200dpi006 (1664x2284x2 tiff)

Test Report No.:	**LD901016A10**
Client	
Name :	**ADVANTECH CO., LTD**
Address :	No. 1 Alley 20, Lane 26, Rueiguang Road, Neihu District Taipei 114, Taiwan, R.O.C.
Test Item :	**Fire Wall Appliance**
Identification :	**FWA-3X10 (X can be 0-9, A-Z)**
Testing laboratory	
Name :	Advance Data Technology Corporation
Address :	No. 46, Lane 504, Chung Hsiao Road, Lin Kou Hsiang, Taipei, R.O.C.
Test specification	
Standard :	**EN 60 950:1992 + A1:1993 + A2:1993 + A3:1995 + A4:1996 + A11: 1997**
Test Result :	The test item passed.
Tested By :	Signature: [signature] Date: November 03, 2001 Angus Hsu Name in block letters
Approved By:	Signature: [signature] Date: Nov. 5, 2001 Edward Chiueh Name in block letters

Other Aspects:

The completed test report includes the following documents:

- EN 60950 report (36 pages)

The test report shall not be reproduced except in full, without written approval of the laboratory. This test report does not entitle to carry any safety mark on this or similar products.

200dpi006 (1664x2311x2 tiff) [2]

TEST REPORT

EN 60950

Safety of information technology equipment including electrical business equipment

Report

Reference No. .....: LD901016A10

Compiled by (+ signature) .....: See cover sheet .....

Approved by (+ signature) .....: See cover sheet .....

Date of issue.....: See cover sheet

This report is based on a blank test report that was prepared by KEMA using information obtained from the TRF originator (see below).

Testing laboratory

Name .....: Advance Data Technology Corporation

Address.....: No. 46, Lane 504, Chung Hsiao Road, Lin Kou Hsiang, Taipei, Taiwan.

Testing location .....: Advance Data Technology Corporation

Address .....: No. 46, Lane 504, Chung Hsiao Road, Lin Kou Hsiang, Taipei, Taiwan.

Client

Name .....: **ADVANTECH CO., LTD**

Address.....: No. 1 Alley 20, Lane 26, Rueiguang Road, Neihu District Taipei 114, Taiwan, R.O.C.

Test specification

Standard .....: EN 60 950:1992 + A1:1993 + A2:1993 + A3:1995 + A4:1996 +A11:1997

Test procedure .....: This Test Report is not valid as a CCA Test Report unless signed by a CCA Testing Laboratory and appended to a CCA Test Certificate.

Procedure deviation.....: N/A.

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

Test Report Form/blank test report

Test Report Form No. .....: 60950__D/97-08

TRF originator.....: FIMKO

Master TRF.....: Reference No. 60950 D, dated 97-02

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Test item

Description.....: FIRE WALL APPLIANCE

Trademark .....: ADVANTECH

Model and/or type reference .....: FWA-3X10 (X can be 0-9, A-Z)

Manufacturer .....: ADVANTECH CO., LTD.

Rating(s) .....: 100 – 240 V ac, 47 – 63 Hz, 2-4 A..

Copy of marking plate

FIRE WALL APPLIANCE
ADVANTECH CO., LTD.
Model: FWA-3310
Manufactured: November 2001 **POWER: 100-240 V ~, 47-63 Hz, 4-2 A**

THIS DEVICE COMPLIES WITH PART 15 OF FCC RULES. OPERATION
ISSUBJECT TO THE FOLLOWING TWO CONDITIONS:
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE. AND
(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED.
INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION

Manufactured: No. 1, Alley 20, Lane 26, Rueiguang Road, Neihu District Taipei 114, Taiwan R.O.C.

檢磁 XXXXXXXX

Particulars: test item vs. test requirements

Equipment mobility ..... : Rack mounted

Operating condition ..... : Continuous

Tested for IT power systems ..... : N/A

IT testing, phase-phase voltage (V) ..... : N/A

Class of equipment ..... : Class I

Mass of equipment (kg) ..... : 6.0 Kgs

Protection against ingress of water ..... : IPX0

Test case verdicts

Test case does not apply to the test object ..... : N(.A.)

Test item does meet the requirement ..... : P(ass)

Test item does not meet the requirement ..... : F(ail)

Testing

Date of receipt of test item ..... : October 18 , 2001

Date(s) of performance of test ..... : November 03, 2001

General remarks

This test report shall not be reproduced except in full without the written approval of the testing laboratory.
The test results presented in this report relate only to the item tested.
"(see remark #)" refers to a remark appended to the report.
"(see appended table)" refers to a table appended to the report.
Throughout this report a comma is used as the decimal separator.

Brief description of the test equipment:

1) The equipment is a Class 1 Fire Wall Appliance with building-in certified power supply
2) Dimension: 425 by 365 by 45 mm.
4) Maximum operating Temperature: 40°C.

Test condition:

Temperature : 25°C.
Relative humidity: 60%
Air pressure: 900 mbar.

The test sample was a pre-production sample without serial number.

200dpi006 (1664x2311x2) [5]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	Comply with IEC 950 or relevant component standard	Components, which were found to affect safety aspects, are complied with the requirements of this standard or within the safety aspects of the relevant IEC component standards. (see appended table)	P
1.5.2	Evaluation and testing of components	Components which are certified to IEC and/or nation standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
	Dimensions (mm) of mains plug for direct plug-in ..:	The equipment is not plug-in type.	N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)	---	N
1.5.3	Transformers	Transformer used are suitable for their intended application and comply with the relevant requirements of the standard and particularly Annex C	P
1.5.4	High voltage components (component; manufacturer; flammability) .....:	No high voltage components used	N
1.5.5	Interconnecting cables	Interconnecting cable for Interconnection is carrying only SELV voltages on an energy level below 240 VA. Except for the insulation material, there is no further requirements to the o/p interconnection cable.	P
1.5.6	Mains capacitors	X1 or X2 capacitor according to IEC 60384-14 with pulse test. The pulse test if further shown with the additional SEV approval.	P

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1.6	Power interface		P
1.6.1	Steady state input current	Highest load according to 1.2.2.1 for this equipment is the operation with connecting networks and data transferred . Result see appended table.	P
	Current deviation during normal operating cycle	< +10%	P
1.6.2	Voltage limit of hand-held equipment	The appliance equipment is not a hand-held equipment.	N
1.6.3	Neutral conductor insulated from earth and body	The neutral is not identified in the equipment. Basic insulation for rated voltage between earthed parts and primary phases.	P
1.6.4	Components in equipment intended for IT power system	Equipment was not applied for the IT power system.	N
1.6.5	Mains supply tolerance (V) .....:	+6 %, - 10 % Documentation specifies four ratings between 100 V AC and 240 V AC at 50-60 Hz. Relevant tests were done with the range of 90 – 254 V AC at 50 – 60 Hz.	P

1.7	Marking and instructions		P
1.7.1	Rated voltage (V) .....:	AC 100 – 240 V	P
	Symbol of nature of supply for d.c. .....:	Mains from AC source	N
	Rated frequency (Hz) .....:	47-63 Hz	P
	Rated current (A) .....:	2-4 A	P
	Manufacturer .....:	ADVANTECH CO., LTD.	P
	Trademark .....:	ADVAVTECH	P
	Type/model .....:	FWA-3X10 (X can be 0-9, A-Z)	P
	Symbol of Class II .....:	Class I equipment	N
	Certification marks .....:	CE	P
1.7.2	Safety instructions	The users manual contains information for operation, insulation servicing, transport, storage and technical data. the operation guide is provided to the user.	P

200dpi006 (1664x2311x2) [7]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N
1.7.4	Marking for voltage setting/frequency setting .....:	No voltage setting.	N
1.7.5	Marking at power outlets .....:	No power outlet.	N
1.7.6	Marking at fuseholders .....:	F1, T6.3A/250 V. (Located on approval power supply). Caution: for continued protection against risk of fire replace only with same type and ratings of fuse.	P
1.7.7.1	Protective earthing terminals	Main earth terminal is marked with the standard earth symbol (IEC 60417, No. 5019) near the terminal.	P
1.7.7.2	Terminal for external primary power supply conductors	The equipment with appliance inlet is intended to be use the detachable type power supply cord.	N
1.7.8.1	Identification and location of switches and controls :	The marking and indications of the power switch is located that indication of function is clearly.	P
1.7.8.2	Colours of controls and indicators .....:	No safety involve indicator used..	N
1.7.8.3	Symbols according to IEC 60417 .....:	A "STAND-BY" condition shall be indicated by the symbol IEC60417, No. 5009	P
1.7.8.4	Figures used for marking .....:	No indicators for different position.	N
1.7.8.5	Location of markings and indications for switches and controls .....:	STAND-BY marking on switch.	P
1.7.9	Isolation of multiple power sources .....:	Only one supply from mains.	N
1.7.10	Instructions for installation to IT power system	Equipment was not applied for IT power system.	N
1.7.11	Instructions when protection relies on building installation	Pluggable equipment type A	N
1.7.12	Marking when leakage current exceeds 3,5 mA	Leakage current does not exceed 3.5mA,	N
1.7.13	Indication at thermostats and regulating devices	No adjustable thermostates.	N

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.14	Language of safety markings/instructions	Safety warning test in English. Rating marking in English. Instructions and equipment marking related to safety shall be in a language which is acceptable in the country in which the equipment is to be installed.	P
	Language .....:	English.	—
1.7.15	Durability and legibility	The label was subjected to the test for permanence of marking. The label was rubbed with cloth for 15 sec. And then rubbed by the cloth soaked with Naphtha for 15 sec. After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting on the label edge.	P
1.7.16	Removable parts	No removable parts	N
1.7.17	Warning text for replaceable lithium batteries	No lithium battery.	N
	Language .....:	---	—
1.7.18	Operator access with a tool .....:	No operator access area with tool.	N
1.7.19	Equipment for restricted access locations .....:	No restricted access location.	N
2	PROTECTION FROM HAZARDS		P
2.1	Protection against electric shock and energy hazards		P
2.1.1	Access to energized parts	No operator access to energized parts	P
2.1.2	Protection in operator access areas	See below	P
	Test by inspection .....:	Can not access to hazardous parts	P
	Test with test finger .....:	Can not access to hazardous parts	P
	Test with test pin .....:	Can not access to hazardous parts	P
2.1.3.1	Insulation of internal wiring in an ELV circuit accessible to operator	No ELV wiring in operator accessible area.	N

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
	Working voltage (V); distance (mm) through insulation .....:	---	N
2.1.3.2	Operator accessible insulation of internal wiring at hazardous voltage	No hazardous voltage wiring in operator accessible area.	N
2.1.4.1	Protection in service access areas	No maintenance work in operation mode is necessary.	N
2.1.4.2	Protection in restricted access locations	Not intended to be used in restricted access location.	N
2.1.5	Energy hazard in operator access area	No energy hazard in operator area	P
2.1.6	Clearances behind conductive enclosures	See 2.1.2	P
2.1.7	Shafts of manual controls	See 2.1.2	N
2.1.8	Isolation of manual controls	See 2.1.2	N
2.1.9	Conductive casings of capacitors	Casings of capacitors are considered as if directly connected to the respective circuitry. None at hazardous voltage accessible.	P
2.1.10	Risk of electric shock from stored charge on capacitors connected to mains circuit	Time constant below 1s	P

2.2	Insulation		P
2.2.1	Methods of insulation	The insulation material are used solid or laminated, having adequate thickness and adequate creepage distance over their surface and clearance distance through air.	P
2.2.2	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.2.3	Humidity treatment	Total time elapsed : 48 hours	P
	Humidity (%) .....:	95% R.H.	—
	Temperature (°C) .....:	25℃	—
2.2.4	Requirements for insulation	The insulation meet the requirement. (see appended table 5.1 and 5.3)	P
2.2.5	Insulation parameters	Both parameters were considered, see 2.2.6 and 2.2.7.	P

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.6	Categories of insulation	The adequate levels of safety insulation is provided and maintained to comply with the requirements of this standard.	P
2.2.7.1	General rules for working voltages	Certified power supply used. The maximum working voltage is 254 Vrms; 424 Vpk	P
2.2.7.2	Clearances in primary circuits	was considered.	P
2.2.7.3	Clearances in secondary circuits	was considered.	P
2.2.7.4	Creepage distances	was considered.	P
2.2.7.5	Electric strength tests	was considered.	P
2.2.8.1	Bridging capacitors .....:	No components bridged reinforced or double insulation.	N
2.2.8.2	Bridging resistors	--	N
2.2.8.3	Accessible parts	--	N

2.3	Safety extra-low voltage (SELV) circuits		P
2.3.1	Voltage (V) of SELV circuits under normal operating conditions and after a single fault .....:	42.4V peak or 60 VDC are not exceeded in SELV circuit under normal operation or single fault condition.	—
2.3.2	Voltage (V) between any two conductors of SELV circuit(s) and for Class equipment between any conductor of SELV circuit and equipment protective earthing terminal under normal operating conditions .....:	Only SELV circuit is accessible to the user. Between SELV circuits 42.4V peak or 60V DC are not exceeded.	P
2.3.3	Voltage (V) of SELV in the event of a single failure of basic or supplementary insulation or of a component .....:	Single fault did not cause excessive voltage accessible SELV circuits. Limits of 71V peak and 120V DC were not exceed and SELV limits not for longer than 0.2 seconds, see abnormal result 5.4.6 and 6.2.1.3	—
	Method used for separation .....:	Method 1.	P

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.4	Additional constructional requirements	In multiway connectors and other cable ties prevent contact to hazardous parts in case of loosening of connection or conductor breakage IEC 60083 and IEC 60320 connectors are not used in SELV circuits.	P
2.3.5	Connection of SELV circuits to other circuits	See 2.3.2 and 2.3.3. No direct connection between SELV and any primary circuit.	P
2.3.8	Construction of SELV circuits	---	—
2.3.9	SELV circuits connected to other circuits	---	—
2.4	Limited current circuits		N
2.4.2	Frequency (Hz) .....:	---	—
	Measured current (mA) .....:	---	N
2.4.3	Measured voltage (V) .....:	---	—
	Measured capacitance (uF) .....:	---	N
2.4.4	Measured voltage (V) .....:	---	—
	Measured charge (uC) .....:	---	N
2.4.5	Measured voltage (V) .....:	---	—
	Measured energy (mJ) .....:	---	N
2.4.6	Limited current circuit supplied from or connected to other circuits .....:	---	N
2.5	Provisions for earthing:		P
2.5.1	Class I equipment	Basic insulated conductive parts touchable in operator accessible area are earthed reliable	P
	Warning label for service personnel	---	N
2.5.2	Protective earthing in Class II equipment	Class I equipment	N
2.5.3	Switches/fuses in earthing conductors	No switches or fuses in earthing conductor.	N

200dpi006 (1664x2312x2) [12]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.5.4	Assured earthing connection for Class equipment in systems comprising Class I and Class II equipment	The equipment has its own earthing connection. Any other units connected via the signal cable to the monitor shall provide SELV only. The equipment does not comprise class I and class II.	N
2.5.5	Green/yellow insulation	The protection earth wire insulation Green/Yellow.	P
2.5.6	Continuity of earth connections	It is impossible to disconnect earth without disconnecting mains. An appliance inlet is used as a disconnect device.	P
2.5.7	Making and breaking of protective earthing connections	Plug or inlet, earthing connected before and disconnected after hazardous voltage. No other operator re-moveable parts.	P
2.5.8	Disconnection protective earthing connections	It is not necessary to disconnect earthing except for the removing of the earthed parts itself.	P
2.5.9	Protective earthing terminals for fixed supply conductors or for non-detachable power supply cords	The equipment provided with a detachable power supply cord.	N
2.5.10	Corrosion resistance	All safety earthing connections in compliance with Annex J.	P
2.5.11	Resistance (Ω) of protective earthing conductors ≤ 0,1 Ω	See below	P
	Test current (A) .....:	Measured with 25A / 1 minute from appliance inlet ground pin to: - Enclosure 0.010Ω	—

2.6	Disconnection from primary power:		P
2.6.1	General requirements	The appliance inlet is considered to be the disconnect device.	P
2.6.2	Type of disconnect device .....:	Appliance inlet	P
2.6.3	Disconnect device in permanently connected equipment	Pluggable equipment type A.	N

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.4	Parts of disconnect device which remain energized	When the detachable power cord is disconnected, there are no remaining parts with hazardous voltage in the equipment.	P
2.6.5	Switches in flexible cords	No isolated switch in flexible cord.	N
2.6.6	Disconnection of both poles simultaneously in single-phase equipment	The detachable power cord or appliance inlet disconnects both poles simultaneously.	P
2.6.7	Disconnection of all phase conductors of supply in three-phase equipment	The equipment is for single phase.	N
2.6.8	Marking of switch acting as disconnect device	The switch provided does not serve as a disconnecting device. However, the marking is in compliance with 1.7.8.	P
2.6.9	Installation instructions if plug on power supply cord acts as disconnect device	See 1.7.2	P
	Language .....:	---	—
2.6.11	Interconnected equipment	Interconnection to other devices by secondary signal (SELV) cable only.	N
2.6.12	Multiple power sources	Only one supply connection provided.	N

2.7	Overcurrent and earth fault protection in primary circuits:		P
2.7.1	Basic requirements	Protective device are integrated in the primary circuit.	P
2.7.2	Protection against faults not covered in 5.4	---	N
2.7.3	Short-circuit backup protection	Pluggable equipment type A, the building installation is considered as providing short circuit protection.	P
2.7.4	Number and location of protective devices .....:	Overcurrent protection by one built-in fuse. (F1).	P
2.7.5	Protection by several devices	Only one fuse	N
2.7.6	Warning to service personnel	It is considered that the plug to the mains will be disconnected during service work, no markings are required.	P

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.8	Safety interlocks: No operator accessible areas which presents hazards in the meaning of this standard.		N
2.8.2	Design	---	N
2.8.3	Protection against inadvertent reactivation	---	N
2.8.4	Reliability	---	N
2.8.5	Overriding an interlock	---	N
2.8.6.1	Contact gap (mm) .....:	---	N
2.8.6.2	Switch performing 50 cycles	---	N
2.8.6.3	Electric strength test: test voltage (V) .....:	---	N
2.8.7	Protection against overstress	---	N
2.9	Clearances, creepage distances and distances through insulation:		P
	Nominal voltage (V) .....:	AC 240 V	—
	General		P
2.9.2	Clearances	Certified power supply used. The required clearance is considered.	P
2.9.2.1	Clearances in primary circuits	Certified power supply used. The required clearance is considered.	P
2.9.2.2	Clearances in secondary circuits	Certified power supply used. The required clearance is considered.	P
2.9.3	Creepage distances	Certified power supply used. The required clearance is considered.	P
	CTI tests .....:	CTI rating for all materials of minimum 100.	—
2.9.4.1	Minimum distances through insulation	Certified power supply used. The required clearance is considered.	P

200dpi006 (1664x2311x2) [15]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4.2	Thin sheet material	Insulation tape such as polythylene terephthalate adhesive tape used between primary and secondary windings in T1.	P
	Number of layers (pcs) .....:	3 layers between primary to secondary.	P
	Electrical strength test: test voltage (V) .....:	3000V ac applied on any combination of two layers.	P
2.9.4.3	Printed boards	---	N
	Distance through insulation	(see appended table 2.9.4)	N
	Electric strength test at voltage for thin sheet insulating material	(see appended table 5.3)	N
	Number of layers (pcs) .....:	---	N
2.9.4.4	Wound components without interleaved insulation	No wound components without interleaved insulation between primary and secondary or primary to earth.	N
	Number of layers (pcs) .....:	---	N
	Two wires in contact inside component; angle between 45° and 90°	---	N
	Routine testing for finished component	---	N
2.9.5	Distances on coated printed boards	No coated printed wiring boards.	N
	Routine testing for electric strength	---	N
2.9.6	Enclosed and sealed parts	No hermetically sealed components.	N
	Temperature T1 (°C) .....:	---	N
	Humidity % .....:	---	N
2.9.7	Spacings filled by insulating compound	Photo coupler is approved component, other components did not apply for.	P
	Temperature T1 (°C) .....:	---	N
	Humidity % .....:	---	N
2.9.8	Component external terminations	No external terminals for components.	N
2.9.9	Insulation with varying dimensions	---	N

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.10	Interconnection of equipment		P
2.10.1	General requirements	Only interconnection circuit of SELV through the connector, no ELV interconnection circuit.	N
2.10.2	Type of interconnection circuits .....:	---	N
2.10.3	ELV circuits as interconnection circuits	---	N
2.11	Limited power source:		N
	Use of limited power source .....:	Not applied for.	N
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Cross-sectional area of internal wiring/interconnecting cables	All internal wires are UL recognized wiring with PVC insulation, rated VW-1, min. 80 °C , 300 V. The cross sectional area of the internal wiring is suitable for its rated current.	P
	Protection of internal wiring and interconnecting cables	No internal wire for primary power distribution.	N
3.1.2	Wireways	Wires do not touch sharp edges and heatsinks which could damage the insulation and cause hazard.	P
3.1.3	Fixing of internal wiring	Internal wires with only basic isolation are routed so that they are not close to any live bare components. The wires are secured by solder pins and quick connect terminals so that a loosening of the terminal connection is unlikely.	P
3.1.4	Fixing of uninsulated conductors	Securely held on PCB, no hazard.	P
3.1.5	Insulation of internal wiring	The insulation of the individual conductors are suitable for the appliancation and the working voltage. For the insulation material see 3.1.1.	P
3.1.6	Wires coloured green/yellow only for protective earth connection	See 2.5.5	P

200dpi006 (1664x2311x2) [17]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
3.1.7	Fixing of beads and similar ceramic insulators	Not used.	N
3.1.8	Required electrical contact pressure	Only earthing connection screwed two or more complete threads into metal. No screws of insulating material for electrical and earthing connections, or where supplementary or reinforced insulation could be impaired by a metal replacement.	N
3.1.9	Reliable electrical connections	All current carrying and safety earthing connections are metal to metal.	P
3.1.10	End of stranded conductor	No risk of stranded conductors coming loose.	P
3.1.11	Use of spaced thread screws/thread-cutting screws	No self tapping screws are used for electrical connection.	P
3.2	Connection to primary power:		P
3.2.1	Type of connection .....:	Appliance inlet	P
	Design of product with more than one supply connection .....:	The appliance inlet in equipment is only for one mains connection	N
3.2.2	Provision for permanent connection .....:	See 3.2.1	P
	Size (mm) of cables and conduits .....:		N
3.2.3	Appliance inlet	The appliance inlet complies with IEC 60320 and is located at the rear of the unit. Where the power cord can be inserted without difficulties and should be approved and does not support the unit	P
3.2.4	Type and cross-sectional area (mm²) of power supply cord .....:	H05VV-F, 3G * 0.75 mm^2	P
3.2.5	Cord anchorage		N
	Test: 25 Times; 1 s; pull (N) .....:	---	—
	Longitudinal displacement ≤ 2 m .....:	---	N
3.2.6	Protection of power supply cord	No parts under the equipment is likely to damage the power supply cord, no sharp edges.	N
3.2.7	Cord guard		N
	D (mm) .....:	---	—

200dpi006 (1664x2311x2) [18]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
	Test: mass (g) .....:	---	—
	Radius of curvature of the cord ≤ 1,5	---	N
3.2.8	Supply wiring space	---	N
3.3	Wiring terminals for external power supply conductors		N
3.3.1	Terminals	No external power supply conductors.	N
3.3.2	Special non-detachable cord		N
	Type of connection .....:	---	—
	Pull test at 5	---	N
3.3.3	Screws and nuts	---	N
3.3.4	Fixing of conductors	---	N
3.3.5	Connection of connectors	---	N
3.3.6	Size of terminals	---	N
	Nominal thread diameter (mm) .....:	---	N
3.3.7	Protection against damage of conductors	---	N
3.3.8	Terminal location	---	N
3.3.9	Test with 8 m stranded wire	---	N

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
4	PHYSICAL REQUIREMENTS		P
4.1	Stability and mechanical hazards		P
4.1.1	Stability tests		P
	Angle of 10°	This unit is of a stable mechanical construction and does not overbalance when tilted to an angle of 10 degrees from its normal upright position.	P
	Test: force (N) .....:	Not floor standing.	N
4.1.2	Protection against personal injury	No moving parts.	N
4.1.3	Warning and means provided for stopping the moving part .....:	No moving parts.	N
4.1.4	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.1.5	Enclosure of a high pressure lamp	No lamp with cold pressure of 0.2Mpa or hot pressure of 0.4Mpa.	N
4.2	Mechanical strength and stress relief:		P
4.2.1	General	See below.	P
4.2.2	Internal enclosures 30 N ± 3 N; 5 s	No internal enclosure.	N
4.2.3	External enclosures 250 N ± 10 N; 5 s	250N applied to outer enclosure. No damage or other hazards.	P
4.2.4	Steel ball tests		P
	Fall test	500g steel sphere ball fall, from 1.3m height onto outer plastic enclosure. The test was done with all enclosure materials. No safety relevant damages.	P
	Swing test	500g steel sphere ball as pendulum onto outer plastic enclosure. The test was done with all enclosure materials. No safety relevant damages.	P
4.2.5	Drop test	Not hand-held.	N
4.2.6	Heat test for enclosures of molded or formed thermoplastic materials: 7h; T (°C) .....:	Metal enclosure used.	N
4.2.7	Compliance criteria	No safety relevant damages.	P
4.2.8	Mechanical strength of cathode ray tubes	--	N

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
4.3	Construction details		P
4.3.1	Changing of setting for different power supply voltages	Full range circuit, no necessary adjustment.	P
4.3.2	Adjustment of accessible control devices	None that would cause hazard.	P
4.3.4	Prevention of dangerous concentration of dust, powder, liquid and gas	Equipment in intended use not considered to be exposed to these.	N
4.3.5	Fixing of knobs, grips, handles, levers		N
	Test: force (N) .....:		N
4.3.6	Driving belts/couplings shall not ensure electrical insulation	Not used for insulation.	N
4.3.7	Retaining of sleeves	Sleevings on wiring reliable kept in position by cable ties or by the use of heatshrunk sleeving.	P
4.3.9	Protection of loosening parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection, solder pins, cable ties and heatshrunk tubing are used.	P
4.3.11	Resistance to oil and grease	Insulation not in contact with oil or grease.	N
4.3.12	Protection against harmful concentration of ionizing radiation, ultraviolet light, laser or flammable gases (for laser see IEC 60825-1)	---	N
4.3.13	Securing of screwed connections	No connection likely to be exposed to mechanical stress are provided in unit.	P
4.3.15	Openings in the top of enclosure	No opening provided on top of enclosure.	N
	Dimensions (mm) .....:	---	—
4.3.16	Openings in the sides of enclosure	Provided numerous openings, see below.	P

200dpi006 (1664x2311x2) [21]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
	Dimensions (mm) .....:	Side ventilation openings: Covered one identical area on both sides, overall 18 by 95 mm, opening 1.8 mm diameter each. Rear ventilation openings: Provided with three identical concentric rings openings for fan, 36 mm OD by 24 mm ID Also provided an opening for power fan overall 35 by 35 mm, opening 6.5 by 6.5 mm each.	—
4.3.17	Interchangeable plugs and sockets	In operator and service area, mismatching prevented by incompatible form or location.	P
4.3.18	Torque test for direct plug-in equipment:		N
	Additional torque (Nm) .....:	---	N
4.3.19	Protection against excessive pressure	The monitor does not contain liquid.	N
4.3.20	Protection of heating elements in Class I equipment	No heating elements.	N
4.3.21	Protection of lithium batteries		N
	Construction of protection circuit .....:	No lithium battery used.	N
4.3.22	Ageing of barrier/screen secured with adhesive		N
	Day 1: temperature (°C); time (weeks) .....:	---	N
	Day 8/22/57: a) temperature (°C) for 1 b) temperature (°C) for 4 c) temperature (°C) over 8 .....:	---	N
	Day 9/23/58: a) relative humidity (%) for 72 b) temperature (°C) for 1 c) temperature (°C) for 4 d) temperature (°C) over 8 .....:	---	N

4.4	Resistance to fire		P
4.4.1	Methods of achieving resistance to fire	Use of materials with the required flammability classes.	P

200dpi006 (1664x2312x2) [22]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.2	Minimizing the risk of ignition	Electrical parts are not likely to ignite nearby materials. Parts not protected against overheating under fault conditions. Temperature see 5.1	P
	Printed board: manufacturer; type; flammability .....:	See 1.5.1 appended table	P
4.4.3	Flammability of materials and components	See below	P
4.4.3.2	Material and component: manufacturer; type; flammability .....:	Internal components except small parts are V-2, HF-2 or better.	P
4.4.3.3	Exemptions .....:	Considered.	P
4.4.3.4	Wiring harnesses: manufacturer; flammability .....:	Insulation material consists of PVC.	P
4.4.3.5	Cord anchorage bushings: manufacturer; flammability .....:	No cord anchorage bushings.	N
4.4.3.6	Air filter assemblies: manufacturer; flammability ....:	No air filter assemblies.	N
4.4.4	Enclosures and decorative parts: manufacturer; type; flammability .....:	See appended table 1.5.1	P
4.4.5	Conditions for fire enclosures	With having the following components: -components with windings -wiring -semiconductor devices, transistors, diodes, integrated circuits. -resistors, capacitors, inductors. - The fire enclosure is required.	P
4.4.5.1	Components requiring fire enclosure: manufacturer; flammability .....:	See 4.4.5	P
4.4.5.2	Components not requiring fire enclosure .....:	See 4.4.5.	N
4.4.6	Fire enclosure construction	See 4.4.5 The bottom enclosure material is metal. No bottom ventilation openings:	P
4.4.7	Doors or covers in fire enclosures	No door or cover.	N
4.4.8	Flammable liquids	No flammable liquids in this unit.	N

200dpi006 (1664x2311x2) [23]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
5	THERMAL AND ELECTRICAL REQUIREMENTS		P
5.1	Heating		P
	Heating tests	(see appended table)	P
5.2	Earth leakage current (Certified power supply used)		P
5.2.1	General	The leakage current was measured from primary to earth (done on certified power supply)	P
5.2.2	Leakage current	---	P
	Test voltage (V) .....:	---	—
	Measured current (mA) .....:	---	—
	Max. allowed current (mA) .....:	3.5 mA.	—
5.2.3	Single-phase equipment	See 5.2.2	P
	Test voltage (V) .....:	---	—
	Measured current (mA) .....:	---	—
	Max. allowed current (mA) .....:	---	—
5.2.4	Three-phase equipment	Single phase equipment.	N
	Test voltage (V) .....:	---	—
	Measured current (mA) .....:	---	—
	Max. allowed current (mA) .....:	---	—
5.2.5	Equipment with earth leakage current exceeding 3,5 mA	Leakage current does not exceed 3.5 mA.	N
	Test voltage (V) .....:	---	—
	Measured current (mA) .....:	---	—
	Max. allowed current (mA) .....:	---	—
	Cross-sectional area (mm²) of internal protective earthing conductor .....:	---	—
	Warning label	---	N
5.3	Electric strength		P
5.3.1	General	All test voltage were applied for 1 minute in warm conditions after the heating test of 5.1. No isolation breakdown was observed (results see appended tables)	P

200dpi006 (1664x2312x2) [24]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.2	Test procedure	(see appended table)	P
5.4	Abnormal operating and fault conditions		P
5.4.2	Motors	Certified fans used No hazard.	P
5.4.3	Transformers	Certified power supply used	P
5.4.4	Compliance of operational insulation:		P
	Method used .....:	Certified power supply used	P
5.4.5	Electromechanical components in secondary circuits	No electromechanical components.	N
5.4.6	Other components and circuits	The power supply is protected by the following means: F1. Reverse charge protected circuit of RTC battery were D7 and R86. Reverse charging test see appended table 5.4	P
5.4.7	Test in any expected condition and foreseeable misuse	Ventilation openings blocked test: Results see appended table 5.1. No hazards.	P
5.4.8	Unattended use of equipment having thermostats, temperature limiters etc.	None of these components are used.	N
5.4.9	Compliance	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test passed. (see appended table)	P
5.4.10	Ball-pressure test of thermoplastic parts; impression shall not exceed 2 mm	Certified power supply used.	N
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N
6.1	General		N
6.2	TNV circuits		N
6.2.1.1	Limits of the TNV circuits	---	N
6.2.1.1 a)	TNV-1 circuits	---	N
6.2.1.1 b)	TNV-2 and TNV-3 circuits	---	N
6.2.1.2	Separation from other circuits and from accessible parts	---	N

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
	Voltage (V) in SELV circuit, TNV-1 circuit or accessible conductive part .....:	---	—
6.2.1.4	Separation from hazardous voltages .....:	---	N
	Insulation between TNV circuit and circuit at hazardous voltage	---	—
	Method used .....:	---	—
6.2.1.5	Connection of TNV circuits to other circuits	---	N
	Insulation (mm) between TNV circuit supplied conductively from secondary circuit and hazardous voltage circuit .....:	---	—
6.2.2.1	Protection against contact with bare conductive parts of TNV-2 and TNV-3 circuits	---	N
	Test with test finger	---	—
	Test with test probe	---	—
6.2.2.2	Battery compartments	---	N
	Marking next to door/on door	---	—
6.3	Protection of telecommunication network service personnel, and users of other equipment connected to the telecommunication network, from hazards in the equipment		N
6.3.1	Protection from hazardous voltages	---	N
6.3.2	Use of protective earthing		N
	Language of installation instructions .....:	---	—
6.3.3.1	Insulation between TNV circuit and parts or circuitry that may be earthed	---	N
6.3.3.2	Exclusions .....:	---	N
6.3.4.1	Limitation of leakage current (mA) to telecommunication network .....:	---	N
6.3.4.2	Summation of leakage currents from telecommunication network .....:	---	N
6.4	Protection of equipment users from voltages on the telecommunication networks		N
6.4.1	Separation requirements	---	N
6.4.2	Test procedure	---	N
6.4.2.1	Impulse test: separation between TNV-1 circuits/TNV-3 circuits and:		N
6.4.2.1 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 2,5 V	---	N

200dpi006 (1664x2312x2) [26]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.2.1 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,5 V	---	N
6.4.2.1 c)	circuitry which is provided for connection of other equipment; test at 1,5 V	---	N
6.4.2.2	Electric strength test: separation between TNV-1 circuits/TNV-3 circuits and:		N
6.4.2.2 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 1,5 V	---	N
6.4.2.2 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,0 V	---	N
6.4.2.2 c)	circuitry which is provided for connection of other equipment; test at 1,0 V	---	N
6.4.2.3	Compliance criteria	---	N

6.5	Protection of telecommunication wiring system from overheating		N
	Maximum continuous output current (A) .....:	---	—

200dpi006 (1664x2311x2) [27]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
A	ANNEX , TESTS FOR RESISTANCE TO HEAT AND FIRE		N
A.1	Flammability test for fire enclosures of moveable equipment having a total mass exceeding 18 kg, and of stationary equipment		N
A.2	Flammability test for fire enclosures of moveable equipment having a total mass not exceeding 18 kg, and for materials located within fire enclosures		N
A.3	High current arcing ignition test	---	N
A.3.6	Number of arcs .....:	---	N
A.4	Hot wire ignition test	---	N
A.4.6	Ignition time (s) .....:	---	N
A.5	Hot flaming oil test	---	N
A.6	Flammability test for classifying materials V-0, V-1 or V-2	---	N
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HBF	---	N
A.8	Flammability test for classifying materials HB	---	N
A.9	Flammability test for classifying materials 5V	---	N
A	Tested material		N
	Preconditioning: 7days (168 hr); temperature (°C) :	---	—
	Mounting of samples during test .....:	---	—
	Wall thickness .....:	---	—
	Sample 1 burning time .....:	---	—
	Sample 2 burning time .....:	---	—
	Sample 3 burning time .....:	---	—
	Material: compliance with the requirements	---	—
	Manufacturer of tested material .....:	---	—
	Type of tested material .....:	---	—
	Additional information .....:	---	—
B	ANNEX , MOTOR TESTS UNDER ABNORMAL CONDITIONS		N
B.1	General requirements	---	N
	Position .....:	---	—
	Manufacturer .....:	---	—
	Type .....:	---	—
	Rated voltage (V) or current (A) .....:	---	—
B.2	Test conditions	---	N

200dpi006 (1664x2311x2) [28]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict
B.3	Maximum temperatures	(see appended table 5.4)	N
B.4	Running overload test	---	N
B.5	Locked-rotor overload test	---	N
	Test duration (days) .....:	---	—
	Electric strength test: test voltage (V) .....:	---	—
B.6	Running overload test for DC motor in secondary circuits	---	N
B.7	Locked-rotor overload test for DC motor in secondary circuits		N
B.7.2	Test time (h) .....:	---	N
B.7.3	Test time (h) .....:	---	N
B.8	Test for motors with capacitors	---	N
B.9	Test for three-phase motors	---	N
B.10	Test for series motors	---	N
	Test voltage (V) .....:	---	—

C	ANNEX , TRANSFORMERS		P
	Position .....:	T1 (Located on approved power supply)	—
	Manufacturer .....:	--	—
	Type .....:	--	—
	Rated values .....:	--	—
	Temperatures	(see appended table 5.1)	P
	Thermal cut-out	(see appended table 5.1)	P
C.1	Overload test	---	P
	Conventional transformer	---	N
C.2	Insulation		P
	Precautions .....:	(see transformer construction check next page)	P
	Retaining of end turns of all windings	Dto	P
	Earthing test at 25 A	---	N
C.3	Electric strength test	Certified power supply used	P

C.2	Safety isolation transformer (Located on approved power supply)		P
	Construction details: Certified power supply used (EMACS, Model PIU-6200P)		
	Manufacturer .....:	--	

200dpi006 (1664x2311x2) [29]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

	Type .....:	--
	Recurring peak vaule	--
	Required clearance for reinforced insulation	--
	Effective voltage rms	--
	Required creepage for reinforced insulation	--
	Measured min. creepage	--
	Location	
	Primary-Secondary	--
	Primary-Core	--
	Secondary-Core	--
	Construction: Certified power supply used (EMACS, Model PIU-6200P)	
	Pin numbers	--
	Primary	--
	Secondary	--
	Bobbin material	--
	Thickness	--
	Electrical strength test With AC 3000V after humidity treatment	Passed

H	ANNEX H , IONIZING RADIATION		N
	Ionizing radiation		N
	Measured radiation .....:	---	—
	Measured high-voltage (kV) .....:	---	—
	CRT markings .....:	---	—
	Certified by .....:	---	—
	Standard used .....:	---	—
U	ANNEX , INSULATED WINDING WIRES FOR USE AS MULTIPLE LAYER INSULATION		N
	See separate test report	---	N

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: list of critical components				P
object/part No.	manufacturer/ trademark	type/model	technical data	Standard	mark(s) of conformity[1])
1. Power Plug	Various	Various	250 V, 10 A	VDE0620 IEC60320	VDE
2. Power Cable	Various	H05VV-F	3G 0.75m mm^2	VDE 0281	VDE
3. Power Connector	Various	Various	250 V, 10 A	VDE0620 IEC60320	VDE
4. Power Supply	Zippy/EMACS	PIU-6200P	Input: 100-240 V ac, 47-63 Hz, 2-4 A. Output: +12 V dc/9.0 A -12 V dc/0.7 A +5 V dc/16 A +5 Vsb/1.5 A -5 V dc/0.2 A 3.3 V/12 A	IEC60950	UL, TUV
5. PCB	Various	Various	V-1 min. 105℃	UL94	UL
6. Enclosure Material	---	Metal	1.0 mm thick minimum.	---	---
7. DC Fans	Delta	EFB0412VHD EFB0412HD BFB0512L/M/H/HH	12 V dc, 0.18 A,	EN60950	UL, CSA, TUV, VDE
8 CPU Fan	Motor-One	15015B1	12 V dc, 0.13 A	EN60950	UL, CSA, TUV
	Create Flow	A5010, A5015 Series	12 V dc, 0.13 A	EN50081-1, 50082-2	UL, CSA, TUV
9. Hard Disk	Various	Various	5/12 V dc, 1.5/1.5 A maximum.	EN60950	UL, TUV
10 LI-Ion Battery	Rayovac	BR2032	3 V dc, 195 mAH	--	UL

200dpi006 (1664x2311x2) [31]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1.6	TABLE: electrical data (in normal conditions)						P
fuse #	Irated (A)	U (V)	P (W)	I (A)	Ifuse (A)	condition/status	
F1	4.0	90/50Hz	47.4	0.533	0.533	Maximum Normal Load	
F1	4.0	100/50Hz	47.5	0.535	0.535	Maximum Normal Load	
F1	2.0	240/50Hz	45.6	0.252	0.252	Maximum Normal Load	
F1	2.0	264/50Hz	45.2	0.249	0.249	Maximum Normal Load	
F1	4.0	90/60Hz	47.5	0.535	0.535	Maximum Normal Load	
F1	4.0	100/60Hz	47.1	0.483	0.483	Maximum Normal Load	
F1	2.0	240/60Hz	45.7	0.252	0.252	Maximum Normal Load	
F1	2.0	264/60Hz	45.2	0.252	0.252	Maximum Normal Load	

5.1	TABLE: temperature rise measurements		P
	test voltage (V)	90/264/240 ventilation opening blocked/right/center/left/power fan locked.	—
	t1 (°C)	---	—
	t2 (°C)	---	—
Temperature rise dT of part/at:		dT (K)	Required dT (K)
Room Ambient		25℃/25℃/25℃/25℃/25℃/24℃/24℃	--
Power supply T1 coil		11/11/31/10/10/11/14	55
Power supply T1 core		17/17/37/16/16/17/16	55
Power supply enclosure inside near T1		6/5/25/5/4/5/7	--
U33 body		8/8/20/10/9/10/9	65
RTC battery		6/6/19/6/5/6/5	--
U22 body		15/15/28/19/18/18/17	65
Enclosure inside near power supply		2/2/16/4/4/5/5	--
U35 body		9/9/24/9/8/10/10	65
HDD near motor		11/11/21/10/10/11/11	--

200dpi006 (1664x2311x2) [32]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

Comments:

The temperatures were measured by thermal couple (type T) method under worst case normal mode as described in 1.6.1 at voltage described in 1.6.5. The worst case normal mode is defined with max. ambient temperature specified as 40°C, therefore, the maximum temperature rise is calculated as follows:

Winding components:

1. Class A: dTmax = 105K - 10K - 40K = 55K

2. PWB: dTmax = 105K-40K = 65K

200dpi006 (1664x2312x2) [33]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

5.3	TABLE: electric strength measurements		P
test voltage applied between:		test voltage (V)	breakdown
Primary and secondary		DC 4242V	No
Primary and ground		DC 2500V	No

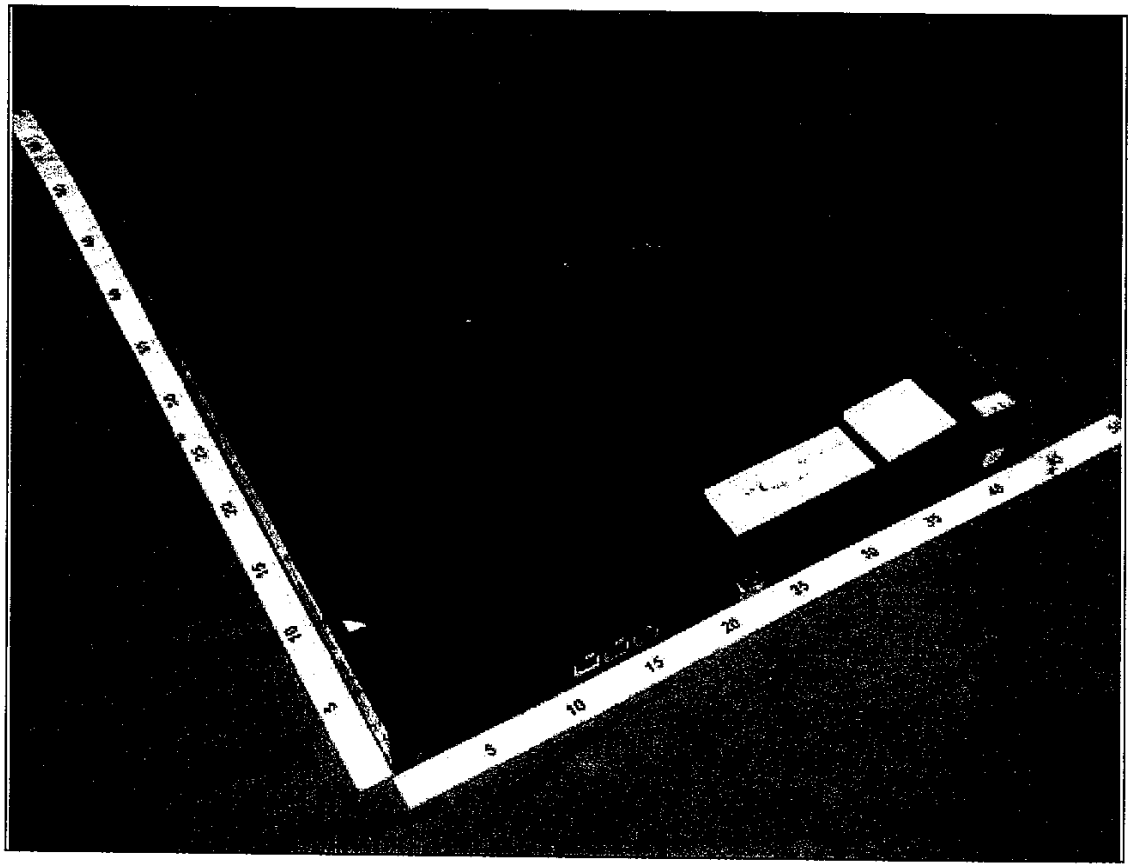
5.4	TABLE: fault condition tests		
	ambient temperature (℃) .....:	25 ℃, if no else specified	--
	model/type of power supply .....:	PIU-6200P	--
	manufacturer of power supply .....:	Zippy/EMACS	--
	rated markings of power supply .....:	See table 1.5.1	--

No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
01	Ventilation openings	Blocked	240	3.5 hrs	--	--	Temperature of T1 coil = 36 ℃, core = 42 ℃ no hazard.
02	Right Fan	Stalled	240	2.5 hrs	--	--	Temperature of T1 coil = 35 ℃, core = 41 ℃ no hazard.
03	Center Fan	Stalled	240	2.0 hrs	--	--	Temperature of T1 coil = 35 ℃, core = 41 ℃ no hazard.
04	Left Fan	Stalled	240	1.0 hrs	--	--	Temperature of T1 coil =36 ℃, core = 42 ℃ no hazard.
05	Power Fan	Stalled	240	2.5 hrs	--	--	Temperature of T1 coil = 38 ℃, core = 40 ℃ no hazard.
06	D7	Short	240	1 sec	--	--	Abnormal reversed charge current 3.01 mA < 10 mA.
07	R86	Short	240	1 sec	--	--	Abnormal reversed charge current 0.0 mA.

200dpi006 (1664x2312x2) [34]

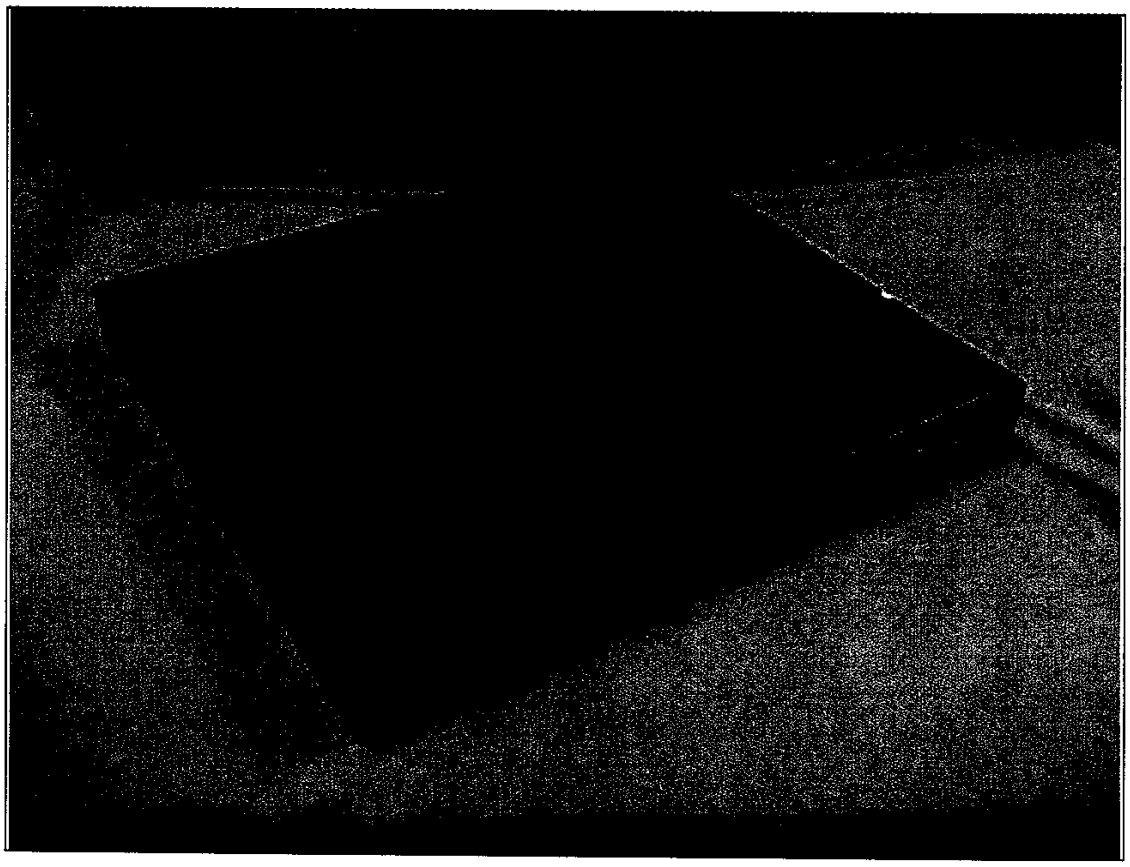
EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

Appendix Photos – Front Enclosure



EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

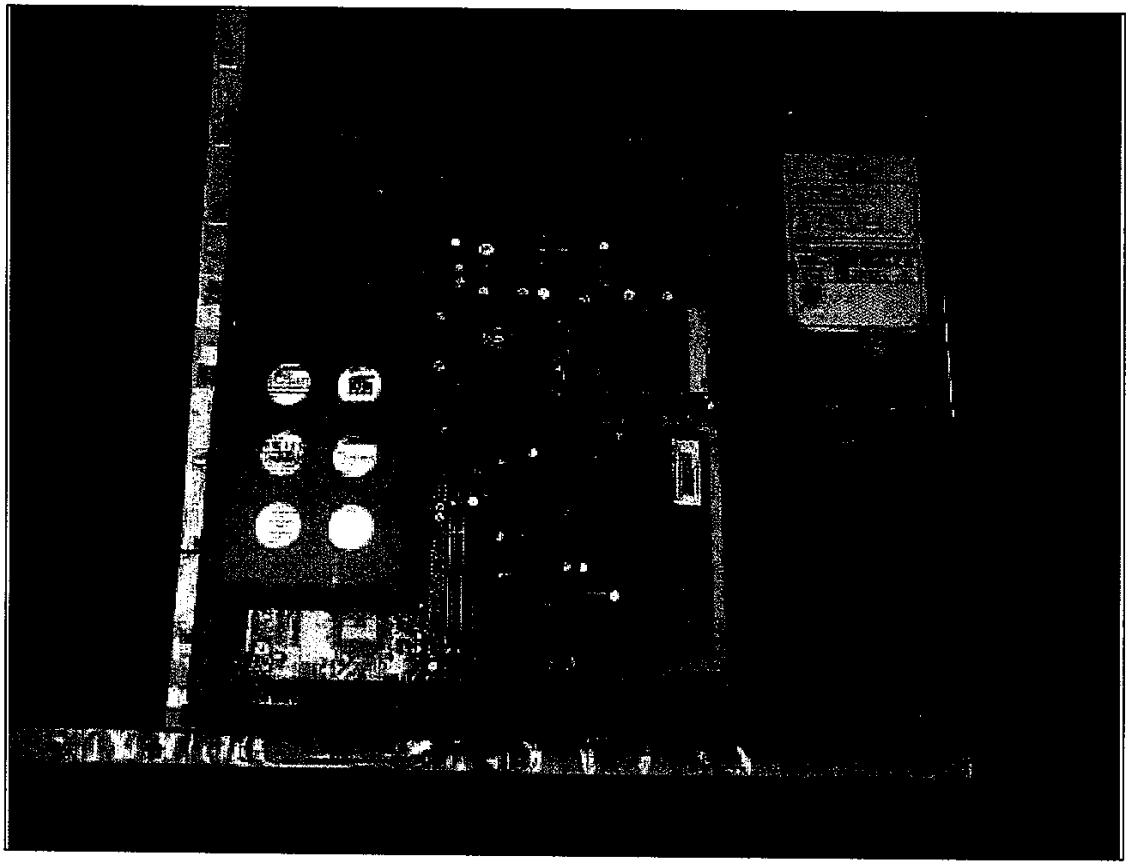
Appendix Photos – Rear Enclosure



200dpi006 (1664x2312x2) [36]

EN 60950			
Clause	Requirement + Test	Result - Remark	Verdict

Appendix Photos – Interior construction



File No: E
Project No: 01NK

ADT CORP.
INSTRUMENTATION RECORD DATA SHEET
TEST INSTRUMENTS

Issued Date: 05-10-92
Revised: 10-31-01

Test	Instr No. S/N.	Range Used	* Instruments, Type	Maker	Model	Calibration Date	Calibration Due
Heating / Abnormal	1. HT900876	0-400Vac, 20A	Power Meter	Chitai	2402A	Feb-15-2001	Feb-14-2002
	2. HT900803	0-400Vac, 20A	Power Meter	Chitai	2402A	Dec-11-2000	Dec-10-2001
	3. HT900765	0-400Vac, 20A	Power Meter	Chitai	2402A	Oct-29-2001	Oct-28-2002
	4. HT900767	0-400Vac, 20A	Power Meter	Chitai	2402A	Oct-29-2001	Oct-28-2002
	5. HT900768	0-400Vac, 20A	Power Meter	Chitai	2402A	Dec-11-2000	Dec-10-2001
	6. 981703	0-300Vac, 20A	Power Meter	Topward	1301	Jan-10-2001	Jan-09-2002
	7. 667214	0-300Vac, 20A	Power Meter	Topward	1310	Feb-16-2001	Feb-15-2002
	8. 667215	0-300Vac, 20A	Power Meter	Topward	1310	Feb-16-2001	Feb-15-2002
Input / Leakage	9. 53BT9495	300V / 5A	Power Meter	Yokogawa	2534	Feb-15-2001	Feb-14-2002
Electric Strength	10. 13050	5KV	Withstanding Voltage Tester	Tamadensoku	TP-515ADZ	Feb-15-2001	Feb-14-2002
Heating	11. 41VA0567	Type T AWG26	Hybrid Recorder	Yokokawa	HR 2500E/ 3882E	Feb-20-2001	Feb-19-2002
	12. 42VB0170	Type T AWG26	Hybrid Recorder	Yokogawa	DR 230	Feb-20-2001	Feb-19-2002
	13. 43VH0086	Type J AWG26	Hybrid Recorder	Yokogawa	HR 1300	Feb-20-2001	Feb-19-2002
	14. 48JE0043	Type J AWG26	Hybrid Recorder	Yokogawa	DR130-00-24-1D	Oct-31-2001	Oct-30-2002
	15. 42VF0429	Type T AWG26	Hybrid Recorder	Yokogawa	HR 2300	Oct-31-2001	Oct-30-2002
Leakage Current	16. 61NJ0375	0.1 - 10 mA	Leakage Meter	Yokogawa	3226	Feb-16-2001	Feb-15-2002
	17. 20983	0.1 - 10 mA	Leakage Meter	Simpson	228	Jan-11-2001	Jan-10-2002
Earthing	18. 12911	30A	Earth Tester	Tamadensoku	TEC-1225A	Feb-17-2001	Feb-16-2002
Input / Leakage / Heating / Abnormal	19. 3303A-80501A019	60V/ 60A, 300W *4	Electric Load	Prodigit 3321	3301A	Aug-30-2001	Aug-29-2002
	20. 3301A-80501A020	60V/ 60A, 300W *4	Electric Load	Prodigit 3321	3301A	Aug-30-2001	Aug-29-2002
	21. 3302-805020221	250V/10A, 300W *1	Electric Load	Prodigit 3322	3302	Aug-30-2001	Aug-29-2002

2000pl006 (1664x2311x2) [37]

File No: E
Project No: 01NK

ADT CORP.

INSTRUMENTATION RECORD DATA SHEET

TEST INSTRUMENTS

Issued: 05-10-92
Revised: 10-31-01

The following instruments were used in tests on the the attached data sheets.

Test	Instr No. S/N.	Range Used	* Instruments, Type	Maker	Model	Calibration Date	Calibration Due
Input / Leakage Heating / Abnormal	22. 3302-805020222	250V/10A, 300W *1	Electric Load	Prodigit 3302	3322	Oct-30-2001	Oct-29-2002
	23. 3302-805020223	250V/10A, 300W *1	Electric Load	Prodigit 3302	3302	Aug-30-2001	Aug-29-2002
	24. 3302-805020220	150V/8A, 300W *1	Electric Load	Prodigit 3302	3251	Feb-21-2001	Feb-20-2002
	25. 308010158	60V/60A, 300W *2 60V/30A, 150W *2	Electric Load	Prodigit 3301	3301	Jun-4-2001	Jun-4- 2002
Discharge / voltage measurement	26. B036089		Oscilloscope	Tektronix	THS 720A	JUN-07-2001	JUN-07-2002
	27. B011484	100V, 100mS/10mS	Digital Storage Oscilloscope	Tektronix	THS720A	Feb. 19, 2001	Feb. 18, 2002
X-Radition / Abnormal X-Radition	28. 1126	1mR / hr	X-Ray Survey Meter	Victoreen	440RF / D	Jun-04-2001	Jun-04-2002
Humidity	29. 80100301	25℃, 95% RH	Humidity Chamber	Taichy	MHD-800L	Dec-18-2000	Dec-17-2001
Mold Stress Relief	30. 80100300	70℃	Oven Chamber	Taichy	FH-480	Jun-03-2001	Jun-02-2002
Stress Relief	31. 80353	0 - 30 Kg.	Push - Pull Meter	Aikoh	AE-30	Jan-11-2001	Jan-10-2002
Electric Strength	32. 815312	60kV	High Voltage Generate	Gotech	KT-7058	Monitor by H. V. Meter	
Heating / Input	33. 801081	0-150V, 150-300V	2 KVA	Extech	CFC-120	Monitor by Power Meter	
	34. 831211	0-150V, 150-300V	1 KVA	Extech	CFC-110	Monitor by Power Meter	
	35. 801174	0-150V, 150-300V	500 VA	Extech	CFC-105	Monitor by Power Meter	
	36. 770232	0-150V, 150-300V	500 VA	Extech	CFC-105	Monitor by Power Meter	
General	37. 3146A02019	R, V, A. Full Range	Digital Multimeter	HP	34401A	Dec-12-2000	Dec-11-2001
	38. 6961003	R, V, A. Full Range	Digital Multimeter	Fluke	45	Jan-09-2001	Jan-08-2002
	39. 70360742	R, V, A. Full Range	Digital Multimeter	Fluke	87-III	Jan-10-2001	Jan-09-2002
	40. 70360755	R, V, A. Full Range	Digital Multimeter	Fluke	87-III	Feb-15-2001	Feb-14-2002

2000pl006 (1664x2312x2) [38]

File No: E
Project No: 01NK

ADT CORP.

INSTRUMENTATION RECORD DATA SHEET

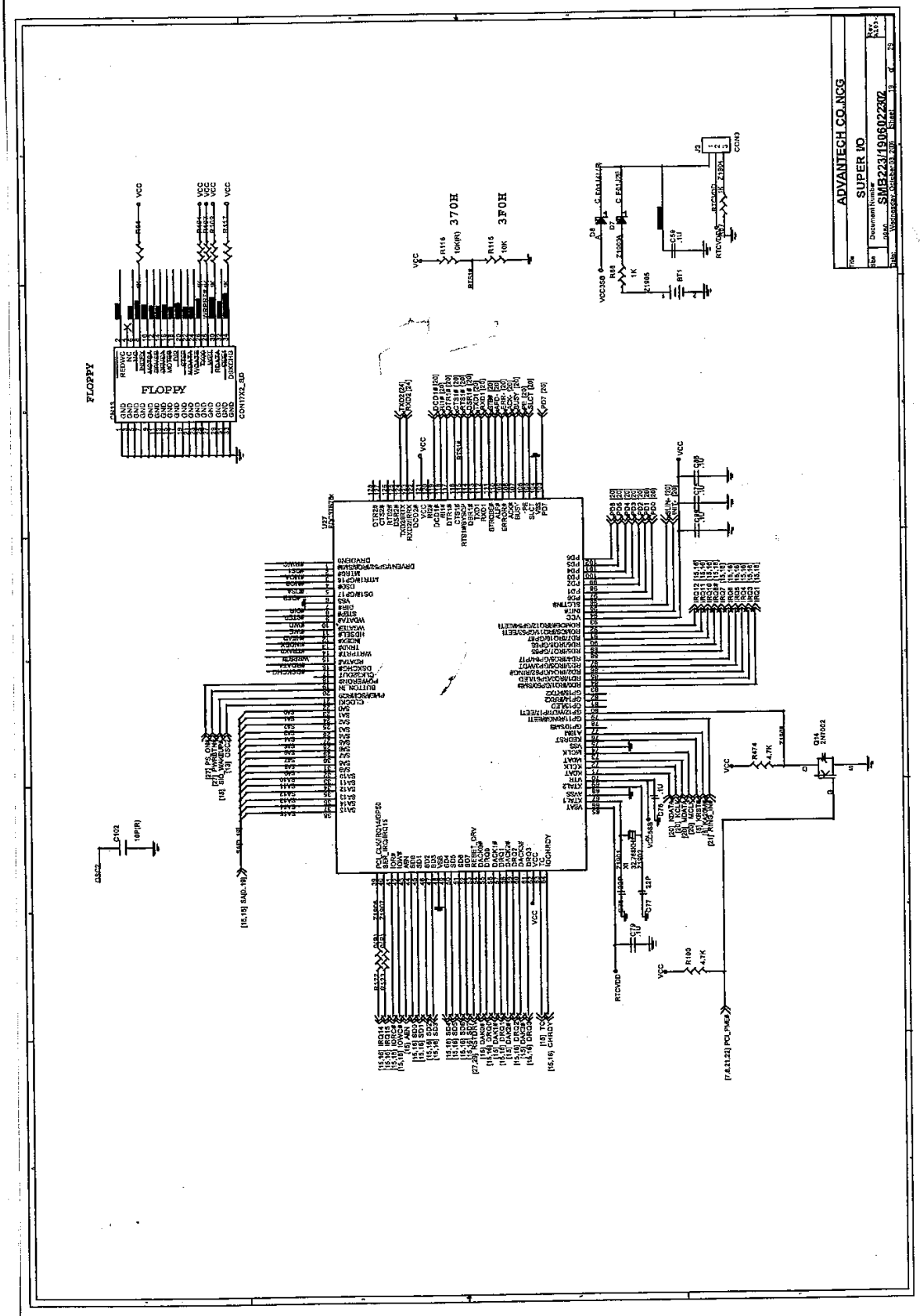
TEST INSTRUMENTS

Issued: 05-10-92
Revised: 10-31-01

The following instruments were used in tests on the the attached data sheets.

Test	Instr No. S/N.	Range Used	* Instruments, Type	Maker	Model	Calibration Date	Calibration Due
General	41. 40CB0797	R, V, A. Full Range	Digital Multimerter	Yokogawa	755201	Oct-30-2001	Oct-29-2002
	42. 667527	1Hz - 2MHz, 5mV - 20Vpp	Function Generator	Topward	8120	Monitor by Scope	
	43. 0009834	0-200 cm	Digimatic Multimeter	Mitutoyo	500-197 CD-8"CS	Jan-11-2001	Jan-10-2002
	44	24 hrs	Timer (Stop Watch)	Sports Timer		Jan-09-2001	Jan-08-2002
	45. 030808	60kg x 200 g	Weight Scale			Apr-25-2001	Apr-24-2002
	46	Real Time	Clock	Chyau Jye	Chyau Jye	Oct-31-2001	Oct-30-2002
Impact / Opening / Ball Pressure	47. 10294	Steel Ball / Tesr Pin or Finger / Ball Pressure	FIMKO (TEST BOX)			Jan-11-2001	Jan-10-2002
X-Radiation /	48. 466081	R, V, A. Full Range	Digital Multimeter	Fluke	8050A	Oct-30-2001	Oct-29-2002
Abnormal X-Radiatio	49. 382846	40KV, 1:1000	H. V. Probe	Fluke	80K-40HV	Dec. 11, 2000	Dec. 10, 2001
Radiant Power/ Energy	50. 33675	w/o filter : 30mW	Radialt Power / Energy Meter	ORIEL	70260	Oct-08-2001	Oct-07-2002
	51. 29046	w/o filter : 300mW	Radiant Power / Energy Meter	ORIEL	70286 (Head)	Oct-08-2001	Oct-07-2002
Ambient Monitor	52. 70860282	Temp. : -20~40 DegC Humi.: 0~100%	Thermo-Hygro Grapg	Isuzs	3-3122	Dec-11-2000	Dec-10-2001
Discharge	53. B043126	10Mohm, 1000X	Probe	Tektronix	P6015A	Aug-02-2001	Aug-01-2002
Stability	54. S1010023	10 degree	Bevel Protractor	Mitutoyo	187	Sep-11-2001	Sep-10-2002
Input / Leakage /	55. S101011-13057		Insulation Tester	TAMA	I-808	Sep-11-2001	Sep-10-2002
	56.3301A-00901A029	60V/ 60A, 300W *4	DC Electronic Load	Prodigit	3301A	JUN-04-2001	Jun-03-2002
	57.3301A-00901A028	60V/ 60A, 300W *4	DC Electronic Load	Prodigit	3301A	JUN-04-2001	Jun-03-2002
	58.TD-30K-00L010		Torque Screwdriver	KILEWS	TD-30K	Jun-05-2001	Jun-04-2002
	59.DR230-12WB22613		Recorder	YOKOGWA	DR230	JUN-04-2001	Jun-03-2002
Abnormal X-Radiatio	60.9606869	40KV, 1:1000	H. V. Probe	Fluke	80K-40HV	Jun-05-2001	Jun-04-2002
	61.9906204		Spring Hammer	PL	F22.50	Sep-17-2001	Sep-16-2003

2000dp006 (1664x2312x2) [39]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ADVANTECH CO.,NCG
SUPER I/O
Document Number
SMB223/190602202
Wednesday, October 09, 2002
Sheet 19 of 29

200dpi006 (1664x2312x2) [41]

INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)
COMMISSION ELECTROTECHNIQUE INTERNATIONALE (CEI)

Ref. Certif. No.
JPTUV-002570

IEC SYSTEM FOR CONFORMITY TESTING AND CERTIFICATION OF ELECTRICAL EQUIPMENT (IECEE)
CB SCHEME

SYSTÈME CEI D'ESSAIS DE CONFORMITÉ ET DE CERTIFICATION DES EQUIPEMENTS ELECTRIQUE (IECEE)
METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product
Produit

Switching Power Supply

Name and address of the applicant
Nom et adresse du demandeur

Zippy Technology Corp.
10F, No. 50, Ming Chyuan Rd., Shin Tien City
Taipei Hsien 23120, TAIWAN, R.O.C.

Name and address of the manufacturer
Nom et adresse du fabricant

Zippy Technology Corp.
10F, No. 50, Ming Chyuan Rd., Shin Tien City
Taipei Hsien 23120, TAIWAN, R.O.C.
(further factories may be listed on appendices to this certificate)

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

Zippy Technology Corp.
2F, No. 123, Lane 235, Pao-Chiao Rd., Shin Tien City
Taipei Hsien 23120, TAIWAN, R.O.C.

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

Input rating : AC 100-240V, 47-63Hz, 4-2A
Output rating : refer to the test report
Protection class : I

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

Trade mark of EMACS

Model/type Ref.
Ref. de type

P1U-6xP
MPB-6yP
x = 200, 180 or 150; y = 180 or 150

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

For differences between the models, refer to the test report.

A sample of the product was tested and found to be in conformity with
Un échantillon de ce produit a été essayé et a été considéré conforme à la

PUBLICATION	EDITION
IEC 60950:1991+A1+A2+A3+A4 inclusive CENELEC Common Modifications National differences: see test report	

as shown in the Test Report Ref. No.
which form part of this certificate
comme indiqué dans le Rapport d'essais numéro de référence
qui constitue une partie de ce certificat

E 2063480 E 01

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

TÜV

TÜV Rheinland Japan Ltd.
3-19-5 Shin-Yokohama
222-0033 Japan

Date 19.01.2001

Signature

Dipl.-Ing. W. Herlitschke

Issue 1998-09

200dpi006 (1664x2312x2 tiff) [42]

Zertifikat *Certificate*

TÜV

Zertifikat Nr. *Certificate No.*
R 3-50002873

Blatt *Page*
0001

Ihr Zeichen *Client Reference*
FH/SPC

Unser Zeichen *Our Reference*
ZTW1-LFP- 10000019 001

Ausstellungsdatum *Date of Issue (day/mo/yr)*
30.01.2001

Genehmigungsinhaber *License Holder*
Zippy Technology Corp.
10F., No. 50, Min Chyuan Rd.
SHIN TIEN CITY, TAIPEI 231
TAIWAN, R.O.C.

Fertigungsstätte *Manufacturing Plant*
Zippy Technology Corp.
2F, No. 123, Lane 235
Pao-Chiao Rd., Shin Tien City
TAIPEI HSIEN 231
TAIWAN, R.O.C.

Prüfzeichen *Test Mark*

TÜV Rheinland Product Safety | BAUART GEPRÜFT | TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60950:1992+A1+A2+A3+A4+A11

Zertifiziertes Produkt **(Geräteidentifikation)** *Certified Product* *(Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Einbau-Schaltnetzteil (Switching Power Supply)

Bezeichnung (Type Designation)	: P1U-6xP (EMACS)	10
x steht für (stands for)	: 200, 180 oder (or) 150	1
Nennspannung (Rated Voltage)	: AC 100-240V, 47-63Hz	
Nennstrom (Rated Current)	: 4-2A	
max. Umgebungstemperatur (max. Ambient Temperature)	: 40°C	

Schutzklasse (Protection Class): I
Verschmutzungsgrad (Pollution Degree) : 2
Fortsetzung Blatt (continued on page) 02-03
Vermerke: Dieses Ausweisblatt ersetzt Zertifikat R 50002873, Blatt 0001 vom 19.01.2001.
(Remarks: This license sheet replaces Certificate R 50002873, sheet 0001 dated 19.01.2001.)

11

ANLAGE (Appendix): 1

AN

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde. Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht. This certificate is based on our Testing and Certification Regulation. The product fulfills above-mentioned-requirements, the production is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Zugelassene Stelle nach Par. 9 Abs. 2 GSG, Registered Authority acc. par. 9 Art. 2 GSG

Tel.:(+49/221)8 06 - 13 71 Fax:(+49/221)8 06 - 39 35 e-mail: Althofff@de.tuv.com

Dipl.-Ing. A. Klinker

200dpi006 (1664x2312x2 tiff) [43]

Zertifikat *Certificate*

TÜV

Zertifikat Nr. *Certificate No.*
R 3-50002873

Blatt *Page*
0002

Ihr Zeichen *Client Reference*
FH/SPC

Unser Zeichen *Our Reference*
ZTW1-LFP- 10000019 001

Ausstellungsdatum *Date of Issue (day/mo/yr)*
19.01.2001

Genehmigungsinhaber *License Holder*
Zippy Technology Corp.
10F., No. 50, Min Chyuan Rd.
SHIN TIEN CITY, TAIPEI 231
TAIWAN, R.O.C.

Fertigungsstätte *Manufacturing Plant*
Zippy Technology Corp.
2F, No. 123, Lane 235
Pao-Chiao Rd., Shin Tien City
TAIPEI HSIEN 231
TAIWAN, R.O.C.

Prüfzeichen *Test Mark*

TÜV Rheinland Product Safety | BAUART GEPRÜFT / TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60950:1992+A1+A2+A3+A4+A11

Zertifiziertes Produkt **(Geräteidentifikation)**
Certified Product *(Product Identification)*

Lizenzentgelte - Einheit
License Fee - Unit

Einbau-Schaltnetzteil (Switching Power Supply)

wie Blatt (as page) 01
Fortsetzung (Continuation)

Bezeichnung (Type Designation)	Ausgänge (Outputs) DC +5V	+3.3V	+12V	-5V	-12V	+5Vsb
P1U-6200P	16A	14A	9A	0.2A	0.7A	1.5A
P1U-6180P	16A	14A	7A	0.2A	0.7A	1.5A
P1U-6150P	14A	10A	6A	0.5A	0.8A	1.5A

max. Ausgangsleistung für +5V & +3.3V & +12V: 185W (x=200)
(max. Output Power for +5V & +3.3V & 12V) 165W (x=180)
135W (x=150)

max. Ausgangsleistung : 200W (x=200)
(max. Output Power) 180W (x=180)
150W (x=150)

Fortsetzung Blatt (continued on page) 03
ANLAGE (Appendix): 1

An

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above-mentioned-requirements, the production is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Zugelassene Stelle nach Par. 9 Abs. 2 GSG, Registered Authority acc. par. 9 Art. 2 GSG

Tel.:(+49/221)8 06 - 13 71 Fax:(+49/221)8 06 - 39 35 e-mail: Althofff@de.tuv.com

Dipl.-Ing. A. Klinker

Zertifikat *Certificate*

TÜV

Zertifikat Nr. *Certificate No.*
R 3-50002873

Blatt *Page*
0003

Ihr Zeichen *Client Reference*
FH/SPC

Unser Zeichen *Our Reference*
ZTW1-LFP- 10000019 001

Ausstellungsdatum *Date of Issue (day/mo/yr)*
19.01.2001

Genehmigungsinhaber *License Holder*
Zippy Technology Corp.
10F., No. 50, Min Chyuan Rd.
SHIN TIEN CITY, TAIPEI 231
TAIWAN, R.O.C.

Fertigungsstätte *Manufacturing Plant*
Zippy Technology Corp.
2F, No. 123, Lane 235
Pao-Chiao Rd., Shin Tien City
TAIPEI HSIEN 231
TAIWAN, R.O.C.

Prüfzeichen *Test Mark*

TÜV Rheinland Product Safety | BAUART GEPRÜFT | TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60950:1992+A1+A2+A3+A4+A11

Zertifiziertes Produkt **(Geräteidentifikation)**
Certified Product *(Product Identification)*

Lizenzentgelte - Einheit
License Fee - Unit

Einbau-Schaltnetzteil (Switching Power Supply)

wie Blatt (as page) 01
Fortsetzung (Continuation)

Vermerke: Primär-und Sekundärkreise sind gemäß Verfahren 1 und 2 nach Abschnitt 2.3 getrennt. Der Einbau muß gemäß der zugehörigen Einbauanweisung erfolgen.
(Remarks: Primary-and secondary circuits are separated according to method 1 and 2 of clause 2.3. The installation is to be carried out according to the attached installation instruction.)
ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above-mentioned-requirements, the production is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Zugelassene Stelle nach Par. 9 Abs. 2 GSG, Registered Authority acc. par. 9 Art. 2 GSG

Tel.:(+49/221)8 06 - 13 71 Fax:(+49/221)8 06 - 39 35 e-mail: Althoff@de.tuv.com

Dipl.-Ing. A. Klinker

200dpi006 (1664x2338x2 tiff) [45]

Zertifikat *Certificate*

TÜV

Zertifikat Nr. *Certificate No.*
R 3-50002873

Blatt *Page*
0004

Ihr Zeichen *Client Reference*
FH/SPC

Unser Zeichen *Our Reference*
ZTW1-LFP- 10000019 001

Ausstellungsdatum *Date of Issue (day/mo/yr)*
19.01.2001

Genehmigungsinhaber *License Holder*
Zippy Technology Corp.
10F., No. 50, Min Chyuan Rd.
SHIN TIEN CITY, TAIPEI 231
TAIWAN, R.O.C.

Fertigungsstätte *Manufacturing Plant*
Zippy Technology Corp.
2F, No. 123, Lane 235
Pao-Chiao Rd., Shin Tien City
TAIPEI HSIEN 231
TAIWAN, R.O.C.

Prüfzeichen *Test Mark*

TÜV Rheinland Product Safety | BAUART GEPRÜFT | TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60950:1992+A1+A2+A3+A4+A11

Zertifiziertes Produkt **(Geräteidentifikation)**
Certified Product *(Product Identification)*

Lizenzentgelte - Einheit
License Fee - Unit

Einbau-Schaltnetzteil (Switching Power Supply)

wie Blatt (as page) 01
Ergänzung (Addition)
Bezeichnung (Type Designation): MPB-6yP (EMACS) — 1
y steht für (stands for) : 180 oder (or) 150 — 1

Bezeichnung (Type Designation)	Ausgänge (Outputs) DC +5V	+3.3V	+12V	-5V	-12V	+5Vsb
MPB-6180P	16A	10A	7A	0.2A	0.7A	1.5A
B-6150P	14A	10A	6A	0.5A	0.8A	1.5A

max. Ausgangsleistung für +5V & +3.3V & +12V): 165W (y=180)
(max. Output Power for +5V & +3.3V & +12V) 135W (y=150)
max. Ausgangsleistung : 180W (y=180)
(max. Output Power) 150W (y=150)

2

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above-mentioned-requirements, the production is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Zugelassene Stelle nach Par. 9 Abs. 2 GSG, Registered Authority acc. par. 9 Art. 2 GSG

Tel.:(+49/221)8 06 - 13 71 Fax:(+49/221)8 06 - 39 35 e-mail: Althofff@de.tuv.com

Dipl.-Ing. A. Klinker