: - Temperature Rise Test for GT-41076**

Clause	Before Test (°C)	At 1.1 times Rated Current at constant temp (°C)	Temp. Rise
Temp of Pins	23	26	3

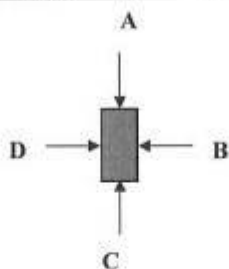
**Table 3: - Temperature Rise Test for GTM41076**

Clause	Before Test (°C)	At 1.1 times Rated Current at constant temp (°C)	Temp. Rise
Temp of Pins	21	27	6

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**Table 4: - Movement of Pins**

Pins Side	Deflection (mm)				Limit (mm)
	A	B	C	D	
Pin	1.00	0.96	1.04	1.15	2.0


**Table 5: - Fixing of Pins**

	Deflection (mm)		Limit (mm)
	Push	Pull	
Pins 1	0.1	0.01	2.4
Pins 2	0.11	0.01	2.4

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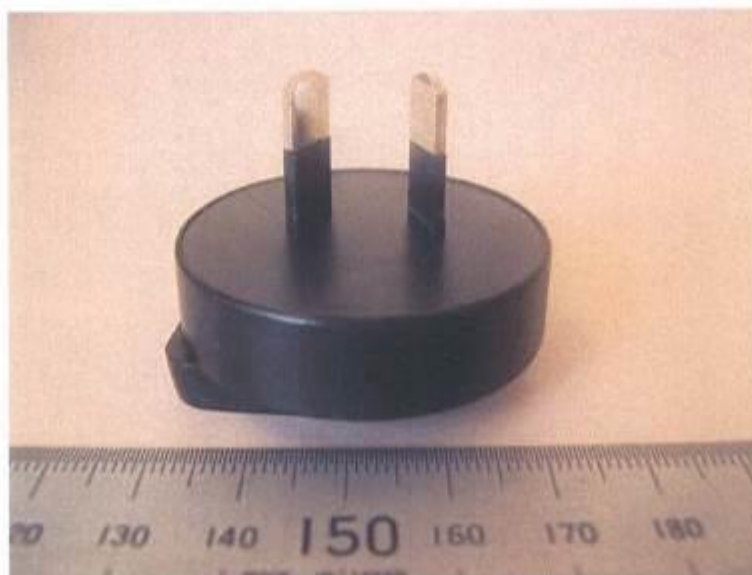
### Appendix A: - Photographs

GT-41076

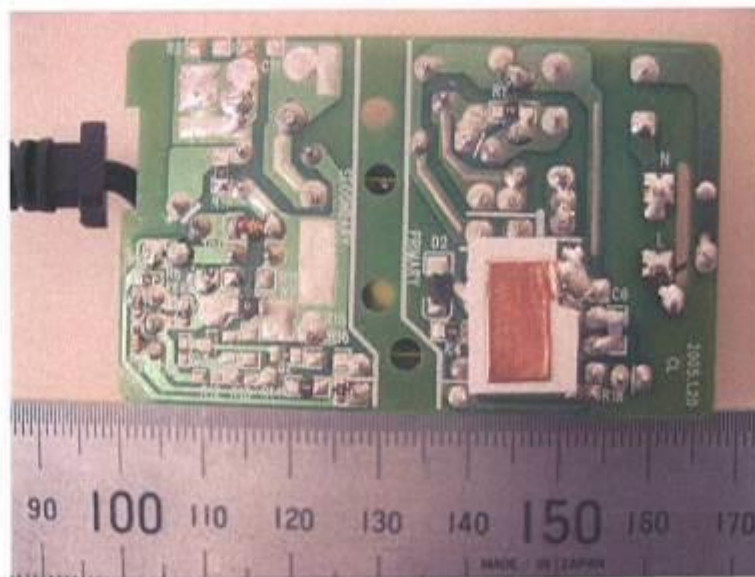
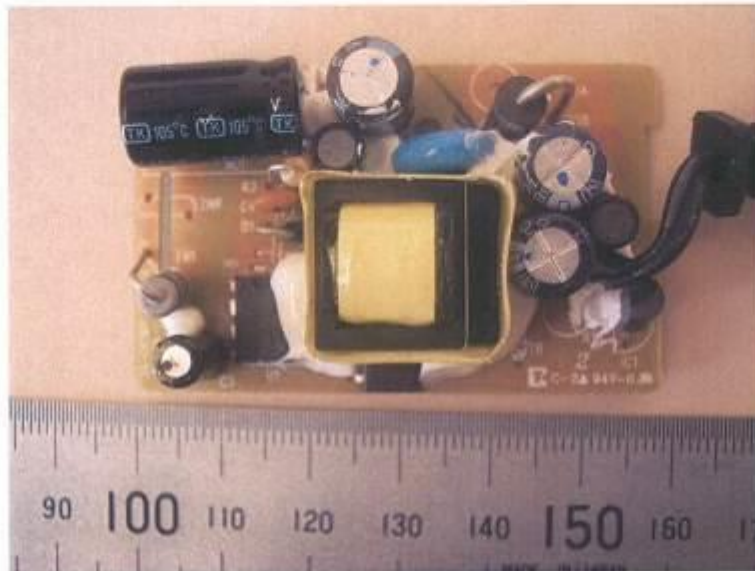


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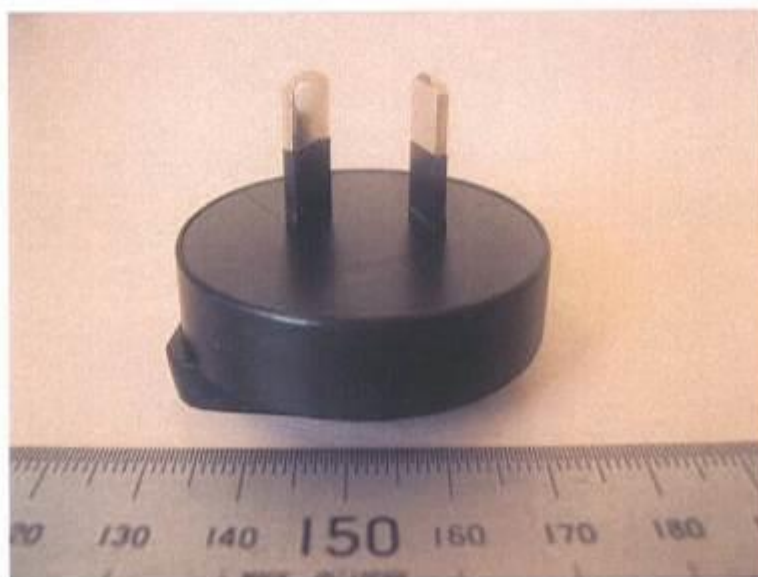


Report No.: 0220GLOGT41076_3112 <b>harvest</b> laboratories template as/nzs3112:2007 v1.0	<b>Tested By:</b> Venu Pothineni Gavin Deng  <b>Test date:</b> 20-01-2007	<b>Approved By:</b> M Garwood  <b>Report Date:</b> 20-02-2007	Page: 11 of 15
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GTM41076

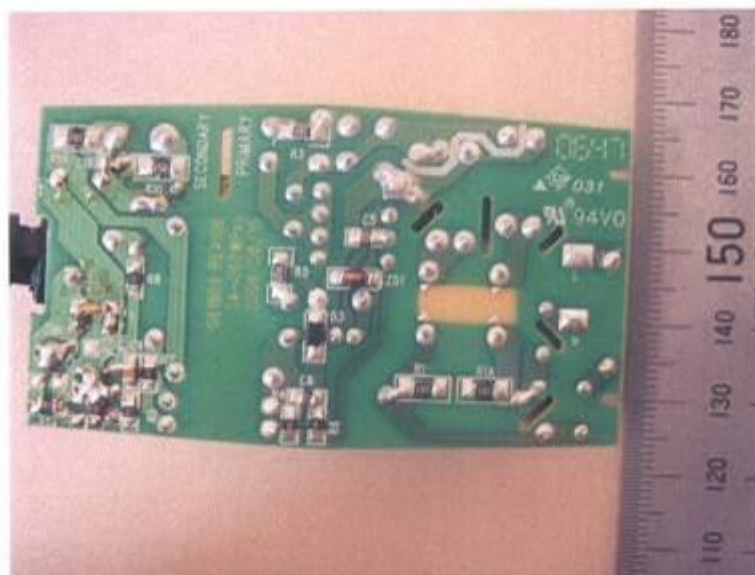


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### Appendix B: - Uncertainty Measurements of Tests in AS/NZ 3112:2004+Amd 1:2006

Clause	Test	Equipment	Uncertainty
2.2.4, 2.8.4, 2.13.13.2, 2.13.7.2	Dimensional requirements, Dimensions of low voltage plugs, Pressure at high temperature, Pin bending test	TE062: Vernier caliper 0.1mm TE037: Thermal coupler and temperature reader $\pm 2.9^{\circ}\text{C}$	$\pm 0.1\text{mm}$ $\pm 2.9^{\circ}\text{C}$
2.13.3, 2.13.13.3, 2.13.13.4, 2.13.13.5	High voltage test, Insulation resistance test, Static damp heat test, Low temp test, Impact at low temp	TE: 035 High Voltage Test Generator TE: 267 Oscilloscope 0.577 $\mu\text{V}$ TE: 267 Oscilloscope HV probe $\pm 3\%$ TE: 005 Stop Watch $\pm 1\text{s}$ TE: 030 Multimeter $\pm 2\%$ TE: 034 Insulation tester TE037: Thermal coupler and temperature reader $\pm 2.9^{\circ}\text{C}$	$\pm 3\%$   $\pm 1\text{s}$ $\pm 2\%$  $\pm 2.9^{\circ}\text{C}$
2.13.8	Temperature rise test,	TE: 030 Multimeter $\pm 2\%$ TE037: Thermal coupler and temperature reader $\pm 2.9^{\circ}\text{C}$	$\pm 2\%$ $\pm 2.9^{\circ}\text{C}$
2.13.9	Securement of pins	TE247: Force gauge compression- $\pm 1.5\text{lb}$ Tension- $\pm 0.6\text{lb}$ TE: 275 Digital force gauge	$\pm 1.5\text{lb}$ $\pm 0.6\text{lb}$ $\pm 0.5\text{N}$

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RKSA180606050-SA

<b>TEST REPORT</b> <b>AS/NZS 3112</b> <b>Approval and test specification—Plugs and socket-outlets</b> <b>Australian plug test</b>	
Report reference No .	RKSA180606050-SA
Compiled by (+ signature)	Andy Fu
Approved by (+ signature)	Robin He
Date of issue	2018-06-22
Testing laboratory	Bay Area Compliance Laboratories Corp. (Dongguan)
Address	No.69,Pulongcun,Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China
Testing location	As above
Accreditation	The IAS Accreditation Number TL-460.
Applicant's name	GlobTek, Inc.
Address	186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer's name	GlobTek, Inc.
Address	186 Veterans Dr. Northvale, NJ 07647 USA
Factory's name	GlobTek (Suzhou) Co., Ltd
Address	Building 4, No.76 JinLing East Road, Suzhou Industrial Park, Suzhou, JiangSu, 215021, China
Standard	AS/NZS 3112:2017
Test sample(s) received	2018-06-06
Test in period	2018-06-19 To 2018-06-22
Procedure deviation	N.A.
Non-standard test method	N.A.
<b>Note:</b> The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the specific product described herein. It must not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).	
Type of test object	Power Supply
Trademark	
Model/type reference	GTM41076-06VV-X.X series (see page 4)





RKSA180606050-SA

Multiple Models.....	GT-41052-AABB-X.X series, GT-41080-WWWV-X.X series, GT-41081-WWWV-X.X series, GT-41135-WWWV-X.X series, GT-43007-WWWV-X.X series, GT-41062-AABB-X.X series, GT*41080-**** series, GTM43033-*** series, GT-46120-WWWV-X.XX-W2Z*****, GT-46180-WWWV-X.XX*****, GT*41134***** and GT*96060*****, GT**,-*****, GT-46240-WWWV-X.XX*****, GT*46402-*** (see page 4-7)
Manufacturer .....	GlobTek, Inc.
Rating .....	(for adapter GTM41076-06V-V-X.X series models ) Input: 100-250V~50-60Hz, 0.16-0.1A Output: 5-30Vdc , Max 6W





RSZ170811007-03A1

Copy of marking plate(representative):

(for adapter) (GTIM41076-06VV-X.X series models representative)





RSZ170811007-03A1

**Models description:**

Models series	description
GTM41076-06VV-X.X series	were VV can be any rated output voltage between 5 and 30 Vdc and X.X is optional for specifying output voltage deviations, -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT-41052-AABB-X.X series	"AA" is the rated output wattage designation, with a maximum value of "15"; "BB" is the standard rated output voltage designation, with values between "05" to "48"; and, -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT-41080-WVVV-X.X series	WV is the rated output wattage designation, with a maximum value of "18". VV is the standard rated output voltage designation, with a maximum value of "48". -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different, Actual voltage range is 9 - 48 volts only.
GT-41081-WVVV-X.X series	WV is the rated output wattage designation, with a maximum value of "18"; VV is the standard rated output voltage designation, with a maximum value of "09"; -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT-41135-WVVV-X.X series	WV is the rated output wattage designation, with a maximum value of "12"; VV is the standard rated output voltage designation, with a maximum value of "48"; -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT-43007-WVVV-X.X series	WV is the rated output wattage designation, with a maximum value of "40.8"; VV is the standard rated output voltage designation, with a maximum value of "24"; -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.



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GT-41062-AABB-X.X series	AA denotes the maximum rated wattage, either "13" or "18", BB denotes the standard maximum rated voltage, which may be 5.0-24.0 Vdc as shown in the ratings table, -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT*41080-*** series	<p>The 1st "*" part can be „M" or „-" or „H" for market identification and not related to safety.</p> <p>The 2nd "*" part denotes the rated output wattage designation, which can be "01" to "18", with interval of 1.</p> <p>The 3rd "*" part denotes the standard rated output voltage designation, which can be "07", "11", "17.9", "30", "38" and "48". Each standard rated output voltage designation corresponds to a transformer model. Each transformer model is identical in insulation construction including clearance and creepage except number of turns per coil.</p> <p>The 4th "*" part is optional, which can be "-0.1" to "-12" with interval of 0.1 to denote voltage deviation or blank to indicate no voltage different.</p> <p>The result by subtracting the deviation value from the standard rated output voltage denotes the rated output voltage, with a range of 5 – 48 volts.</p>
GTM43033-*** series	<p>M can be "M" or "-" for market identification and not related to safety</p> <p>The 1st "*" part denotes the rated output wattage designation, which can be "01" to "06", with interval of 1.</p> <p>The 2nd "*" part denotes the standard rated output voltage designation, which can be "03", "04", "06", "12", "15", "18", "24", "36" or "48". These standard rated output voltage designations correspond to three transformer models. Each transformer model is identical in insulation construction including clearance and creepage except number of turns per coil.</p> <p>The 3rd "*" part is optional, which can be "-0.1" to "-11.9" with interval of 0.1 to denote voltage deviation or blank to indicate no voltage different.</p> <p>The result by subtracting the deviation value from the standard rated output voltage denotes the rated output voltage, with a range of 3 – 48 volts.</p>



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GT-46120-WWWV-X.XX-W2Z*****	<p>WW is the standard output wattage, with a maximum value of "12", VV is the standard rated output voltage designation, with a maximum value of "48", which can be 05,06,09,12,15,24,36,48.</p> <p>-X.XX denote the output voltage differentiator, subtracting X.XX volts from standard output voltage VV in 0.01V increments, the actual output voltage range is 5-48V, blank is to indicate the no voltage different.</p> <p>Z denote type of plug and can be E for European plug, U for British plug, blank for North American/Japan/Taiwan plug, C for Chinese plug, A for Australia plug.-W2Z can be optional, when it is blank, denote to be with replaceable plug.</p> <p>Each * = 0-9 or A-Z or ( ) [ ] - or blank for marketing purposes.</p>
GT-46180-WWWV-X.XX*****	<p>WW is the standard output wattage, with a maximum value of "18", VV is the standard rated output voltage designation, with a maximum value of "24"; which can be 05,09,12,15,18,24.</p> <p>-X.XX denote the output voltage differentiator, subtracting X.X volts from standard output voltage VV in 0.01V increments, the actual output voltage range is 5-24V, blank is to indicate the no voltage different.</p> <p>Each * = 0-9 or A-Z or ( ) [ ] - or blank for marketing purposes.</p>
GT*41134***** and GT*96060*****	<p>The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety.</p> <p>The 2nd "*" part can be "-" or "CC", "-" = Constant Voltage Model, CC = Constant Current Model.</p> <p>The 3rd "*" denotes the rated output wattage designation, which can be "01" to "06", with interval of 1.</p> <p>The 4th "*" denotes the standard rated output voltage designation, which can be "03", "04", "06", "12", "15", "18", "24", "36" or "48". The 5th "*" is optional deviation, subtracted from standard output voltage, which can be "-0.1" to "-11.9" with interval of 0.1, or blank to indicate no voltage different.</p> <p>The 4th "*" and 5th "*" together denote the output voltage, with a range of 3.3 - 48 volts.</p> <p>The 6th "*" = Blank means directly plug in model series, The last * denote any six character = 0-9 or A-Z or ( ) [ ] - or blank for marketing purposes.</p>
GT**.-*****	<p>The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety.</p> <p>The 2nd "*" can be 96180.</p> <p>The 3rd "*" denotes the rated output wattage designation, which can be "01" to "36", with interval of 1.</p>



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	<p>The 4th “*” denotes the standard rated output voltage designation, when the 2nd “*” = 96180 which can be “07”, “11”, “17.9”, “30”, “38”, “48”, “54” or “56”;</p> <p>The 5th “*” is optional deviation, subtracted from standard output voltage, which can be “-0.01” to “-12.0” with interval of 0.01, or blank to indicate no voltage different.</p> <p>The 4th “*” and 5th “*” together denote the output voltage, with a range of 5 - 56 volts.</p> <p>The 6th “*” = blank, it means wall plug in with interchangeable blade.</p> <p>The last * denote any six character = 0-9 or A-Z or ()[] or - or blank for marketing purposes.</p>
GT-46240-WWVV-X.XX*****	<p>WW is the standard output wattage, with a maximum value of “24”,</p> <p>VV is the standard rated output voltage designation, with a maximum value of “24”; which can be 12, 15 and 24.</p> <p>-X.XX denote the output voltage differentiator, subtracting X.X volts from standard output voltage VV in 0.01V increments, the actual output voltage range is 12-24V, blank is to indicate the no voltage different.</p> <p>Each * = 0-9 or A-Z or ()[] - or blank for marketing purposes.</p>
GT*46402-***	<p>The 1st “*” part can be ‘M’ or ‘-’ or ‘H’ for market identification and not related to safety. The 2nd “*” denotes the rated output wattage designation, with a maximum value of “40”. The 3th “*” denotes the standard rated output voltage designation, which can be “05” to “48”</p> <p>The last * denote any six character = 0-9 or A-Z or ()[] or - or blank for marketing purposes.</p>

**Notes:**

The follows is stated and guaranteed by applicant. All above models have same structure and same case, and just have different output voltage and current, it does not affect the plug test. GTM41076-0605 is selected for test.

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
J1	Scope		P
J2	Definitions		P
J2.1	Detachable plug portion		P
	(a) Type A (see Figure J1)	A detachable plug portion with a connection intended for plugging directly into equipment.	N
	(b) Type B (see Figure J2)	A detachable plug portion with a non-standardized connection intended for plugging directly into equipment.	P
	(c) Type C	A detachable plug portion with a connection intended for use with an adaptor connected to a flexible cord so as to replicate a supply plug and flexible cord configuration.	N
J2.2	Integral plug portion		N
J2.3	Plug portion		P
J3	Requirement for the plug portion		P
J3.1	General	(c) For Type B detachable plug portion, the conformance is shown by the relevant clauses of this Appendix.	P
J3.2	Plug pins of plug portions		P
	Material for pins	Copper content: >58%	P
	Assembly of pins		P
	Form of pin	(a) Flat pins, as shown in figure 2.1(h), 6mm for all pins of 10A plugs and live pins of 15A plugs; and Thickness profile with each corner bevelled 0.3mm to 0.4mm along the side, finishing along the pin at 0.8 mm to 1.0 mm.	P



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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulation of plug pins	Conformance is checked by measurement to Figure 2.4.	P
J3.3	Ratings and Dimensions for low-voltage plug portions		P
	General		P
	Low voltage flat-pin plugs shall conform to the appropriate dimensions shown in Figure 2.1.		P
	The distance between a live pin of any plug and the Edge of the moulding of the plug, shall be not less than 9mm.	14.25 mm	P
	No point on the front face of the plug is more than 0.5mm.	0.15mm	P
	Compliance with dimensional requirements of figure 2.1	See dimension tables	P
	Integrally moulded plug and cord		N
	Two-pin flat-pin plugs with non-parallel pins	Arranged as in Figure 2.1(c)	P
	Conformance with dimensional requirements of Figure 2.1		P
J3.4	Internal connections for plug portions		N
J3.5	Arrangement of earthing connections for plug portions	No earth connector	N
J3.6	Configuration of plug portions		P
J4	TESTS		P
J4.1	General		P
J4.2	High voltage test(2.13.3)		P
	The plug shall withstand without failure an a.c. voltage of the value indicated in table 2.3, applied between the parts set out in items (a) and (c) of Clause 2.13.2 for 1min in each case	No breakdown.	P
	The plug shall further withstand, without failure, a voltage of 3000Va.c. applied between the parts set out in items(b) and (d) of clause 2.13.2 for 1min in each case		N
	The insulation of insulated pin plugs shall withstand a voltage of 1250Va.c. for 1min applied in accordance with clause 2.13.1(e)	No breakdown.	P
J4.3	Mechanical strength of pin tests		P
J4.3.1	Tumbling barrel test(2.13.7.1)		P
	The tumbling barrel test is applied of to determine the mechanical strength of the plug pins		P



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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Three samples which have not been subjected to any previous test are tested to the requirements of clause 2.13.7, however, the test is modified for plug portions of equipment with integral pins as follows:		P
	A sample of equipment with integral pins is dropped-		--
	a) 500 times if the mass of the specimen does not exceed 250g. The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of figure A1, B1 or F1; and	Max. 170g. After test, no broken and cracking was found.	P
	b) 250 times if the mass of the specimen exceeds 250g. The pins being straightened after 25 drops and at the completion of the test to pass through the appropriate gauge of figure A1, B1 or F1;		--
J4.3.2	Pin bending test		P
	The pins of the plug portion of three samples not subjected to any previous tests shall be tested for Compliance with the pin bending test of clause 2.13.7.2	Three samples tested	P
	All flat-pins of plug rated up to and including 15A shall be subjected to a pin bending test	Tested on all flat-pins of plug	P
	Three samples plugs not subjected to any previous tests shall be tested After the tests the pins shall be inspected with normal or corrected to normal vision	Inspected with normal vision	P
	Active and neutral pins shall be forced towards the centroid of the plug and then back to the starting point. On the first sample plug, any earth pin shall be forced but in one direction only and the back to the starting point. On the second sample plug, any earth pin shall be forced in the opposite direction to that used for testing the first sample plug. On the third sample plug, any earth pin shall be forced in the direction that gave the least favorable result during testing of the first two sample plugs. (Amendment 1:2006)	Without earth pin	N
	The pin shall not be broken off. If in doubt pins shall be disassembled from the plug and any insulation removed.	The pin did not break off.	P
J4.4	Temperature rise test (2.13.8)		P
	The terminal screws or nuts are tightened with a torque equal to two-thirds of that specified in test No. 5	No screws or nuts used	N
	The test socket shall consist of a fixed socket outlet of a type complying with this standard.	Direct plug-in equipment	N
	The plug is inserted into the socket outlet and an alternating current of 1.1 times rated current is passed for 1h.		P





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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	The temperature of the flexible cord terminal is determined by means of melting particles, colour changing indicator or thermocouples, so chosen and positioned that they have negligible effect on the temperature being determined.		N
	The temperature rise of the terminals shall not exceed 45K	Max. temperature rise: Right pin: 3.7 K Left pin: 1.7 K Surface: 3.2 K	P
J4.5	Securement of pins of the plug portion (2.13.9)		P
	Movement of pins (2.13.9.1)		P
	Plug shall be tested for pin movement by clamping the pin or pins not under test in a rigid holding block positioned $5 \pm 0.5$ mm from the plug face and applying a force of $18 \pm 1$ N to the pin under test. The design of the block shall be such that the pin under test shall not come into contact with the block during the test		P
	Except for non-rewireable plugs, the test shall be carried out without a cord attached to the plug, and with the terminal screws loosened sufficiently to allow a 1 mm <sup>2</sup> conductor to be connected		P
	The plug and test equipment shall be preconditioned at a temperature of $40 \pm 1$ °C for 1h,  Without the test force applied. Throughout the test, all parts of the plug and test equipment shall be maintained at this temperature	40°C for 1h applied	P
	For all plugs, the point of application of the force of plug along the pins, and the direction of the force shall be- a) in both directions along the line perpendicular to the plane of the pin, and passing through the centre of the pin; and b) in that plane in both directions along a line at right angles to that specified in item (a)		P
	Over a period of 10s, the force shall be gradually applied to each of the pins in the manner prescribed in item (a) and (b), maintained at its maximum value for 10s, and then released. The deflection of the pins shall be measured along the line of the face relative to the face of the rigid holding block during the period when force is applied. The maximum deflection shall not exceed 2.0 mm	Max. deflection of L pin: 0.2 mm; Max. Deflection of N pin: 0.2 mm	P

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Following the test on all pin of a conforming to Figure 2.1, any distortion 5 min after the completion of the test on the last pin shall be such that it will not prevent the plug from being inserted in the appropriate standard gauges shown in Appendix A, Appendix B and Appendix F without the application of undue force	Plug portion is able to be inserted into the appropriate standard gauge without the application of undue force	P
	For other types of plugs, any distortion after 5 min shall be such as will not prevent the plug being inserted into an appropriate socket-outlet without the application of undue force		P
	Fixing of pins(2.13.9.2)		P
	A separate sample of a plug shall be heated to temperature of $50 \pm 2^\circ\text{C}$ for 1h and maintained at that temperature during the whole of tests, including the 5 min period after removal of the test load.	$50^\circ\text{C}$ for 1h applied.	P
	The plug shall be held firmly in such a manner that there will be no undue squeezing or distortion of the body, and the means of holding shall not assist in maintaining the pins in their original position	The test with the pins in their original position not distortion	P
	Each pin, in turn, shall have applied to it a force which, over a period of 10s, shall be increased steadily to $60 \pm 0.6\text{N}$ and held at this value for 10 min	60N, 10min	P
	Two tests on each pin shall be conducted, one with the direction of force along the length of the pin towards the body of the plug, and the other with the direction of force along the length of the pin away from the body	considered	P
	The attachment of pins shall be considered inadequate if any pin is displaced relative to the adjacent material of the body by more than 2.4mm at any time during these tests, or if any pin fails to return to within 0.8mm of its nominal length specified in figure 2.1 within 5 min of the removal of the test force.	During the test, Max. Displacement: L: 0.21 mm; N: 0.21 mm After removal of the force, Max. Displacement: L: 0.18 mm; N: 0.20 mm	P
J4.6	Tests on the insulation material of insulated pin-plug portions(2.13.13)		P
	2.13.13.1 General		P
	The material of the pin-insulation shall be resistant to the stresses to which it may be subjected at the high temperature likely to occur in conditions approaching the bad connection conditions of service		P
	Compliance shall be checked by the tests of clause 2.13.13.2 to 2.13.13.6		P
	Pressure test at high temperature(2.13.13.2)		P



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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	A sample of one insulated pin only shall be subjected to the following test by means of the apparatus shown in Figure 2.5. This apparatus shall have a blade having a round shape with a diameter of 6 mm and a thickness of 0.7mm.		P
	The sample shall be placed in position as shown in the Figure 2.5 and force of 2.5N shall be applied through the blade to specimen.	2.5N applied	P
	The apparatus, with the sample in position, shall be maintained for 2h in a heating cabinet at a temperature of $160 \pm 5^{\circ}\text{C}$ . The sample shall then be removed from the apparatus and within 10s, cooled by immersion in cold water.	$160^{\circ}\text{C}$ for 2h applied.	P
	The thickness of the insulation shall be measured immediately at the point of impression.		P
	The thickness of the insulation remaining at the point of impression shall be measured and shall not have been reduced by more than 50%	Thickness before test: 0.41mm; Thickness after test: 0.36mm; Reduced by 12.20%. The thickness of the insulation. It is not reduced by more than 50%	P
	Visual inspection shall be made and no cracks on the insulation material shall be visible with normal, or corrected to normal, vision without additional magnification, and the dimension of the insulating material shall not have changed below the minimum size shown in Figure 2.4	No cracks are found on the insulating material. The dimension of insulating material did not change	P
	Static damp heat test(2.13.13.3)		P
	An insulated pin plug shall be subjected to two damp heat cycles in accordance with AS 60068.2.30.Db(12+12h cycle), 95% relative humidity, Lower temperature $25 \pm 3^{\circ}\text{C}$ and upper temperature $40^{\circ}\text{C}$		P
	After this treatment and recovery to room temperature, the specimen shall be subjected to- a) the insulation resistance test in accordance with Clause 2.13.2(e); b) high voltage test in accordance with Clause 2.13.3 and; c) abrasion test in accordance with Clause 2.13.13.6	During high voltage test no breakdown occurred between live poles and insulation of the pins.	P
	Low temperature test(2.13.13.4)		P



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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	An insulated pin plug shall be maintained at $-15 \pm 2^\circ\text{C}$ for at least 24h and returned to room temperature	$-15^\circ\text{C}$ for 24h applied.	P
	The sample shall be subjected to- a) the insulation resistance test in accordance with Clause 2.13.2(e); b) high voltage test in accordance with Clause 2.13.3 and; c) abrasion test in accordance with Clause 2.13.13.6		P
	Impact test at low temperature(2.13.13.5)		P
	A specimen of one insulated pin only shall be subjected to an impact test by means of the apparatus shown in Figure.2.6. The mass of the falling weight shall be $100 \pm 1\text{g}$		P
	The apparatus, on a sponge rubber pad 40mm thick, together with the sample, shall be maintained at $-15 \pm 2^\circ\text{C}$ for at least 24h	$-15^\circ\text{C}$ for 24h applied	P
	At the end of this period, the sample shall be placed in position, as shown in Figure 2.6, and the falling weight shall be allowed to fall from a height of 100mm. Four impacts shall be applied successively to the same sample, rotating it through $90^\circ$ between impacts.		P
	After the test, the sample shall be allowed to return to room temperature and then examined. No cracks of the insulating material shall be visible with normal, or corrected to normal, vision without additional magnification.	No cracks were found on the insulating material	P
	Abrasion test(2.13.13.6)	Use the same sample which passed the Static damp heat test(2.13.13.3) and Low temperature test(2.13.13.4) For abrasion test.	P
	An insulated pin of an insulated plug shall be subjected to the following test by means of an apparatus as shown in Figure 2.7		P
	The test apparatus comprises a horizontally disposed beam, which shall be pivoted about its centre point. A short length of steel wire, 1mm in diameter and bent into U-shape, the base of the U being straight, shall be rigidly attached, at both ends, to one end of the beam, so that the straight part projects below the beam and shall be parallel to the axis of the beam pivot.		P

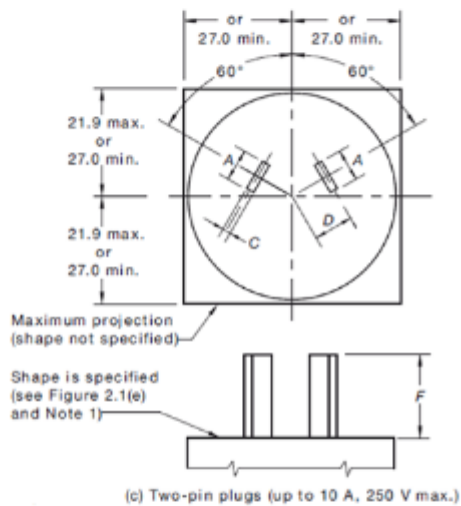


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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	The plug shall be held in a suitable clamp in such a position that the straight part of the steel wire rests on the major axis face of the plug pin, at right angles to it. The pin shall slope downwards at an angle of 10° to the horizontal.		P
	The beam shall be loaded so that the wire exerts a force of 4N on the pin	4N applied	P
	The plug shall be moved backwards and forwards in horizontal direction in the plane of the axis of the beam, so that the wire rubs along the pin. The length of the pin thus abraded shall be approximately 9mm, of which approximately 7mm shall be over the insulation.		P
	The number of movements shall be 20000 (10000 in each direction) and the rate of operation shall be 30 movements per min.		P
	After the test, the pins shall show no damage which may affect safety or impair the further use of the plug, in particular, the insulating sleeve shall not have punctured or rucked up.	The pins show no damage and the insulating sleeve was not punctured or rucked up.	P
J4.7	Equipment with a plug portion intended to be supported by the contacts of a socket-outlet	Max. Torque Measurement: Normal Position: 0.10 Nm; Reverse Position: 0.10 Nm Limit: ≤ 0.25 Nm	P
J4.8	Additional requirements for detachable plug portions		P
J4.8.1	Access to live parts	The design and construction of the detachable plug portion shall be such that it is not possible to contact live parts with the small test finger of Figure 13 of IEC 61032.	P
J4.8.2	Construction of detachable contacts where the input current of the equipment exceeds 0.2A		P
	Conformance with the effectiveness of the contacts is checked by inspection and by the plug portion detachment requirements of Paragraph J4.8.3.		P
J4.8.3	Plug portion detachment requirements		P
J4.8.4	Resistance of insulating material to heat and fire		P
J4.8.4.1	Resistance to heat	Type B detachable plug portions.	P
	Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2.		P
J4.8.4.2	Resistance to fire		P

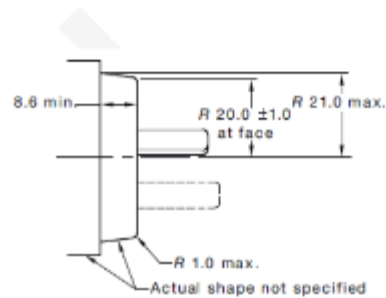
AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100. The glow-wire test temperature 'T' shall be 750°C.		P

# Appendix I: Dimension checked by gauge and measurement



DIMENSIONS IN MILLIMETRES

FIGURE 2.1 (in part) DIMENSIONS OF PLUGS



DIMENSIONS IN MILLIMETRES

FIGURE 2.1 (in part) DIMENSIONS OF PLUGS

Dimensions of plug			
Location	Requirement(mm)	Measured(mm)	Verdict
Width of left pin(A)	6.35±0.15	6.34	P
Width of right pin(A)	6.35±0.15	6.34	P
Thickness of left pin(C)	1.63 <sup>+0.15</sup> <sub>-0.05</sub>	1.63	P
Thickness of right pin(C)	1.63 <sup>+0.15</sup> <sub>-0.05</sub>	1.63	P
Length of left pin(F)	17.06 ± 0.4	16.88	P
Length of right pin(F)	17.06 ± 0.4	16.88	P
Centre of left and right pins to centre of pin base(D)	7.92*	Fit the testing gauge	P

AS/NZS 3112				
Clause	Requirement + Test	Result - Remark	Verdict	
	Pin face radius on enclosure	$\leq 21.0$	20.95	P
	Pin face radius on pins level	$20 \pm 1.0$	20.75	P
	Radius of pin base	$\leq 1.0$	0.91	P
Dimensions of plug				
Location	Requirement(mm)	Measured(mm)	Verdict	
Distance between pin base and enclosure	$\geq 8.6$	10.84	P	
Width of enclosure left side	$\geq 27.0$ or $\leq 21.9$	20.8	P	
Width of enclosure right side	$\geq 27.0$ or $\leq 21.9$	20.8	P	
Length of enclosure top side	$\geq 27.0$ or $\leq 21.9$	20.99	P	
Length of enclosure bottom side	$\geq 27.0$ or $\leq 21.9$	20.99	P	

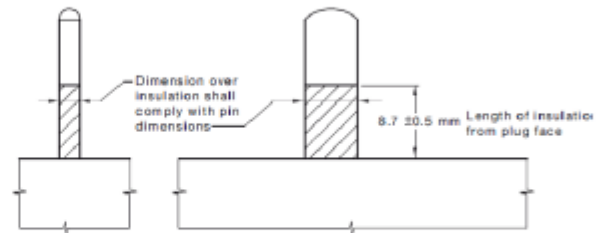
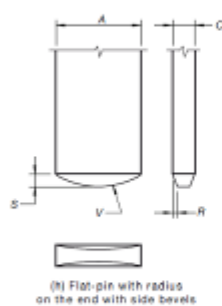


FIGURE 2.4 DIMENSIONS OF INSULATION ON INSULATED LIVE PINS

Dimensions of plug			
Location	Requirement(mm)	Measured(mm)	Verdict
Length of insulation from plug face(left pin)	$8.7 \pm 0.5$	8.74	P
Length of insulation from plug face(right pin)	$8.7 \pm 0.5$	8.74	P
Dimension over insulation of left insulated live pin	$1.63^{+0.15}_{-0.05}$	1.62	P
Dimension over insulation of right insulated live pin	$1.63^{+0.15}_{-0.05}$	1.62	P

Dimensions of insulation on insulated live pins (refer to FIGURE 2.1)			
Location	Requirement(mm)	Measured(mm)	Verdict
R	$0.35 \pm 0.05$	Left pin:0.34 Right pin:0.34	P



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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
S	$0.9 \pm 0.10$	Left pin:0.94 Right pin:0.94	P
T	$\geq 0.60$	--	-
V	6 †	Fit the testing gauge	P
*Dimension C apply to all pins. † Dimensions without tolerances are nominal. Samples are to be checked with the gauge specified in Appendix A, Appendix B or Appendix F, as appropriate.			

#### Appendix II: Critical Component Parts List:

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
AU plug	GlobTek, Inc.	Q-SAA	250VAC, 2.5A	---	---
Plastic material of enclosure and Plug holder	SABIC INNOVATIVE PLASTICS US L L C	945(f1), SE1XC2950 , 945(GG), CX7211	Min.1.5 mm thickness V-0, 120°C	UL94	UL
Metal material of plug pin	--	--	Copper content :>58%	--	--





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Appendix III: Photos

EUT- Whole view 1 of plug



EUT- Whole view 2 of plug





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EUT- Whole view 3 of plug



#### Appendix IV: Test Equipment List

NO.	The Name of Equipment	Model	S/N	Calibration Date	Due Date	Capability Range	Manufacturer
T-03-S F343	Digital Caliper	0~200mm	65585	2018-04-12	2019-04-12	0~200mm	EXPLOIT
T-03-S F001	Temperature Recorder	DR230	27CC36002	2017-10-14	2018-10-14	-20℃-200℃	YOKOGAWA
T-03-S F371	hygrothermograph	N/A	N/A	2017-10-14	2018-10-14	N/A	N/A
T-03-S F169	Humidity Chamber	EL-10KA	9107726	2017-12-21	2018-12-21	-45℃-160℃, 20%RH-98%RH	ESPEC
T-03-S F183	Stopwatch	PC396	N/A	2018-4-10	2019-4-10	0-3600s/3.0s/d	TianFu
T-03-S F090	Roller fall off tester	GT	1#	NCR	NCR	0~90℃	Shenzhen De Mai Sheng



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F-03-S F016	Circular Plane	N/A	N/A	NCR	NCR	30mm	N/A
F-03-S F385	AS/NZS 3112 figure2.9 2.10 pin temperatur e rise test device	AS/NZS 3112 figure2.9 2.10	N/A	2017-10-26	2018-10-26	N/A	N/A
F-03-S F383	AS/NZS 3112 figure2.5 indentation test	AS/NZS 3112 figure2.5	N/A	2017-10-26	2018-10-26	N/A	N/A
F-03-S F383	AS/NZS 3112 figure2.5 indentation test	AS/NZS 3112 figure2.5	N/A	2017-10-26	2018-10-26	N/A	N/A
F-03-S F384	AS/NZS 3112 figure2.7 pin bending test device	AS/NZS 3112 figure2.7	N/A	2017-10-26	2018-10-26	N/A	N/A

-End of Report-




RKSA180606050-SA-M1

<b>TEST REPORT</b> <b>AS/NZS 3112:2017</b> <b>Approval and test specification—Plugs and socket-outlets</b> <b>Australian plug test</b>	
Report reference No .....	RKSA180606050-SA-M1
Compiled by (+ signature) .....	Engineer: Andy <i>Andy fu</i>
Approved by (+ signature) .....	Team leader: Robin <i>Robin He</i>
Date of issue .....	2018-06-22
Testing laboratory .....	Bay Area Compliance Laboratories Corp. (Dongguan)
Address .....	No.69,Pulongcun,Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China
Testing location .....	See above
Accreditation .....	The IAS Accreditation Number TL-460.
Applicant's name .....	GlobTek, Inc.
Address.....	186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer's name .....	GlobTek, Inc.
Address.....	186 Veterans Dr. Northvale, NJ 07647 USA
Factory's name .....	GlobTek (Suzhou) Co.,Ltd
Address.....	Building 4,No.76 JinLing East Road, Suzhou Industrial Park, Suazhou, JiangSu, 215021, China
Standard .....	AS/NZS 3112:2017
Test sample(s) received .....	2018-06-06
Test in period.....	2018-06-19 To 2018-06-22
Procedure deviation .....	N.A.
Non-standard test method .....	N.A.
Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the specific product described herein. It must not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).	



RKSA180606050-SA-M1

Type of test object .....	Power Supply
Trademark .....	
Model/type reference .....	GTM41076-06VV-X.X series (see page 4)
Mutiple Models .....	GT-41052-AABB-X.X series, GT-41080-WVVV-X.X series, GT-41081-WVVV-X.X series, GT-41135-WVVV-X.X series, GT-43007-WVVV-X.X series, GT-41062-AABB-X.X series, GT*41080-**** series, GTM43033-**** series, GT-46120-WVVV-X.XX-W2Z*****, GT-46180-WVVV-X.XX*****, GT*41134***** and GT*96060*****, GT**,-*****, GT-46240-WVVV-X.XX*****, GT*46402-*** (see page 4-7)
Manufacturer .....	GlobTek, Inc.
Rating .....	(for adapter GTM41076-06VV-X.X series models ) Input:100-250V~50-60Hz, 0.16-0.1A Output:5-30Vdc , Max 6W



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Copy of marking plate(representative):

(for adapter) (GTM41076-06VV-XX series models representative)





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**Models description:**

Models series	description
GTM41076-06VV-X.X series	were VV can be any rated output voltage between 5 and 30 Vdc and X.X is optional for specifying output voltage deviations, -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT-41052-AABB-X.X series	"AA" is the rated output wattage designation, with a maximum value of "15"; "BB" is the standard rated output voltage designation, with values between "05" to "48"; and, -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT-41080-WVVV-X.X series	VV is the rated output wattage designation, with a maximum value of "18". VV is the standard rated output voltage designation, with a maximum value of "48". -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different, Actual voltage range is 9 - 48 volts only.
GT-41081-WVVV-X.X series	VV is the rated output wattage designation, with a maximum value of "18"; VV is the standard rated output voltage designation, with a maximum value of "09"; -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT-41135-WVVV-X.X series	VV is the rated output wattage designation, with a maximum value of "12"; VV is the standard rated output voltage designation, with a maximum value of "48"; -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT-43007-WVVV-X.X series	VV is the rated output wattage designation, with a maximum value of "40.8"; VV is the standard rated output voltage designation, with a maximum value of "24"; -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.



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GT-41062-AABB-X.X series	AA denotes the maximum rated wattage, either "13" or "18", BB denotes the standard maximum rated voltage, which may be 5.0-24.0 Vdc as shown in the ratings table, -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different.
GT*41080-**** series	<p>The 1st "*" part can be „M" or „-" or „H" for market identification and not related to safety.</p> <p>The 2nd "*" part denotes the rated output wattage designation, which can be "01" to "18", with interval of 1.</p> <p>The 3rd "*" part denotes the standard rated output voltage designation, which can be "07", "11", "17.9", "30", "38" and "48". Each standard rated output voltage designation corresponds to a transformer model. Each transformer model is identical in insulation construction including clearance and creepage except number of turns per coil.</p> <p>The 4th "*" part is optional, which can be "-0.1" to "-12" with interval of 0.1 to denote voltage deviation or blank to indicate no voltage different.</p> <p>The result by subtracting the deviation value from the standard rated output voltage denotes the rated output voltage, with a range of 5 – 48 volts.</p>
GTM43033-*** series	<p>M can be "M" or "-" for market identification and not related to safety</p> <p>The 1st "*" part denotes the rated output wattage designation, which can be "01" to "06", with interval of 1.</p> <p>The 2nd "*" part denotes the standard rated output voltage designation, which can be "03", "04", "06", "12", "15", "18", "24", "36" or "48". These standard rated output voltage designations correspond to three transformer models. Each transformer model is identical in insulation construction including clearance and creepage except number of turns per coil.</p> <p>The 3rd "*" part is optional, which can be "-0.1" to "-11.9" with interval of 0.1 to denote voltage deviation or blank to indicate no voltage different.</p> <p>The result by subtracting the deviation value from the standard rated output voltage denotes the rated output voltage, with a range of 3 – 48 volts.</p>





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GT-46120-WVVV-X.XX-WZ*****	<p>VV is the standard output wattage, with a maximum value of "12", VV is the standard rated output voltage designation, with a maximum value of "48", which can be 05,06,09,12,15,24,36,48.</p> <p>-X.XX denote the output voltage differentiator, subtracting X.XX volts from standard output voltage VV in 0.01V increments, the actual output voltage range is 5-48V, blank is to indicate the no voltage different.</p> <p>Z denote type of plug and can be E for European plug, U for British plug, blank for North American/Japan/Taiwan plug, C for Chinese plug, A for Australia plug. -WZ can be optional, when it is blank, denote to be with replaceable plug.</p> <p>Each * = 0-9 or A-Z or ()[] - or blank for marketing purposes.</p>
GT-46180-WVVV-X.XX*****	<p>VV is the standard output wattage, with a maximum value of "18", VV is the standard rated output voltage designation, with a maximum value of "24"; which can be 05,09,12,15,18,24.</p> <p>-X.XX denote the output voltage differentiator, subtracting X.X volts from standard output voltage VV in 0.01V increments, the actual output voltage rang is 5-24V, blank is to indicate the no voltage different.</p> <p>Each * = 0-9 or A-Z or ()[] - or blank for marketing purposes.</p>
GT*41134***** and GT*96060*****	<p>The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety.</p> <p>The 2nd "*" part can be "-" or "CC", "-" = Constant Voltage Model, CC = Constant Current Model.</p> <p>The 3rd "*" denotes the rated output wattage designation, which can be "01" to "06", with interval of 1.</p> <p>The 4th "*" denotes the standard rated output voltage designation, which can be "03", "04", "06", "12", "15", "18", "24", "36" or "48". The 5th "*" is optional deviation, subtracted from standard output voltage, which can be "-0.1" to "-11.9" with interval of 0.1, or blank to indicate no voltage different.</p> <p>The 4th "*" and 5th "*" together denote the output voltage, with a range of 3.3 - 48 volts.</p> <p>The 6th "*" = Blank means directly plug in model series, The last * denote any six character = 0-9 or A-Z or ()[] - or blank for marketing purposes.</p>
GT**.******	<p>The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety.</p> <p>The 2nd "*" can be 96180.</p> <p>The 3rd "*" denotes the rated output wattage designation, which can be "01" to "36", with interval of 1.</p>



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	<p>The 4th “*” denotes the standard rated output voltage designation, when the 2nd “*” = 96180 which can be “07”, “11”, “17.9”, “30”, “38”, “48”, “54” or “56”;</p> <p>The 5th “*” is optional deviation, subtracted from standard output voltage, which can be “-0.01” to “-12.0” with interval of 0.01, or blank to indicate no voltage different.</p> <p>The 4th “*” and 5th “*” together denote the output voltage, with a range of 5 - 56 volts.</p> <p>The 6th “*” = blank, it means wall plug in with interchangeable blade.</p> <p>The last * denote any six character = 0-9 or A-Z or ( ) [ ] - or blank for marketing purposes.</p>
GT-46240-WWWV-X.XX*****	<p>WWW is the standard output wattage, with a maximum value of “24”;</p> <p>VV is the standard rated output voltage designation, with a maximum value of “24”; which can be 12, 15 and 24.</p> <p>-X.XX denote the output voltage differentiator, subtracting X.X volts from standard output voltage VV in 0.01V increments, the actual output voltage range is 12-24V, blank is to indicate the no voltage different.</p> <p>Each * = 0-9 or A-Z or ( ) [ ] - or blank for marketing purposes.</p>
GT*46402-***	<p>The 1st “*” part can be ‘M’ or ‘-’ or ‘H’ for market identification and not related to safety. The 2nd “*” denotes the rated output wattage designation, with a maximum value of “40”. The 3th “*” denotes the standard rated output voltage designation, which can be “05” to “48”</p> <p>The last * denote any six character = 0-9 or A-Z or ( ) [ ] - or blank for marketing purposes.</p>

#### Notes:

1. The follows is stated and guaranteed by applicant. All above models have same structure and same case, and just have different output voltage and current, it does not affect the plug test. GTM41076-0605 is selected for test.
2. Compared with original report RKSA180606050-SA issued by BACL. This report only add result-remark, other conference and modified partial data in the test report, see J3.3 and Appendix I.
3. The original report RKSA180606050-SA is replaced by this report.



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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
J1	Scope		P
J2	Definitions		P
J2.1	Detachable plug portion		P
	(a) Type A (see Figure J1)	A detachable plug portion with a connection intended for plugging directly into equipment.	N
	(b) Type B (see Figure J2)	A detachable plug portion with a non-standardized connection intended for plugging directly into equipment.	P
	(c) Type C	A detachable plug portion with a connection intended for use with an adaptor connected to a flexible cord so as to replicate a supply plug and flexible cord configuration.	N
J2.2	Integral plug portion		N
J2.3	Plug portion		P
J3	Requirement for the plug portion		P
J3.1	General	(c) For Type B detachable plug portion, the conformance is shown by the relevant clauses of this Appendix.	P
J3.2	Plug pins of plug portions		P
	Material for pins	Copper content: > 58%	P
	Assembly of pins		P
	Form of pin	(a) Flat pins, as shown in figure 2.1(h), 6mm for all pins of 10A plugs and live pins of 15A plugs; and Thickness profile with each corner bevelled 0.3mm to 0.4mm along the side, finishing along the pin at 0.8 mm to 1.0 mm.	P

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulation of plug pins	Conformance is checked by measurement to Figure 2.4.	P
J3.3	Ratings and Dimensions for low-voltage plug portions		P
	General		P
	Low voltage flat-pin plugs shall conform to the appropriate dimensions shown in Figure 2.1.		P
	The distance between a live pin of any plug and the Edge of the moulding of the plug, shall be not less than 9mm.	11.4 mm	P
	No point on the front face of the plug is more than 0.5mm.	0.15mm	P
	Compliance with dimensional requirements of figure 2.1	See dimension tables	P
	Integrally moulded plug and cord		N
	Two-pin flat-pin plugs with non-parallel pins	Arranged as in Figure 2.1(c)	P
	Conformance with dimensional requirements of Figure 2.1		P
J3.4	Internal connections for plug portions		N
J3.5	Arrangement of earthing connections for plug portions	No earth connector	N
J3.6	Configuration of plug portions		P
J4	TESTS		P
J4.1	General		P
J4.2	High voltage test(2.13.3)		P
	The plug shall withstand without failure an a.c. voltage of the value indicated in table 2.3, applied between the parts set out in items (a) and (c) of Clause 2.13.2 for 1min in each case	1000Va.c., no break down.	P
	The plug shall further withstand, without failure, a voltage of 3000Va.c. applied between the parts set out in items (b) and (d) of clause 2.13.2 for 1min in each case		N
	The insulation of insulated pin plugs shall withstand a voltage of 1250Va.c. for 1min applied in accordance with clause 2.13.1(e)	1250Va.c., no break down.	P
J4.3	Mechanical strength of pin tests		P
J4.3.1	Tumbling barrel test(2.13.7.1)		P
	The tumbling barrel test is applied to determine the mechanical strength of the plug pins		P

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Three samples which have not been subjected to any previous test are tested to the requirements of clause 2.13.7, however, the test is modified for plug portions of equipment with integral pins as follows:		P
	A sample of equipment with integral pins is dropped-		--
	a) 500 times if the mass of the specimen does not exceed 250g. The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of figure A1, B1 or F1; and	Max. 170g . After test, no broken and cracking was found.	P
	b) 250 times if the mass of the specimen exceeds 250g. The pins being straightened after 25 drops and at the completion of the test to pass through the appropriate gauge of figure A1, B1 or F1;		--
J4.3.2	Pin bending test		P
	The pins of the plug portion of three samples not subjected to any previous tests shall be tested for Compliance with the pin bending test of clause 2.13.7.2	Three samples tested	P
	All flat-pins of plug rated up to and including 15A shall be subjected to a pin bending test	Tested on all flat-pins of plug	P
	Three samples plugs not subjected to any previous tests shall be tested After the tests the pins shall be inspected with normal or corrected to normal vision	Inspected with normal vision	P
	Active and neutral pins shall be forced towards the centroid of the plug and then back to the starting point. On the first sample plug, any earth pin shall be forced but in one direction only and the back to the starting point. On the second sample plug, any earth pin shall be forced in the opposite direction to that used for testing the first sample plug. On the third sample plug, any earth pin shall be forced in the direction that gave the least favorable result during testing of the first two sample plugs. (Amendment 1:2006)	Without earth pin	N
	The pin shall not be broken off. If in doubt pins shall be disassembled from the plug and any insulation removed.	The pin did not break off.	P
J4.4	Temperature rise test (2.13.8)		P
	The terminal screws or nuts are tightened with a torque equal to two-thirds of that specified in test No.5	No screws or nuts used	N
	The test socket shall consist of a fixed socket outlet of a type complying with this standard.	Direct plug-in equipment	N
	The plug is inserted into the socket outlet and an alternating current of 1.1 times rated current is passed for 1h.		P

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	The temperature of the flexible cord terminal is determined by means of melting particles, colour changing indicator or thermocouples, so chosen and positioned that they have negligible effect on the temperature being determined.		N
	The temperature rise of the terminals shall not exceed 45K	Max.temperature rise: Right pin:3.7 K Left pin:1.7 K Surface:3.2 K	P
J4.5	Securement of pins of the plug portion(2.13.9)		P
	Movement of pins (2.13.9.1)		P
	Plug shall be tested for pin movement by clamping the pin or pins not under test in a rigid holding block positioned $5 \pm 0.5$ mm from the plug face and applying a force of $18 \pm 1$ N to the pin under test. The design of the block shall be such that the pin under test shall not come into contact with the block during the test		P
	Except for non-rewireable plugs, the test shall be carried out without a cord attached to the plug, and with the terminal screws loosened sufficiently to allow a $1\text{mm}^2$ conductor to be connected		P
	The plug and test equipment shall be preconditioned at a temperature of $40 \pm 1^\circ\text{C}$ for 1h, Without the test force applied. Throughout the test, all parts of the plug and test equipment shall be maintained at this temperature	$40^\circ\text{C}$ for 1h applied	P
	For all plugs, the point of application of the force of plug along the pins, and the direction of the force shall be- a) in both directions along the line perpendicular to the plane of the pin, and passing through the centre of the pin; and b) in that plane in both directions along a line at right angles to that specified in item(a)		P
	Over a period of 10s, the force shall be gradually applied to each of the pins in the manner prescribed in item(a) and (b), maintained at its maximum value for 10s, and then released. The deflection of the pins shall be measured along the line of the face relative to the face of the rigid holding block during the period when force is applied. The maximum deflection shall not exceed 2.0mm	Max.deflection of L pin: 0.2mm; Max. Deflection of N pin: 0.2mm	P

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Following the test on all pin of a conforming to Figure 2.1, any distortion 5 min after the completion of the test on the last pin shall be such that it will not prevent the plug from being inserted in the appropriate standard gauges shown in Appendix A, Appendix B and Appendix F without the application of undue force	Plug portion is able to be inserted into the appropriate standard gauge without the application of undue force	P
	For other types of plugs, any distortion after 5 min shall be such as will not prevent the plug being inserted into an appropriate socket-outlet without the application of undue force		P
	Fixing of pins(2.13.9.2)		P
	A separate sample of a plug shall be heated to temperature of $50 \pm 2^\circ\text{C}$ for 1h and maintained at that temperature during the whole of tests, including the 5 min period after removal of the test load.	$50^\circ\text{C}$ for 1h applied.	P
	The plug shall be held firmly in such a manner that there will be no undue squeezing or distortion of the body, and the means of holding shall not assist in maintaining the pins in their original position	The test with the pins in their original position not distortion	P
	Each pin, in turn, shall have applied to it a force which, over a period of 10s, shall be increased steadily to $60 \pm 0.6\text{N}$ and held at this value for 10 min	60N, 10min	P
	Two tests on each pin shall be conducted, one with the direction of force along the length of the pin towards the body of the plug, and the other with the direction of force along the length of the pin away from the body	considered	P
	The attachment of pins shall be considered inadequate if any pin is displaced relative to the adjacent material of the body by more than 2.4mm at any time during these tests, or if any pin fails to return to within 0.8mm of its nominal length specified in figure 2.1 within 5 min of the removal of the test force.	During the test, Max. Displacement: L: 0.21 mm; N: 0.21 mm After removal of the force, Max. Displacement: L: 0.18 mm; N: 0.20 mm	P
J4.6	Tests on the insulation material of insulated pin-plug portions(2.13.13)		P
	2.13.13.1 General		P
	The material of the pin-insulation shall be resistant to the stresses to which it may be subjected at the high temperature likely to occur in conditions approaching the bad connection conditions of service		P
	Compliance shall be checked by the tests of clause 2.13.13.2 to 2.13.13.6		P
	Pressure test at high temperature(2.13.13.2)		P



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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	A sample of one insulated pin only shall be subjected to the following test by means of the apparatus shown in Figure 2.5. This apparatus shall have a blade having a round shape with a diameter of 6 mm and a thickness of 0.7mm.		P
	The sample shall be placed in position as shown in the Figure 2.5 and force of 2.5N shall be applied through the blade to specimen.	2.5N applied	P
	The apparatus, with the sample in position, shall be maintained for 2h in a heating cabinet at a temperature of $160 \pm 5^{\circ}\text{C}$ . The sample shall then be removed from the apparatus and within 10s, cooled by immersion in cold water.	$160^{\circ}\text{C}$ for 2h applied.	P
	The thickness of the insulation shall be measured immediately at the point of impression.		P
	The thickness of the insulation remaining at the point of impression shall be measured and shall not have been reduced by more than 50%	Thickness before test: 0.41mm; Thickness after test: 0.36mm; Reduced by 12.20%. The thickness of the insulation. It is not reduced by more than 50%	P
	Visual inspection shall be made and no cracks on the insulation material shall be visible with normal, or corrected to normal, vision without additional magnification, and the dimension of the insulating material shall not have changed below the minimum size shown in Figure 2.4	No cracks are found on the insulating material. The dimension of insulating material did not change	P
	Static damp heat test(2.13.13.3)		P
	An insulated pin plug shall be subjected to two damp heat cycles in accordance with AS 60068.2.30.Db(12+12h cycle), 95% relative humidity, Lower temperature $25 \pm 3^{\circ}\text{C}$ and upper temperature $40^{\circ}\text{C}$		P
	After this treatment and recovery to room temperature, the specimen shall be subjected to- a) the insulation resistance test in accordance with Clause 2.13.2(e); b) high voltage test in accordance with Clause 2.13.3 and; c) abrasion test in accordance with Clause 2.13.13.6	During high voltage test no breakdown occurred between live poles and insulation of the pins.	P
	Low temperature test(2.13.13.4)		P





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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	An insulated pin plug shall be maintained at $-15 \pm 2^{\circ}\text{C}$ for at least 24h and returned to room temperature	$-15^{\circ}\text{C}$ for 24h applied.	P
	The sample shall be subjected to- a) the insulation resistance test in accordance with Clause 2.13.2(e); b) high voltage test in accordance with Clause 2.13.3 and; c) abrasion test in accordance with Clause 2.13.13.6		P
	Impact test at low temperature(2.13.13.5)		P
	A specimen of one insulated pin only shall be subjected to an impact test by means of the apparatus shown in Figure.2.6. The mass of the falling weight shall be $100 \pm 1\text{g}$		P
	The apparatus, on a sponge rubber pad 40mm thick, together with the sample, shall be maintained at $-15 \pm 2^{\circ}\text{C}$ for at least 24h	$-15^{\circ}\text{C}$ for 24h applied	P
	At the end of this period, the sample shall be placed in position, as shown in Figure 2.6, and the falling weight shall be allowed to fall from a height of 100mm. Four impacts shall be applied successively to the same sample, rotating it through $90^{\circ}\text{C}$ between impacts.		P
	After the test, the sample shall be allowed to return to room temperature and then examined. No cracks of the insulating material shall be visible with normal, or corrected to normal, vision without additional magnification.	No cracks were found on the insulating material	P
	Abrasion test(2.13.13.6)	Use the same sample which passed the Static damp heat test(2.13.13.3) and Low temperature test(2.13.13.4) For abrasion test.	P
	An insulated pin of an insulated plug shall be subjected to the following test by means of an apparatus as shown in Figure 2.7		P
	The test apparatus comprises a horizontally disposed beam, which shall be pivoted about its centre point. A short length of steel wire, 1mm in diameter and bent into U-shape, the base of the U being straight, shall be rigidly attached, at both ends, to one end of the beam, so that the straight part projects below the beam and shall be parallel to the axis of the beam pivot.		P

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	The plug shall be held in a suitable clamp in such a position that the straight part of the steel wire rests on the major axis face of the plug pin, at right angles to it. The pin shall slope downwards at an angle of 10° to the horizontal.		P
	The beam shall be loaded so that the wire exerts a force of 4N on the pin	4N applied	P
	The plug shall be moved backwards and forwards in horizontal direction in the plane of the axis of the beam, so that the wire rubs along the pin. The length of the pin thus abraded shall be approximately 9mm, of which approximately 7mm shall be over the insulation.		P
	The number of movements shall be 20000 (10000 in each direction) and the rate of operation shall be 30 movements per min.		P
	After the test, the pins shall show no damage which may affect safety or impair the further use of the plug, in particular, the insulating sleeve shall not have punctured or rucked up.	The pins show no damage and the insulating sleeve was not punctured or rucked up.	P
J4.7	Equipment with a plug portion intended to be supported by the contacts of a socket-outlet	Max. Torque Measurement: Normal Position: 0.10 Nm; Reverse Position: 0.10 Nm Limit: ≤ 0.25 Nm	P
J4.8	Additional requirements for detachable plug portions		P
J4.8.1	Access to live parts	The design and construction of the detachable plug portion shall be such that it is not possible to contact live parts with the small test finger of Figure 13 of IEC 61032.	P
J4.8.2	Construction of detachable contacts where the input current of the equipment exceeds 0.2A		P
	Conformance with the effectiveness of the contacts is checked by inspection and by the plug portion detachment requirements of Paragraph J4.8.3.		P
J4.8.3	Plug portion detachment requirements		P
J4.8.4	Resistance of insulating material to heat and fire		P
J4.8.4.1	Resistance to heat	Type B detachable plug portions.	P
	Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2.		P
J4.8.4.2	Resistance to fire		P

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100. The glow-wire test temperature 'T' shall be 750 °C.	Insulating material supporting live parts: 750 °C, and see Appendix III	P

#### Appendix I: Dimension checked by gauge and measurement

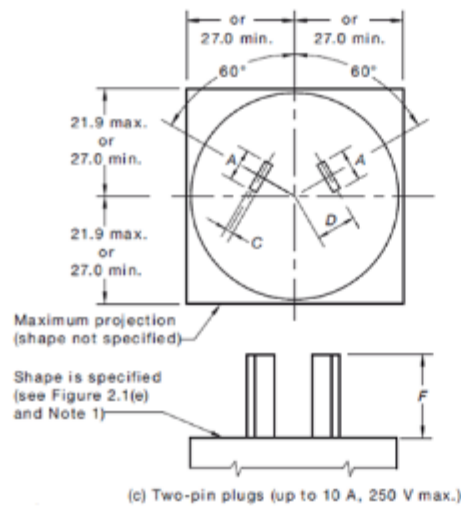


FIGURE 2.1 (in part) DIMENSIONS OF PLUGS

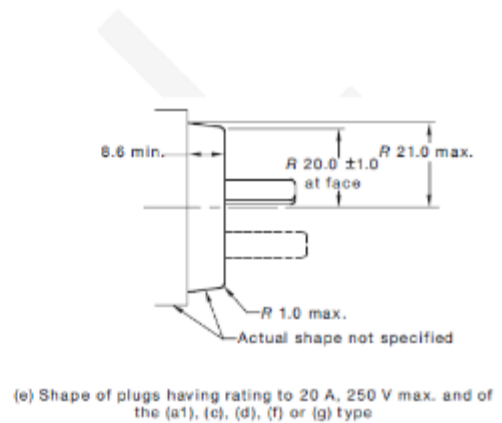
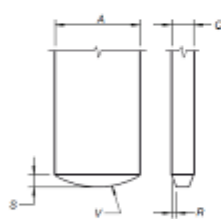


FIGURE 2.1 (in part) DIMENSIONS OF PLUGS

Dimensions of plug			
Location	Requirement(mm)	Measured(mm)	Verdict
Width of left pin(A)	$6.35 \pm 0.15$	6.34	P
Width of right pin(A)	$6.35 \pm 0.15$	6.34	P
Thickness of left pin(C)	$1.63^{+0.15}_{-0.05}$	1.63	P
Thickness of right pin(C)	$1.63^{+0.15}_{-0.05}$	1.63	P
Length of left pin(F)	$17.06 \pm 0.4$	16.88	P
Length of right pin(F)	$17.06 \pm 0.4$	16.88	P

AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict
	Centre of left and right pins to centre of pin base(D)	7.92*	Fit the testing gauge P
	Pin face radius on enclosure	$\leq 21.0$	20.95 P
	Pin face radius on pins level	$20 \pm 1.0$	20.75 P
	Radius of pin base	$\leq 1.0$	0.91 P

Dimensions of plug			
Location	Requirement(mm)	Measured(mm)	Verdict
Distance between pin base and enclosure	$\geq 8.6$	10.84	P
Width of enclosure left side	$\geq 27.0$ or $\leq 21.9$	20.99	P
Width of enclosure right side	$\geq 27.0$ or $\leq 21.9$	20.99	P
Length of enclosure top side	$\geq 27.0$ or $\leq 21.9$	20.80	P
Length of enclosure bottom side	$\geq 27.0$ or $\leq 21.9$	64.51	P



(b) Flat-pin with radius on the end with side bevels

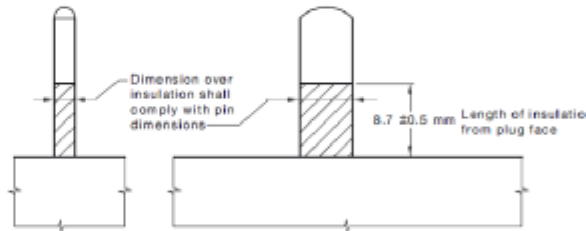


FIGURE 2.4 DIMENSIONS OF INSULATION ON INSULATED LIVE PINS

Dimensions of plug			
Location	Requirement(mm)	Measured(mm)	Verdict
Length of insulation from plug face(left pin)	$8.7 \pm 0.5$	8.74	P
Length of insulation from plug face(right pin)	$8.7 \pm 0.5$	8.74	P
Dimension over insulation of left insulated live pin	$1.63^{+0.15}_{-0.05}$	1.62	P
Dimension over insulation of right insulated live pin	$1.63^{+0.15}_{-0.05}$	1.62	P



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AS/NZS 3112			
Clause	Requirement + Test	Result - Remark	Verdict

Dimensions of insulation on insulated live pins (refer to FIGURE 2.1)			
Location	Requirement(mm)	Measured(mm)	Verdict
R	$0.35 \pm 0.05$	Left pin:0.34 Right pin:0.34	P
S	$0.9 \pm 0.10$	Left pin:0.94 Right pin:0.94	P
T	$\geq 0.60$	--	-
V	6 †	Fit the testing gauge	P
*Dimension C apply to all pins. † Dimensions without tolerances are nominal. Samples are to be checked with the gauge specified in Appendix A, Appendix B or Appendix F, as appropriate.			

#### Appendix II: Critical Component Parts List:

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1</sup>
AU plug	GlobTek, Inc.	Q-SAA	250VAC, 2.5A	---	---
Plastic material of enclosure and Plug holder	SABIC INNOVATIVE PLASTICS US L L C	945(f1), SE1XC2950, 945(GG), CX7211	Min.1.5 mm thickness V-0, 120°C	UL94	UL
Metal material of plug pin	--	--	Copper content :>58%	--	--

Appendix III	Glow-wire test				P
Test condition	Test specimen: 30mm square Test equipment: A force of 1 N, 15mm or more from the upper edge, into the centre of the surface to be tested. The penetration of the glow-wire into the specimen is mechanically limited to 7mm Test temperature: 750°C. Duration: 30s Tissue paper, spread out horizontally 200±5mm below the specimen				
Part name/location	Test temp.	Ignition of test sample	Ignition of tissue paper	Result	
Test temp.					
Plastic material of enclosure and Plug holder	750°C	NO	NO	PASS	



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#### Appendix IV: Photos

##### EUT- Whole view 1 of plug



##### EUT- Whole view 2 of plug





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EUT- Whole view 3 of plug





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#### Appendix V: Test Equipment List

NO.	The Name of Equipment	Model	S/N	Calibration Date	Due Date	Capability Range	Manufacturer
T-03-S F343	Digital Caliper	0~200 mm	65585	2018-04-12	2019-04-12	0~200mm	EXPLOIT
T-03-S F001	Temperature Recorder	DR230	27CC360 02	2017-10-14	2018-10-14	-20℃-200℃	YOKOGAWA
T-03-S F371	hygrothermograph	N/A	N/A	2017-10-14	2018-10-14	N/A	N/A
T-03-S F169	Humidity Chamber	EL-10K A	9107726	2017-12-21	2018-12-21	-45℃-160℃, 20%RH-98%RH	ESPEC
T-03-S F183	Stopwatch	PC396	N/A	2018-4-10	2019-4-10	0-3600s/3.0 s/d	TianFu
T-03-S F090	Roller fall off tester	GT	1#	NCR	NCR	0~90℃	Shenzhen De Mai Sheng
F-03-S F016	Circular Plane	N/A	N/A	NCR	NCR	30mm	N/A
F-03-S F385	AS/NZS 3112 figure2.9 2.10 pin temperature rise test device	AS/NZS 3112 figure2.9 2.10	N/A	2017-10-26	2018-10-26	N/A	N/A
F-03-S F383	AS/NZS 3112 figure2.5 indentation test	AS/NZS 3112 figure2.5	N/A	2017-10-26	2018-10-26	N/A	N/A
F-03-S F383	AS/NZS 3112 figure2.5 indentation test	AS/NZS 3112 figure2.5	N/A	2017-10-26	2018-10-26	N/A	N/A
F-03-S F384	AS/NZS 3112 figure2.7 pin bending test device	AS/NZS 3112 figure2.7	N/A	2017-10-26	2018-10-26	N/A	N/A

\*\*\*End of Report\*\*\*